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MICROPHOTO DIVISION
BELL & HOWELL COMPANY

U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
April 2, 1968 Volume 849 Number 1

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of February 1968

Examiner affirmed	147
Examiner affirmed in part	20
Examiner reversed	44
Total	211

Disclaimer

3,144,541.—*David H. Hill*, Birmingham, Mich. ELECTRICAL STOCK REMOVAL APPARATUS. Patent dated Aug. 11, 1964. Disclaimer filed Nov. 29, 1967, by the inventor and the assignee, *General Motors Corporation*.

Hereby enter this disclaimer to claims 1, 2, 3, 4, 5 and 6 of said patent.

Classification Order No. 392

Classification Order No. 392, dated March 14, 1968, incorporates changes in the following classes:

37, EXCAVATING
48, GAS, HEATING AND ILLUMINATING
67, ILLUMINATING BURNERS—Abolished
126, STOVES AND FURNACES
158, LIQUID AND GASEOUS FUEL BURNERS—Abolished
172, EARTH WORKING
192, CLUTCHES AND POWER-STOP CONTROL
317, ELECTRICITY
431, COMBUSTION—Established

All of the above changes will be incorporated in the Manual of Classification replacement pages dated April 1968.

H. S. VINCENT,
Acting Patent Documentation Administrator, Office of Examining and Documentation Control.

Plan for a Patent Cooperation Treaty (PCT)

A copy of the BIRPI "Memorandum on Questions Concerning the Proposed International Search" under the draft Patent Cooperation Treaty (PCT) was reproduced in the OFFICIAL GAZETTE of February 20, 1968. BIRPI has made the following corrections in the Memorandum:

I

In paragraph 28, the words "Japan: chemical from 1965" should read "Japan: chemical from 1962."

II

In paragraph 98, subparagraph (1) should read as follows: "Communication of the international application to the national Offices of the designated States will be effected together with the international search report. A designated national Office may, however, receive a copy of the international application without the search report, and therefore before the formal "communication" of the international application, in any of the following cases: (i) when it asks for a copy under Article 8 of the 1967 PCT draft (document PCT/I/4), (ii) if international publication precedes the formal communication (which will happen in the, presumably rare, cases where the international search has not been completed by the time international publication has to be made), (iii) by the end of the 21st month (since by that time any designated Office may ask for a translation from the applicant of the international application and, therefore, will also need a copy of the original). Naturally, examination in the designated national Offices having an examination system would not start on the basis of copies so transmitted but only on the basis of the formally communicated international application."

Disclaimers and Dedications

3,067,679.—*Blake M. Caldwell* and *Harold D. Owen*, Fort Worth, Tex. WELL PERFORATING ASSEMBLY AND PERFORATING UNIT THEREFOR. Patent dated Dec. 11, 1962. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Halliburton Company*.

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

3,074,170.—*Norman R. Zabel*, Menlo Park, Calif., and *David E. Brink*, deceased, late of Palo Alto, Calif., by *Virginia W. Brink*, executrix, Palo Alto, Calif. METHOD FOR STUDYING EXPLOSIONS STEREOSCOPICALLY. Patent dated Jan. 22, 1963. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Jet Research Center, Inc.*

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

3,121,322.—*Blake M. Caldwell*, Fort Worth, Tex. APPARATUS FOR TESTING EXPLOSIVE DEVICES BY STEREOSCOPIC PHOTOGRAPHY. Patent dated Feb. 18, 1964. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Jet Research Center, Inc.*

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

3,128,702.—*Glenn B. Christopher*, Fort Worth, Tex. SHAPED CHARGE PERFORATING UNIT AND WELL PERFORATING APPARATUS EMPLOYING THE SAME. Patent dated Apr. 14, 1964. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Jet Research Center, Inc.*

New Applications Received During February 1968

Patents	7342
Designs	406
Plant Patents	10
Reissues	20
Total	7778

Issue—April 2, 1968

Patents	1050	—No. 3,375,529 to No. 3,376,578, incl.
Designs	66	—No. 210,648 to No. 210,713, incl.
Total	1116	

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

3,136,249.—*Thomas C. Poulter*, Palo Alto, Calif. SHAPED CHARGE EXPLOSIVE UNIT AND LINER THEREFOR. Patent dated June 9, 1964. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Jet Research Center, Inc.*

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

3,138,054.—*Richard F. Hatfield*, Stanford, Calif. PROCESS OF MAKING LINEAR SHAPED CHARGE EXPLOSIVE DEVICES. Patent dated June 23, 1964. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Jet Research Center, Inc.*

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

3,192,533.—*Norman R. Zabel*, Menlo Park, Calif., and *David E. Brink*, deceased, late of Palo Alto, Calif., by *Virginia M. Brink*, executrix, Palo Alto, Calif. APPARATUS FOR STUDYING EXPLOSIONS STEREOSCOPICALLY. Patent dated June 29, 1965. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Jet Research Center, Inc.*

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

3,192,857.—*Glenn B. Christopher*, Fort Worth, Tex. WELL TUBING CUTTING DEVICE. Patent dated July 6, 1965. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Jet Research Center, Inc.*

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

3,194,159.—*Ernest L. Gillingham*, Fort Worth, and *Jack O. Grunwald*, Arlington, Tex. WELL PERFORATING ASSEMBLY. Patent dated July 13, 1965. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Jet Research Center, Inc.*

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

Erratum

In the OFFICIAL GAZETTE, February 13, 1968, vol. 847, p. 337, in the heading to the decision, for "Patent Interference No. 7/64" read *Proceeding No. 7/64*.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF FEBRUARY 26, 1968

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
CHEMICAL EXAMINING OPERATION—I. MARCUS, Director.		
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—R. L. CAMPBELL, Manager Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	2- 9-65	7-11-62
GENERAL ORGANIC CHEMISTRY, GROUP 120—M. STERMAN, Manager Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Sterolds; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	3- 3-65	12-28-62
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Manager Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping and Treating Processes.	4- 1-65	3-22-63
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—J. R. LIBERMAN, Manager Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	2- 3-65	7-16-62
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Manager Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	1- 5-65	1-21-64
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—J. F. COUCH, Acting Manager Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	6- 7-65	12-31-63
SECURITY, GROUP 220—S. BOYD, Manager Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	5-14-65	8-20-64
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—M. L. LEVY, Manager Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	10- 1-64	6- 8-62
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Manager Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	9-21-64	3-14-62
PHYSICS, GROUP 280—R. L. EVANS, Manager Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	9- 2-65	6-24-63
DESIGNS, GROUP 290—S. BOYD, Manager Industrial Arts; Household, Personal and Fine Arts.	4-12-67	3- 7-66

Total number of pending applications (excluding Designs)	174, 900
Total number of Design applications pending	3, 690
Total number of applications awaiting action (excluding Designs)	125, 879
Total number of Design applications awaiting action	1, 630
Date of oldest new application awaiting action	Sept. 21, 1964
Date of oldest amended application awaiting action	March 14, 1962

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during April 1968, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1953.*

Patents .... Numbers 2,546,958 to 2.550,659. inclusive

Plant Patents .... Numbers 1,010 to 1,011, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
MECHANICAL EXAMINING OPERATION—F. H. BRONAUGH, Director.		
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Manager Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	10-10-66	12-14-64
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Manager Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders; Woodworking; Tools; Cutlery; Jacks.	4- 7-66	3-27-63
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Manager Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	10-11-65	5-14-64
HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Manager Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	9- 1-66	6- 9-65
FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports: Cabinet Structures.	8-29-66	2-12-64
TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—W. S. COLE, Manager Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.	2-23-66	5-20-63

DECISIONS IN PATENT AND TRADEMARK CASES

In the United States Patent Office
Before the Board of Appeals

Ex parte Alexander D. Argoudelis, Clarence De Boer, Thomas E. Eble, and Ross R. Herr

Appeal No. 195—42. Decided May 25, 1966

1. Patentability—Reference—Enabling Disclosure—*In re Le Grice* Construed.

"Appellants rely heavily on the decision of the Court of Customs and Patent Appeals in *In re Le Grice*, 133 USPQ 365, 49 CCPA 1124, 1962 C.D. 707, 785 O.G. 741, 301 Fed. (2d) 929. This case involved two applications for plant patents which were each rejected on certain printed publications. These printed publications adequately described the particular plants (roses) which were described and claimed in the applications. (Two of the publications were rose annuals describing the plants and stating by whom they were distributed, two other publications were catalogues of the distributor. Public use or sale could not be considered as the distributor was in England.) The issue involved was whether the printed publications were sufficient to defeat the applications under section 102(b) of the statute which states that a patent cannot be obtained if 'the invention was . . . described in a printed publication . . . more than one year prior to the date of the application'; this being the same issue that is involved here. The court held that since the invention claimed, that is the rose, could not be reproduced from the written description, the written description could not be used as a bar to the grant of a patent."

2. Same—Same—Same—Description Should Enable Production of Invention.

In connection with a reference publication that described an antibiotic and its separation from a culture broth of a strain of actinomyces, a microorganism that "was isolated from the soil of Chiba Prefecture (Japan)," and with reference to an affidavit by a microbiologist who indicated that the antibiotic "could not be produced by a person skilled in the art, from the description, owing to the fact that the particular microorganism from which the antibiotic is obtained could not be found without unreasonable experimentation," ***Held*** that "It cannot be denied that *In re Le Grice* * * * applies to the publication cited in this application to the same extent that it applied to the publications cited in that case"; and that "Moreover, we have ourselves held that a written description of the character involved in a case such as the present one is not sufficient to enable a person skilled in the art to produce the invention, ***Ex parte Kropp***, 143 USPQ 148."

3. Application—Disclosure—Sufficiency of Disclosure—35 U.S.C. 111 and 112.

"However, appellants' arguments against written description in cases of this kind raise a question concerning the sufficiency of the written description in the present application itself. Insofar as enabling a person skilled in the art to produce the invention, the written description in the instant specification is not much better than the written description in the cited [reference] publication. It is true that the specification gives some description of the microorganism (stating its principal characteristic to be the production of the antibiotic). This does not add very much and such description of the microorganism was held not sufficient to enable the invention to be produced in *Ex parte Kropp* * * * (there was a description of the plants in the references in the *Le Grice* case). Insofar as producing the compound chemically, no more information is in the specification than is presented in the reference. The affidavit of the microbiologist would apply to the description in the present specification, as it does to the description of the cited reference. If the description in a publication such as is used in this case by the Examiner is held to be insufficient to form an anticipation then a similar description could hardly be considered sufficient, under section 112, as the description in the specification of an application for patent. Section 112 requires that 'The specification shall contain a written description of the invention, and of the manner of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same' and, by section 111, such a specification must be included with the application at the time of filing."

4. Same—Same—Same—Deposit of Culture in Depository—35 U.S.C. 112.

"One point that requires to be noted in this connection is the statement on page 1 of the specification that 'A subculture of this variety can be obtained from the permanent collection of the Northern Utilization and Research Division, Agricultural Research Service, U.S. Department of Agriculture, Peoria, Illinois. Its accession number in this repository is NRRL 2940.' This statement, it should be noted, does not indicate by whom the subculture may be obtained. In order to clarify this, appellants were requested to submit copies of the correspondence relating to the culture deposit referred to. This correspondence shows that the subculture presently cannot be obtained by anyone except nominees of appellants' assignee company on written authorization from the company. What such a deposit has to do with the requirements of section 112 of the statute is not evident. Appellants' assignee presumably has specimens of the microorganism which they use. They have deposited specimens with some depository which is holding the deposits to its order. They are not part of this application for patent and could not be made a part by language used by appellants' assignee in making the personal deposit. Section 162 of the statute, which exempts plant applications from full compliance with section 112 is not applicable to this case."

5. Patentability—Reference—Enabling Disclosure.

"The decision of the Examiner rejecting the claims on appeal on the reference cited is affirmed in view of the fact that the written description in the present specification is of the same order as the written description in the reference [urged to be a non-enabling disclosure by appellants]. A new rejection of the claims on the ground that the specification does not comply with the requirements of section 112 is made. This new ground would also apply to the other claims in the case and these claims should be re-examined when the application returns to the Examiner's jurisdiction."

6. Application—Disclosure—Adequate Disclosure Required When Application Filed—35 U.S.C. 111 and 112.

"* * * according to 35 U.S.C. 111, 'a specification as prescribed by section 112' is required at the time of filing the application."

7. Same—Same—Sufficiency of Disclosure—Deposit of Culture In Depository.

"In view of the fact that when a case involves starting materials which are already known and available to persons in the art at the time of filing an application for patent, the description need not contain an enabling disclosure of them, in many instances deposits of cultures are made in certain depositories by applicants on their own initiative at the time of or before filing of an application so that thereafter they would be in a position to urge that an enabling disclosure was not necessary with respect to their starting materials. While such deposits are purely private matters between the depositor and the custodian, the practice of the Patent Office is to accept this situation and not raise any questions regarding enabling sufficiency of the written description in such cases. However, the situation with respect to appellants' assignee's deposit * * * in our view prevents application of this practice to the present case. If an applicant urged that he or his assignee had specimens of necessary starting materials in their safe (or refrigerator) at their disposition, this would hardly be considered sufficient to meet the statutory requirement for an enabling written description at the time of filing the application. We do not see any difference in the case of an agent holding something at the order of his principal."

Appeal from the Examiner (Sam Rosen) of Group 120. Serial No. 147,873.

AFFIRMED.

Eugene O. Retter, George T. Johannesen, and Roman Saliwanchik for appellants.

Before Federico and Rosa, *Examiners-in-Chief* and Stone, *Acting Examiner-in-Chief*

Federico, *Examiner-in-Chief*.

This is an appeal from the final rejection of claims 4 to 8. Claims 1 to 3 and 10 to 15 stand allowed. Claim 4 reads as follows:

4. The substance designated sparsogenin A which

(*a*) is effective in inhibiting the growth of gram-positive and gram-negative bacteria;

(*b*) is effective in inhibiting the growth of Walker adenocarcinoma in mice;

(*c*) is a basic substance which is slightly soluble in water and lower alcohols and insoluble in acetone, ethyl acetate, chloroform, benzene and petroleum ether;

and which in its essentially pure crystalline form

(*d*) has a pKa' of 5.07 in water and an equivalent weight of 269;

(*e*) has an optical rotation $[\alpha]_D^{25}$ −62° (c.=0.718 in 0.1 N HCl);

(*f*) has a characteristic ultra-violet maxima as follows:

water	270 mμ, *a*=44.14
0.01 N H_2SO_4	227 mμ, *a*=85.28 271 mμ, *a*=40.82
0.01 N KOH	270 mμ, *a*=43.50

(*g*) has a calculated empirical formula $C_{11}H_{14}O_4N_4$; and

(*i*) exhibits a characteristic IR absorption as shown in FIGURE 3 of the accompanying drawing.

The reference relied upon is:

Anzai et al., A New Antibiotic Tubercidin, Journal of Antibiotics, Ser. A, vol. X, No. 5, pages 201 to 204, September 1957.

Appellants claim as a new substance an antibiotic which they have designated sparsogenin A. This antibiotic, as well as another one designed sparsogenin, is obtained from a species of actinomycetes which they have designated as *Streptomyces sparsogenes* var. *sparsogenes*. Some description of the microorganism is included in the specification, which also indicates that one of its strain characteristics is the production of sparsogenin. The specification describes the growth of the microorganism to produce the antibiotics and the separation of the resultant products from the culture medium.

The claims on appeal stand rejected as fully met by the Anzai et al. publication cited above.

This publication states that an antibiotic, which the authors named "tubercidin," was obtained from the fermentation broth of a strain of actinomyces. The microorganism was isolated from the soil of Chiba Prefecture (Japan). The culture of the microorganism and the separation of the antibiotic therefrom are adequately described in the publication. The publication describes the antibiotic by physical and chemical properties, including the molecular formula.

Appellants acknowledge that the substance claimed and the substance described by the reference are the same; no question is raised as to this point. Appellants' position is that the disclosure in the publication does not enable a person skilled in the art to reproduce the invention. Two affidavits have been filed. One is by a chemist who states that the compound cannot be produced chemically from the information given in the publication. An affidavit to this effect is hardly necessary since it is obvious that the description in the publication is not of a nature which would enable the compound to be produced chemically. The other affidavit is by a microbiologist who indicates that the substance could not be produced by a person skilled in the art from the description, owing to the fact that the particular microorganism from which the antibiotic is obtained could not be found without unreasonable experimentation.

Appellants state that the issue in this case is

> *"Whether a foreign publication is a statutory bar under U.S.C. 102 (b) where the disclosure in the publication is such that a person skilled in the art could not with the publication and his own knowledge, duplicate, or even hope to come close to the 'discovery' disclosed."* [Emphasis in original.]

Except for the word "foreign" which is wholly irrelevent, and the phrase "or even hope to come close to" which does not appear to be necessary, we agree that this substantially represents the issue involved.

[1] Appellants rely heavily on the decision of the Court of Customs and Patent Appeals in *In re Le Grice*, 133 USPQ 365, 49 CCPA 1124, 1962 C.D. 707, 785 O.G. 741, 301 Fed. (2d) 929. This case involved two applications for plant patents which were each rejected on certain printed publications. These printed publications adequately described the particular plants (roses) which were described and claimed in the applications. (Two of the publications were rose annuals describing the plants and stating by whom they were distributed, two other publications were catalogues of the distributor. Public use or sale could not be considered as the distributor was in England.) The issue involved was whether the printed publications were sufficient to defeat the applications under section 102(d) of the statute which states that a patent cannot be obtained if "the invention was . . . described in a printed publication . . . more than one year prior to the date of the application"; this being the same issue that is involved here. The court held that since the invention claimed, that is the rose, could not be reproduced from the written description, the written description could not be used as a bar to the grant of a patent. Appellants quote the following from the opinion:

> ". . . the proper test of a description in a publication as a bar to a patent as the clause is used in section 102 (b) requires a determination of whether one skilled in the art to which the invention pertains could take the description of the invention in the printed publication and combine it with his own knowledge of the particular art and from this combination be put in possession of the invention on which a patent is sought. *Unless the condition prevails, the description in the printed publication is inadequate as a statutory bar to patentability under section 102(b).* [Emphasis added by appellants.]

Appellants also reproduce the following quotations from Robinson on Patents, section 330, and Walker on Patents, Deller Edition, page 271, as quoted with approval by the court:

> "Finally, the description must place the invention in the possession of the public as fully as if the art or instrument itself had been practically and publicly employed. In order to accomplish this, it must be so particular and definite that *from it alone, without experiment or the exertion of his own inventive skill,* any person versed in the art to which it appertains could construct and use it. [Emphasis added by the court.]
>
> "And a claim for an article of manufacture may be anticipated by a prior patent or printed publication, which describes the article, without describing any process of making it; *provided a knowledge of the article would teach a skillful mechanic some process of making it.*" [Emphasis added by the court.]

[2] It cannot be denied that *In re Le Grice*, supra, applies to the publication cited in this application to the same extent that it applied to the publications cited in that case. Moreover, we have ourselves held that a written description of the character involved in a case such as the present one is not sufficient to enable a person skilled in the art to produce the invention, *Ex parte Kropp*, 143 USPQ 148.

[3] However, appellants' arguments against written description in cases of this kind raise a question concerning the sufficiency of the written description in the present application itself. Insofar as enabling a person skilled in the art to produce the invention, the written description in the instant specification is not much better than the written description in the cited publication. It is true that the specification gives some description of the microorganism (stating its principal characteristic to be the production of the antibiotic). This does not add very much and such description of the microorganism was held not sufficient to enable the invention to be produced in *Ex parte Kropp*, supra (there was a description of the plants in the references in the *Le Grice* case). Insofar as producing the compound chemically, no more information is in the specification than is presented in the reference. The affidavit of the microbiologist would apply to the description in the present specification, as it does to the description of the cited reference. If the description in a publication such as is used in this case by the Examiner is held to be insufficient to form an anticipation then a similar description could hardly be considered sufficient, under section 112, as the description in the specification of an application for patent. Section 112 requires that "The specification shall contain a written description of the invention, and of the manner of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same" and, by section 111, such a specification must be included with the application at the time of filing.

[4] One point that requires to be noted in this connection is the statement on page 1 of the specification that "A subculture of this variety can be obtained from the permanent collection of the Northern Utilization and Research Division, Agricultural Research Service, U.S. Department of Agriculture, Peoria, Illinois. Its accession number in this repository is NRRL 2940." This statement, it should be noted, does not indicate by whom the subculture may be obtained. In order to clarify this, appellants were requested to submit copies of the correspondence relating to the culture deposit referred to. This correspondence shows that the subculture presently cannot be obtained by anyone except nominees of appellants' assignee company on written authorization from the company. What such a deposit has to do with the requirements of section 112 of the statute is not evident. Appellants' assignee presumably has specimens of the microorganism which they use. They have deposited specimens with some depository which is holding the deposits to its order. They are not part of this application for patent and could not be made a part by language used by appellants' assignee in making the personal deposit. Section 162 of the statute, which exempts plant applications from full compliance with section 112 is not applicable to this case.

[5] The decision of the Examiner rejecting the claims on appeal on the reference cited is affirmed in view of the fact that the written description in the present specification is of the same order as the written description in the reference. A new rejection of the claims on the ground that the specification does not comply with the requirements of section 112 is made. This new ground would also apply to the other claims in the case and these claims should be re-examined when the application returns to the Examiner's jurisdiction.

Any request for rehearing or reconsideration or modification of this decision by the Board of Appeals based upon the same record must be filed within thirty days from the date of the decision (Rule 197).

Should appellants elect to have further prosecution before the Examiner in response to the new rejection under Rule 196(b) by way of amendment or showing of facts, or both, not previously of record, a shortened statutory period for making such response is hereby set to expire *sixty days* from the date of this decision.

AFFIRMED.

On Petition for Reconsideration

Appellants have requested rehearing and reconsideration of our decision in this case. It is not the custom to grant rehearings in the sense of another oral hearing and to this extent the request is denied, but the decision has been reconsidered in all aspects.

A good deal of thought was given to the questions involved before rendering the original decision and an even greater amount of thought has been given to the same questions and to appellants' request for reconsideration.

[6] However, we are unable to hold that the written description complies with 35 U.S.C. 112, noting that, according to 35 U.S.C. 111, "a specification as prescribed by section 112" is required at the time of filing the application. It is not believed necessary to restate our position. The character of the description for purposes of identification has not been questioned.

[7] In view of the fact that when a case involves starting materials which are already known and available to persons in the art at the time of filing an application for patent, the description need not contain an enabling disclosure of them, in many instances deposits of cultures are made in certain depositories by applicants on their own initiative at the time of or before filing of an application so that thereafter they would be in a position to urge that an enabling disclosure was not necessary with respect to their starting materials. While such deposits are purely private matters between the depositor and the custodian, the practice of the Patent Office is to accept this situation and not raise any questions regarding enabling sufficiency of the written description in such cases. However, the situation with respect to appellants' assignee's deposit as pointed out on pages 7 and 8 of the opinion, in our view prevents application of this practice to the present case. If an applicant urged that he or his assignee had specimens of necessary starting materials in their safe (or refrigerator) at their disposition, this would hardly be considered sufficient to meet the statutory requirement for an enabling written description at the time of filing the application. We do not see any difference in the case of an agent holding something at the order of his principal.

Appellants have submitted copies of two letters relating to an attempt to obtain a specimen of a culture. These show that deposits have been made subject to conditions and the order of the depositor. Attention is also called to the decision of the First Assistant Commissioner of Patents, dated March 30, 1959, in which appellants' assignee's request for an order from the Commissioner of Patents directing a depositor to grant access to a culture mentioned in a patent was dismissed for [illegible] of authority.

With respect to appellants' observations regarding Rule 14, this rule is one governing the conduct of the Patent Office and its officers and employees, others are free to do or not to do what they please.

The rejection on the Anzai reference was not eliminated, see page 8, line 3 et seq. This rejection has likewise been reconsidered but is retained. If our position on the insufficiency of the specification in this case is correct, the rejection on the reference becomes moot. However, if the written description herein as such were to be considered a sufficient compliance with the statute we believe that the rejection is proper.

The request for rehearing in the sense of an oral hearing is denied; the request for reconsideration is granted and the case has been reconsidered but no change is made in the decision.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,459,452, Reiner and Braga, CLAMP; **Re. 23,163**, same, CLAMPS; **2,464,739**, Solomon and Anderson, CURL SETTING DEVICES; **2,655,927**, F. D. Ammen, SPRING CLAMP, **filed** Dec. 6, 1967, D.C., C.D. Calif. (Los Angeles), Doc. 67–1474–EC, *Reiner Industries, Inc., doing business as The Kaynar Co.* v. *Kaynar Mfg. Co., Inc. and Klaus.*

2,464,739. (See 2,459,452.)

2,467,607, L. G. Bates, FILM FASTENING REEL, **filed** Apr. 18, 1966, D.C., S.D.N.Y., Doc. 66–C–1096, *Union Trust National Bank et al.* v. *Motion Picture Enterprises, Inc.*

2,584,109, Blackburn and Steele, MOLD AND METHOD FOR MOLDING CERAMIC WARE; **2,584,110**, same, FOR POTTERY WARE; **2,615,229**, same, MOLD AND METHOD OF MAKING MOLD; **2,619,702**, same, MOLDS, **filed** Sept. 26, 1967, D.C., W.D. Ark. (Fort Smith), Doc. 1097, *Ram Incorporated* v. *Dryden Potteries, Inc.* Consent decree; perpetual injunction against defendant, Nov. 25, 1967.

2,584,110. (See 2,584,109.)

2,615,229. (See 2,584,109.)

2,619,702. (See 2,584,109.)

2,655,927. (See 2,459,452.)

2,694,168. (See 2,697,806.)

2,697,806, P. E. Gates, GLASS ENCLOSED ELECTRICAL TRANSLATOR; **2,694,168**, North and Carman, GLASS-SEALED SEMICONDUCTOR CRYSTAL DEVICE, **filed** Nov. 6, 1967, D.C. Del. (Wilmington), Doc. 3428, *Sylvania Electric Products, Inc.* v. *Hughes Aircraft Corporation.*

2,733,266, A. C. McKinnis, PREPARATION OF ISOPHTHALIC AND TEREPHTHALIC ACIDS, **filed** Dec. 21, 1967, D.C., N.D. Ohio (Cleveland), Doc. C67–933, *Uniroyal Incorporated* v. *Firestone Tire & Rubber Co.*

2,749,715. (See 3,000,195.)

2,753,694. (See 3,319,438.)

2,797,010, A. P. Neer, SAMPLE CHART AND METHOD OF FABRICATING THE SAME, **filed** Aug. 12, 1964, D.C., N.D. Ill. (Chicago), Doc. 64c1394, *Matherson-Selig Co.* v. *Carl Gorr Color Card, Inc.* Patent No. 2,797,010 is valid and has been infringed by defendant. Defendant is permanently enjoined from infringing U.S. Patent No. 2,797,010.

2,857,075. (See 3,000,195.)

2,913,046, Sharp and Frymire, SLIDING CLOSURE CONSTRUCTION, **filed** Dec. 18, 1968, D.C., C.D. Calif. (Los Angeles), Doc. 67–1811–R, *Northrop Architectural Systems* v. *U.S. Aluminum Corp et al.*

2,967,701, A. G. Wilcox, METHOD OF CONTINUOUS LOW SEAM SHORT WALL MINING USING ROTARY AUGER CUTTERS; **3,026,098**, same, AUGER TYPE MINING MACHINE, **filed** Dec. 11, 1967, United States Court of Appeals for the Fourth Circuit, Richmond, Va., Doc. 11,964, *Jeffrey Galion Manufacturing Company* v. *Wilcox Manufacturing Company.*

3,000,195, G. J. Federighi, DRINKING GLASS FROSTER; **2,749,715**, R. S. Tice, DRINKING GLASS CHILLER; **2,857,075**, J. C. De Shazor, Jr., CAN LID SEAL RING; **filed** May 2, 1966, D.C., S.D.N.Y., Doc. 66–C–1262, *The H-C Manufacturing Co., Inc. et al.* v. *Dynamics Classics Ltd. et al.* Dismissed for lack of prosecution, Dec. 20, 1967.

3,026,098. (See 2,967,770.)

3,061,812, A. Z. Rachwalski, PULSE TYPE DEPTH SOUNDER; **D. 189,914**, Emerson and Curtis, INDICATING DEVICE; **filed** Sept. 22, 1967, D.C. Del. (Wilmington), Doc. 3406, *Jetronic Industries, Inc.* v. *Raytheon Company.*

3,073,419, H. P. Henry, BRAKES FOR TRAILER VEHICLES, **filed** Dec. 21, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c2193, *Howard P. Henry* v. *Atwood Vacuum Machine Co.*

3,083,104, R. F. Celmer, METHODS FOR RECOVERING LIQUIDS FROM VEGETATIVE MATERIALS, **filed** May 18, 1964, D.C.N.Y. (Buffalo), Doc. C10,931, *Ultimate Research & Development Corp.* v. *The Taylor Wine Company, Inc.* Judgment and oruer; patent valid; defendant has not infringed any of the claims, Nov. 13, 1967.

3,110,034, J. A. Aileo, HELMET WITH VENT IN VISOR COVER, **filed** Dec. 22, 1967, D.C., E.D.N.Y. (Brooklyn), Doc. 67C–1196, *Gentex Corp.* v. *Transaero, Inc.*

3,121,582, D. L. Gass, UNIVERSAL BUMPERETTE ASSEMBLY, **filed** Dec. 1, 1967, D.C., N.D. Ill. (Chicago), Doc. 64c1996, *David L. Gass and Gem Manufacturing Company* v. *Montgomery Ward and Co.* Judgment heretofore entered by this court on Sept. 22, 1966, which has been reversed by the Court of Appeals for the Seventh Circuit, be declared null and void, and that this final judgment be substituted therefor; patent invalid, Dec. 1, 1967.

3,196,122, R. M. Evans, CEMENTITIOUS COMPOSITIONS CONTAINING ACRYLIC ESTER POLYMERS, **filed** Nov. 3, 1967, D.C., N.D. Ohio (Cleveland), Doc. C67–811, *The Master Mechanics Company* v. *Rohm & Haas Company.*

3,250,088, P. N. Hanebuth, TIP ASSEMBLY FOR A FLEXIBLE SHAFT ASSEMBLY, **filed** Sept. 5, 1967, D.C., N.D. Ill. (Chiacgo), Doc. 67c1529, *Stewart-Warner Corporation* v. *Freightliner Corp.* Voluntary dismissal under Rule 41(a), Oct. 30, 1967.

3,319,438, Kuebler and Freese, AUGER ICE MAKER; **2,753,694**, Trow and Nelson, ICE DISINTEGRATING AND CHIP DELIVERING SPIRAL ICE CHIP PRODUCING MACHINE, **filed** Nov. 16, 1967, D.C., E.D. Mich. (Detroit), Doc. 30578, *Uniflow Manufacturing Co.* v. *King-Seeley Thermos Company, Inc.*

3,340,750, R. D. Noorlun, CAR DOOR OPENING DEVICE, **filed** Dec. 4, 1967, D.C., Minn. (St. Paul), Doc. 3–67–319C, *R. D. Noorlun and W. J. Lievers, doing business as Car Opening Device Company* v. *Walden Inc. and National Bushing and Auto Parts Company.*

D. 189,914. (See 3,061,812.)

D. 209,010, Appel and Schnur, PAPER TOWEL HOLDER, **filed** Dec. 22, 1967, D.C., S.D.N.Y., Doc. 67–C–5018, *Elpo Industries, Inc.* v. *Nevco Wood Products Co., Inc.*

Re. 23163. (See 2,459,452.)

PATENTS

GRANTED APRIL 2, 1968

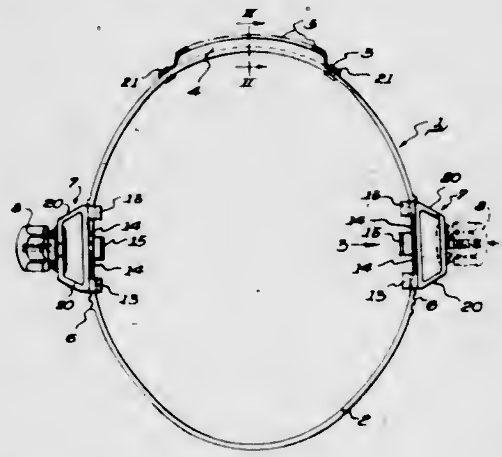
GENERAL AND MECHANICAL

3,375,529
ASSEMBLY FOR MOUNTING FACE PROTECTION DEVICES ON HEADGEAR

Walter Timm, Pittsburgh, and Albert E. Sebest, East McKeesport, Pa., assignors to Mine Safety Appliances Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 22, 1966, Ser. No. 596,159

6 Claims. (Cl. 2—8)



1. An assembly for mounting a face protection device on a protective headgear comprising:

(a) a band adapted to surround the crown of a protective headgear having opposed side portions and a plurality of circumferentially spaced grooves on the outer surface of said side portions,

(b) a pair of opposed brackets, each of said brackets comprising:

(1) a substantially planar wall adjacent said grooved band surface,

(2) two U-shaped lugs integral with and horizontally spaced on said wall enclosing and slidably engaging said band,

(3) at least one rib integral with said wall, normally engaging said grooves and disengaging from said grooves when the band is flexed inwardly,

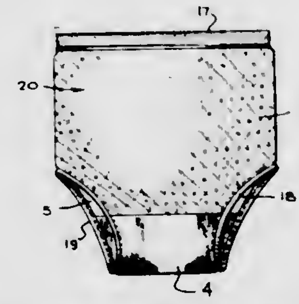
whereby the bracket may be circumferentially adjusted to different fixed positions on the band.

3,375,530
BRIEFS AND METHOD OF MAKING

Robert M. Matthews, Charlotte, N.C., and Jule W. Kaylor, Ellijay, Ga., assignors to Chadbourn Gotham, Inc., Charlotte, N.C., a corporation of North Carolina

Filed Jan. 11, 1966, Ser. No. 519,944

3 Claims. (Cl. 2—224)



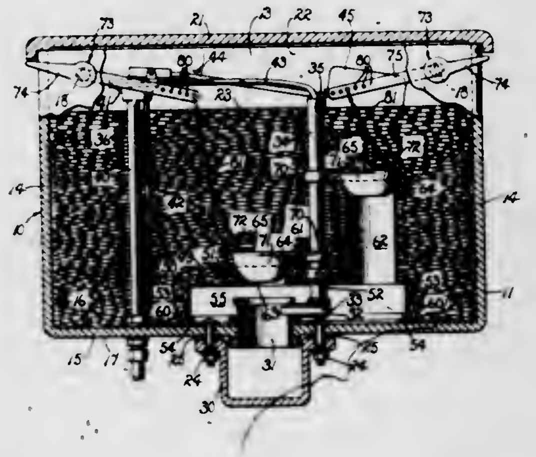
Briefs and a method of making them, wherein a tube is knit having a central tubular reenforced zone and end zones which terminate in end bands having run barriers. The tube is slit longitudinally along any line, and the overlying slit edges notched in an area including the reenforced zone. The slit tube is opened, the ends folded in overlying relation and the sides stitched from the end bands to the notches. Elastic may be sewn to the waistband and leg openings.

3,375,531
FLUSH VALVE

Kenneth E. Lake, Dos Palos, Calif., assignor, by direct and mesne assignments, to Lake-Dermer, Inc., a corporation of California

Filed Oct. 18, 1965, Ser. No. 496,849

6 Claims. (Cl. 4—57)



A flush valve for a water closet having a main discharge conduit providing a housing having a compartment disposed within the closet in covering relation to the main discharge conduit with a pair of evacuation conduits upwardly extended from the housing and terminating in elevationally spaced upper ends and including an overflow tube extended through the housing mounting closure members individual to the evacuation conduits and having a lower end directly connected to the main discharge conduit to provide a water filling passage independently of the passage provided for the evacuation conduits through the housing.

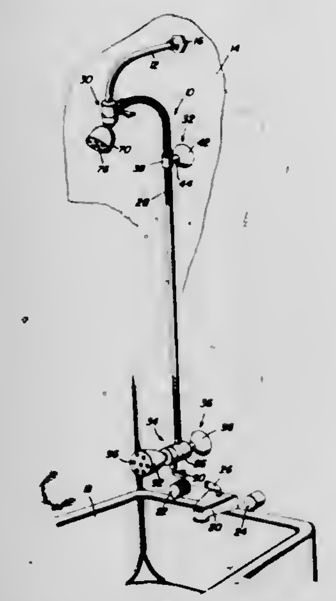
3,375,532
FLEXIBLE SHOWER LINE UNIT

Daniel Gellmann, 56 W. 45th St., New York, N.Y. 10036

Filed Oct. 7, 1965, Ser. No. 493,628

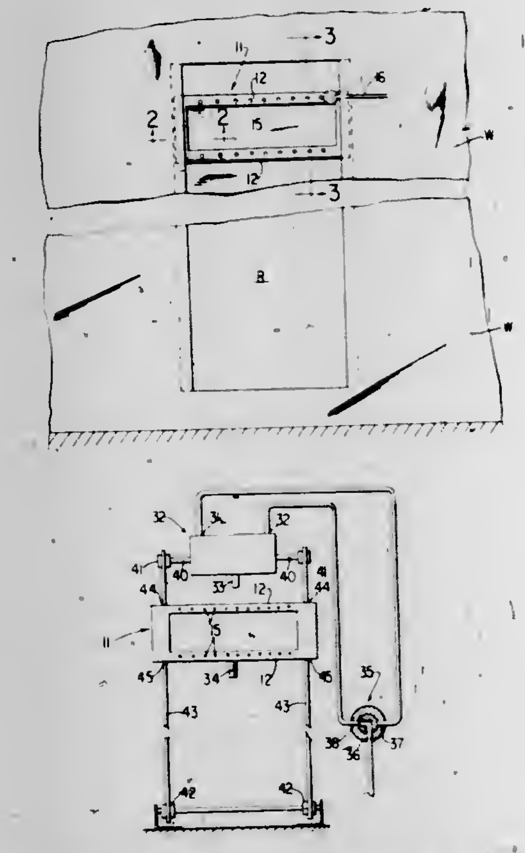
1 Claim. (Cl. 4—145)

A flexible conduit, portable in nature and provided with supporitng means for detachable supporting engagement with a wall surface. One end of the flexible conduit is detachably connected to a housing having one end connected to a shower pipe and the other end provided with a universal shower nozzle. A manual valve is provided in the housing for selectively closing water flow passage to the shower nozzle. The lower end of the flexible conduit is provided with a housing on which the lower support is attached at one end and a shower nozzle universally connected to the other end. A manual valve is provided in the housing for selectively closing off water flow to the lower shower nozzle. The entire unit is detachable and



flexible and capable of being easily transported or carried and easily installed and removed.

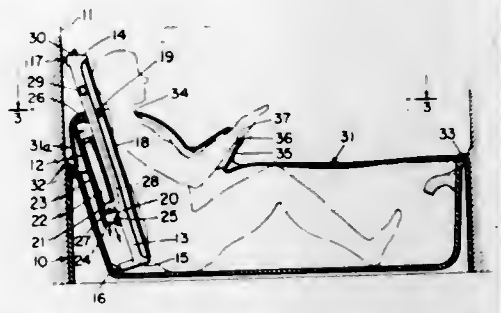
3,375,533
SHOWER APPARATUS
Arsene N. Lucian, Manasquan, N.J. 08736
Filed Mar. 31, 1967, Ser. No. 627,531
5 Claims. (Cl. 4—145)



A shower head movable manually or mechanically in runways of a fixed or portable frame or on a shower room wall to be positioned to direct sprays of water onto a person at selected levels from head to foot.

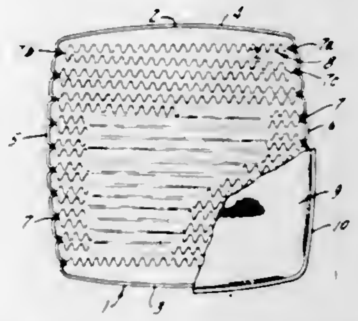
3,375,534
STEAM BATH APPARATUS FOR BATHTUBS
Angelo Vieceli, 24429 Shadeland Drive,
Newhall, Calif. 91321
Filed Dec. 8, 1965, Ser. No. 512,434
7 Claims. (Cl. 4—162)

1. A steam bath apparatus for a bathtub, comprising: frame means adapted to be positioned in said tub to project upwardly and provide a back rest for a person sitting in said tub; electrically powered steam generating means secured to the back of said frame means; hood means secured to said frame means for conducting steam downwardly from said steam generating means; and cover



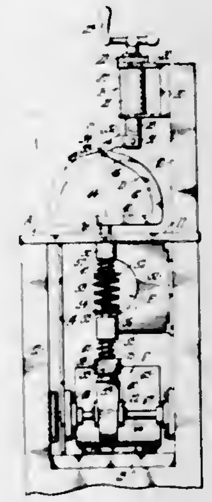
means secured over said tub and said hood means for providing an enclosure for said steam, said cover means including openings through which a person's hands and neck extend when sitting in said tub.

3,375,535
VENTILATED CUSHION
Menard N. Karbin, 5615 N. Spalding, and Arnold Karbin, 3741 W. Leland, both of Chicago, Ill. 60625
Filed Mar. 15, 1967, Ser. No. 623,328
2 Claims. (Cl. 5—347)



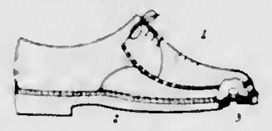
A ventilating cushion including a border frame and a single length of coiled wire wound across the frame in segments alternately above and below the frame and at an angle to the frame center line and to each other and out of contact with each other.

3,375,536
METHOD AND APPARATUS FOR CEMENTING SHOE SOLES TO EXTENDED WELT SHOES
John H. Kelly, 2110 Selby Ave.,
Los Angeles, Calif. 90025
Filed Dec. 29, 1965, Ser. No. 517,273
9 Claims. (Cl. 12—142)



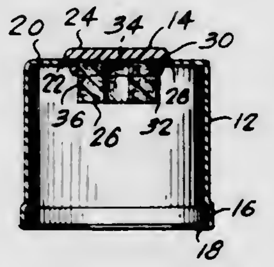
Disclosed herein is a method and apparatus for adhesively securing a shoe sole to a welt, externally of the body of the shoe, wherein, after application of adhesive and preliminary arrangement of the sole in position against the welt and light adhesion thereto, the assembly of sole and welt is inserted between presser jaws projecting laterally from pressure-transmitting members, and successive pressure impulses are then applied to the projecting peripheral areas of welt and sole, in narrow areas overlapping one another, while light dragging engagement of the welt and sole between the jaws is maintained during the intervals in which the impulse pressure is relaxed, the operator maintaining a light forward push against the work sufficient to overcome such drag during the relaxation intervals, whereby the work is advanced a short distance during each such interval without "scooting" (moving freely beyond the short step of advancing movement required for the successive overlapping positions of pressure application).

3,375,537
SHOES WITH MOULDED SOLES
Joseph V. Cali, Massapequa, N.Y., assignor to Wenton Shoe Manufacturing Company, Kutztown, Pa., a corporation of Pennsylvania
Filed Mar. 11, 1966, Ser. No. 533,584
8 Claims. (Cl. 12—145)



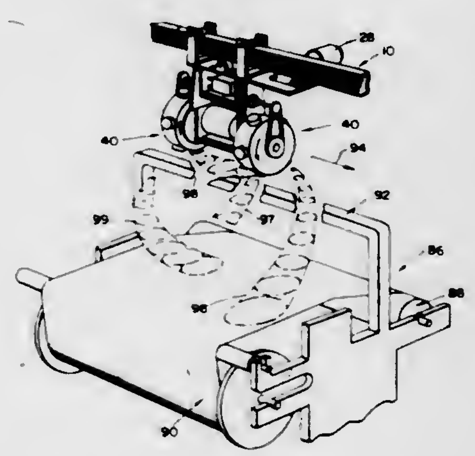
A process for producing a shoe with a moulded sole that provides a shoe construction having an upper lasted shoe section and a reinforcement in the form of a shouldered rivet fixed to the upper lasted shoe section and projecting to the exterior of the shoe section. The reinforcement is located in the toe area of the shoe and a sole is injection moulded against and about the surface of the reinforcement when the sole is in the fluid-plastic state, the reinforcement being seized and submersed in the sole.

3,375,538
OVERCAP ASSEMBLIES
Frank Mains, Don Mills, Ontario, and Eric S. Hardman, Scarborough, Ontario, Canada, assignors to Domtar Limited, Montreal, Quebec, Canada, a Canadian company
Filed Apr. 12, 1967, Ser. No. 630,313
6 Claims. (Cl. 15—118)



The present invention relates to overcaps and is primarily directed to an overcap for use with containers for starch. The overcap is provided with an aperture therethrough and in which an insert is frictionally and removably retained. The insert has an impregnated pad secured to one surface thereof and is insertable in one direction through the aperture to position the pad in a protected position within the overcap or in the opposite direction through the aperture to position the pad in exposed position for use.

3,375,539
TRAVELING OVERHEAD TEXTILE MACHINE CLEANER
Albert J. Loepsinger, Barrington, R.I., assignor to Grinnell Corporation, Providence, R.I., a corporation of Delaware
Filed Sept. 25, 1964, Ser. No. 399,321
13 Claims. (Cl. 15—312)



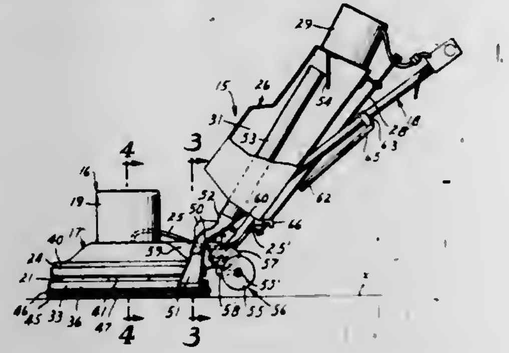
1. Apparatus for cleaning a row of textile machines, said apparatus comprising:

- (I) a hollow housing which:
  - (A) is located above said row of machines,
  - (B) is movable along said row,
  - (C) has a wall portion which:
    - (1) is downwardly presented,
    - (2) has an elongated slot,
- (II) means for providing air under pressure in the interior of said housing,
- (III) a hollow cylindrical sleeve which:
  - (A) lies adjacent to said housing wall portion,
  - (B) has its axis of revolution disposed generally horizontally,
  - (C) rotates with respect to said housing about said axis,
  - (D) has a discharge opening which:
    - (1) registers with said housing slot over a portion of said sleeve rotation,
    - (2) receives moving air from said housing slot,
    - (3) discharges said moving air downwardly in the form of a stream,
- (IV) means for rotating said sleeve continuously in one direction:
  - (A) to move said sleeve opening with respect to said housing slot,
  - (B) to sweep said air stream over said row in one direction,

whereby said air stream is swept over one part of said row of textile machines when said sleeve is rotated through one revolution and is swept over an adjacent part when said sleeve is rotated through the next revolution, and whereby said stream is blocked by said housing over certain portions of said sleeve rotation to define a beginning and an end to each sweep.

3,375,540
ATTACHMENT FOR FLOOR CLEANING MACHINE
Elmer A. Hyde, Box 1832, Billings, Mont. 59101
Filed July 19, 1965, Ser. No. 472,869
4 Claims. (Cl. 15—320)

An attachment for a power-operated rotary floor scrubbing element carried by a frame structure having handle means attached thereto for imparting forward and reverse, as well as transverse, movements thereto, including soap dispensing apparatus for injecting soap into the center of the brush and vacuum apparatus with a vacuum chamber concentric with the brush having an outwardly opening mouth adapted to be closed by a depending skirt along the leading edge of the mouth as the machine is moved horizontally over a surface. The machine also has wheels which are movable from an operative to an inoperative position, and adjustable in the operative position to vary the height of the machine.

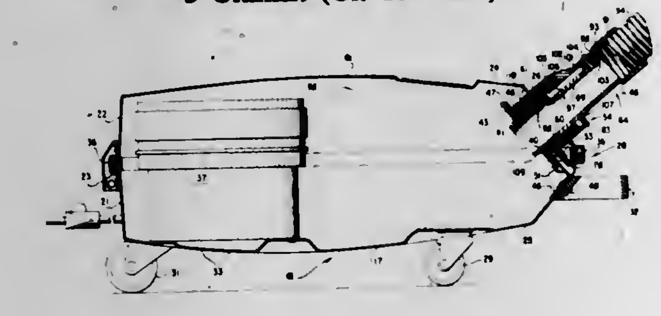


3,375,541
VACUUM CLEANERS WITH COMBINED HOSE CONNECTORS AND HOUSING LATCHES

Charles T. Fromknecht, Anderson, S.C., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey

Filed June 24, 1966, Ser. No. 560,149

6 Claims. (Cl. 15—327)



6. In a canister type vacuum cleaner, a bottom housing, an apertured top housing connectable to said bottom housing, a bracket, for supporting a dust bag, secured to said bottom housing, a keeper formed as part of said bracket, an annular plastic latch member rotatably mounted in the aperture in said top housing, a bolt formed as part of said latch member and adapted, when said top housing is closed on said bottom housing, to engage the keeper on said bag bracket and thereby latch said top housing to said bottom housing.

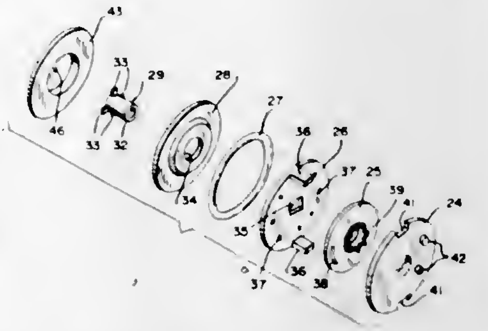
3,375,542
DOOR CLOSER

Raymond K. Gray, Skokie, and Elbert M. Spencer, Wildwood, Ill., assignors to Lock Inc., a corporation of Illinois

Filed Sept. 13, 1965, Ser. No. 487,006

10 Claims. (Cl. 16—52)

A hydraulic door closer in which a piston is movable between open and closed positions in a cylinder containing hydraulic fluid. A spring urges the piston toward closed position and a valve on the piston permits the free flow of hydraulic fluid through the piston on movement from closed to open positions and controls the flow of hydraulic fluid through the piston on movement from open to closed positions. An orifice member is slidably mounted on the rod for movement in relation to the valve means and has a fluid passage in communication with the valve whereby the flow of hydraulic fluid through the passage is controlled when the orifice member is in a position abutting the valve. The orifice member also has a centrally located opening which permits the free flow of hydraulic fluid therethrough at the center of the cylinder when the orifice member is away from the valve means, thereby preventing air accumulated at the top of the cylinder from passing through the central opening of the orifice member. A second valve is provided at the end of the cylinder to slow the movement of the piston during the latter part of the closing stroke thereof.

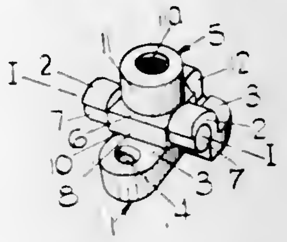


3,375,543
COUPLING DEVICE

Sally Margaret Willey and Ronald Victor Tebbutt, London, England, assignors to Schema Limited, London, England, a British company

Filed Aug. 13, 1965, Ser. No. 479,524

5 Claims. (Cl. 16—139)



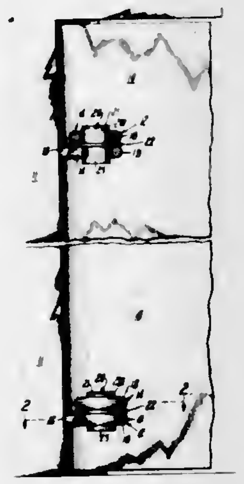
A hinge for doors and the like which is self-stabilizing in one or more positions. Includes resilient displaceable hook elements movable relative to stationary members so that the movable member to be attached to a door or table leg, for example, becomes relatively fixed and immovable at predetermined positions.

3,375,544
HINGE

Charles R. Suska, Roxbury, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut

Filed Aug. 27, 1965, Ser. No. 483,227

4 Claims. (Cl. 16—128)



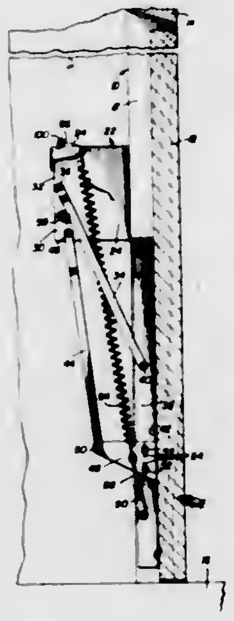
The improvement is a hinge which is characterized by a pair of hinge elements formed as screw eyes and having a pintle formed of a low-friction plastic material with end portions fitting in the screw eyes and an integral flange fitted between the screw eyes to reduce friction and avoid the need for lubrication and enabling the hinges to be readily applied and adjusted for alignment and door-positioning with a minimum of difficulty, the hinge also including modifications to enable the pintle to be detachably connected with one of the screw eyes by means of a peripheral groove receiving one of the screw eyes and also being adapted to receive elements fixed with relation to the screw eyes which will retain the hinge in adjusted open or closed positions.

3,375,545
HINGE CONSTRUCTION FOR SWINGING OVERHEAD DOOR

Henry P. Lipking, 4987 E. Tulare St., Fresno, Calif. 93702

Filed Feb. 21, 1966, Ser. No. 529,031

7 Claims. (Cl. 16—163)



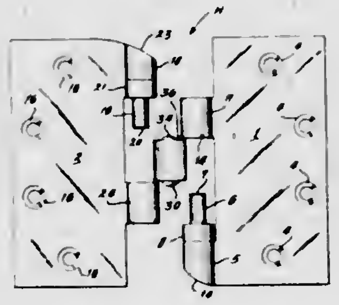
A plate-like mounting bracket for a pair of pivoted support arm means of an overhead door and including adjustable abutment stop means for limiting swinging movement of the support arm means and also anchor means for attachment of one end of an elongated counterbalance spring to the mounting bracket.

3,375,546
HINGE

Francis C. Peterson, Webster Groves, Mo., assignor to C. Hager & Sons Hinge Manufacturing Company, St. Louis, Mo., a corporation of Missouri

Filed Apr. 7, 1966, Ser. No. 540,912

7 Claims. (Cl. 16—171)



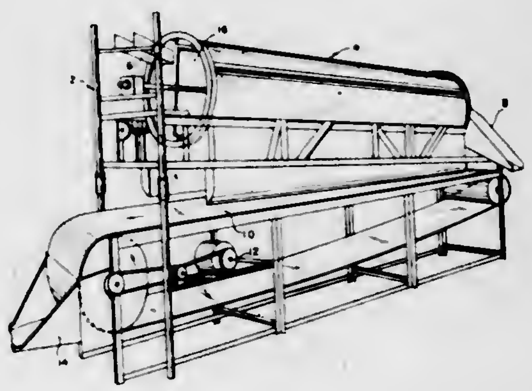
A hinge having a keeper which is placed in the hinge and retained in fixed relation therein by movable means so that said keeper cannot be removed therefrom without moving said movable means, said keeper forming a part of the overall knuckle of said hinge, said movable means not being accessible when the door is closed.

3,375,547
APPARATUS FOR SEPARATING SEAFOOD COMPONENTS

Theodore S. Reinke, Box 335, Cambridge, Md. 21613

Filed Feb. 4, 1966, Ser. No. 525,015

7 Claims. (Cl. 17—2)



1. Apparatus for separating pre-cooked unshelled crab particles into their meat and shell components, comprising

a frame;

a rotatably-driven generally horizontal tubular drum journalled in said frame and having an input end adapted to receive said crab particles and an output end adapted to discharge the shell components, said tubular drum containing throughout its length a plurality of radial meat transporting passages;

rotatably-driven blade means journalled in said frame and arranged concentrically within said drum, said drum and said blade means being driven in opposite directions; and

a plurality of longitudinally extending circumferentially spaced radially arranged bars attached to the inner circumference of said drum, said bars being spaced from the extremities of said blade means by such a predetermined distance that the shell components are jarred free from said meat components as said crab particles are tumbled by the cooperation between the extremities of said blades and bars, whereby particles of meat are discharged from said drum through the meat transporting passages contained therein,

wherein the free extremities of said bars adjacent said blade means include bent portions that extend rearwardly relative to the direction of rotation of said drum.

3,375,548
APPARATUS FOR PRODUCING CONJUGATED FILAMENTS

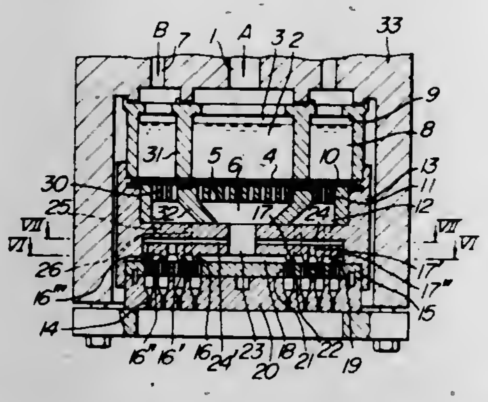
Yutaka Kido and Hiroshi Maekawa, Toyohashi-shi, Japan, assignors to Mitsubishi Rayon Co., Ltd., Tokyo, Japan, a corporation of Japan

Filed Dec. 20, 1965, Ser. No. 515,039

Claims priority, application Japan, Sept. 29, 1965, 40/59,617

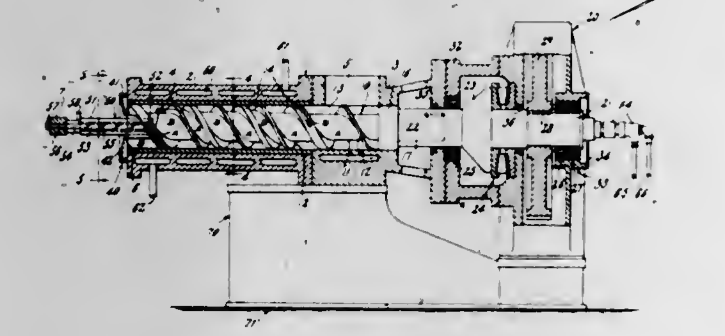
3 Claims. (Cl. 18—8)

An apparatus for producing a conjugate filament, which comprises a distributor plate having projections for separating different kinds of spinning melts, a spinneret having spinning orifices, and a resistance plate which is provided between the distributor plate and the spinneret, said resistance plate having a plurality of pairs of small holes, each pair of small holes being allocated to one spinning orifice, and each of said holes allowing only one kind of spinning melt to pass.



3,375,549
METHOD AND APPARATUS FOR REFINING AND SEPARATING PLASTIC MATERIALS

Paul Geyer, Detroit, Mich., assignor to Uniroyal, Inc., a corporation of New Jersey
Filed Apr. 5, 1961, Ser. No. 100,997
12 Claims. (Cl. 18—12)

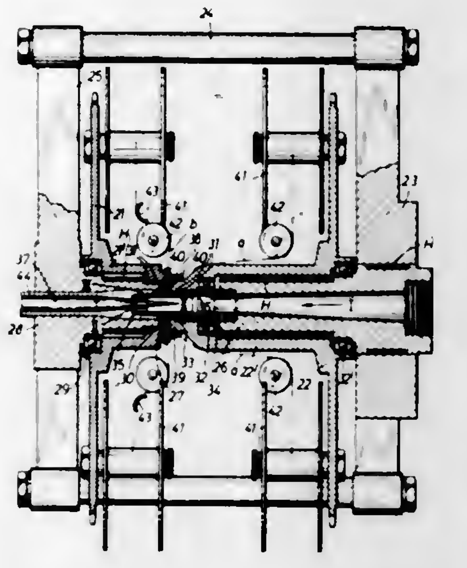


A screw-powered extrusion apparatus for working plastic material including a rotor mounted in a cylindrical bore having an inlet and an outlet, the rotor being in the form of a screw having one or more helical feed threads usuall of constant pitch or lead and an equal number of separating threads of greater lead, each separating thread laterally defining in the surface of the rotor, in conjunction with the adjacent feed thread or threads, a feed groove of progressively diminishing cross-sectional area and blind at the end thereof nearest the outlet and a discharge groove of progressively increasing cross-sectional area and blind at the end thereof nearest the inlet.

3,375,550
PROCESS AND APPARATUS FOR MANUFACTURING REINFORCED PLASTIC TUBING

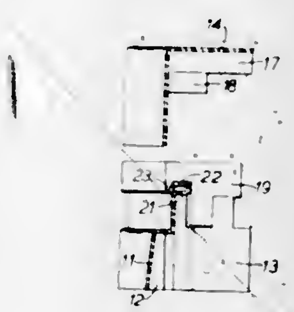
Heinrich Klein, Oberdollendorf, Germany, assignor to Eschweiler Bergwerks-Verein, Kohlscheid, Kreis Aachen, Germany
Filed Oct. 29, 1964, Ser. No. 407,497
7 Claims. (Cl. 18—13)

In an apparatus for manufacturing reinforced plastic tubing including elongated nozzle means forming part of an extruder and having a central axis along which the nozzle means divides an elongated body of plastic material into an outer tubular portion and an inner tubular portion which subsequently joins the outer tubular portion to form therewith a plastic tube which issues from the nozzle means, and a pair of means surrounding the nozzle means and introducing into the plastic tube, before the latter issues from the nozzle means, sets of reinforcing filaments in such a manner that they cross each other in the wall of the tubing, each of the pair of the aforementioned means including a plurality of bores distributed about the nozzle axis and the bores of at least one of the aforementioned pair of means communicating with the outer tubular portion of the plastic material to introduce reinforcing filaments into the outer tubular portion and said at least one means being supported for rotation about the nozzle axis to provide helically extending reinforcing filaments.



3,375,551
APPARATUS FOR MAKING AN OPEN-END CONTAINER HAVING A CURLED RIM

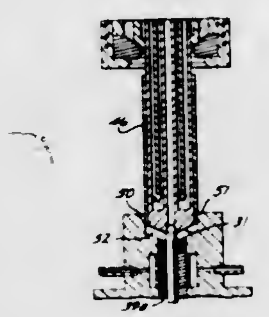
John Gerrard Sherlock, Feltham, England, assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Apr. 9, 1965, Ser. No. 446,865
Claims priority, application Great Britain, Apr. 10, 1964, 14,986/64
4 Claims. (Cl. 18—19)



1. An apparatus for making an open-ended container from a sheet of plastic material and separating the same from the excess material comprising a clamp for supporting said sheet of plastic material, a mold defining the container shape positioned on one side of said sheet material, said mold including an annular plate member having an indented portion for forming a peripheral outwardly and upwardly extending curl around the mouth of said container shape, said member including an inwardly extending portion positioned above said curl, said portion having a sharp edge to form a sharp bend area of localized strain in said plastic material defining the inner limit of said curl, means for moving said plate member and said mold relative to each other and toward said curl to insure formation of said bend area in said sheet material and to substantially close said curl, and means for causing relative movement between said clamp and said mold after forming of said container to cause said plastic material to tend to straighten and thereby cleanly sever at said bend area to allow removal of said excess material.

3,375,552
APPARATUS FOR FORMING PLASTIC UNITS

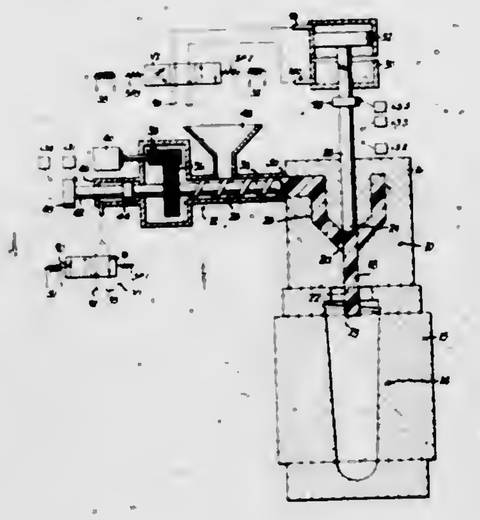
Harold R. Beck, Woodland Hills, Calif., assignor to Rexall Drug and Chemical Company, Los Angeles, Calif., a corporation of Delaware
Filed Dec. 6, 1965, Ser. No. 511,718
3 Claims. (Cl. 18—30)



An apparatus for fabricating plastic containers wherein a movable mandrel is coated with plastic material and one end of the mandrel is received within dies which define a molding cavity between the mandrel and the dies, and flowable plastic material is introduced into the cavity to form a container end portion.

3,375,553
VALVE DEVICE FOR PLASTIC EXTRUDER

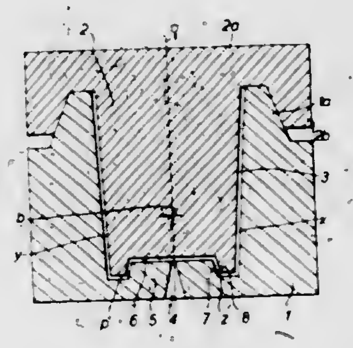
Donald H. Criss, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Mar. 11, 1966, Ser. No. 533,548
1 Claim. (Cl. 18—30)



1. In molding apparatus including a mold having a cavity therein and an extruder screw of the rotational and reciprocatory type, a valve device and control means for separating a gob of plasticized material from a parent mass of material supplied from the extruder comprising means forming a chamber having an outlet opening leading therefrom into said mold cavity and an inlet opening leading from said extruder into said chamber, a movable member having (1) a valve-closed position in said outlet opening in which said movable member blocks said inlet opening and is exposed at an end thereof to the ambient temperature in said mold cavity which tends to lower the temperature of said end, (2) a valve-open position away from both of said openings providing an open passage for flow of plasticized material from said extruder into said chamber, and (3) an intermediate position between said valve-open and valve-closed positions wherein said movable member blocks said passage and said end thereof is withdrawn from said mold cavity and is at the temperature of plasticized material as it is supplied to said inlet opening, first actuator means for moving said extruder screw axially to supply a charge of plasticized material to said chamber with said movable member in said valve-open position, said first actuator means including a first piston and cylinder device for moving said extruder screw axially, a first valve controlling said piston and cylinder device and a first solenoid controlling said valve, second actuator means operative to move said movable member from said valve-open position to said valve-closed position to sever a gob of plasticized material from plasticized material in said inlet opening and to force said gob into said cavity, and third actuator means operable to retract said movable member from said valve-closed position to said intermediate position and halt said movable member at said intermediate position, said third actuator means acting in response to actuation of said extruder screw by said first actuator means to deliver a charge of material to said chamber to further retract said movable member from said intermediate position to said valve-open position providing an open passage for feeding said material to said chamber, said second and third actuator means together including a second piston and cylinder device for moving said movable member reciprocally, a second valve controlling said second piston and cylinder device, a second solenoid for actuating said second valve in one sense to cause movement of said movable member from said valve-open position toward said valve-closed position, a third solenoid for actuating said second valve in an opposite sense to cause movement of said movable member from said valve-closed position to said valve-open position, and switching means operative with said third solenoid to halt said movable member temporarily in said intermediate position.

3,375,554
INJECTION MOULD FOR PLASTIC INJECTION MOULDING MACHINES FOR THE PRODUCTION OF AXIALLY SYMMETRICAL HOLLOW BODIES

Armin Blumer, 8762 Schwanden, Switzerland
Filed May 5, 1965, Ser. No. 453,249
Claims priority, application Switzerland, May 11, 1964, 6,174/64; Feb. 5, 1965, 1,632/65
3 Claims. (Cl. 18—42)



An injection mold for making axially symmetrical hollow bodies, such as plastic cups, which consists of an outer mould part and an inner mould core, with the outer mould part having a protuberance projecting into the inner mould core having an axial injection aperture to form an axial depression in the mould core, the protuberance projecting into the mould core substantially beyond the lowermost peripheral portions of the mould core to form an automatic self centering relationship between the axis of the mould core and the axis of the outer mould part.

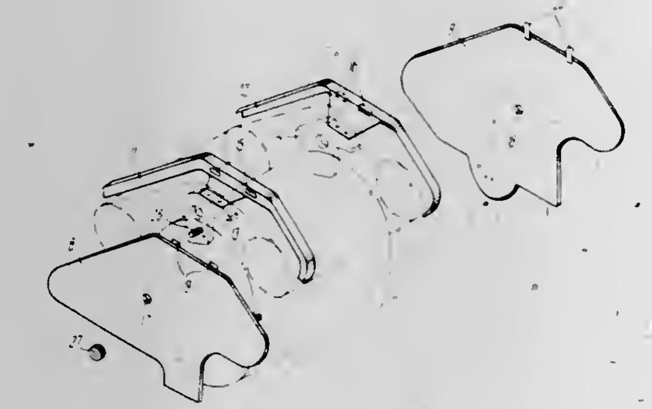
3,375,555
CASING FOR CARDING MACHINE FLATS

Alexandr Sergeevich Vinogradov, Ulitsa Krasnykh Zor 400 kvart. dom, kv. 311; Jury Mikhailovich Kapustin, Ulitsa Proletarskaya 2, kv. 91; Ilya Nikolaevich Maxjutenko, Ulitica 2 Lagernaya 50, kv. 35; Vladimir Nikolaevich Kiselnikov, Ulitica Malaya Khutoroaskaya 5, kv. 20; Igor Sergeevich Borisov, Ulitsa 2 Lagernaya 42, kv. 3; and Ivan Mikhailovich Mazalov, Sosnevo, 7 proezd 57, kv. 8, all of Ivanovo, U.S.S.R.

Filed Nov. 9, 1966, Ser. No. 593,180

Claims priority, application Union of Soviet Socialist Republics, Nov. 9, 1965, 1,036,309

2 Claims. (Cl. 19—98)



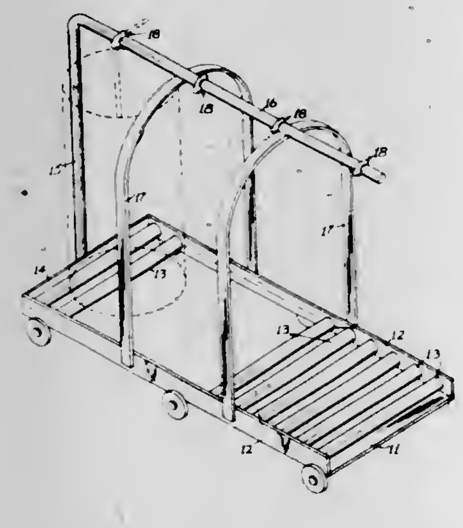
A casing for the flats of a carding machine consisting of two solid detachable side panels, a detachable lid and two supporting braces.

3,375,556
HANDLING AND BLENDING SLIVERS

Morris M. Bryan, Jr., Jefferson, Ga., assignor to The Jefferson Mills, Inc., Jefferson, Ga., a corporation of Georgia

Filed Feb. 10, 1966, Ser. No. 526,413

2 Claims. (Cl. 19—157)



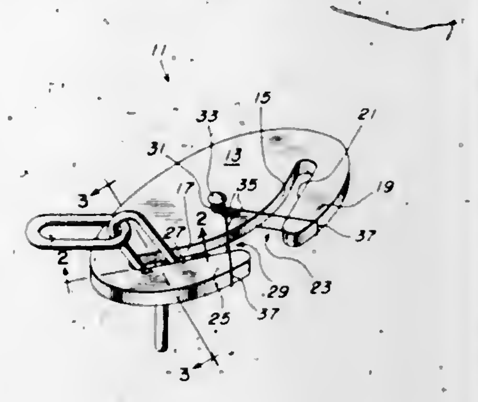
What is disclosed herein is a card service truck for receiving a plurality of drums containing coiled sliver from a coiler or the like and for transporting the drums to a drafting frame or the like to which the sliver in each drum is fed through a guide tube while the drums remain in position on the truck. A guide tube is mounted on a cantilever guide bar over each of the plurality of drum positions and the guide bar extends above the drum positions from that end of the card service truck opposite to the drum receiving end at which drums are received from the coiler. A plurality of rollers serve to provide slideable motion of drums from the drum receiving end of the truck into the plurality of drum positions.

3,375,557
ANCHOR FOR A CHAIN

Edward L. Parr, 301 N. Cuyamaca, El Cajon, Calif. 92020

Filed May 27, 1966, Ser. No. 553,514

4 Claims. (Cl. 24—116)



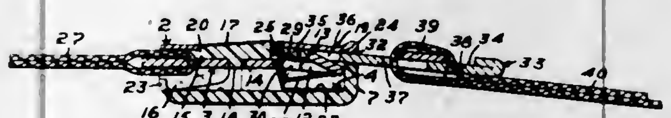
Fastener for links of a chain including a main body forming a thrust plate for the links, one edge of the body having surfaces disposed at approximately 120 degrees with respect to one another and angling toward the opposite edge of the body, the fastener also including integrally formed retainers lying parallelly with respect to the aforementioned surfaces.

3,375,558
SAFETY BELT BUCKLE

Thomas B. Wright, Oakland, Calif., assignor to United-Carr Incorporated, Boston, Mass., a corporation of Delaware

Filed Feb. 7, 1966, Ser. No. 525,641

9 Claims. (Cl. 24—230)



A safety belt combination of the type wherein a tongue plate attached to one belt section is releasably coupled to a buckle attached to a second belt section. The buckle includes a pivotal, spring biased locking plate for locking the tongue plate in the buckle and a mechanism for ejecting the tongue plate from the buckle when the tongue plate and locking plate are released. The second belt section is attached to the locking plate whereby stress on one belt section is transmitted directly to the other belt section through the locking plate and the tongue plate.

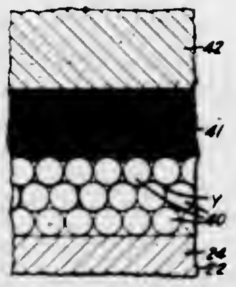
3,375,559
MECHANISM FOR PROCESSING MULTIFILAMENT CRIMPED YARN

James D. Moyer, Wyomissing, and Leon A. Pittman, Jr., Sinking Spring, Pa., assignors to Textile Machine Works, Wyomissing, Pa., a corporation of Pennsylvania

Filed Aug. 17, 1965, Ser. No. 480,410

6 Claims. (Cl. 28—1)

This invention concerns apparatus for expanding or bulking multifilament thermoplastic yarns which have been crimped and then heat set to impart permanence to the crimps. The apparatus comprises a housing containing a plurality of nested tiers of cylindrical members with means for pressing the members of the tiers into closely adjacent relationship. In operation the yarn is drawn between members of adjacent tiers whereby a rubbing action is exerted on the yarn to shift the crimps of the filaments thereof from their nested relationship to bulk the yarn.

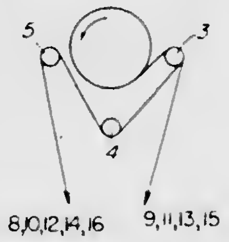


3,375,560
BACKWINDING A SUPPLY BEAM

John Turnbull, Charlotte, N.C., assignor to Fiber Industries, Inc., a corporation of Delaware

Filed Dec. 9, 1965, Ser. No. 512,665

5 Claims. (Cl. 28—72)



A process for backwinding a supply beam of substantially parallel continuous multifilament zero-twist yarns, without the formation of ringers, by removing individual yarn ends from the beam in the form of a sheet and then separating the individual ends at a point distant from the beam.

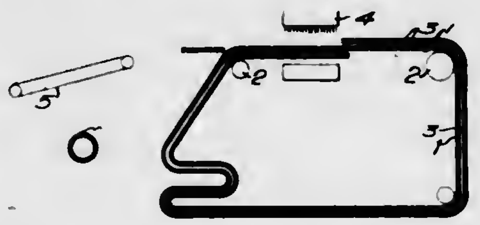
3,375.561
MANUFACTURE OF NEEDLED AND NON-WOVEN FELTS FOR USE IN THE PAPERMAKING AND ANALOGOUS TRADES

John Ford, 900 Walmersley Road, Bury, England

Filed Mar. 21, 1966, Ser. No. 535,952

Claims priority, application Great Britain, Mar. 23, 1965, 12,208/65

8 Claims. (Cl. 28—72.2)



A method of manufacturing an endless papermaking or like felt comprises feeding a warp and an unwoven fibre web to a needling loom, needling the warp and web into a predetermined length of one or more layers of the warp to form a non-woven neeedled fabric the required circumference of the felt, reintroducing the leading end of the needled fabric either above or under the trailing warp layers into the needling loom to produce a further layer or layers of warp on the felt, and severing the trailing end or ends of the warp layers when the required strength is achieved.

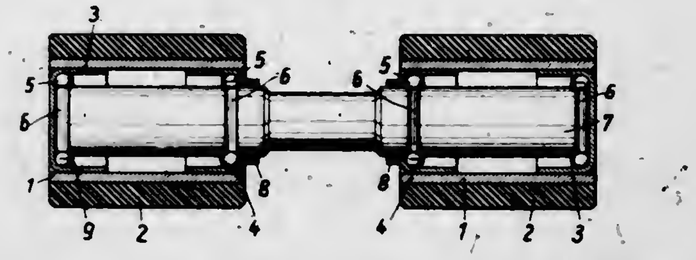
3,375,562
UPPER ROLLER FOR SPINNING MACHINE DRAWING MECHANISMS

Werner Otto Jacob, Frankfurt am Main, and Diethelm Friedrich May, Herzogenaurach, Germany, assignors to Industriewerk Schaeffler OHG, Herzogenaurach, Germany, a corporation of Germany

Filed May 6, 1966, Ser. No. 548,243

Claims priority, application Germany, May 21, 1965, J 28,176

3 Claims. (Cl. 29—116)



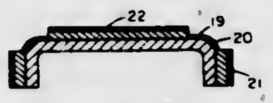
Novel upper rollers for drawing mechanisms in spinning machines, wherein the cylindrical drafting roller casings which have a resilient covering are securely connected with the outer races of rolling contact bearings arranged on the spindle.

3,375,563
METHOD OF MAKING DUAL-MATERIAL FLANGE BEARINGS

George R. Kingsbury and Charles H. Junge, Cleveland, William A. Weinkamer, Mentor, and Raymond L. Slater, Novelty, Ohio, assignors to Clevite Corporation, a corporation of Ohio

Filed Jan. 28, 1966, Ser. No. 523,657

10 Claims. (Cl. 29—149.5)



1. The method of producing a thin-walled, steel-backed, dual-material, flange sleeve bearing from a strip of steel which comprises the steps of: applying to the surface of said steel strip a layer of strong, fatigue-resistant, relatively hard bearing material to cause said strong bearing material to adhere thereto; in the strip form, working the strong bearing material to form barrel area means and flange area means of substantially the same thickness; in the strip form, casting white metal bearing material which is conformable and relatively softer than the strong, fatigue-resistant bearing material to form a composite trimetal strip having barrel area means and flange area means of substantially the same thickness; working the white metal bearing material at the barrel area means to a substantially lesser thickness than the white metal bearing material at the flange area means; and forming a flange sleeve bearing with the barrel area means of said strip forming the barrel of said bearing and with the flange area means of said strip forming the flange means of the bearing.

3,375,564
GUIDE PLATE APPARATUS

Leslie R. Walstrom, Minnetonka, Minn., assignor to Fabri-Tek Incorporated, Minneapolis, Minn., a corporation of Wisconsin

Filed Mar. 7, 1966, Ser. No. 532,315

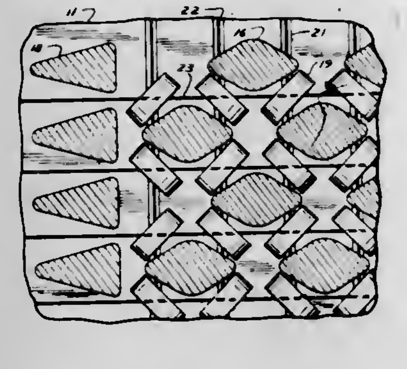
7 Claims. (Cl. 29—203)

1. In core threading apparatus in which a plurality of toroidal cores are arranged in rows and columns and held on edge by core holding means, adjacent cores being angularly disposed to permit straight line threading of the rows and the columns, and in which needle means are used to thread the rows and columns, needle guiding apparatus comprising:

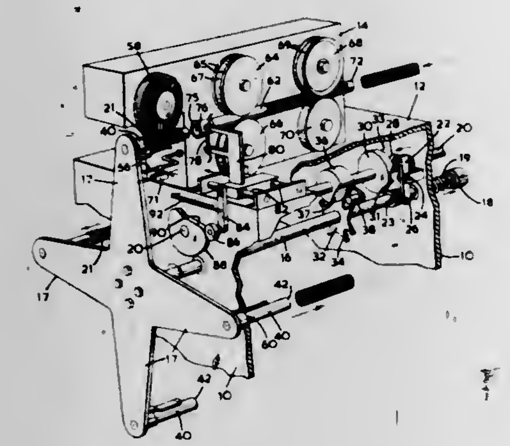
interstitial means;

means for selectively placing said interstitial means in interstices formed by the cores to selectively permit straight line threading of the row and the columns; and

portions of said interstitial means adapted to block a misguided threading needle from the cores to prevent damage and displacement thereof.



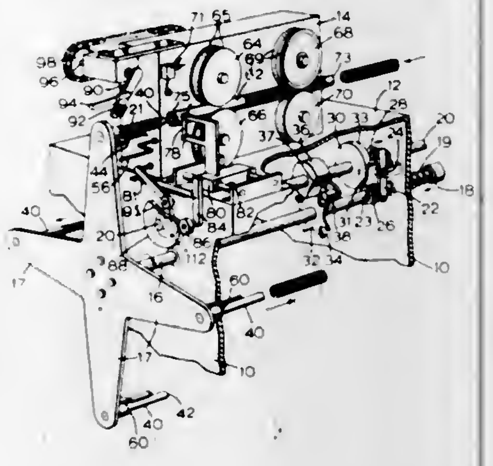
3,375,565
ASSEMBLING APPARATUS FOR HAIR CURLER ASSEMBLY
Albert Sausik, 2 Lakehurst Crescent,
Scarborough, Ontario, Canada
Filed Oct. 20, 1965, Ser. No. 498,569
24 Claims. (Cl. 29—208)



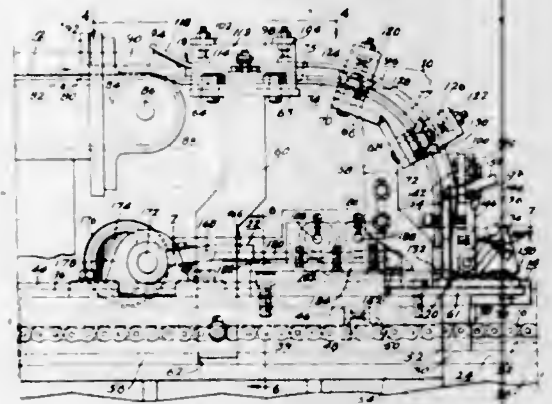
A cooperating shank and pin for assembling mesh onto the quasi-cylindrical former of a hair curler. The pin holds the former and the shank is inside and shapes the mesh so that when means bring the shank and pin into abutting relationship and means propels the mesh toward the pin, the shank guides the mesh over the former. In one aspect of the invention the pin and shank are provided with cooperating aligning means. In another aspect of the invention the shank is propelled by two pairs of rollers with a depression for a roller or roller pair providing an enlargement rearward of the depression to limit movement of the shank in the direction of the pin.

3,375,566
ASSEMBLING APPARATUS FOR HAIR CURLER ASSEMBLY
Albert Sausik, 2 Lakehurst Crescent,
Scarborough, Ontario, Canada
Filed May 2, 1966, Ser. No. 546,733
13 Claims. (Cl. 29—208)

A cooperating shank and pin for assembling mesh onto the quasi-cylindrical former of a hair curler. The pin holds the former and the shank is inside and shapes the mesh. The shank is provided with a well to receive the former and means are provided for (a) moving the former into the well; (b) retaining the former in the well; and (c) causing the former to move out of the well. Means are provided to propel the mesh off the shank and about the former as the former moves out of the well.

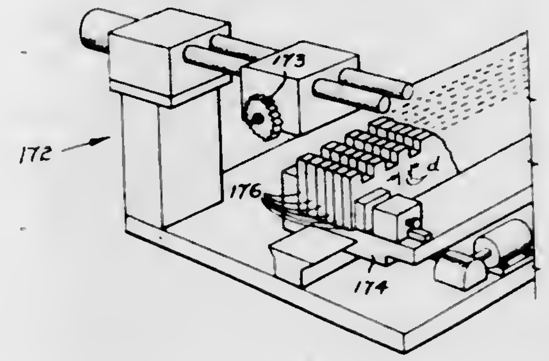


3,375,567
TILE FEEDING APPARATUS FOR DEPOSITING TILES ON TILE BOARDS
Wayne C. Watson, Ambler, Pa., assignor to American Olean Tile Company, Inc., Lansdale, Pa., a corporation of New York
Filed Nov. 8, 1965, Ser. No. 506,643
16 Claims. (Cl. 29—211)



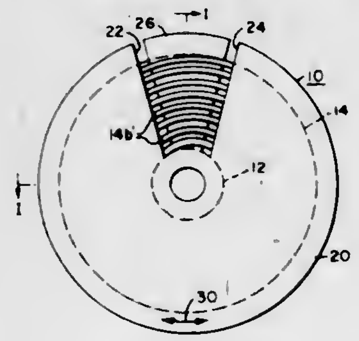
In a tile feeding apparatus for successively depositing rows of tiles in the transverse rows of pockets of partitioned tile boards, the tile feeding apparatus including means for moving a partitioned tile board along a predetermined path to successively advance the transverse rows of tile pockets into a tile-receiving position, an improved tile feed head assembly positioned above the traveling tile board for depositing rows of tiles in the tile pockets and conveyor means for continuously feeding parallel lines of tiles into the feed head. The tile feed head assembly comprises a plurality of downwardly arcuately curved tile feed channels providing sliding passage of parallel lines of tiles from the conveyor to a substantially vertical position, means for maintaining the tiles in abutting edge-to-edge relation in the feed channels, and tile ejecting means for successively ejecting rows of tiles from the tile delivery station and depositing the rows in successive transverse rows of pockets of the tile board. Movement of the tiles through the feed channels is effected both by movement of succeeding tiles on the conveyor means and by gravity force.

3,375,568
MEANS AND METHOD FOR THE CONSTRUCTION OF TOOLS
Christopher G. Kelsey, Glenalta, South Australia, Australia, assignor to Data Resolved Tools Pty. Ltd., Adelaide, South Australia, Australia
Filed Nov. 23, 1965, Ser. No. 509,362
Claims priority, application Australia, Nov. 24, 1964, 52,074/64
5 Claims. (Cl. 29—407)



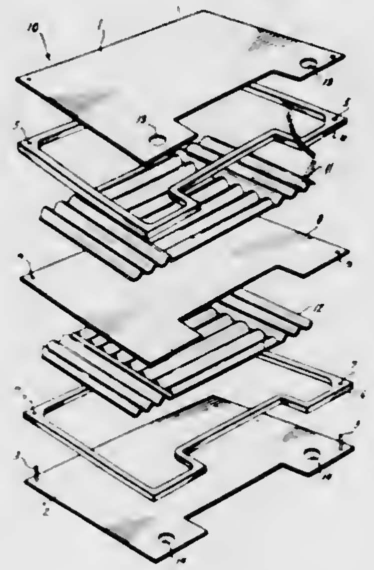
1. The method of construction of a composite template, or tool comprising the steps of cutting a series of templates each with an edge profile corresponding to one of a series of spaced parallel sections of a drawing, cutting notches in a plurality of spacer bars, the spacing between the notches corresponding to the spacing between the parallel sections of the drawing, locating the templates in corresponding notches of the spacer bars thereby retaining the templates together in a parallel relationship with a relative spacing equal to the relative spacing between corresponding parallel sections of the drawing, filling the spacings between the templates with a filler material which cements itself to the side walls of the templates, and smoothing the surface of the filler material to provide a contour surface between the said edge profiles of the templates.

3,375,569
METHOD OF MANUFACTURE OF STRUCTURES HAVING CONTROLLED POROSITY
Robert L. Eichinger, Pittsburgh, and Richard T. Begley, Penn Hills, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 30, 1964, Ser. No. 341,313
9 Claims. (Cl. 29—419)



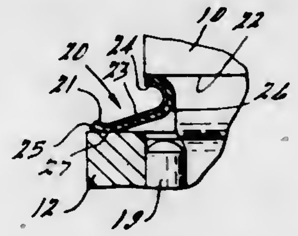
1. A method of making porous structures, said method comprising the steps of winding a first row of wire on a winding support, said row having a large number of wire turns therein and having a predetermined pitch, winding subsequent rows of wire on said first row with each subsequent row having the same pitch as said first row so that each of said wire turns contacts substantially all of the immediately adjacent ones of said wire turns, bonding each of said turns to substantially all of its adjacent turns, and cutting sections from said turns generally transversely of the winding direction, said sections corresponding in thickness to the desired thickness of said porous structures.

3,375,570
FLUXLESS BRAZING OF ALUMINUM HEAT EXCHANGERS
William Dubusker, Creve Coeur, Mo., Philip R. Robertson, Grafton, Ill., and Albert A. Oliver, Jr., and James G. Bennett, Jr., Florissant, and Melvin E. Schmidt, Ferguson, Mo., assignors to McDonnell Aircraft Corporation, St. Louis, Mo., a corporation of Maryland
Filed Mar. 15, 1965, Ser. No. 439,798
6 Claims. (Cl. 29—472.3)



A method of fluxless brazing of all aluminum heat exchangers and the like which consist of opposed facing sheets separated by a corrugated spacer. In the process the inner surfaces of the spacing sheets are precoated with fluxless braze, the parts are carefully cleaned, preassembled using pins and prepositioned openings in the parts, and the assembly is inserted into a flexible stainless steel envelope having a jig affixed thereto so positioned as to allow for expansion of the assembly upon heating. The envelope then is sealed and placed into a copper brazing die where the part is brazed without outside pressure under a positive flow if argon gas through the envelope and the assembly.

3,375,571
METHOD OF MAKING SEALS
Ralph L. Skinner, Sr., Birmingham, Mich., assignor to Renniks Corporation, Birmingham, Mich., a corporation of Michigan
Original application June 17, 1965, Ser. No. 464,803, now Patent No. 3,352,127, dated Nov. 14, 1967. Divided and this application Aug. 17, 1967, Ser. No. 661,416
2 Claims. (Cl. 29—480)



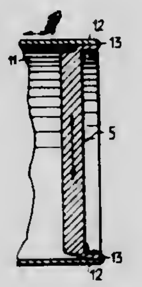
1. In the manufacture of a seal, the steps of bonding a facing layer of heat labile material having a low coefficient of friction to a backing of work hardenable metal to produce a laminated sheet,

cutting a blank from said laminated sheet, and

then forming the blank to the shape of the seal with the facing layer exposed for engagement with a surface to be sealed while simultaneously hardening the metal backing by the forming operation to provide the necessary spring and resiliency in said backing required in use to maintain said facing pressed against said surface with sufficient force to maintain sealing contact therebetween under different manufacturing tolerance conditions.

3,375,572
WELDING METHOD FOR CONSTRUCTING AN ENVELOPE

Frank Waterton, Potters Bar, England, assignor to Associated Electrical Industries Limited, London, England, a British company
Filed Aug. 18, 1964, Ser. No. 390,351
Claims priority, application Great Britain, Aug. 19, 1963, 32,716/63
3 Claims. (Cl. 29—482)



1. A method of constructing an envelope adapted to operate with a pressure difference between its interior and its exterior including the steps of:
   (a) forming a cylindrical part of the envelope having a relatively thin wall;
   (b) preparing a metal plate by bending an annular peripheral part of the plate to extend as a peripheral flange substantially normal to the plate;
   (c) inserting the metal plate into the cylindrical part of the envelope so that the flange extends outwardly away from the central part of the plate; and
   (d) forming a weld securing the flange to the adjacent part of the thin wall of the cylindrical part of the envelope by a weld which seals the end grain of the flange;

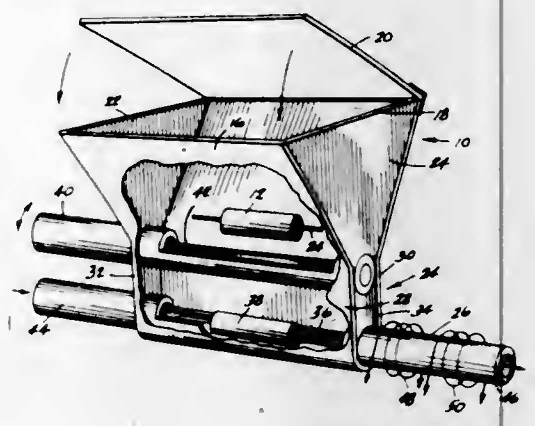
characterized in that:
   (e) the plate is initially much thicker than the said wall;
   (f) before the metal plate is formed with the peripheral flange substantially normal to the plate, material is removed from a first face of the plate to form a radially extending thin annular peripheral part on the plate which is thinner than the said initial thickness of the plate; and
   (g) the thin annular peripheral part of the plate forms the said flange;

whereby when the envelope is used with an internal vacuum, the lakage of air into the envelope through the end grain of the plate is substantially prevented.

3,375,573
METHOD AND APPARATUS FOR WELDING

Warner H. Simon, 6511 Comanche Ave., Canoga Park, Calif. 91306
Filed Oct. 22, 1965, Ser. No. 501,197
5 Claims. (Cl. 29—593)

3. The method of handling components having leads adapted for resistance welding in an electronic circuit, said method comprising:
   storing said components in a contamination free environment until use is desired,
   individually placing said components in a conductor having an inert gas passing therethrough for passage to a welding work station,
   annealing said leads while in said conductor to thereby prevent oxidation thereof, and to permit a more uniform reluctance reading, and



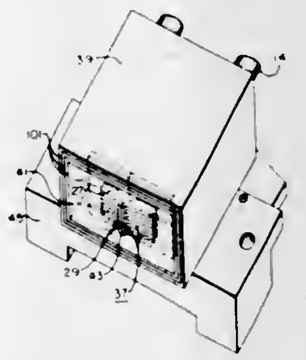
   subjecting said leads with said conductor to a reluctance measuring device to determine the composition of said leads.

ERRATUM

For Class 29—603 see:
Patent No. 3,376,035

3,375,574
MAGNETIC TRANSDUCER AND METHOD OF MANUFACTURE

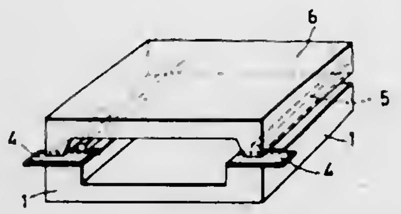
John P. Woods, Clifford D. Dransfield, and Henry R. Barta, Dallas, Tex., assignors to Atlantic Richfield Company, a corporation of Pennsylvania
Filed Aug. 29, 1962, Ser. No. 220,242
3 Claims. (Cl. 29—603)



1. A method of manufacturing a magnetic transducer comprising the steps of:
   (a) pressure injection molding plastic bobbins, each of the bobbins containing at least one aperture,
   (b) winding a predetermined number of turns of wire around each bobbin,
   (c) positioning a predetermined number of unitary, generally U-shaped magnetic laminations through corresponding apertures in two of said bobbins whereby portions of said U-shaped magnetic laminations are encircled by said wire on said bobbins,
   (d) placing a generally rectangular shaped magnetic lamination in contact with the two legs of each of said U-shaped magnetic laminations,
   (e) placing said two bobbins in a metallic frame in a manner to expose the base portion of each of said U-shaped magnetic laminations and filling said frame with plastic material,
   (f) cutting said base portion of each of said U-shaped magnetic laminations in a direction generally parallel to the long axis of said U shaped magnetic laminations to form a plurality of confronting pole tips.

3,375,575
HEAT AND PRESSURE GLASS BONDING OF SPACED MAGNETIC HEAD PORTIONS BY FORMING AND USING GLASS OVER FLOW CHANNELS

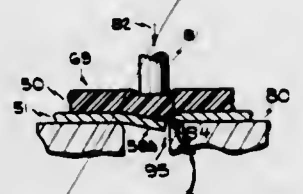
Jan Erik Visser and Matthijs Henricus Maria Vrolijks, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed May 6, 1963, Ser. No. 278;012
Claims priority, application Netherlands, May 4, 1962, 278,093
1 Claim. (Cl. 29—603)



1. A method of manufacturing parts of glass bonded magnetic heads composed of two circuit parts consisting of sintered oxidic ferromagnetic material and having gap surfaces with a gap therebetween filled with glass bonding the circuit parts together, comprising: forming first and second over-flow channel cross grooves adjacent first and second ends respectively of at least one of said circuit part gap surfaces, placing spacing members having a thickness equal to the desired gap length at opposite ends of a polished gap surface of said one circuit part, said spacing members each occupying that respective area of said gap surface between the end thereof and a respective one of said cross grooves, said gap surface having a predetermined area, placing a glass rod on said gap surface between said spacing members, said glass rod having a volume larger than the volume of the ultimately desired gap, the surface of said glass rod placed on said gap surface having an area substantially less than said predetermined area, the smallest cross-section of said glass rod being greater than the thickness of said spacing members, placing a corresponding polished gap surface of a second circuit part on said glass rod, heating the resulting assembly under pressure to melt the glass and form a gap having a length equal to the thickness of said spacing members, each of said cross grooves forming a flow channel for said molten glass to prevent said molten glass from disturbing the position of said spacing members, and cooling said assembly to allow said glass to bond the circuit parts together.

3,375,576
METHOD OF AND TOOLS FOR MAKING PRINTED CIRCUIT BOARDS

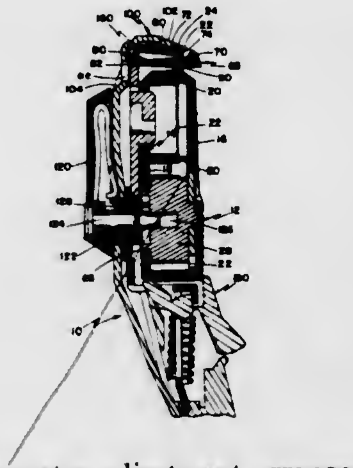
Robert E. Klein and James E. Driver, Sr., Fort Wayne, Ind., assignors to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed Nov. 29, 1963. Ser. No. 327,130
12 Claims. (Cl. 29—626)



1. A method of manufacture comprising the steps of forming a lamina of pliable and shear materials bonded together by bonding forces having a given pull strength, punching at least one hole in said lamina by exerting forces against said ductile material great enough to stretch said ductile material into a dish shape, said pull strength being such that said shear material breaks away from said pliable material when said ductile material is stretched, and bending said shear material to an upstanding position while tearing said pliable material during the punching step, whereby said lamina is formed into at least one hole having a tab terminal upstanding beside the hole.

3,375,577
SAFETY RAZOR MAGAZINE

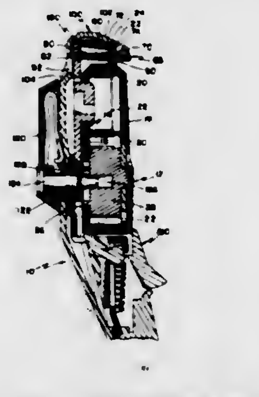
Paul W. Douglass, Winchester, and Joseph E. Koehler, Norwell, Mass., assignors to The Gillette Company, Boston, Mass., a corporation of Delaware
Filed Sept. 14, 1966, Ser. No. 579,334
13 Claims. (Cl. 30—40.1)



A shaving geometry adjustment arrangement for a razor blade cartridge containing a continuous band of ribbon like blade includes a shaving platform on which the blade is supported in the shaving zone and a guard bar that is molded integral with the shaving platform and secured to that platform by a flexible hinge element. This hinge is an imperforate web 0.005 inch in depth which is reinforced with rib elements, each of which has a depth of 0.015 inch and a width of 0.030 inch, and which are spaced 0.060 inch apart. An adjusting lever is molded integral with the web and extends rearwardly to engage an adjusting device. The adjusting device is a disc having a helical camming groove 0.040 inch in depth formed in it, which groove rises from a radius of 0.3185 inch to a radius of 0.4040 inch.

3,375,578
SAFETY RAZORS

Warren I. Nissen, Topsfield, Mass., assignor to The Gillette Company, Boston, Mass., a corporation of Delaware
Continuation-in-part of applications Ser. No. 579,335, Sept. 14, 1966, and Ser. No. 618,581, Feb. 27, 1967. This application Aug. 7, 1967, Ser. No. 658,742
29 Claims. (Cl. 30—40.1)



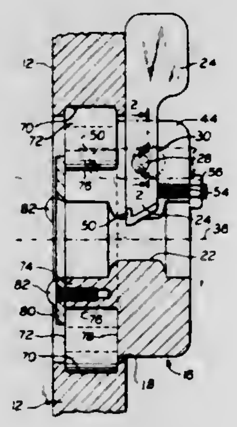
A shaving geometry adjustment arrangement for a razor blade cartridge containing a continuous band of ribbon like blade includes a shaving platform on which the blade is supported in the shaving zone and a guard bar that is molded integral with the shaving platform and secured to that platform by a flexible hinge element. This hinge is an imperforate web 0.005 inch in depth which is reinforced with rib elements, each of which has a depth of 0.015 inch and a width of 0.030 inch, and which are spaced 0.060 inch apart. An adjusting lever is molded integral with the web and extends rearwardly to engage an adjusting device. The adjusting device in one embodiment is a disc having a spiral camming groove formed in it, and in other embodiments is a guide plate camming lever arrangement. In one of those arrangements the guide plate has two cam follower surfaces spaced 0.203 inch apart which cooperate with a camming surface or the camming lever which is composed of two identical sets of arcuate segments, one segment having a radius of 0.077 inch and the other segment having a radius of 0.123 inch. This camming lever also has a latching surface which secures the guide plate to the cartridge assembly and provides a securing function for other components of the cartridge assembly.

3,375,579
TOOL FOR CUTTING JACKET INSULATION HAVING A RETRACTABLE KNIFE MOUNTED ON A ROTATABLE OUTER HOUSING

John E. Slonksnes, Sayreville, N.J., assignor to General Cable Corporation, New York, N.Y., a corporation of New Jersey

Filed June 8, 1967, Ser. No. 644,678

9 Claims. (Cl. 30—90.8)



This specification discloses a tool for cutting through the jacket insulation of an electric cable so that the jacket can be conveniently stripped from the cable. The tool has a knife blade in a holder, and there is an opening in the holder through which the cable passes. The blade can be retracted to permit the cable to be inserted through the opening, and the blade is then moved into a working position where it cuts into the insulation to a controlled depth as the tool is pulled along the length of the cable, or as the cable is pulled through the opening. The blade holder is carried by and is rotatable in an outer housing so that the knife can cut along a spiral course when used on cables having conductors twisted together and covered by a common insulation jacket. An eccentric adjusts the blade for the desired depth of cut.

3,375,580
SHEAR AND SEAL VALVE UNIT

Albert L. Burns, Jr., Houston, Tex., assignor to Bowen Tools, Inc., a corporation of Texas

Filed July 29, 1966, Ser. No. 568,960

10 Claims. (Cl. 30—228)

1. An apparatus for shearing an elongate element, comprising:

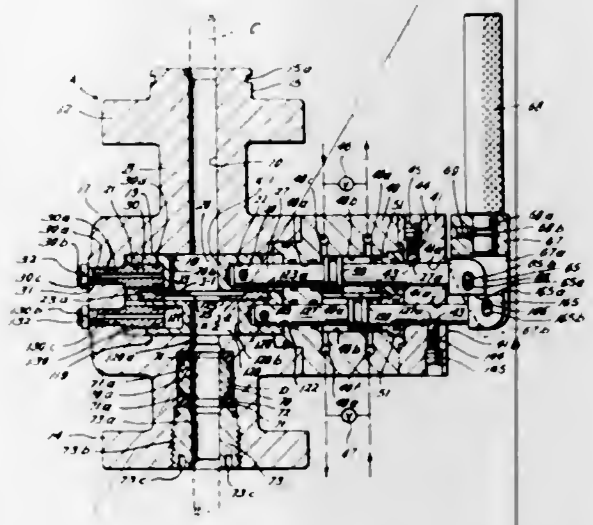
(a) a body having a longitudinal opening therethrough for receiving the elongate element,

(b) said body having a lateral opening intersecting said longitudinal opening,

(c) a first shear knife disposed in said lateral opening on one side of said longitudinal opening,

(d) a first movable support means mounting said first shear knife of lateral movement into and out of said longitudinal opening,

(e) a second shear knife disposed in said lateral opening on the opposite side of said longitudinal opening from said first shear knife,



(f) a second movable support means mounting said second shear knife for lateral movement into and out of said longitudinal opening, and

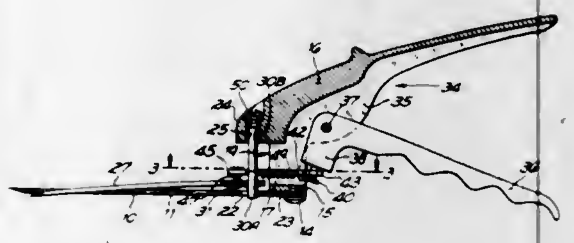
(g) means for laterally moving the first movable support means and the second movable support means for moving said first shear knife and said second shear knife laterally towards each other and across the central longitudinal axis of said longitudinal opening for shearing the elongate element in said longitudinal opening and for thereafter returning said shear knives to retracted positions at each side of said longitudinal opening.

3,375,581
GRASS SHEARS

Erwin C. Knight, Watertown, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware

Filed Apr. 29, 1966, Ser. No. 546,436

13 Claims. (Cl. 30—248)



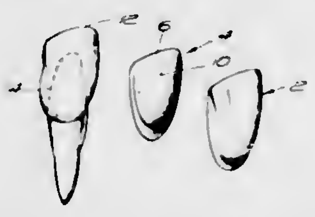
A grass shears having a free floating blade support which is adjustable toward and away from the fixed blade to vary the crossing angle of the cutting blades and thus the cutting characteristic of the blades, the blade support including a pin secured to the movable blade and rotatably and reciprocably mounted in a slotted mount relative to the fixed blade.

3,375,582
PREFABRICATED VENEER AND MATCHING DESTRUCTIBLE BACKING PATTERN FOR DENTAL RESTORATIONS

Richard L. Myerson, Newton, Mass., assignor to Myerson Tooth Corporation, Cambridge, Mass., a corporation of Massachusetts

Filed Mar. 1, 1963, Ser. No. 262,047

4 Claims. (Cl. 32—12)



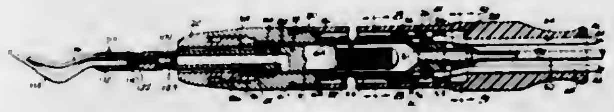
1. In combination, a prefabricated plastic veneer for attachment to the labial aspect of a metal casting to form a metal tooth restoration having a plastic labial veneer, and a separate matching prefabricated thin backing pattern of heat destructible material having a labial contour matching the lingual contour of said veneer, each of said pattern and veneer having a shape of a thin curved shell of matching contour, the backing pattern shell fitting within the veneer shell with the outer convex labial contour thereof facing the matching inner, concave, lingual contour of said veneer, said veneer being removably tacked to said backing pattern with its concave lingual contour against the matching convex labial contour of said backing pattern, said inner concave surface of said veneer shell being substantially uninterrupted, and a plurality of small undercut protrusions distributed over and extending from the convex labial surface of said backing pattern.

3,375,583
ULTRASONIC DENTAL TOOL

Robert J. Blank, Hollywood, and Bruce Richman, Miami, Fla., assignors, by mesne assignments, to C & B, Inc., Miami Beach, Fla.

Filed Mar. 10, 1966, Ser. No. 533,362

10 Claims. (Cl. 32—26)



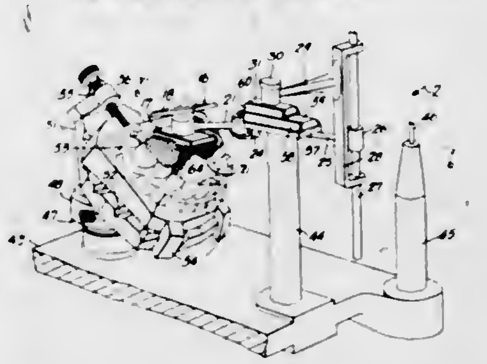
An ultrasonic dental tool comprising a tubular housing, an elongate tubular jacket telescopically nested in the housing and having an outwardly protruding, annular flange near its inner end slidably engaging the inner surface of the housing, an energizing coil circumposed on said jacket in the space between the jacket and the housing, a keeper removably mounted on the housing and engaging the outer end of the jacket to hold the jacket and coil, a work tool supporting member including an electromagnetic transducer and an acoustic transformer, O-ring means embracing said transformer and resiliently engaging a shoulder of said keeper, a retainer member adapted to releasably secure the transformer with said O-ring means engaging said shoulder, said jacket defining a liquid path having an inlet port at its inner end and including an axial passageway from the distal end of the transformer to a point on the inner side of said O-ring means communicating with a radial passageway through the transformer and open to the interior of the jacket so that liquid may flow through the jacket around said transducer and through the passageways of said transformer to a work tool mounted on the distal end of the transformer, said liquid path being entirely within and separated from said energizing coil.

3,375,584
INSTRUMENT FOR PROVIDING PARALLEL PIN DENTURE ANCHORAGE

Morris Cowan, 320 Central Park W., New York, N.Y. 10025

Filed Nov. 29, 1965, Ser. No. 510,304

10 Claims. (Cl. 32—67)



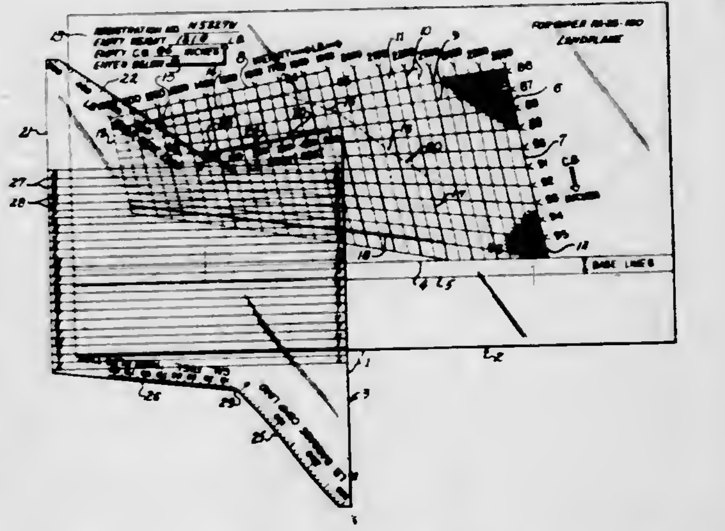
1. In instruments for controlling the drilling of parallel holes in teeth of a jaw for proper support and positioning of a tooth engaging member on said jaw, a transit assemblage comprising a carrier having a primary control plate and an angularly disposed coupling plate, a link, one end of which is pivoted to said plates, an arm pivoted to the other end of said link, said arm being fixed to an elongated main pivot pin, said pivot pin being slidably and rotatably mounted in a widespread yoke, said yoke having an arm pivotally supporting, at its end, a secondary control plate parallel to said primary plate, all of said pivots being parallel and at right angles to said parallel primary and secondary plates, said primary and secondary plates being dovetailed in form and having bevelled side edges, the primary plate being adapted to engage a dovetailed socket of a support, the secondary plate engaging a dovetailed socket of a bracket, a contra-angle, and means adjustable on said bracket for coupling said contra-angle in rotatable and longitudinal adjusted positions.

3,375,585
LOADER'S CALCULATING DEVICE

Ross R. Spencer, 5806 Woodward, Merriam, Kans. 66203

Filed May 9, 1966, Ser. No. 548,556

7 Claims. (Cl. 33—1)

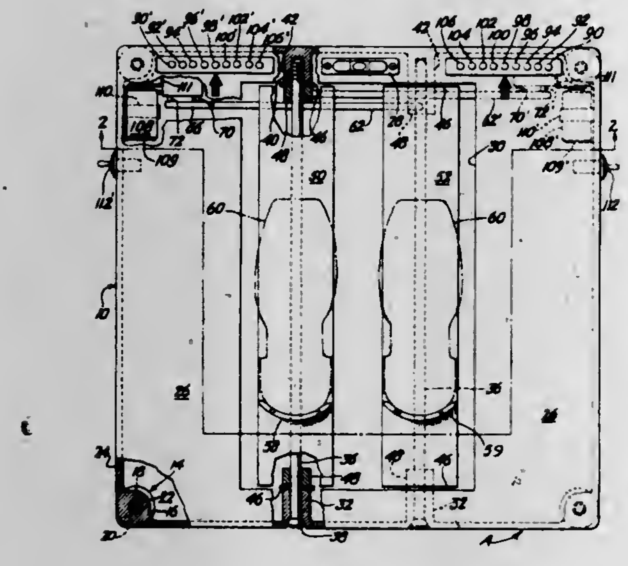


A chart plate has lines thereon defining an area representing permissible combinations of weight and center of gravity location for a load carrying vehicle. A vector plate has edge lines suitably scaled and arranged in pairs to vectorially add various loads in combination by indicating a change in point location therealong. By overlapping the plates, it is noted whether the point falls outside the indicated area on the chart plate which would denote an improper vehicle loading.

3,375,586

SKI BOOT LEVEL INDICATOR

Thomas B. Kennedy, 2090 Radio Ave.,
San Jose, Calif. 95125
Filed Oct. 3, 1966, Ser. No. 583,854
6 Claims. (Cl. 33—3)

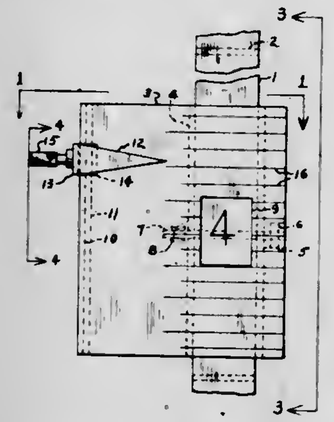


1. A ski boot level indicating mechanism comprising:
a frame,
means for laterally leveling the frame,
a pair of step plates mounted in side-by-side relation on the frame, each step plate having an upwardly exposed surface for supporting one of a pair of ski boots being worn by a subject and for thereby supporting said subject, means for mounting each step plate for free lateral tilting movement to correspond with a lateral tilted condition of the ski boot bottom, the longitudinal center line of each ski boot being parallel to and substantially centered above the tilt axis of its step plate, and
means for indicating the direction and amount of any lateral tilting deviation between the frame and the top surface of each of the step plates.

3,375,587

LEVELING ROD AND TARGET

Charles C. Seeley, 11308 Engleside Ave.,
Detroit, Mich. 48205
Filed Jan. 26, 1966, Ser. No. 523,087
3 Claims. (Cl. 33—74)

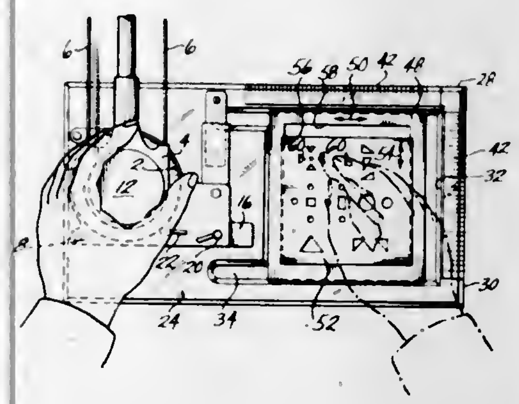


A leveling rod formed on one side with grooves extending substantially transversely thereof, and a target formed with a pair of spaced parallel ribs to afford the application or removal of the target to the leveling rod at any desired position longitudinally of said rod, a latch carried by said target and pivotal thereon to engage in said grooves and maintain the target in any desired position afforded by said grooves.

3,375,588

DRAFTING MACHINE ATTACHMENT

George M. Pelham, 7058 12th Ave. NW.,
Seattle, Wash. 98107
Filed Dec. 13, 1965, Ser. No. 513,307
5 Claims. (Cl. 33—79)



A drafting device is disclosed for use with a drafting board having a parallel motion drafting machine mounted thereon. The drafting device is attached to the machine and has a long plate-like body which is also wide in relation to its length from end to end thereof, and which rests face down on the surface of the board, so that one end portion thereof is interposed between the head assembly of the machine and the board and carries the weight of the assembly thereon. There are means on the upper side of the body for affixing it to the instrument carrier on the head assembly, and means on the underside thereof for easy sliding movement of the body on the surface of the board, so that the body moves in translation and rotation on the surface of the board, with the instrument carrier, when the carrier is driven in relation to the board. The other end portion of the body projects out over the surface of the board, free from the assembly, and is sufficiently rigid with respect to the weighted end portion thereof to maintain a flat, level posture on the surface of the board by virtue of the moment imparted to the body by the weight of the assembly. There are three edges on the projecting end portion of the body, two of which are parallel to one another and joined by the third edge which co-terminates at a right angle with each of the aforesaid two edges. Each of the three edges is of sufficient length to constitute an elongated ruling edge for drafting purposes, so that orthographic work can be carried out with the device alone, while isometric work is effected with the rotational feature of the instrument carrier. Preferably, the projecting end portion of the body also has an opening therethrough, opposite the board, to receive a template member for use with the device.

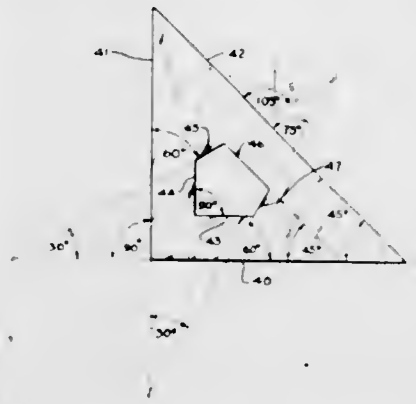
3,375,589

DRAFTING INSTRUMENT

Gregory S. Dolgorukov, Ferndale, Mich.
(407 Fisher Bldg., Detroit, Mich. 48202)
Continuation-in-part of abandoned application Ser. No. 835,118, Aug. 20, 1959. This application Dec. 19, 1963, Ser. No. 331,800
3 Claims. (Cl. 33—104)

The present application discloses a drafting triangle which provides for using the sides formed at the inner opening of the triangle for drawing lines at angles different than those which can be drawn parallel to the outer guiding sides of the triangle, and particularly drawing with

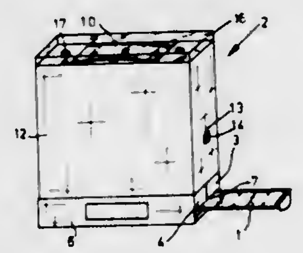
the use of a 45°–90° triangle lines at 30° and 60° angles. The inner sides parallel to the outer guiding sides are not intended to be used as guiding means and have provided therein finger lift recesses of arcuate cross section forming two sharp edges at the intersection of said recesses with the top and bottom surfaces of the triangle body and therefore disposed at the highest possible distance from the drawing with the triangle of a given thickness.



3,375,590

TAPE MEASURE

André Quenot, % Zone Industrielle Trepillot, Boite Postale 256, Besancon, 25, France
Continuation-in-part of application Ser. No. 473,281, July 20, 1965. This application Jan. 13, 1967, Ser. No. 609,087
Claims priority, application France, June 8, 1965, 19,881
12 Claims. (Cl. 33—138)

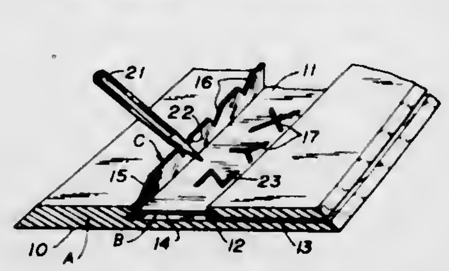


Tape measure having a coiled, pull out tape on a rotating drum inside a casing formed of two compressible half-shells secured together in and by a sheath having a transparent top through which the tape markings are viewed.

3,375,591

LETTERING TEMPLATE CONSTRUCTION

Charles E. Townsend, Jr., 73 Orchard Road,
Orinda, Calif. 94563
Filed Aug. 1, 1966, Ser. No. 569,307
8 Claims. (Cl. 33—174)

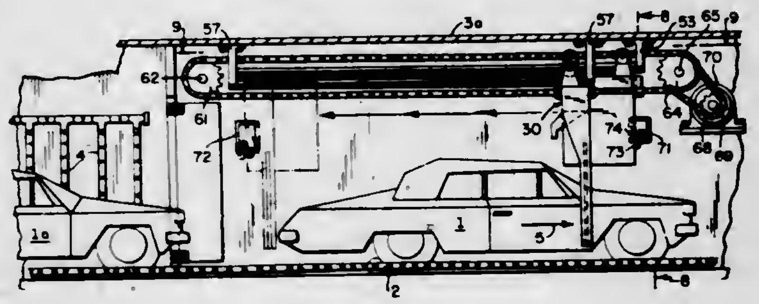


1. In the art of lettering templates the combination comprising: a base member formed with a longitudinal slideway; a lettering template formed with longitudinally spaced-apart letter guide cutouts; said template slidably mounted in said slideway; a sign-receiving recess in said base member in registry with said slideway and underlying said slidable template; manually engageable indexing means for slidably indexing said template to preselected positions of registry relative to said recess; said indexing means comprising a plurality of contact members each individually visually associated with a letter guide cutout of said template; said contact members attached to said template and extending upwardly therefrom in visual alignment with their respectively associated letter guide cutouts.

3,375,592

TRAVELING DRYER FOR VEHICLE WASHING APPARATUS

Kurt J. Heinicke and Paul K. Shafer, Hollywood, Fla., assignors to Heinicke Instruments Co., Hollywood, Fla., a corporation of Florida
Filed Aug. 30, 1965, Ser. No. 483,703
3 Claims. (Cl. 34—87)

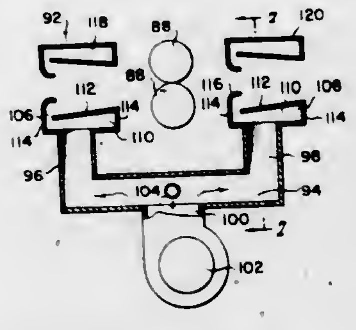


A car-drying apparatus of a type particularly adapted for the drying of cars after they have been subjected to washing and rinsing in a so-called "car wash," and while the car is in movement, the apparatus including a movable blower and nozzle structure disposed alongside of the carriage by which the car is moved. The nozzle structure is arranged to project air over the top and sides of the moving car. During the drying operation, both the blower means and the car are in forward movement, with the car travelling at a forward rate of speed greater than the forward movement of the blower means. At the end of travel of the blower means, the direction of movement of the blower means is reversed to bring it back to a position where the front end of a succeeding car enters under the nozzle structure.

3,375,593

FILM PROCESSING APPARATUS

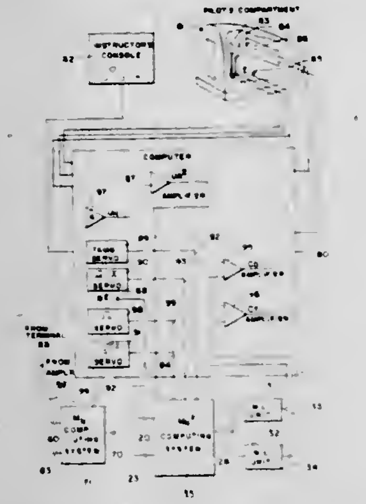
Marvin B. Fleisher, Wantagh, and Philip E. Hixon, Jericho, N.Y., assignors, by mesne assignments, to Itek Corporation, Lexington, Mass., a corporation of Delaware
Filed July 12, 1965, Ser. No. 471,052
5 Claims. (Cl. 34—155)



A continuous automatic straight line horizontal photographic processor is disclosed wherein the developer sections are completely sealed from the drier sections by the use of input and output roller pairs and gas tight seals on the covers. The drier section has a horizontally extending and rectangular shaped heated air chamber in communication with a blower and vertically extending air outlets on the front and rear ends of the chamber and on opposite sides thereof for passing heated air over the material being processed.

3,375,594
GROUND-BASED AIRCRAFT FLIGHT SIMULATING APPARATUS

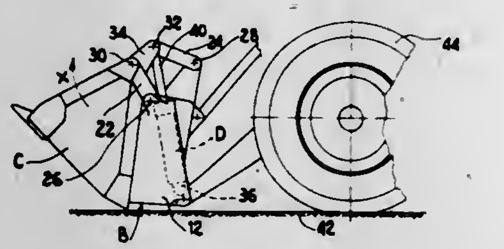
Michael Richard Louis Thurner, Horsham, England, assignor to Communication Patents Limited
Filed Mar. 17, 1966, Ser. No. 535,378
Claims priority, application Great Britain, May 3, 1965, 18,561/65
7 Claims. (Cl. 35—12)



A ground-based aircraft flight simulating apparatus comprising a pilot's compartment provided with controls and instruments, a computer by which the instruments are actuated, and an instructor's console from which computed conditions are controlled wherein the compressibility effects which occur when parts of a rotor of a helicopter reach airspeeds approaching the speed of sound are simulated. Mach number of an element of a rotor blade of a helicopter is computed at one azimuth angle of the rotor disc, from electrical signals representing aircraft forward speed, rotor rotational speed and the square root of a function of ambient temperature, whereby an output is produced which is a function of the computed Mach number. Similar means for computing Mach number are also provided.

3,375,595
SINGLE BUCKET EXCAVATOR

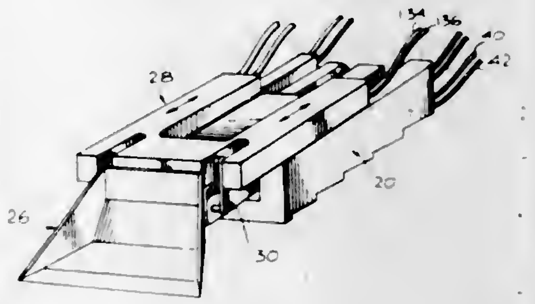
Osmano Beltrami, 27 Via Milazzo, Ravenna, Italy
Filed Apr. 27, 1965, Ser. No. 451,166
Claims priority, application Italy, Sept. 2, 1964, 18,817/64, Patent 736,914
2 Claims. (Cl. 37—117.5)



An excavator bucket, adapted to be mounted on a tractor, is formed of a first bucket section secured to lifting arms on the tractor and a second bucket section movable relative to the first bucket section. A pair of hydraulic jacks are positioned on the first bucket section and have piston arms movable between an extended position and a retracted position. The first and second bucket sections and the piston arms are interconnected by pivotally connected link members. When the piston arms are in the fully extended position, the second bucket position is in its closed position relative to the first bucket section. As the piston arm is retracted, the second bucket section first moves outwardly away from the first bucket section in a rectilinear path and then pivots through a curvilinear path about its end section secured to the piston arm until it reaches its fully opened position with the piston arm fully retracted into the jack cylinder. With the piston arm fully retracted, the pivot connection to the second bucket section of the link member extending between the first and second bucket sections is aligned with the axis of the piston arm permitting the bucket to be opened at an angle of 125° with the first bucket section. Further, in its fully opened position, the link members interconnecting the first and second bucket sections and the first bucket section and the piston arm are arranged in substantially parallel relationship. Due to the arrangement of the excavator bucket, it can be employed for a number of operations.

3,375,596
EARTHMOVING APPARATUS

Guy O. Bacquie, Los Angeles, Calif.
(24 Three Views Ave., Kingston 10, Jamaica, Bahamas)
Filed June 9, 1965, Ser. No. 462,531
17 Claims. (Cl. 37—118)



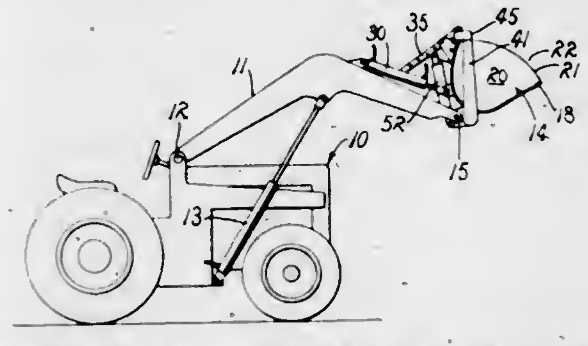
Earthmoving apparatus comprising a powered reciprocable ram mounted in a ground-anchorable base, a saddle slidably reciprocably mounted on the base and coupled to the ram for rearward return movement by the ram, and an earthmover head coupled to the saddle forwardly thereof and having a rear anvil portion disposed in front of the ram for forwardly driven motion thereby. The ram is effectively the prime mover and causes forward movement of the earthmover head solely by forcible abutment against its anvil, with no effective forwardly driving intercoupling or interconnection of the earthmover head with any other portions of the apparatus so that all forward driving loads are confined strictly to the head, ram, and base. During forward movement, the earthmover head drags the saddle with it; return movement of the ram forcibly returns the saddle which drags the earthmover head back with it. The coupling between the head and the saddle includes lever linkages selectively operable for desired orientation and disposition of the earthmover head, independent of the ram.

3,375,597
VOLUMETRIC MEASURING DEVICE

Frank R. Michael, Box 95, Waukena, Calif. 93282
Filed Aug. 24, 1965, Ser. No. 482,094
5 Claims. (Cl. 37—141)

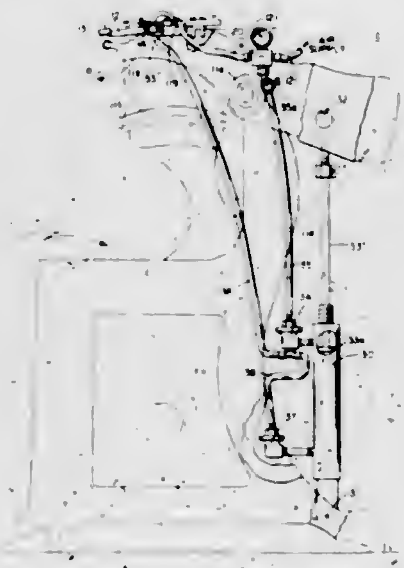
A volumetric measuring device providing a bucket-mounted on a vehicle and adapted for movement between a lowered material loading position and an upwardly spaced material transporting and discharging position including arm means on the bucket mounting a planar

member for reciprocal movement across the face of the bucket and having a lower position with the planar member disposed in substantially coplanar relation with the bottom of the bucket in forwardly extended relation therefrom to define a scraper blade for the bucket in its lowered material loading position and during movement toward said upper edge of the bucket said planar member providing a screed to strike excess material from the face of the bucket.



3,375,598
PRESSING MACHINE

George Schultz, 54 Brush Hill Road, Newton, Mass. 02159
Filed June 4, 1965, Ser. No. 461,412
2 Claims. (Cl. 38—40)

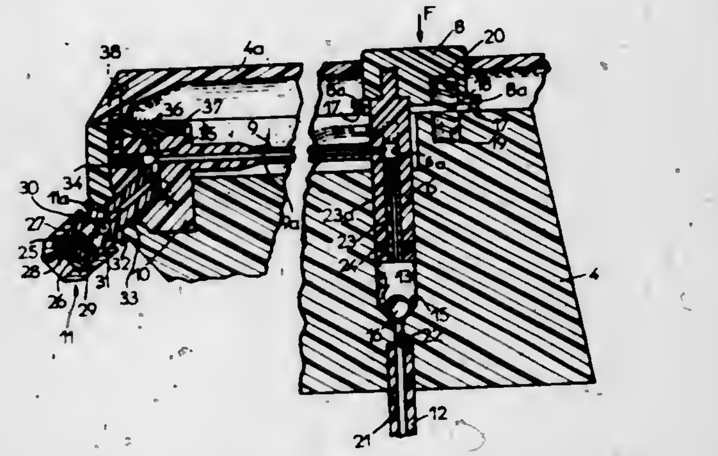


1. In a pressing machine comprising a fixed bottom platen and a moveable top platen, the combination of an air cylinder having a piston cable of moving said top platen both downwardly and upwardly, a manually actuable control lever under the control of the operator during pressing, valve means for varying the pair pressure in response to the motion of said lever, means connecting said valve means to an air supply, means connecting said valve means to said cylinder, controllable means for bypassing said valve means so as to permit maximum air pressure on said piston tending to move said top platen downwardly, and means connected to said air supply for normally providing air pressure on said piston tending to move said top platen upwardly.

3,375,599
WATER-ATOMIZATION IRONS

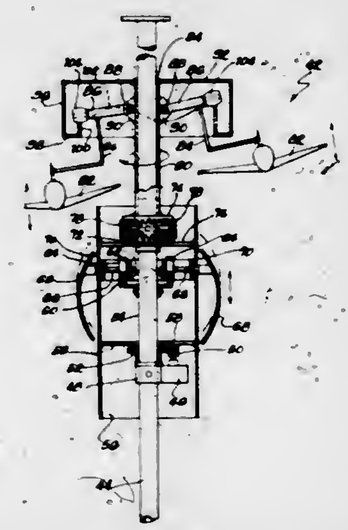
Maurice Marie Achille Trouilhet, Lyon, France, assignor to Calor Appereils Electro-Domestiques, Lyon, France, a body corporate of France
Filed Oct. 25, 1966, Ser. No. 589,299
Claims priority, application France, Dec. 6, 1965, 41,103
7 Claims. (Cl. 38—78)

1. Laundry iron of the type including a device for atomizing water by means of a pump from a water-suction duct communicating with a reservoir housed in the iron and for projecting said water through a nozzle located at the front of the iron wherein said pump comprises a piston reciprocally movable in a cylinder, said piston forming in said cylinder a chamber of variable volume, a blind hole being provided in said piston and opening into said chamber, a flexible duct of reduced cross sectional section being connected respectively by one of its ends to said blind hole in the vicinity of its closed end and by the second of its ends to said nozzle which is fixedly mounted in the handle of the iron, a first water-retaining valve being provided at the bottom of said chamber opening for drawing water into said chamber and preventing it from being forced back to said reservoir and a second valve being provided at the output of said nozzle opening for ejecting the water out of said nozzle during the atomization of the water and shutting for preventing the suction of air during the suction of water into said chamber from said reservoir.



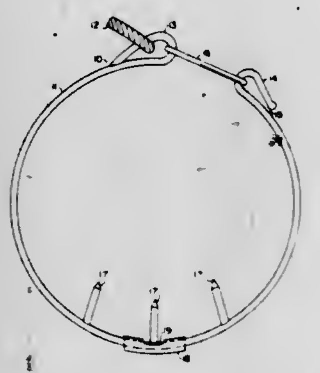
3,375,600
DISPLAY CONSTRUCTIONS WITH VARIABLE MOTIONS

George Poulos, 3020 Pearl St., Franklin Park, Ill. 60131
Filed Jan. 11, 1965, Ser. No. 424,631
4 Claims. (Cl. 40—139)



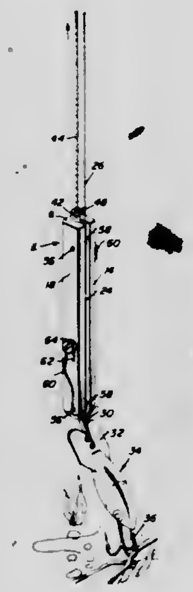
Display constructions particularly including displays mounted on stationary poles which are supported at least at their bottom ends and which include drive mechanisms for the displays situated on the pole at a point remote from the bottom end. The display may include a first display mechanism having drive means attached thereto. The drive means are connected to a sleeve member situated around the pole and a second display is secured to the sleeve member. Undulating movement is provided by locating cam means on the pole which are engaged by the displays as they rotate around the pole.

3,375,601
FISHING GAFF
Edward E. Matthews, South Houston, Tex.
(Rte. 1, Box 267, McAllen, Tex. 78501)
Filed Aug. 9, 1965, Ser. No. 478,055
3 Claims. (Cl. 43—5)



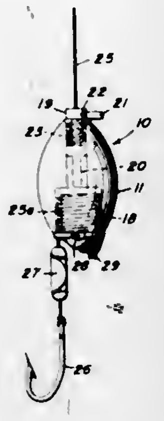
A fishing gaff comprising a ring having spaced free ends, a link member is provided to close the space between the free ends of the ring, a plurality of spaced and inwardly extending tines on the ring, the ring and the tines lying in a common plane, and a line is secured to the ring and the ring is passed around a fishing line and lowered to engage the tines with a fish caught on the fishing line.

3,375,602
BAIT OR LURE RETRIEVING DEVICE
Jim M. Clark, 101 E. Main St., Batesville, Ark. 72501, and Orval H. Stanbrough, Marcella, Ark. 72360
Filed June 4, 1965, Ser. No. 461,343
3 Claims. (Cl. 43—17.2)



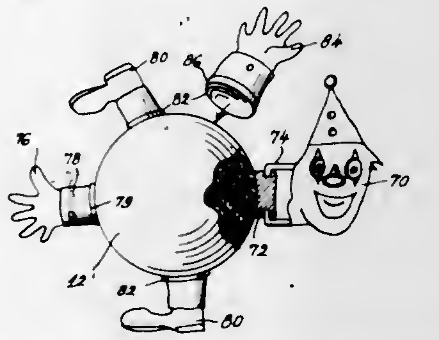
The above invention pertains to a releasing device for gripping a snagged lure. It is characterized by a hollow elongated weight whose hollow portion provides (1) an open ended passage for the fishing line and (2) a chamber for a confined plunger. This plunger is free to move reciprocably in the chamber. The lower end of the chamber is reduced to provide a stop shoulder or seat. The cooperable lower end of the plunger is chamfered and thus adapted to clampingly bind the lure, or a part thereof, between itself and said stop shoulder in a manner to retrieve the line and lure.

3,375,603
SLIP FLOAT WITH LINE LOCKING MEANS
John R. Loghry, Tucson, Ariz., assignor of fifty percent to Herbert A. Loghry, Yuma, Ariz.
Filed Apr. 21, 1966, Ser. No. 544,221
10 Claims. (Cl. 43—43.11)



6. A slip float comprising a buoyant body provided with a vertical bore, a tubular member slidable within limits in said bore and having a vertical passage for slidable reception of a fishing line, the lower end portion of said tubular member constituting a spool around which a portion of the stated line may be wound, said spool being projectable downwardly from and retractable upwardly into said body upon sliding of the tubular member respectively downwardly and upwardly relative to the body, and a laterally projectable and retractable detent provided at the upper end of said tubular member, said detent in its projected position engaging the upper end of said body whereby to sustain said spool in its retracted position, the detent in its retracted position being receivable in the bore of said body to permit downward projection of the spool and unwinding of a line therefrom.

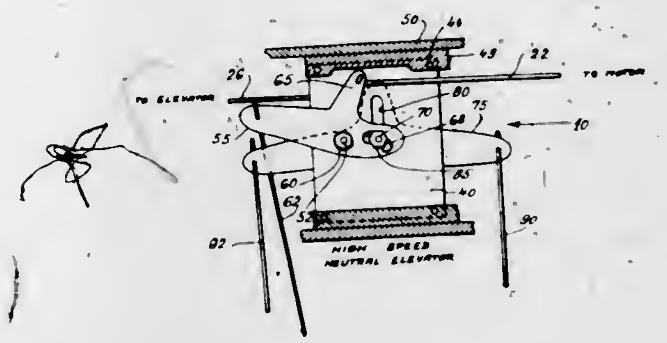
3,375,604
FIGURE TOY WITH MAGNETICALLY RETAINED PARTS
Jose Alonso, 23–24 Cambridge Road, Fairlawn, N.J. 07410
Filed May 5, 1965, Ser. No. 453,273
1 Claim. (Cl. 46—22)



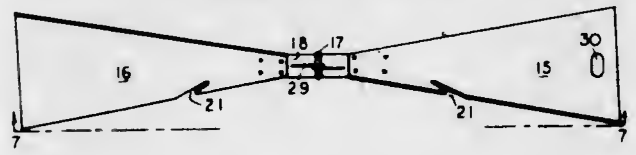
A figure toy having a grotesque representation of a human body of magnetic material with a removable grotesque head attached to the body by magnetic means, and removable arms and legs attached to the body by magnetic means. Means is provided for swingably mounting the head.

3,375,605
MODEL PLANE FLIGHT CONTROL DEVICE
Francis J. Gallagher, 409 Delaware Ave., Staten Island, N.Y. 10305
Filed May 24, 1965, Ser. No. 458,055
1 Claim. (Cl. 46—77)

A model airplane flight control mechanism having a throttle control bellcrank lever rotatable about a fixed fulcrum on a structural plate connected to the fuselage and an elevator control lever located at the other side of the plate, said latter lever having a pivot pin movable transversely of the fuselage of the airplane in a slot in said plate and also within a slot in one arm of the bellcrank lever of the throttle control, said latter slot curved concentrically about the throttle lever pivot.

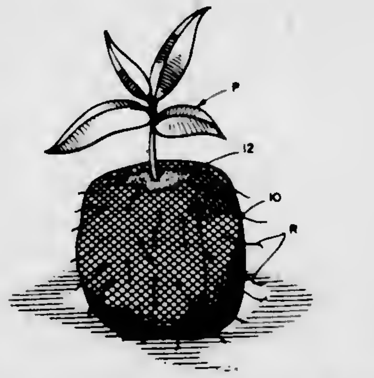


3,375,606
FOLDABLE AERIAL TOY COMPOSED OF TWO BLADES HINGED END TO END
Charles B. Francis, 1833 13th Ave., Apt. 26, Seattle, Wash. 98122
Filed May 6, 1965, Ser. No. 453,595
5 Claims. (Cl. 46—86)



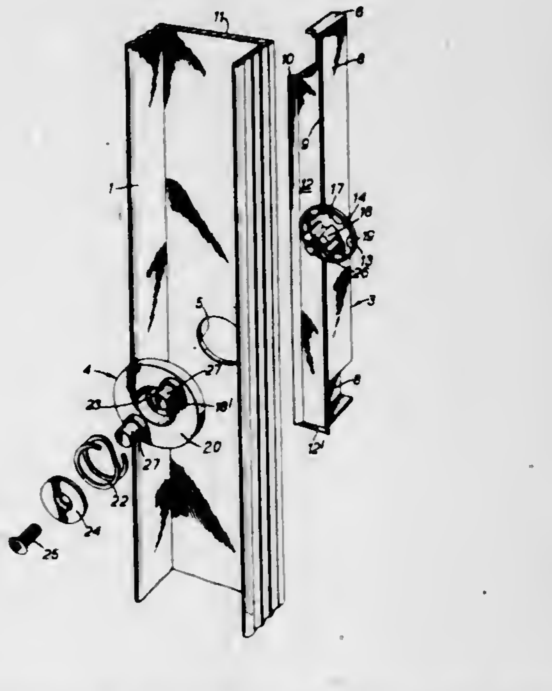
Two similarly shaped, thin, flat tapered blades have their narrower ends hinged together by an inclined pivot which permits them to be folded face to face for launching and imparts a pitch to them when they are opened out end to end. A latch holds them folded while they are moving upwardly in the air. When they start down air pressure turns them end for end, the latch releases, the blades swing outwardly, the inclined pivot means gives them a pitch and air pressure rotates them as they descend.

3,375,607
BRIQUETTE FOR GROWING OF PLANTS
Odd Melvold, Oslo, Norway, assignor to Me-Kox Industri, Melvold & Koxvold, Oslo, Norway, a partnership
Continuation-in-part of application Ser. No. 444,292, Mar. 31, 1965. This application Jan. 9, 1967, Ser. No. 607,990
Claims priority, application Norway, May 26, 1964, 153,399
8 Claims. (Cl. 47—37)



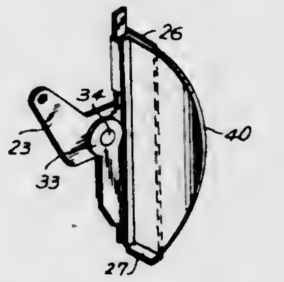
A briquette of a compressed plant growth medium (e.g. peat moss) which expands when contacted by water to a porous loose material of increased volume is enclosed within a sleeve of water-resistant material which is collapsed against the briquette to provide a reduced external size for shipment and storage, but which is expansible to an internal volume at least as great as the increased volume of the growth medium for use in starting and growing plants. The sleeve can consist of a plastic netting which is compressed against the briquette and forms a shaped unit. Typically, the briquette and sleeve will expand as much as five to six times from storage to use condition.

3,375,608
PIVOTED WINDOW LOUVRES
Norman Thompson, Wightwick, England, assignor to Beta Aluminium Products Limited, Bridgnorth, Shropshire, England, a British company
Filed July 13, 1965, Ser. No. 471,546
8 Claims. (Cl. 49—403)



The combination of a frame and a louvre end fitting for a pivoted window louvre comprising an elongated member having a groove or channel on one side for receiving a louvre panel, and a wiper blade on the opposite side for engagement with the surface on one side of the frame, a boss intermediate the ends of the elongated member for engagement with the surface of the surrounding frame, and spring means acting to exert a force on the boss urging it into contact with the frame.

3,375,609
LOUVER CONSTRUCTION
Thomas G. Sconzo, Macon St., Sayville, N.Y. 11782
Filed Aug. 12, 1966, Ser. No. 572,129
9 Claims. (Cl. 49—403)

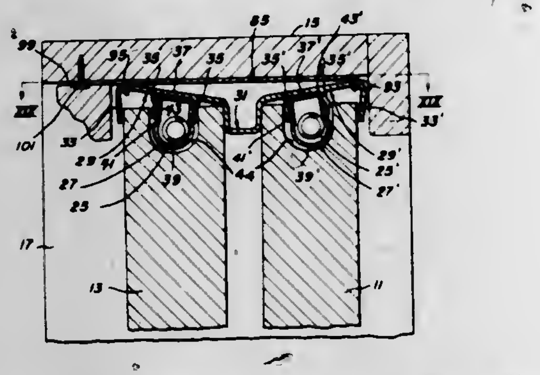


1. In a louver construction, a bracket device retaining and supporting a louver panel, said device having supporting members contracting the sides and edges at the

end of said panel, and a tensioned ornamental member held between said bracket and said panel and having a curved section providing a scalloped image, said ornamental member including a wall section extending angularly from said curved section, and held between said bracket device and an end edge of said panel.

3,375,610
SASH JAMB AND BALANCE MEANS

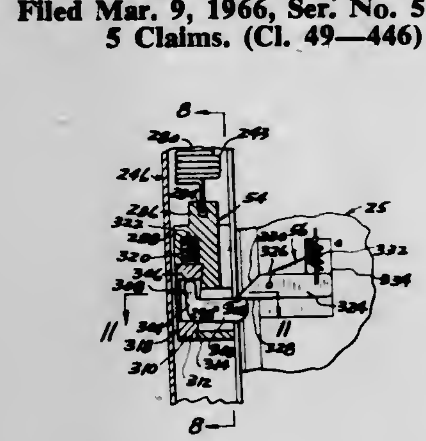
Thomas J. Beasley, Jr., and Richard P. Rodenbaugh, Memphis, Tenn., assignors to Southern Metal Products Corporation, Memphis, Tenn.
Filed May 20, 1965, Ser. No. 457,331
16 Claims. (Cl. 49—445)



A window sash installation having sash jamb and balance assemblies, respectively including jamb bodies provided with parallel ribs and including spring covers frictionally secured to said parallel ribs. Various means including strap means and screw actuated means for moving a central portion of at least one of said jamb bodies selectively towards and away from the other of said jamb bodies to cause said one of said jamb bodies to bow and adjust the frictional contact of the oppositely disposed side edges of the upper and lower sashes of the sash installation with said jamb bodies.

3,375,611
SELF-LOCKING REMOVABLE SASH WINDOW INSTALLATION

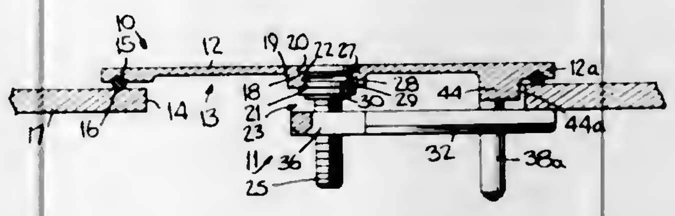
Fred C. Osten, Sr., 14500 Abington Ave., Detroit, Mich. 48227
Filed Mar. 9, 1966, Ser. No. 533,044
5 Claims. (Cl. 49—446)



1. A self-locking automatically-unlocking sash balance for a sliding sash removably mounted in a window frame, said sash balance comprising
  an elongated hollow casing having a sidewall structure with an elongated aperture therein,
  a resilient sash-balancing member disposed within said casing and anchored at one end thereto,
  a lock carrier removably mounted in said casing and connected to the other end of said sash-balancing member,
    said lock carrier having a pivot element thereon and having an abutment surface thereon disposed obliquely to said sidewall structure,
  a locking member having a thrust surface also disposed obliquely to said sidewall structure in longitudinal relatively-sliding engagement with said abutment surface and also having a locking portion opposite said thrust surface and movable into and out of locking engagement with said sidewall structure,
  and a lock-operating lever comprising a lock operating arm and a trigger arm pivotally mounted on said pivot element with said lock-operating arm operatively engaging said locking member and said trigger arm projecting into close proximity to said aperture, resilient means being mounted on said lock carrier yieldingly engaging and urging said locking member toward its locked position,
    said resilient means being responsive to the removal of the sash from engagement with said trigger arm for moving said lock carrier and locking member relatively to one another into locking engagement with said sidewall structure.

3,375,612
DECK PLATE AND LOCKING MECHANISM

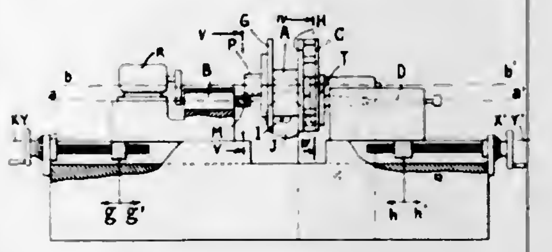
Joseph M. Busuttil, Jamaica, N.Y. (45—22 Pearson St., Long Island City, N.Y. 11101)
Filed Jan. 24, 1966, Ser. No. 522,682
4 Claims. (Cl. 49—465)



The deck plate comprises a disc-shaped member having a gasket for sealing against the deck. A rotatable screw is threaded into the hub of a clamping member with spokes sliding in the slots of the guides to grip the deck of a ship between the tips of the spokes and the overlapping peripheral portion of the disc-shaped member. The slots and locking member have lengths to permit a wide spacing between the spoke tip and the peripheral portion for insertion of the deck plate into the opening.

3,375,613
MACHINE FOR GRINDING PARTS ACCORDING TO A JIG CONTOUR

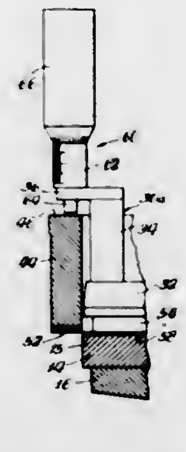
Pierre Boucher, Vignols, Correze, France
Filed Dec. 11, 1964, Ser. No. 417,713
6 Claims. (Cl. 51—101)



A grinding machine for forming parts according to a jig configuration. The jig and workpiece are mounted on a first shaft for simultaneous rotation and a driven grinding wheel and idler roller are mounted on a common axis parallel to the first shaft. The peripheral surface of the jig and idler roller is frusto-conical and the operative surface of the jig is a regulated surface coinciding to the tapering angle of the idler roller peripheral surface. The first shaft is mounted for movement in a direction to bring the jig into contact with the axis idler roller and the workpiece into contact with the grinding wheel. The roller is adjustably movable in an axial direction relative to the jig, providing variation in the size of the workpiece obtainable from a single roller.

3,375,614
LAPPING MACHINE TRUING RING AND FIXTURE

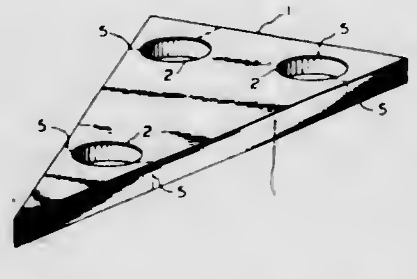
Stephen A. Boettcher, Deerfield, and James N. Farley, Palatine, Ill., assignors to Speedfam Corporation, a corporation of Illinois
Filed Dec. 9, 1964, Ser. No. 416,989
1 Claim. (Cl. 51—129)



1. For use in a lapping machine for predetermining the extent of lapping of work pieces on a rotating lapping disc, the combination of a truing and retaining ring normally resting on the lapping disc and having an annular body portion for confining work pieces therein and having an annular recess formed in the bottom surface of said body portion, a plurality of circumferentially spaced rectangular pad members of wear resistant material mounted within said annular recess and engageable with the lapping disc, a plate within and independent of said truing and retaining ring and bearing on the work pieces, a plurality of circumferentially spaced post members extending upwardly from said plate and having radial arm portions overlying the top surface of said truing and retaining ring, and micrometers carried by said arm portions of said post members and having adjustable spindles for engaging the top surface of said truing and retaining ring to arrest downward movement of said plate.

3,375,615
DEBURRING TUMBLING MEDIA

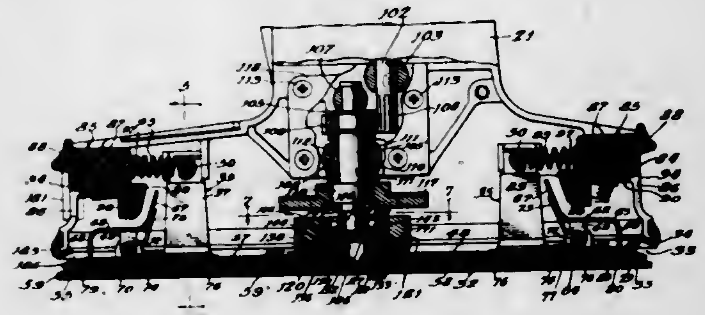
Richard W. Ricker, Cleveland, Ohio, assignor to Ferro Corporation, Cleveland, Ohio
Filed Jan. 10, 1966, Ser. No. 519,478
4 Claims. (Cl. 51—164.5)



Angular, generally tabular, tumbling deburring media having substantially sharp primary deburring points, openings positioned in close proximity to said points, said media adaptable to fracture at points of weakness adjacent said openings to provide additional, substantially sharp, deburring points upon fracture and disengagement of the fugitive primary point.

3,375,616
DUAL MOTION SURFACE-DRESSING MACHINE

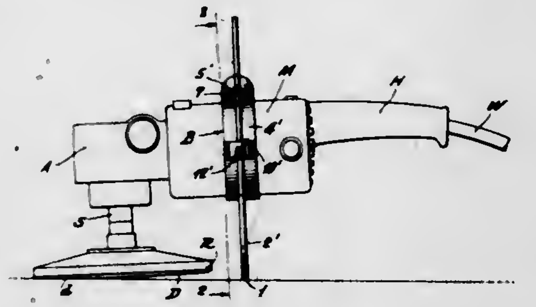
William H. Scott, Glen Ellyn, and Earl F. Smith, Lombard, Ill., assignors to Portable Electric Tools, Inc., a corporation of Illinois
Filed Jan. 11, 1965, Ser. No. 424,715
7 Claims. (Cl. 51—170)



A surface-dressing machine is provided which has an externally actuated member for converting the motion of the surface-dressing member from reciprocating motion to orbital motion. The machine also has externally actuated members for locking or unlocking the sand paper or the like to the machine. The housing is designed in relation to the surface dressing platen that suction inside the housing will draw dust into and through the housing. A means is provided between the driving means and the surface-dressing platen for reducing the ill-effects of misalignment of the drive pin therebeween. A novel mechanism is provided for converting the rotary motion of the driving means to either reciprocating motion or orbital motion of the surface-dressing member.

3,375,617
BRACKET SUPPORT FOR ROTARY DISK SANDER

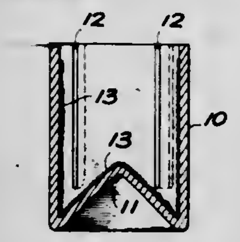
Albert Kaufman, 11 5th Ave., New York, N.Y. 10003, and Louis Kaufman, 111 N. Wood Lane, Woodmere, N.Y. 11598
Filed May 25, 1967, Ser. No. 641,302
5 Claims. (Cl. 51—170)



The invention concerns a bracket support for a motor-driven sanding device which may consist of an independent portable electric motor or the combination of an attachment with a workshop electric drill having a rotary spindle operated by the motor, and on the free end of which is detachably mounted a flexible disk of abrasive material. The provision of the steadying bracket support, of U-shape, with at least the base being of rounded cross-section, and the arms extending therefrom clamped to the body of the electric motor at an adjustable distance from said base, permits the attainment of a fine degree of control of the angularity of the effective abrading area of the flexible disk as the latter is fixed at the forepart thereof in the course of its translating movement along the surface of the workpiece. The bracket support serves as an effective guide for the rotary abrasive disk and steadies the latter as the same is guided by a handle extending from the motor body.

3,375,618
PIPE CLEANING CUP

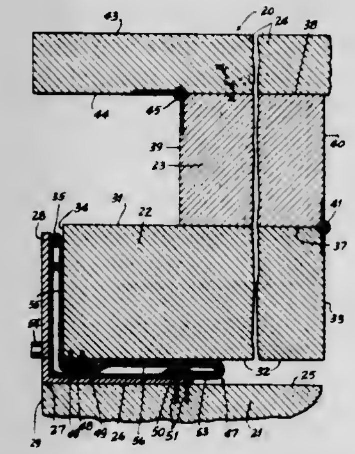
Joseph Charniga, Jr., Box 294, Poland, Ohio 44514
Filed Mar. 22, 1965, Ser. No. 441,703
4 Claims. (Cl. 51—391)



A deformable pipe cleaning cup incorporating an abrasive coated inner surface which can be engaged on the end of a copper pipe or tube and rotated so as to clean the same.

3,375,619
PNEUMATIC APPARATUS FOR ERECTING STRUCTURAL BUILDING COMPONENTS

Charles H. Hurkamp, 444 Carolwood Lane,
Atlanta, Ga. 30305
Filed Nov. 21, 1966, Ser. No. 595,775
6 Claims. (Cl. 52—2)

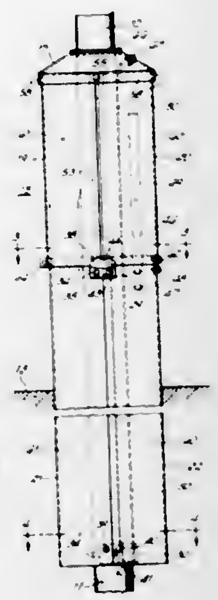


1. An automatically erectable building structure comprising a rigid floor panel having an upper surface, a side panel hinged to the floor panel, the side panel having upper and lower edges and first and second side surfaces, the floor panel including means defining a generally vertical surface above the upper surface and adjacent to which the lower edge of the side panel is positioned when the side panel is pivoted to a generally horizontal position, the hinge between the side panel and the floor panel being so located that the first side surface of the side panel when the side panel is in the generally horizontal position is adjacent the upper surface of the floor panel, a pneumatic tube positioned with portions lying against the said generally vertical surface, the upper surface of the floor panel, the lower edge of the side panel, and a portion of the aforesaid first side surface of the side panel, and a flexible retaining and positioning member having a first edge affixed to the side panel and a second edge affixed to the upper surface of the floor panel to retain and position the remaining portions of the pneumatic tube.

3,375,620
TERMINAL PEDESTAL FOR UNDERGROUND WIRING SYSTEMS

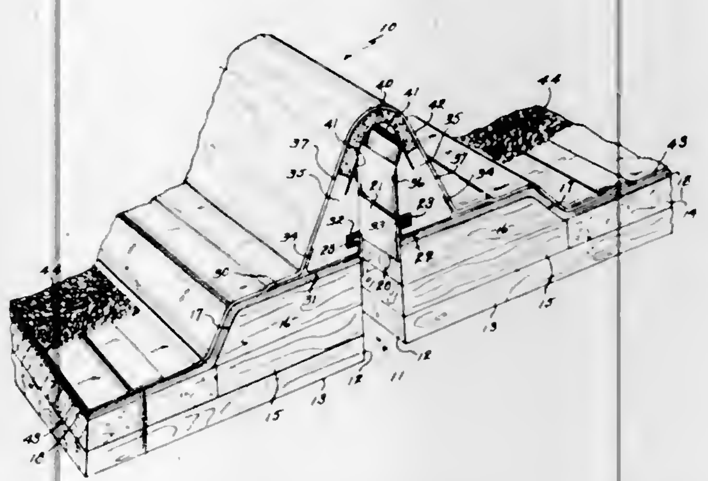
Davis M. Phillips, South Milwaukee, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed July 15, 1965, Ser. No. 472,256
7 Claims. (Cl. 52—28)

A pole assembly for supporting a luminaire at its upper end and a terminal enclosure at its lower end. The terminal enclosure includes a pair of channel-shaped ground line covers extending below ground level and which are a barrier wall extending the vertical length of the enclosure and secured to each other and to the pole by a bracket assembly. A pair of channel-shaped access covers and a cap are provided at the upper end of the enclosure with the edges of all of the enclosure members coacting to form a continuous outer housing.



3,375,621
PREFABRICATED FOAM EXPANSION JOINTS

Frank W. Curtis, Chagrin Falls, and Malcolm H. Nickerson, South Russell, Ohio, assignors to Lexsuco, Inc., Solon, Ohio, a corporation of Ohio
Continuation of application Ser. No. 348,725, Mar. 2, 1964. This application Jan. 6, 1967, Ser. No. 621,373
4 Claims. (Cl. 52—58)



An expansion joint for bridging two building sections, having a cover of flexible material, the ends of which are secured to the narrow portions of wedge shaped side members formed of rigid foam, a strip of flexible foam material secured along the center of the cover, and a nailing strip carried at the wide portions of the wedge shaped side members.

3,375,622
METAL ROOF

Wakefield M. Murray, Greensburg, Pa., assignor to Overly Manufacturing Company, Greensburg, Pa.
Filed July 26, 1966, Ser. No. 568,053
6 Claims. (Cl. 52—90)

1. In a metal roof for assembly upon and attachment to a suitable roof deck comprising prefabricated sheets arranged in rows transversely of the roof and in overlapping rows longitudinally of the roof slope, in combination:

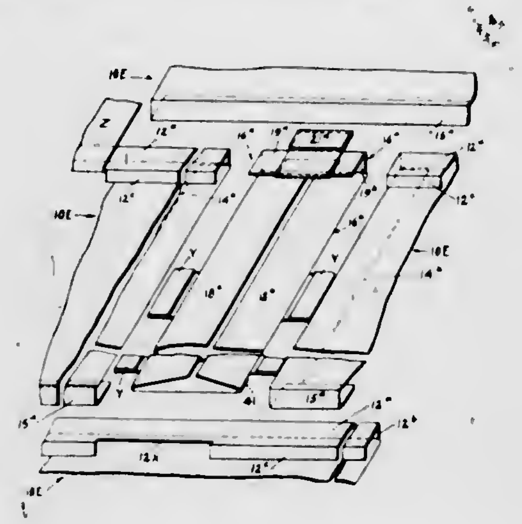
(a) spaced sheet means of rectangular shape having oppositely directed longitudinal extending flanges and opposing spaced flanges defining the transverse edges of said sheet means,

(b) clip means engaging the upslope longitudinal flange of each sheet and attached to the adjacent roof deck in spaced relation to said flange.

(c) drain channel means secured to said roof deck between said spaced sheet means and engaging the adjacent sheet means transverse flanges to retain said sheet means in transverse and vertical fixed relation to said deck.

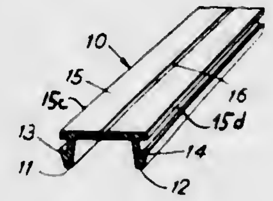
(d) clip means engaging and retaining said drain channel in vertical fixed relation to said roof deck.

(e) each said sheet means bottom longitudinal flange embracing the underlying sheet means longitudinal flange to retain the two adjacent sheet means against vertical separation.



3,375,623
CHANNEL SHAPED INSERT FOR EMBEDMENT IN CONCRETE

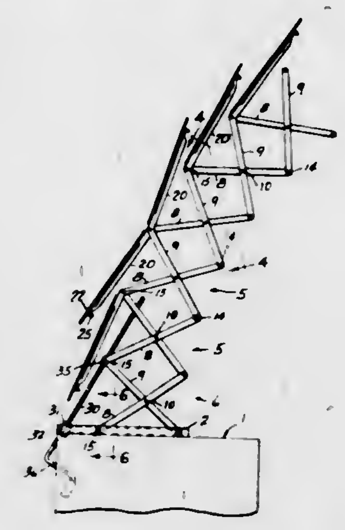
Karl Bühler, Freiestrasse 23, Trimbach, near Olten, Switzerland
Filed June 18, 1965, Ser. No. 464,999
Claims priority, application Switzerland, June 23, 1964, 8,184/64
3 Claims. (Cl. 52—97)



Method of making a concrete building element provided at its underside with a grooved delimiting water ridge, and a building element strip member that is formed of synthetic material which is fixed to a mold part of a mold assembly and serves as a means to form the underside of the building element. The strip member has a substantially π-shaped cross-section, being flat at its top and including two downwardly depending spaced limbs having free ends. Each of the limbs is provided at its outer side with an upwardly extending outwardly directed holding rib that is substantially barbed hook-shaped in cross-section so that disengagement of said limbs from solidified concrete around it is prevented.

3,375,624
STRUCTURAL MEMBER

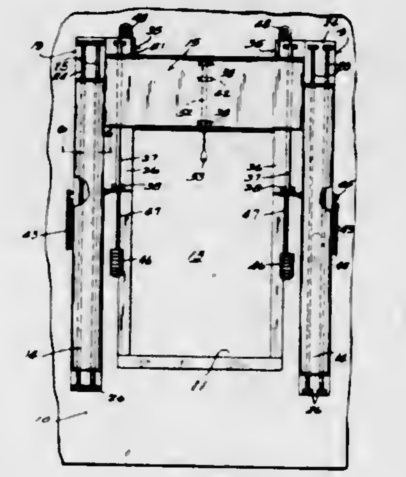
Tom T. Mikulin, Burlingame, Calif., assignor to Kenneth Millhiser, Hillsborough, Calif.
Filed Oct. 11, 1965, Ser. No. 494,493
20 Claims. (Cl. 52—109)



Structural members incorporating, as elements of the structure, lazy tong members. One form of the invention provides a three dimensional beam or arch, another a wheel or reel, and another a structural platform. In the beam or arch structure auxiliary lazy tong structure is employed to reinforce the strength of the member.

3,375,625
DOOR SEAL

John E. Edkins, Arlyn C. Krueger, and Paul A. Rieder, Fond du Lac, Wis., assignors to Medalist Industries, Inc., a corporation of Wisconsin
Continuation of application Ser. No. 358,293, April 8, 1964. This application May 24, 1967, Ser. No. 642,659
4 Claims. (Cl. 52—173)



1. A door seal outlining the top and sides of a door opening and adapted to seal against the top and side rear edges of a truck which backs against the seal, said seal comprising pads along the top and sides of the door opening and mounting means on which the top and side pads are movable vertically with respect to said opening notwithstanding the back pressure of a truck thereagainst, said pads being compressible under pressure of the truck so as to be held by the truck for vertical movement on said mounting means in unison with the truck as the truck moves vertically and maintain said seal about the top and sides of the door opening without subjecting the pads to abrasion by the rear edges of the truck.

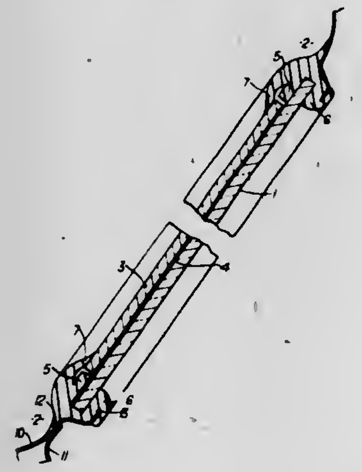
3,375,626
GLAZINGS FOR VEHICLES

Augustus William Grotefeld, Wembley, Middlesex, England; Hedwig Grotefeld, executrix of said Augustus William Grotefeld, deceased, and Barrie Heath, London, England, assignors to Triplex Safety Glass Company Limited, London, England, a company of Great Britain

Continuation of application Ser. No. 448,939, Apr. 19, 1965. This application Aug. 1, 1967, Ser. No. 657,710

Claims priority, application Great Britain, Apr. 23, 1964, 16,943/64

10 Claims. (Cl. 52—208)



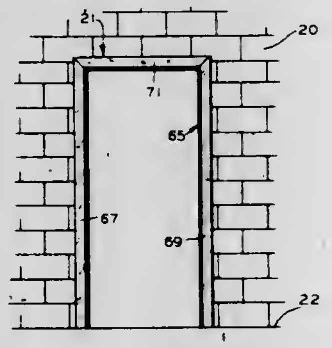
The invention is directed to vehicle glazing panels and particularly to windscreen or windshield glazing. The glazing includes a toughened or tempered glass sheet adapted to be mounted in a frame, and having bonded to its outer surface an untoughened or annealed glass sheet of smaller dimensions than the toughened sheet so that it does not engage within the frame. The bonding layer is coextensive with the untoughened sheet around three edges of the latter but extends beyond the fourth edge for attachment with the toughened sheet within a frame.

3,375,627
METHOD OF ANCHORING A FRAME IN AN OPENING

Bill Bursiek, R.F.D. 1, and Eldon L. Martin, 110 Lincoln St., both of Cygnet, Ohio 43413

Filed Feb. 23, 1966, Ser. No. 529,292

15 Claims. (Cl. 52—213)



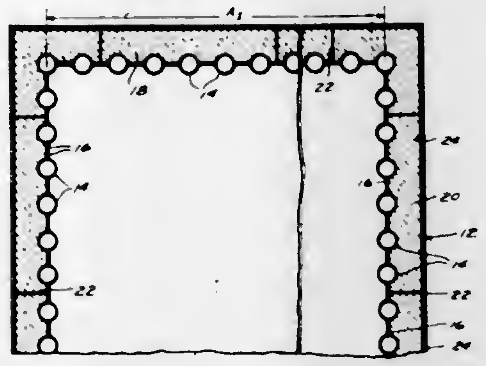
A wall having an opening at least part of whose edges are surrounded by a frame that forms a chamber between it and the edges of the opening, and then expanding in situ in this chamber a foam forming plastic material to fill the chamber and anchor the frame in the opening. The cracks between the frame and the edges of the opening are sealed by a temporary or permanent sealing means attached to the wall abutting edges of the frame, and temporary bracing means may be employed inside the frame to counteract the expanding pressure of the plastic material while filling the chamber.

3,375,628
INSULATED WALL CONSTRUCTION FOR HEATED SURFACES

John M. Connell, Mountain Lakes, N.J., and Richard C. Johnson, Dansville, N.Y., assignors to Foster Wheeler Corporation, New York, N.Y., a corporation of New York

Filed July 1, 1965, Ser. No. 468,819

11 Claims. (Cl. 52—309)



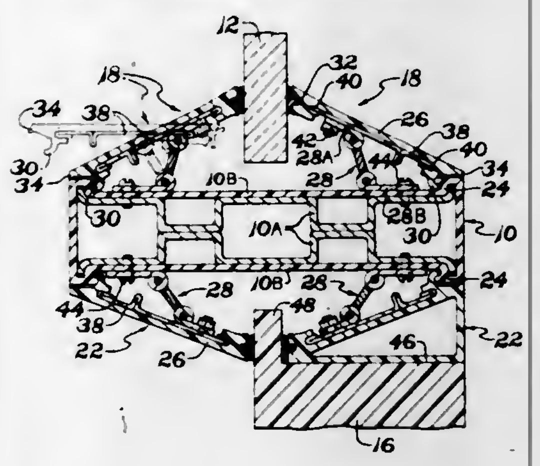
An enclosure for heated surfaces capable of accommodating expansion and contraction of the heated surface without the use of expansion joints comprising an inner fibrous insulation layer having a compressibility sufficient to absorb at least a portion of the expansion of the heated surface, and an outer thermosetting resin layer bonded to the insulation layer and reinforced in part by fibers in the insulation layer having a tensile strength and modulus of elasticity sufficient to compensate for at least the remainder of the expansion of the heated surface.

3,375,629
WALL STRUCTURE

Charles H. Tillson, Cuyahoga Falls, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

Filed June 20, 1966, Ser. No. 558,918

9 Claims. (Cl. 52—403)



A panel mounting frame assembly featuring a pivotally mounted glazing bead adapted for lacking a panel insert into the mounting frame.

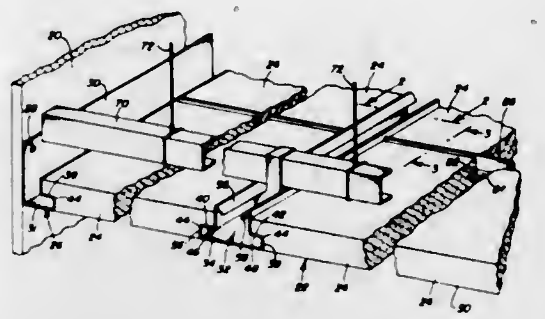
3,375,630
SUPPORTS FOR ACOUSTIC TILE

Paul D. Dail, San Diego, Calif., assignor to Hackett Ceiling Dynamics, San Diego, Calif.

Original application May 24, 1965, Ser. No. 465,233, now Patent No. 3,339,331, dated Sept. 5, 1967, which is a continuation of application Ser. No. 126,298, July 24, 1961. Divided and this application Aug. 9, 1967, Ser. No. 659,423

2 Claims. (Cl. 52—475)

A ceiling construction comprising a plurality of elongated channel-like runners, each having a planar underside, and each having shoulders on opposite sides for supporting rabbeted sound absorbing tile, the lower surfaces of the tile lying in the same plane as the underside of the runners. Each runner is provided with shoulders for supporting the same.

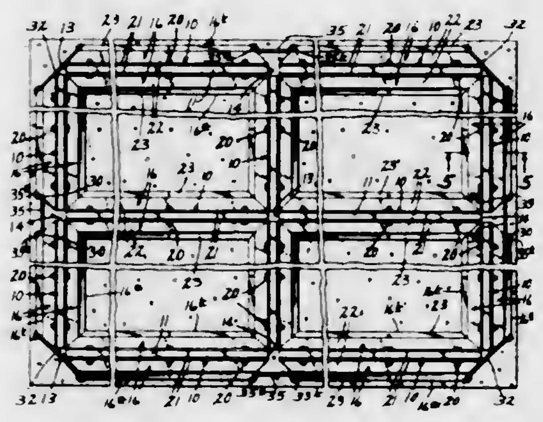


3,375,631
BIN PANEL CONSTRUCTION

Wayne H. Oliver, 1305 Spring Valley Road, Minneapolis, Minn. 55422

Filed May 31, 1966, Ser. No. 553,821

10 Claims. (Cl. 52—584)



9. In a bin panel including a rectangular, imperforate, relatively thick sheet, the improvement comprising a frame member having a pair of identical frame sections, said frame sections being mounted on opposite sides of said sheet along an edge thereof so that said frame member is symmetrical with respect to the plane of said sheet, said frame sections each having a first flat portion lying adjacent the side of said sheet and being attached thereto, a second flat portion extending outwardly from an inner edge of said first portion perpendicular to said first portion, and a third flat portion converging toward the center of said sheet from the outer edge of said second portion at a predetermined angle with respect to a plane extending outwardly from said second portion.

3,375,632
REINFORCEMENT ELEMENT FOR BEAMS AND POLES MADE FROM REINFORCED CONCRETE

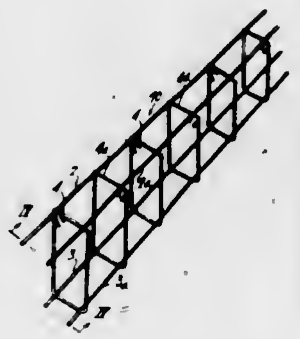
Marcel Congy, 180 Blvd., St. Germain, Paris 6, France

Filed Mar. 3, 1965, Ser. No. 436,854

Claims priority, application France, Dec. 23, 1964, 999,828; Mar. 6, 1964, 966,472

18 Claims. (Cl. 52—648)

The present disclosure relates to a reinforcement element for beams and poles made of reinforced concrete and, more particularly, to nestable, prefabricated reinforcing elements which may be joined together at the site of its use, and the method of fabricating such reinforcing elements. The reinforcing elements are elongated bodies having a plurality of spaced generally annular frames joined together by longitudinal bars which are disposed toward one side of each of the frames, i.e., if the frames are divided into two generally equal portions by a geometric longitudinal axis passing therethrough, the longitudinal bars of each element will always be in only one of the two generally equal portions. By providing the longitudinal bars along only one portion of the reinforcing element, it is possible to simply inter-engage two or more such elements at the site of its use. The elements are fabricated by starting with a planar lattice or grid of the longitudinal bars and lateral rods and then bending the lateral rods to form the generally annular frames.



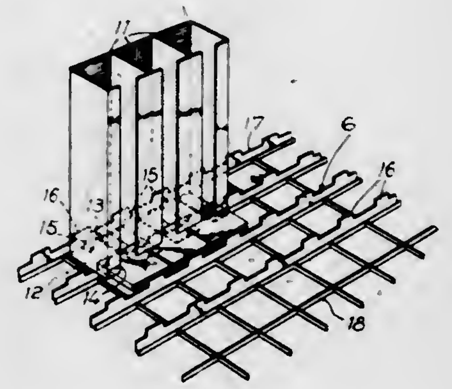
3,375,633
MECHANICAL DEVICE FOR LAYING TILES OR MOSAIC FLOORING

Jean-Jacques Pourtau, 8 Rue Roger Martin, Seine-et-Oise, Bezons, France

Filed Dec. 16, 1965, Ser. No. 514,422

Claims priority, application France, Dec. 16, 1964, 998,874

6 Claims. (Cl. 52—749)



A dispensing carriage, having a plurality of vertical tile containers, is movably mounted on a support frame. A grating provided with rows upstanding projections for engaging and removing the lowermost tiles from the containers as the carriage is moved, is adjustably mounted vertically on the support frame and is disposed adjacent the bottom of the containers. A guide grid, for receiving tiles dispensed from the containers, is placed on the floor to be covered. The feet of adjustable jacks carried by the support frame are placed into frames of the guide grid to automatically align the grating with the guide grid.

3,375,634

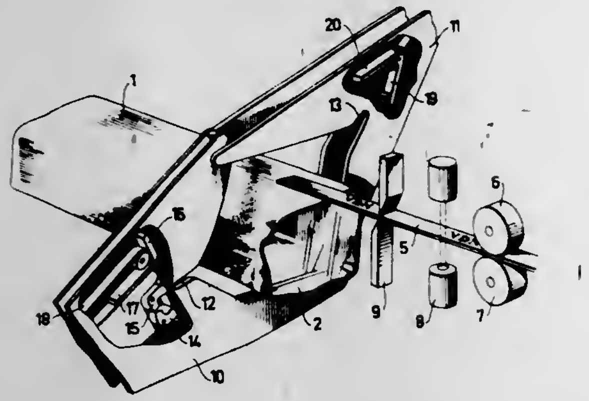
METHOD FOR ATTACHING INFORMATION BEARING LABELS TO BAGS HAVING MATERIAL PACKAGED THEREIN

Harry Sigurd Valdemar Järund, 18 Otto Lindbladsvagen, Lund, Sweden

Filed June 2, 1965, Ser. No. 460,724

Claims priority, application Sweden, June 8, 1964, 6,934/64

1 Claim. (Cl. 53—14)



A continuous tape is fed toward the open end of a package until the terminal tape portion is longitudinally coextensive with the open package end outside the same. The tape and package end are gathered and wrapped in sealing tape to close the package and attach the terminal tape portion thereto, and the tape is cut to provide a label projecting longitudinally away from the closed package.

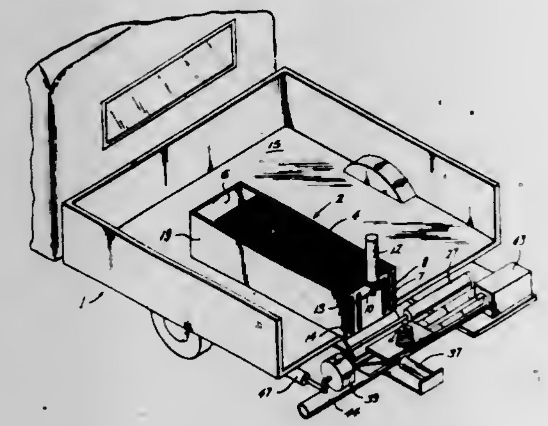
3,375,635

NEWSPAPER EJECTING MACHINE

John L. Powell, Jr., 2823 Walnut St., and Marion L. Mayo, Oak Hill Road, both of Texarkana, Tex. 75501

Filed June 8, 1965, Ser. No. 462,212

12 Claims. (Cl. 53—119)



Apparatus is provided for automatically delivering newspapers to the homes of subscribers. A stack of newspapers is loaded into a portable hopper, and the hopper installed on a motor vehicle. The hopper has a slot in one end, and a device for moving the newspapers toward the slot. A grappler moves the papers through the slot one-by-one, and the newspaper upon passing through the slot is wrapped upon a roller. A yoke then removes the paper from the roller, and into the barrel of an air gun. The gun is actuated to eject the newspaper into the yard of the subscriber.

3,375,636

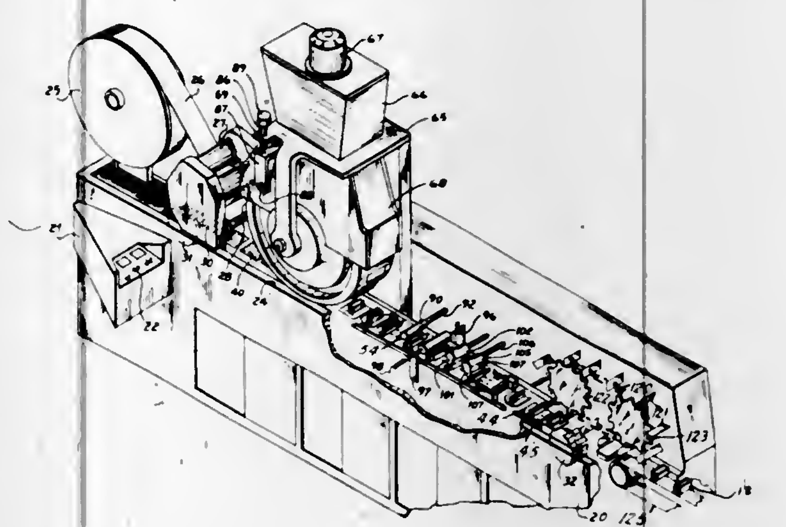
PLASTIC MATERIAL FORMER AND WRAPPER

Sanford Redmond, 3 E. 69th St., New York, N.Y. 10021

Filed Oct. 14, 1964, Ser. No. 403,707

5 Claims. (Cl. 53—122)

The invention employs a forming drum which forms plastic material into predetermined size and shaped blocks and places them upon a wrapper which is subsequently wrapped about the block and the ends tucked by novel tucking means to form a complete package.



3,375,637

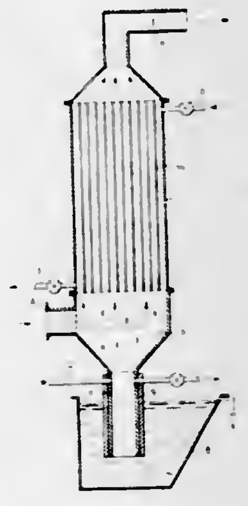
HOT GAS PURIFICATION

Franz Kaess, Traunstein, and Otto Kick, Hart (Alz), Germany, assignors to Suddeutsche Kalkstickstoff-Werke Aktiengesellschaft, Trostberg, Upper Bavaria, Germany

Filed Mar. 11, 1966, Ser. No. 533,481

Claims priority, application Germany, Mar. 12, 1965, S 95,934

3 Claims. (Cl. 55—90)



1. An indirect cooling method for removing low boiling and high boiling organic constituents and residual dust from prepurified hot waste gases of electric furnaces comprising passing said gases upwardly through a cooling zone comprising narrowly divided cooling surfaces, cooling said surfaces in the upper part of said zone to a temperature at which said low boiling constituents are substantially condensed, cooling said surfaces in the lower cooling zone to a temperature at which said high boiling constituents are substantially condensed, thereby precipitating dust contained in the gases, volatizing part of said condensate of the upper cooling zone in said lower cooling zone producing a continuous reflux of said low boiling constituents, adjusting the rate of flux of the gases and the temperature in said cooling zones to ensure sufficient reflux of said low boiling constituents to remove continuously precipitated dust, and continuously withdrawing the unvolatilized part of the condensate from said lower cooling zone together with said dust.

3,375,638

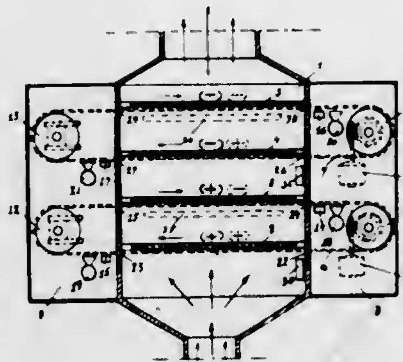
APPARATUS FOR PURIFICATION OF GASES

Julien Dungler, Basel, Switzerland, assignor to K. E. Merckle, Bad Friedrichall, Germany

Filed Aug. 29, 1963, Ser. No. 308,615

Claims priority, application France, Aug. 29, 1962, 908,064

7 Claims. (Cl. 55—116)



1. Apparatus for filtering gases comprising means forming a filter chamber through which gases are flowed, an endless gas-permeable dielectric belt, a pair of spaced rolls movably supporting said belt with the reaches of the belt between the rolls extending across said chamber transversely of the flow of said gases, whereby the gases are compelled to flow through the reaches of the belt within the chamber, at least one of said rolls being mounted exteriorly of said chamber and the reaches of the belt passing through openings in the wall of the chamber, at least one gas-permeable, plate-like electrode fixedly mounted in said chamber and extending transversely of the flow of the gases with a broad surface thereof closely adjacent a broad surface of at least one reach of said belt, means for driving at least one of said rolls to move the reaches of said belt parallel and relative to the broad surfaces of the electrode, a source of dynamical electrical energy, means connecting the high potential terminal of said source to said plate to apply a potential to the latter to thereby electrostatically charge the reach of the belt adjacent thereto, whereby particles suspended in the gases flowing through the belt are attracted by the latter, means exteriorly of said chamber for neutralizing the electrostatic charge on the belt outside of the chamber, and means exteriorly of said chamber for removing said particles from the belt after neutralization of said electrostatic charge.

3,375,639

EXTRACTION OF ACIDIC CONSTITUENTS FROM GAS MIXTURES WITH GAMMA-BUTYROLACTONE

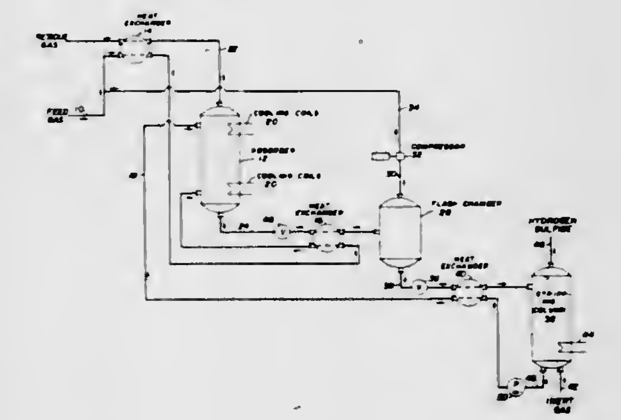
Loren N. Miller, Crystal Lake, Ill., Orrin C. Holbrook, Andrews, Tex., and Byron B. Woertz, Crystal Lake, Ill., assignors, by mesne assignments, to Union Oil Company of California, Los Angeles, Calif., a corporation of California

Filed Dec. 27, 1962, Ser. No. 247,690

2 Claims. (Cl. 55—195)

1. Apparatus for separating acidic gases from admixture with non-acidic gaseous constituents by contact with γ-butyrolactone comprising

(a) a first gas-liquid contactor,
(b) means for separately feeding absorbent liquid and gas into said contactor,
(c) means for separately withdrawing absorbent liquid containing absorbed gas from said contactor,
(d) a condenser means for condensing condensable constituents of said gas within the range of —50° to 80° F.,
(e) conduit means for separately withdrawing gas from said contactor and discharging said gas into said condenser,
(f) a second gas-liquid contactor,
(g) conduit means for charging uncondensed gas from said condenser into said second contactor,
(h) conduit means for charging absorbent liquid into said second contactor,
(i) an absorber,
(j) conduit means for charging gas from said second contactor into said absorber,
(k) conduit means for charging absorbent liquid into said absorber,
(l) conduit means for charging absorbent liquid containing absorbed gas from said absorber into said first contactor,
(m) a flash zone,
(n) conduit means for charging absorbent liquid containing absorbed gas from said second gas-liquid contactor into said flash zone,



(o) conduit means for returning lean absorber liquid from said flash zone into said second gas-liquid contactor,
(p) conduit means for charging gas from said flash zone into a liquid-gas contacting zone,
(q) means for contacting gas in said liquid-gas contacting zone with absorbent liquid containing absorbed gases, withdrawn from said first gas-liquid contactor,
(r) means for returning absorbent liquid containing absorbed gas from said liquid-gas contacting zone into first liquid-gas contactor and into said absorber,
(s) means for separating gas from liquid absorbent withdrawn from said first gas-liquid contactor prior into charging said absorbent to said liquid-gas contacting zone,
(t) conduit means for withdrawing gas from said liquid-gas contacting zone and from said absorber,
(u) means for recovering absorbent liquid withdrawn from said first gas-liquid contactor, and
(v) conduit means for recirculating said recovered absorbent liquid into said flash zone.

3,375,640

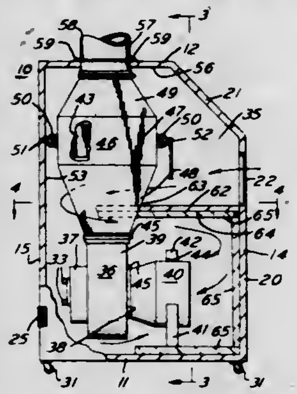
AIR FILTER APPARATUS

Michael H. Pelosi, Jr., Broomall, Pa., assignor to CRS Industries, Inc., Philadelphia, Pa., a corporation of Pennsylvania

Filed June 13, 1966, Ser. No. 557,185

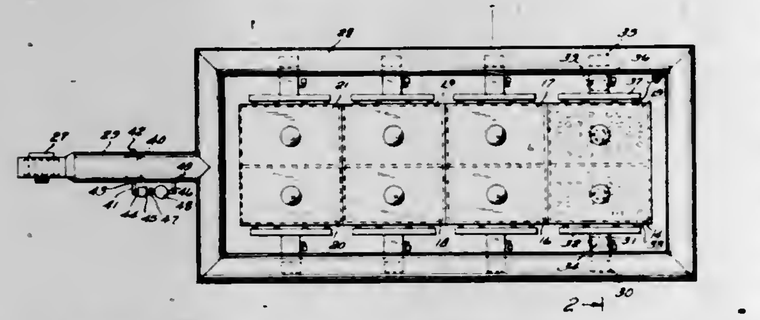
6 Claims. (Cl. 55—276)

Air purifier apparatus of the portable type having a housing containing a vibration free mounted blower and motor assembly with a prefilter connected to the blower inlet and an absolute HEPA filter connected to the blower outlet, the filters being detachably connected respectively to the inlet and outlet by ducts of flexible material, and the cabinet being insulated to reduce noise of operation.



3,375,641
FILTER BAG CLEANING DEVICE

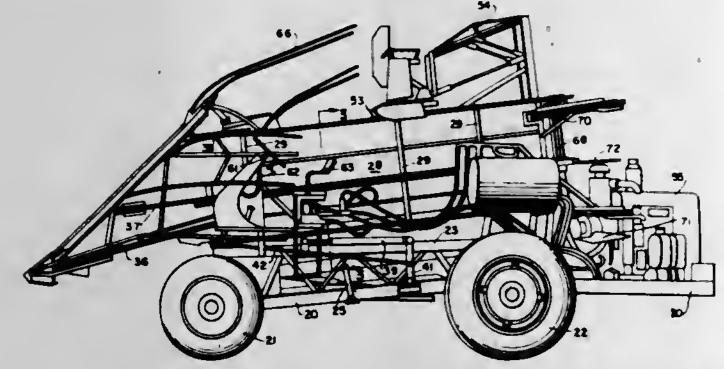
Armand L. Labbe, Salt Lake City, Utah, assignor to Research-Cottrell, Inc., Bridgewater Township, N.J., a corporation of New Jersey
Filed Feb. 28, 1966, Ser. No. 530,595
6 Claims. (Cl. 55—293)



A dust collecting installation in which suspended bag filters are cleaned by a flow of air directed substantially perpendicularly to the bags' longitudinal axes and provides passages to direct the flow of air for cleaning, a fan for developing the air flowing in the passage and intermediate first and second manifolds with duct and damper means whereby air pressure is allowed to build to a predetermined level in one of the manifolds so the air can be transmitted to the remaining manifold and the passages at that predetermined pressure initially upon selected damper actuation.

3,375,642
SUGAR CANE HARVESTERS

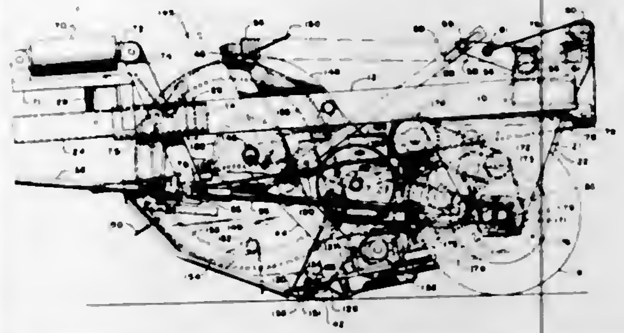
Harold A. Willett, Thibodaux, La., assignor, by mesne assignments, to The Thomson Machinery Company, Inc., Thibodaux, La., a corporation of Delaware
Filed Jan. 18, 1965, Ser. No. 426,090
2 Claims. (Cl. 56—15)



The present invention relates to an apparatus and method for harvesting sugar cane and is directed to a harvester which handles bulk quantities of sugar cane without impailing or damaging the cane stalk along its length which results in rapid deterioration of the cane stalk and early decomposition thereof. This is accomplished by cutting the cane stalks and sliding them through the harvester on their ends in gang groups and then placing them onto heap rows.

3,375,643
HARVESTING DEVICE

Horace G. McCarty, New Holland, and Emmett F. Glass, Akron, Pa., assignors to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed Oct. 14, 1964, Ser. No. 403,855
27 Claims. (Cl. 56—23)



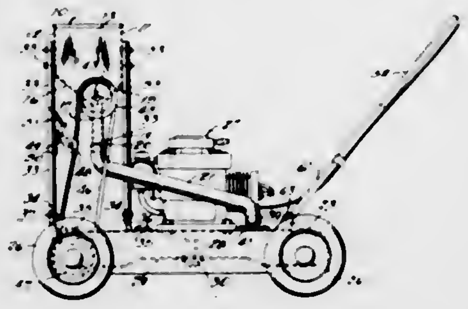
1. A device for harvesting crop material comprising a mobile frame adapted to travel forwardly through a field, an elongated reel having a central axis and crop material engaging tine members, means journalling said reel on said frame with the axis of the reel generally parallel to the ground and transverse to the direction of travel of said frame, means rotatably driving said reel about its central axis in a direction to move said crop material engaging tine members in a predetermined path of travel downwardly at the front of said reel then rearwardly under said reel axis in close proximity to the ground and then upwardly and rearwardly behind the axis of said reel, cutting means carried by said frame and disposed generally under said reel rearwardly of said central axis between said path of travel of said crop material engaging tine members and the ground and operable to mow a swath of crop material substantially the width of said reel, a fixed crop material guiding surface extending upwardly and rearwardly from said cutting means generally concentric to the axis of said reel and in close proximity to the path of travel of said crop material engaging tine members, said surface having a rear terminal edge behind said reel and also in close proximity to said path of travel of said crop material engaging tine members, a pair of parallel crop conditioning rolls having therebetween a crop material receiving bite, said rolls having a length substantially the same as said reel and coacting to condition the stems of crop material passing therebetween, means journalling said rolls on said frame behind and parallel to said reel with the bite of said rolls below said axis of said reel and adjacent said rear terminal edge of said crop material guiding surface, said crop material engaging tine members moving downwardly into crop material forwardly of said cutting means and then combing and sweeping said crop material rearwardly over said cutting means and then upwardly and rearwardly over said crop material guiding surface and dicharge it directly into the bite of said conditioning rolls, and means rotating said rolls faster than said reel whereby said rolls strip crop material from said tine members.

3,375,644
FERTILIZER ATTACHMENT FOR ROTARY LAWN MOWERS

Robert L. Harper, 3529 Asbury, Dallas, Tex. 75205
Filed May 27, 1965, Ser. No. 459,359
2 Claims. (Cl. 56—25.4)

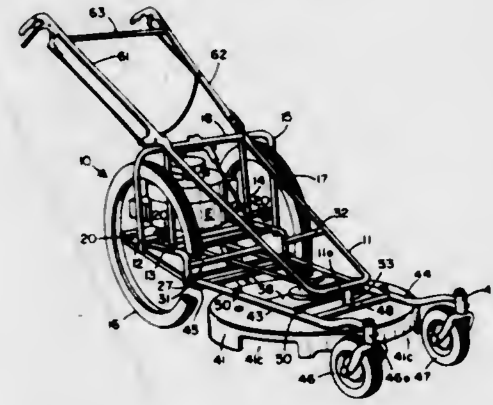
The invention generally comprises an elongated hopper for dispensing fertilizer in granulated or comminuted

form to the rotating blade of a rotary type power driven lawn mower, and is designed to be supported on a suitable frame comprising vertical legs, the upper ends of which are attached to the hopper while their lower ends are detachably secured to the flat deck of the housing for the lawn mower. The hopper is positioned well above the mower housing, and its agitator shaft has a V-pulley on one end to receive a V-belt which is arranged over a V-pulley on one of the wheels of the lawn mower so that rotation is transmitted therefrom to the agitator shaft. A flexible conduit is connected to the outlet of the hopper and extends downwardly therefrom and is detachably connected to an opening in the top of the mower housing so that the dispensed fertilizer can be distributed by the rotating blade.



3,375,645
LAWN MOWER

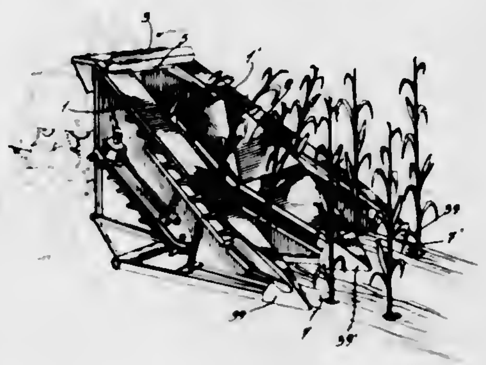
Clyde E. Miller, Bradenton, Fla., assignor, by mesne assignments, to Locke Manufacturing Companies, Inc., a corporation of Connecticut
Filed June 4, 1965, Ser. No. 461,234
5 Claims. (Cl. 56—25.4)



1. A lawn mower comprising a main frame, two spaced wheels attached to said frame for supporting it for movement over the ground, said main frame including a forwardly extending U-shaped member having the yoke portion thereof at the forward end and extending transversely of the mower, hand grip means extending rearwardly of the main frame, and a transversely extending cross bar on said main frame rearwardly of said yoke of said U-shaped member, an engine supported on said main frame, a subframe supported at its forward end by caster wheels, a cross bar at the rear end thereof and extending alongside the first mentioned cross bar, pivot means interconnecting the first and second mentioned cross bars at the centers thereof and forming the sole suspension of the rearward end of said sub-frame, means pivotally connecting the forward end of said sub-frame to said forwardly extending main frame member at the yoke portion thereof, the pivot formed by the last mentioned means being coaxial with the first mentioned pivot, a rotary blade supported on said sub-frame and a belt drive between said engine and blade.

3,375,646
CORN HARVESTER

Narcisse Dion, Ste-Therese de Blainville, Quebec, Canada, assignor to Dion Freres Inc., Quebec, Quebec, Canada
Filed June 7, 1965, Ser. No. 461,761
5 Claims. (Cl. 56—98)



1. A machine for harvesting corn in the field, comprising:

(a) two upward spaced lateral outer walls diverging from a corn discharging end to a gathering end;

(b) a central part between said two upward walls having rear side walls defining with portions of said upward walls, adjacent said discharging ends, a pair of narrow guiding passages for the corn stalks;

(c) said central part also having a pair of forward side walls extending from said rear walls and diverging from said upward walls to define therewith a pair of generally triangular gathering mouths leading into said passages;

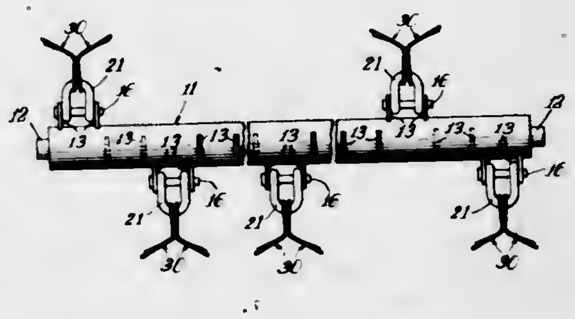
(d) said outer, rear and forward walls so shaped as to define, at the junction of said passages and gathering mouth, passage openings having a trapezoidal shape with a wide base and a narrow top of a width generally equal to that of the passage;

(e) corn stalks cutting means transversely completely of said passage openings, along said wide bases thereof, and

(f) stalk gathering chain means along said passages to drive stalks therethrough.

3,375,647
BLADE CONSTRUCTION FOR A MOWER

Carl W. Mott, Jr., La Grange Park, Ill., assignor to Mott Corporation, La Grange, Ill., a corporation of Illinois
Filed Aug. 11, 1965, Ser. No. 478,850
15 Claims. (Cl. 56—294)

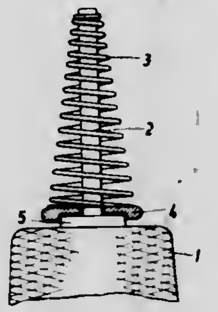


1. A blade for a mower having a rotatably driven horizontal shaft and connecting means for connecting the blade to the shaft, said blade comprising a strip having longitudinally spaced ends and openings therein adjacent the respective ends, one of said openings being adapted to receive said connecting means, and a closure for the other of said openings in said blade to prevent accumulation of cuttings in said other opening when the blade is in use, said closure being removable to permit end-for-

end reversal of said blade and engagement of said connecting means in said other opening.

3,375,648
UNWINDING AID FOR DOUBLE TWIST SPINDLES

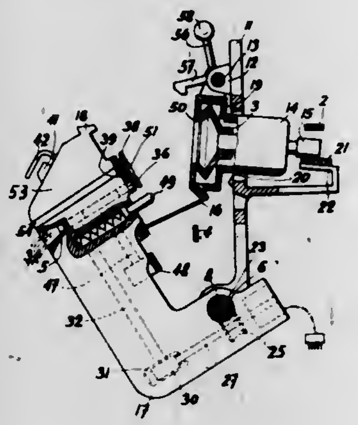
Gustav Franzen, Neersen, near Krefeld, Germany, assignor to Palitex Project-Company, G.m.b.H., Krefeld, Germany
Filed Aug. 25, 1965, Ser. No. 482,383
Claims priority, application Germany, Aug. 26, 1964, N 25,422
15 Claims. (Cl. 57—58.83)



An unwinding aid on the yarn entry tube of a double twist spindle, comprising a yarn guiding member having external means superficially thereof winding towards the inlet end of the tube for intersecting and guiding the yarn between the bobbin and the said inlet end.

3,375,649
SERVICING ARRANGEMENT FOR SPINNING MACHINES

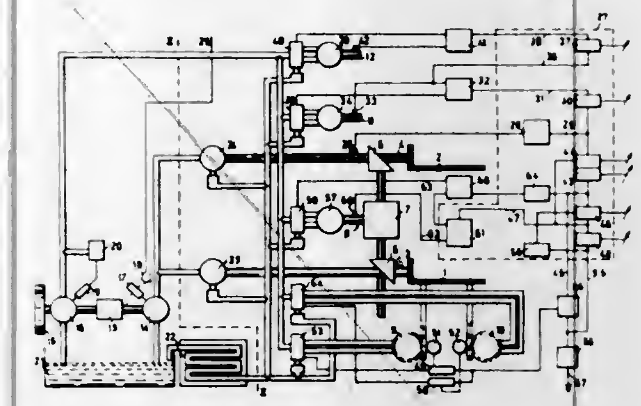
Ladislav Bureš, Ctibor Doudlebský, and Arkadij Barsukov, Usti nad Orlici, Czechoslovakia, assignors to Vyzkumny ustav Bavlnarsky, Usti nad Orlici, Czechoslovakia
Filed June 20, 1966, Ser. No. 558,872
Claims priority, application Czechoslovakia, Nov. 16, 1965, 6,821/65
20 Claims. (Cl. 57—58.91)



1. A spinning machine comprising, in combination, at least one spinning unit comprising first and second supports, first spinning means mounted on said first support for rotation about a first axis, and second spinning means mounted on said second support and having a second axis; and frame means supporting said first and second supports for movement between two positions for moving said first and second spinning means between a normal working position in which said first and second axes coincide and said first and second spinning means cooperate, and an inoperative position in which said first and second spinning means are separated and accessible for inspection and service.

3,375,650
TEXTILE MACHINE

Georges Emile Marie Sagehomme, deceased, late of Heusy, Belgium, by Jeanne Marthe Marie Désirée Sagehomme, née Bertrand, administratrix, 82 Ave. de Spa, Heusy, Belgium
Filed Mar. 2, 1964, Ser. No. 348,885
Claims priority, application Luxembourg, Mar. 4, 1963, 43,295
5 Claims. (Cl. 57—98)



1. A spinning machine having spindles, rotatable guides moving around a bobbin and laying a thread thereon, a shaft driving the spindles, a shaft driving the thread guides, raising and lowering devices displacing the thread guides relative to the spindles, a differential connecting the shaft driving the spindles to the shaft driving the thread guides, feed and delivery rollers, driving devices for driving the shafts of the raising and lowering devices, the differential, the feed and delivery rollers, control devices for said driving devices, and an electronic controller fed with data and signals derived from one or more of the moving parts of the equipment whereby the driving mechanism is controlled by information fed to the electronic controller, the improvement wherein, said electronic controller comprises:

(a) a first means for producing order signals, connections being provided between said means and said control devices controlling individual driving devices of said feed and delivery rollers, and said raising and lowering devices;
(b) a second means for producing a signal which is proportional to the linear winding speed;
(c) a first speedometer device measuring the velocity of said shaft driving said guides and connected to said shaft and to said second means;
(d) a third means producing a signal modified in accordance with a desired rate of twist and connected to said second means and said control device controlling said driving device for said delivery roller;
(e) a second speedometer device measuring the velocity of said delivery roller and connected to said control device associated with said delivery roller;
(f) a fourth means converting the signal received from said second speedometer device to a signal modified in accordance with the drawing rate desired between said feed and delivery rollers and connected to said second speedometer device and said control device controlling said driving device of said feed roller;
(g) a third speedometer device measuring the velocity of said feed roller and connected to said control device for controlling said driving device of said feed roller;
(h) a functional integrator-generator device transforming said signal proportional to the linear winding speed to a signal representing the position of the thread relative to the start of the first layer, and connected to said second means and said control devices for said raising and lowering devices;

(i) a first and a second position-measuring device associated with said raising and lowering devices and connected to said control devices for said raising and said lowering device, respectively;
(j) a detector for detecting the height limit of a layer supplying a control pulse when the height limit of a layer has been reached, and connected to said integrator-generator device;
(k) a multiplying device, associated with said functional integrator-generator device and connected to said detector and responsive to the control pulse for taking into consideration the direction of displacement of said raising and lowering devices;
(l) an integrator connected to said detector and supplying control pulses when the height limit of a layer has been attained; said integrator supplying an output signal proportional to the number of layers of thread wound on the bobbin during the formation thereof;
(m) a tripping device for tripping a control signal as soon as the output signal of said integrator attains a predetermined value and connected to said integrator;
(n) a device permitting the modification of the height limit of the layers defined by said detector and connected to and fed by said output signal of said integrator;
(o) a signal feeding device the output of which is connected to said control devices of the raising and lowering devices and connected to said integrator-generator device and said integrator of the number of layers;
(p) a function generator connected to a velocity measuring device located on said shaft driving a differential crown wheel between said drives of said guide and said spindle; said function generator and said functional integrator-generator device also being connected to said control device of said driving device of the shaft of said crown wheel;
(q) an auxiliary modifying device in series with said integrator-generator device, permitting the taking into consideration of the differences between the theoretical and true spinning conditions.

ERRATUM

For Class 57—140 see:
Patent No. 3,375,655

3,375,651
VARICOLORED TEXTILE ARTICLES

Louis B. Greeson, Jr., Pensacola Beach, Fla., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed May 31, 1966, Ser. No. 553,715
5 Claims. (Cl. 57—153)

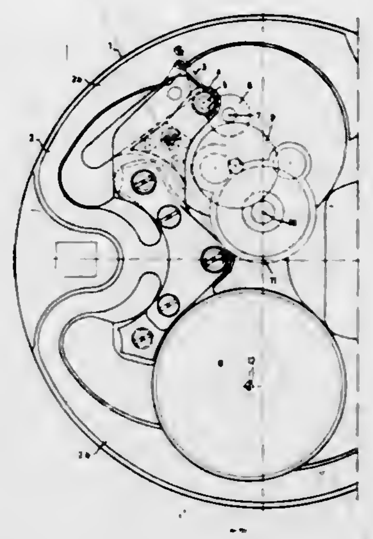
5. A yarn composed of multi-strands, at least one substantially white strand of which is composed of a synthetic linear polyamide having between 15 and 30 gram-equivalents of titratable amine end groups per 10^6 grams of polymer, and at least another strand of which is deeply colored with an acid dye and is composed of a polyamide having between 50 and 175 gram-equivalents of titratable amine end groups per 10^6 grams of polymer.

3,375,652
ELECTRO-MECHANICAL WATCH

Max Hetzel, Neuchatel, Switzerland, assignor to Centre Electronique, Horloger S.A., a company of Switzerland
Filed Apr. 4, 1966, Ser. No. 539,952
Claims priority, application Switzerland, Aug. 10, 1965, 11,220/65
6 Claims. (Cl. 58—23)

1. Electro-mechanical watch comprising:
(i) an electro-mechanical oscillator,

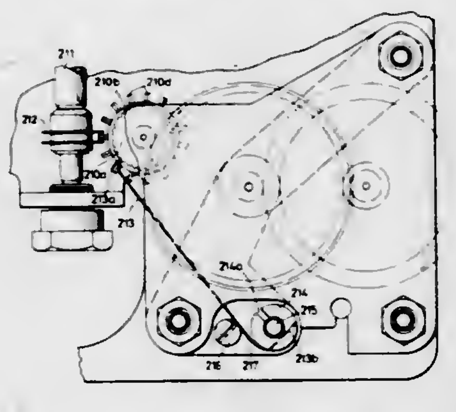
(ii) a battery generally in the shape of a shallow cylinder for supplying current to the oscillator,
(iii) a gear train adapted to be driven by the oscillator, and adapted to drive an hour hand and minute hand in rotation about an axis,



(iv) characterized by the fact that viewed in projection in the direction of the axis of the hands, the centre of the hands, the centre of the battery and the axis of the hands are situated on either side of a straight line traced through the geometrical centre of the watch perpendicularly to the straight line joining the centre of the battery to the said geometrical centre.

3,375,653
ELECTRICAL CLOCK MOVEMENT

Robert Wolber, Lauterbach, Wurttemberg, Otto Hettich, Schramberg, Wurttemberg, Horst Fehrenbach, Seedorf, Wurttemberg, and Heinz Armbruster and Friedrich Assmus, Schramberg, Wurttemberg, Germany, assignors to Gebrüder Junghans Aktiengesellschaft, Schramberg, Wurttemberg, Germany, a corporation of Germany
Filed July 12, 1965, Ser. No. 471,207
Claims priority, application Germany, Nov. 2, 1964, J 26,802; June 8, 1965, J 28,305
3 Claims. (Cl. 58—28)

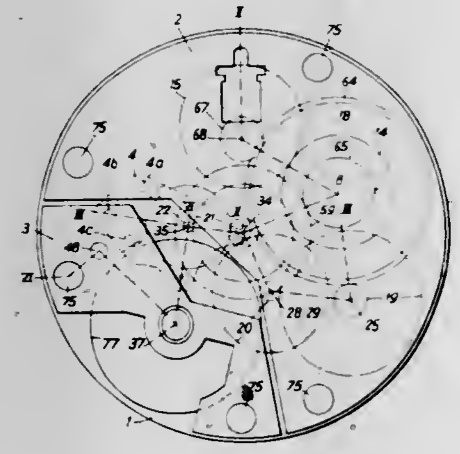


1. Electric timekeeping mechanism with a driving balance and shaft which is kept oscillating by electromagnetic means, comprising a branch switch consisting of accelerating surfaces directed at an acute angle relative to the shaft and arranged on the balance shaft, adjoining safety surfaces directed perpendicularly in relation to the shaft, a stepping wheel moved on by one tooth division of the stepping wheel for each half oscillation of the balance shaft, a lock gear for the stepping wheel with double the number of teeth as compared to the stepping wheel, and a lock spring adjustable relative to its length and its pre-tension in relation to the lock gear and meshing with its free end with said teeth, whereby the teeth

surfaces of the lock gear, which, relative to the direction of rotation are in back, form a shoulder and the profile of which corresponds approximately to the plane described by the point of the lock spring in its movement.

3,375,654
WATCH MOVEMENT WITH SIMPLIFIED ASSEMBLY ARRANGEMENT

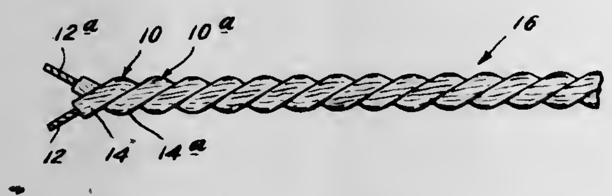
Maurice Jeanmonod, La Chaux-de-Fonds, Switzerland, assignor to Fabrique d'Horlogerie Chs. Fissot et Fils S.A., Le Locle, Neuchatel, Switzerland, a company limited by shares
Filed Jan. 17, 1966, Ser. No. 521,004
Claims priority, application Switzerland, Feb. 8, 1965, 1,637/65
4 Claims. (Cl. 58—59)



The disclosure teaches a simplified method of mechanically assembling a watch movement wherein all of the elements, except the winding stem, may be assembled by vertical downward movement of the same. All of the elements of the gear train are received on stationary pivots projecting from the inner face of the main frame element whereby these elements may be lowered onto their respective pivots in a predetermined manner during the assembly operation. Additionally, a dial is disclosed which covers the outer face of the secondary frame elements.

3,375,655
ELASTICIZED YARN AND METHOD OF MAKING SAME

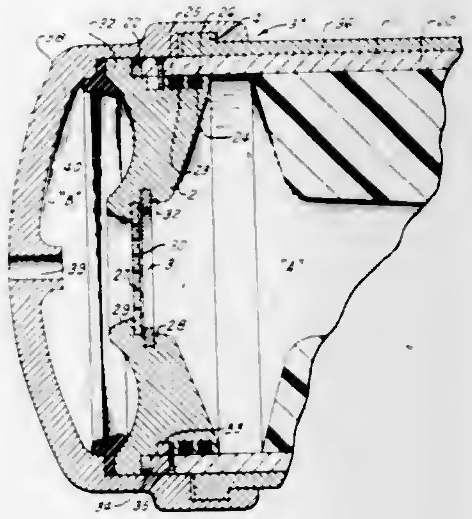
Bernard V. Swales, Jr., Swansea, Mass., assignor to Stretch Yarns Incorporated, Fall River, Mass., a corporation of Rhode Island
Filed July 26, 1965, Ser. No. 474,981
5 Claims. (Cl. 57—140)



A balanced elastic core-spun yarn comprising a plurality of individual elastic core-spun yarns each twisted in the same direction and having approximately the same number of turns per unit length, said individual yarns being twisted together while in an elongated state to provide a composite balanced yarn, the direction of twist of said composite yarn being opposite to that of said individual yarns, with approximately one-half the number of turns per unit length in said composite yarn as exists in the individual yarns.

3,375,656
GAS GENERATOR CARTRIDGE

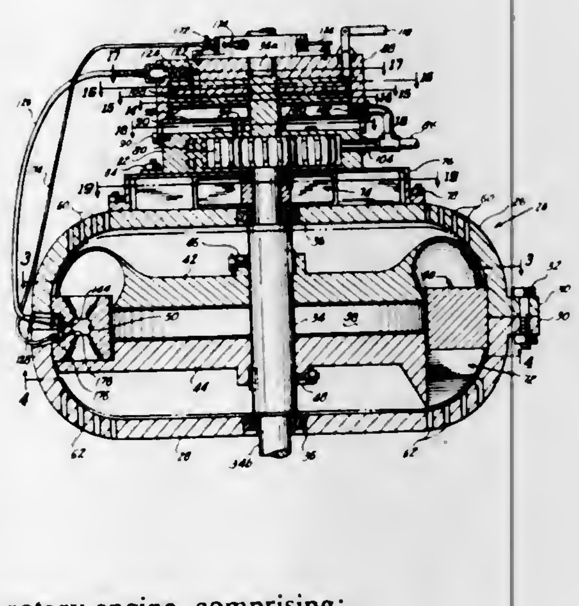
Oscar M. Hawkins, Huntsville, Ala., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed July 1, 1966, Ser. No. 562,351
4 Claims. (Cl. 60—39.47)



A turbo jet gas generator starter cartridge, for use with the breech mechanism for a turbo jet starter turbine, including a container, having a piston provided with a throat mounted therein, a membrane disc for sealing the throat, a solid propellant in the container aft of the piston, an ignition means for the solid propellant, a gasket sealing the piston and breech mechanism so that when the solid propellant is ignited and the combustion gases created by such ignition has ruptured the membrane disc in the throat of the piston, the sealing gasket will prevent leakage of the combustion gases outwardly of the breech mechanism.

3,375,657
ROTARY GAS TURBINE ENGINE

John W. Sherwood, 806 Pine St., Atlantic, Iowa 50022, and John W. Sherwood III, Rte. 3, Box 158, Guthrie Center, Iowa 50115
Filed Sept. 6, 1966, Ser. No. 577,293
11 Claims. (Cl. 60—39.81)

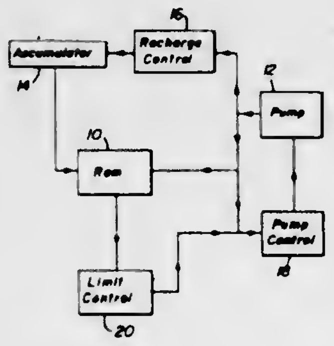


8. A rotary engine, comprising:
a housing,
a circular ring secured within said housing,
said ring being provided with a plurality of circumferentially spaced internal cells,

said ring being provided with multiple spaced surface openings defining respective pairs of intake and exhaust ports of which each pair of ports communicates with one of said cells,
a shaft journalled through said housing for rotation about its longitudinal axis,
means carried by said shaft for movement relative to said ring to progressively close and open each pair of ports successively in a relationship where air is drawn into said intake port and trapped and compressed in said cell by the simultaneous momentarily closing of both ports,
fuel injection and igniting means carried by said housing for effecting an explosion in said cell at the moment of air compression therein, and
said means to close and open said port effecting the opening of said exhaust port in advance of the opening of said intake port whereby the force of said explosion is transmitted through said means to rotate said shaft.

3,375,658
PUMP CONTROL SYSTEM FOR COTTON PRESS

Eugene L. Slover, Sherman, Tex., assignor to Hardwicke-Etter Company, a corporation of Texas
Filed Jan. 21, 1966, Ser. No. 522,124
10 Claims. (Cl. 60—51)

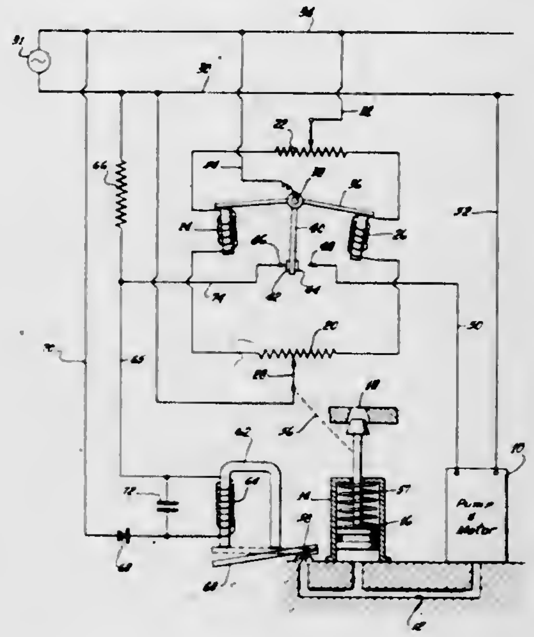


An accumulator is charged during idle periods of a continuously operating pump to increase the flow rate of fluid supplied during operating periods to a press. The accumulator is discharged during said operating periods to increase the output from the pump and is disconnected from the pump when its pressure has declined to that of the increasing pump pressure at some value below the maximum output pressure of the pump.

3,375,659
HYDRAULIC ACTUATOR CONTROL SYSTEM

William A. Ray, North Hollywood, Calif., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed June 30, 1966, Ser. No. 563,337
7 Claims. (Cl. 60—52)

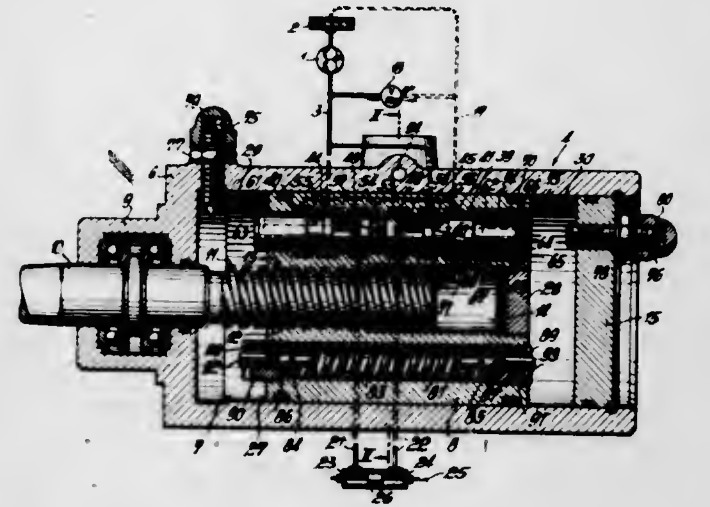
1. In a hydraulic actuator and control system therefor having an electric motor driving a pump with its pressurized fluid output connected to move an actuator piston and power means for electrically controlling a relief valve for bleeding pressure from the pump output, the improved control circuit comprising:
a voltage source having first and second terminals;
a conductor connecting one lead of said motor to said first terminal;
conductor means connecting said first and second terminals to said power means;
a movable contact arm connected to said second terminal;
a first contact connected to the other lead of said motor and positioned to be engaged by said arm in one position of the arm whereby the motor is energized;
a second contact connected to said conductor means between said first terminal of said source and said power means, said second contact being positioned to be engaged by said arm in a second position of the arm whereby said power means is shunted; and



control means for moving said contact arm to selectively engage said first and second contacts.

3,375,660
HYDRAULIC STEERING CONTROL UNIT FOR AUTOMOTIVE VEHICLES

Dieter Hedermann, Immenstaad, Germany, assignor to Robert Bosch GmbH, Stuttgart, Germany, a limited-liability company of Germany
Filed Sept. 21, 1966, Ser. No. 581,059
Claims priority, application Germany, Nov. 26, 1965, 84,698
11 Claims. (Cl. 60—52)



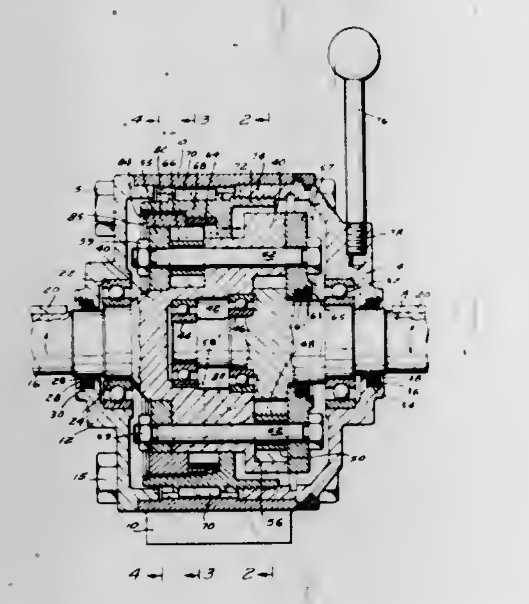
1. Hydraulic steering control unit for automotive vehicles having hydraulic connections for connection to a fluid pressure source and hydraulic connections for a power piston and cylinder adapted for operative association with the wheels of a vehicle to be steered comprising a housing defining a closed cylinder;
a piston within said cylinder and arranged for longitudinal displacement therein in accordance with rotation of the steering column of the vehicle, said piston defining a pair of chambers between either end thereof and the end walls of the cylinder;

a control valve body movably located within said piston and having fluid communication recesses formed thereon;

said control valve body having end faces exposed to fluid pressure in said chambers and being movable from said central position by differential pressure in said chambers; fluid channels formed in said piston and said housing and selectively communicating with said fluid communication recesses to form a first fluid circuit between said chambers and said power cylinder connections when the control valve body is in its central position, and to form fluid circuits between said chambers, said power cylinder connection and selectively said fluid pressure source connection upon displacement of said body from said central position; and

spring means associated with said valve body and retaining said valve body in a predetermined central position within said piston in opposition to small pressure differentials within said chambers whereby small steering forces, less than the force of the spring, will be transmitted directly by compression of fluid in one of said chambers and transmission of the thus-compressed fluid to the power piston and cylinder, while substantial forces causing movement of the valve body will establish connection of said chambers with said fluid pressure source.

3,375,661
INFINITELY VARIABLE HYDRAULIC TRANSMISSION MECHANISM
Moses Shachter, Detroit, Mich.
(23034 Kipling St., Oak Park, Mich. 48237)
Filed Aug. 31, 1966, Ser. No. 576,386
10 Claims. (Cl. 60—53)



1. An infinitely variable hydraulic transmission system comprising:

a housing,

a casing rotatably supported within said housing,

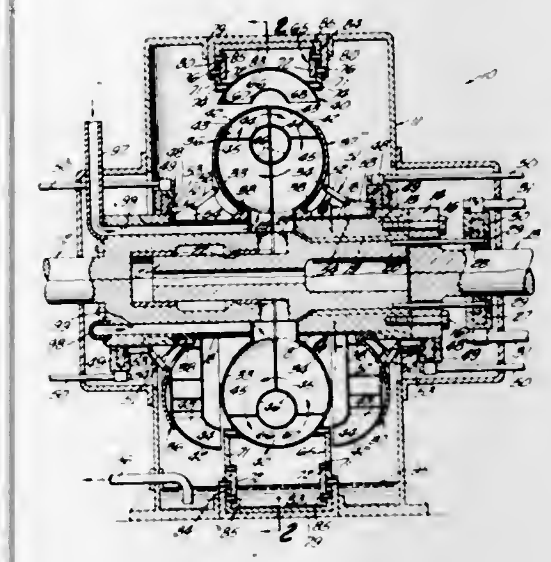
a first hydraulic unit on one side of said casing, said unit including a principal gear rotatably mounted within said housing, and a series of planet gears engaging the periphery of said rotatable gear,

a second hydraulic unit on the other side of said casing, said second unit including a principal gear non-rotatable with respect to said housing, and a series of planet gears engaging the periphery of said non-rotatable gear,

a plurality of conduits in said casing for conducting fluid between said first and second units, and

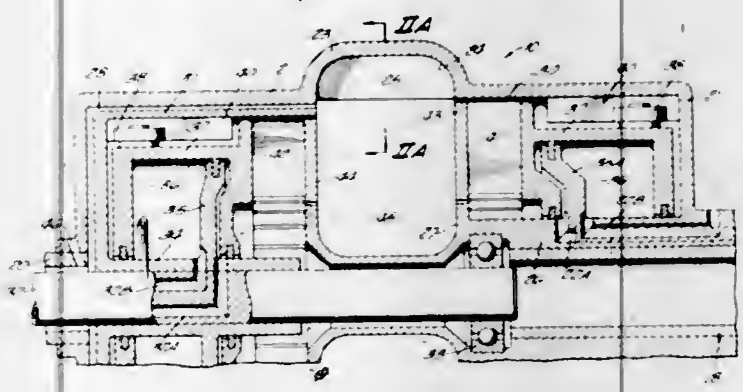
means for varying the fluid receiving and discharging capacity of at least one of said hydraulic units.

3,375,662
REVERSIBLE FLUID COUPLING DEVICE
Jurjen van der Wal, 12722 Colima Road, La Mirada, Calif. 90638
Filed May 2, 1966, Ser. No. 546,953
19 Claims. (Cl. 60—54)



A fluid coupling operable to drive a driven shaft selectively in either direction from a uni-directional prime mover depending upon which of two readily exchangeable sets of vanes are in operating position relative to the periphery of the two principal components of the coupling assembly. No braking means is required when reversing the direction of the driven shaft. The fluid coupling also includes a positive-drive mechanical coupling and this is safely engaged while the fluid coupling is operating under load by abruptly decreasing the speed of the prime mover briefly until the mechanical coupling is fully engaged.

3,375,663
FLUID COUPLING
Walter F. Ludwig, Phoenix, Ariz., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed Aug. 18, 1966, Ser. No. 573,224
14 Claims. (Cl. 60—54)



1. A fluid coupling, comprising:

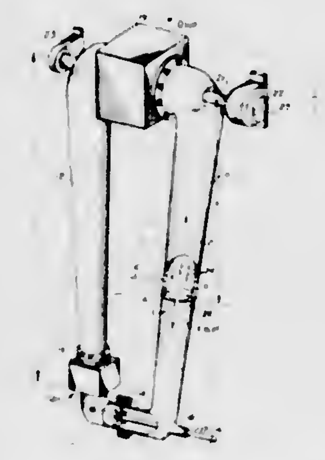
(a) housing means forming spaced opposed inner and outer annular groove sections, the latter being provided with circumferentially spaced transversely extending vanes;

(b) a first means in said housing providing a series of vanes supported for movement between an extended position within the space between said groove sections and a retracted position withdrawn from said space, said series of vanes being rotatable with said housing means;

(c) a second means in said housing providing a second series of vanes supported for movement between an extended position within the space between said groove sections and a retracted position withdrawn from said space, said second series of vanes being rotatable relative to said housing means; and

(d) fluid pressure responsive means for moving said first and second means to dispose said series of vanes in extended and retracted positions.

3,375,664
CONVECTION CURRENT POWER GENERATOR
William M. Wells, Jr., Livermore, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Aug. 2, 1966, Ser. No. 569,760
10 Claims. (Cl. 60—92)



1. In a power generating apparatus, the combination comprising:

(a) a closed, hollow loop conduit located in an acceleration field and defining first and second spaced-apart pole end regions of said loop conduit, said first end region disposed at a more intense region of said acceleration field relative to all other portions of said loop conduit, said second end region of said loop conduit disposed at a less intense region of said acceleration field relative to other portions of said loop conduit, said loop conduit further defining at least two separate, spaced-apart, longitudinal leg members extending between and connecting said first and second end regions of said loop conduit,

(b) a working fluid disposed within said loop conduit,

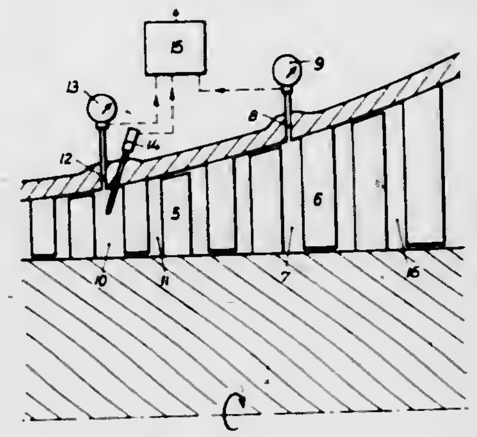
(c) heating means arranged to supply a specified quantity of heat, Q_{in}, to the working fluid at a portion of one of said leg members of the loop conduit proximate said first end region of said loop conduit,

(d) cooling means arranged to extract a quantity of heat, Q_{out}, from the working fluid and densify said working fluid at said second end region of said loop conduit, said heating and cooling means effective to circumvolve a unidirectional convection current of said working fluid around said loop conduit,

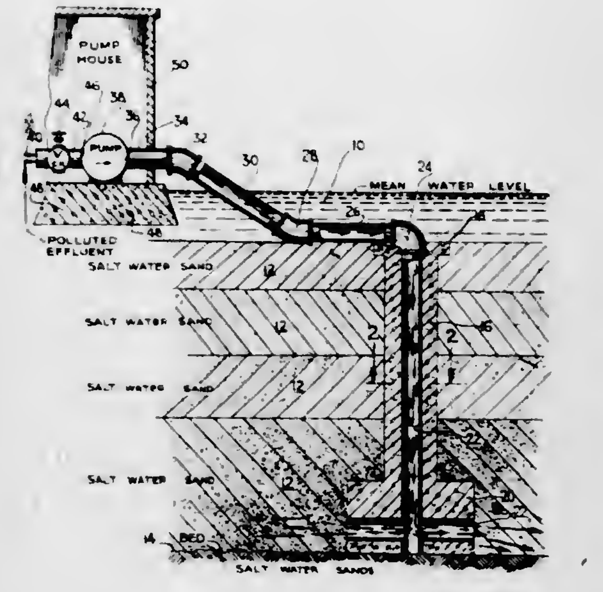
(e) power extraction means arranged to interact with the circumvolving fluid in said loop conduit and convert the kinetic energy of said circumvolving fluid into an externally available form of energy.

3,375,665
METHOD AND ARRANGEMENT FOR UTILIZING STEAM POWER IN STEAM POWER PLANTS
Georg Gyarmathy, 35 Hohestrasse, 8702 Zollikon, Switzerland
Filed June 23, 1965, Ser. No. 466,300
Claims priority, application Switzerland, June 24, 1964, 8,287/64
26 Claims. (Cl. 60—105)

A method and apparatus for reducing erosion and efficiency losses caused by the appearance of the liquid phase in power generating turbines which use a vapor as the working medium and in which the expansion penetrates the wet-vapor region. Regulating action influences the turbine and specific design features of the turbine to achieve, at least in the important operating stages, a very fine distribution of the liquid forming fog droplets.



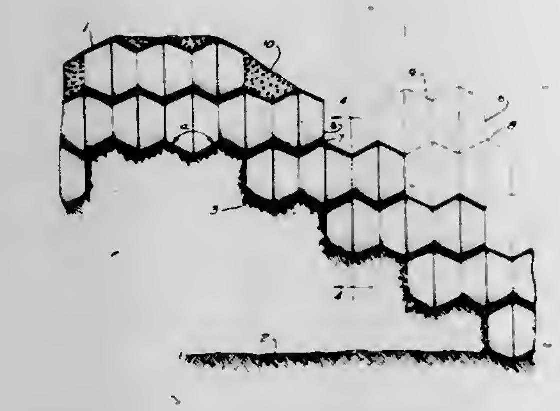
3,375,666
DISPOSAL APPARATUS
Scott L. Sutton, 605 N. Hampton, De Soto, Tex. 75115
Filed Aug. 5, 1966, Ser. No. 570,661
5 Claims. (Cl. 61—13)



1. Apparatus for disposing of contaminated liquid effluent in the region of a body of water flowing over the surface of a salt water sand layer resting over a plurality of other such layers stacked vertically one below the other, the bottom layer resting on a solid bed, said apparatus comprising a pump having an inlet port to which said effluent is supplied and an outlet port out of which the effluent is forced at high pressure, conduit means coupled to said outlet port at one end and extending vertically downward, the other end of the conduit means extending into the bottom layer above the bed, and horizontal discharge means coupled to said other end to discharge the high pressure effluent horizontally into said bottom layer to dispense said effluent in a safe and harmless manner.

3,375,667
REVETMENT STRUCTURE AND UNITS THEREFOR

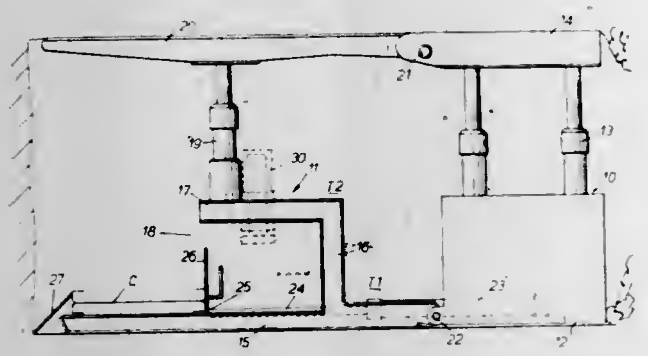
Carl G. Hard, 14 Spring Lane,
Framingham, Mass. 01701
Filed June 13, 1966, Ser. No. 557,866
6 Claims. (Cl. 61—37)



The invention comprises a bar having a plurality of parallel grooves. The bars are stacked in a symmetrically interlocking relationship to form a revetment structure.

3,375,668
MINE ROOF SUPPORTS

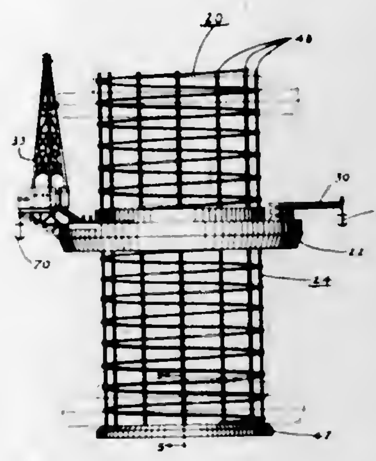
Archelaius D. Allen, Leyland, England, assignor to Gullick Limited, Wigan, Lancashire, England, a British company
Filed Feb. 21, 1966, Ser. No. 528,986
Claims priority, application Great Britain, Mar. 4, 1965, 9,196/65
8 Claims. (Cl. 61—45)



1. In a mining system, in combination,
a mine roof support, said support including a base having a plurality of extensible props, a roof bar carried by said props above said base, a roof bar extension pivotally connected to said roof bar, a cantilever member connected to said base and projecting in a generally horizontal direction beneath said roof bar extension in elevated position relative to said base to provide clearance space therebeneath, an extensible prop between said cantilever member and said roof bar extension,
a conveyor,
and an extensible ram connecting said conveyor to said base,
said roof bar extension projecting beyond said cantilever member and said conveyor being disposed below the level of said cantilever member for disposition relative to said support between a position underlying said cantilever member within said clearance space and a position beyond said cantilever member and underlying the terminal end of said roof bar extension.

3,375,669
OFFSHORE MARINE STRUCTURES

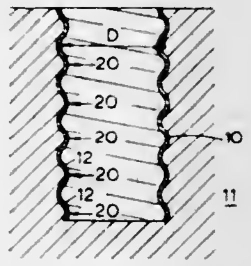
Emilio C. Garcia, 302 Magazine St.,
New Orleans, La. 70130
Filed Sept. 15, 1966, Ser. No. 579,704
6 Claims. (Cl. 61—46.5)



A marine tower and an annular combination barge and work platform, said tower having helical tracks extending from end to end is carried vertically on the barge to an offshore location, supported in and above the annular aperture of the combination barge and work platform by radially extending rollers mounted thereon engaging the helical tracks of the tower, and means for driving the rollers in rotation thereby rotating the tower and the annular combination relative to each other to initially drive a base end of the tower into rotational contact with the sea bottom to cut a level footing therein assisted by streams of water jetted downward from said base end and then to drive the annular combination toward the top of the tower and out of the water to position it as desired vertically and any part of it in azimuth horizontally, said tower passing through said annular aperture in its relative movements.

3,375,670
METHOD OF PILING

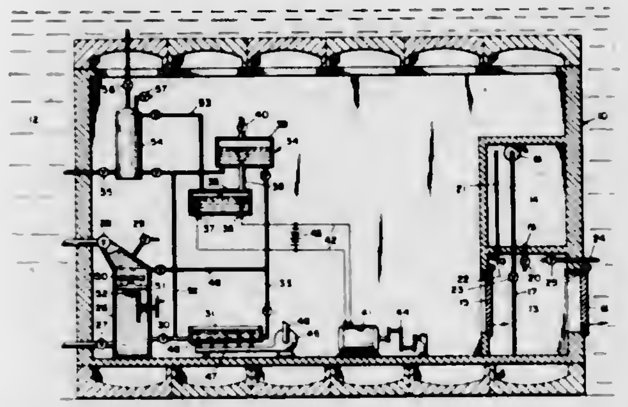
Stanley Serota, 111 Westminster Bridge Road, London, SE. 1, England
Filed Nov. 25, 1966, Ser. No. 597,083
Claims priority, application Great Britain, Nov. 26, 1965, 50,320/65
3 Claims. (Cl. 61—53.6)



1. A method of securing a tubular pile casing in the ground comprising inserting into the ground a substantially tubular casing of which the wall is at least partially corrugated in a longitudinal direction, inserting an expanding mechanism into said casing at a level below ground level, operating said mechanism so that those parts of said wall lying furthest inwards are deformed outwardly so as to substantially remove said corrugations and to render said walls substantially straight longitudinally, and removing said mechanism from the casing.

3,375,671
FACILITY FOR MAINTAINING LIFE UNDER SEA

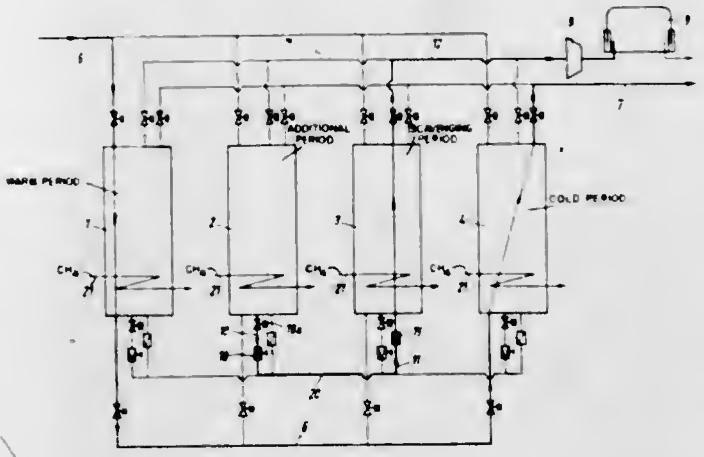
Clayton T. Lloyd, 4917 55th Place,
Hyattsville, Md. 20781
Filed Feb. 11, 1965, Ser. No. 431,916
5 Claims. (Cl. 61—69)



A submerged, water pressure-resistant building having an entrance-exit through doors in the lower of two superposed watertight chambers provided in the building. Pump means and valve means are provided for transferring water from either chamber to the other and for placing water in the lower chamber at ambient sea pressure. The building also contains sea water desalinating means and electrolytic water decomposing means, together with means for supplying sea water thereto and returning waste products therefrom to the sea.

3,375,672
PROCESS FOR HEAT EXCHANGE AND CLEANSING OF GASES IN PERIODICALLY REVERSIBLE REGENERATORS

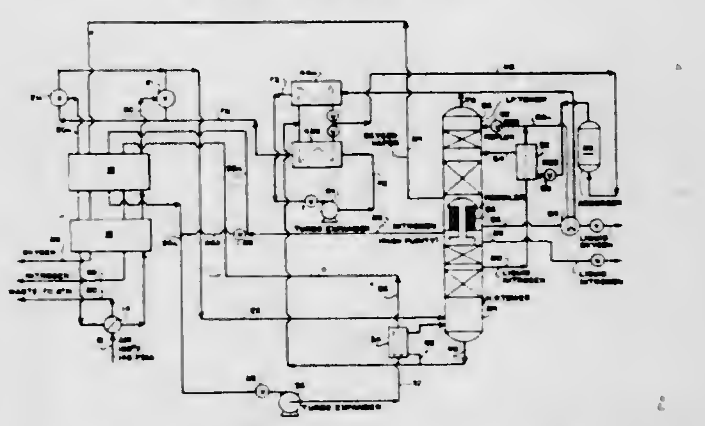
Fritz Jakob, Achmuble, Germany, assignor to Linde Aktiengesellschaft, Wiesbaden, Germany
Filed Aug. 14, 1964, Ser. No. 389,710
Claims priority, application Germany, Aug. 21, 1963, G 38,517
11 Claims. (Cl. 62—13)



In a low temperature gas separation process wherein a set of interchangeable regenerators are employed, the process usually comprising a first period for cooling and cleaning high pressure gas, a second period for scavenging impurities deposited in the first period, and a third period for warming gaseous products while at the same time cooling the regenerator so that it can be employed in the first period again, the improvement comprising an additional period immediately after the first period wherein residual high pressure gas left in the regenerator is withdrawn and reused in the process, for example, as a scavenging gas, or as a recycle to the raw gas, this withdrawn gas from the additional period being normally of no use in conventional processes.

3,375,673
AIR SEPARATION PROCESS EMPLOYING WORK EXPANSION OF HIGH AND LOW PRESSURE NITROGEN

Emil Cimler, Port Washington, and Edward H. Van Baush, Pearl River, N.Y., assignors to Hydrocarbon Research, Inc., New York, N.Y., a corporation of New Jersey
Filed June 22, 1966, Ser. No. 559,475
6 Claims. (Cl. 62—13)



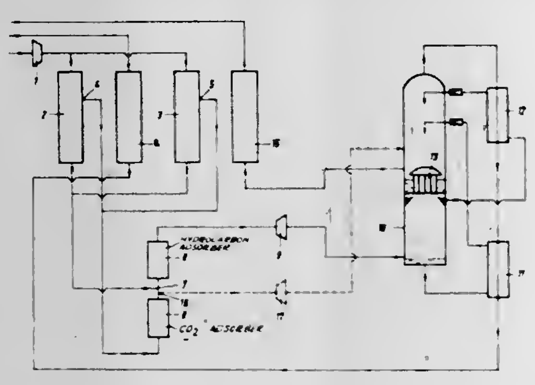
1. In the method of producing oxygen at an elevated pressure from feed air at a substantial superatmospheric pressure wherein the air is cooled in reversing exchangers which are periodically purged of carbon dioxide and moisture, to a temperature at which a minor portion thereof is liquefied, and the resulting cold air is passed to the base of the first column of a double fractionating column, said first column being maintained at a substantial superatmospheric pressure, and wherein oxygen-enriched liquid air from the base of said first column is withdrawn and expanded into an intermediate point of the second column of said double column, said second column being maintained at a superatmospheric pressure but less than the pressure of the first column, and wherein high pressure nitrogen is removed from the top of said first column; the improvement which comprises supplying refrigeration to the feed air by passing said high pressure nitrogen in indirect heat exchange relationship with the feed air and thereafter expanding said high pressure nitrogen with work through a high speed turbine to a slightly superatmospheric pressure and removing said expanded nitrogen as a first vapor product, withdrawing gaseous oxygen product at the pressure of said second column from the lower end of said second column, passing said withdrawn gaseous oxygen and said expanded gaseous high pressure nitrogen product in indirect heat exchange relationship with said feed air to cool said feed air in said air cooling step, and thereafter collecting said gaseous oxygen product at ambient temperature and at said elevated pressure as a second vapor product, removing a nitrogen rich vapor from the top of the second column, expanding said nitrogen rich vapor from the second column through a second high speed turbine doing work, passing said expanded nitrogen rich vapor from the second column in indirect heat exchange with the oxygen enriched liquid air to cool said oxygen enriched liquid air, and removing said expanded nitrogen rich vapor from the second column as waste.

3,375,674
PREPURIFICATION OF GAS MIXTURES BEFORE SEPARATION THEREOF BY LOW TEMPERATURE RECTIFICATION

Rudolf Becker, Munich, Germany, assignor to Linde A.G., Wiesbaden, Germany
Filed Aug. 18, 1966, Ser. No. 573,335
Claims priority, application Germany, Aug. 19, 1965, L 51,426
12 Claims. (Cl. 62—13)

1. In a process of separating gaseous mixtures by low temperature fractionating, which process comprises pass-

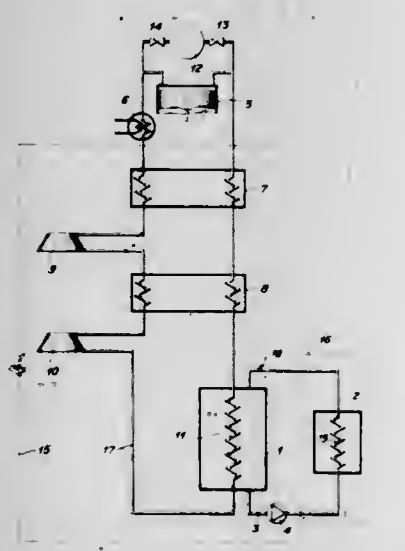
ing an impure gas mixture containing carbon dioxide and hydrocarbons as impurities into a cyclically interchangeable heat exchanger and cooling said gas mixture therein, a major portion of said gas mixture being cooled to a sufficiently low temperature to condense out carbon dioxide, and a minor portion of said gas mixture being removed from said heat exchanger at a point wherein the temperature is above the condensation temperature of CO_2, passing said removed minor portion through a first



adsorption zone to remove carbon dioxide and produce CO_2-free minor portion, combining at least part of resultant CO_2-free minor portion with CO_2-free major portion, and fractionating resultant combined mixture, the improvement which comprises the intermediate step of passing the combined CO_2-free minor and major portions through a second adsorption zone to remove hydrocarbon impurities from said combined portions, said intermediate step being conducted prior to the step of fractionating resultant combined mixture.

3,375,675
LOW TEMPERATURE REFRIGERATING APPARATUS

Christian Trepp, Winterthur, and Sababettin Ergenc, Zollikerberg, Zurich, Switzerland, assignors to Sulzer Brothers Limited, Winterthur, Switzerland, a Swiss company
Filed July 7, 1966, Ser. No. 563.541
Claims priority, application Switzerland, July 16, 1965, 10,000/65
4 Claims. (Cl. 62—45)



There is disclosed a low temperature refrigeration plant comprising a pressure vessel containing a charge of gaseous helium under pressure, a closed cycle refrigeration apparatus for abstracting heat from that charge, and a closed cycle pumping circuit for pumping a heat exchange medium between that vessel (or a coil in heat exchange relation with that vessel) and a refrigeration load. This circuit is charged with liquid hydrogen and is provided with a vertically extending column having a vapor space at the top having gaseous helium therein. The pressure vessel is also disclosed as constituting part of a helium liquefaction plant.

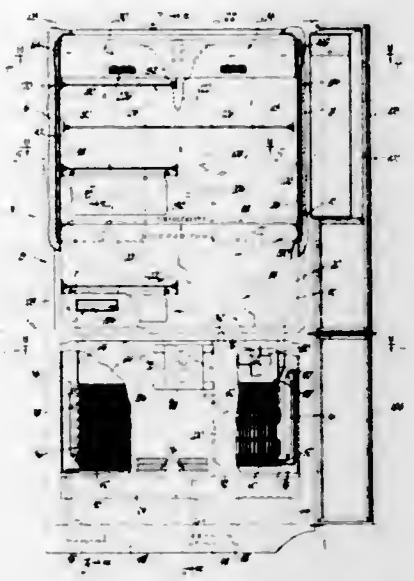
3,375,676
METHOD OF STORING HYDROGEN

James J. Reilly, Jr., Bellport, and Richard H. Wiswall, Jr., Brookhaven, N.Y., assignors to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed May 23, 1967, Ser. No. 642,289
4 Claims. (Cl. 62—48)

A method for storing hydrogen whereby gaseous hydrogen is absorbed by copper-magnesium alloys at temperatures above 250° C. and pressures above 30 pounds per square inch.

3,375,677
METHOD AND APPARATUS FOR MAINTAINING HIGH HUMIDITY IN A FROST-FREE DOMESTIC REFRIGERATOR

James A. Bright, Miamisburg, and John J. O'Connell, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 3, 1967, Ser. No. 606,999
8 Claims. (Cl. 62—89)

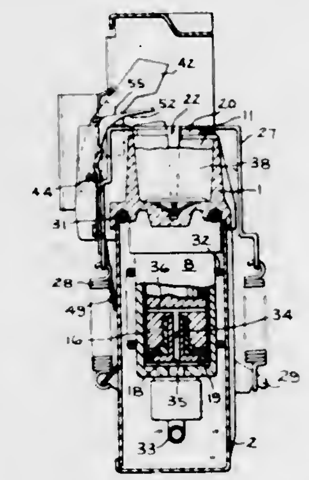


In preferred form, a plural compartment domestic refrigerator including a lower freezer and an upper food compartment divided into two sections by a glass shelf or divider. An upper door closing the refrigerator compartment has a cushion vinyl seal engaging the glass shelf or divider to seal between the sections. One of the separated sections has enclosed ducts located on the back and sides thereof through which cold air circulates without flowing through the compartment. High humidity is maintained in this section by sealing it from the rest of the refrigerator. A part of the cooling air is directed through the other section of the food compartment and cools it by direct convective air flow.

3,375,678
HYDRAULIC ICEMAKER

Dwight W. Jacobus and John E. Sterling, Louisville, Ky., and Donald G. McDowell, New Albany, Ind., assignors to General Electric Company, a corporation of New York
Filed Sept. 2, 1966, Ser. No. 576,907
4 Claims. (Cl. 62—353)

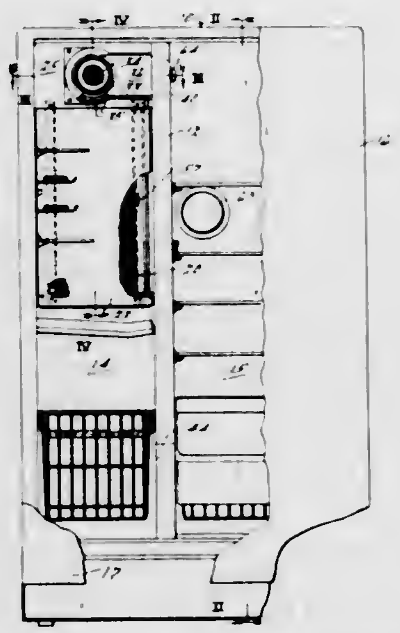
An icemaker including hydraulic pressure operating lifting means for ejecting an ice piece from a mold cavity and means for storing energy provided by the hydraulic pressure during ejection of the ice piece and thereafter



releasing that energy to remove the ice piece from the lifting means.

3,375,679
REFRIGERATOR-FREEZER CONSTRUCTION

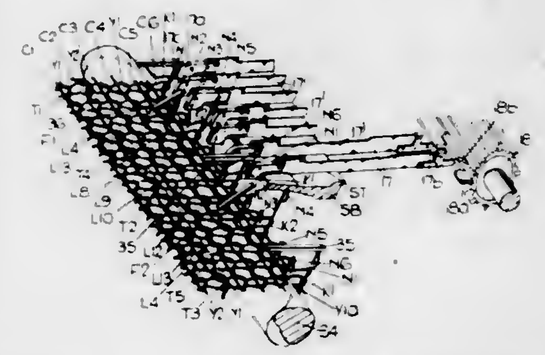
Wayne F. Helsel, Greenville, Mich., assignor to Ranney Refrigerator Company, Greenville, Mich., a corporation of Michigan
Continuation-in-part of application Ser. No. 485,269, Sept. 7, 1965. This application Feb. 9, 1967, Ser. No. 622,872
6 Claims. (Cl. 62—441)



A refrigerator-freezer has two compartments arranged side-by-side and separated by a vertical partition extending from front to back of the cabinet. A freezer compartment for storage of foods at below freezing temperatures contains an evaporator on its back wall covered by a baffle, an upper portion of the baffle communicating with a combined fan housing, shroud assembly and duct structure containing a fan which draws air upwardly over the evaporator behind the baffle, and discharges the chilled air in two streams, one stream directed forwardly into the top of the freezer compartment and another laterally through the partition into the top of the warmer compartment. The air which enters the warmer compartment flows downwardly therein and returns to the freezer compartment through a return duct extending through the partition at a lower position. A damper in the return duct opens in the direction of return flow but closes in the opposite direction to prevent backflow of air into the warmer compartment during off cycles of the fan. An automatic damper responsive to the air temperature in the warmer compartment is also disclosed for controlling the volume of air delivered to the warmer compartment. In one embodiment the return duct is located near the bottoms of the two compartments. In another embodiment the return duct is located at a higher elevation but below the inlets and returns the air from the warmer compartment to the space behind the baffle in the freezer compartment.

3,375,680
STRAIGHT BAR KNITTING MACHINES

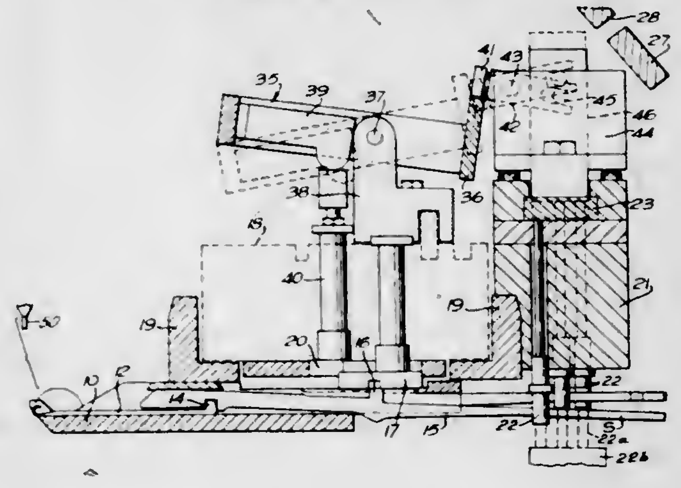
George Sydney Woodcock, Herbert Edward Woodcock, Francis Simpson, and William Clayton, Hawick, Scotland, assignors to George Woodcock & Sons, Limited
Filed Apr. 19, 1965, Ser. No. 449,002
4 Claims. (Cl. 66—5)



In a straight bar knitting machine having simultaneously and individually operable needles a first pattern drum controlled by solenoids and programming means and selectively operating sliders to hold down groups of needles for forming long float threads while the remaining needles are raised to knit, while permitting selected needles of the groups to be raised to receive yarn without knitting, and a second pattern drum controlled by solenoids and programming means and having pattern arrangements of needle engageable elements adapted to hold their selected needles down at tucking height to form tuck stitches of part of the float threads.

3,375,681
FLAT BED KNITTING MACHINES AND METHOD OF KNITTING

Brian Arthur Monk, Mansfield, England, assignor of one-half to S. A. Monk (Sutton-in-Ashfield) Limited, Sutton-in-Ashfield, England, a corporation of the United Kingdom
Filed July 26, 1965, Ser. No. 474,742
Claims priority, application Great Britain, July 29, 1964, 30,086/64
5 Claims. (Cl. 66—70)

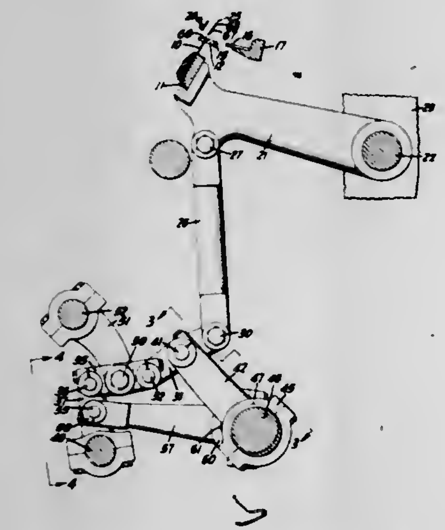


A method and apparatus to improve the quality of the selvedges of fabrics involving tuck loops, such as cardigan and half cardigan fabrics, knitted on a flat bed knitting machine of the kind having two cooperating needle beds. Means operatively associated with the cam boxes of each needle bed are made effective to cause the last tucking needle in the knitting width to become inoperative so that a selvedge loop is formed on a needle which is knitting and not on a needle which is tucking.

3,375,682

NEEDLE OPERATING MEANS FOR WARP KNITTING MACHINES

John D. Wenrich, Fleetwood, Pa., assignor to Textile Machine Works, Wyomissing, Pa., a corporation of Pennsylvania
Filed Jan. 19, 1966, Ser. No. 521,720
7 Claims. (Cl. 66—86)



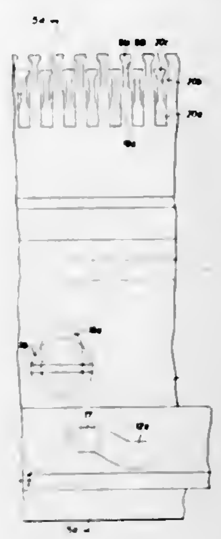
Operating means for the needles of a warp knitting machine including a first lever on which the needles are mounted, a first link connected to the first lever, a second link connected to the first link, a third link connected to the second link, a second lever connected to the third link, a third lever connected to the third link, first, second, and third shafts on which the first, second, and third levers are supported, a drive shaft, a first crank connecting the drive shaft and second link, a second crank connecting the drive shaft and second lever, and eccentrics on the drive shaft for operating the first and second cranks.

3,375,683

FABRIC DRAWING-OFF DEVICE FOR FLAT KNITTING MACHINES

Pierre Joseph, Neuchatel, Switzerland, assignor to Edouard Dubied et Cie. (Societe Anonyme), Couvet, Neuchatel, Switzerland
Filed Mar. 23, 1965, Ser. No. 441,981
Claims priority, application Switzerland, Mar. 24, 1964, 3,813/64
6 Claims. (Cl. 66—149)

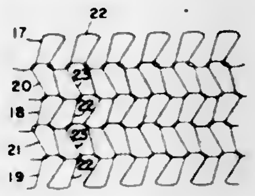
A flat knitting machine equipped with needles and a take-up roller, on which it is possible to continuously produce pieces of articles attached one to another by a separating thread and whose selvedges are obtained by widening and narrowing, and whose lateral width can pass abruptly from a narrow part to a wide part, the machine being provided with a fabric drawing-off device enabling correct take-up, without any danger of damaging the stitches of an abruptly enlarged portion or portions of an article or of its overall width, by means of solid members which do not have any roughness or any fragile element, and furthermore, enabling uniform drawing of the panels taken up, without any danger of deformation of the gripped stitches, and also enabling easy, sure and quick release of the fabric when taken-up by the roller, or at a position determined by the knitter in the case of production of shorter articles which do not reach the take-up roller.



3,375,684

POLYPROPYLENE STRETCH STOCKING AND METHOD

Howard M. Page, Elon College, N.C., assignor to Leath, McCarthy & Maynard, Inc., Burlington, N.C., a corporation of North Carolina
Filed Mar. 2, 1965, Ser. No. 436,517
2 Claims. (Cl. 66—178)

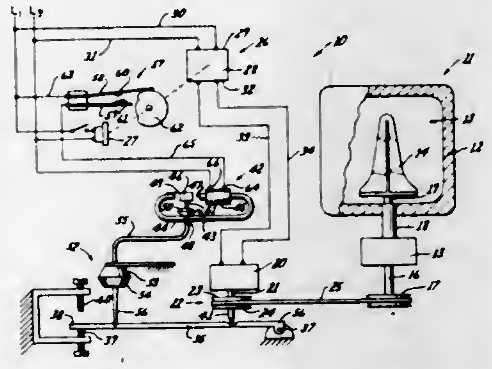


1. A stretchable seamless polypropylene stocking comprising a plurality of alternate and intermediate knitted heat set courses each having oppositely inclined relaxed knitted stitches, each of the courses formed from a twisted untreated monofilament polypropylene yarn with the twist in alternate courses being in one direction and the yarn twist in intermediate courses being in opposite direction.

3,375,685

APPARATUS CONTROL SYSTEM AND METHOD

Douglas R. Scott, Greensburg, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Oct. 3, 1966, Ser. No. 583,604
14 Claims. (Cl. 68—12)

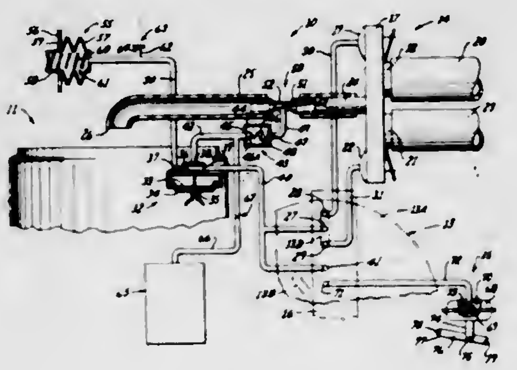


This disclosure relates to a control system for a washing machine wherein the normal cycles of operation of the washing machine are controlled by a program means that electrically interconnects an electrical power source to electrically operated control component means of the apparatus in a sequential pattern, the control system including a vacuum creating means that is actuated by the program control means to create a supply of pneumatic fluid to change the normal operation of one of the electrical component means, such as the variable speed drive means for the washing compartment and/or agitator of the washing machine.

3,375,686

CONTROL SYSTEM FOR AN APPARATUS OR THE LIKE

Reed A. Palmer, Greensburg, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Oct. 26, 1966, Ser. No. 589,669
15 Claims. (Cl. 68—12)

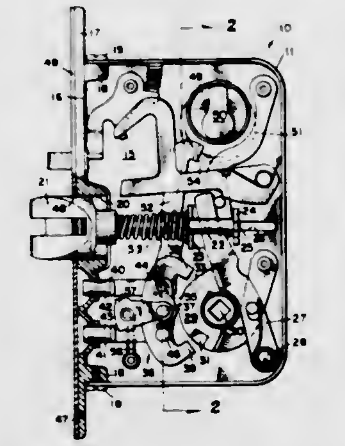


This disclosure relates to a means for providing a source of actuating fluid to be sequentially interconnected to a plurality of fluidically operated actuators to control the cycle of operation of a washing apparatus or the like, the means that creates the source of actuating fluid comprising a water fill conduit having an aspirator therein which will evacuate an accumulator to provide the source of actuating fluid.

3,375,687

KEY-ACTUATED KNOB DETENT DEVICE

John R. Foster, Indianapolis, Ind., assignor to Von Duprin, Inc., a corporation of Indiana
Filed Apr. 28, 1966, Ser. No. 545,933
9 Claims. (Cl. 70—150)

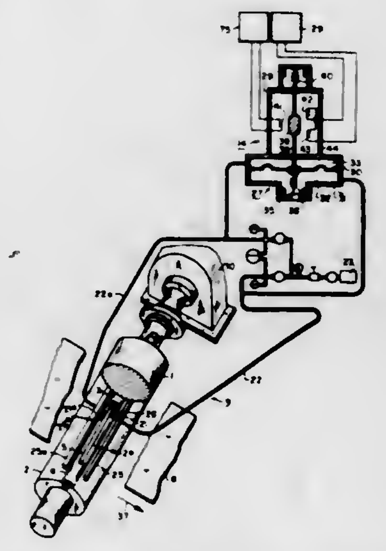


A reversible mortise type latch assembly including latch-retractor means, separate actuators respectively manipulable from opposite sides of the assembly for independently actuating said latch-retractor means, and key-actuated means for alternatively locking said actuators; said assembly further preferably including means for affirmatively blocking said locking means selectively against coaction with one or the other of said actuators.

3,375,688

METHOD AND APPARATUS FOR ROLLING METAL STRIP AND SHEET

Louis H. Taylor, Youngstown, Ohio, assignor to The Youngstown Research and Development Company, Youngstown, Ohio, a corporation of Ohio
Continuation-in-part of application Ser. No. 239,199, Nov. 21, 1962. This application May 19, 1965, Ser. No. 457,104
27 Claims. (Cl. 72—21)

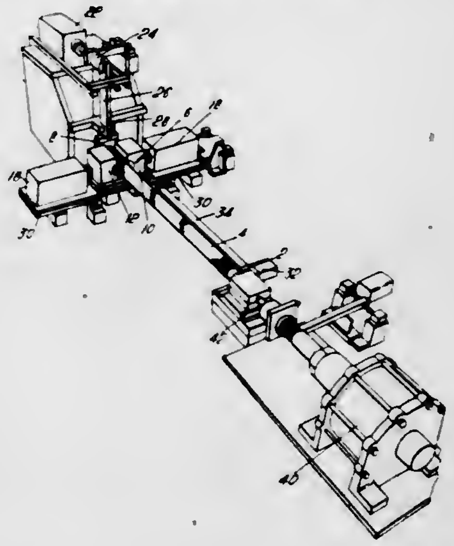


A method and apparatus for rolling metal sheet in a rolling mill a small diameter work roll and at least one upper and one lower backing roll for the work roll which are driven by separate motors in which deflection of the small work roll is controlled by effecting changes in apportionment of the torque applied by the motors to the driven backing rolls. Means are provided to sense the amount and direction of the deflection of the small work roll which produces a signal related to the amount and direction of the deflection. An error signal is produced related to the difference between the sensed position and the desired position and transmitted to the motors to effect changes in apportionment of the applied torque and thereby control deflection of the work roll and the shape of the issuing strip.

3,375,689

MANUFACTURE OF CORRUGATED METAL TUBES OR BELLOWS

John Humphrey Millar, 6 Chelsea Lodge, Tite St., London SW. 3, England
Filed Sept. 10, 1964, Ser. No. 395,525
Claims priority, application Great Britain, Sept. 12, 1963, 36,032/63
2 Claims. (Cl. 72—59)

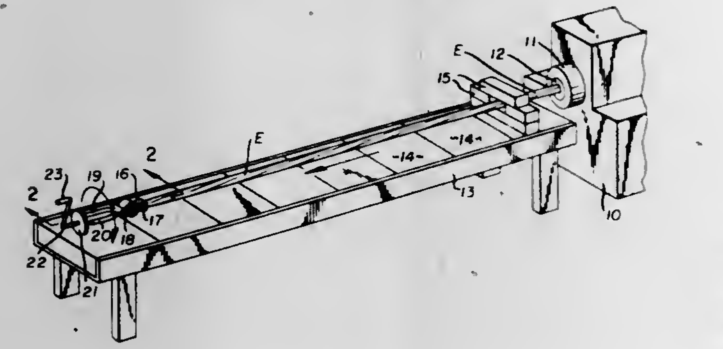


1. A process for corrugating tubing comprising surrounding the portion of the tube on which a corrugation

is to be formed with a two-part die having an internal groove or recess having a width of a corrugation on the parting line of the die, closing the die parts and expanding the tube wall into the recess to completely fill the recess in the die by means of internally applied pressure to form a complete corrugation in the tube wall and then releasing the internal pressure somewhat, withdrawing one part of the die longitudinally to permit the corrugation to partly spring back and then forcibly re-closing or "kicking" the said one die part against the other with the initially internally applied pressure partly reduced to set the corrugation to its final shape.

3,375,690
METHOD AND APPARATUS FOR MAKING SPIRAL FLUTED TUBING

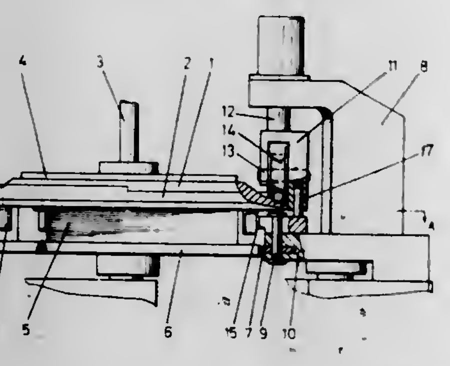
Lester S. Fink, Youngstown, Ohio, assignor to General Extrusions, Inc., Youngstown, Ohio, a corporation of Ohio
Filed Feb. 12, 1965, Ser. No. 432,128
3 Claims. (Cl. 72—64)



A method and apparatus for simultaneously extruding and forming a longitudinally extending spiral fluted shape using an extrusion die and means twisting the leading end of said extruded shape as it is extruded.

3,375,691
ARRANGEMENT FOR THE FLANGING, CUTTING, BENDING, TURNING-OVER OR SHAPING OF DRAWN WORKPIECES OF SHEET METAL

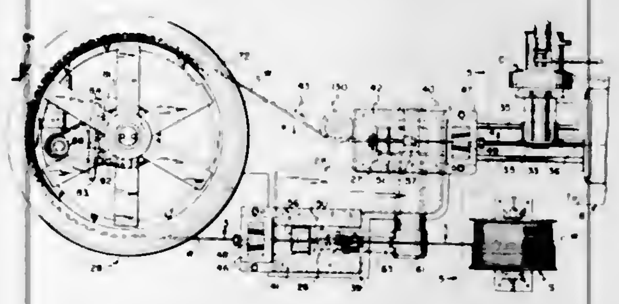
Johann Lichtsteiner, Strengelbach, Switzerland, assignor to Hammerle A.G. Maschinenfabrik, Zofingen, Switzerland
Filed Apr. 8, 1965, Ser. No. 446,639
Claims priority, application Austria, Apr. 17, 1964, A 3,412/64
3 Claims. (Cl. 72—82)



A machine for forming and reshaping a flange and the turned-over edges of a drawn sheet metal workpiece in combination with a rotating workpiece carrier fitted with a freely rotating working tool adapted for cutting, bending, shaping and reshaping the edge of said drawn sheet metal workpiece, wherein separate spindles are provided along the same vertical axis of the support mounting the copying roller and the working tool, and wherein a copying cam surface is provided on a rotating plate so that the workpiece which is immobilized on the turntable is brought into positive cam-following movement for the desired cutting, shaping or bending operation.

3,375,692
WIRE WORKING APPARATUS

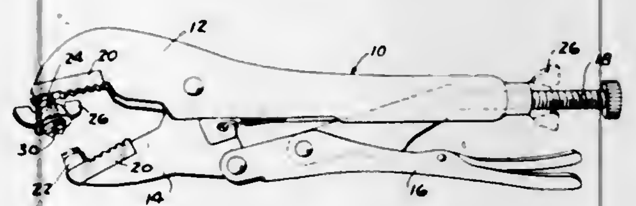
Ben F. Ware, Euclid, Ohio, assignor to The Ajax Manufacturing Company, Euclid, Ohio, a corporation of Ohio
Filed May 24, 1965, Ser. No. 458,250
3 Claims. (Cl. 72—206)

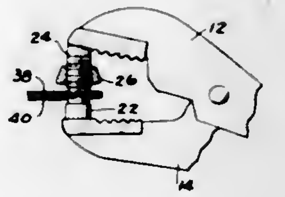


Apparatus for performing work operations on relatively small diameter wire intermittently advanced therethrough including a frame supporting first and second slides spaced along the wire in the direction of its feed, rotatable wire working rolls carried by one slide, and a wire drawing die carried by the other slide, means for reciprocably moving the slides relative to the frame to effect working on the wire by the rolls and die in one direction of movement, and separate wire feeding means in advance of each slide.

3,375,693
APPARATUS FOR CLEANING SHEET METAL PREPARATORY TO SPOT WELDING

Everett D. Hougen, Box 174, Flushing, Mich. 48433
Filed Jan. 8, 1964, Ser. No. 336,507
5 Claims. (Cl. 72—353)

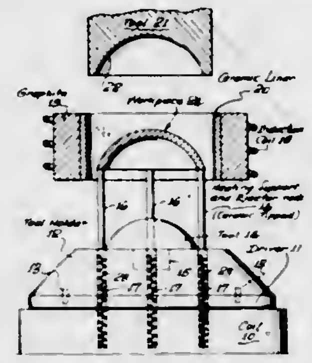




A tool for cleaning sheet metal panels preparatory to spot welding in the form of vise grip pliers having metal scraping studs on the inner faces of the jaws adapted when the jaws are closed to be clamped in pressure engagement with the sheet metal panels interposed therebetween so that when the pliers are swung in an arc the metal scraping studs are adapted to clean localized areas on opposite sides of the panels.

3,375,694
MAGNETIC HIGH ENERGY RATE FORMING APPARATUS

Wilson N. Pratt, Anaheim, Calif., assignor to General Dynamics Corporation, a corporation of Delaware
Filed Mar. 9, 1966, Ser. No. 533,082
10 Claims. (Cl. 72—361)



1. A forming apparatus comprising: means for heating and controlling the temperature of a workpiece to be formed; means for moving an associated workpiece from said controlling means and positioning such an associated heated workpiece on a tool; means for driving said tool against an associated heated workpiece; and means for repositioning an associated formed workpiece in said temperature controlling means for cooling such a formed workpiece; said driving means including a high energy rate magnetically actuated means.

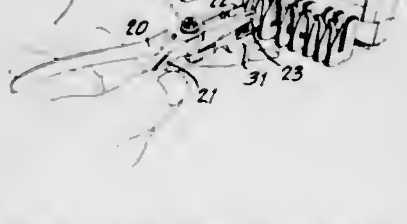
3,375,695
METHOD OF COLD ROLLING

George A. Knapp, Canfield, Ohio, assignor to Reactive Metals, Inc., a corporation of Delaware
No Drawing. Filed Feb. 16, 1966, Ser. No. 527,738
5 Claims. (Cl. 72—365)

1. In the method of producing cold rolled sheets or the like of titanium, zirconium, and alloys thereof of good surface quality wherein the low ductility of the sheet renders it susceptible to end slivering and consequent disruption of the sheet processing operation, the improvement which comprises joining metal tabs of greater ductility than the sheet to ends of the sheet transverse to the direction of rolling and cold rolling the sheet whereby the ends of the sheet may be cold reduced to the same gauge as the remainder of the sheet without end slivering.

3,375,696
TOOL FOR ADJUSTING CONTACT SPRINGS

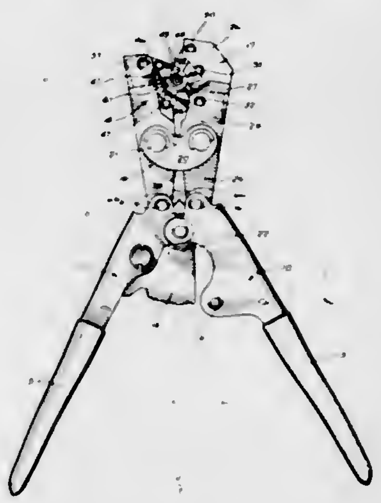
Antoine N. Andre Lussier, Chambly, Quebec, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada
Filed Jan. 7, 1966, Ser. No. 519,317
7 Claims. (Cl. 72—400)



1. A plier-like tool for adjusting a pair of spaced resilient contact springs fixed at one end and having portions movable toward each other, said tool comprising a pair of elongated members pivotally connected together intermediate their ends to form a pair of handles and a pair of jaws for embracing and deforming said movable portions of the springs into contact with each other, and an anvil pivotally connected to said members, said anvil including spacing means offset from the plane of the jaws for insertion between the contact springs intermediate the fixed ends and said movable portions, centering means rigidly connected to the anvil for centering the spacing means between the jaws when the jaws are closed, and aligning means rigidly connected to the anvil and adapted to engage the fixed ends of the contact springs for aligning the spacing means with the midpoint between the fixed ends whereby the movable portions are deformed into contact in alignment with said midpoint.

3,375,697
CRIMPING OR INDENTING TOOL

Douglas Arnold, Meriden, Conn., assignor, by mesne assignments, to Sargent & Company, New Haven, Conn., a corporation of Delaware
Filed Oct. 24, 1965, Ser. No. 504,477
11 Claims. (Cl. 72—402)

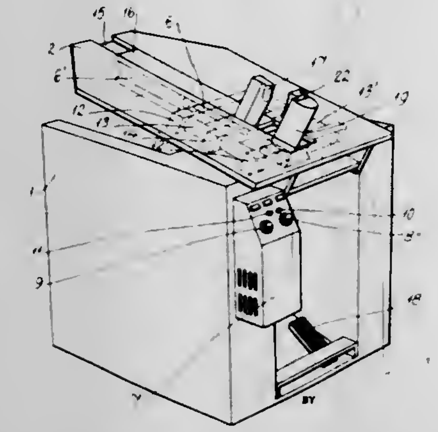


1. A crimping or indenting tool comprising a pair of jaws supported for angular movement relatively toward and away from one another and provided with means by which these movements may be effected, each jaw comprising a die carrier swingable on the axis of the jaw and provided with a die fixed thereto, said dies of the die carriers being in generally opposing relation to one another to move toward and away from the work with the jaws, at least one die carrier providing a pivotal support eccentric to its swinging axis for a movable die element, a movable die element on said support having a die thereon and swingable in a plane normal to the swinging axis of the last-mentioned die carrier and providing a cam surface, a cam mounted on the other die carrier and cooperating with said cam surface to effect movement of the movable die element on its pivotal support in a direction toward the work as the jaws are swung on their pivotal axes in a closing direction, and means for moving the movable die element in the opposite direction on said pivotal support on opening movement of the jaws.

3,375,698
MACHINE FOR BENDING CUTTING DIES

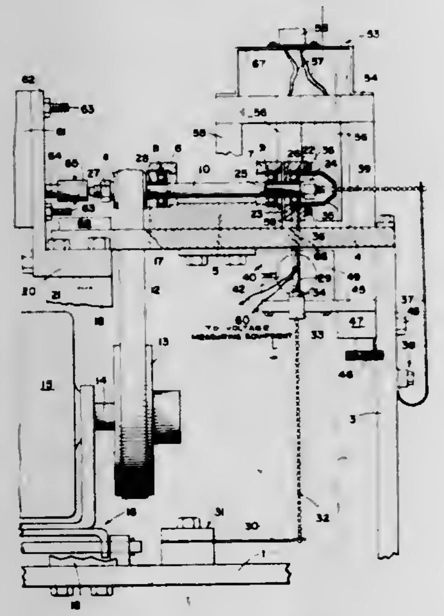
Sten Olof Evald Sjöberg, Sundbyberg, Sweden, assignor to Industriaktiebolaget Skomab, Nasbypark, Sweden
Filed Jan. 4, 1966, Ser. No. 518,707
4 Claims. (Cl. 72—471)

A power bending machine for producing cutting dies from a strip of metal and having a fixed anvil and a reciprocable beater for operating on metal strips positioned between the anvil and the beater. The anvil is provided with a pivoted support member having a strip-engaging surface which is profiled to cause the support



member to pivot under the action of the beater on the strip so that the support member engages at least the edge portion of the strip throughout the bending procedure.

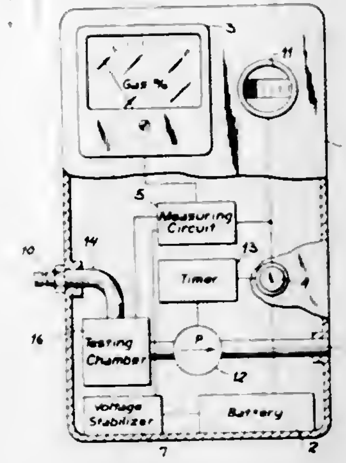
3,375,699
GREASE TESTING MACHINE
Myrl A. Lindeman, Newton Square, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed Oct. 15, 1965, Ser. No. 496,587
2 Claims. (Cl. 73—10)



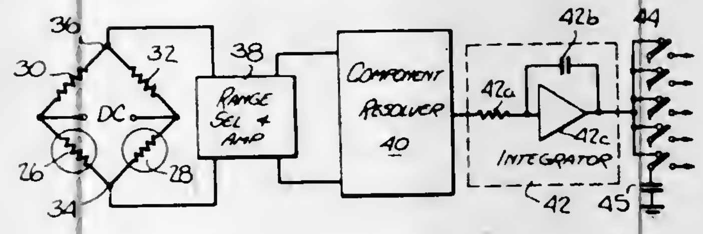
In order to test the grease in a ball bearing, the inner race of the bearing is continuously rotated by means of a motor-driven shaft, and the torque developed in the outer race, as a result of viscous drag through the grease, is measured by means of a transducer mechanically coupled to the outer race. Means are provided for applying a fixed but adjustable radial load and/or a fixed but adjustable axial load to the outer race. A heater is provided for heating the bearing during the test.

3,375,700
PORTABLE GAS ANALYZER FOR TESTING SUBTERRANEAN AMBIENT AIR SAMPLES
Rolf Hübner, Gabelsbergerstr. 31, Dortmund, Germany
Filed Jan. 21, 1965, Ser. No. 427,047
Claims priority, application Germany, Jan, 21, 1964, H 51,453
8 Claims. (Cl. 73—23)

A portable gas analyzer for testing the atmosphere in mines and other subterranean chambers which includes a gas aspirator for drawing ambient gases into the analyzer, a conductivity-type sensor responsive to the concentration of components of the gas and connected with an electrical indicator for displaying this concentration, an electronic transistor timing circuit energizing the aspirator for a predetermined operating period and thereafter, during continued operation of a manual switch, connecting the indicator to the source.

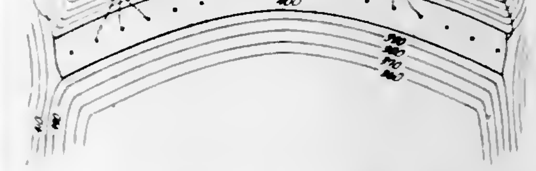


3,375,701
METHODS AND APPARATUS FOR INTERPRETING OVERLAPPING SIGNALS
Graydon Wells Arksey, Edmonton, Alberta, Canada, assignor to Chemcell (1963) Ltd., West Montreal, Quebec, Canada, a corporation of Canada
Filed Dec. 24, 1964, Ser. No. 421,046
28 Claims. (Cl. 73—23.1)



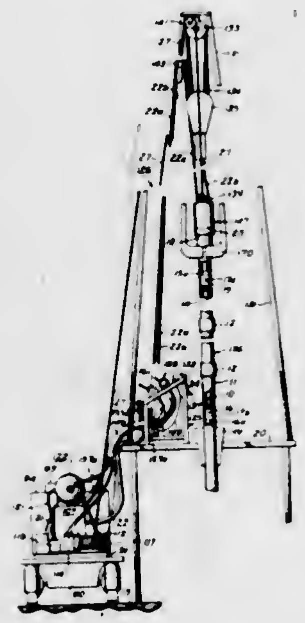
1. The method of separating a first signal having a peak followed by a tail from a composite signal of the type provided by a gas chromatograph, consisting primarily of the first signal and a second signal overlapping said tail, said method including the steps of generating a signal simulating the tail of the first signal, and combining the portion of the composite signal that precedes the second signal with the tail-simulating signal occurring thereafter.

3,375,702
LEAK DETECTION METHOD
Joseph H. Birman, La Crescenta, Calif., assignor to Geothermal Surveys, Inc., Los Angeles, Calif., a corporation of Nevada
Filed June 7, 1965, Ser. No. 461,924
7 Claims. (Cl. 73—40)



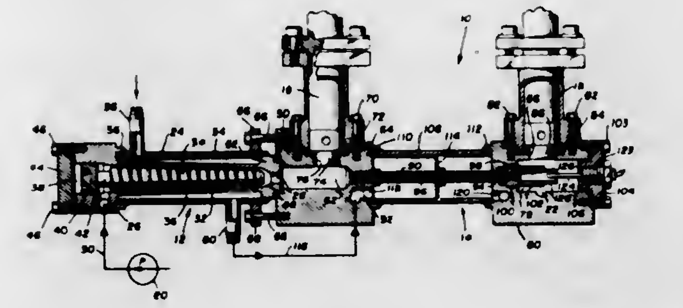
A geothermal method for detecting fluid leakage through an earthen or mineral dam or barrier by detection of anomalous thermal drift. One or more arrays of electrical temperature sensors are embedded in the dam to measure the thermal drift. The sensor output may alternatively be compared with ambient or fluid temperature.

3,375,703
TUBING TESTING APPARATUS
Clayton L. Phillips, 1637 Lamont Drive 77018, and Don R. Switzer, 503 Three Corners Drive 77024, both of Houston, Tex.
Filed June 10, 1965, Ser. No. 462,811
13 Claims. (Cl. 73—40.5)



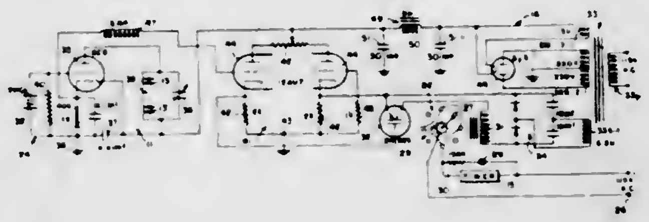
A tool and associated portable apparatus is brought on a mount to test location with tool disposed successively in the stand of tubing occupying top position in a well bore tubing string, the associated apparatus being disposed for quickest testing. Packer setting fluid is applied through one tool channel to deform packers to isolate an annular space to receive test fluid supplied through an entirely separate tool channel into the isolated space to test the stand for leakage. The test fluid may be an inert gas allowed to expand after testing so less is expended as the packers are unset.

3,375,704
CONTINUOUS DIFFERENTIAL VISCOMETER
Byrd T. Thompson, Jr., and Hunter S. Woodbery, Decatur, Ala., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Oct. 11, 1965, Ser. No. 494,801
7 Claims. (Cl. 73—55)



A continuous viscometer wherein a pair of pressure chambers at the opposite ends of a capillary through which a fluid flows are provided with flush-mounted pressure sensors which determine the pressure drop across the capillary.

3,375,705
VISCOSIMETER
Ki Tae Kim, Chicago, Ill., assignor to The Sherwin-Williams Company, Cleveland, Ohio, a corporation of Ohio
Filed Aug. 10, 1964, Ser. No. 388,546
1 Claim. (Cl. 73—57)



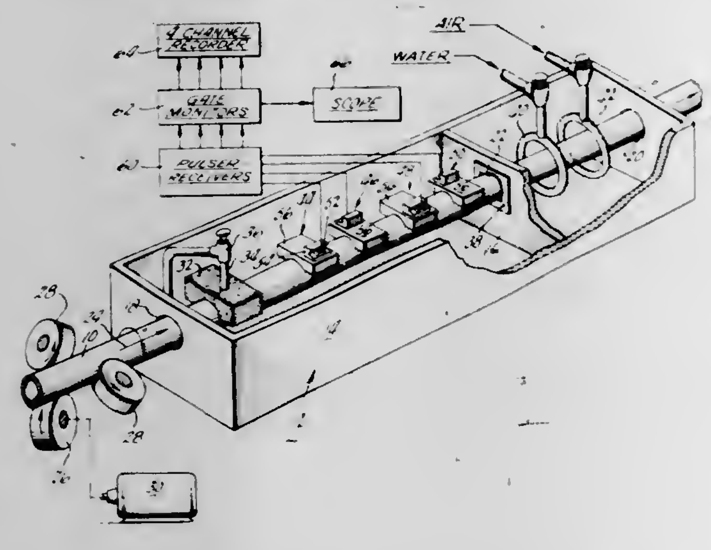
1. A viscosimeter comprising means for supporting a column of liquid to be tested at a testing station, a pair of coils forming sensing elements vertically spaced along and encircling said column and capable of reacting to the presence of a test body immersed therein at the elevation of said coils, timing means, a stepping switch having an operating coil and switch contacts operatively connected with said timing means to turn the same on and off in response to successive operations of the stepping switch, an oscillating system including an electron flow device having an anode, a cathode and a control element, a tank circuit including said coils disposed in parallel relation with a tank condenser, said tank circuit being connected between the anode of said electron flow device and ground, through a condenser, a control crystal connected in parallel with a resistor between the control element of the electron flow device and ground, the cathode of the electron flow device being isolated from ground by a resistor connected in parallel with a condenser, the tank condenser having a capacity selected to cause the system normally to oscillate and to produce a potential with respect to ground on the cathode of the electron flow device, so long as the test body is not in position to be sensed by either of said coils, a bridge circuit embodying like bridge resistors and like electron-flow valve units forming the legs of the bridge circuit, said bridge resistors having interconnected and grounded ends and ground remote ends each connected with the cathode of a corresponding electron flow valve unit, a potentiometer having a resistance element interconnecting the anodes of the electron-flow valve units and an adjustable contact connected with the oscillating system at the condenser connected side of the tank circuit, the control grids of the electron-flow valve units being respectively connected with the cathode of the electron-flow device, through a choke coil and with ground through a resistor, whereby the bridge circuit may be balanced by adjustment of the potentiometer to equalize the potentials with respect to ground that appear on the cathodes of the bridge electron-flow valve units, when the oscillating system is in oscillation, a transistor forming an amplifier having its emitter and its base connected respectively with the cathodes of the electron-flow valve units, the collector of said amplifier being connected with one end of the actuating coil of the stepping switch, means for applying electrical potential between the other end of said actuating coil and the emitter of the transistor, and means for applying unidirectional potential on the oscillating system at the condenser connected side of the tank circuit.

3,375,706
ULTRASONIC FLAW DETECTING SYSTEM

Charles R. Pandelis, Hixson, William L. Dearing, Jr., Chattanooga, and Franklin E. Misner, Hixson, Tenn., assignors to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware

Filed Dec. 28, 1964, Ser. No. 421,266

9 Claims. (Cl. 73—67.9)



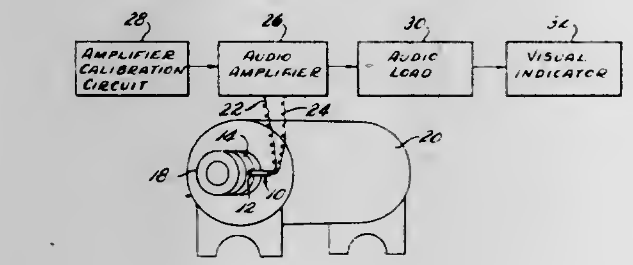
Ultrasonic flaw detecting apparatus and method wherein a plurality of ultrasonic transducers are located in-line and at spaced intervals along the path of travel of a rotating article to be inspected. The spacing of the transducers and the rate of travel and rotation of the article are coordinated whereby the transducers each scan a separate helical portion of the article.

3,375,707
TRANSDUCER DRIVER

Paul D. Neitz, 1400 Massillon Road, Akron, Ohio 44306

Filed Apr. 15, 1965, Ser. No. 448,327

9 Claims. (Cl. 73—71.4)



Apparatus for measuring vibration, generally in rotating equipment, which has great sensitivity and is mounted directly to the equipment whereby successive vibration measurements are relative to each other to provide comparable data indicating wear and possible breakdown of the equipment. Specifically, the apparatus utilizes a directional sensitive driver to actuate a transducer, and includes means to control the sensitivity of the pickup and isolate the transducer from all outside sources of vibration other than the driver.

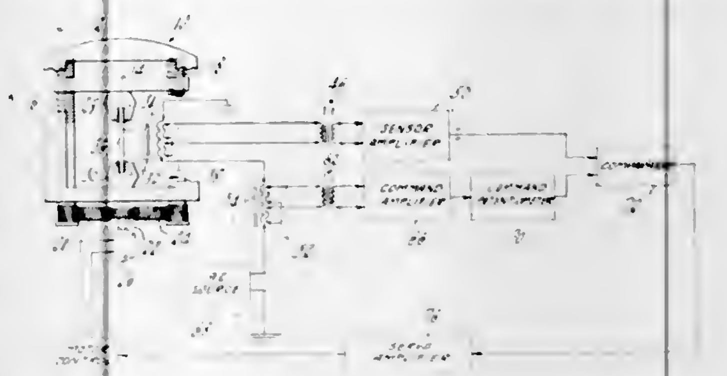
3,375,708
MATERIALS TESTING CONTROL CIRCUITRY

John Linnartz Preston, Needham, Mass., assignor to Instron Corporation, Canton, Mass., a corporation of Massachusetts

Filed Oct. 5, 1965, Ser. No. 493,193

1 Claim. (Cl. 73—90)

Materials testing device in which signals from LVDT and potentiometer are compared, one signal being representative of a condition at the specimen, and a dummy LVDT, matching the operative LVDT in electrical characteristics, excites the potentiometer.

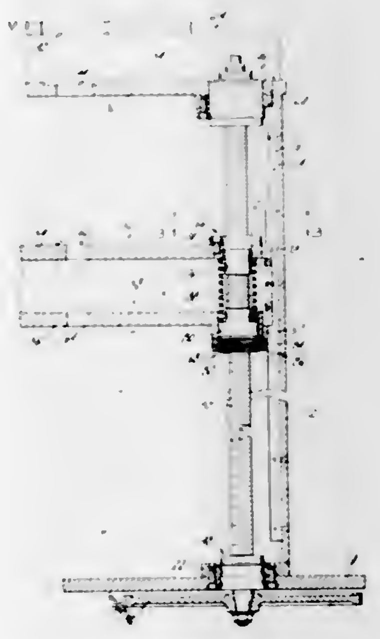


3,375,709
MATERIALS TESTING MACHINE

Donald C. Holmes, North Weymouth, Mass., assignor to Instron Corporation, Canton, Mass., a corporation of Massachusetts

Filed May 26, 1965, Ser. No. 458,864

2 Claims. (Cl. 73—93)



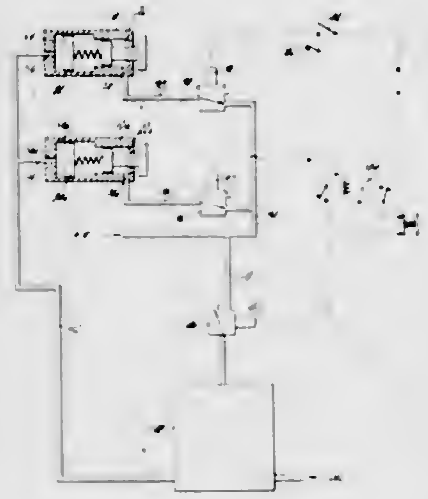
1. In a materials testing machine, the combination which comprises:
a crosshead mounted for vertical movement on a pair of opposed, sidewise-spaced, longitudinally-extending, drive screws with parallel axes;
a pair of longitudinally-extending guides with cylindrical guide surfaces having parallel axes, one of said guides being mounted adjacent and with the axis of its guide surface parallel to the axes of each of said drive screws;
a pair of shoes positioned between said crosshead and each of said guides,
each shoe including a pair of spaced upper and lower coplanar vertical guide surfaces defined by planes at an angle to transverse and endwise planes cooperating with one of said guides, said one imposing on said shoe a force having both a sidewise and a transverse component,
each shoe being adjustable in a direction transverse to said crosshead for adjusting said crosshead relative to said guides; and
a pair of flat springs yieldably biasing one of said shoes toward its respective guide.

3,375,710
MATERIALS TESTING GRIP

Ronald C. Cavanaugh, Holbrook, and Donald C. Holmes, North Weymouth, Mass., assignors to Instron Corporation, Canton, Mass., a corporation of Massachusetts

Filed May 21, 1965, Ser. No. 457,715

11 Claims. (Cl. 73—103)



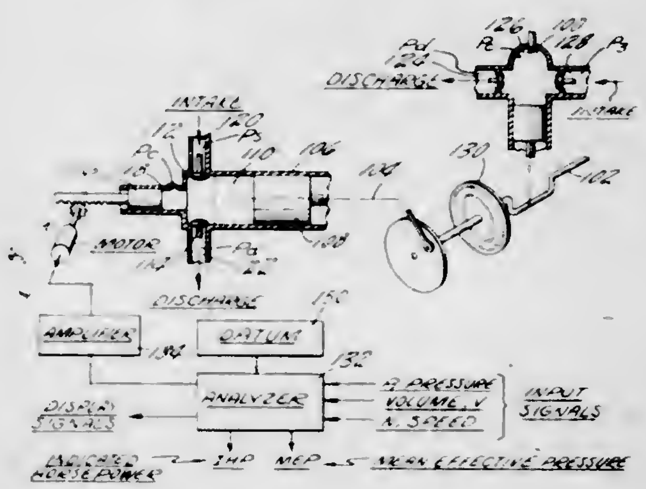
7. A materials testing grip comprising
a frame with a pair of spaced frame portions extending generally in one longitudinal direction and a testing machine mounting portion extending in the other longitudinal direction,
first and second facing jaws carried respectively by said frame portions,
an adjustment member carried by a first of said frame portions for manually adjusting the first jaw carried by said first frame portion toward and away from the second jaw,
a pair of jaw actuating pistons carried by the second frame portion,
a first of said pistons having an elongated shank having a free end, an annular spindle surrounding and spaced from said shank and terminating short of the free end of said shank, and an air exhaust bore, said first piston disposed adjacent the second jaw carried by said second frame portion with the free end of said shank directed away from said second jaw, said spindle having an annular flange providing a face directed away from said free end of said shank,
the second of said pistons having an axial bore for receiving the free end of said shank, the diameter of said axial bore being smaller than the inside diameter of said annular spindle,
said second frame portion having an end cap, said second piston being shaped at its end opposite said axial bore to seat in said end cap,
and a spring disposed between said shank and spindle, said spring having an uncompressed length greater than the length of said spindle, said spring urging said first piston toward said second jaw and away from said second piston,
said second frame portion having a passage communicating with said flange face for the application of pressurized air to said face to override said spring and urge said first piston away from said second jaw and toward said second piston,
said end cap having a fluid passage for the application of fluid at a high pressure greater than the pressure exerted by said spring to the end of said second piston adjacent said end cap to urge said second piston toward said first piston.
whereby, when said pressurized air is not applied to said face said first piston drives said second jaw toward said first jaw with the force of said spring, and causes said second piston to seat in said end cap, and when said high fluid pressure is applied through said fluid passage in said end cap said second piston drives said second jaw through said first piston toward said first jaw with a force greater than the force of said spring.

3,375,711
ENGINE PERFORMANCE INDICATOR AND COLLECTOR

David C. Ives, Rockville, and John Lovkay, Thompsonville, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed May 13, 1965, Ser. No. 455,367

15 Claims. (Cl. 73—117.2)



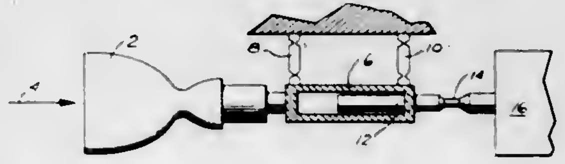
A digital mean effective pressure, indicated horsepower, speed, and P–V plotting device is described for a poistive displacement engine. A digital equivalent of the pressure in the cylinder of the engine is obtained at a plurality of equal volume increments displaced by the piston in the cylinder. The computed mean effective pressure is stored in a register and a subsequent horsepower computation is performed by producing a train of speed pulses and selecting a preselected number thereof for computing the indicated horsepower. The speed pulses are counted for a known time period to provide an indication of the speed of the engine. A real time device for plotting of the pressure-volume curve of the cylinder volume displaced by the piston is provided utilizing similar circuitry employed for computing the mean effective pressure and the horsepower parameters. In addition a real time control of the computed parameters is provided.

3,375,712
THRUST MEASUREMENT

Robert W. Postma, Reseda, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware

Filed Mar. 19, 1965, Ser. No. 441,279

7 Claims. (Cl. 73—117.4)

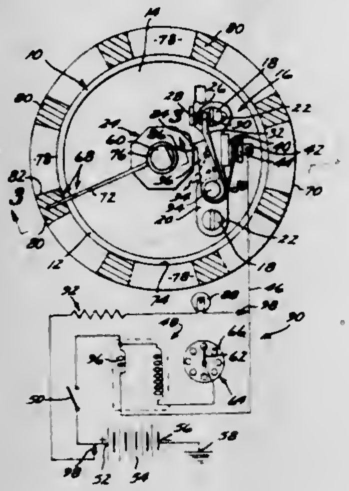


A rocket engine thrust measuring transducer having an accelerometer coupled to a steady state load sensor. The signals from the accelerometer that primarily measure the start and stop load transients and the signals from the load sensor that primarily measure the steady state load transients are summed to constitute a signal that is indicative of thrust measurement.

3,375,713

INTERNAL COMBUSTION ENGINE IGNITION SYSTEM DISTRIBUTOR MAKE AND BREAK ANALYZING APPARATUS

Marcius N. Gover, 151 S. Oxford Ave.,
Los Angeles, Calif. 90004
Filed Mar. 28, 1966, Ser. No. 538,018
8 Claims. (Cl. 73—118)

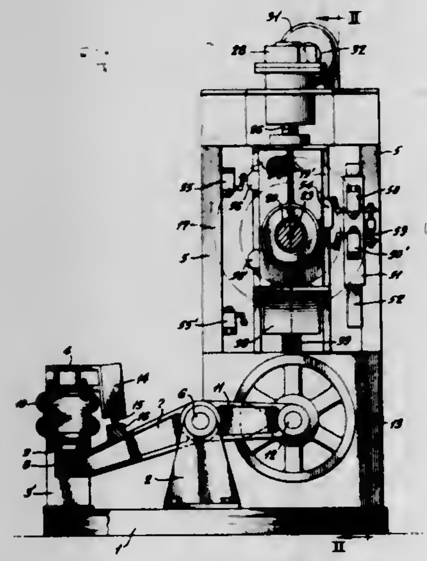


An automobile distributor tester having a circular distributor-mounted scale which cooperates with a pointer carried by the distributor shaft. The scale is calibrated to show the proper periods of make and break, for the particular automobile tested, of the distributor electrical contact points for a complete cycle of the operating cam carried by the distributor shaft. A light is provided to indicate when the distributor electrical contact points are open and when they are closed.

3,375,714

APPARATUS FOR DETECTING, MEASURING AND RECORDING IRREGULARITIES OF BEHAVIOR IN LOADED PNEUMATIC TIRES

Franco Bottasso, Milan, Italy, assignor to
Pirelli S.p.A., Milan, Italy
Filed Oct. 23, 1965, Ser. No. 503,876
Claims priority, application Italy, Mar. 30, 1965,
7,016/65
13 Claims. (Cl. 73—146)

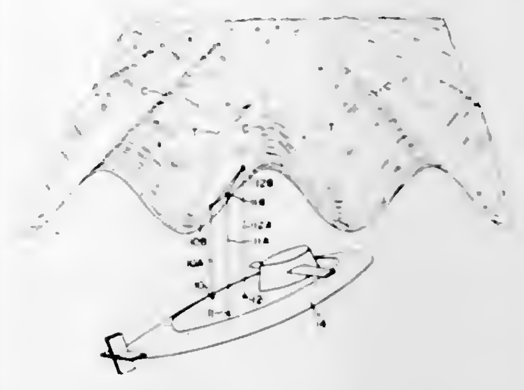


An apparatus for checking pneumatic tires comprising a support member carried by a frame and having a shaft rotatably mounted therein and adapted to support a tire to be tested. A support arm is pivotally mounted adjacent the frame and has a test drum loosely assembled on one end thereof. Means are provided to move the support member with respect to the frame to and from a position whereby said tire operatively engages the test drum, the other end of the support arm thus being displaced according to variations in the radius of said tire, said displacements being detected and displaced.

3,375,715

SEA DIRECTION INDICATOR

Frank P. Hodges, Baltimore, and John W. Luce, Arnold, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 10, 1965, Ser. No. 507,149
13 Claims. (Cl. 73—170)

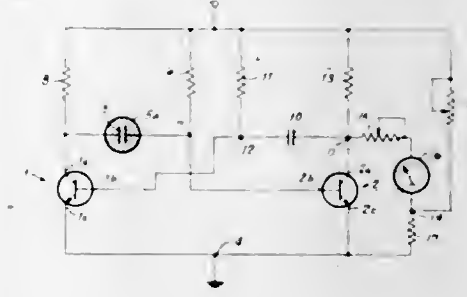


A device for measuring the slope of a portion of the sea surface including a plurality of transducers each of which directs a narrow beam acoustic signal toward the sea surface from below the sea surface. The return acoustic signals are utilized to indicate the slope of the sea surface above the transducers.

3,375,716

FLUID QUANTITY MEASURING DEVICE

Walter Hersch, Woodbury, N.Y., assignor, by mesne assignments, to Simmonds Precision Products, Inc., a corporation of New York
Filed Oct. 12, 1965, Ser. No. 495,044
7 Claims. (Cl. 73—304)

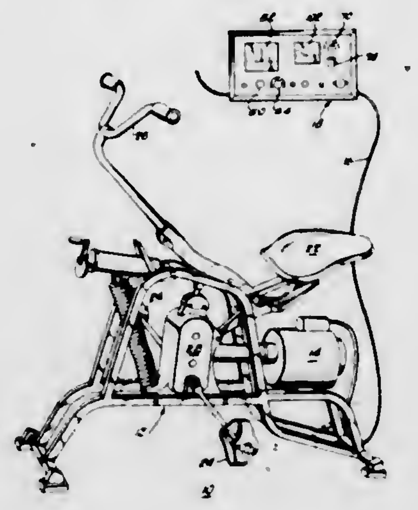


The fluid quantity measuring gauge includes a sensing capacitor having spaced electrically conductive electrodes insulated from one another and adapted to be mounted within a container to provide between the electrodes a value of capacitance varying with the dielectric constant and quantity of fluid in the container. This sensing capacitor is included in a time-constant circuit of a multivibrator oscillator to effect variation of the average value of an output voltage of the oscillator with variation of the capacitance of the sensing capacitor. An indicator means, including an indicator device providing an indication range extending between range indicia corresponding to the empty and full fluid quantity conditions of the container and operating in combination with means for correlating such indication range indicia to the average values of the oscillator output voltage corresponding to the empty and full fluid quantity conditions of the container, indicates the prevailing average value of the oscillator output voltage and thus provides indications of the prevailing quantity of fluid in the container.

3,375,717

EXERCISING MEASURING SYSTEM

Julius S. Impellizzeri and Steven Hahn, New York, and Paul D. Burian, Elmsford, N.Y., assignors to Exercycle Corporation, New York, N.Y.
Filed June 29, 1965, Ser. No. 467,953
4 Claims. (Cl. 73—379)

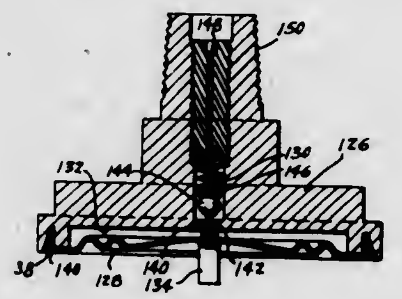


An exercise measuring system particularly adapted for use with an "Exercycle" brand motor-driven machine. The system measures the no-load power applied to the motor of the machine, and obtains a zero signal level at no-load which increases as the person on the machine more and more aids its motions. Instantaneous exercising level is displayed on one meter and long term exercising effort is totaled on a second meter. The person by observing these meters as he exercises is enabled to better coordinate his motions and more smoothly follow the complex motions of the machine.

3,375,718

PRESSURE RESPONSIVE INDICATOR DEVICE

Ivor R. Robinson and Lewis M. Carlton, Tulsa, Okla., assignors to Frank W. Murphy Mfr., Inc., Tulsa, Okla., a corporation of Oklahoma
Filed Jan. 29, 1965, Ser. No. 429,081
29 Claims. (Cl. 73—406)

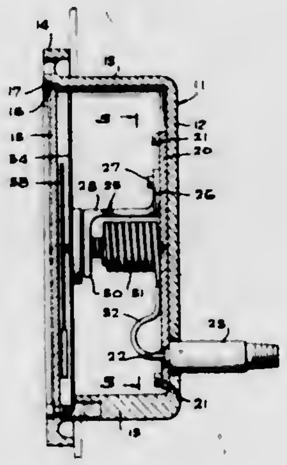


1. An indicator device having a graduated face dial comprising a pressure chamber, a flexible diaphragm in said chamber, passage means for transmitting fluid pressure against one side of said diaphragm for movement thereof, bell crank means operatively connected to said diaphragm for movement thereby, and a rotatable pointer operatively connected to said bell crank means for indicating a predetermined value on said dial face corresponding to the amount of rotational movement of said pointer, wherein said pressure chamber is formed of two circular members of different diameter, and said diaphragm is circular and has its peripheral edge disposed between said two members, and each of said members has a recess formed on opposite sides of said diaphragm, and said diaphragm has a plurality of annular coplanar convolutions therein, and projection means on said diaphragm extend through an opening in one of said chamber members for actuation of said bell crank means, wherein said projection means has a bar extending into said passage means, said passage means has a valve opening through which said bar extends, a valve abuts against said bar, and biasing means are disposed to urge said valve toward a seated position over said valve opening.

3,375,719

PRESSURE GAUGE

James E. Lindsay, 2583 Buenos Aires Drive,
Covina, Calif. 91722
Filed Mar. 4, 1966, Ser. No. 531,728
9 Claims. (Cl. 73—411)

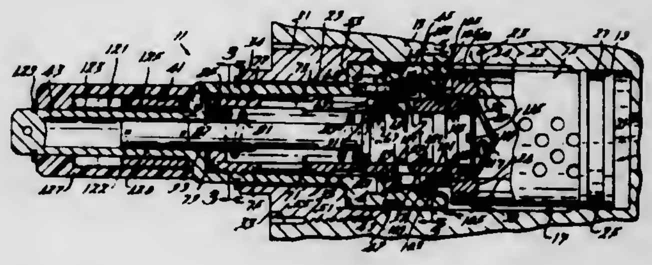


A pressure gauge including a multilayer helical Bourdon tube with the axis of the helix normal to the dial plate and pointer shaft, with the pointer shaft journaled in the dial plate. A tube engaging member mounted on the shaft and movable along the tube for driving the shaft and for calibration of the gauge. A rotatable dial plate and a rotatable drive shaft engaging the periphery of the plate for angular setting of the dial position.

3,375,720

DIFFERENTIAL PRESSURE INDICATOR

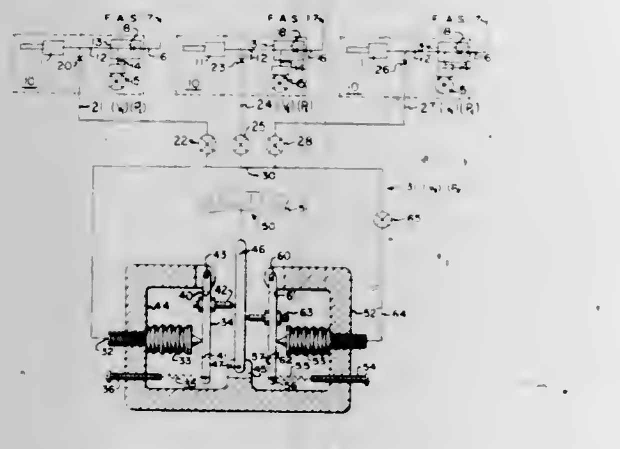
James Clifford Whiting, Royal Oak, Mich., assignor to Michigan-Dynamics, Inc., Detroit, Mich., a corporation of Michigan
Filed Feb. 10, 1966, Ser. No. 526,544
11 Claims. (Cl. 73—419)



A differential pressure indicator of the type having a piston exposed to fluid on the upstream and downstream sides of a filter or the like. A spring assists the downstream fluid pressure in biasing the piston. A magnet is carried by the piston and is positioned within a sleeve adjacent an indicating magnet on the outside of the sleeve.

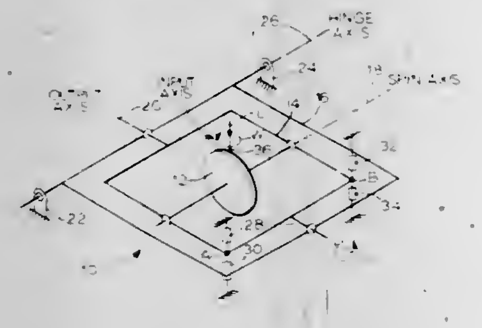
When the inner magnet moves with the piston the outer magnet will move with it to indicate the displacement of the piston from a normal position. A laterally projecting pin carried by the piston moves in a slot formed in the surrounding structure and engages spaced shoulders of the slot so that the piston will be held in distinct positions to which it is displaced by the differential fluid pressure and whereby the device can only be reset by disassembling the unit.

3.375,721
SYSTEM FOR FAST FLUID PRESSURE SCANNING
Frederick D. Joesting, Park Ridge, Ill., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Sept. 1, 1965, Ser. No. 484,220
5 Claims. (Cl. 73—420)



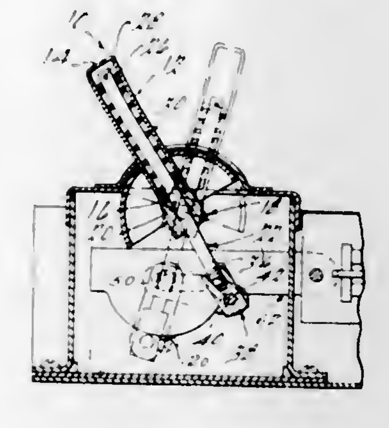
A system for rapid, sequential scanning of a plurality of variable sensors that does not require stabilization of the scanned pressure prior to readout.

3,375,722
LINEAR AND ANGULAR VELOCITY AND ACCELERATION MEASURING INSTRUMENT
Hugh E. Riordan, Wyckoff, N.J., and Frank Samet, New York, N.Y., assignors to General Precision Inc., Little Falls, N.J., a corporation of Delaware
Filed Jan. 4, 1965, Ser. No. 423,287
11 Claims. (Cl. 74—5.6)



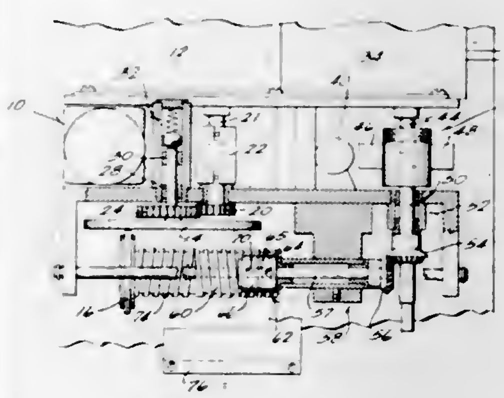
1. An instrument for measuring linear and angular inputs along and about the same input axis comprising a first gimbal, a second gimbal rotably supported by said first gimbal for rotation about a precession axis, a rotor rotatably supported by said second gimbal for rotation about a spin axis perpendicular to said precession axis, means for pivotally supporting said first gimbal for pivotal movement about a hinge axis extending through said precession axis in parallel spaced apart relation to said spin axis, said precession axis constituting the output axis of said instrument with the input axis thereof being orthogonally related to said spin axis and output axis, and sensor means connected to first and second points on said second gimbal for restraining angular movement of the second gimbal and producing an output proportional to angular and linear inputs about and along said input axis, said first and second points defining a line extending through said output axis in parallel spaced apart relation to said hinge axis and said spaced points being substantially equidistant from said output axis.

3,375,723
OPERATING MECHANISM FOR AN ELECTRICAL SWITCH
Clement W. Wolf, 46020 Private Shore Drive, Mount Clemens, Mich. 48043
Filed Aug. 25, 1966, Ser. No. 574,962
5 Claims. (Cl. 74—100)



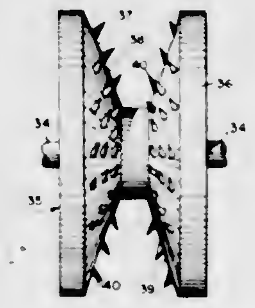
1. An operating mechanism for an electrical switch or the like comprising,
an elongated tubular manual operator journaled for rotation about an axis extending transversely thereof,
a spring telescopically housed internally of said manual operator and compressible longitudinally thereof,
a crank lever,
a crank pin secured to one end of said crank lever,
a reciprocable rod having one end coupled to said spring and an opposite end rotatably coupled to said crank pin,
a reciprocable arm,
means for rotatably coupling an opposite end of said crank lever to said reciprocable arm, and
support means for guiding said arm for reciprocable movement under the bias of said spring.

3,375,724
READ-OUT DEVICE AND DRIVE THEREFOR
J. B. Shepard, Whittier, Calif., assignor to Badger Meter Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Dec. 3, 1965, Ser. No. 511,449
11 Claims. (Cl. 74—194)



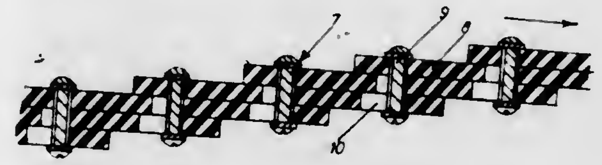
This disclosure relates to an arrangement wherein an input disc is driven at a constant speed and a wheel which is connected to a variable speed source, engages the disc surface for rotation with the disc to assume a position on the disc surface corresponding to the driven speed of the wheel. The connection between the wheel and the variable speed source is through two interengaging worm gears and a lost motion connection. One worm gear is fixed to and moves with the wheel and the other worm gear is connected to and driven by the variable speed source. The lost motion connection is in the drive connection between the second worm gear and the variable speed source and is effective to permit the second worm gear to move freely in an axial direction with respect to the first worm gear within the prescribed axial limits. At the extremes of the axial limits, the second worm gear is held against further axial movement relative to the first worm gear and transmits driving movement to the first worm from the variable speed source. The amount of relative movement provided by the lost motion connection is sufficient to accommodate fluctuations in the variable speed source within a permissible range without moving the wheel so that a major change in speed is necessary to vary the position of the wheel on the disc surface. In one application, the variable speed source can be controlled by a meter and the interaction of the wheel and disc used to provide a visual read-out corresponding to flow through the meter.

3,375,725
ROTATABLE CYLINDER AND PULLEY DEVICES
Robert V. Mathison, 5 Woodcrest Road, Asheville, N.C. 28804
Filed Nov. 22, 1965, Ser. No. 509,066
4 Claims. (Cl. 74—229)



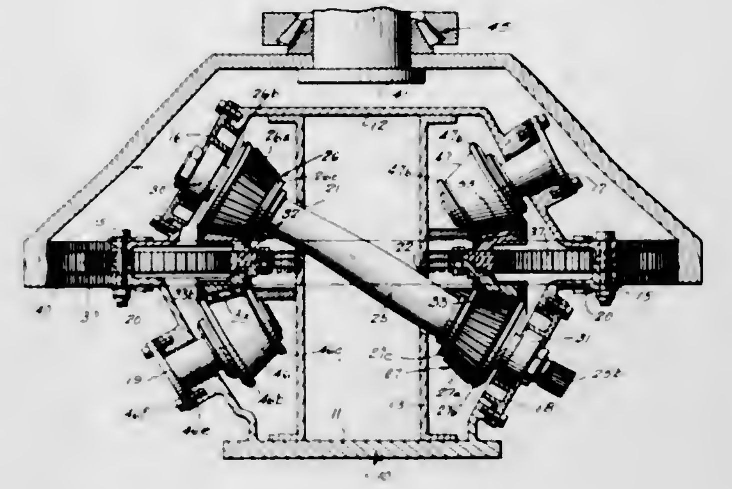
Drive and driven cylinders and grooved pulleys having plurality of small, tapered, pointed projections slanting in common, circumferential direction.

3,375,726
BELTING
Charles William Jones and Jeffery Charles Jones, both of 85 Domonic Drive, New Eltham, London, SE. 9, England
Filed July 1, 1965, Ser. No. 468,763
Claims priority, application Great Britain, July 1, 1964, 27,093/64
6 Claims. (Cl. 74—233)



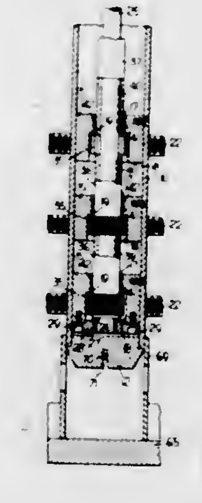
A laminated link type V-belt is composed of individual links having connecting means disposed through slots cut in the links, the slots being elongated so that the connecting means passing therethrough will exert and take its full and true share of the load transmitted through each link. A connecting means is fixed to one end of each link and the elongation of the slots increases with increasing distance of the slots from the fixed connecting means.

3,375,727
TRANSVERSELY ORIENTED REDUCTION DRIVE
Algirdas L. Nasvytis, Cleveland, and Philip L. Rountree, Gates Mills, Ohio, assignors to TRW Inc., Cleveland, Ohio, a corporation of Ohio
Filed Feb. 17, 1966, Ser. No. 528,165
10 Claims. (Cl. 74—417)



A drive system providing for an abrupt change in drive line direction and orientation through the provision of an annular bevel gear having bevel teeth on both sides thereof for cooperation with balanced bevel pinions. Through orientation of the planets superior torque transference at high velocity and under adjustable preloads are provided in a balanced manner.

3.375,728
GANG TYPE CONTROL ROD DRIVE
Ernest Loeb, Silver Spring, Md., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Dec. 13, 1965, Ser. No. 513,243
6 Claims. (Cl. 74—422)

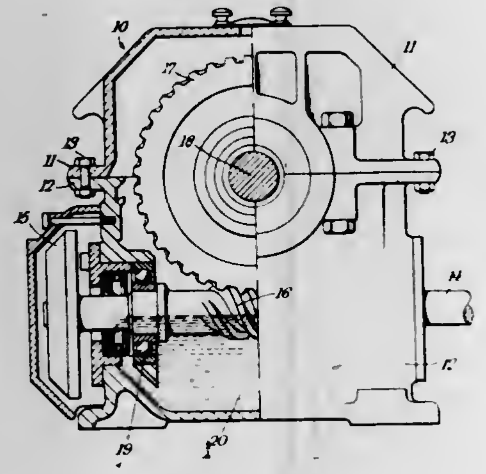


1. A control rod drive apparatus for use with a nuclear reactor for the simultaneous movement of a plurality of control rods, comprising in combination a plurality of control rod drive racks secured in lengthwise relation to said control rods respectively, a shaft rotatably mounted to extend transversely of said control rod drive racks, a plurality of pinion gears rotatably mounted onto said shaft in meshing engagement respectively, with said con-

trol rod drive racks, torque transmitting means connected to said shaft to selectively rotate said shaft in either direction, and slip clutch means on said shaft to frictionally engage said pinion gears in such manner as will cause said pinion gears to rotate therewith unless the resistance to rotation exceeds the frictional forces exerted.

3,375,729
LUBRICANTS

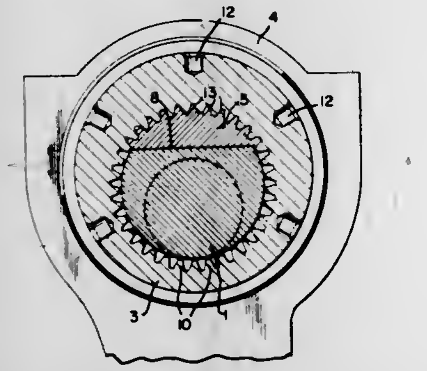
Alexander Brown, Goff's Oak, and Harold John Wellard, Sawbridgeworth, England, assignors to Murex Welding Processes Limited, Waltham Cross, England, a British company
Filed Apr. 30, 1965, Ser. No. 452,237
7 Claims. (Cl. 74—467)



A bearing surface or gear box having cooperating bearing surfaces provided with a lubricant for the bearing surface. The lubricant is a fluid aqueous solution of potassium or sodium silicate and can include a thickening agent and a corrosion inhibitor.

3,375,730
CRANK MECHANISM WITH ADJUSTABLE ECCENTRICITY

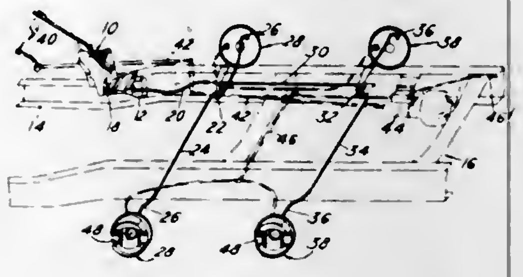
Fedor Arsentievich Antonenko, Ulitsa Shaumyana 4a, Kv. 6, Salsk, U.S.S.R.
Filed Oct. 18, 1965, Ser. No. 496,772
3 Claims. (Cl. 74—571)



An adjustable eccentric or crank in which an eccentric hub is provided on a shaft, and a sleeve having an external cylindrical bearing surface and an eccentric bore therethrough is mounted on said eccentric hub, said hub having a segmental portion removed to provide a segmental space between said hub and the eccentric bore in said sleeve; a segmental member provided to retain said hub and sleeve against relative rotation in any adjusted position by locking means acting between said segmental member and said sleeve.

3,375,731
VARIABLE-RATIO LEVER MECHANISMS

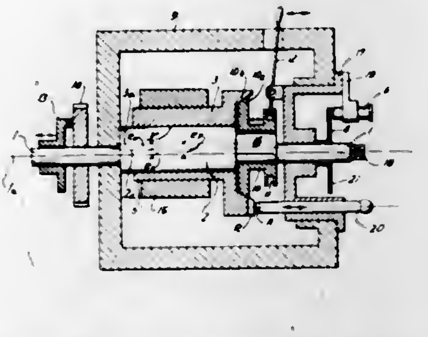
George Rancliffe Jehan Eugene Leguen de Lacroix, Halesworth, Suffolk, England, assignor to General Motors Corporation, a corporation of Delaware
Filed May 31, 1966, Ser. No. 554,175
Claims priority, application Great Britain, June 12, 1965, 24,909/65
8 Claims. (Cl. 74—516)



1. A variable-ratio lever mechanism comprising a manual lever having a first, manually movable arm and a second arm, an output actuator lever, a fixed pivot intermediate the ends of the output actuator lever, the output actuator lever having one end portion on which the manual lever is pivotally mounted and another end portion which is connected to an output linkage, the second arm of the manual lever being pivotally connected to one end of a resiliently yieldable link the other end of which is pivotally connected to the output actuator lever at a point spaced from the fixed pivot, and a link member pivotally connecting the manual lever at a point between the pivot for the yieldable link and the mounting pivot for the manual lever to a pawl lever one end portion of which is pivotally mounted on the fixed pivot and the other end portion of which forms a pivotal mounting for a locking pawl which in one position of the mechanism can engage a fixed ratchet, the arrangement being such that in an initial increment of movement of the manual lever the mechanism moves as a whole about the fixed pivot, in a further increment of movement the yieldable link yields at a design output load and allows the link member to move the pawl lever about the fixed pivot to bring the locking pawl into engagement with the fixed ratchet, and in a final increment of movement a four-bar chain mechanism constituted by one arm of the manual lever, the link member, the pawl lever and the output actuator lever produces an increased mechanical advantage at the output actuator lever.

3,375,732
ECCENTRIC AND MEANS FOR ADJUSTING THE ECCENTRICITY THEREOF

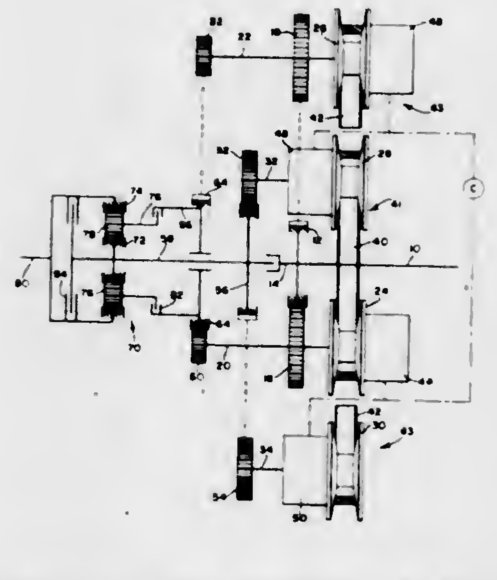
Rolf Voeller, Dagersheim, Germany, assignor to Fortuna-Werke, Spezialmaschinfabrik Aktiengesellschaft, Stuttgart-Bad Cannstatt, Germany
Filed May 11, 1966, Ser. No. 549,393
8 Claims. (Cl. 74—571)



1. An eccentric and means for adjusting the eccentricity thereof comprising, in combination, a shaft having an axis and a cylindrical portion fixed to the shaft and eccentrically arranged with regard to said shaft axis; a sleeve surrounding said eccentrically arranged portion on said shaft and having an outer cylindrical surface and a bore having an inner cylindrical surface of a diameter substantially equal to that of said cylindrical eccentric portion of said shaft and engaging the latter, said bore being eccentrically arranged with respect to the outer cylindrical surface of said sleeve, said sleeve having an end face formed with a radial groove; mounting means mounting said shaft turnably about its axis; releasable coupling means for releasably connecting said sleeve and said shaft to each other; and arresting means carried by said mounting means and having a free end adapted to engage in said groove to prevent said sleeve to turn about the axis of its cylindrical outer surface while permitting said sleeve to move in the direction transverse to the axis thereof and to tilt about said arresting means whereby when said coupling means is released and said arresting means engaged in said groove the eccentricity of said eccentric may be adjusted by turning said shaft about its axis.

3,375,733
COMBINED VARIABLE SPEED AND PLANETARY DRIVE

Edgar P. Browning, Cedar Falls, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Jan. 10, 1966, Ser. No. 519,564
8 Claims. (Cl. 74—689)

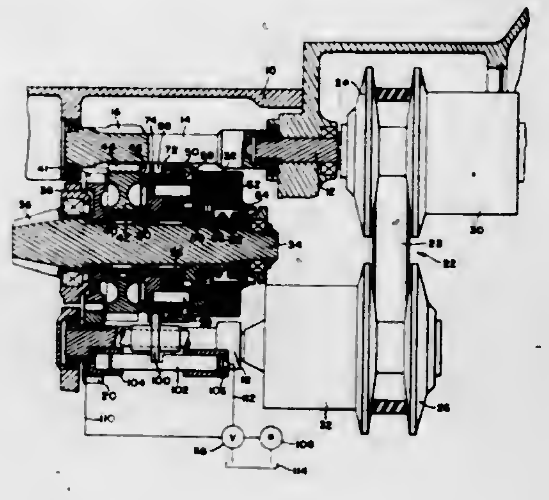


A transmission having a constant speed input shaft driving a pair of infinitely variable belt drives where the variable diameter drive and driven sheaves of one set are respectively diametrically opposite the drive and driven sheaves of the other set relative to the input shaft axis and the driven sheaves drive the sun gear of a planetary gear train coaxial with the input shaft, the carrier being connectible to the input shaft for a dual input drive range and the ring gear being connectible to a sun gear for a direct drive range.

3,375,734
TRANSMISSION AND CONTROL THEREFOR

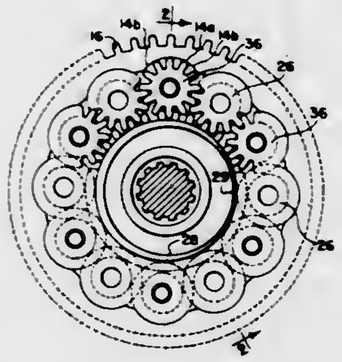
David Forrest Lemons, Cedar Falls, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed July 18, 1966, Ser. No. 565,939
11 Claims. (Cl. 74—689)

1. A transmission comprising: first, second, and third transmission members, coaxially journaled relative to each other; first and second coupling members respectively mounted on the third transmission member for rotation therewith and axially shiftable thereon between neutral and engaged positions wherein the first and second coupling members respectively drivingly connect the first and second transmission members to the third transmission member, the coupling members being mounted on the third transmission member for a relatively small degree of limited rotation relative thereto and relative to each other; and cam means operably interconnecting the coupling members when both coupling members are in their engaged positions to positively shift the one coupling member into its neutral position in response to a relative rotation between the coupling members.



3,375,735
LIMITED SLIP DIFFERENTIAL MECHANISM

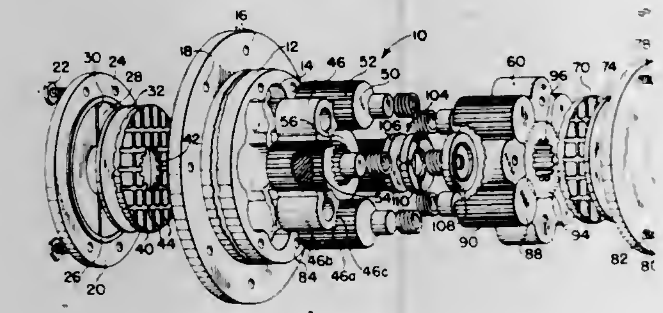
Oliver E. Saari, Elmhurst, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Sept. 15, 1966, Ser. No. 579,732
8 Claims. (Cl. 74—711)



1. A limited slip differential comprising:
rotatable differential case means;
a pair of side gears in said case adapted to be operatively engaged by a pair of axles entering opposite sides of said case;
a plurality of first pinion gears in a first orbit in meshing engagement with one of said pair of side gears;
a plurality of second pinion gears in a second orbit in meshing engagement with the other of said pair of side gears;
at least one of said first pinions being in meshing engagement with at least one of said second pinions;
bearing means for mounting said gears in the case means, and resilient biasing means comprising at least one spring ring member positioned to exert a radial compressive force against at least one of said pinion gears to provide a friction force between the spring ring and the pinion gear and between said gear and its bearing;

said friction forces serving to dissipate torques transmitted to said side gears by the axles and thereby oppose the rotation of said gears relative to the differential case.

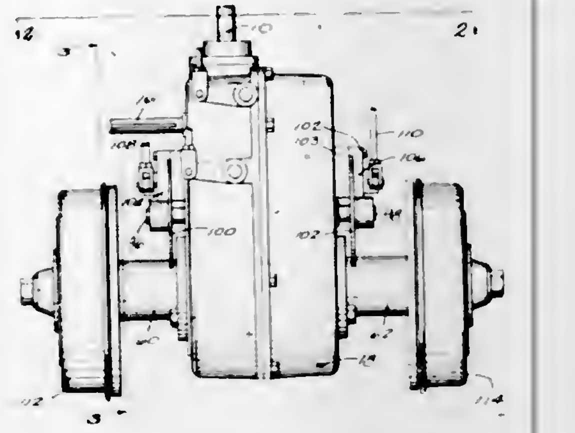
3,375,736
DIFFERENTIAL MECHANISM
Oliver E. Saari, Elmhurst, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Sept. 15, 1966, Ser. No. 579,733
14 Claims. (Cl. 74—711)



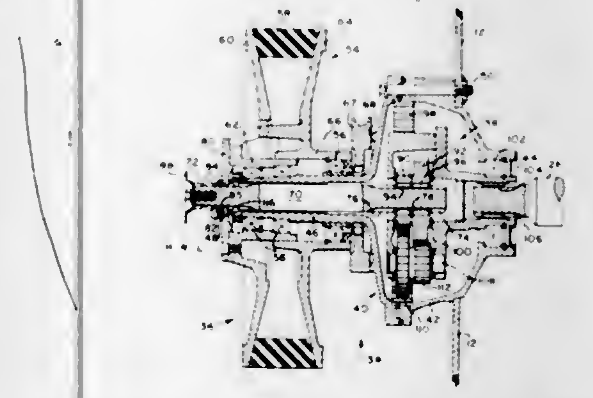
1. A differential comprising:
a rotatable differential case;
a pair of side gears in said case adapted to be operatively engaged by a pair of axles entering opposite sides of said case;
a plurality of first pinion gears in a first orbit in meshing engagement with one of said pair of side gears;
a plurality of second pinion gears in a second orbit in meshing engagement with the other of said pair of side gears;
at least one of said first pinions being in meshing engagement with at least one of said second pinions;
a first plurality of support members insertable in said differential case, and adapted to be positioned in axial alignment with one end of the pinions in said first orbit and in radial frictional engagement with the teeth of the pinions in said second orbit;
a second plurality of support members insertable in said differential case, and adapted to be positioned in axial alignment with one end of the pinions in said second orbit and in radial frictional engagement with the teeth of the pinions in said first orbit;
each of said first and second support members having pinion supporting surfaces on one side thereof and case contacting surface portions on the other side thereof, said case contacting portions being cooperable with complementary shaped interior surfaces of said case to prevent rotation or displacement of said support members when one side of said members are subjected to said radial frictional engagement by said pinions;
said pinions, and the support members they are adapted to be radially engaged with, being mounted relative to each other so that the teeth of said pinions will bear on said support members with an increasing frictional force as the torque transmitted by the pinions increase.

3,375,737
TRANSAXLE
Maurice O. Holtan, 2012 Menomonee River Parkway, Wauwatosa, Wis. 53213
Filed Jan. 28, 1966, Ser. No. 523,647
13 Claims. (Cl. 74—720.5)

A transaxle combination comprising a change speed set on one shaft, mutually aligned driven shafts being driven by planetary gearing, the planetary gearing being driven by the change speed set through a shaft coaxially aligned and separate from the driven shafts and selective brake actuated means mounted on another shaft for coupling the driven shafts to the change speed set, all of the shafts being mounted in parallelism.

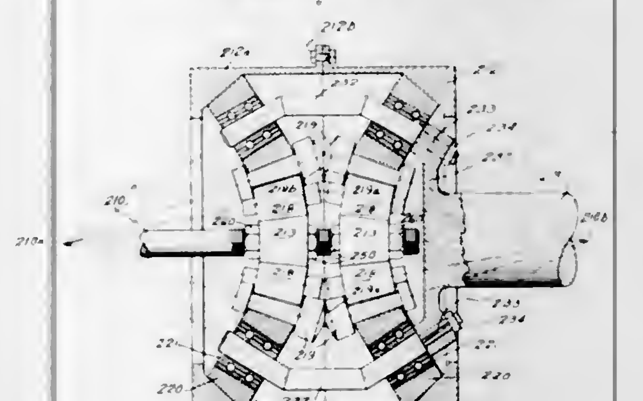


3,375,738
VARIABLE SPEED DRIVE
Mahlon Lloyd Love, Osco, Ill., assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Jan. 20, 1966, Ser. No. 521,981
8 Claims. (Cl. 74—740)



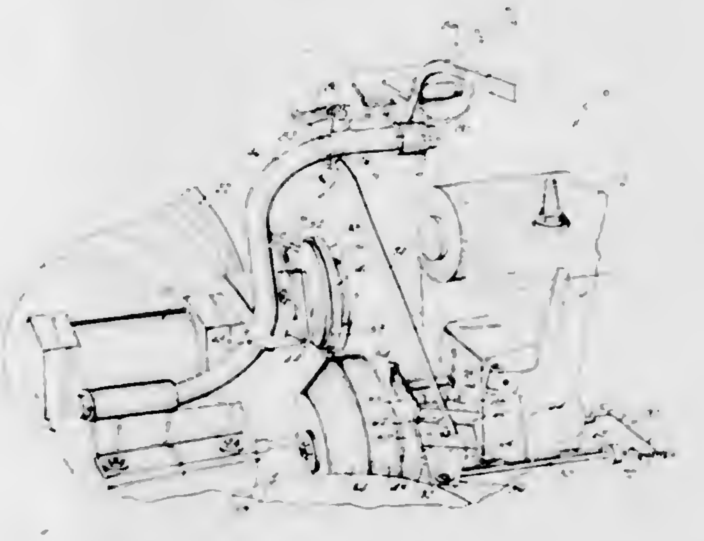
A multi-range infinitely variable speed drive for a combine threshing cylinder, the drive including an infinitely variable speed belt drive having a variable diameter driven sheave mounted on an axially shiftable shaft which serves as an input to a change-speed planetary gear train, the shifting of the planetary gear train being accomplished by axially shifting the input shaft to engage alternate sun gears in the planetary gear train.

3,375,739
CONICAL PLANETARY FRICTION GEAR DRIVE
Algirdas L. Nasvytis, Cleveland, Ohio, assignor to TRW Inc., Cleveland, Ohio, a corporation of Ohio
Filed Feb. 17, 1966, Ser. No. 528,164
1 Claim. (Cl. 74—798)



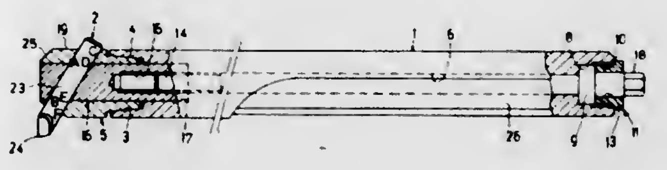
An axially loadable friction planetary drive system employing a plurality of rows of planet members positioned between frusto-conical sun and ring members. Axial loading of the system is provided for in both directions of axial thrust by co-operating end faces of one of the rows of planet members.

3,375,740
REVERSE MECHANISM AND THROTTLE CONTROL
Robert O. Bottum, Lincoln, Nebr., assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware
Filed Aug. 25, 1965, Ser. No. 482,562
19 Claims. (Cl. 74—872)



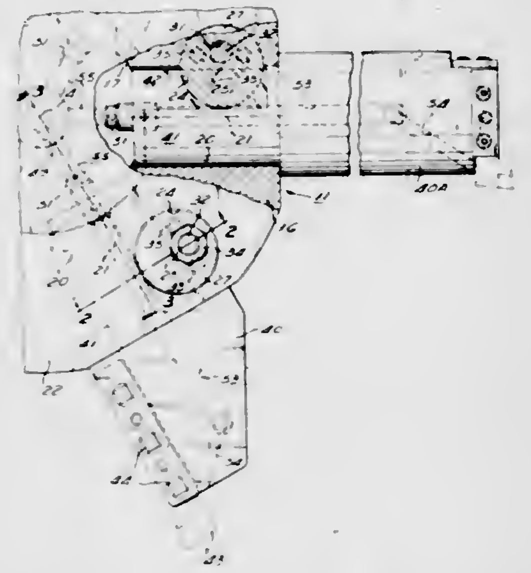
Disclosed herein is a vehicle and engine with a drive train including a centrifugal clutch with a clutch housing secured to the engine drive shaft. The clutch has a pulley which is connected to a pulley on the rear wheel differential by a belt. The drive train has a reversing mechanism which includes a rubber drive wheel rotatably mounted on a shaft carried by a movable bracket. The rubber drive wheel has a sheave or pulley secured thereto which is connected to a second pulley on the shaft of the rear wheel differential by a belt. Movement of the rubber drive wheel into engagement with the clutch housing by movement of an actuator arm also tightens the belt connecting the rubber wheel to the differential and thus reverses the direction of rotation of the differential shaft. The engine also includes an arrangement for automatically controlling engine speed during operation of the vehicle in reverse drive. The arrangement includes a linkage which is connected to the rod which actuates the reversing mechanism.

3,375,741
TOOLHOLDER, PARTICULARLY FOR LATHE-MACHINING OF DEEP HOLES
Pietro Guglielmetti, Via Riglio 16, Piacenza, Italy
Filed Dec. 20, 1965, Ser. No. 514,854
Claims priority, application Italy, Dec. 30, 1964, 7,004/64, Patent 107,897
6 Claims. (Cl. 77—58)



A toolholder adapted for use on a lathe in the machining of deep holes and including a cylindrical body, a bushing having a tapered tail portion housed in a seat in the body, a cylindrical block freely slidable in the bushing, the bushing and block having therein registering oblique bores for the mounting of the tool, and there being included a captive screw disposed axially in the body and threaded into the block to be operable in imparting relative movement to the block and bushing for releasably clamping the tool.

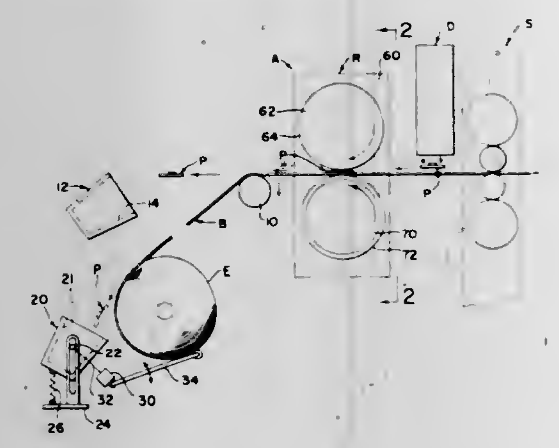
3,375,742
TURRET MECHANISM
Walter V. Sturm, Sidney, Ohio, assignor to The Monarch Machine Tool Company, a corporation of Ohio
Filed June 22, 1966, Ser. No. 559,451
10 Claims. (Cl. 82—36)



1. A turret mechanism, comprising, in combination, a base,
means journaling a turret on said base on a first axis,
a toolholder bore circular in cross section in said turret lying in a plane at an angle to said axis,
a face on said turret generally parallel to said toolholder bore,
a locking aperture in said turret,
said locking aperture extending at an angle to the axis of said toolholder bore and extending from said face of the turret to intersect said toolholder bore but axially offset therefrom,
a binder plug in said locking aperture,
said binder plug having a second axis and having a binder face disposed at an acute angle to said second axis,
a toolholder having an extension adapted to be received in said toolholder bore,
a wedging face on said toolholder extension and having a component parallel to the axis thereof,
said binder face adapted to engage said wedging face on said toolholder extension upon the toolholder being inserted in said toolholder bore,
said binder face and said wedging face being complementary for interengagement throughout an area of substantial size relative to said toolholder bore,
and means engaging said turret and said binder plug to fasten said binder plug to said turret generally in a direction along said second axis to cause said binder face on said binder plug to positively engage said wedging face on said toolholder extension to thus firmly lock said toolholder extension axially in said toolholder bore of the turret and also to positively rotatively locate the toolholder extension in said toolholder bore.

3,375,743
METHOD AND APPARATUS FOR PERFORATING OR CUTTING A RAPIDLY MOVING STRIP

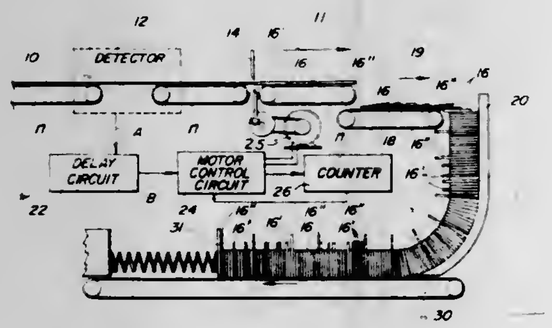
Murray N. Levy, Hatfield, Pa., assignor to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed Mar. 17, 1966, Ser. No. 535,110
30 Claims. (Cl. 83—27)



There is provided a method and apparatus for removing a sample coupon from a rapidly moving sheet. A punch having a peripheral cutting edge is dropped onto the sheet with the cutting edge facing the sheet, and then sheet and punch are passed through spaced rolls which force the punch through the sheet. This removes a portion of the sheet, known as a coupon, so that subsequent removal of the punch carries away the coupon for testing.

3,375,744
CUTTING, COUNTING AND CLASSIFYING APPARATUS

Stanley R. Schieven, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Mar. 8, 1966, Ser. No. 532,812
13 Claims. (Cl. 83—23)

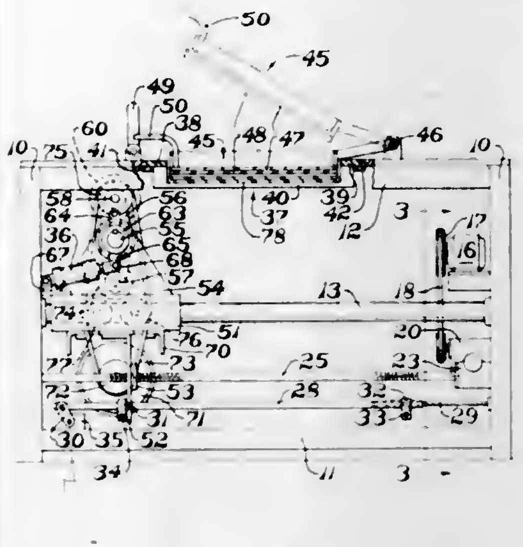


A web chopper having a defect detector which causes the area of the web containing the defect to be cut to a length different from normal to permit later removal of the defective sheet. The defect signal is utilized to vary the synchronized chopper cycle for the respective web region.

3,375,745
BAND CUTTING APPARATUS

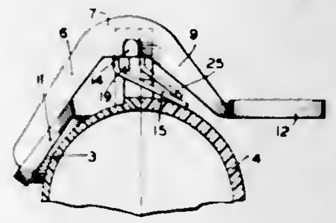
Mathew Kuts, Akron, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Apr. 15, 1966, Ser. No. 542,924
6 Claims. (Cl. 83—176)

A cutting apparatus having a work support for holding a tubular rubber stock in a flat condition, with such support having elongated parallel slits for cooperation with a reciprocable carriage having a plurality of cutter discs which cut the tubular stock into a plurality of elongated narrow width rubber bands.



3,375,746
KEYS FOR MUSICAL WIND INSTRUMENTS

Peter S. Proll, Newark, N.J., assignor to Proll Products Co., Newark, N.J., a corporation of New Jersey
Filed June 1, 1965, Ser. No. 460,029
13 Claims. (Cl. 84—380)



Improved keys for musical instruments, especially toy musical instruments such as clarinets are described, which comprise in addition to the usual finger pad and tone port-closing members, one or two resilient tongue members; all of these parts being combined in a unitary key member capable of being molded from plastic in one piece. Cooperating mounting structure on the body of a toy musical instrument is also described whereby the new keys may be easily and quickly assembled with the body in such a way that the integral resilient tongue members serve the dual function of facilitating operation of the key and retaining the key in the mounting structure.

3,375,747
RHYTHM BEATING ATTACHMENT FOR GUITARS

Thomas W. Posey, 2209 Austin, Brownwood, Tex. 76801
Filed June 1, 1966, Ser. No. 554,432
6 Claims. (Cl. 84—453)

1. A guard plate for a stringed instrument such as a guitar including a body from which an elongated neck projects, the strings of said instrument extending from the free end portion of said neck along the latter to a remote portion of said body, said guard plate comprising a panel-like body including one side surface which is roughened and being adapted for securement to said guitar body along one side of said strings with said one side surface of said guard body facing outwardly of said guitar body.

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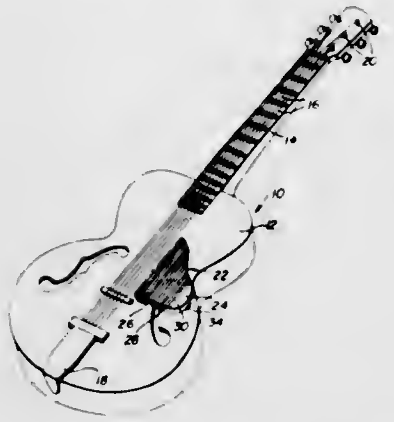
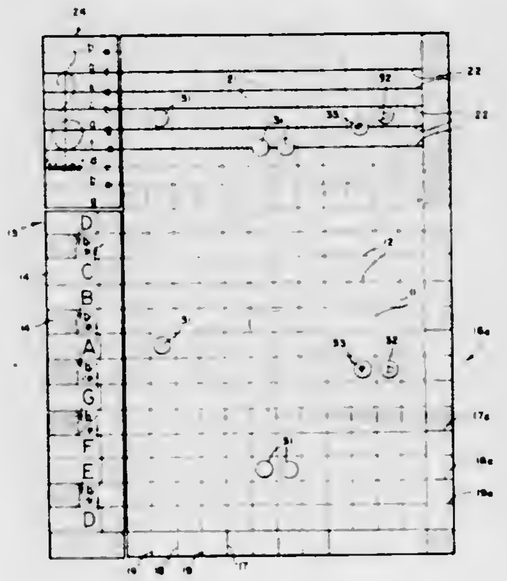
4. In combination with a stringed instrument of the type including a body from which an elongated neck projects and having a plurality of strings secured at one pair of corresponding ends to the free end portion of said neck with said strings extending along said neck and secured to a portion of said body remote from said neck, a guard plate comprising a panel-like body including one side surface which is roughened, said guard plate being secured to said guitar body alongside said strings with said one side surface facing outwardly of said guitar body.



3,375,748
TEACHING DEVICE FOR MUSICAL NOTATION

Phillip L. Aaron, 2916 N. 29th St., Milwaukee, Wis. 53210
Filed Jan. 27, 1966, Ser. No. 523,368
10 Claims. (Cl. 84—471)

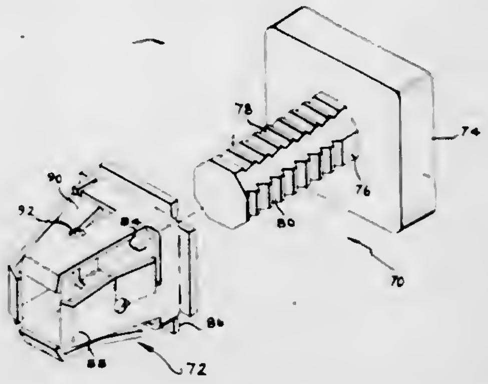


1. A teaching device for musical notation comprising a grid having equally spaced vertical lines and equally spaced horizontal lines, a representation of at least part of a piano key board at one side of said grid with adjacent key representations in the adjacent spaces between the horizontal lines, and means for indicating by vertical position on said grid the pitch of a selected note and by horizontal extent on the grid the duration of the selected note.

3,375,749
FASTENER

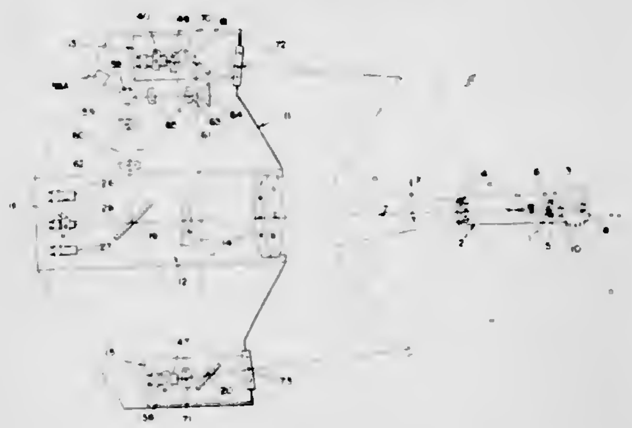
Daniel Russell Coldren, Enola, and Ralph Rupp Lau, Harrisburg, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Continuation-in-part of application Ser. No. 513,012, Dec. 10, 1965. This application Mar. 2, 1966, Ser. No. 531,097
4 Claims. (Cl. 85—80)

A fastener is provided for mechanically and electrically joining two members. The fastener comprises a receptacle having resilient arms for cooperating with an insert. The insert permits a wide range of adjustability and is quickly connectable and disconnectable.



3,375,750
THREE AXIS OPTICAL ALIGNMENT DEVICE

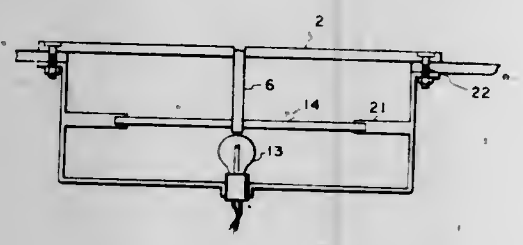
Charles R. Ellis, Andover, and Allister L. Baker, Denville, N.J., assignors to Keuffel & Esser Company, Hoboken, N.J., a corporation of New Jersey
Filed Sept. 15, 1961, Ser. No. 138,525
6 Claims. (Cl. 88—14)



4. A deviation checking system for checking the angular deviation of two bodies about three mutually perpendicular axes one of which is parallel to an axis passing through said bodies comprising:

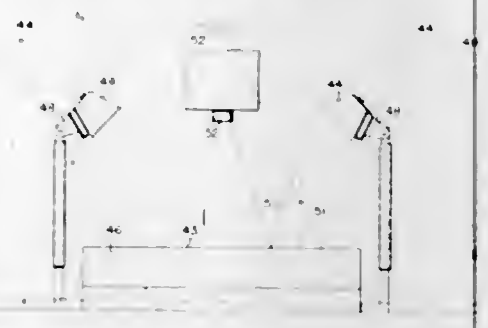
receiving means supported on one of said bodies for receiving light rays, projection means supported on the other of said bodies for projecting three separate beams of light to said receiving means, first light dividing and photoelectric sensing means on said one body to receive a first central beam of said three separate beams of light and sense lateral deviation movement of the first beam of light about two of said mutually perpendicular axes which are perpendicular to said axis which is parallel to an axis passing through said bodies, said first light dividing and photoelectric sensing means including two pairs of opposed light receiving portions with one light receiving portion of each pair being on one side of one of said two perpendicular axes and the other light receiving portion being on the other side of said one of said two perpendicular axes, the other pair of said light receiving portions of said first light dividing and photoelectric sensing means having one light receiving portion on one side of the other of said two perpendicular axes and the other of said light receiving portions being on the other side of said other of said two mutually perpendicular axes, said projection means including a light source, a reticle having a first slit, means on said projection means to collimate the image of the first slit of said reticle, means on said receiving means to direct the image of said first slit of said reticle onto said first light dividing and photoelectric sensing means, electric circuit means for providing an output indicative of the amount of said image received respectively by each of the said light receiving portions to indicate lateral deviation movement of said one beam of light rays about said two mutually perpendicular axes which are perpendicular to said axis which is parallel to said axis extending between said bodies whereby the first slit of said reticle when in alignment will focus on the center of said first light dividing and photoelectric sensing means, other slits in said projection means for producing the other two beams of light in diverging beams of uncollimated light in a plane extending toward said receiving means, a pair of radially spaced other light dividing and photoelectric sensing means on the one body to sense lateral movement of said two beams of uncollimated light to determine rotation about said axis which is parallel to said axis extending between said bodies, each of said pair of radially spaced other light dividing and photoelectric sensing means including a pair of opposed light receiving portions with one light receiving portion being on one side of said plane of said diverging beams and the other light receiving portion of each pair being on the other side of said plane of said diverging beams and electric circuitry connected to said light receiving portions for indicating variations in the amount of light striking each of said light rereceiving portions, whereby rotation about said axis which is parallel to said axis extending between said bodies can be accurately determined.

3,375,751
NEGATIVE AND PRINT DENSITOMETER
Nelson E. Engborg, Old Greenwich, and Richard C. Beitz, New Canaan, Conn., assignors to Barnes Engineering Company, Stamford, Conn., a corporation of Delaware
Continuation-in-part of application Ser. No. 338,667, Jan. 20, 1964. This application Mar. 16, 1964, Ser. No. 352,180
6 Claims. (Cl. 88—14)



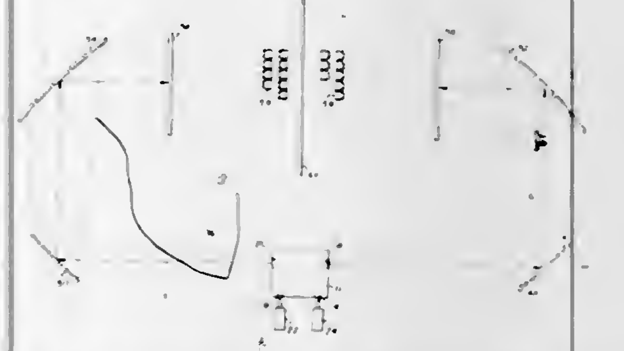
A densitometer for reading prints and negatives is provided with a diffusing screen illuminated from below, a small opening in the screen and a light pipe extending from the illuminating means to the small spot, the end of the light pipe being preferably slightly depressed from the surface of the screen and slightly roughened to prevent imaging of filaments of the light source. A negative or print can be moved over the screen until a particular point, the density of which is to be read, is over the small opening and receives therefrom a brilliant beam of light from the lighting means. A detector of dimensions substantially the same as the small opening, and which is preferably a solid state detector such as lead sulfide, is mounted on an arm which can be swung laterally in a pillar provided with a notch so that when it is swung to drop in the notch the detector is substantially in contact with the negative or print and aligned with the small opening. In order to prevent shadows on the screen a diffusing screen is mounted between the light and the screen but not between it and the light pipe. A meter reads light striking the detector and is provided with electronic circuits permitting adjustment of the meter for densest and least dense portions of the negative or print. The negative is moved until a small point, the density of which is to be measured, is over the small opening, the detector arm swung into place, and the electrical output from the detector measured on the meter.

3,375,752
COPYBOARD LIGHTING SYSTEM
Henry N. Fairbanks and Thomas M. Madigan, Jr., Rochester, N.Y., assignors to Itek Corporation, Lexington, Mass., a corporation of Delaware
Filed Feb. 19, 1965, Ser. No. 433,949
13 Claims. (Cl. 88—24)



This disclosure is drawn to a unique light source having a reflector of a particular shape and which produces a predetermined light intensity distribution, which may readily be utilized in conjunction with a copyboard bearing copy to be reproduced with uniform results.

3,375,753
SEGMENTED BEAM PROJECTION SYSTEM AND METHOD FOR BENDING BEAMS
William H. Ramsell, 1682 Hamilton Ave., Palo Alto, Calif. 94303
Filed Apr. 5, 1965, Ser. No. 445,542
4 Claims. (Cl. 88—24)



A beam projection system for forming an image upon a projection screen, not in the line of sight of the projection beam, by intercepting the diverging projection beam with a plurality of reflecting surfaces to form individual diverging beam segments and by intercepting the individual beam segments with a further plurality of reflecting surfaces for directing the individual beam segments on the projection screen with adjacent edges of the beam segments in overlapping alignment.

3,375,754
LENS TESTING AUTOCOLLIMATOR
Kenneth G. Kugler, Rochester, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Sept. 29, 1964. Ser. No. 400,178
2 Claims. (Cl. 88—56)

2. An autocollimator for precision measuring of focal length and nodal point decentration of a negative lens, said autocollimator comprising

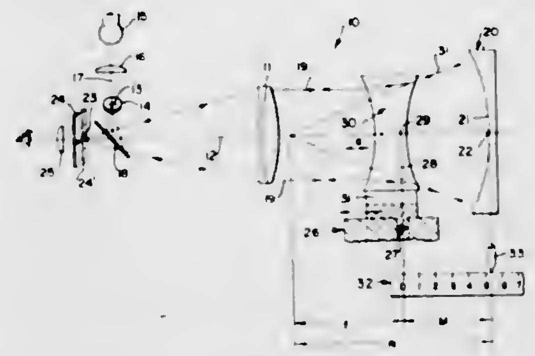
a collimating lens,

a spherically concave mirror facing said lens and spaced therefrom in optical alignment therewith,

indicia means optically aligned with said lens on the side opposite to the mirror and spaced from the lens at an axial path length equal to the front focal length of the lens,

a light transmitting plate on which said indicia means is formed, means for transilluminating said indicia means,

a nodal slide for supporting said negative lens with its relevant nodal point so spaced from the vertex of said mirror that the incident image rays projected from said indicia means are retrodirected by said mirror to the front focal point of the collimating lens,

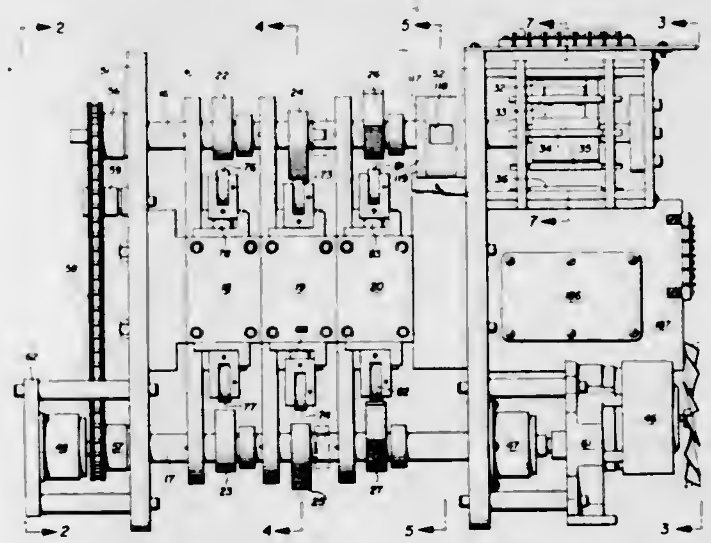


a screen erected at said point, and a deviation scale formed thereon having a zero mark coincident with said point, and

means for measuring the axial distance between said relevant nodal point and said vertex

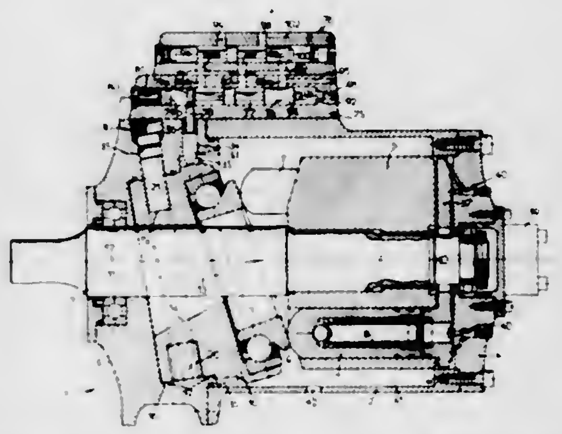
whereby the measurement obtained by the last said means is subtracted from the known radius of said mirror to obtain the negative focal length of a negative lens which is positioned on said nodal slide, and whereby the deviation of said relevant nodal point from true optical centration is read on the deviation scale by noting the departure from zero position of the average radial sweep of the image of the indicia means.

3,375,755
CONTROL DEVICE FOR AUTOMATING SEQUENTIAL MACHINE OPERATION
James A. Hunt, 335 Almshouse Road, Woodcliff Lake, N.J. 07680, and Harold C. Reinhardt, Roger Court, Doylestown, Pa. 17219
Filed Oct. 19, 1965, Ser. No. 497,682
12 Claims. (Cl. 91—1)



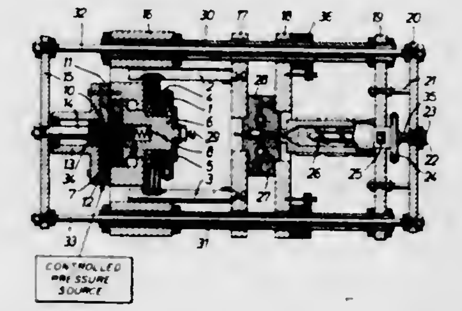
The control device is adapted for automating a machine or apparatus having a cyclic operation and includes the combination of sensors for sensing terminal positions in such operation, a pair of cam shafts and a two-way controller operated thereby, second sensors sensing the position of the cam shafts, and a power circuit for advancing the cam shafts in steps as the machine is actuated through cycles of its operation, in an arrangement wherein the control device will not advance to energize the next sequential operation of the machine until the first operation of the machine has been completed.

3,375,756
MULTIPLE- OR VARIABLE-SPEED MOTORS NOTABLY HYDRAULIC MOTORS WITH MONITORING SYSTEM AND ITS APPLICATIONS
Daniel Lucien Charles Maurice Bienaime, Lyon-Caluire, France, assignor to Hydraulica, Hollerich-Luxembourg, Luxembourg, a holding company of Luxembourg
Filed Dec. 22, 1965, Ser. No. 515,675
Claims priority, application Luxembourg, Feb. 6, 1965, 47,926
15 Claims. (Cl. 91—175)



Compressed-fluid device including a variable speed reversible motor and a monitoring or control system therefor whose speed varies continuously or stepwise, said motor being equipped with a movable distributor-plate coaxially rigid with the motor shaft and containing in cylindrical bores substantially parallel to the shaft axis reciprocating pistons cooperating with a swash plate adjustably inclined to the axis of the motor shaft, the swash plate being rotatably movable on a support about an axis differing from the shaft axis and oblique in relation to the said swash plate so as to intersect said plate at a point substantially coplanar with the geometric locus of the points of contact of said pistons and swash plate, and the control system including means for rotating said support.

3,375,757
ACTUATOR, PARTICULARLY FOR A MOLD IN AN INJECTION-MOLDING MACHINE
Peter Florjancic, Hochblassenstrasse 4, Garmisch-Partenkirchen, Germany
Filed Dec. 21, 1964, Ser. No. 419,826
Claims priority, application Austria, Dec. 31, 1963, A 10,517/63
4 Claims. (Cl. 91—189)

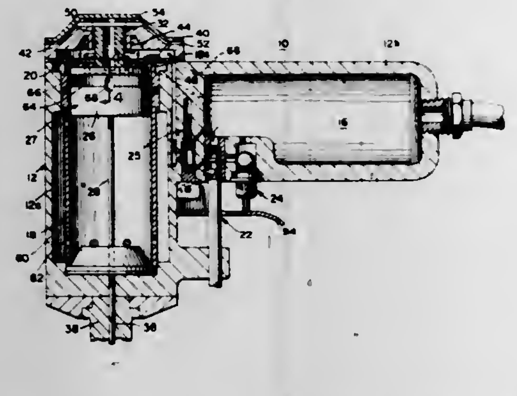


1. An actuator for a member mounted for reciprocal movement comprising a worm supported substantially

fixed in space, bearing means for said worm to enable rotation about its central axis, means to rotate said worm, and at least two toothed push rods with the teeth of each being in mesh with said worm, the push rods being connected to said member whereby rotation of said worm produces a linear motion of said toothed push rods relative thereto to drive reciprocally said member between extreme positions, the diameter of the worm and lead angle of the toothed push rods being such as to provide a mechanical advantage suitable to prevent back pressure on the member from moving the rods and turning the worm.

3,375,758
FASTENER DRIVING TOOL

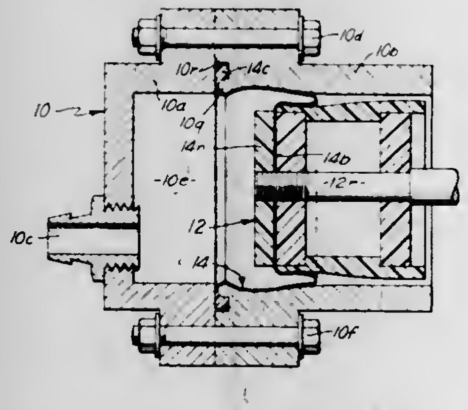
Raymond F. Novak and Howard B. Ramspeck, Chicago, Ill., assignors to Fastener Corporation, Franklin Park, Ill., a corporation of Illinois
Filed Sept. 13, 1966, Ser. No. 579,085
7 Claims. (Cl. 91—356)



A pneumatically operated fastener driving tool is provided with suitable control mechanism to provide for single-cycle operation. The improved control mechanism may be applied to a known type of tool wherein a drive or power piston is slideably mounted in the cylinder of the tool. A control valve is provided which is actuated by depression of a trigger or other manual actuator to control the movement of the drive piston through a drive stroke, and thereafter automatically and sequentially to return the drive piston through a return stroke. The control valve is connected between the main valve controlling the flow of fluid to the cylinder, and receives a signal when the drive piston is at the end of its drive stroke to recondition the cylinder for the return stroke of the piston.

3,375,759
ROLLING-DIAPHRAGM PUMP

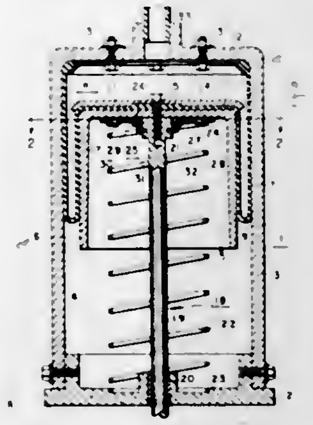
James V. Smith, Ames, Iowa, assignor to Bourns, Inc.
Filed May 18, 1966, Ser. No. 550,997
4 Claims. (Cl. 92—98)



A pump of the reciprocating-piston rolling-diaphragm type, especially adapted to pump breathing gases at very low pressures over extended periods comprising millions of cycles of operation without shedding of diaphragm material and without failure or creasing of the diaphragm. The pump comprises a resilient diaphragm and a cylinder and a piston each having an active surface to and from which the diaphragm rolls in eversive movements incident to reciprocation of the piston in the cylinder, the active surfaces being in both instances of circular cross-section and being throughout their entire extents of non-linearly varying diameter, whereby despite continuous pumping against very low pressures through millions of cycles the diaphragm does not have tendency to creasing and does not abrade or shed undesirable particles into the gases being pumped.

3,375,760
ROLLING DIAPHRAGM DEVICE HAVING SPRING-BIASED PISTON AND MEANS FOR PRECLUDING TRANSMISSION OF SPRING-WINDUP TO PISTON

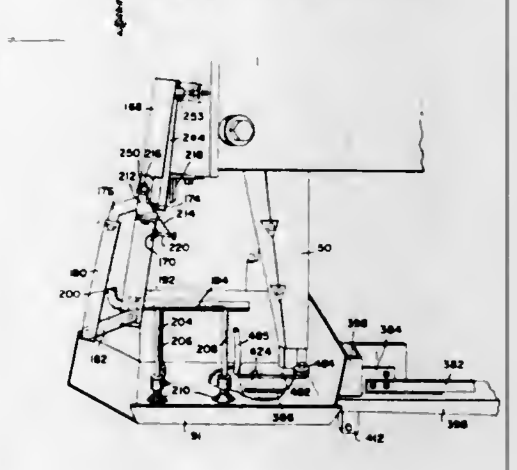
John F. Taplin, 15 Sewall St.,
West Newton, Mass. 02165
Filed July 26, 1966, Ser. No. 567,929
2 Claims. (Cl. 92—99)



A rolling diaphragm device, such as a pump or actuator, having a rolling diaphragm clamped to a housing and to a piston, with a helical piston-biasing spring positioned between the housing and a rotatably mounted ball bearing retainer plate adjacent the piston to prevent any twisting motion of the spring from being impared to the piston and diaphragm.

3,375,761
APPARATUS FOR FORMING BOXES

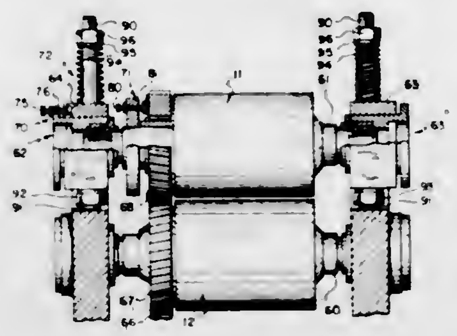
Bertram A. Fulton, Lynnfield, Mass., assignor to Metal Edge Industries, Barrington, N.J., a corporation of New Jersey
Filed Oct. 20, 1965, Ser. No. 498,384
16 Claims. (Cl. 93—41.1)



1. In combination,
an anvil,
means to support a flat with a corner thereof adjacent an end of the anvil,
means to erect the side panels of the flap adjacent said corner to position that said side panels adjacent the length of the anvil,
means to successively position the remaining corners of the flat adjacent the said end of the anvil with the adjacent side panels positioned adjacent the length of the anvil, and
means to apply a corner stay to each adjacent pair of side panels positioned adjacent the length of the anvil.

3,375,762
CUTTING AND/OR CREASING APPARATUS

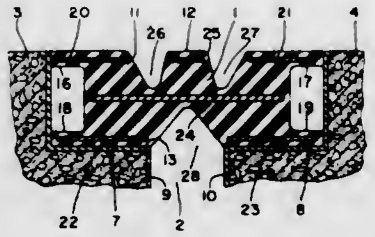
Albert J. Sarka, Fairview Park, Ohio, assignor to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Nov. 22, 1965, Ser. No. 508,914
15 Claims. (Cl. 93—58.2)



1. An apparatus for cutting and/or creasing material comprising a pair of rotary cylinders having complementary flexible die plates mounted thereon, said cylinders with said die plates defining a material forming nip therebetween, each of said die plates having a plurality of projecting members thereon defining a cutting and/or creasing pattern, means for moving one of said cylinders relative to the other of said cylinders to change the relative locations of the projecting members carried by each of said cylinders, and plate clamp means for securing each of said die plates to said cylinders and including means for moving said die plates relative to said cylinders whereby said projecting members may be properly adjusted relative to each other.

3,375,763
ELASTOMERIC EXPANSION JOINT

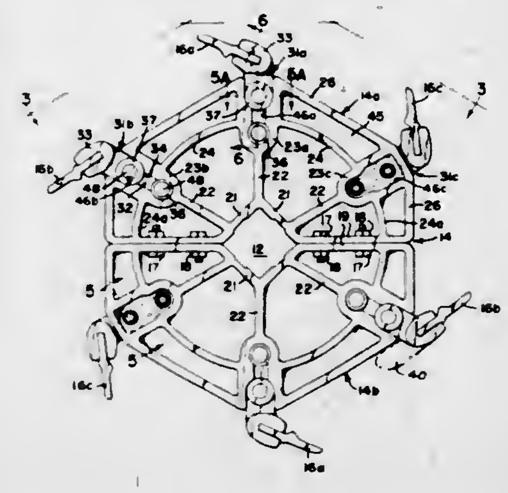
John A. Welch, Northampton Township, Ohio, assignor to The General Tire & Rubber Company, a corporation of Ohio
Filed Feb. 15, 1965, Ser. No. 432,471
9 Claims. (Cl. 94—18)



An elastomeric expansion joint is used between the adjacent sections of a roadway or a bridge wherein it is desirable to maintain a relatively smooth and continuous road surface while at the same time compensating for the thermal expansion and contraction of the bridge beams and/or sections of concrete. The joint is provided with one or more deformation grooves in its upper surface and a plurality of rigid plates embedded in the elastomer, generally parallel to said surface and adapted to render the joint relatively stiff in the vertical direction and to permit the joint to deform in shear upon reduction of the width of the space between the adjacent sections.

3,375,764
REMOVABLE TOOTH PAVEMENT MIXER WHEEL CONSTRUCTION

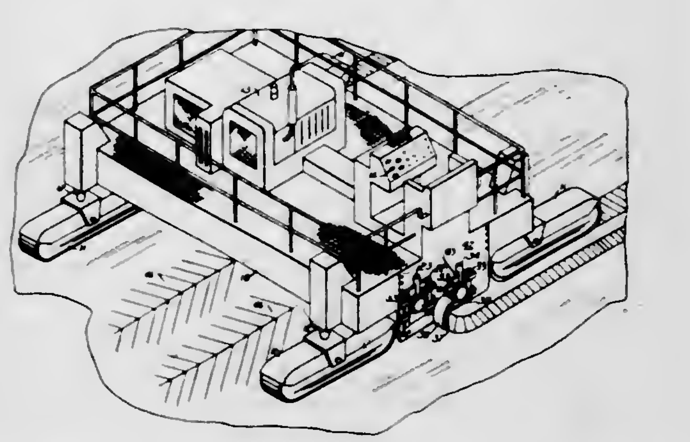
Gerald A. Petersen, Sunnyvale, Calif., assignor of one-half to Anita E. Petersen, Saratoga, Calif.
Filed Oct. 21, 1965, Ser. No. 500,058
8 Claims. (Cl. 94—40)



A rotary pavement mixed disk is provided with pockets to receive tooth holders to which replaceable teeth are connected. The tooth holders and teeth are identical. However, the pockets in the disk are formed of different depths and some are on opposite sides of the disk. Thus one tooth is centered relative to the disk and at least one tooth is positioned on either side thereof. However, all the teeth are parallel.

3,375,765
HIGHWAY SURFACING TRIMMER AND SPREADER

Raymond A. Hanson, % R. A. Hanson Co., Palouse, Wash. 99161
Filed Oct. 14, 1965, Ser. No. 495,798
3 Claims. (Cl. 94—44)



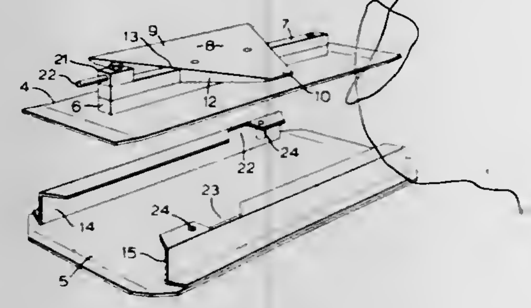
The invention disclosed herein is concerned with the use of first and second consecutive augers on an apparatus for trimming and spreading material along a path such as a roadway. The first auger is utilized to spread excess material across a supporting framework in a first transverse direction and the second auger is used to spread such material in an opposite direction. At the delivery end of the first auger is a transfer device in the form of radial paddles fixed to the auger to shift material rearwardly. The material passes through an aperture or opening in the crumber shoe immediately rearward of the first auger. A discharge opening on the framework at the delivery end of the second auger is also provided to receive material finally discharged after passage of the machine.

3,375,766
TROWELLING APPARATUS FOR CEMENT SURFACING MACHINES

Francesco F. Zochil, Hamilton, Ontario, Canada, assignor to Hamilton Float & Trowel Limited, Hamilton, Ontario, Canada

Filed Aug. 7, 1964, Ser. No. 388,253

4 Claims. (Cl. 94—45)



1. A blade assembly for attachment to a rotatable sweep arm of a machine for trowelling the surface of cement and comprising a horizontal plate of truncated triangular form, a bar-like member underlying the central portion of the bottom surface of the plate and whereby the apex portion of the plate protrudes from one side of the bar-like member and the base portion of the plate protrudes from the other side of the bar-like member, the bar-like member being secured to and projecting from the end of the sweep arm, a cement trowelling blade adapted to be positioned underneath the bar-like member and to be detachably carried by the triangular plate, a pair of inwardly facing channel members for reception of the plate and carried upon the side portions of the upper face of the blade and having their inner vertical faces spaced apart a distance somewhat greater than the distance between the base of the plate and its truncated apex, each channel having an upper inturned horizontal flange, one flange overlying the base portion of the plate and the other flange overlying the apex portion of the plate when the plate is received within the channels, one end portion of each flange being formed with a slot of just sufficient size to permit passage of the apex portion of the plate into and out of the slot, and stop means projecting into each channel and against which the plate is urged by centrifugal force as the sweep arm rotates, each said stop means retaining the blade on the triangular plate and locating the triangular plate in the channels with the respective flange slot out of register with the said apex portion of the plate.

3,375,767
CAMERA BELLOWS AND METHOD OF CONSTRUCTION

Albert J. Hanlon, Somerville, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Jan. 7, 1966, Ser. No. 519,214

6 Claims. (Cl. 95—39)

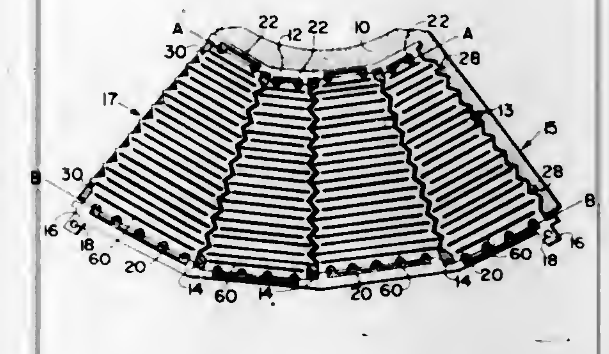
1. An expansible and collapsible bellows adapted to form a light-tight path between the lens and film plane of a photographic camera, said bellows comprising, in combination:

(a) a hollow, four-sided body portion having a substantially rectangular cross section and open front and rear ends;

(b) a plurality of fold lines extending in parallel relation transversely along each of said sides and cooperatively arranged to allow axial relative movement of said front and rear ends;

(c) a pair of rigid frames having bounding edges extending, respectively, around the peripheries of said front and rear ends;

(d) said body portion being formed of a laminated sheet material having at least three layers;



(e) marginal edge portions of said sheet material being folded over said bounding edges and secured to a surface of each of said frames around said peripheries; and

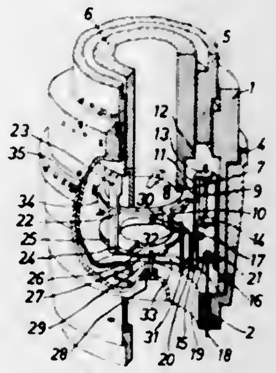
(f) means securely bonding the opposing surfaces of the two outer layers of said sheet material through cut-out areas in the intermediate layers in said marginal edge portions.

3,375,768
PHOTOGRAPHIC LENS MOUNTS INCLUDING AN AUTOMATIC DIAPHRAGM

Paul Klupsch, Jena, Germany, assignor to VEB Carl Zeiss Jena, Jena, Gera, Germany

Filed Oct. 6, 1966. Ser. No. 585,224

1 Claim. (Cl. 95—45)



1. A photographic lens mount including a spring-controlled preselection diaphragm and comprising a lens barrel, a focusing tube, a leaf ring on and rotatable about said focusing tube, said focusing tube and said leaf ring being jointly displaceable along the optical axis in said lens barrel, a radial arm fast with said leaf ring, a rotatable adjusting body parallel to the optical axis disposed between said barrel and said focusing tube, said adjusting body having an edge which is parallel to the optical axis and urges against said radial arm, the length of said edge corresponding to that of the greatest possible displacement of said focusing tube, and a shutter release, said adjusting body being permanently parallel to the optical axis and so tiltable by said shutter release that said diaphragm can be set at its greatest aperture against the action of a locking spring and can be released by said edge and said radial arm independently of the adjustment of said focusing tube.

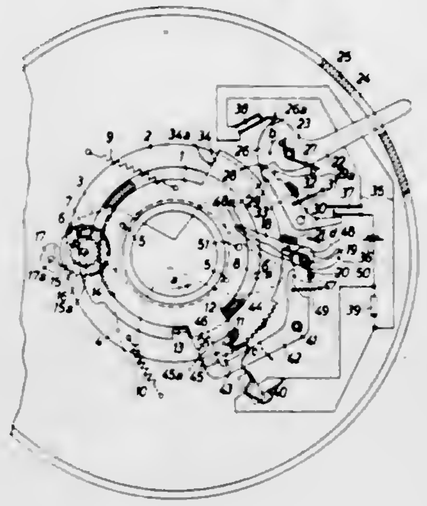
3,375,769
COMBINED SHUTTER AND DIAPHRAGM FOR PHOTOGRAPHIC CAMERAS

Gerd Kiper, Unterhaching, near Munich, Germany, assignor to Agfa-Gevaert AG, Munich, Germany

Filed July 7, 1965, Ser. No. 470,172

Claims priority, application Germany, July 16, 1964, A 46,600

15 Claims. (Cl. 95—63)



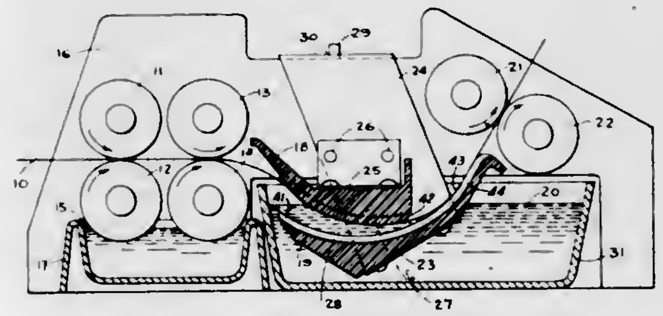
A photographic camera wherein the shutter acts as a diaphragm and comprises a leading ring, a trailing ring and blades connected with both rings. The size of the aperture defined by the blades and the exposure time change as a function of the extent to which the leading ring moves from cocked position ahead of the trailing ring and of the delay with which the trailing ring follows the leading ring to uncocked position. The leading ring is coupled with a retard mechanism which controls the speed of its movement to uncocked position and the trailing ring is controlled by a delay mechanism which determines the exact moment of its release as a function of the intensity of scene light or which can be set by hand to determine in advance the delay with which the trailing ring is released for movement to uncocked position to thereby close the aperture.

3,375,770
PHOTOGRAPHIC PROCESSING MACHINE

John T. Hellyer, Rockton, Ill., assignor to J. T. Hellyer, Inc., St. Charles, Ill., a corporation of Illinois

Filed July 20, 1965, Ser. No. 473,315

3 Claims. (Cl. 95—94)



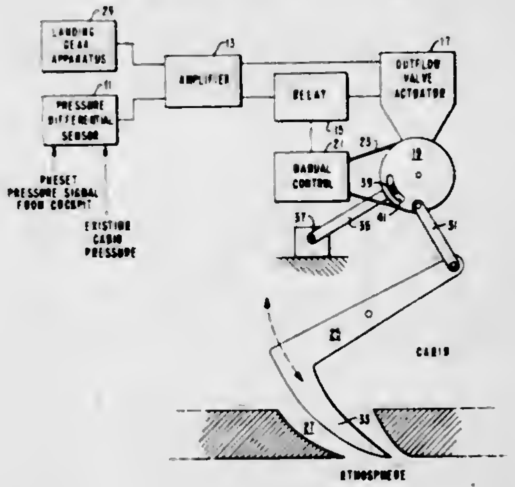
This photographic processing machine, designed for speedier finishing of prints, has two closely spaced pairs of rubber covered feed rolls cooperating with a developer bath, the first pair being under light spring pressure to promote good wetting with developer while the second pair operates with heavier spring pressure to squeegee excess developer off the paper for economy but mainly more evenness of distribution and for better stabilization in the second bath. A third pair of spring pressed rubber covered feed rolls, serving as final squeegee rolls, driven in timed relation to the first mentioned ones obtains properly timed sequence in the passing of the paper from the first bath through the second, the third pair being arranged so that paper emerging from the second bath rises at a steep angle for quicker drainage by gravity of a large percentage of the stabilizer solution back into the second bath before the paper reaches these last rolls. A guide system provided between the second and third set of rolls in connection with the stabilizer bath consists of vertically spaced gently curved plastic guides, the upper one of which is disposed to maintain even tension on the paper between the second and third pair of rolls by holding the paper immersed in the stabilizer just to the right extent and no more, while the lower one cooperates with the upper one to guide only the leading and trailing ends of the paper properly to avoid backups or bunchings and help at its trailing end to direct the paper finally upwardly at a sharp angle to the last rolls. Both guides have longitudinally extending ribs in offset relationship to one another for light line contact with the paper on both sides, but mainly on the back, so that there will be no traces of adhesion and no scuffing of the surface due to passage through the guide system.

3,375,771
CABIN PRESSURIZATION ACTUATOR CONTROL SYSTEM

Orville R. Balcom, Jr., San Pedro, Calif., assignor to The Garrett Corporation, Los Angeles, Calif.

Filed Sept. 13, 1965, Ser. No. 486,995

17 Claims. (Cl. 98—1.5)



A control system for proportionally controlling the application of an alternating current wave to energize an actuator motor in response to an input signal comprising the combination of an error signal and a motor rate feedback signal. One of a pair of gate circuits which corresponds to the sense of the input signal may be fired by pulses from an associated oscillator during each half cycle of the alternating current wave to pass the wave to the motor with a feedback circuit from the motor preventing the generation of pulses during every other half cycle when the input signal is less than a predetermined value. A capacitor is charged in accordance with oscillator operation to provide the rate feedback signal.

3,375,772
ONE-WAY HINGELESS VENTILATOR

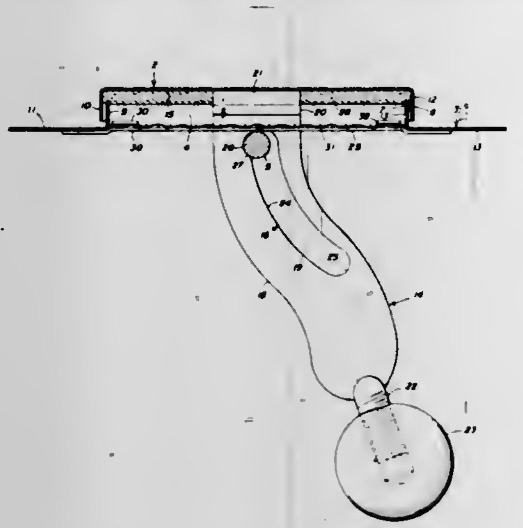
Timothy A. Kelly, 423 Market St., Salem, Va. 24153, and David R. Altice, 3201 Ventor Road SW., Roanoke, Va. 24000

Filed July 1, 1966, Ser. No. 562,228

6 Claims. (Cl. 98—2)

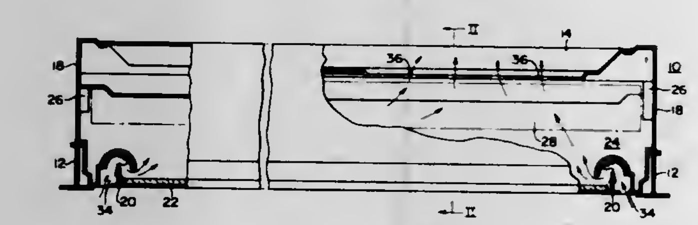
1. A one-way hingeless ventilator comprising a frame bounding an opening, a cover swingable on said frame for opening and closing said opening, guide means fixed

to said cover, tension rod means fixed to said frame and slidably engaging and tensioned by said guide means for connecting said cover to said frame and determining the extent of opening of said cover, and means on said frame and cover and operative on swinging of said cover for substantially fixing the swinging axis thereof.



3,375,773
AIR HANDLING LIGHT FIXTURE

Joseph P. Wotowiec, Cleveland, and Carle E. Rackley, Westlake, Ohio, and Winfried Nieder-Westermann, Vicksburg, Miss., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 3, 1967, Ser. No. 627,827
7 Claims. (Cl. 98—40)

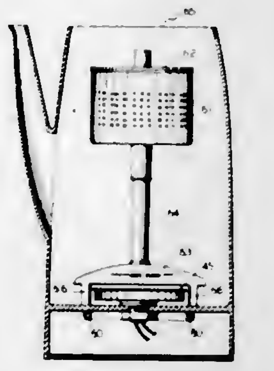


An air handling luminaire including a housing which, in conjunction with a refractor door assembly, defines an enclosure in which the heat generating light sources are mounted. The refractor door assembly includes an air entrance duct on one or both ends thereof which has a curved arcuate shape in cross-section and is so shaped to minimize air turbulence while minimizing the exit of light from the light sources through the air entrance duct. The air entrance duct is further provided with a semi-circular, in cross-section, vane rotatable within the duct to vary the area of the entrance and accordingly the amount of air traversing the heat generating light sources.

3,375,774
FULLY AUTOMATIC ELECTRIC COFFEE POT

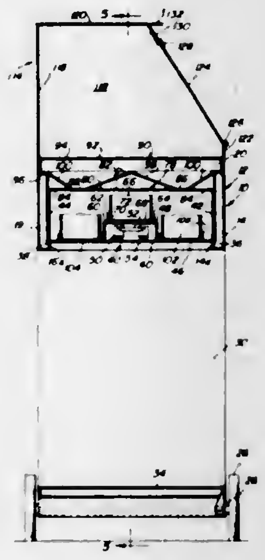
Masanori Fujimura, Moriguchi-shi, Yukio Kasahara, Neyagawa-shi, Takashi Iguchi, Kyoto-shi, Yoshihiro Matsuo, Suita-shi, Hiromu Sasaki, Osaka-shi, Kaneomi Nagase, Kyoto-shi, and Shigeru Hayakawa and Yoshio Iida, Hirakata-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan
Filed Jan. 5, 1967, Ser. No. 607,421
9 Claims. (Cl. 99—281)

An automatic electric coffee pot having a heating unit consisting of a conventional alloy resistance heater connected in series with a positive temperature coefficient of resistance ceramic heater made of barium titanate semi-conductor, the circuit of the heating unit first causing the liquid to be heated to boiling to brew the coffee, and then the resistance of the ceramic heater abruptly rising to reduce the current flow and the temperature of the heating unit so as to keep the brewed coffee warm without further boiling.



3,375,775
ELECTRIC BARBECUE MACHINE

Earl T. Folmar, P.O. Box 83, Goshen, Ala. 36035
Filed Nov. 4, 1966, Ser. No. 592,198
12 Claims. (Cl. 99—446)

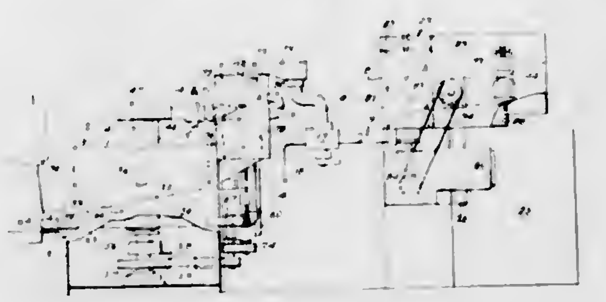


An electric barbecue machine incorporating a tray containing wooden particles which is subjected to the heat generated by an electric heating element. The heat generated by the electric element converts the wooden chips to charcoal which is heated by the same electric element causing the charcoal to burn and cook foodstuffs placed on a grill which is located above the charcoal. Immediately below the grill is positioned a baffle cover containing perforations interiorly situated to allow foodstuff drippings to flow from the baffle cover into receptacle trays located beneath the perforations and housed internally to the barbecue machine.

3,375,776
DISINTEGRATING MATERIAL IN A LIQUID CARRIER AND SEPARATING THE SAME

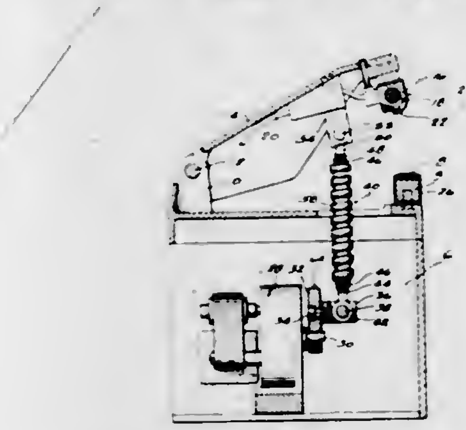
Howard W. Dyson, 113 Bala Ave., Oreland, Pa. 19075
Filed July 1, 1965, Ser. No. 468,738
17 Claims. (Cl. 100—72)

Apparatus including a distintegrator and a separator. The disintegrator has an impeller with replaceable disintegrating teeth to form a slurry with a liquid carrier. A replaceable sizing screen surrounds the impeller to discharge the slurry to a single or multiple separator where the carrier may be either separated and returned to the disintegrator, or may be discharged with the material. In the separator, the separation is made by a screw rotating in a foraminous shell. Several forms of separators are shown, in some of which the screw is confined to the upper section. The shell is generally cylindrical, either straight or tapered, or both; and brushes are provided to maintain the perforations in the shell clear of the separated material.



3,375,777
BAR-TYPE SEALER HAVING MOTOR-OPERATED JAW MEANS

Wilbur H. A. Techtmann, Belgium, and Arthur E. Pohl, Milwaukee, Wis., assignors to Techtmann Industries, Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed June 16, 1965, Ser. No. 464,345
7 Claims. (Cl. 100—93)

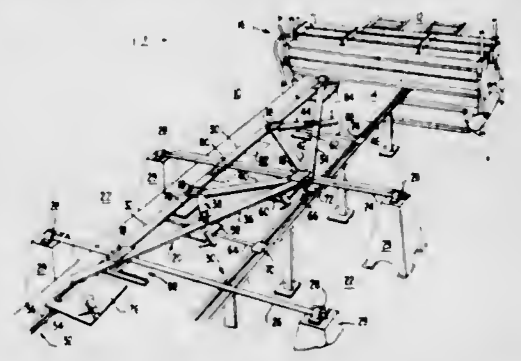


A jaw-type sealer has a crank for operating the movable jaw, and a connecting rod comprising eye bolts connected with the crank and with the jaw respectively, and further has an intervening tightly wound spring which is under compression when the jaw is being lifted and which is enclosed in a floating tube tightly fitted about the spring to keep it from collapse when under pressure, the spring being tensioned to provide lost motion following the closing of the jaws. The motor which drives the crank has a switch opened when the crank has made one rotation, the jaw being open.

3,375,778
APPARATUS FOR UNLOADING COMPLETED WOODEN STRUCTURAL ELEMENTS

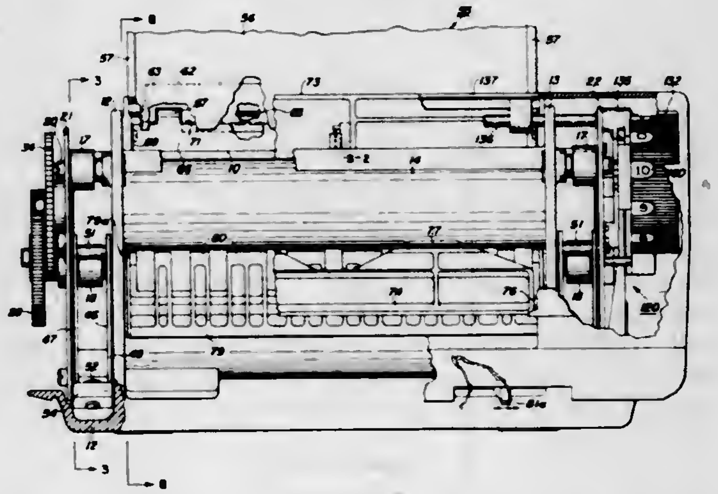
Robert W. Newman, Miami, Fla., assignor to Automated Building Components, Inc., Miami, Fla., a corporation of Florida
Filed July 25, 1966, Ser. No. 567,428
19 Claims. (Cl. 100—215)

The apparatus for unloading finished wooden structural elements, such as roof trusses, comprises a conveyor operable to advance a jig table carrying a roof truss or the like to successively locate the longitudinally spaced butt joints thereof below a press platen for embedment into the butt joints of nail plates of the type having a plurality of teeth struck therefrom and thereafter unloading the truss or the like from the jig table. A lift bar is pivotally mounted on the jig close to the leading joint or nail plate and the bar spring biased in such a manner as to tend to raise its free end. The bar is locked downward against this bias by a pin which is longitudinally movable against the action of a return spring. When the pin is in a position to compress this spring, its other end engages the bar and holds it in a lowered position. The pin is held against the force of the spring by the frictional engagement between the bar and the pin. When the bar is depressed, as through downward movement of the truss when the forward nail plate is pressed into the lumber, the frictional engagement between the bar and the pin is released, the pin is returned by the spring, and the bar is free and tends to rotate in a manner to lift the leading edge of the truss. Such lifting occurs just as soon as the truss is released by the press and, as the jig advances, the leading edge of the truss then passes over a stripping roller so that the truss may be lifted free of the jig. A cocking bar is provided for cocking or depressing the lifting bar against the action of its spring.



3,375,779
PROGRAMMING CONTROL FOR REPRODUCTION MACHINES

Donald G. Mallory, Penfield, Lyman H. Turner, Pittsford, and James R. Cassano, Rochester, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Sept. 30, 1965, Ser. No. 491,551
8 Claims. (Cl. 101—132)



1. In a reproduction machine wherein an image is transferred from a master sheet to a copy sheet, the combination of
a rotatable drum for supporting the master sheet,
means for rotatably supporting said drum,
a paper gripping means mounted on said drum and adapted to be actuated from an open position to a closed position for gripping the master sheet to the

drum for supporting the same during rotation thereof,

a circuit including a motor operatively connected to said drum for rotating the same when the motor is energized for producing movement of a copy sheet, said circuit including switching means operable for closing said circuit to said motor causing energization thereof,

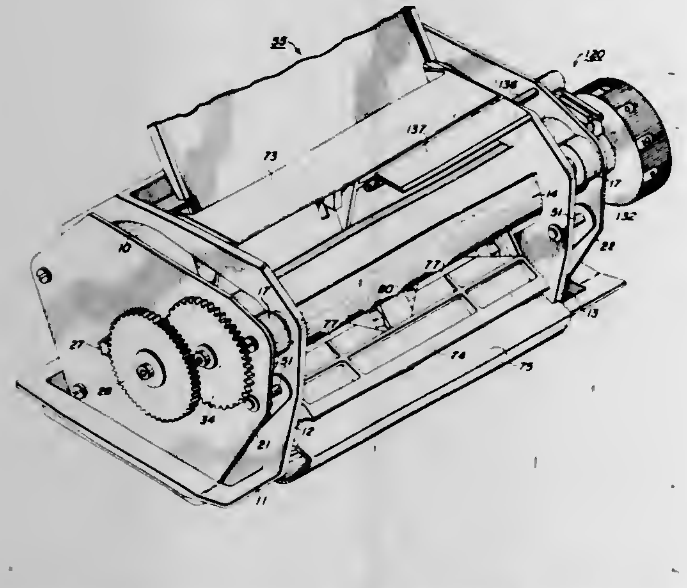
and a programmer mechanism associated with said paper gripping means and including a first control means adapted for actuation to a first control condition wherein said gripping means is held in open position and to a second control condition for actuating said gripping means to said closed position,

a second control means being adapted to actuate said switching means to close said circuit when said first control means has been actuated to its second control condition.

said programmer mechanism including actuator means for producing actuation of said first control means from said first control condition to said second control condition and actuation of said second control means.

3,375,780
SHEET COUNTING MECHANISM FOR REPRODUCTION MACHINES

Lyman H. Turner, Pittsford, and James R. Cassano, Rochester, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Sept. 30, 1965, Ser. No. 491,553
3 Claims. (Cl. 101—132)

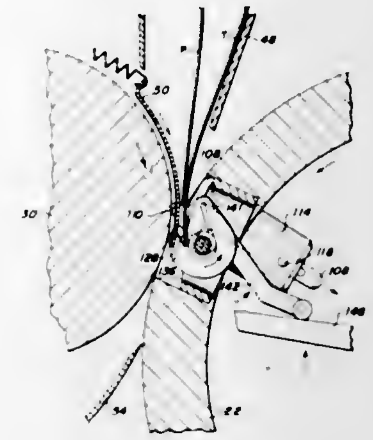


A reproduction apparatus of the pressure-transfer type incorporating a three-way roller bearing support for the rotatable copy drum and driving pressure roll, toggle type force generating means for holding the pressure roll in pressure contact with the copy drum, a foldable paper tray, automatic gripping means for attaching the transfer sheet to the copy drum, means for separating copies from the transfer sheet, and programming control means adapted at the last copy programmed to release the gripping means whereby the transfer sheet is expelled with the last copy.

3,375,781
REGISTRATION MECHANISM FOR A REPRODUCTION MACHINE

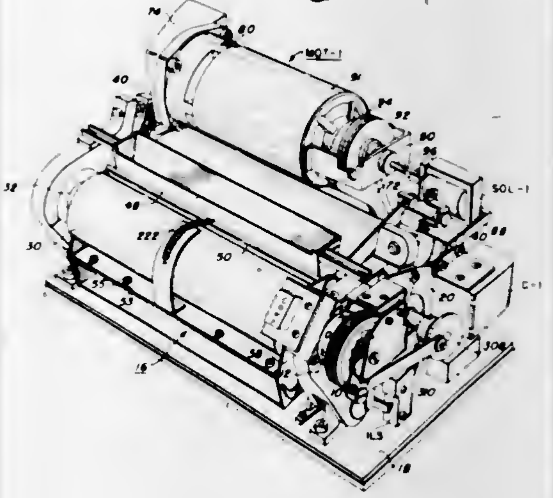
James J. Grimm and Harold E. Trumbull, Columbus, Ohio, assignors, by mesne assignments, to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Sept. 30, 1965, Ser. No. 491,560
5 Claims. (Cl. 101—132)

A pressure transfer reproduction machine for transferring ink from one sheet to another having a pressure roller, a rotatable drum having paper grippers thereon for clamping a transfer sheet and a registration device to position the transfer sheet relative to a copy sheet.



3,375,782
PROGRAMMING MECHANISM FOR A REPRODUCTION MACHINE

James J. Grimm and Harold E. Trumbull, Columbus, Ohio, assignors, by mesne assignments, to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Sept. 30, 1965, Ser. No. 491,563
8 Claims. (Cl. 101—132)

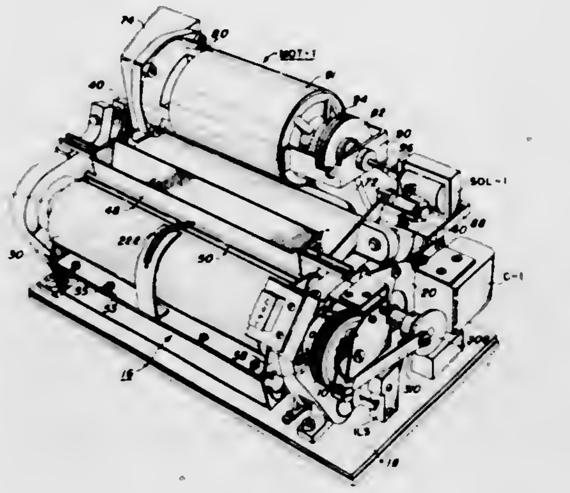


A pressure transfer reproduction machine for transferring ink from one sheet to another including a rotatable drum having a paper gripper thereon and a programming mechanism for controlling the operation of paper grippers including a device for opening the grippers allowing the insertion of a transfer sheet and for closing thereof to grip the transfer sheet and a second device for opening the gripper for releasing the transfer sheet.

3,375,783
COPY INDICATING MECHANISM FOR A REPRODUCTION MACHINE

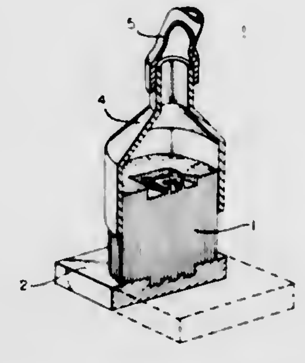
James J. Grimm and Harold E. Trumbull, Columbus, Ohio, assignors, by mesne assignments, to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Sept. 30, 1965, Ser. No. 491,564
3 Claims. (Cl. 101—132)

A pressure transfer reproduction machine for transferring ink from one sheet to another having a rotatable drum and a control apparatus including a device for presetting the number of copies to be reproduced and a number wheel for indicating the number of copies desired.



3,375,784
METHOD OF MANUFACTURING PRINTING MEMBER

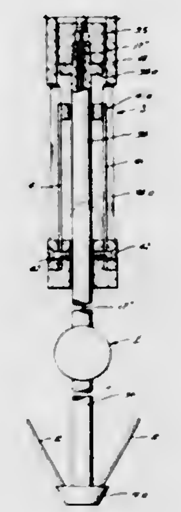
Nils Oskar Tore Lööf, Gullspang, Sweden
Filed Dec. 2, 1964, Ser. No. 415,432
Claims priority, application Sweden, Dec. 6, 1963, 13,544/63
8 Claims. (Cl. 101—327)



1. A printing device comprising:
(a) a plurality of metallic wires arranged parallel to one another in the form of a cylindrical bundle;
said wires being of circular cross-section and each having a diameter of not more than about 0.02 inch;
(b) at least a preselected group of said wires being displaced longitudinally and terminating in a plane differing from the plane of the remaining ones of said wires;
(c) said displaced wires forming a preselected printing pattern on one end of said bundle of wires;
(d) a metal sleeve annularly surrounding said bundle of wires and holding said wires together with a force sufficient to prevent longitudinal displacement of said wires when a printing force is applied to the end of said bundle carrying said printing pattern;
(e) a sealing material impervious to fluids on the end of said bundle carrying said printing pattern and sealing the spaces between the said remaining ones of said wires which do not form said printing pattern; and
(f) a reservoir for ink attached to that end of said bundle opposite to the end of said bundle carrying said stamp pattern.

3,375,785
WIRE-LINE ACTUATED TIME-DELAY DETONATOR APPARATUS

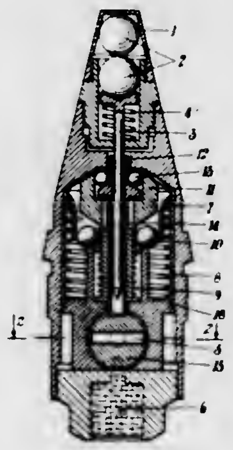
Lawrence K. Moore, 3716 Ingold St., Houston, Tex. 77005
Filed July 29, 1966, Ser. No. 573,155
14 Claims. (Cl. 102—20)



A time delay apparatus for use with a detonator or the like wherein a housing is supported by a wireline and the time delay mechanism is carried by an inner mandrel disposed in the housing and supported resiliently thereof. A safety mechanism is also provided which prevents actuation of the time delay device until the explosive is at the proper location in the well for firing.

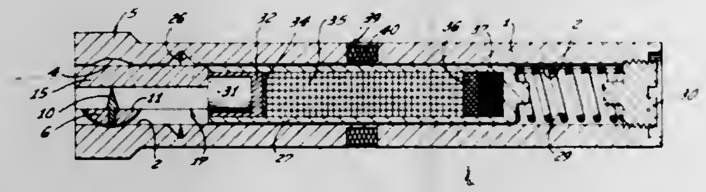
3,375,786
MECHANICAL PERCUSSION FUZE FOR ROCKETS

Ettore Marchiaro, Colleferro, Rome, Italy, assignor to Bombrini-Parodi-Delfino S.p.A., Rome, Italy
Filed Oct. 10, 1966, Ser. No. 585,651
Claims priority, application Italy, Oct. 25, 1965, 23,631/65
2 Claims. (Cl. 102—78)



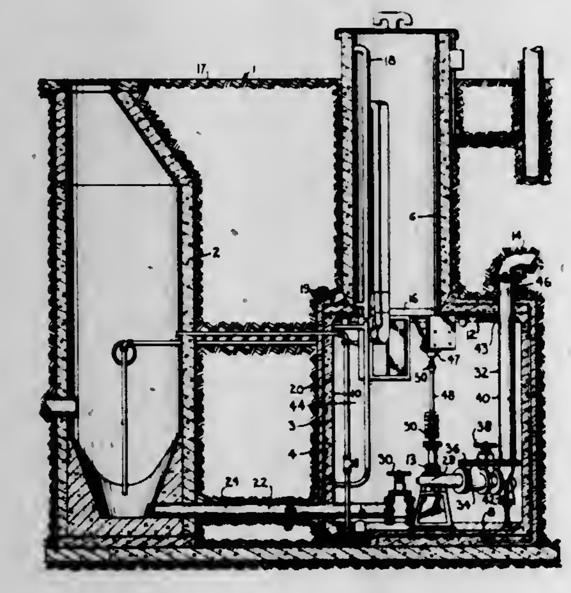
A mechanical percussion fuze for rockets having an impact sensitive assembly including a spring loaded striker. The explosive train includes a rotor, a primer contained in the rotor and a detonator. A first safety inertia device has a cylindrical housing with a first cylindrical spiral spring. A ring abuts on said first spring and is slidably arranged on the inner wall of the housing. A plurality of first spheres are arranged circumferentially within the ring. A second safety inertia device includes a second spiral spring with a cup abutting on the second spring arranged coaxially to the striker. A plurality of second spheres are arranged circumferentially within the cup. A third safety inertia device including a striker guide tube is axially displaceable within the cup towards the rocket tip through an opening provided in the cylindrical housing and a third spiral spring is provided acting on the striker guide tube. The guide tube is retained in the inoperative position by the plurality of second spheres arranged between an inclined surface of an annular projection of said guide tube and the inner upper surface of the housing.

3,375,787
FUZE INITIATED BY SPIN RATE DECREASE
Donald L. Swanson, Anaheim, Calif., assignor to Northrop Corporation, Beverly Hills, Calif., a corporation of California
Filed Mar. 28, 1967, Ser. No. 628,221
7 Claims. (Cl. 102—79)



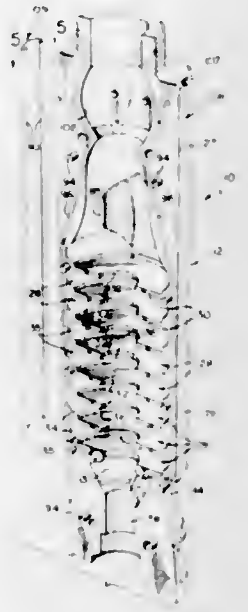
Briefly, my invention comprises an elongated fuze body mounted perpendicular to the spin axis, a detonator slide in the body held away from a firing pin by a lock member or by the centrifugal force of the spin, the lock member being ejected by the centrifugal force to permit alignment of the firing pin with the detonator slide. When the spin rate diminishes to a relatively low rate upon impact, a spring pushes the detonator slide through the spin axis, whereupon the combination of spring force and centrifugal force in the opposite direction from before drives the slide into the firing pin.

3,375,788
SEWAGE LIFT STATION
John L. Solas, Kansas City, and Harold A. Gadd, Grandview, Mo., assignors to Forslund Pump and Machinery Co., Inc., Kansas City, Mo., a corporation of Missouri
Filed Mar. 21, 1966, Ser. No. 536,164
5 Claims. (Cl. 103—87)



A sewage lift station receiving sewage from a reservoir and discharging the sewage to sewage disposal means is precast of a settable plastic material such as Portland cement concrete or a urethane resin. The station has floor, side wall and ceiling structure integrally formed as a unit and has an aperture formed in the ceiling structure to receive a precast entrance tube which is supported on the ceiling structure and extends upwardly therefrom. The station has a plurality of intake lines connected to a discharge line with pumping means and valve means positioned in each intake line to move sewage from the reservoir to the disposal means.

3,375,789
SPLIT CASE SUBMERSIBLE PUMP
Frank Bernard Easton, Salem, Ohio, assignor to Crane Co., New York, N.Y., a corporation of Illinois
Continuation-in-part of application Ser. No. 390,677, Aug. 19, 1964. This application Jan. 24, 1967, Ser. No. 611,453
20 Claims. (Cl. 103—102)



The disclosure pertains to the art of multistage centrifugal pumps and more particularly to such a pump having a casing formed of at least two longitudinal sections each molded from an epoxy or other plastic material. The casing sections are brought together to define pumping stages around a single rotatable spindle assembly of impellers. Fastener elements more rigid longitudinally than the casing sections secure the sections together in a manner designed to straighten the pump and align the stages with the impeller spindle axis.

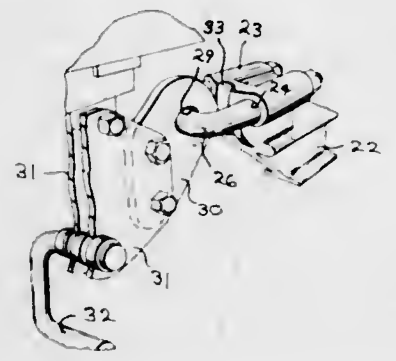
3,375,790
ARTICULATED CARRIER FOR POWER AND FREE CONVEYOR SYSTEMS
Leonard J. Bishop, Birmingham, Mich., assignor to Mechanical Handling Systems, Inc., Warren, Mich., a corporation of Michigan
Filed Mar. 14, 1966, Ser. No. 534,051
6 Claims. (Cl. 104—172)

1. For use in a power and free conveyor system wherein a conveyor having pusher members engages and moves articulated carriers along a track which defines a predetermined path, the combination comprising

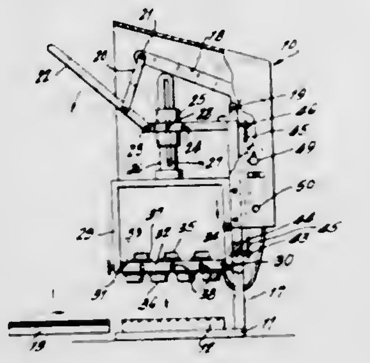
a plurality of trolleys having track engaging means thereon,

and at least one tie bar between successive trolleys, said bar having a portion on one end thereof defining a U-shaped loop extending generally horizontally,

the adjacent trolley having an opening therethrough, the axis of which extends generally horizontally and through which said loop extends and is adapted to move relatively freely relative to said trolley to permit both horizontal and vertical movement of the tie bar relative to the trolley.

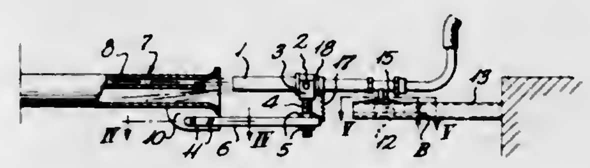


3,375,791
MINIATURE TART SHELL MOULDING MACHINE
Bernard Bennett Pakula, 12 Dalewood Drive, Suffern, N.Y. 10901
Filed June 25, 1965, Ser. No. 467,002
2 Claims. (Cl. 107—15)



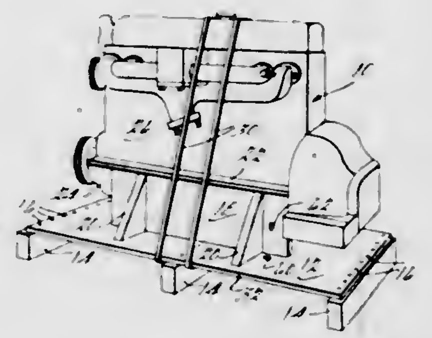
A device for moulding shells for filled bakery products in which a base supports a removable multi-cavity dough receiving pan. An upstanding member on the base carries a heated plate having die members cooperating with the cavities to mould the dough, said plate being movable into and out of engagement with the pan.

3,375,792
HEATING SYSTEM FOR TUNNEL BAKING OVEN AND LIKE HEATING CHAMBERS
Wilhelm A. Seeder, Aerdenhout, Netherlands, assignor to Koninklijke, Verkade Fabrieken, N.V., Zaandam, Netherlands, a limited-liability company of the Netherlands
Filed Sept. 8, 1964, Ser. No. 394,853
Claims priority, application Netherlands, Sept. 9, 1963, 297,669
5 Claims. (Cl. 107—55)



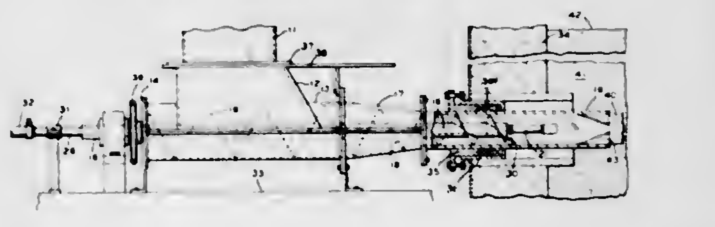
1. A heating system for tunnel baking ovens adapted for baking articles of food and like heating chambers comprising a plurality of metal heating gas tubes passing above and below the oven tunnel space in the longitudinal direction thereof, a longitudinally extending partition wall positioned within each of at least a group of said tubes, the forward end of each of said partition walls terminating within the path of the flame of a burner arranged opposite to the entrance of each of said tubes and extending in a direction corresponding to the direction of each said burner flame path to guide the heating gases from the burner into and through the tube above and below the partition wall therein, and means for adjusting the proportional amount of heating gases streaming above and below the said partition wall through the said tube in response to a warping movement of the end of the said tube opposite the said burner by which the position of the said partition wall at the said tube end opposite the burner is altered with respect to the center line of the said burner.

3,375,793
COLLAPSIBLE SHIPPING PALLET
Hampton Rich Wagner, Midland, Mich., assignor to Bay-Wood Industries, Inc., Bay City, Mich., a corporation of Michigan
Filed Oct. 25, 1966, Ser. No. 589,418
5 Claims. (Cl. 108—56)



A shipping pallet which is conveniently made from plywood or the like and is utilized for transporting automotive engines or other heavy objects. The object to be shipped rests on a pair of vertical walls having projections fitted in slots of a deck. Braces support the vertical walls and have projections fitted in openings of both the vertical walls and the deck. The deck has twice as many slots and openings as are needed for any given usage, but the arrangement of these slots and openings is such that four different spacings between the walls may be achieved for the shipment of four different size objects.

3,375,794
WASTE BURNING SYSTEM WITH INTERNAL SCREEN DELIQUEFIERS
Orris E. Albertson, Norwalk, and William M. H. Kilmer, Sandy Hook, Conn., assignors to Dorr-Oliver Incorporated, Stamford, Conn., a corporation of Delaware
Filed Apr. 27, 1966, Ser. No. 545,752
12 Claims. (Cl. 110—8)



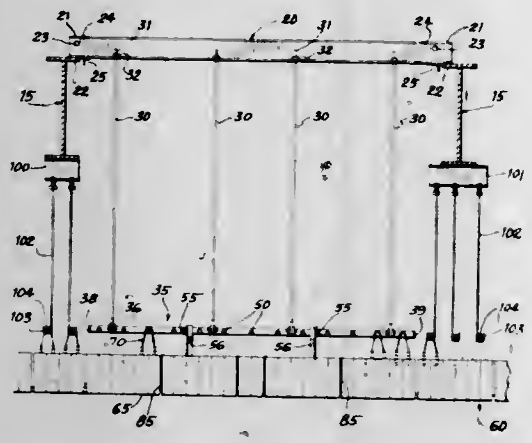
A waste burning system including a dewatering sludge feed having a conduit with a restricted outlet, a rotating worm feeding sludge through the conduit and a dewatering screen in the conduit downstream of the worm having an outlet tube extending from the screen through the worm for withdrawing liquid from the sludge.

3,375,795
PANELIZED FURNACE ROOF

Frank P. Merkle, Jr., Chicago, Ill., assignor to M. H. Detrick Company, Chicago, Ill., a corporation of Delaware

Filed June 11, 1965, Ser. No. 463,081

9 Claims. (Cl. 110—99)



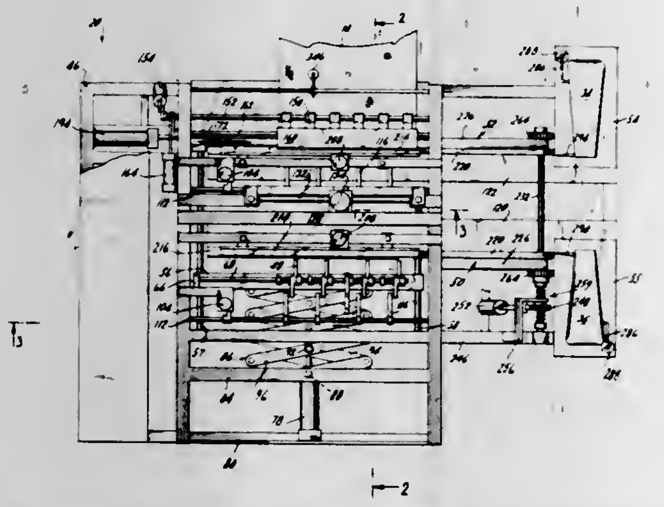
A panelized furnace roof characterized by a plurality of individual roof panels each separately movable vertically into and out of the furnace roof. Suitable support for the panels is provided. Each panel includes a rectangular frame, a plurality of laterally spaced parallel elongated members detachably carried by the frame, and a preassembled cluster of individually supported refractory bricks suspended from each elongated member. A brick cluster includes a flexible band means tightly encircling the bricks. The arrangement enables a comparatively large number of bricks to be installed and removed at once by vertical manipulation of an entire roof panel, and a smaller number of bricks by vertical manipulation of the bricks of the cluster. The invention provides important labor-savings by the brick manufacturer, the shipper, and the ultimate user in connection both with original installation and repair.

3,375,796
BLANK-FORMING APPARATUS

Bertram M. Greenberg, Great Neck, N.Y., and Marinus Troast, Jr., Little Falls, and Timothy Troast, Pompton Lakes, N.J., assignors to I. C. Herman & Company, Inc., New York, N.Y., a corporation of New Jersey

Filed Sept. 1, 1965, Ser. No. 484,245

23 Claims. (Cl. 112—2)



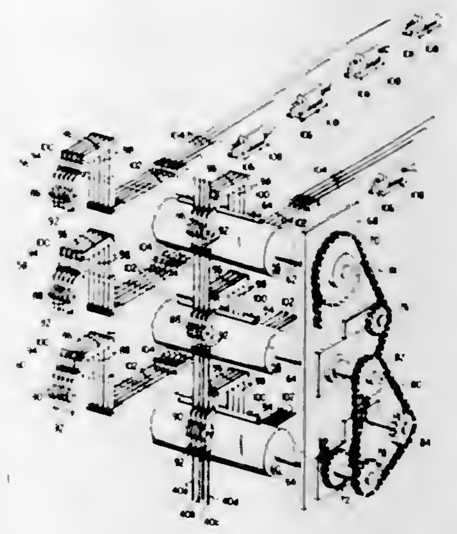
A blank-forming apparatus having independently operated mechanisms for handling material, such as cloth, to successively form blanks thereof, wherein each of these mechanisms has a movement through a prescribed stroke and the control for the apparatus includes switches appropriately located to be actuated during the first-occurring stroke to initiate the second-occurring stroke and so forth, to thereby provide for the operation of the mechanisms in a prescribed sequence. A blank-advancing mechanism of the apparatus employs belts arranged to transport the edges of the blank to sewing machines, and which belts exert a drag on the cloth during movement thereof under the influence of the sewing machine feed dogs to facilitate the sewing of hems along edges of the cloth.

3,375,797
PATTERN ATTACHMENT FOR TUFTING MACHINES

William M. Gaines, Lafayette, Ga., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey

Filed Sept. 15, 1966, Ser. No. 579,643

10 Claims. (Cl. 112—79)



1. In a tufting machine; yarn feed means for feeding a plurality of yarn strands including a plurality of feed rolls disposed for rotation relative to one another; means for rotating each feed roll at a different speed from the speed of each other feed roll; a plurality of individually movable yarn supporting mechanisms, there being a yarn supporting mechanism for each yarn strand disposed adjacent to each feed roll for operable engagement therewith so that, when a yarn supporting mechanism operably engages an associated feed roll, yarn will be fed at a speed determined by the speed of rotation of said feed roll; actuating means for moving said yarn supporting mechanisms relative to said feed rolls, said actuating means including a separate actuator mechanism for each yarn supporting mechanism; and control means for selectively and individually initiating movement of each said actuator mechanism to move a yarn supporting mechanism relative to its associated feed roll in accordance with the selection of said control means such that a plurality of different individual lengths of yarn can be selectively provided by said yarn feed means through selective operable engagement of said yarn supporting mechanisms with said feed rolls.

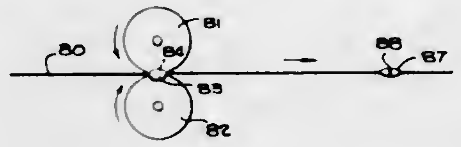
3,375,798
APPARATUS FOR FLANGING CAN BODIES HAVING PRE-STRETCHED CIRCUMFERENTIAL EDGES

Edmond J. Obidowski, Redessano, France, assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Original application May 27, 1963, Ser. No. 283,332, now Patent No. 3,285,212, dated Nov. 15, 1966. Divided and this application Sept. 30, 1966, Ser. No. 583,390

7 Claims. (Cl. 113—1)

Apparatus for treating can body material in the area thereof which is used for forming the conventional flange for attaching a can and to the can body. A pair of coining rolls stretch the can body material along the flange forming portion thereof and forms said portion into an undulating wave which reduces the probability of ruptures or shear lines occurring during flanging of the can body. Apparatus for scoring can body material is used in conjunction with the coining rolls for forming a plurality of can body blanks or can bodies from the can body material.

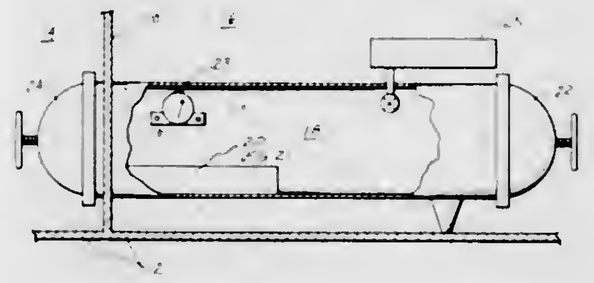


3,375,799
LIQUID PRESSURE ACCOMMODATION MEANS

Jacob J. Miller, 48 Kimberly Road, West Hartford, Conn. 06107

Filed Mar. 3, 1966, Ser. No. 531,579

3 Claims. (Cl. 114—16.6)



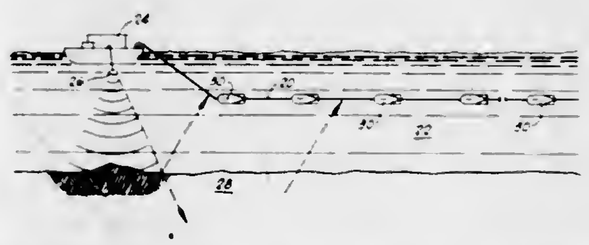
The pressure of a liquid in a pressure-tight vessel is altered by forcibly adjusting the volume of the pressure-tight vessel, without adding or removing any liquid from the vessel. Small power, including human, is used to permit changing from one environment to another where the environments have widely diverging pressures, by means of an intermediate environment including the volume changing capability of the present invention.

3,375,800
SEISMIC CABLE DEPTH CONTROL APPARATUS

Jimmy R. Cole, 1800 N. Ash, and Paul L. Buller, 2305 Drake Lane, both of Ponca City, Okla. 74601

Continuation-in-part of application Ser. No. 604,874, Dec. 27, 1966. This application Apr. 7, 1967, Ser. No. 629,276

25 Claims. (Cl. 114—235)



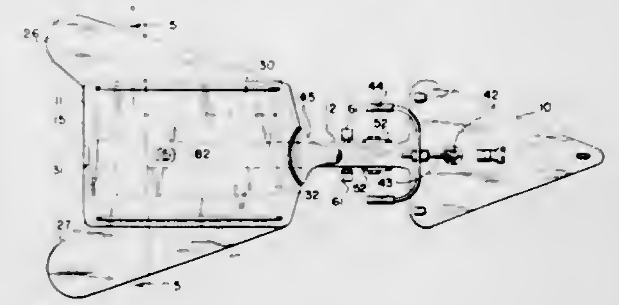
A paravane for maintaining a seismic cable being towed through the water at a predetermined depth. The paravane is journaled on the cable and is provided with ballast and stabilizing fins, whereby the paravane will remain oriented vertically and will not spin or turn upon twisting of the cable, as when the direction of movement of the cable is changed by turning of the towing vessel. Diving planes or fins are extended from the opposite sides of the paravane and are controlled by a pressure sensing device mounted in the paravane housing. The pressure sensing device is adjustable such that the diving planes will be turned when the paravane tends to rise or fall in the water above or below a predetermined depth to counteract the forces imposed on the paravane, such that the paravane will maintain the adjacent portion of the cable at the desired predetermined depth.

3,375,801
AMPHIBIOUS DEVICE

Glenn R. Fee, 4758 Timberview Drive, Valley Hills Park, Ravenna, Ohio 44266

Filed Oct. 31, 1966, Ser. No. 590,754

10 Claims. (Cl. 115—2)



1. An amphibious device embodying a hull having substantially parallel top and bottom surfaces, said hull comprising a forward or bow section having a generally triangular shape and a rearward or tail section having a generally rectangular shape, said sections being joined by a restricted connecting portion, a vertically extending vane disposed beneath the forward section, means for swivelly mounting the vane upon the forward section, said means terminating in a handle above the forward section, a seat mounted on the hull adjacent the rearward section and propulsion means carried by the hull rearwardly of the vane.

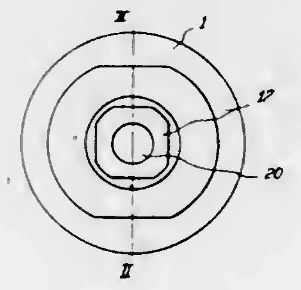
3,375,802
WINDOWED CELL FOR HIGH-PRESSURE MEASUREMENTS

Flavien Lazarre, Pau, France, assignor to Société Anonyme dite: Societe Nationale des Petroles d'Aquitaine, Paris, France

Filed June 29, 1965, Ser. No. 468,018

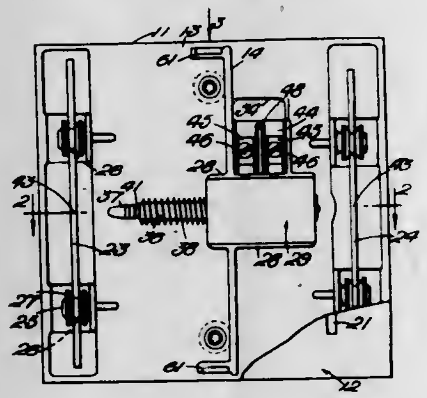
Claims priority, application France, June 30, 1964, 980,112

6 Claims. (Cl. 116—117)



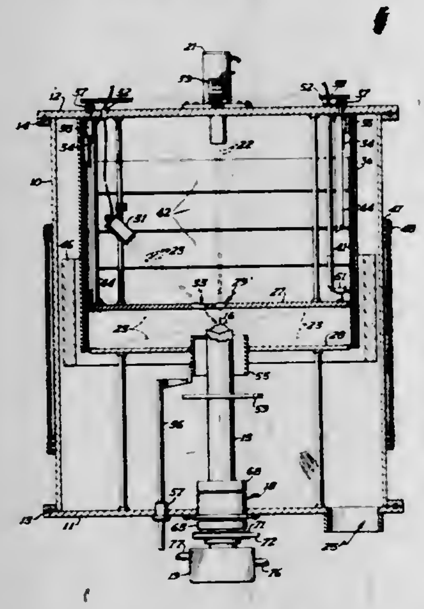
A windowed cell capable of withstanding high fluid pressure having a cell body with a fluid inlet, a fluid outlet and an open-ended bore communicating with the inlet and the outlet. A transparent window element held between a bushing and a cap member carried within each end of the bore so that a self-sealing joint is formed where a surface of each window element bears on a bushing, a fluid flow chamber in communication with the inlet and the outlet, formed between the window elements, and plug means screw threadedly mounted at each end of the bore to adjustably retain said caps, bushings and windows in place.

3.375,803
ELECTRICAL SIGNALLING DEVICES
John Doggart, Macclesfield, England, assignor to V. & E. Friedland Limited, Macclesfield, England, a British company
Filed June 22, 1965, Ser. No. 465,923
Claims priority, application Great Britain, June 23, 1964, 25,968/64
1 Claim. (Cl. 116—169)



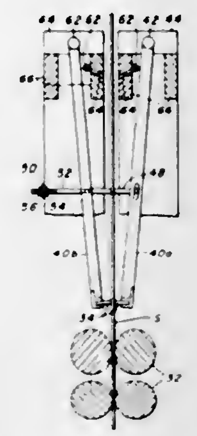
A door chime has tone bars struck when the chime is operated. Tuned resonating chambers for the tone bars are formed by the casing and provided in the cover are slots opening directly into the resonating chambers and extending parallel to the tone bars. The slots produce an effective outlet for sound and introduce a form of selective tuning usefully modifying the tonal quality of the output sound.

3,375,804
FILM DEPOSITION APPARATUS
William V. Rausch, Minneapolis, Minn., assignor to Fabri-Tek Incorporated, Minneapolis, Minn., a corporation of Wisconsin
Filed Aug. 5, 1966, Ser. No. 570,657
12 Claims. (Cl. 118—8)



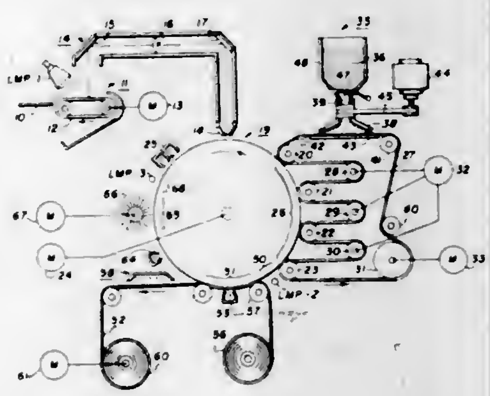
1. In deposition apparatus including a vacuum chamber, means for evacuating the chamber, and deposition monitor means, the improvement comprising:
melt support means at least partially mounted in the chamber around a vertically extending longitudinal axis, said support means adapted to carry a melt for forming depositive vapors;
means mounted in the chamber for providing thermal energy to the melt;
substantially cylindrical substrate holder means including substrate sled mounting means on the inner surface of said holder means, said holder means adapted to carry substrate sleds having a plurality of substrates mounted thereon;
means movably mounting said holder means in the chamber, the longitudinal axis thereof being substantially the longitudinal axis of said melt support means;
means for vertically moving said holder means, to sequentially move a group of said plurality of substrates into spaced relation with the melt for deposition on the group of substrates, and a pair of vapor deflection plates mounted in the chamber in generally horizontally, spaced relation, above and below the melt to shield the plurality of substrates other than the group of substrates from depositive vapors formed by the melt.

3,375,805
COMBINED DOCTOR MEANS
Richard O. Beall, Pittsburgh, and Harry M. Bernard, Jr., West Miffin, Pa., assignors to United States Steel Corporation, a corporation of Delaware
Filed Sept. 2, 1965, Ser. No. 484,670
1 Claim. (Cl. 118—63)



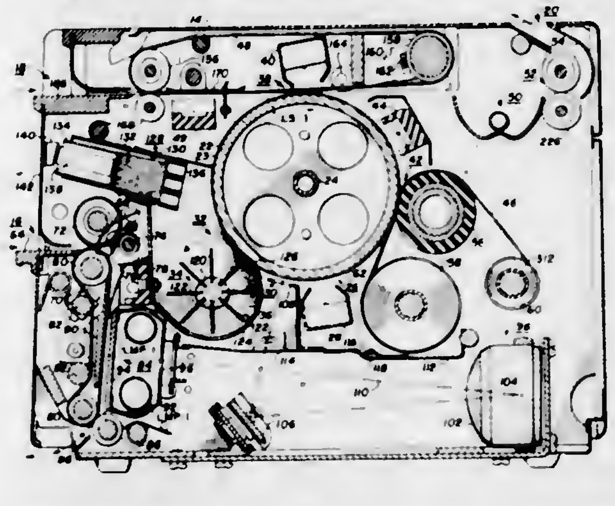
Combined doctor means wherein a single hanger disposed above a pool of coating material supports, in vertical arrangement and in series, a pair of opposed doctor blades and a pair of opposed air knife means.

3,375,806
XEROGRAPHIC DONOR DEVELOPMENT APPARATUS
Louis N. Nost, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed May 6, 1965, Ser. No. 453,640
14 Claims. (Cl. 118—637)



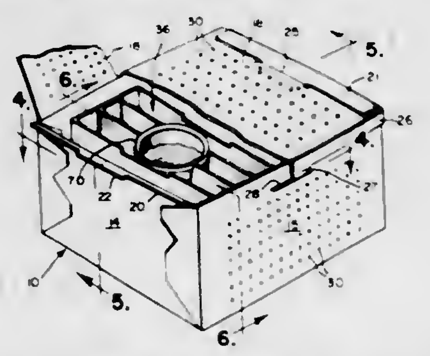
Apparatus for developing latent electrostatic images on a moving xerographic plate in which electroscopic powder marking particles are uniformly loaded onto donor means and transported by the donor means into contact with the moving xerographic plate at a plurality of different locations positioned serially along the periphery of the xerographic plate.

3,375,807
XEROGRAPHIC DEVELOPER
Roger H. Eichorn, Webster, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Oct. 22, 1965, Ser. No. 501,206
5 Claims. (Cl. 118—637)



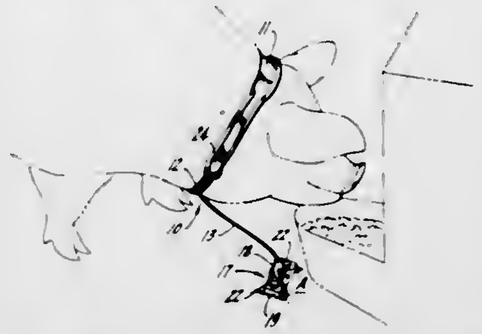
A device for developing a latent electrostatic image on a xerographic surface including an impeller mounted adjacent the xerographic drum for agitating and impelling carrier and powder against the xerographic plate.

3,375,808
CARTON FOR INSECTS
Claude C. Freeman, Mansfield, Tex., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed July 11, 1966, Ser. No. 564,176
6 Claims. (Cl. 119—19)



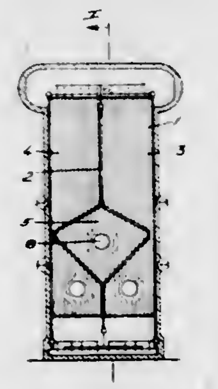
1. A carton providing a habitat for insects, comprising the combination of:
(a) a body structure having a bottom wall, peripheral front, rear and end walls hinged at their bottom edge to the bottom wall, and a top wall hinged to the rear wall and adapted to overlap the remaining peripheral walls for closing the body structure;
(b) an insert disposed within the body structure and having a pair of outer transverse panels and a pair of opposed end panels interconnecting the opposite ends of the outer transverse panels, and further including at least one intermediate transverse panel hinged at its opposite ends to the end panels and extending parallel to and between the outer transverse panels;
(c) corner tab extensions integral with the end and outer panels cut, respectively, from the adjacent outer and end panels, constituting a means to abut the body structure side walls to maintain said insert end and outer panels spaced therefrom;
(d) said insert being formed from an elongated strip of paperboard having a width slightly less than the height of the body structure side walls and being divided by substantially parallel hinge lines crosswise of the strip into the transverse and end panels;
(e) bottom tab extensions formed on the outer and intermediate transverse panels near their respective centers operable to abut the body structure bottom wall to maintain the remaining portions of the transverse panels and the end panels spaced from said bottom wall;
(f) the top edges of said intermediate and outer transverse panels being relieved to provide a means for the receipt and support thereon a food container suitable for the insects and these areas of relief all being opposite the bottom tab extensions to provide that nesting occurs, during fabrication, between adjacent strips of separate inserts;
(g) said body structure having at least one of its walls perforated with a plurality of openings of sufficient size to permit the passage of air therethrough but of insufficient size to permit the passage of the insects therethrough.

3,375,809
SWINE TETHER
Ronald S. Blough, Fairfield, Iowa, assignor to Fairfield Engineering and Manufacturing Company, Fairfield, Iowa, a corporation of Iowa
Filed Apr. 19, 1966, Ser. No. 543,621
9 Claims. (Cl. 119—118)



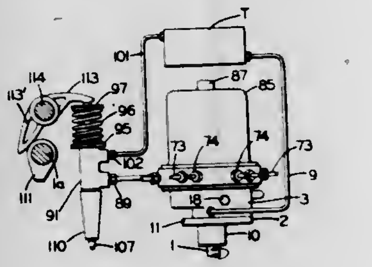
1. A swine tether for limiting movement of an animal away from a predetermined anchor point, comprising, in combination, a yoke member adapted to overlie the top and at least a portion of the sides of the animal's neck, said yoke member having at least one end portion formed with a generally channel shaped cross section, a neck strap for cooperating with said yoke to complete the encirclement of the animal's neck, at least one end of said neck strap being dimensioned to lie within and be protected by said channel shaped end portion of said yoke member, a flexible link, connecting means for securing one end of said link to said neck strap, and anchoring means for securing the other end of said link to said anchor point.

3,375,810
FIRE-BOX PARTITION
Willi Körber, Gummersbach, Germany, assignor to L. & C. Steinmuller G.m.b.H., Gummersbach, Germany
Filed Apr. 5, 1966, Ser. No. 540,315
Claims priority, application Germany, Apr. 7, 1965, St 23,640/65
5 Claims. (Cl. 122—240)



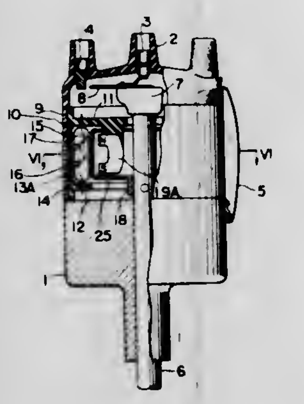
A fire-box arrangement for a water tube boiler in which the fire-box has lateral confining walls and an intermediate partition made up of spaced co-planar pipes with the pipes having portions bent outwardly laterally from the plane of the pipes to form tunnels extending through the fire-box into which burners of the boiler direct flame.

3,375,811
FUEL INJECTION SYSTEM FOR INTERNAL COMBUSTION ENGINES
Frank A. Morris, Box 534, Malvern, Ohio 44644
Filed Dec. 28, 1965, Ser. No. 516,962
11 Claims. (Cl. 123—139)



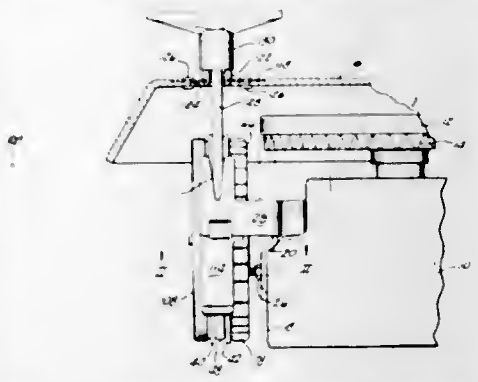
A fuel injection system for internal combustion engines including a fuel supply tank, a common fuel transfer and metering distributor having a central barrel, plural outlets opening into the barrel, an engine-driven rotary valve in the barrel, governor means to locate the rotary valve axially in response to engine speed, a second governor means to determine the range of axial movement of the valve permitted in response to engine speed, a unit injector for each cylinder of the engine, an engine-driven pump having its intake side connected to the fuel supply tank, means connecting the discharge side of the pump to the fuel transfer and metering distributor, a pumping plunger in each unit injector operated by the engine cam shaft and common bypass metering means in the transfer and metering distributor unit remote from the pumping plunger.

3,375,812
IGNITION DEVICE FOR INTERNAL COMBUSTION ENGINE
Keiji Koda, Nagoya, Japan, assignor to Mitsubishi Denki Kabushiki Kaisha, Tokyo, Japan
Filed Nov. 29, 1965, Ser. No. 510,199
Claims priority, application Japan, Dec. 10, 1964, 39/69,509; Mar. 9, 1965, 40/18,693; Mar. 30, 1965, 40/25,309; June 7, 1965, 40/33,652
6 Claims. (Cl. 123—148)



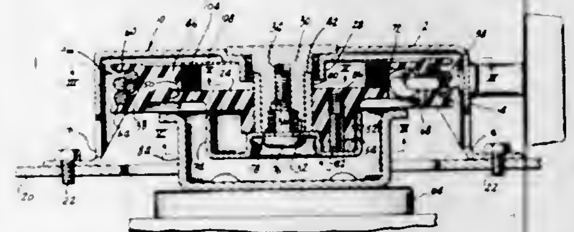
A switch device for the primary circuit of an ignition coil in an ignition system for an internal combustion engine has encapsulated ferro-magnetic contacts biased to open the circuit and is closed intermittently by a magnetic flux produced in timed relation with engine rotation.

3,375,813
SIDE-MOUNTED INTERNAL COMBUSTION ENGINE STARTER
Lyle J. Hamman, Eaton Rapids, Mich., assignor to Eaton Stamping Company, Eaton Rapids, Mich., a corporation of Michigan
Filed Jan. 10, 1966, Ser. No. 519,694
9 Claims. (Cl. 123—185)



A manual recoil starter for starting internal combustion engines particularly adapted for mounting upon the side of an engine wherein the starter is characterized by ease of assembly to the engine, accessibility for maintenance purposes and concise configuration. Additionally, novel handle means are employed with the starter rope associated therewith.

3,375,814
PULLEY CONSTRUCTION FOR RECOIL STARTER
Lyle J. Hamman, Eaton Rapids, Mich., assignor to Eaton Stamping Company, Eaton Rapids, Mich., a corporation of Michigan
Filed Nov. 26, 1965, Ser. No. 509,981
9 Claims. (Cl. 123—185)

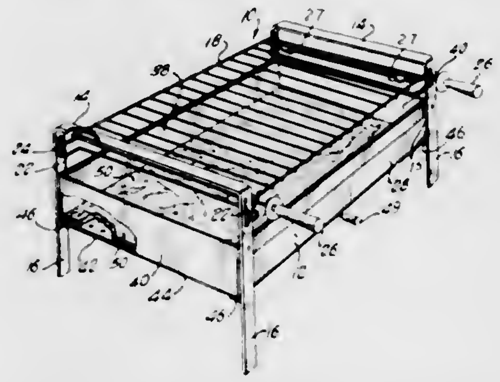


A recoil starter for starting internal combustion engines by manually pulling upon a starter rope wherein the novel features lie in the employment of a recoil spring and spring keeper unit, and a unique configuration of starter rope pulley groove which permits maximum mechanical advantage and prevents binding of the starter rope.

3,375,815
BOW WITH INFLEXIBLE TUBULAR NOCKING MEMBER
Stanley J. Novak, Bartlett Road, Middle Island, N.Y. 11953
Filed Feb. 3, 1965, Ser. No. 429,976
16 Claims. (Cl. 124—23)

A bow having an inflexible tubular sleeve mounted on its bowstring at the nocking point. The inside diameter of the sleeve is just large enough for the bowstring to pass through, while the outside diameter of the sleeve is small enough to receive an arrow nock. As the bowstring is drawn, the sleeve maintains the bowstring straight in the vicinity of the nocking point to eliminate finger pinch.

3,375,816
COOKING APPARATUS WITH REFRACTORY LINER
George R. Chesnut, Jr., Augusta, Ga., assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed Feb. 1, 1965, Ser. No. 429,460
2 Claims. (Cl. 126—25)



1. In domestic cooking and heating apparatus, the combination of:

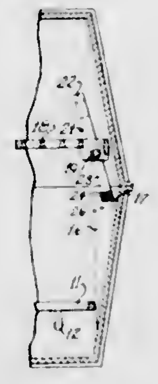
a firepot adapted to contain an open fire of solid fuel, and including an upwardly facing bottom surface,

a grill for supporting food to be cooked over the fire in said firepot,

and a removable body of fibrous refractory material resting on said bottom surface and capable of holding a supply of liquid kindling fuel for first igniting said solid fuel and next insulating said bottom surface from the heat of the burning solid fuel,

at least one aperture formed in said firepot to provide draft for the fire, and said body of refractory material covers said aperture.

3,375,817
COOKER WITH MEANS TO VARY GRILL HEIGHT
Judkins E. Wilkinson, Birmingham, Ala., assignor to Atlanta Stove Works, Inc., a corporation of Georgia
Filed May 11, 1966, Ser. No. 549,258
5 Claims. (Cl. 126—25)



1. An outdoor cooker comprising:

(a) an upwardly opening fire box,

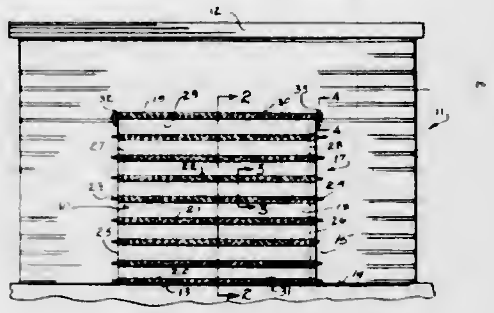
(b) support brackets carried by and extending inwardly of said fire box,

(c) a grill of a shape and size to be supported on said support brackets,

(d) support members operatively connected to said grill adjacent said support brackets, and

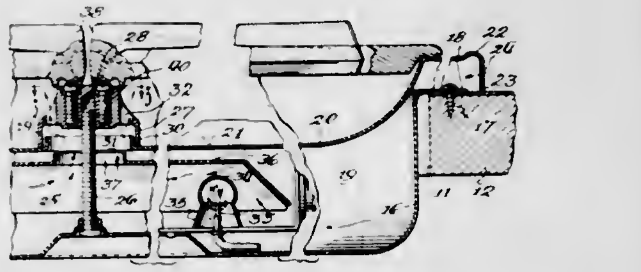
(e) each of said support members having a depending member disposed to move from an inner position with said grill supported on said support brackets to an outer position with each support member engaging an adjacent support bracket to support said grill at an elevation above said support brackets.

3,375,818
CONTROL MEANS FOR A FIREPLACE
Walter C. Luther, 2887 Losantiville Ave., Cincinnati, Ohio 45213
Filed Oct. 22, 1965, Ser. No. 501,971
3 Claims. (Cl. 126—135)



The control means for a fireplace contemplates the use of a flexible cloth-like non-inflammable curtain between the fire and the room to close off oxygen and air to the fire. The said fire proof curtain being adjustable to various incremental heights above the fireplace floor by gathering selected sections of the curtain and hooking pin like elements spaced along each side of the curtain into two hook like brackets located at each side of the upper part of the fireplace opening for controlling the amount and rate of the fire.

3,375,819
SURFACE UNIT
James E. Davis, Marion, Ohio, assignor to Whirlpool Corporation, a corporation of Delaware
Filed Oct. 26, 1966, Ser. No. 589,588
7 Claims. (Cl. 126—211)

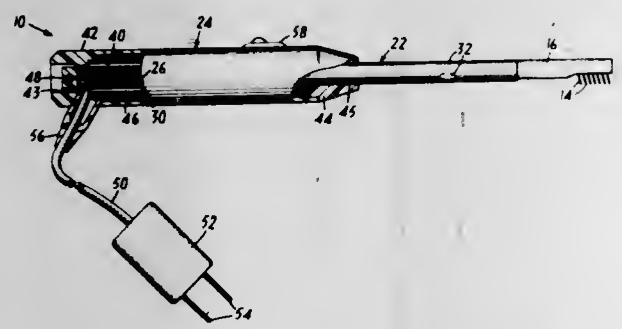


A surface unit for a cooking stove comprising a burner box, a cooktop overlying the burner box in assembled relationship and spaced therefrom and an attaching device comprising releasable parts one of which engages the burner box and the other the cooktop for releasably retaining the box and cooktop in assembled relationship but urging them toward each other and with the releasing device preferably also operating as a vent and a trivet or grate support.

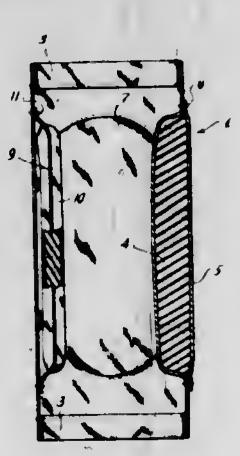
3,375,820
METHOD AND APPARATUS FOR ULTRASONIC CLEANING OF TEETH
Arthur Kuris and Lewis Balamuth, New York, N.Y., assignors to Cavitron Corporation, a corporation of New York
Filed Dec. 15, 1965, Ser. No. 513,991
23 Claims. (Cl. 128—62)

4. A method of cleaning teeth in the human mouth suitable for regular personal hygienic care, comprising the steps of positioning a brush member in the mouth ad-

jacent the teeth to be cleaned in the presence of a dentifrice, manually moving said brush element across the surfaces of the teeth, and inducting vibrations at an ultrasonic rate in the bristles of the brush while so moving.

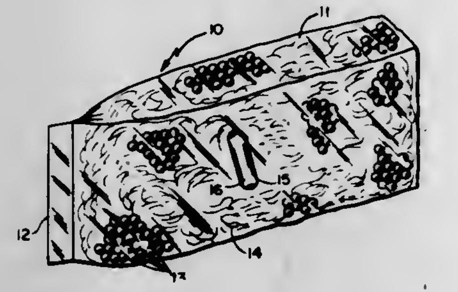


3,375,821
KNEEPAD
Cicero P. Meek, 105 Jackson Drive, Aiken, S.C. 29801
Filed July 14, 1965, Ser. No. 471,927
5 Claims. (Cl. 128—80)



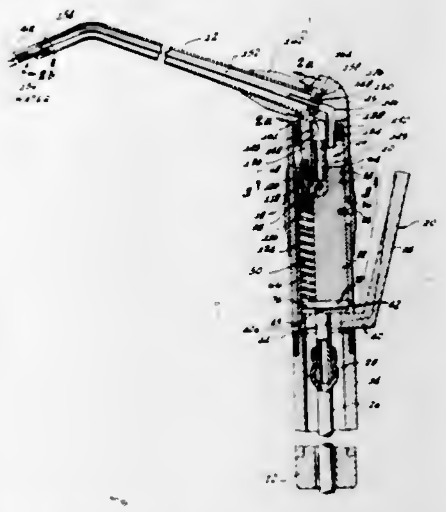
The tubular elastic sleeve has a fixed resilient pad at the front and has a floating resilient pad at the rear which is attached only at its upper and lower ends to the inner wall of the elastic sleeve. The rear pad is mounted so as to readily adapt to the bending of a knee or elbow. Resilient side pads may be fixed to the elastic sleeve to cover substantially the entire area between the front and rear pads.

3,375,822
SURGICAL CAST AND METHOD OF FORMING AND APPLYING TO A BODY MEMBER
Frank L. Rose, Reading, Mass., assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Feb. 19, 1965, Ser. No. 433,979
19 Claims. (Cl. 128—90)



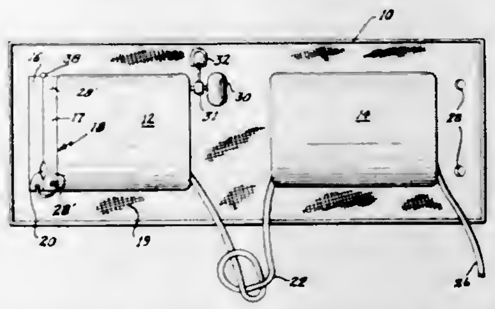
A surgical cast which is formed directly on a body member. The cast when formed comprises low density particulated material bonded together by a suitable bonding agent. The cast components are stored in a plastic or other suitable container in a dormant, unreactive state. To form a cast, the components are mixed, reacted, and molded on the body, preferably within the plastic container.

3,375,823
DENTAL SYRINGE FOR SELECTIVELY DISCHARGING DRY AIR, WATER OR SPRAY
James B. Pamplin, 11612 Morgan Lane, Garden Grove, Calif. 92640, and Richard B. Cocherell, 885 N. Marengo St., Pasadena, Calif. 91103
Filed Sept. 29, 1964, Ser. No. 400,177
8 Claims. (Cl. 128—173.1)



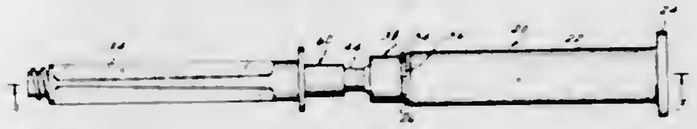
1. In a dental springe having selectively operable valve controlled air and water passage means and adjacent air and water discharge orifices in a spray tip of the syringe, the combination comprising:
- a housing with separate air and water passage means therethrough;
- a variable volume chamber within said housing having fluid communication with said water passage means downstream of a valve means for controlling said water passage means;
- selector means operatively associated with said water valve means and with an air valve means for said air passage means to effect joint and separate operation of said air valve and water valve;
- and means interconnected between said selector means and said variable volume chamber to effect a predetermined volumetric enlargement of said variable volume chamber when said selector means is positioned to permit opening of said air valve only, whereby to draw into said water outlet orifice any water disposed immediately outside of said water orifice on said spray tip.

3,375,824
SELF-CONTAINED PLASMA ADMINISTRATION PACK
Hans A. Krakauer and Harry H. Malvin, San Antonio, Tex., assignors to the United States of America as represented by the Secretary of the Air Force
Filed July 8, 1965, Ser. No. 470,644
2 Claims. (Cl. 128—214)



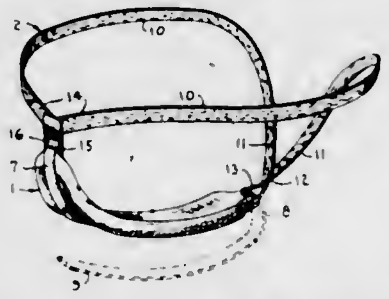
A self-contained plasma administration pack in the form of an air-tight metal container which can be opened without tools is provided. The container includes therein two plastic bags, one having liquid and the other a dry blood plasma. Tubing, normally closed, is included to interconnect the two bags. Mechanical pressure is utilized to direct the liquid from one bag to the dry blood plasma in the other bag for mixing therein. The mixture is then directed into an administration unit for application into the veins of a patient.

3,375,825
PREFILLED SYRINGE
George H. Keller, Ridgewood, N.J., assignor to Becton, Dickinson and Company, East Rutherford, N.J., a corporation of New Jersey
Continuation-in-part of application Ser. No. 425,786, Jan. 15, 1965. This application Sept. 2, 1965, Ser. No. 484,516
6 Claims. (Cl. 128—221)



A prefilled syringe assembly having a barrel portion for containing medicament. A stopper which may be coupled to a plunger rod seals the rear end of the barrel and a diaphragm seals the forward end. A cap is mounted on the forward end of the barrel to maintain the diaphragm in sealing engagement with the barrel. The forward portion of the cap forms a support to receive the hub support cooperate in determining the position of the cannula relative to the barrel and diaphragm. A cannula shield protects the forward penetrating end of the needle and is mounted on the hub in a manner to facilitate arming of the syringe and also may be removed from the hub and coupled with the stopper to act as a plunger rod.

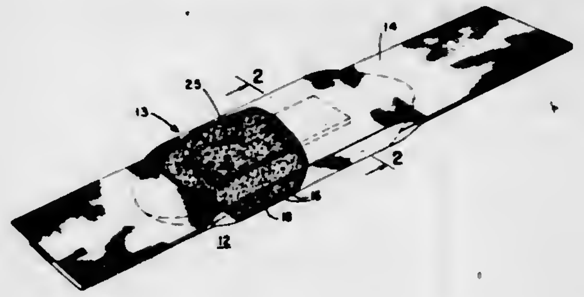
3,375,826
SANITARY NAPKIN STRUCTURE AND/OR SUPPORT MEANS THEREFOR
Ruth C. Field, R.F.D. 3, Angola, Ind. 46703
Filed July 16, 1964, Ser. No. 383,161
15 Claims. (Cl. 128—289)



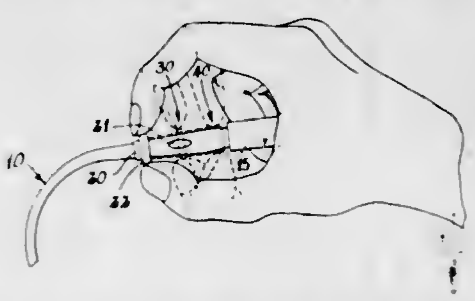
The invention is directed to a sanitary napkin having an elongated absorbent pad provided with a short tab and an extension which is of a length substantially corresponding to that of the pad and tab so that it may be folded under the pad with its free end disposed in juxtaposed relation to a free end of the tab.

3,375,827
SANITARY NAPKIN WITH FLOW CONTROL ELEMENT
John C. Bletzinger, Eugene H. Condon, and Richard C. Simons, Neenah, Wis., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Mar. 30, 1965, Ser. No. 443,847
10 Claims. (Cl. 128—290)

A sanitary napkin provided with an absorbent control element of higher average density than the main absorbent pad in the napkin. The denser control element is centrally positioned on the main pad with the peripheral edges of the element spaced inwardly from the peripheral edges of the pad. In this position the control element becomes the first part of the napkin structure to receive body exudate and spread a substantial portion of the exudate within its own boundaries before any of the exudate is transferred to and absorbed by the main pad.

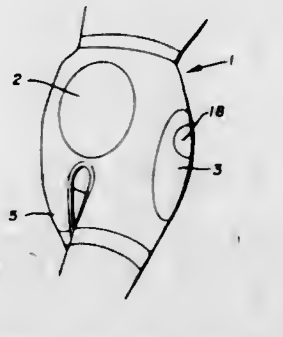


3,375,828
SUCTION CATHETER
David S. Sheridan, Argyle, N.Y., assignor, by mesne assignments, to Brunswick Corporation, Chicago, Ill., a corporation of Delaware
Filed Apr. 15, 1965, Ser. No. 448,459
4 Claims. (Cl. 128—351)



An airway suction catheter has a venting aperture near the proximal end thereof. Suction applied to the tube can be varied by means of a flexible sleeve which is frictionally engaged with the outside of the catheter in overlying relation with respect to the aperture. The sleeve can be rolled back upon itself to gradually uncover the aperture. The suction in the tube is varied by the degree of coverage of the aperture by the sleeve.

3,375,829
REINFORCED GIRDLE
Wendell E. Brennan, Decatur, and James R. Biles, Athens, Ala., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Oct. 18, 1965, Ser. No. 497,094
1 Claim. (Cl. 128—539)



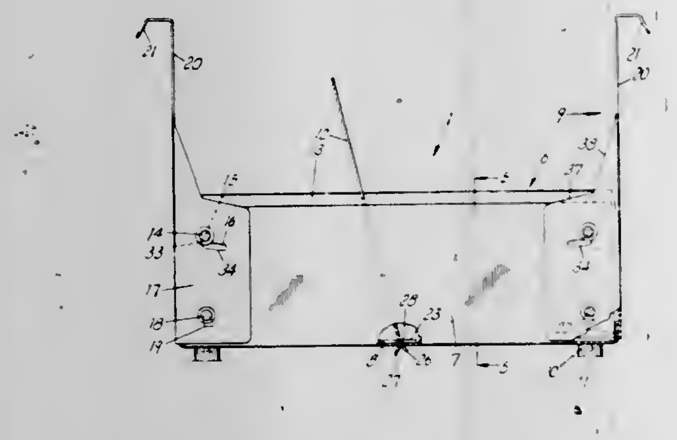
A girdle comprised of a universal stretch material having reinforced areas which have been impregnated with a resin in such a way as to limit stretch and also provide for breathing and porous qualities.

3,375,830
TRAY WITH TILTABLE ENDS FOR RECORD CARDS

Allen L. Dixon and Charles Russell FitzGerald, Kalamazoo, Mich., assignors to Master-Craft Corporation, Kalamazoo, Mich.

Filed Jan. 12, 1967, Ser. No. 608,764

6 Claims. (Cl. 129—16)



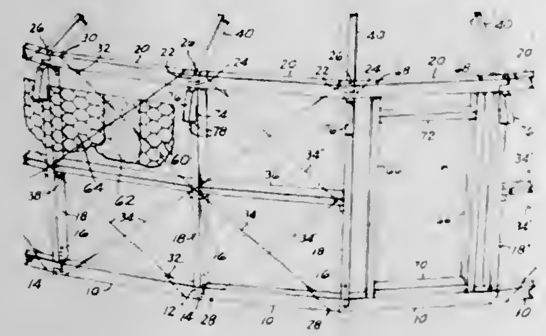
The application discloses a tray for record cards that is sized to fit crosswise in a standard file drawer, and which has foldable end members that function as handles for inserting and removing the tray from a drawer, and which swing outwardly to permit spreading the tops of record cards and to support the cards in forwardly and rearwardly tilted positions. The disclosure includes a tray divider plate with a selective, tiltable, and releasably retained engagement with the bottom of the tray.

3,375,831
PLASTIC COVERING STRUCTURE

George Serbus, Rte. 1, Box 318-A, Corvallis, Oreg. 97330

Filed July 13, 1966, Ser. No. 564,804

7 Claims. (Cl. 135—1)



A lamination of inner and outer layers of wire netting and an intermediate layer of thin gauge plastic sheeting is wrapped about and bears against the edges of a skeletal framework to form a covering structure which may include a side wall and a roof.

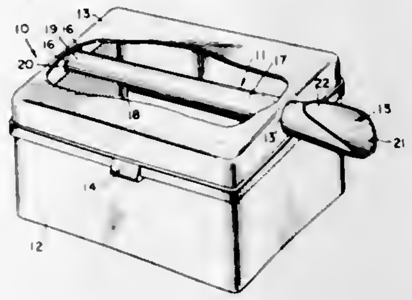
3,375,832
CIGARETTE SNUFFER

Lawrence E. McMichael, 248 S. 4th Ave., Beech Grove, Ind. 46107

Filed Apr. 11, 1966, Ser. No. 541,842

2 Claims. (Cl. 131—235)

A cigarette extinguisher and ash receiver comprising a receptacle and a closure therefor, with a snuffing tube supported from said closure and comprising a tube of fire-resistant and heat-conductive material penetrating a wall of said closure and formed to provide an upwardly-opening, wide-mouthed receiver disposed outside the receptacle and converging to an intermediate portion proportioned and designed slidingly to contain a plurality of cigarette butts in end-to-end relation and terminating in an open portion disposed inside the receptacle.

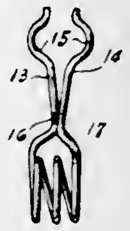


3,375,833
FINGER HOLDER FOR CIGARETTES AND THE LIKE

Geronimo Garcia, 318 W. 49th St., New York, N.Y. 10018

Filed Oct. 17, 1966, Ser. No. 587,030

4 Claims. (Cl. 131—258)



1. A holder of the class described made of a single length of deformed resilient wire comprising a coil for mounting the holder on a finger, convergently bent portions extending upward from the ends of said coil, straight bar portions extending upward in close proximity to each other from the upper ends of said bent portions, and complementary clamp jaws extending from the upper ends of said bar portions and being adapted to clamp a cigarette or the like therebetween, the resiliency of said wire normally urging said bar portions toward each other in directions lying in a plane at right angles to the axis of said coil and simultaneously urging said jaws toward each other in directions lying in a common plane with said axis, and adjustable interengaging means on the juxtaposed sides of said bar portions for limiting the distance through which said jaws may approach each other after the same have been spread apart to accommodate the cigarette and then released.

3,375,834
ARTICLE HANDLING AND CLEANING APPARATUS

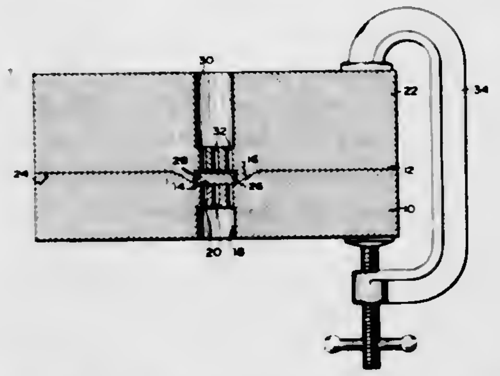
Howard S. Best and Robert E. Bowser, Raleigh, N.C., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Mar. 19, 1965, Ser. No. 441,277

5 Claims. (Cl. 134—94)

1. An apparatus for handling articles comprising a first block having an article receiving cavity in one surface thereof, a first opening in the surface opposite said one surface in register with said cavity, and at least one aperture connecting said article receiving cavity and said first opening, the article receiving cavity defining walls being sloped towards the bottom surface of said cavity, said bottom surface having a size and shape corresponding to that of said article to accommodate said article thereon, and a second block having a mating surface to said one surface, said mating surface having a second cavity the defining walls of which are adapted to closely surround

said article, a second opening in the surface opposite said mating surface in register with said second cavity, and at least one aperture connecting said second cavity and said second opening, said article receiving cavity opposing said second cavity to closely accommodate said article therewithin while maintaining a small clearance thereabout when said first and second blocks are assembled whereby said article orientation and position reference is maintained.

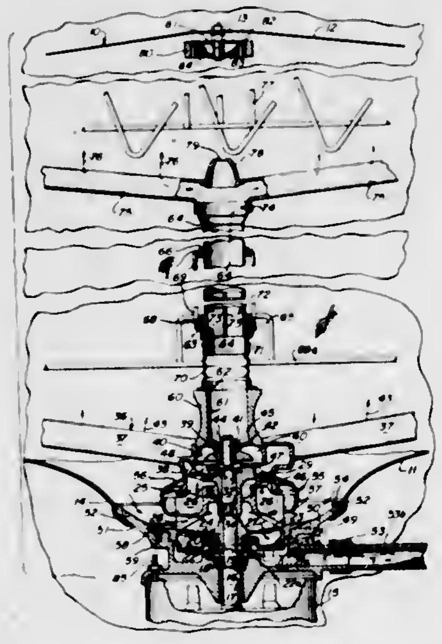


3,375,835
ARTICLE WASHING APPARATUS

Charles R. Lopp, White Bear Lake, Wilbur G. Peyer, St. Paul, and James G. Ruspino, White Bear Lake, Minn., assignors to Whirlpool Corporation, a corporation of Delaware

Filed Sept. 23, 1965, Ser. No. 489,533

4 Claims. (Cl. 134—176)



An axial flow liquid pump for a dishwasher provided with a spray arm and having a portion of its housing integral and rotatable with the spray arm.

ERRATUM

For Class 135—1 see:
Patent No. 3,375,831

3,375,836
FOLDING AND AUTOMOBILE-TRANSPORTABLE CAMPING TENT

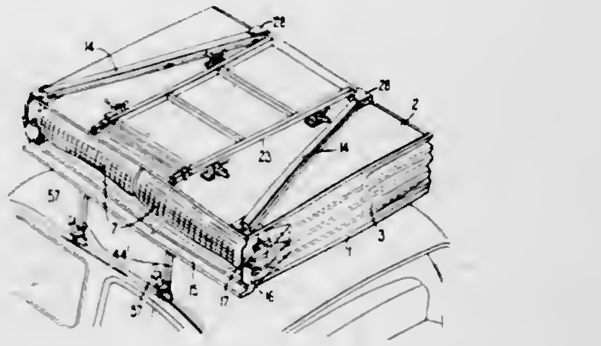
Lara Domeneghetti, Via Compagnoni 41, Milan, Italy

Filed Oct. 23, 1965, Ser. No. 503,571

Claims priority, application Italy, Mar. 4, 1965, 747,743

2 Claims. (Cl. 135—1)

A folding camping tent and support apparatus arranged to be mounted on a motor vehicle. The tent has a rigid floor section secured to its support apparatus which, in turn, is attached, by theft-proof fastening means, to the roof of the motor vehicle. An annular turntable is secured to the rigid floor section and is rotatably mounted on the support apparatus for selectively determining the orientation of the tent with respect to the car roof. Locking means are provided in the support apparatus for securing the turntable against movement.



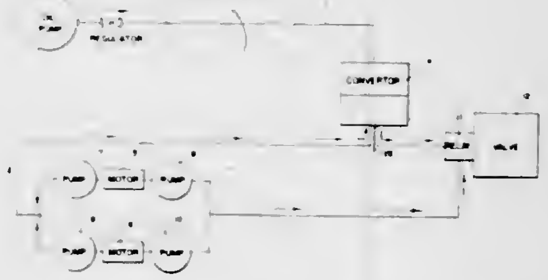
3,375,837
SPEED GOVERNING SYSTEM WITH CONVERTER DEVICE BETWEEN TWO SEPARATE FLUID CIRCUITS

William George Watson, Whitley Bay, England, assignor to C. A. Parsons & Company, Limited, Newcastle-upon-Tyne, England, a corporation of Great Britain

Filed May 20, 1965, Ser. No. 457,392

Claims priority, application Great Britain, May 20, 1964, 20,742/64

8 Claims. (Cl. 137—36)



A governing system for steam turbines in which an oil pump supplies one or more speed governors and metered oil from the governors passes to a pressure converter device. The pressure converter device is adapted to produce a pressure in a fire-resistant fluid proportional to the oil pressure. The fire-resistant fluid is used to operate system relays, valves, etc. and is, through the use of the pressure converter, kept separate from the oil to prevent contamination

3,375,838
VACUUM MODULATOR

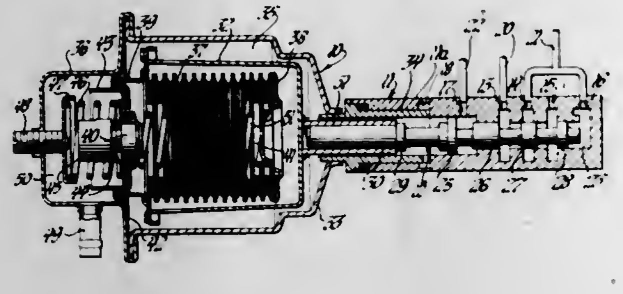
Forrest R. Cheek, Detroit, and Robert W. Stapleton, Ann Arbor, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 13, 1965, Ser. No. 495,619

9 Claims. (Cl. 137—81)

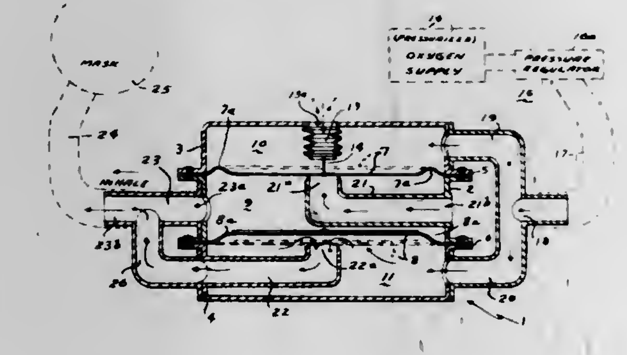
1. A vacuum modulator comprising a movable member, means forming an evacuated chamber, said means having a first portion fixed against movement and a second movable portion operably connected to said movable member, means forming a second chamber adapted to be connected to a source of variable vacuum, passage

means between said chambers, means normally effective to block off said passage to block communication between said chambers, said blocking means being movable upon establishment of a predetermined pressure differential between said chambers to permit communication between said chambers through said passage means.



3,375,839
BREATHING OXYGEN MASK INHALATION AND EXHALATION DIAPHRAGM VALVE UNIT

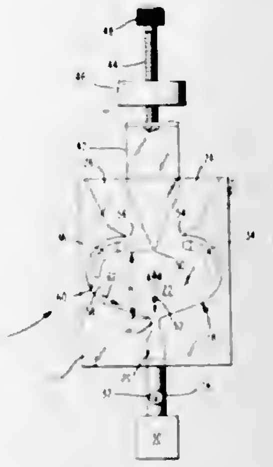
William F. Crenshaw, 600 E. Frolich Drive,
Midwest City, Okla. 73110
Filed Nov. 12, 1965, Ser. No. 507,593
7 Claims. (Cl. 137—81)



6. A pressure operated inhalation and exhalation device for high altitude oxygen gas masks comprising, a closed casing, diaphragm valve means therein comprising a pair of parallel spaced flexible diaphragm valves disposed across said casing dividing the same into spaced inhalation and pressure equalizing chambers and an intermediate exhalation chamber, an oxygen supply conduit adapted to be connected at one end to a predetermined low pressure oxygen supply means, said conduit having branch conduits therefrom disposed in open communication with said inhalation chamber and with said pressure equalization chamber respectively, an inhalation and exhalation conduit connected at one end to said casing in open communication with the interior of said exhalation chamber having an opposite end adapted to be connected to a high altitude gas mask, a branch conduit connected in open communication with said inhalation and exhalation conduit intermediate the ends thereof, said branch conduit extending through said inhalation chamber having a concentric valve seating inlet port facing said diaphragm means and opened or closed by opposite deflections of the diaphragm valve between said inhalation and exhalation chambers, toward or away from said exhalation chamber, an exhalation tube open to ambient atmosphere at one end, extending into said exhalation chamber having an outlet valve seat concentrically facing the other diaphragm valve, and opened or closed thereby incident to deflection of that diaphragm valve away from or toward the other diaphragm valve, extensible resilient bellows means concentrically fixed in said casing in said equalizing chamber having an inner closed end and an outer end open to the ambient atmosphere exterior of said casing, and a positive actuating connection between the closed inner end of said bellows means and the diaphragm valve located between the exhalation chamber and the equalization chamber for tensioning the latter diaphragm in predetermined relation to the pressure differential between the ambient air exterior of said casing and the oxygen pressure in the equalization chamber from the oxygen supply means to control the opening and closing deflections of said latter diaphragm valve means on said exhalation tube outlet valve seat in predetermined ratio to said pressure differential.

3,375,840
MULTI-MODE FLUID DEVICE

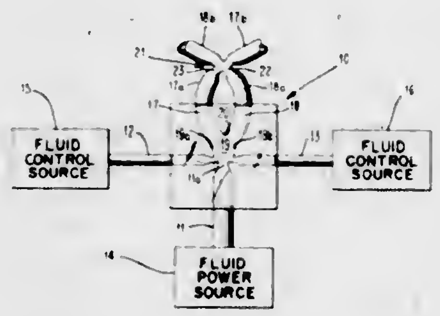
Harold L. Fox and Fabio R. Goldschmied, Salt Lake City, Utah, assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 17, 1964, Ser. No. 352,468
2 Claims. (Cl. 137—81.5)



1. A fluid device comprising in combination, a symmetrical fluid interaction chamber, a fluid power inlet nozzle entering said interaction chamber along the axis of symmetry thereof, said nozzle being effective when charged with a pressurized fluid to issue a fluid jet along said axis of symmetry, a wedge-shaped divider element located along the axis of symmetry with its apex in confronting relationship to said nozzle, said divider element being spaced from said nozzle by a distance which is operative to induce an edge-tone oscillation in the power jet, said chamber being formed by a pair of lower wall sections each angling upward from opposite sides of said power nozzle and then a pair of upper generally circular wall sections, which terminate at their upper ends in spaced relation to the sides of said wedge-shaped divider, a pair of output channels located one on each side of said divider, said output channels being formed by the sides of said divider and a pair of wall members one on each side of the wedge-shaped divider, said wall members being spaced from and generally paralleling the sides of the divider element along their upper extremes and then slanting inwardly toward the divider along their lower extremes to terminate in the upper ends of the circular wall sections near the apex of the divider, the slanted portions of said wall members together with circular wall sections forming a cusp at the entrance to each of the output channels, said chamber walls being positioned relative to said axis of symmetry so that when the jet is deflected to one output channel or the other it will produce a transverse pressure differential thereacross which will in turn cause the jet to lock onto the cusp at the corresponding output channel, said cusp and circular wall section then being operative to feed back a small amount of fluid power to the power jet to thereby cause the jet to oscillate about said cusp, and fluid control ports entering the interaction chamber on each side of the axis of symmetry of said chamber.

3,375,841
FLUID DEVICE

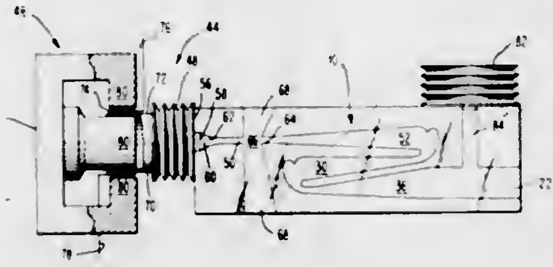
Arnold Schonfeld, Levittown, and John C. Schulte, Maple Glen, Pa., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed July 29, 1964, Ser. No. 385,857
4 Claims. (Cl. 137—81.5)



1. In a fluid amplifier element having a plurality of fluid-flow outlet passageways, any one of which may have a mainstream of fluid-flow diverted therethrough, a device for preventing fluid back-up of said mainstream and for preventing under conditions of no-back-up the existence of spurious and false fluid-flow in any of said outlet passageways other than said mainstream carrying one, comprising a passageway extension associated with each of said outlet passageways, each of said passageway extensions crossing one another at a common point intermediate their lengths to thereby form a common intersection, and each of said passageway extensions having a constriction formed therein at said intersection to form a venturi in each of the extensions at the intersection whereby substantially all of said mainstream flows out one of said extensions and none of said mainstream flows out the other of said extensions.

3,375,842
FLUID DIODE

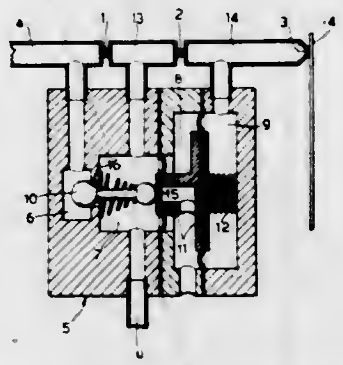
Trevor Drake Reader, King of Prussia, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 23, 1964, Ser. No. 420,557
9 Claims. (Cl. 137—81.5)



9. A fluid device comprising a body member having a channel therethrough formed to act as a fluid diode presenting relatively low impedance to fluid flow therethrough in the easy direction and relatively high impedance to fluid flow therethrough in the opposite direction, said channel having inlet and outlet openings, said inlet opening being restricted, a pulsating fluid source having alternately suction and compression strokes, said source having a common inlet/outlet aligned with the inlet of said channel across an unrestricted gap open to atmospheric pressure, whereby upon the suction stroke air is drawn into the pulsating source through said gap and upon compression air is driven from the pulsating source at high velocity across said gap and into said channel inlet.

3,375,843
PNEUMATIC CIRCUIT

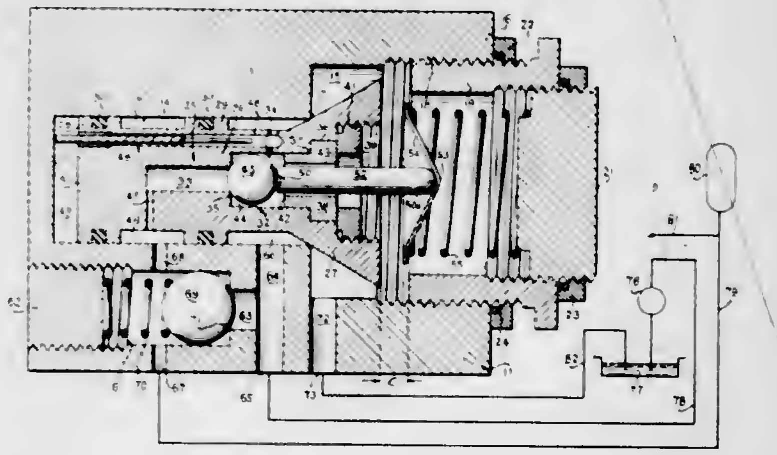
Alessandro Buratti, Bari, Italy, assignor to Pignone Sud S.p.A., Bari, Italy, a company of Italy
Filed Nov. 30, 1965, Ser. No. 510,594
Claims priority, application Italy, Jan. 14, 1965, 251, Patent 748,715
1 Claim. (Cl. 137—85)



Flow of fluid to a nozzle is maintained by providing two restrictions in the supply duct. Supply is connected to the duct which, in turn is, connected to a supply chamber. Between its first and second restrictions the duct is connected to an output chamber from which the fluid can flow to an exhaust duct. Between the second restriction and the nozzle, the duct is connected to a signal chamber. Two flexible partitions separate the signal chamber from a discharge chamber, and the discharge and output chambers, respectively. A port in the second-mentioned partition connects discharge and output chambers. A second port connects supply and output chambers. A two-headed valve is normally spring pressed to close both ports.

3,375,844
UNLOADER VALVE

Jean Mercier and Bernard Mercier, both of 1185 Park Ave., New York, N.Y. 10028
Filed Nov. 25, 1964, Ser. No. 413,698
Claims priority, application France, Dec. 18, 1963, 957,598, Patent 1,388,828
17 Claims. (Cl. 137—108)

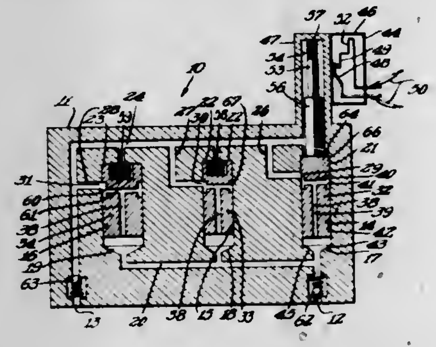


The invention relates to the art of unloader valves, more particularly of the type to retain the pressure in a hydraulic system within adjustable predetermined limits and which may have such operating pressures varied even when the hydraulic system is in operation.

3,375,845
FLUID FLOW DEVICE

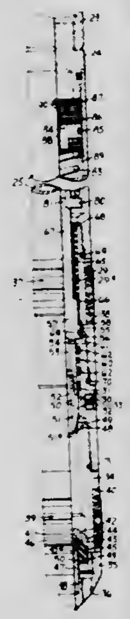
William F. Behm, Cowlesville, N.Y., assignor to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan
Filed Apr. 21, 1964, Ser. No. 361,432
9 Claims. (Cl. 137—110)

A device for indicating the presence or absence of fluid flow through a conduit including a housing having a fluid inlet adapted for connection to a source of pressurized fluid, a fluid outlet and a plurality of linearly movable valve members in the housing communicating the inlet and the outlet. The valve members are spring biased to closed positions but are movable to open positions for establishing fluid flow passages between the inlet and the outlet upon an increase in fluid pressure at the inlet. The springs are arranged so that a first valve member always moves to an open position before the other valve members and an indicator is associated with the first valve member to indicate its disposition. An abutment wall in the housing restricts the movement of the first member so that in its open position it is merely "cracked." This avoids hunting of the first valve member and offers a high degree of accuracy in indicating whether the first valve member is in an open or a closed position while imposing relatively low pressure drops across a wide range of fluid flow rates.



3,375,846
GAS LIFT VALVE

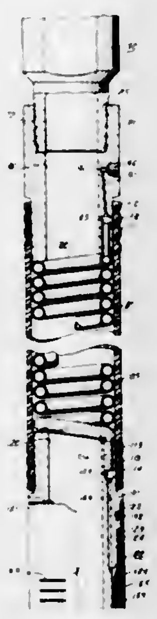
Carlos R. Canalizo, Dallas, Tex., assignor to Otis Engineering Corporation, Dallas, Tex., a corporation of Delaware
Continuation-in-part of application Ser. No. 277,064, Apr. 9, 1963. This application Nov. 22, 1963, Ser. No. 325,716
17 Claims. (Cl. 137—155)



1. A well tool including: a housing having a flow passage and a lateral aperture intermediate the ends of said housing communicating said flow passage with the exterior of the housing; a valve means comprising an elongate body longitudinally slidable in said housing, said housing having a valve seat engageable by said elongate body when said elongate body is moved in one direction to one extreme longitudinal position in said housing; sealing means between said elongate body and said housing, said lateral aperture being disposed between said valve seat and said sealing means, said elongate body closing said flow passage to prevent flow of fluids from said aperture to said flow passage when said elongate body is in said one extreme longitudinal position; and means responsive to fluid pressure comprising a bellows having one end connected to said elongate body and another end connected to said housing to form a chamber in said housing between said housing and said bellows; said elongate body having a longitudinally extending internal flow passage formed therein communicating at one end with the flow passage of the housing and extending longitudinally of said elongate body past said sealing means to the exterior of said elongate body at a point communicating with said chamber in the housing to conduct fluid pressure from the flow passage of said housing to said means responsive to fluid pressure for actuating said elongate body; said elongate body and said housing having coengageable means for closing said chamber from said passageway of said elongate body when said elongate body moves to open position, said elongate body and said valve seat providing an annular flow passage therebetween smaller in area than the area of the lateral aperture of the housing controlling flow from said lateral aperture through said seat to the flow passage of the housing, whereby the elongate body of the valve means is movable in response to fluid pressure of the fluid in the flow passage of the housing.

3,375,847
GAS LIFT VALVES

Norman F. Brown, Dallas, Tex., assignor to Otis Engineering Corporation, Dallas, Tex., a corporation of Delaware
Filed Dec. 8, 1964, Ser. No. 416,695
15 Claims. (Cl. 137—155)

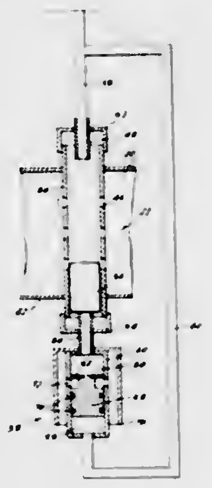


A flexible flow control valve, or gas lift valve, which may be passed through flow conductors having relatively sharp bends formed therein, and having a flexible pressure chamber provided therein for controlling opening and closing of the valve.

3,375,848
AUTOMATIC LIQUID DISCHARGE SYSTEM FOR GAS STORAGE TANKS

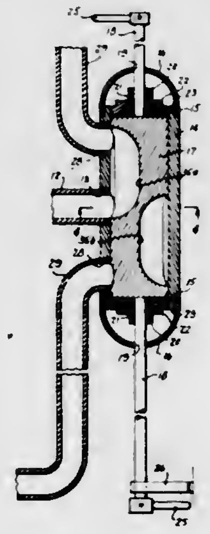
Joseph F. Kern, Massapequa, Richard T. Dale, West Babylon, William C. Kern, Setauket, and Phillip M. Robinson, Massapequa, N.Y., assignors to Puregas Equipment Corporation, Copiague, N.Y., a corporation of New York
Filed May 19, 1966, Ser. No. 551,262
4 Claims. (Cl. 137—195)

1. An automatic drainage means comprising an air receiver tank provided with a chamber adapted to be connected to the output of an air compressor whereby said chamber is maintained at an elevated pressure, an elongated float guide member mounted within said chamber and having at least one fluid port formed in the wall portion thereof providing direct fluid communication with said chamber, a first valve seat formed adjacent one end of the elongated float guide adapted for fluid communication with a heat transfer device thereby to pass gas to said transfer device and receive condensate from said device, a second valve seat formed adjacent the other end of said float guide, a float valve received within said float guide normally positioned at and in sealing relation to said second valve seat, and a pressure controlled valve means mounted in fluid communication with said second valve seat to control drainage of said condensate therethrough, a pressure line connecting said first valve seat to said pressure controlled valve means to maintain said pressure valve means in a closed condition when said float valve is removed from said first valve seat, said pressure valve opening when said float valve moves to said first valve seat under influence of the condensate level whereby condensate accumulations in said air receiver tank are dumped from said chamber.



3,375,849
RAILROAD AIR HOSE CONNECTION

Clarence Swartz, Orient, Iowa 50858
Filed Dec. 18, 1964, Ser. No. 419,416
2 Claims. (Cl. 137—349)

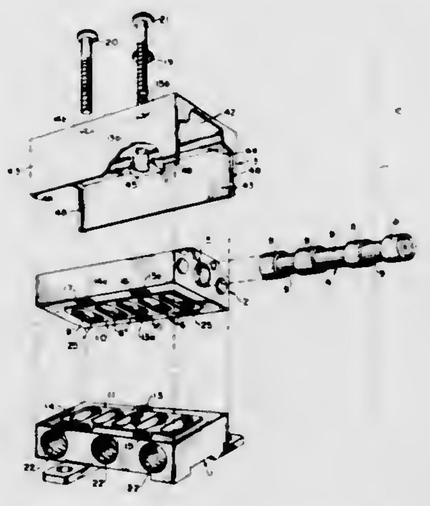


1. In a railroad car air hose connection system wherein the railroad car includes a centrally disposed conduit extending the length thereof for carrying fluid therethrough and means at each end of the railroad car communicating with the conduit for connecting the conduit in communication with a similar conduit in an adjacent car, the improvement wherein the connection means comprises:

a combined valve and manifold housing having an inlet port secured in communication with the centrally disposed conduit and at least two outlet ports;
movable valve means in the housing, said valve means comprising a substantially solid, cylindrically shaped body having openings formed in the cylindrical surface thereof for selectively connecting only one of said outlet ports in communication with said inlet port;
oppositely extending operating shafts which extend to the respective sides of the railroad car;
leverage means on the end of the shafts adjacent the respective edges of the car for permitting operating movement of the valve means from either side of the railroad car;
elongated conduits secured in communication with said outlet ports extending toward the respective sides of the railroad car;
flexible hoses secured in communication with the elongate conduits;
connecting means on the free ends of the flexible hoses for permitting selective interconnection of the free end of one hose individually or of both hoses to similarly disposed hoses on the respective sides of an adjacent railroad car, thereby permitting a continuous fluid conduit system to be completed among a plurality of cars by connecting only the flexible hoses on one side of said cars and operating said valve means from said side of the cars.

3,375,850
FLUID VALVE CONSTRUCTION

Wilfred Aslan, Mahwah, N.J., assignor to Alkon Products Corporation, Hawthorne, N.J., a corporation of New York
Filed June 18, 1965, Ser. No. 465,033
17 Claims. (Cl. 137—382)

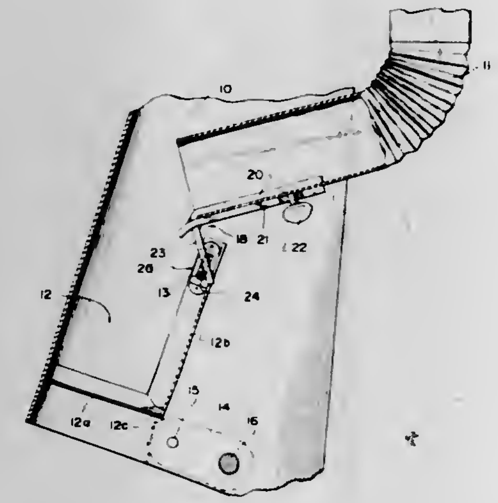


A fluid valve assembly having a valve body with a valve spool slidably mounted therein, a valve base supporting the valve body, and a protective valve bonnet connected to said valve body in covering relationship therewith.

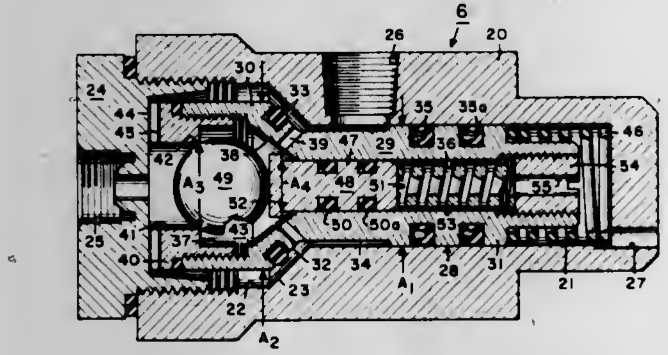
3,375,851
SWINGDOWN DRAIN TROUGH

Glenn Fitz Henry, Onarga, and Donald R. Schif, Paxton, Ill., assignors to Schif Enterprises Inc., a corporation of Illinois
Continuation-in-part of application Ser. No. 408,073, Nov. 2, 1964. This application Feb. 21, 1966, Ser. No. 528,866
10 Claims. (Cl. 137—396)

An automatic swingdown trough for downspouts to convey water away from a building, in which the trough rotates between an up and a down position. A counterbalance receptacle is mounted in the trough such that water from the downspout will fill the receptacle and thereby rotate the trough to the down position. The counterbalance receptacle rotates with the trough and is emptied when the trough is in the down position. The trough and the counterbalance receptacle return to the up position when water is not flowing from the downspout. A latch arm extends outwardly from the downspout to hold the trough in its up position when water is not flowing from the downspout, and spring loaded floating bearings mount the trough to the downspout such that the springs in the bearings are compressed when the receptacle is filled with water to move the trough out of engagement with the latch arm and permit the trough to rotate to the down position.

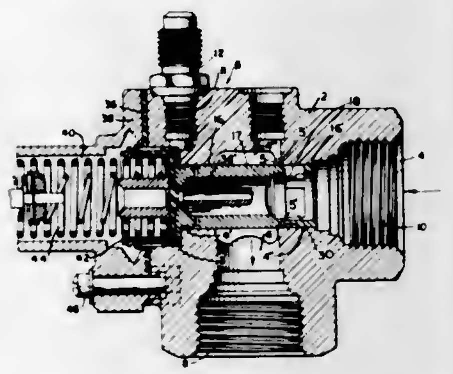


3,375,852
CONTROL VALVE
Arthur N. Milster, Richmond Heights, Mo., assignor to Wagner Electric Corporation, St. Louis, Mo., a corporation of Delaware
Filed June 21, 1965, Ser. No. 465,503
13 Claims. (Cl. 137—493.3)



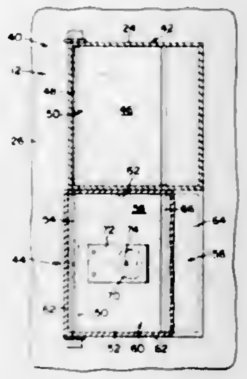
In a proportioning valve, first resiliently urged means movable to isolate the output fluid pressure from the input fluid pressure when the magnitudes thereof attain a predetermined value, and other resiliently urged means movable in response to input fluid pressure in excess of the predetermined value for communicating the input fluid pressure with the output fluid pressure and also movable toward an inoperative position effecting open pressure fluid communication between the input and output fluid pressures when the magnitude of the output fluid pressure acting thereon attains another predetermined value predeterminately greater than the first named predetermined value.

3,375,853
PISTON VALVE SLIDE
Avram M. Meshulam, 15 Linden Terrace, Baltimore, Md. 21208
Filed Aug. 16, 1965, Ser. No. 479,920
5 Claims. (Cl. 137—494)



An improved slide valve, valve assembly and method of producing the same in which the valve is of a unitary construction and is produced with an annular flange at one end having a surface machined in relation to a continuous machine edge forming a part of a groove overlying a plurality of radial openings from the outer cylindrical guide surface of the valve and in which a fragmentary, cylindrical guide surface is formed at the end of the valve opposite the end upon which the annular flange is formed.

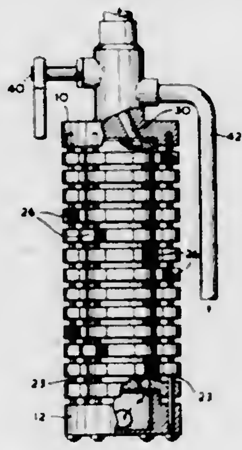
3,375,854
STARTUP CONTROL VALVE FOR A DISHWASHER PUMP
Marlin D. Schutte, Rochester, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 28, 1965, Ser. No. 475,525
8 Claims. (Cl. 137—587)



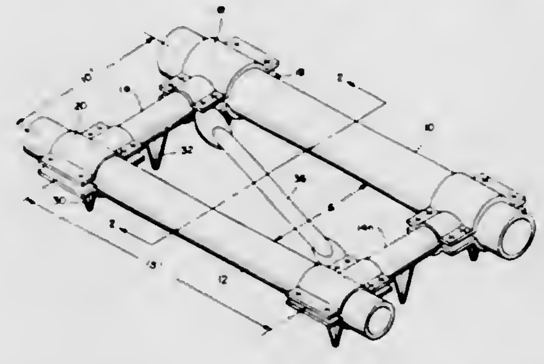
A dishwasher having a hot cleaning fluid spray device, a conduit for supplying the spray device with hot cleaning fluid and a valve for slowing initial supply of hot cleaning fluid to the spray device to slow the heating of the relatively cool air admitted to the washer when previously open, thereby avoiding dishwasher explosion.

3,375,855
STEAM BOILER BLOWDOWN VALVE
Douglas B. Deeks, 197 Forest Hill Road, Toronto, Ontario, Canada
Filed Sept. 13, 1965, Ser. No. 486,803
Claims priority, application Canada, Sept. 24, 1964, 912,410
7 Claims. (Cl. 138—42)

1. A device for continuous boiler blowdown and like uses, comprising an inlet header, an outlet header, a plurality of housings between said inlet header and said outlet header, each of said housings having a chamber with an inlet and an outlet, said chamber of each of said housings defining a tortuous water passage between the said inlet and outlet of said chamber, said tortuous water passage in each of said housings including a plurality of interconnected cyclonic chambers, means for maintaining said housings in serial arrangement with the inlet of the chamber of the first housing communicating with said inlet header, the outlet of the chamber of the last housing communicating with said outlet header and the outlet of the chamber of housings preceding the last housing communicating with the inlet of the chamber of the next following housing whereby to form a continuous and composite tortuous path through said chambers of said housings from said inlet header to said outlet header, said continuous and composite tortuous path having twists adapted to provide resistance to the flow of water under pressure at said inlet header to a boiler continuous blowdown flow rate.



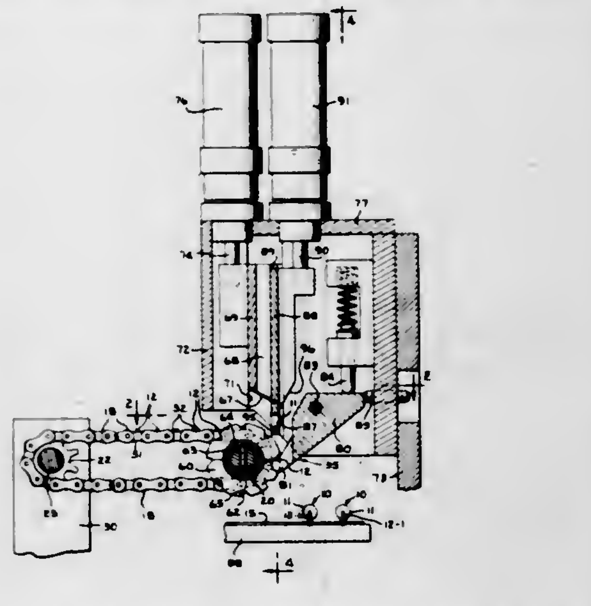
3,375,856
PIPELINE ASSEMBLY FOR UNDERWATER
George C. Howard and Renic P. Vincent, Tulsa, Okla., assignors to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed May 26, 1965, Ser. No. 458,994
3 Claims. (Cl. 138—106)



A horizontally disposed twin pipeline system for use in turbulent water. Two horizontal pipes are assembled in a common horizontal plane. The pipes are held a fixed distance apart by cross braces. The cross brace under each pipe is provided with a special anchoring system for anchoring the pipe assembly to the floor of a body of water. Each of the pipes is for carrying oil from a well to a shore terminal.

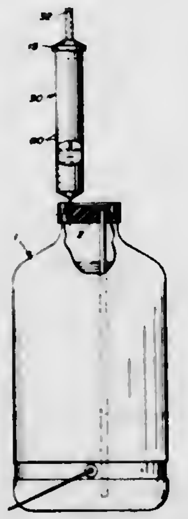
3,375,857
APPARATUS FOR FEEDING AND FORMING ARTICLES
Richard D. Berg, Elmhurst, Ill., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed June 18, 1965, Ser. No. 465,030
12 Claims. (Cl. 140—71)

An apparatus feeds, forms, and inserts the leads of electrical components into preformed holes in an electrical circuit board. An intermittently moving pair of endless chains support and advance the components serially to a pair of notched discs which lift and transfer the components from the chains to a work station where a cutting member shears the leads against edges of the notches.



A bending member is then operated to bend the sheared leads around a pivotal forming member, whereafter the bending member pivots the forming member out of position and inserts the leads into holes in the circuit board.

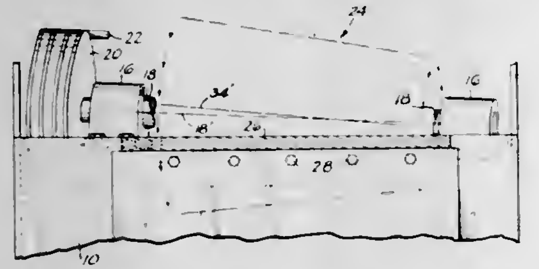
3,375,858
VARIABLE DOSE MEDICAMENT VIAL
David A. Jellies, Glendale, Calif., assignor to Don Baxter, Inc., Glendale, Calif., a corporation of Nevada
Filed Oct. 22, 1965, Ser. No. 501,427
5 Claims. (Cl. 141—363)



A sterile additive vial for use with a parenteral liquid container or the like in which a closed flexible chamber communicates with an outlet spout and includes a one-piece valve operable through the walls of the chamber by manipulating the walls and in which the valve comprises an elongated flexible rod which is normally axially deformed, and the normal axial deformation urges one end of the valve head of the rod into seated relation on a valve seat controlling fluid flow through the spout.

3,375,859
WOOD CHIPPING APPARATUS
Leon A. Gaudry, Portland, Oreg., assignor to Salem Equipment, Inc., Salem, Oreg., a corporation of Oregon
Filed Sept. 3, 1965, Ser. No. 484,938
7 Claims. (Cl. 144—172)

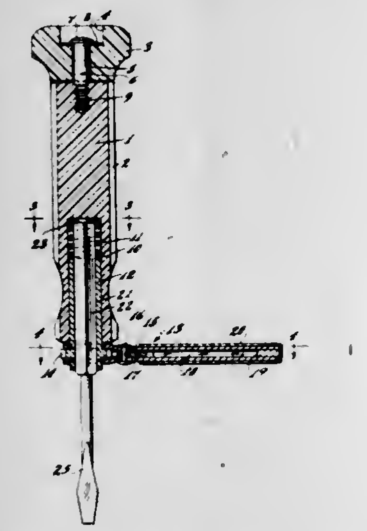
A tapered rotary head mounts a straight, elongated chipper blade positioned with its end at the lesser diameter end of the head leading the opposite end in the direction of rotation of the head, whereby the blade produces a shearing action with the horizontal working edge



of a cooperating anvil. The axis of rotation of the head is disposed angularly with respect to vertical and horizontal planes through the working edge of the anvil.

3,375,860
MANUALLY HELD, RATCHET DRIVEN TOOLS

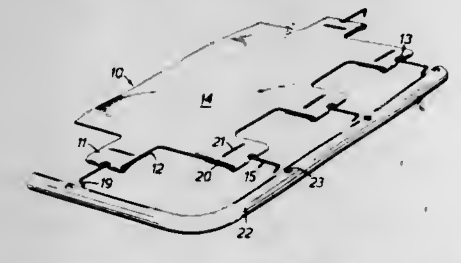
James T. Vosbikian, Philadelphia, and Manuel Vosbikian, Melrose Park, Pa. (both % Hardware & Industrial Tool Co., 20th and Oxford Sts., Philadelphia, Pa. 19125)
Filed July 15, 1966, Ser. No. 565,617
1 Claim. (Cl. 145—70)



A manually held, ratchet driven tool in which a coil spring is retained within the bore of the body portion by the assembled ratchet and is adapted to resiliently engage the shank of the driven tool.

3,375,861
SUPPORT MEMBERS

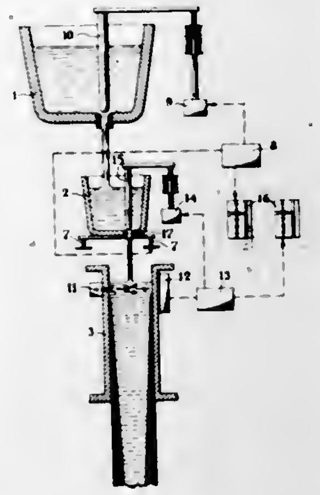
Douglas Charles Marlow, Etwall, England, assignor to Pirelli Limited, London, England, a British company
Continuation-in-part of application Ser. No. 307,592, Sept. 9, 1963. This application Aug. 10, 1964, Ser. No. 388,612
Claims priority, application Great Britain, Sept. 13, 1962, 35,035/62; Aug. 13, 1963, 31,894/63
10 Claims. (Cl. 160—371)



1. In combination, a supporting frame, a support member mounted within said frame under tension and formed of flexible and extensible elastomeric material and including a relatively thin flat body portion, said body portion having integral therewith at least two free ends formed of said material and having a certain length and width, and attachment members securing said free ends to said supporting frame, each attachment member embodying a straight support arm having a length consisting of two end regions and a central region bounded by said end regions, a straight attachment arm connected to said support arm to form said attachment member, said support arm and said attachment arm being of rod form, said attachment arm being connected at one end thereof to said support arm at said central region thereof and being disposed normal to said support arm, said attachment arm having a portion of its other end in the form of a hook for attachment to said supporting frame, said end regions of said support arm being secured in engagement with and enclosed by a free end of said material with the support arm extending substantially the full width of such free end and said attachment arm extending longitudinally of and from the longitudinal center of said free end thereby to prevent disengagement of said support arm from said free end when the support member is mounted under tension upon said frame.

3,375,862
MACHINE FOR THE CONTINUOUS POURING OF STEEL

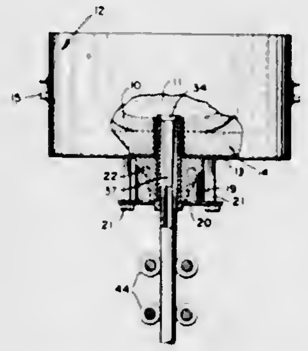
Mikhail Stepanovitch Boitchenko, Veniamine Veniaminovitch Foulmakht, Victor Savelievitch Routese, Victor Serguevitch Pravdine, Gueorguy Romanovitch Korotkov, Alexandre Stepanovitch Kaouchansky, Alexandre Nicolaevitch Chabanov, and Victor Alexandrovitch Karpeka, Moscow, U.S.S.R., assignors to Centralny Naoutchno-Issledovatelsky Institut Tchornoy Metallourgiy "I. P. Bardine" and Sojuzny Proektny Institut "Stalproekt," both of Moscow, U.S.S.R., body corporates of Union of Soviet Socialist Republics
Continuation of application Ser. No. 250,437, Jan. 9, 1963. This application Apr. 29, 1966, Ser. No. 546,462
Claims priority, application France, Jan. 12, 1962, 884,716; Nov. 5, 1962, 914,414
1 Claim. (Cl. 164—155)



Machine for the continuous casting of metal which comprises a first ladle receiving the metal to be poured, a second ladle receiving the metal poured from the first ladle and a cooled ingot mould receiving metal poured from the second ladle. A first device sensitive to variations of the weight of metal in the second ladle and a second device sensitive to changes in the surface level of the poured metal in the ingot mould are, respectively and separately, operatively connected to stoppers located in the bottom of the first ladle and the second ladle so that the pour of flow from the first ladle into the ingot mould via the second ladle is continuously controlled in order to maintain the level of metal in the ingot mould substantially at the same level during the pouring operation.

3,375,863
APPARATUS FOR CONTINUOUS CASTING METAL TUBES

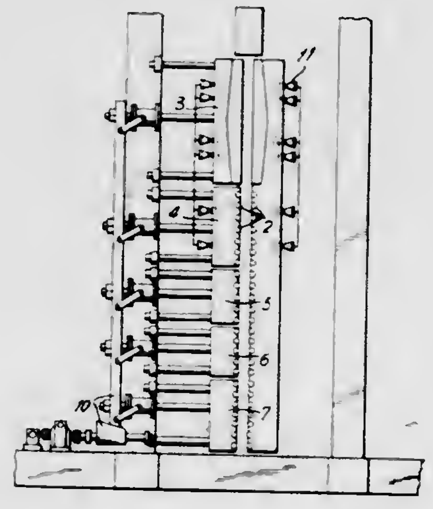
Oliver B. Atkin, Hamden, and Howard Cuvin, Watertown, Conn., assignors to Anaconda American Brass Company, a corporation of Connecticut
Continuation-in-part of application Ser. No. 430,287, Feb. 4, 1965. This application Mar. 16, 1966, Ser. No. 536,593
10 Claims. (Cl. 164—281)



Apparatus and method for continuously casting metal tubes wherein molten metal is gravity fed from a crucible into a reservoir located in a cooling zone of a mold and mandrel assembly and the molten metal is then fed into a tubular space defined between the mandrel and mold, solidified and continuously withdrawn in the form of a thin walled tube. The reservoir is provided within the mandrel with channels extending outward therefrom or outside mold walls and extending inwardly through the mold. Channels which extend axially through the mandrel head are also provided in the combination to supplement the feed of molten metal to the tubular member in the cooling zone and to provide outlets for release of gases.

3,375,864
DEVICE FOR SECONDARY COOLING OF THE INGOT OF THE CONTINUOUS CASTING MACHINE

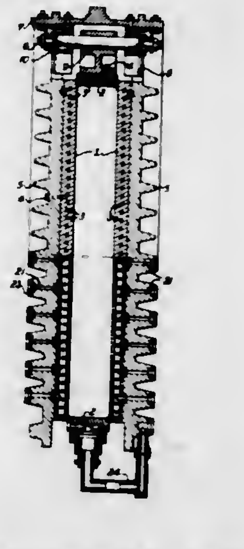
Vladimir Alexandrovich Butkevich, Petrovich Dmitry Evteev, Alexandr Stepanovich Kaushansky, Viktor Alexandrovich Karpeka, Georgy Romanovich Korotkov, Viktor Sergeevich Pravdin, Viktor Saveljevich Rutes, Veniamin Veniaminovich Fulmakht, and Alexandr Kononovich Fisjun, Moscow, U.S.S.R., assignors to Tsentralny Nauchno-Issledovatelsky Institute Chernoi Metallurgii im. I. P. Bardina and Gosudarstvenny Sojuzny Institute proektirovanija metallurgicheskikh Zavodov, both of Moscow, U.S.S.R.
Filed Oct. 26, 1964, Ser. No. 406,310
7 Claims. (Cl. 164—282)



1. An apparatus for guiding an elongated ingot in a secondary cooling zone of a continuous casting machine with a vertically mounted mold, said apparatus comprising a plurality of guide rollers arranged in two vertical columns beneath the mold for receiving an ingot therefrom, means supporting the guide rollers in at least one of said columns in respective groups as independent sections, said sections being vertically aligned in spaced relation beneath the mold and being independently displaceable transversely towards and away from the ingot, and hydraulic piston and cylinder means coupled to each of said sections for independently moving the same in a transverse direction relative to the ingot and for undergoing displacement to permit yielding of said sections under load from the ingot.

3,375,865
MOULD FOR A CONTINUOUS CASTING MACHINE

Mikhail Stepanovich Boichenko, Dmitry Petrovich Evteev, Alexandr Stepanovich Kaushansky, Viktor Alexandrovich Karpeka, Lidia Konstantinovna Orlova, Viktor Sergeevich Pravdin, Alexandr Petrovich Savchenko, Alexandr Kononovich Fisjun, Veniamin Veniaminovich Fulmakht, and Alexandr Nickolaevich Shabanov, Moscow, U.S.S.R., assignors to Tsentralny Nauchno-Issledovatelsky Institute Chernoi Metallurgii im. I. P. Bardina and Gosudarstvenny Sojuzny Institute proektirovanija metallurgicheskikh Zavodor, both of Moscow, U.S.S.R.
Filed Oct. 26, 1964, Ser. No. 406,352
9 Claims. (Cl. 164—283)



1. A mould for a continuous casting machine comprising two pairs of oppositely facing walls defining therebetween a mould cavity, means for securing said pairs of walls together, means connected to a first of said pairs of walls for displacing the same towards and away from one another to thereby change the size of said mould cavity, at least one of said pairs of walls being provided with channels for the flow of cooling fluid therethrough, a pair of movable fluid collectors for supplying cooling fluid to said channels, and means to displace the fluid collectors relative to the walls of said one pair to selectively place said fluid collectors in abutting relation with said walls and in fluid communication with the channels therein.

3,375,866
REGENERATOR MATRIX

John R. Hayden, Lockport, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 5, 1964, Ser. No. 409,233
1 Claim. (Cl. 165—10)

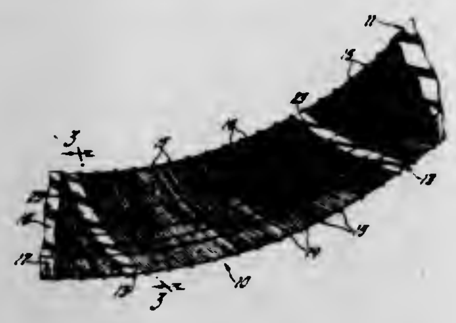
1. An annular matrix for a rotary regenerator comprising, in combination,
first and second coaxial rings defining the edges of the matrix,

means including stiffener elements extending from one ring to the other coupling the rings together, said stiffener elements defining with the rings spaces for heat transfer material,

and heat transfer material defined by heat transfer elements stacked generally parallel between the said stiffener elements and extending from one ring to the other,

the heat transfer elements comprising thin plates defining multifarious fluid flow paths betwen the plates,

the said stiffener and heat transfer elements being of a generally involute curvature in the plane perpendicular to the axis of the rings so that the angle of inclination of the elements to a radius from the said axis increases with distance from the said axis to such an extent as to make the circumferential thickness of the elements increase substantially proportionally to the radius,

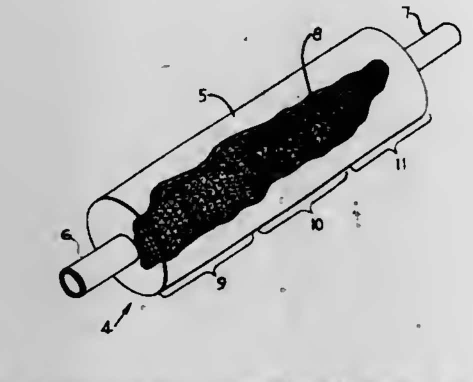


each stiffener element comprising an external frame of generally rectangular outline,

two rectangular involute-curved facings, one fixed on each face of the frame,

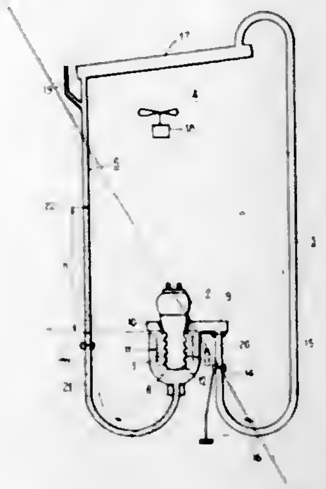
and a corrugated sheet internal to the stiffener having the peaks of the corrugations of the sheet alternately engaging the facings and bonded to the facings.

3,375,867
MATRIX SYSTEM FOR LOW TEMPERATURE ENGINE REGENERATORS
John G. Daunt, New York, N.Y., assignor to Malaker Corporation, High Bridge, N.J., a corporation of New Jersey
Filed Oct. 6, 1965, Ser. No. 493,482
2 Claims. (Cl. 165—10)



1. A regenerator for low temperature engines of the class described, and operating below about 30° K., comprising,
- a hollow container having an inlet and a discharge and
- a channeled matrix materal tightly packed in said container, said material comprising a lanthanide metal of the class consisting of neodymium, cerium, erbium, holmium and samarium which metal undergoes at least one rapid reversible magnetic transformation in the temperature range of about 5° K. to about 20° K., wherein its heat capacity per unit volume is at least 1.30 times greater than that of lead within said temperature range.

3,375,868
VAPORIZATION SYSTEM HAVING IMPROVED FEED LIQUID RECIRCULATING MEANS
Charles A. E. Beurtheret, Saint-Germain-En-Laye, France, assignor to Compagnie Francaise Thomson Houston-Hotchkiss Brandt, Paris, France
Filed Aug. 15, 1966, Ser. No. 572,440
Claims priority, application France, Aug. 24, 1965, 29,235
21 Claims. (Cl. 165—105)

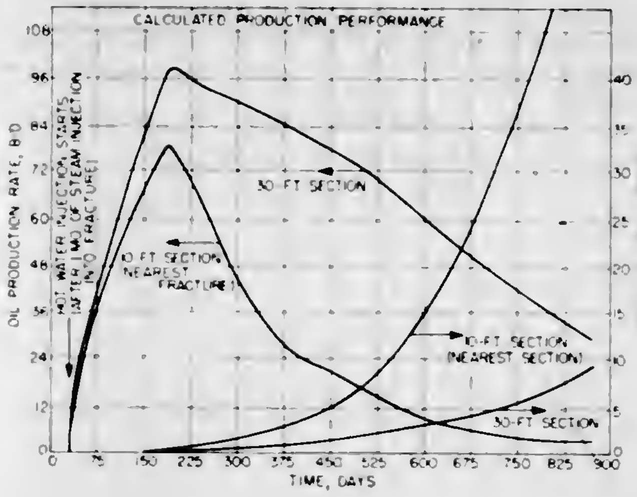


1. A vaporization system comprising:
- a boiler having a body of vaporizable liquid therein and including an inlet for feed liquid;
- a heat dissipating source in the boiler immersed in said liquid whereby the liquid is partly vaporized;
- overflow means associated with the boiler to maintain the free surface of said liquid at a constant level; and
- a recirculatory feed system for said liquid comprising:
  - a condenser positioned at an overhead level substantially higher than said constant liquid level, and having an inlet and an outlet;
  - a liquid feed pipe connected to the outlet of the condenser and connected to the inlet of the boiler; and
  - a vapour discharge pipe connected to said boiler so as to receive therefrom vapor together with non-vaporized liquid overflowing from said overflow means, and including an upgoing leg connected to the inlet of the condenser;
  - means to pump to the condenser, by the annular flow effect, the liquid spilled over the overflow means into the vapor discharge pipe by the boiling process comprising:
    - sufficient amount of liquid in the system so that the height of the column of liquid above the level in the boiler is sufficient to balance the pressure drop through the boiler and the pressure drop required to elevate the water entrained by the annular flow effect, the upgoing leg of the vapor discharge pipe having a flow sectional area small enough to maintain the velocity of the vapor in the upgoing leg at least at the critical velocity for the liquid, and a downgoing leg connecting with the overflow means and with said upgoing leg.

3,375,869
METHOD OF CEMENTING CASING IN A WELL
Joseph U. Messenger, Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York
No Drawing. Filed Oct. 22, 1965, Ser. No. 502,311
13 Claims. (Cl. 166—3)

This specification discloses a method of cementing a casing in a well penetrating a subterranean formation which contains alkaline earth metal ions such as are present in aqueous solutions of calcium chloride, magnesium chloride, and magnesium sulfate. The aqueous formation liquid is analyzed to determine the concentration of ions of one or more of the above or other alkaline earth metals which will form a precipitate in the formation when contacted by filtrate from a cement slurry. The casing is cemented utilizing a cement slurry which is mixed such that the concentration of the alkaline earth metal ions in the aqueous filtrate from the slurry is at least as great as the concentration of the alkaline earth metal ions in the aqueous formation liquid. Thus, precipitates such as calcium hydroxide will be formed in the slurry where they will tend to be trapped such that they will not penetrate into the formation during the cementing procedure.

3,375,870
RECOVERY OF PETROLEUM BY THERMAL METHODS
Abdus Satter, Forrest F. Craig, Jr., and Theodore M. Geffen, all of Tulsa, Okla., assignors to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed Nov. 19, 1965, Ser. No. 508,797
13 Claims. (Cl. 166—11)



Horizontal fractures are made in nonpay sections such as shales, outside of or within the gross pay zone. Steam is injected through these fractures at a central well and condensed water is produced at the surrounding wells. After steam breakthrough, the steam injection rate is reduced with time to make sure that hot water essentially at the injected steam temperature will be produced, using only the latent heat of condensation of the injected steam at decreasing injection rates. A single well injection and production scheme may be used at the producing wells by utilizing the excess steam. The heated oil is also produced by injecting steam into the oil reservoir; altertimes the oil viscosity in centipoises at the original natively hot water may be used.

3,375,871
ESTABLISHING AN INVERSE BURNING FRONT WITHOUT SPONTANEOUS IGNITION
Harry W. Parker, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed June 15, 1966, Ser. No. 557,627
5 Claims. (Cl. 166—11)

1. A process for initiating an inverse burning front in an oil stratum susceptible to spontaneous combustion in contact with air, said stratum being penetrated by an injection well and a production well, which comprises the steps of:

(a) injecting into said stratum thru said injection well a gas of insufficient free O_2 concentration to cause spontaneous ignition in said stratum and producing fluids from said production well driven into same by said gas;

(b) continuing step (a) while gradually increasing the O_2 concentration over a period of at least several weeks so as to reach the O_2 concentration of air at the end of said period without spontaneous ignition;

(c) thereafter, igniting said stratum around said production well by heating same to ignition temperature and passing air from said injection well to the heated area; and

(d) continuing the passing of air from said injection well to the ignited area to establish an inverse burning combustion front.

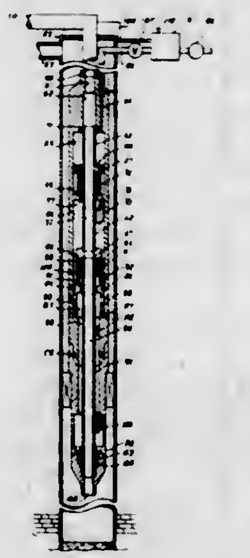
3,375,872
METHOD OF PLUGGING OR SEALING FORMATIONS WITH ACIDIC SILICIC ACID SOLUTION
Homer C. McLaughlin, Joseph Ramos, and Ronney R. Koch, Duncan, Okla., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware
Filed Dec. 2, 1965, Ser. No. 511,141
10 Claims. (Cl. 166—29)

A method of plugging or sealing earth formations, employing a low pH silicic acid solution.

3,375,873
CEMENT COMPOSITION FOR HIGH TEMPERATURE WELLS
Farris Mitchell, Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York
No Drawing. Filed Nov. 16, 1964, Ser. No. 411,602
9 Claims. (Cl. 166—31)

This specification discloses a cement composition, a cement slurry containing the cement composition, and a method of cementing a well employing the cement composition. The cement composition comprises portland cement containing ferrochrome lignosulfonate. The ferrochrome lignosulfonate enables the cement slurry to be pumped at temperatures in excess of 250° F. and even up as high as 325° F. without premature setting. The ferrochrome lignosulfonate also provides fluid loss control without destroying the ability of the cement slurry to set at lower temperatures and have adequate compressive strength.

3,375,874
SUBSURFACE WELL CONTROL APPARATUS
Vonner R. Cherry, Mountain Home, Ark., and Roland O. Cox, Dallas, Tex., assignors to Otis Engineering Corporation, Dallas, Tex., a corporation of Delaware
Filed Apr. 13, 1965, Ser. No. 447,803
15 Claims. (Cl. 166—114)



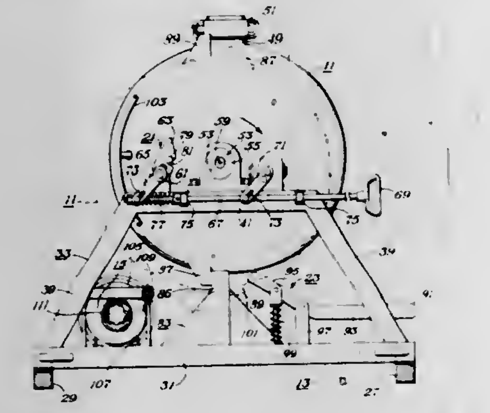
A control valve system providing surface controlled subterranean valve means permitting injection or withdrawal or simultaneous injection and withdrawal of fluids in a well and providing for large volume of flow into or out of the well and positive shut-off of flow when desired.

3,375,875
DRY CHEMICAL FIRE EXTINGUISHING APPARATUS

Harold R. Wesson, Fort Worth, Tex., assignor to Fire Boss, Inc., doing business as Fire Control Engineering Company, Fort Worth, Tex.

Filed Apr. 20, 1966, Ser. No. 543,934

8 Claims. (Cl. 169—9)



1. A fire extinguishing apparatus of the type designed to utilize dry chemical powder material as the extinguishing agent, said apparatus comprising:
(a) a normally upright, sealed, pressure vessel container for storing the dry chemical powder material;
(b) gas supply conduit means adapted for connection to a source of pressurized gas and communicating with the interior of said container, with said gas supply conduit means terminating in said container adjacent the top thereof;
(c) normally closed gas valve means interposed in said gas supply conduit means and operable to admit gas under pressure from said source to said container;
(d) discharge conduit means communicating with the interior of said container and terminating in said container adjacent the top thereof;
(e) normally closed discharge valve means interposed in said discharge conduit means;
(f) said pressure vessel container having a central axis and a wall that is circular in transverse section and is disposed symmetrically about said central axis;
(g) a pair of trunnions fixed to said container and providing a rotational axis therefor, with said rotational axis being parallel to said central axis and displaced laterally therefrom;
(h) a support frame;
(i) means journally mounting said trunnions on said support frame;
(j) latch means normally in the latched condition to hold said container against movement away from the upright position;
(k) and means for actuating said latch means to the unlatched condition to allow free fall rotational movement of said container to an inverted position.

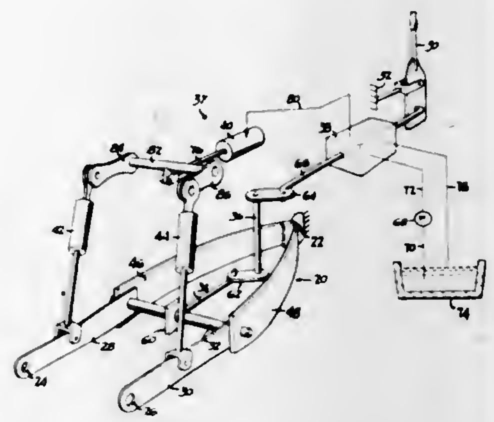
3,375,876
DRAFT SENSING METHOD AND APPARATUS

Roger F. Engelmann, Racine, Wis., assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin

Filed Jan. 7, 1965, Ser. No. 424,004

10 Claims. (Cl. 172—1)

A draft control system for maintaining a generally constant draft-load between an implement and a tractor. A resilient frame is interposed between the implement and the tractor and is extended and contracted in response to changes in draft-load. The changes in frame length are used to generate a signal for actuating a valve which adjust the implement elevation to restore the desired magnitude of draft-load.

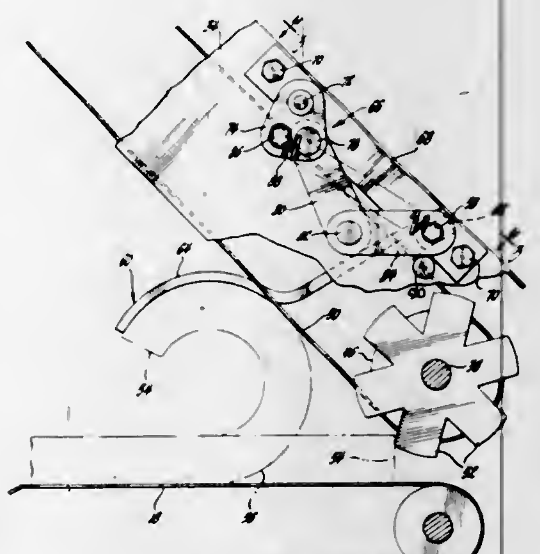


3,375,877
SOD ROLL FORMING MEANS

Ralph R. Pasinski, 17230 Sunderland, and Richard A. Pasinski, 16217 Stout, both of Detroit, Mich. 48219; and Louis J. Gavasso, Detroit, Mich.; said Gavasso, assignor to said Ralph R. Pasinski and said Richard A. Pasinski

Filed Oct. 19, 1965, Ser. No. 497,912

11 Claims. (Cl. 172—19)



Apparatus mounted on a sod roll forming machine for causing the leading edge of a strip of sod to be directed away from the roll forming mechanism and begin the formation of the roll. The apparatus includes serrated drum flanges for picking up the leading edge of the strip and directing it toward the roll forming conveyors. Fingers extending from the roll forming conveyors direct the leading edge away from such conveyors to begin roll formation.

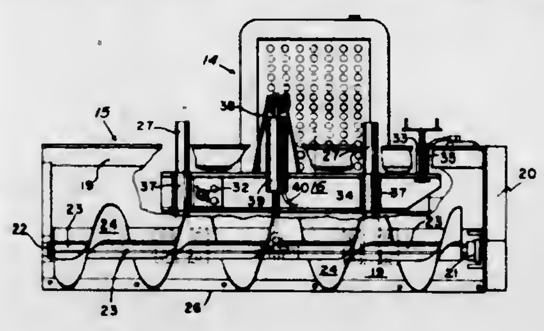
3,375,878
TRACTOR AUGER-TYPE BACKFILLER

Russell John Dorn, Aurora, Colo., assignor to Arrow Manufacturing Company, Denver, Colo., a corporation of Colorado

Filed June 30, 1965, Ser. No. 468,229

3 Claims. (Cl. 172—71)

The disclosed invention is an auger-type backfiller for a tractor. The backfiller comprises an elongated material handling unit assembly, including a revolvable auger, means operatively mounting the assembly on one end of the tractor in lateral outward projection at one side thereof and with the auger presented for ground engagement, and means for adjusting the altitude and tilt of the assembly with respect to the tractor.

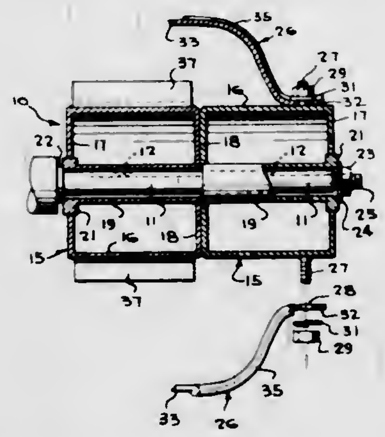


3,375,879
SOIL PULVERIZING UNIT

John S. Troyer and Margarita G. Troyer, both of Trevilians, Va. 23170

Filed Feb. 7, 1966, Ser. No. 525,681

7 Claims. (Cl. 172—122)



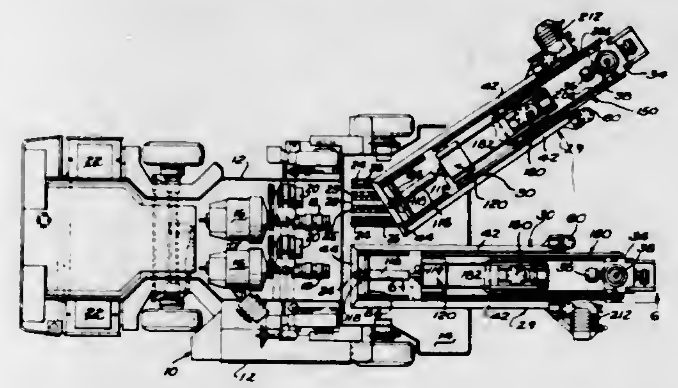
A soil tiller with a driven hub having circumferentially attached elongated radial tines and intermediate radially projecting means individually between the tines extending radially less than the tines to pulverize soil when the hub is closely adjacent the ground.

3,375,880
DUAL BOOM DRILL

Harley G. Pyles and Charles D. Albright, Fairmont, W. Va., assignors to Galis Manufacturing Company, Fairmont, W. Va., a corporation of West Virginia

Filed June 7, 1966, Ser. No. 555,738

10 Claims. (Cl. 173—37)



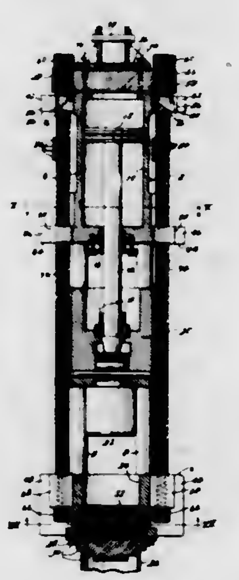
1. In a mobile drilling machine the combination comprising,
a mobile body having a horizontal deck portion,
a swing frame assembly pivotally secured to said horizontal deck portion,
a boom assembly having a front end portion and a rear end portion, said boom assembly rear end portion pivotally connected to said swing frame assembly for vertical pivotal movement of said boom assembly front end portion relative to said swing frame assembly,
means to pivot said boom assembly adjacent said rear end portion relative to said swing frame assembly so that said boom assembly front end portion moves in a vertical linear path,
means to pivot said swing frame assembly in a plane parallel to said horizontal deck portion and move said boom assembly front end portion in a linear path transverse to the longitudinal axis of said mobile body,
said swing frame assembly including universal means to permit limited rotation of said swing frame assembly about the longitudinal axis of said swing frame assembly and relative to said horizontal deck portion, and
actuating means connected to said swing frame assembly to rotate said swing frame assembly about the longitudinal axis thereof and relative to said horizontal deck portion to preselected positions wherein said boom front end portion moves in a plane at an angle to a vertical plane and in a plane parallel to the transverse axis of said mobile body.

3,375,881
PILE DRIVER

Ralph E. Myers, Leawood, Kans., and Dwayne C. Smith, Raytown, Mo., assignors to Conmaco, Inc., Kansas City, Kans., a corporation of Missouri

Filed Mar. 7, 1966, Ser. No. 532,244

9 Claims. (Cl. 173—139)

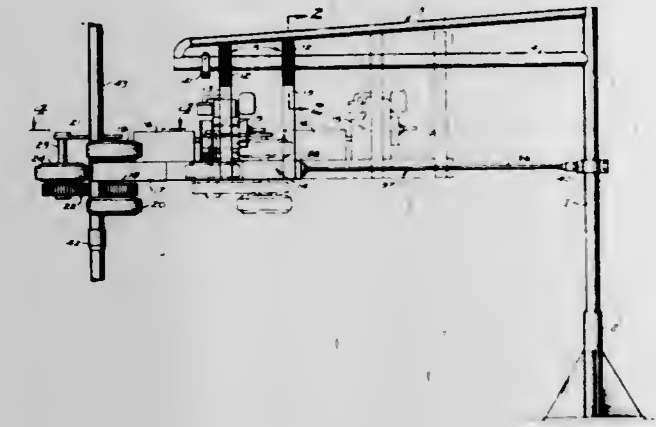


1. In a pile driver hammer:
(a) an upper head adapted to be suspended whereby to support said hammer,
(b) a lower head spaced below said upper head,
(c) a plurality of parallel, spaced apart columns extending vertically between said heads, the opposite ends of each column being engaged slidably in sockets provided therefor, respectively in said upper and lower heads,
(d) a plurality of reaches of flexible steel cables extending between and interconnecting said upper and lower heads, said cables being tensioned whereby to seat said columns firmly in said sockets,

(e) a ram carried slidably on said columns intermediate said heads and adapted at the bottom of its stroke to deliver a downward blow to a pile over which said hammer is suspended, and

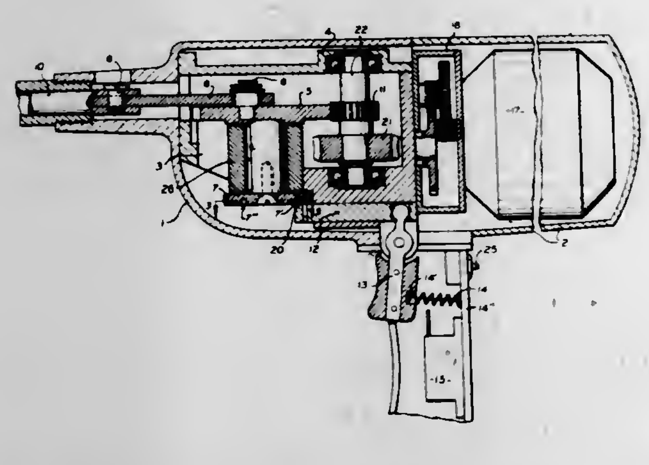
(f) power means for moving said ram on said columns.

3,375,882
MEANS FOR ROTATING OIL WELL PIPE
Clarence Arthur Rankin, 605 Apartado, Maracaibo, Zulia, Venezuela
Filed Oct. 20, 1965, Ser. No. 498,536
3 Claims. (Cl. 173—163)



A means for rotating well pipe utilizing pneumatic wheels supported from a common chassis, two pair of wheels being supported directly from the chassis, and a fifth wheel being supported by a pair of levers extending from the chassis so as to move the fifth wheel away from the other wheels for insertion of a pipe and toward the other wheels for frictional engagement with the pipe; the chassis containing a drive means for all of the wheels and being carried by a horizontally movable carriage.

3,375,883
ELECTRIC HAND RIVETING DEVICE
Kurt Schadlich, Haan, Rhineland, Germany, assignor to Gesipa Gesellschaft fur Internationale Patentverwertung m.b.H., Frankfurt am Main, Germany, a corporation of Germany
Filed Oct. 22, 1965, Ser. No. 501,726
14 Claims. (Cl. 173—170)

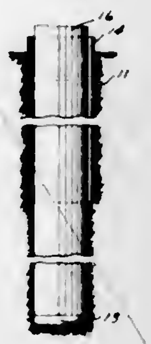


An electric hand riveting device, comprising an electric motor mounted in a housing and a gear wheel having teeth and a gap without teeth and operatively connected with the electric motor for turning until the gap is adjacent an operative connection to the electric motor. A connecting rod is mounted in the housing at one end for reciprocating movement and connected pivotally at the other end eccentrically with the gear wheel, whereupon a back and forth reciprocation occurs for a single turning of the gear wheel, which gear wheel is turned by one rotation and automatically stopped when the gap becomes adjacent the operative connection to the motor.

ERRATUM

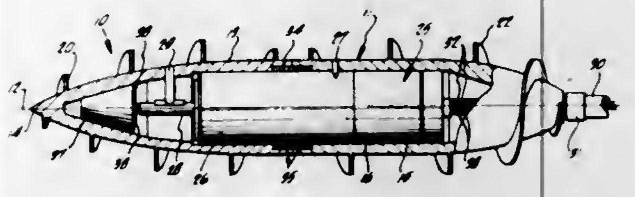
For Class 175—4.58 see:
Patent No. 3,376,414

3,375,884
SONIC METHOD AND APPARATUS FOR DRIVING CASINGS THROUGH EARTHEN FORMATIONS
Albert G. Bodine, Jr., 7877 Woodley Ave., Van Nuys, Calif. 91406
Filed Aug. 16, 1965, Ser. No. 479,868
9 Claims. (Cl. 175—22)



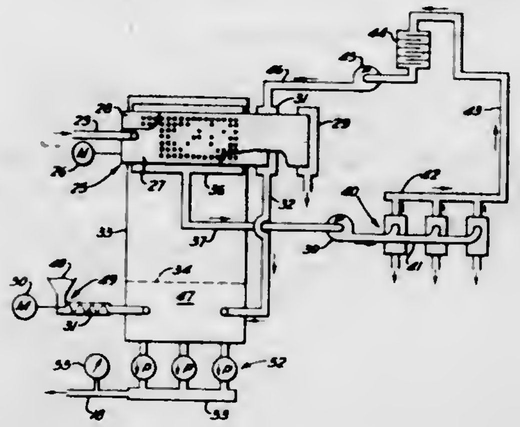
A first casing string is driven into an earthen formation by means of sonic energy which is applied to the casing to cause resonant standing wave vibration thereof. When this string has been driven to a predetermined maximum depth, a second smaller diameter casing string having a substantially greater length than the first string is placed in internal concentricity therewith to form a new driving member which is driven by means of sonic energy applied thereto to cause resonant standing wave vibration thereof. Additional casings of succeedingly smaller diameter and greater lengths are driven in like fashion until the desired depth is reached. The walls of casing members as they are driven are substantially sonically uncoupled from the opposing walls of the externally concentric adjacent casing member such that the Q of the vibration circuit is increased to make for higher sonic energy at the driving end of the casing.

3,375,885
BURROWING APPARATUS
Ronald F. Scott, Altadena, Earle A. Howard, La Canada, and George M. Hotz, Altadena, Calif., assignors to California Institute Research Foundation, Pasadena, Calif., a corporation of California
Filed Sept. 13, 1965, Ser. No. 486,884
12 Claims. (Cl. 175—26)



A soil burrowing mole in which a housing has an auger blade wound around a front portion thereof which is rotatable about a housing longitudinal axis relative to an externally finned housing rear portion upon operation of driving means in the housing to cause the housing to advance through soil and the like. The housing carries a sensor sensitive to deviation of the housing axis from a predetermined path and to which is coupled means responsive to the sensor output for steering the housing to maintain the path.

3,375,886
METHOD OF TREATING ABRASIVE-LADEN DRILLING LIQUID
Robert J. Goodwin, Oakmont, Ernest A. Mori, Hampton Township, Allegheny County, Joseph L. Pekarek and Paul W. Schaub, Penn Hills Township, Allegheny County, and Robert E. Zinkham, Harrison Township, Allegheny County, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed Sept. 24, 1963, Ser. No. 311,035
3 Claims. (Cl. 175—66)



A method of treating abrasive-laden liquid discharged from the well in a hydraulic jet drilling process by first separating cuttings larger than the abrasive particles from the liquid discharged from the well. The cuttings-free liquid from the first separation step is then treated to separate the abrasive particles from the liquid. The abrasives-free liquid is then treated to separate fine particles smaller than the abrasive particles to provide a clean drilling liquid. The clean drilling liquid is mixed with abrasive particles for recirculation into the well. The abrasive particles may be the particles separated from the drilling liquid. Before the drilling liquid is returned to the well it is passed through a cooler to remove heat developed by the large amount of energy transmitted to the drilling liquid. Treatment of a drilling liquid comprising two immiscible liquids is also described.

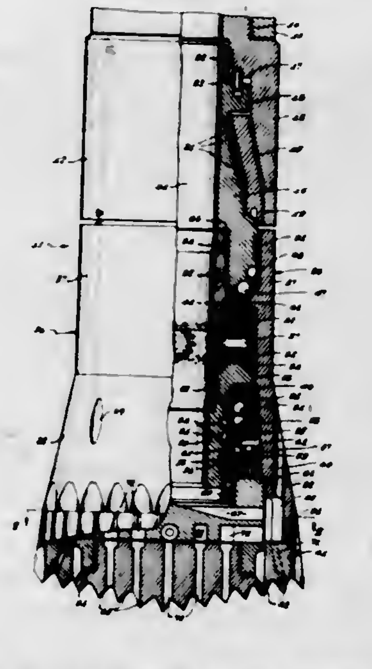
3,375,887
METHOD OF DRILLING IN HARD FORMATIONS
Robert J. Goodwin, Oakmont, Ernest A. Mori, Hampton Township, Allegheny County, and Joseph L. Pekarek and Paul W. Schaub, Penn Hills Township, Allegheny County, Pa., and Robert E. Zinkham, Richmond, Va., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Continuation of application Ser. No. 311,088, Sept. 24, 1963. This application Aug. 11, 1967, Ser. No. 660,065
5 Claims. (Cl. 175—67)

A hydraulic jet method of drilling in which a plurality of jet streams of abrasive-laden liquid are discharged downwardly at extremely high velocities from nozzles in a drill bit rotating at the bottom of the borehole about a vertical axis. The nozzles are positioned in the bit to provide a high rate of drilling, a low rate of erosion of the bit by rebounding abrasive particles, and substantially uniform penetration of the formation drilled over the area of impingement of the abrasive particles.

3,375,888
LOST CIRCULATION MATERIAL
James L. Lummus and Billy V. Randall, Tulsa, Okla., assignors to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
No Drawing. Filed June 7, 1965, Ser. No. 462,111
10 Claims. (Cl. 175—72)

Loss of well drilling fluids to both high granular permeability and to fractures, crevices and the like, is stopped by a combination of flexible flakes, flexible fibers and strong rigid flakes or granules. The volume of fibers must be from about one-third to about three times the volume of flexible flakes and the volume of granules or rigid flakes must be from about one-tenth to about two-thirds the sum of volumes of flexible flakes and fibers.

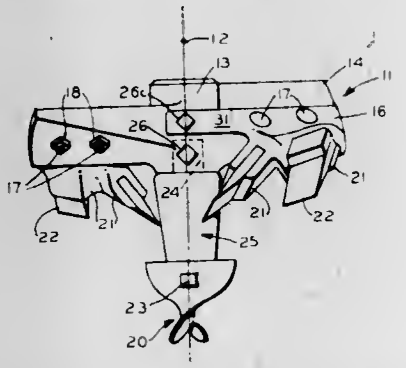
3,375,889
TURBINE DRIVEN DRILL BIT
Max J. Demo, 1001 3rd St., Santa Monica, Calif. 90403
Filed Sept. 27, 1965, Ser. No. 490,486
16 Claims. (Cl. 175—106)



A rotary drill bit for drilling holes through rock, mineral and masonry structures mounted on a non-rotating supporting pipe string. The bit includes a central cutting portion concentric with its longitudinal axis and an outer cutting portion of annular form concentric with and closely surrounding the central portion without passageway therebetween. The outer portion is mounted to the pipe string through a resilient cushioning connection and the central portion is keyed to the outer portion for free limited axial movement relative thereto. Both the central and outer cutting portions have turbine means thereon through which flows the drilling mud in directions to apply contra-rotation torques to the drill bit portions which are positively connected together to insure their contra-rotation at constant relative speeds. Opposed horizontal surfaces on the drill bit portions have interfering balls mounted therein which engage and disengage on contra-rotation of the drill bit portions to give rapid repeated impacts to the drill bit cutting portions for transmittal therefrom to the drilling surface of the bore being drilled.

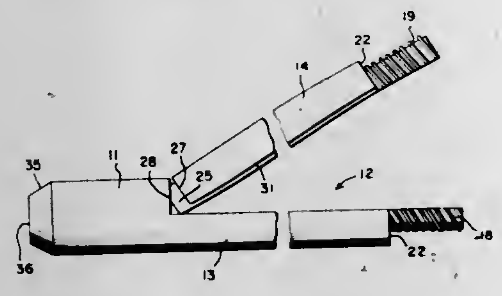
3,375,890
EARTH AUGER CONSTRUCTION
Gerald A. Petersen, Sunnyvale, Calif., assignor of one-half to Anita E. Petersen, Saratoga, Calif.
Filed Dec. 20, 1965, Ser. No. 514,883
5 Claims. (Cl. 175—385)

An auger shank plate having means for attachment of auger teeth is fastened to an auger head. Side and leverage stresses are imposed on the fastening means. The side thrust is resisted by lugs on the head fitting in sockets on the plates and the plate being formed with an extension overlapping the head hub with a bolt through the hub and extension. The leverage stress is resisted by forming the trailing edge of the plate with a rearward facing channel into which the leading edge of the head tightly fits.



3,375,891
DAMAGE-PROOF SOIL SAMPLER

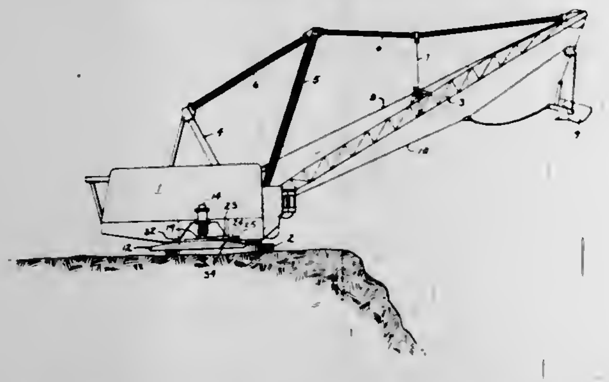
Efrahim Murati, G.P.O. Box 2948, San Juan, Puerto Rico 00936
Filed May 9, 1966, Ser. No. 548,483
6 Claims. (Cl. 175—403)



A longitudinally split tubular soil sampler capable of repeated driven insertion into the earth and ready core removal wherein the earth bit is integral with one split body segment, while the other body segment is detachably interengaged with both the bit and the first segment therein.

3,375,892
STEPPING-TYPE PROPULSION MEANS FOR EXCAVATORS

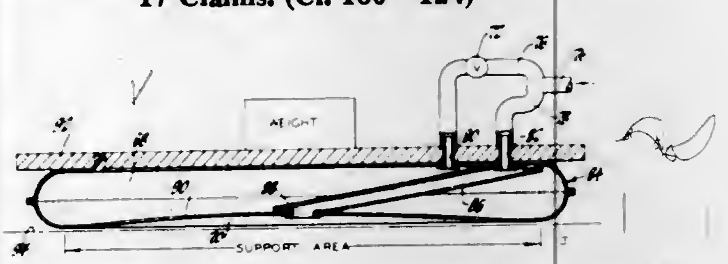
Melvin W. Kraschnewski, Racine, and Tom Learmont, Milwaukee, Wis., assignors to Bucyrus-Erie Company, South Milwaukee, Wis., a corporation of Delaware
Filed Nov. 3, 1965, Ser. No. 506,207
10 Claims. (Cl. 180—8)



A walking dragline has a central tub, a revolving frame, and a pair of shoes on opposite sides which are movable vertically and horizontally to provide a stepping-type propulsion. A pair of hydraulic lift cylinders on the frame have ball and socket connections with slides which are received in slideways on the shoes, the lift cylinders thus being adapted to effect vertical movement of the shoes. A hydraulic push cylinder is connected between each shoe and slide to effect horizontal movement. The ball and socket connections are substantially the only connections between the shoes and the frame so that the shoes are capable of three degrees of movement during walking. The shoes are urged toward a parallel relationship with the frame by means of ropes leading from the ends of the shoes to a sheave on the frame which is held against rotation by means of a hydraulic cylinder. The shoes are also aligned with respect to the frame by means of rollers on the frame that engage the upper surface of the shoes at laterally and longitudinally spaced points. A plurality of pumps operate the cylinders, and these are divided into two sets. All of the pumps drive the lift cylinder when the machine is being lifted and all of the pumps drive the push cylinder when the machine is being moved, but one set of pumps drives the lift cylinder and the other set of pumps simultaneously drives the push cylinder during a portion of the return movement of the shoe.

3,375,893
SELF-MODULATING FLEXIBLE CHOKE AIR BEARING

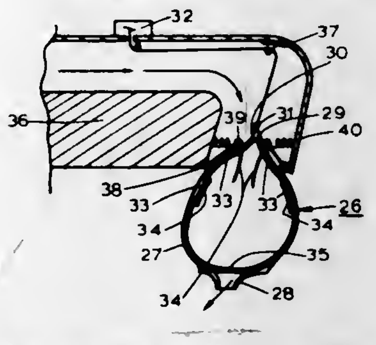
Harry A. Mackie, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 8, 1965, Ser. No. 430,912
17 Claims. (Cl. 180—124)



5. A self-modulating flexible choke air bearing comprising, a flexible bladder disposed beneath a load in proximate relation to a surface, means for establishing and maintaining a first fluid pressure in said bladder, and means for establishing and maintaining a second fluid pressure between said bladder and said surface greater than said first fluid pressure causing the portion of said bladder adjacent said surface to assume a concave configuration establishing a circumferential throttling gap providing the sole means of regulating discharge of said second fluid pressure to atmosphere.

3,375,894
FLEXIBLE SKIRT COMPONENTS FOR AIR CUSHION VEHICLES

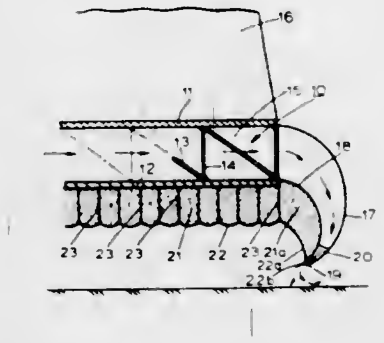
Lavis Albert Henry Riddle, East Cowes, Isle of Wight, England, assignor to Westland Aircraft Limited, Yeovil, England
Filed Aug. 25, 1965, Ser. No. 482,343
Claims priority, application Great Britain, Aug. 28, 1964, 35,257/64
16 Claims. (Cl. 180—128)



An inflatable skirting assembly acting as a barrier to the supporting cushion of a gaseous cushion supported vehicle, the skirting assembly being constructed from a single sheet of flexible material suspended from the vehicle to form an unrestrained loop in a vertical cross-section.

3,375,895
AIR CUSHION VEHICLES PROVIDED WITH BUOYANT LANDING AND SUPPORTING STRUCTURE

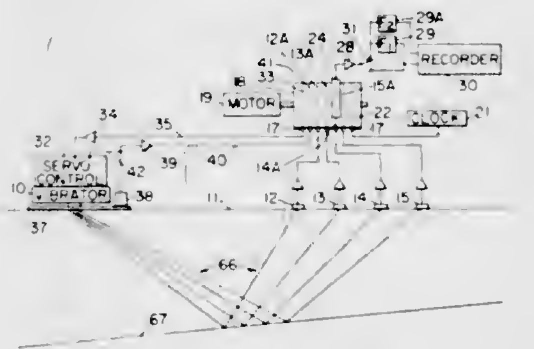
Derek James Hardy, Cowes, Isle of Wight, and Alfred Reginald Pearson, Bonchurch, Ventnor, Isle of Wight, England, assignors to Westland Aircraft Limited, Yeovil, Somerset, England
Filed Dec. 23, 1965, Ser. No. 516,070
Claims priority, application Great Britain, Jan. 9, 1965, 1,073/65
7 Claims. (Cl. 180—128)



An air cushion vehicle comprises a rigid base structure, a flexible skirting arrangement defining an air cushion space, and including inner and outer walls and an air inflatable buoyancy chamber. The buoyancy chamber is secured at its margin to the inner skirt walls and at its upper edge to the rigid base structure and extends across substantially the whole of the air cushion space.

3,375,896
LOW-FREQUENCY VIBRATORY SEISMIC SURVEYING

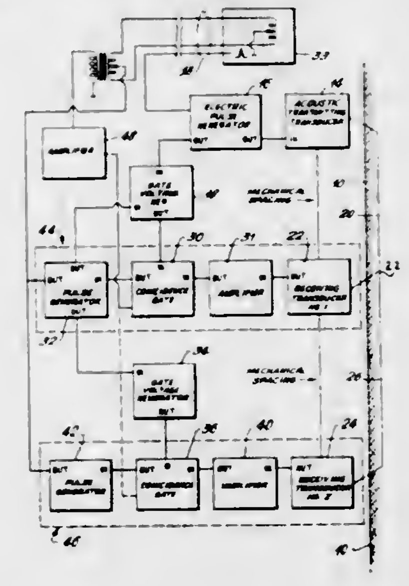
Dearal W. Beddo, Midland, Tex., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed Apr. 15, 1966, Ser. No. 542,936
8 Claims. (Cl. 181—.5)



In low-frequency vibratory seismic surveying, below the efficient driving range of a servo-controlled vibrator, control impulses are applied to the vibrator input in a time sequence corresponding to successive wave periods of a low-frequency sine-wave frequency sweep. This provides not only increased energy at the low frequencies, as compared with sine-wave control, but also, and simultaneously, energy at second and higher harmonics useful for obtaining reflections from shallow interfaces.

3,375,897
WAVEFORM CONVERTER FOR ACOUSTIC WELL LOGGING TOOLS

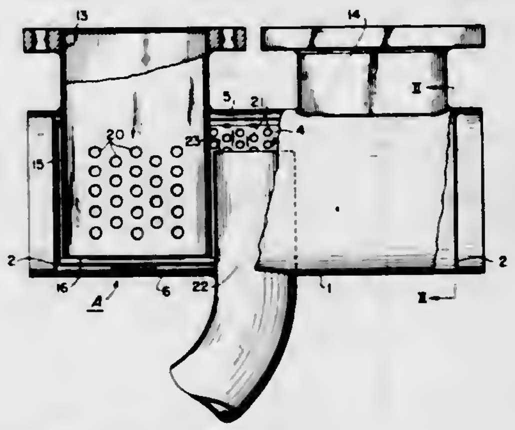
Allen W. Engle, John L. Casey, and Adrian P. Brokaw, Tulsa, Okla., assignors, by mesne assignments, to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Continuation of application Ser. No. 787,214, Jan. 16, 1959. This application Aug. 25, 1967, Ser. No. 663,445
4 Claims. (Cl. 181—.5)



A pair of acoustic receivers are trailingly spaced from a single acoustic transmitter. The first receiver circuit is opened after a predetermined delay from the time of the acoustic pulse from the transmitter and closed upon the receipt of the pulse. The second receiver circuit, being responsive to the first receiver circuit, is opened after a predetermined delay from the time the acoustic pulse is received in the first receiver circuit and closed at a predetermined time after opening.

3,375,898
MUFFLER WITH PERFORATE CHORDAL BAFFLES DEFINING FIBER-FILLED CHAMBERS

Edmund H. von Hoevel, Export, Pa., assignor to Hanlon & Wilson Company
Filed July 15, 1966, Ser. No. 565,523
5 Claims. (Cl. 181—40)

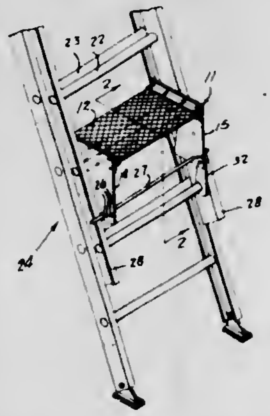


1. A muffler comprising:
(a) a duct member closed at each end;
(b) first and second baffles disposed within said duct member, extending substantially longitudinally thereof and being spaced apart from each other to form within said duct member a central chamber;
(c) each said baffle being spaced apart from an interior longitudinal side wall of said duct member to form with said side wall a lateral space;
(d) each said lateral space being substantially filled with fibers made from a material which withstands temperatures at least about 400° F.;

(e) each said baffle having a plurality of holes extending therethrough;
(f) at least one exhaust gas conduit extending through said duct member into said central chamber, with a portion thereof disposed within said central chamber;
(g) the longitudinal axis of said portion being substantially transversely of the longitudinal axis of said central chamber;
(h) the walls of said portion being spaced apart from and substantially opposite said first and second baffles;
(i) said portion having a plurality of holes extending therethrough which are substantially opposite said baffle holes;
(j) said exhaust gas conduit being adapted to be connected to flows of exhaust gas from a cylinder of an internal combustion engine; and
(k) a gas removal tube extending through said duct member into said central chamber and having an opening into said central chamber for conveying said exhaust gas from said muffler.

3,375,899
LADDER STEP

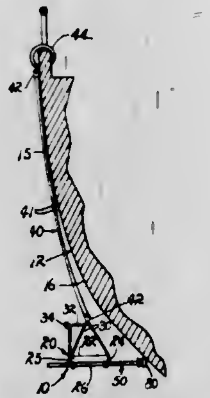
Edward George, Stamford, Tex., assignor of fifty percent to Lawrence E. George, Lower Burrell, Pa., and fifty percent to Jane J. Miller, Stamford, Tex.
Filed Nov. 28, 1966, Ser. No. 597,425
2 Claims. (Cl. 182—122)



A portable step attachment for use on a ladder including notched sidewalls engageable over a ladder rung and a transverse stop rod engaged through the lower portion of the sidewalls and engageable on the ladder rails.

3,375,900
WORKER SUPPORT DEVICE

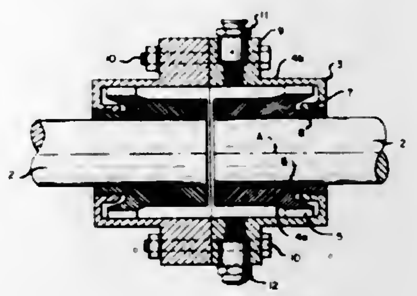
George R. Conley, 2441 S. Cedar 93725, and Albert M. Conley, 3058 W. Floradora 93728, both of Fresno, Calif.
Filed June 13, 1966, Ser. No. 557,018
4 Claims. (Cl. 182—150)



A worker support device adapted to be suspended in outwardly spaced relation from an upwardly extended work surface providing at least one anchor member reciprocably mounted on the support device and including a control system having driving connection to the anchor member for selective extension of the anchor member outwardly from the support device to engage said work surface in gripping relation therewith for drawing the support device toward the work surface incident to retraction of the anchor member relative to the support device.

3,375,901
LUBRICATED ROTATABLE DEVICE

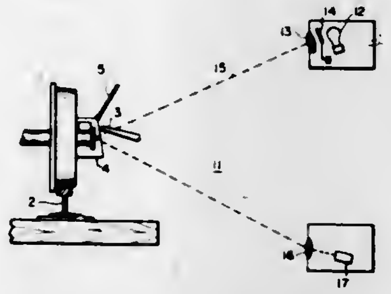
Richard R. Farrell, Oakmont, Pa., assignor to Universal Lubrication Systems, Inc., Oakmont, Pa., a corporation of Pennsylvania
Filed June 3, 1965, Ser. No. 461,011
2 Claims. (Cl. 184—1)



A lubricated rotatable device such as a coupling having parts which partake of relative frictional movement when the device rotates such as inner and outer coupling members for each of two adjacent shaft ends, the device comprising opposed dynamically balanced fittings, one of the fittings having means for connection thereto of a lubricant gun, duct means for conducting to the parts of the device lubricant forced in by the lubricant gun and means for holding the lubricant in such parts when the lubricant gun is disconnected from the fitting, the other of the fittings having duct means in communication with the parts of the device and open to the outside and means normally closing such duct means to contain lubricant in the device but yieldable under the pressure of the lubricant when the gun is forcing in lubricant to allow lubricant to pass.

3,375,902
AUTOMATIC JOURNAL BOX OILER

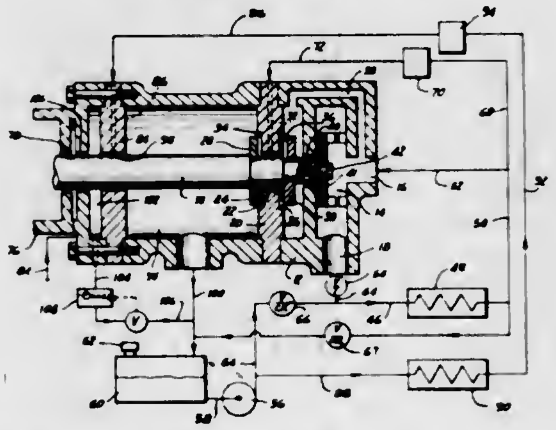
Stephen C. Perry, 242 Nobles Lane, Pittsburgh, Pa. 15210
Filed June 29, 1965, Ser. No. 468,073
4 Claims. (Cl. 184—2)



An automatic journal box oiler for squirting oil into an open journal box of a railroad car moving along a track comprising an oil delivery line mounted beside a track aimed at a point in the path of journal boxes of a railroad car passing on the track, a valve in the oil delivery line for controlling squirting of oil from the oil delivery line, means for delivering oil under pressure to the oil delivery line and means controlled by the passing railroad car including a switch actuated by a wheel of the car for opening the valve to squirt oil into an open journal box of the passing railroad car. The last mentioned means may include mechanism actuated by passing of a journal box with the lid open for opening the valve to squirt oil into the open journal box. Such mechanism may include a light source directing a beam of light at a point in the path of the end faces of the axles of the passing railroad car as the railroad car moves along the track, a receiver positioned to be in the path of the beam of light when reflected off of the end face of an axle of the moving railroad car when the journal box lid normally covering such axle end is open and means actuated by impingement of the reflected beam of light upon the receiver for opening the valve to squirt oil into the open journal box.

3,375,903
ANTICAVITATIONAL ROTATIONAL POWER ABSORBER AND BEARING LUBRICATION SYSTEM THEREFOR

Judson S. Swearingen, 500 Bel Air Road, Los Angeles, Calif. 90024
Filed June 30, 1965, Ser. No. 468,274
14 Claims. (Cl. 184—6)

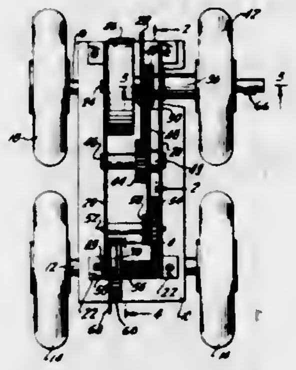


The device disclosed is a rotary type of power absorption mechanism in which a rotating shaft rotatably mounted in liquid cooled bearings extends into a turbulence chamber which is filled with a liquid suitable for lubricating the bearings. The turbulence chamber has two openings, one of which provides an intake and the other an outlet and the turbulator rotor within this chamber is so positioned that its action will not only create turbulence in liquid and transfer energy to the liquid, but will also tend to cause the liquid to flow out through the outlet. Inlet and outlet are connected together with a cooler in the circuit so that energy charged liquid from the outlet will pass through the cooler to give up its energy before it goes back into the inlet. In order to prevent cavitation in the inlet of the chamber a liquid pump having its intake connected to a suitable reservoir which may be at atmospheric pressure, has its outlet connected to the circuit through the turbulence chamber to maintain a sufficient pressure on the liquid going through such chamber that cavitation will not occur. The energy stripped cooled liquid leaving the cooler is also connected through a suitable filter to the bearing means to supply lubricant thereto and liquid lubricant drains from such bearing means back into the reservoir.

3,375,904
SPRING MOTOR FOR TOYS OR THE LIKE

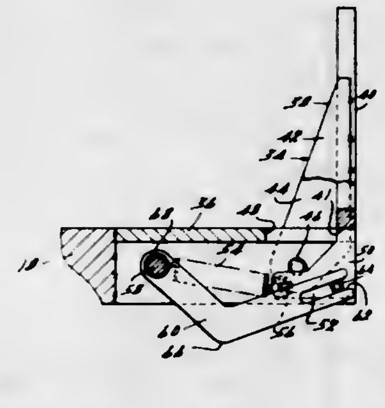
Ruth Kaplan, 230—41 131st Ave., Laurelton, N.Y. 11413
Filed Oct. 22, 1965, Ser. No. 501,736
11 Claims. (Cl. 185—39)

A spring motor, in which a pair of spaced wheel-supporting shafts are journaled in spaced frame members, one of said shafts forming a winding shaft for a coil spring to one end of which it is connected; said winding shaft having a sleeve fitted rotatably over one end thereof, said sleeve journaled in one of said frame members and mounting one of said wheels, said winding shaft projecting from said sleeve exteriorly of said frame; a gear train actuated by said winding shaft arranged to rotate said other shaft and said sleeve; a balance wheel on said other shaft and braking means applicable to said balance wheel for inhibiting the unwinding of the spring.



3,375,905
LIFT FRAME ADAPTER

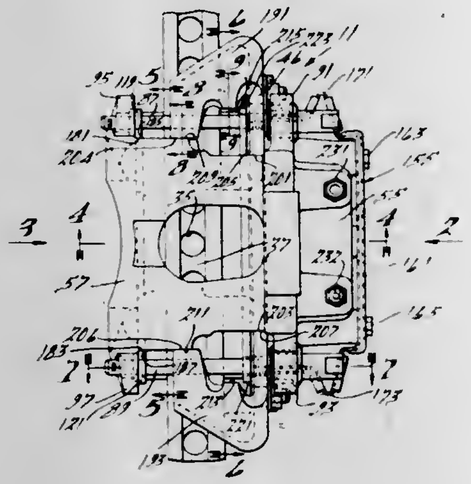
George E. Swick, Jr., Springfield, Ill., assignor, by mesne assignments, to Dura Corporation, a wholly owned subsidiary of Walter Kidde & Company, Inc., Oak Park, Mich., a corporation of New York
Continuation of application Ser. No. 443,586, Mar. 29, 1965. This application Dec. 27, 1966, Ser. No. 605,082
14 Claims. (Cl. 187—8.74)



This invention relates to an adapter for use on vehicle hoists in connection with small automobiles, particularly foreign cars, and more particularly cars having a torsion housing at the rear of the vehicle and/or an independant rear end suspension. The adapters, two of which are required, comprise an inverted channel shaped frame member which is designed to be secured as by welding to one end of the supporting frame of the lift, one on each side thereof. The support member is pivotably mounted on the channel shaped frame for pivotable movement from a vertically erect vehicle supporting position to a horizontally collapsed position. A spring connected to the support member biases it to its vertically erect position. A ground engaging actuator pivoted to the channel shaped frame at one end and to the support member at the other end upon engagement with the ground as the lift is being lowered pivots the support member to its horizontally disposed position on the frame member against the bias of the spring. As the lift is raised from its lowermost position, the pressure of the actuator on the ground is relieved, permitting the spring to elevate the support member to its support position. In one modification of the invention an adjustable connection is provided between the support member and the actuating member to vary the position of the support member when the actuating member is erect.

3,375,906
SUPPORT MEANS FOR A CALIPER-TYPE DISK BRAKE

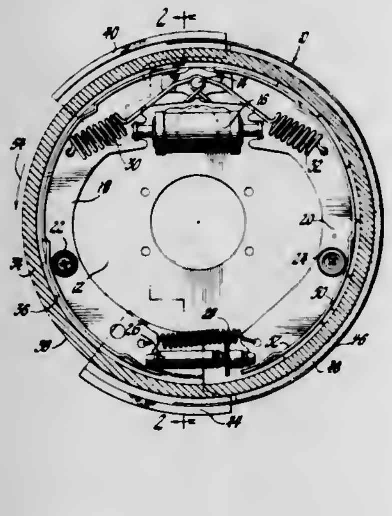
Edward James Hayes, Livonia, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed Dec. 28, 1966, Ser. No. 605,389
11 Claims. (Cl. 188—73)



This invention relates to brakes for automotive vehicles, and more particularly to disk brakes in which an uncomplicated, compact and effective means is provided for permitting movement of a caliper and brake shoes relative to the disk to be braked in a direction to achieve proper braking action while restraining other unwanted movement of the caliper and brake shoes relative to the disk, said means including a fixed torque plate engaged by said caliper. Flexible strap means are also secured to the torque plate and caliper for adjusting the position of the caliper upon brake shoe wear and to aid in preventing said unwanted movement of the caliper.

3,375,907
BRAKE ASSEMBLY

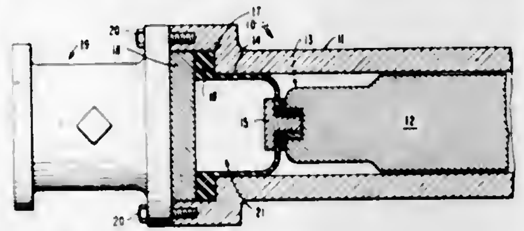
Elton S. Moyer, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 21, 1966, Ser. No. 588,347
8 Claims. (Cl. 188—76)



1. A brake assembly comprising:
a rotatable drum to be braked having an inner friction braking surface and an outer friction braking surface,
a backing plate,
a first brake shoe frame and a second brake shoe frame movably mounted on said backing plate,
one of said shoe frames having metallic friction brake lining mounted thereon for frictionally engaging one of said friction braking surfaces,
the other of said shoe frames having organic friction brake lining mounted thereon for frictionally engaging the other of said friction braking surfaces,
and means interconnecting said shoes and actuable to move said shoes to engage said friction brake linings with their respective drum friction braking surfaces.

3,375,908
RETARDER INCLUDING A POROUS WALL FLUID RESTRICTING MEANS

Dale T. Chaput, Monterey Park, and Robert A. Haskell, Long Beach, Calif., assignors to Aerojet-General Corporation, El Monte, Calif., a corporation of Ohio
Filed Dec. 13, 1965, Ser. No. 513,288
9 Claims. (Cl. 188—94)



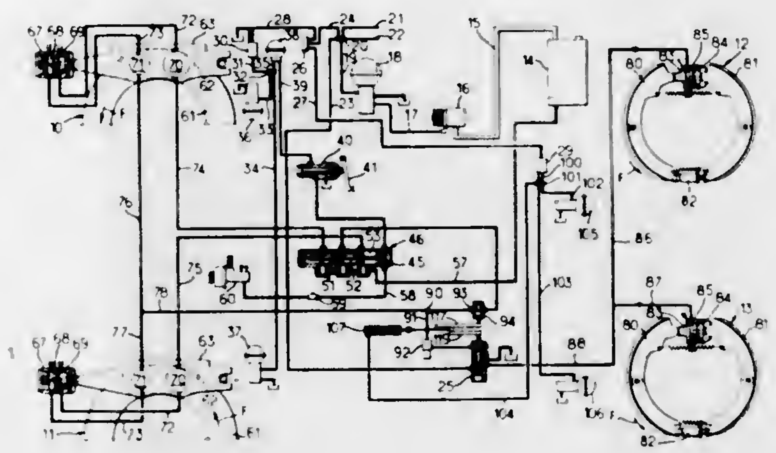
This disclosure concerns a mechanism for retarding the movement of a member so as to delay the completion of such movement, wherein the movement-retarding medium comprises a wall made of a porous material permeable to fluid. The porous wall cooperates with a flexible fluid impervious diaphragm so as to form a closure for one end thereof to define a chamber of variable volume therewith. A piston is disposed at the other end of the diaphragm and is connected thereto in a fluid-tight relationship. Upon moving the piston in a direction either toward or away from the porous wall, the volume of the chamber changes as fluid is transferred through the porous wall. The degree of porosity of the porous wall restricts the rate at which fluid transfer therethrough may occur and thereby controls the rate of movement of the piston. Thus, the restricted rate at which fluid transfer through the porous wall may occur serves to retard movement of the piston so as to delay completion of such movement. Fluid transfer through the porous wall may occur from the chamber outwardly to a fluid reservoir on the opposite side of the porous wall when the piston is advanced in a direction toward the porous wall. Alternatively, the fluid transfer through the porous wall may occur from the fluid reservoir into the chamber when the piston is retracted in a direction away from the porous wall. One application of the delay mechanism is in the detonation of an explosive charge, where the delay mechanism serves to provide a controlled delay in the movement of an actuator member to an explosive-detonating position.

3,375,909
BRAKING SYSTEM FOR AUTOMOBILE VEHICLES

Pierre Andre Georges Lepelletier, Chatou, France, assignor to Societe Anonyme Francaise du Ferodo, a corporation of France
Filed July 5, 1966, Ser. No. 562,883
Claims priority, application France, July 15, 1965, 24,689
7 Claims. (Cl. 188—195)

A disc brake for automotive vehicles has two brake shoes mounted on a common support member which has

a limited tangential movement relative to the disc. The support member has primary and secondary brake cylinders and bears against a double piston which defines primary and secondary chambers that vary inversely in volume upon movement of the support member and that communicate with the respective primary and secondary brake cylinders. The secondary brake cylinders of both brakes on one axle communicate with each other. The secondary chambers thus communicate and therefore automatically balance the reactions of braking. A special load-responsive device applies the brakes with a force that varies as the load.



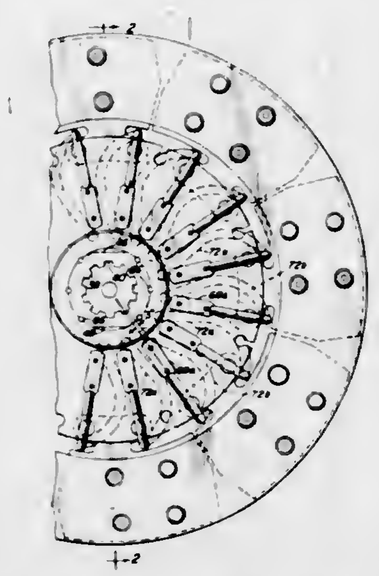
3,375,910
ACTUATING ASSEMBLY FOR FRICTION DEVICE

Leo W. Cook, Royal Oak, Mich., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Dec. 30, 1965, Ser. No. 517,579
4 Claims. (Cl. 192—99)

A plurality of clutch release levers mounted with their respective outer ends in a stamped recess inside a cover plate provide means to anchor the levers against centrifugal forces and means to establish rolling contact upon pivotal movement between the lever and the cover plate. This abstract is made to comply with rule 72(b) and is not to be used in interpreting the scope of the claims.

3,375,911
CLUTCH PLATE EMPLOYING TORSION DAMPER

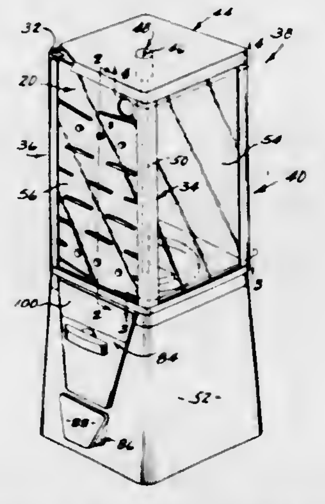
Richard L. Smirl, La Grange Park, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Jan. 3, 1966, Ser. No. 518,299
11 Claims. (Cl. 192—107)



A vibration damper includes a plurality of loop-shaped wire members interconnected between relatively rotatable inner and outer members wherein the wire members are subjected to torsional and bending movements as said inner and outer members move with respect to each other.

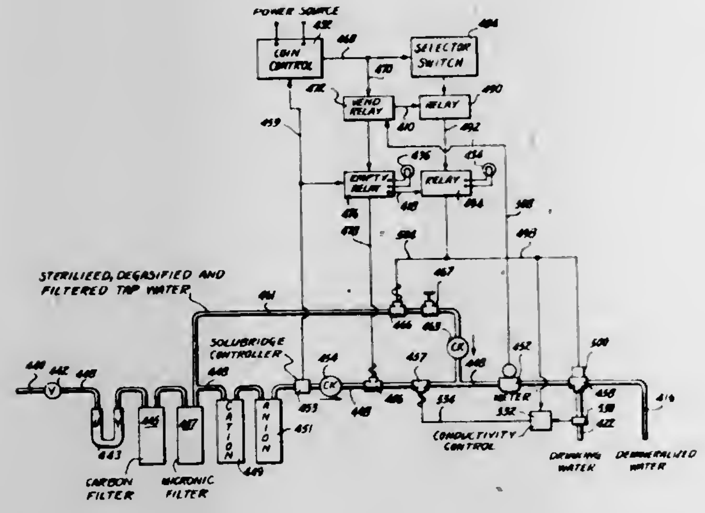
3,375,912
RANDOM-COIN-POSITIONING AMUSEMENT DEVICE COOPERABLE IN INPUT RELATIONSHIP WITH A COIN-RECEIVING MEANS

Norman G. Weitzman, % Arnold J. Provisor,
16401 Knapp St., Sepulveda, Calif. 91343
Continuation-in-part of application Ser. No. 460,687, June 2, 1965. This application Oct. 17, 1966, Ser. No. 587,166
10 Claims. (Cl. 194—1)



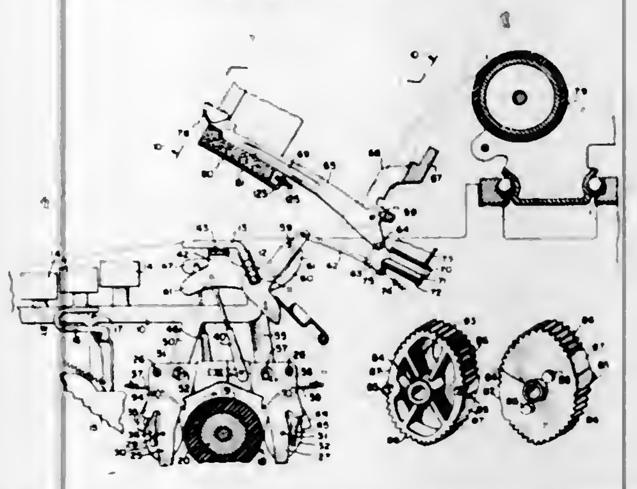
The specification discloses a combination of a vending machine having a lower coin-receiving and coin-storing means associated with a vending machine mechanism actuating and operating means and having thereabove a merchandise receptacle including upstanding framework means slidably mounting a plurality of panel means defining the sides of the merchandise receptacle and with at least one of the panel means also defining and comprising an amusement device having an upper end adapted to receive a coin and having a lower end effectively coupled to and in communication with the above-mentioned coin-receiving and coin-storing means of the lower vending machine and the vending machine mechanism actuating and operating means associated therewith, whereby to receive a coin at the upper end of the amusement device and to cause same to pass downwardly under the action of gravity through a random-coin-positioning means and a result-indicating means thereof in a perceptible indicating manner in correspondence with the output positioning of the coin, which then passes into the coin-receiving portion of the vending machine actuating and operating means for allowing operation of the vending machine in a conventional manner after the coin has passed through the amusement device and has provided a perceptible result on the result-indicating means, which may correspond to the playing of a game and the achievement of a goal or score or to any other comparable type of result or answer to a selected question or the like. In a preferred form, the vending machine may be coupled to the merchandise receptacle by an adapter means provided with a through slot means to conduct the coin from the output of the amusement device into the coin-receiving and coin-storing vending machine actuating and operating means, and the lower vending machine may be provided with a controllably attachable auxiliary coin input-chute cover means positioned over and in exterior covering relationship with respect to the conventional coin input slot normally in communication with the coin-receiving and coin-storing vending machine mechanism actuating and operating means for preventing the direct exterior feeding of coins thereinto apart from those fed thereinto from the output end of the amusement device.

3,375,913
BALANCED DRINKING WATER VENDORS
Sam B. Norris, Jr., Glendale, Calif., assignor to Foremost Dairies, Incorporated, San Francisco, Calif., a corporation of New York
Filed Jan. 17, 1966, Ser. No. 521,198
21 Claims. (Cl. 194—13)



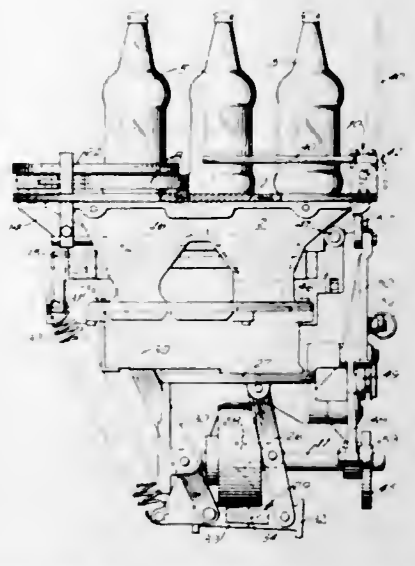
A coin operated machine for vending either demineralized water, or demineralized water to which a predetermined quantity of minerals has been added to make the demineralized water suitable for drinking or other purposes. The machine includes a source of demineralized water, which can be a still, an ion exchange unit, or similar equipment connected to a municipal water line, which source is connected to a coin operated unit for dispensing a measured quantity of water. A source of mineral-containing water is also provided, and is connected to the dispensing unit so that measured quantities of mineral-containing water can be selectively added to the demineralized water as it is being dispensed.

3,375,914
POWER DRIVEN TYPE BAR ACTUATING MECHANISM AND CAM THEREFOR
Donald G. Bastian, Rochester, N.Y., assignor to Friden, Inc., a corporation of Delaware
Filed Dec. 28, 1966, Ser. No. 605,311
16 Claims. (Cl. 197—17)



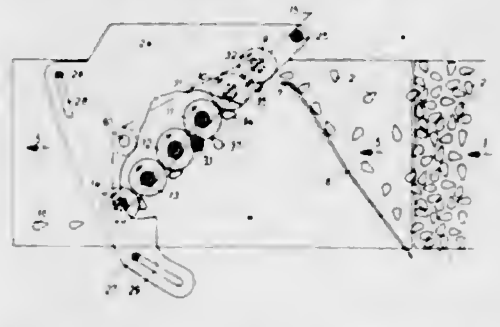
A power drive mechanism for a typewriter, adapted for operation automatically at high typing rates, has each type bar mechanically coupled through a new pivotal and reciprocal latch member to a drive bell crank structure. The latch member is normally pivotally spring biased to latched position at which it latches the type bar in its position of rest. Reciprocal bell crank drive of the latch member pivotally unlatches it for reciprocal motion to move the type bar to type impression position after which the latch member and type bar are permitted to return by spring bias to their latched and rest positions. Each drive bell crank is mechanically coupled to a second associated bell crank which is selectively and angularly reciprocated by a cam of approximately elliptical configuration. This cam is normally latched against rotation with a minor axis peripheral segment slightly spaced from the conventional power drive roll, but is key-lever unlatched into driven engagement with the power roll. Each such engagement effects power-roll drive of the cam through slightly less than an entire 180° angle of cam rotation.

3,375,915
DEAD PLATE CONVEYOR FOR GLASS MACHINES
Frederick Z. Fouse, Fairfield, Ohio, assignor to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware
Filed Dec. 16, 1966, Ser. No. 602,338
6 Claims. (Cl. 198—24)



The invention is an improved conveyor for moving hot molded glass articles along the surface of a cooling dead plate positioned between the glass forming machine and a removal conveyor and which provides a lengthened cooling period for articles without reducing the operating speed of the glass forming machinery. The article conveyor means moves the hot glassware to successive cooling positions with a dwell period at each position equal to one forming machine cycle. A total cooling period 50% greater than the normal two-cycle dwell period results for the preferred embodiment having three dwell positions. One of the movements between two dwell positions is performed by a pivoted pushover arm which moves a line of articles from a first line to a spaced line position at right angles to the first line.

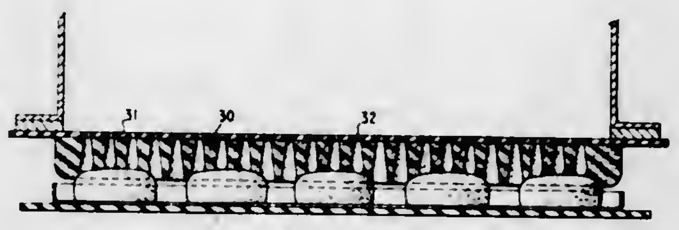
3,375,916
METHOD AND APPARATUS FOR POSITIONING ARTICLES ON A CONVEYER FOR PACKING THE SAME
Rolf Greiner, Bruckenacker 18, Stuttgart-Vaihingen, Germany
Filed July 22, 1966, Ser. No. 567,210
Claims priority, application Germany, July 24, 1965, Sch 37,430
16 Claims. (Cl. 198—33)



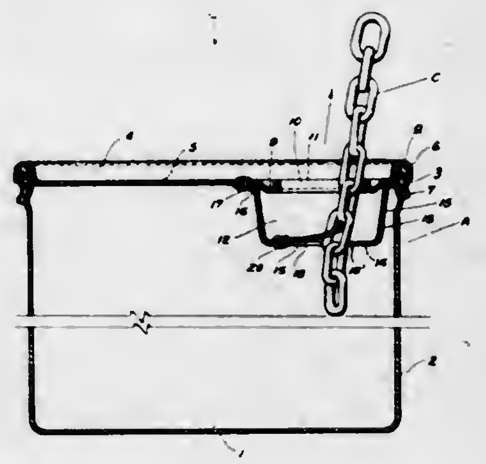
Method and apparatus for positioning articles on a conveyor; more particularly, for separating and aligning irregularly-shaped articles such as pralines or similar candy on a conveyor which feeds them to a packing machine. The preferred method comprises the steps of conveying the articles in one direction, separating and spacing the articles at greater distances from each other and applying a force acting in a horizontal plane to a lateral surface of the articles, this latter force being applied intermittently to said articles. The different forces acting on the articles cause them to be reoriented on conveying apparatus and uniformly aligned with respect to their centers of gravity. The apparatus contemplated by the present disclosure comprises a first conveyor belt, a second conveyor belt which is aligned with the first belt and which operates at a higher speed than said first belt, a guide rail extending at an oblique angle to said second conveyor belt, and a series of rollers which are aligned in a line which extends at an oblique angle to said second conveyor belt. The rollers are disposed upon a supporting arm so as to be suspended a short distance above the surface of the second conveyor belt. The lateral surfaces of the articles on the conveyor are thus contacted by the surface of the rollers which are driven at a higher speed than the second conveyor belt. The angular position of the support arm with respect to the direction of travel of the second conveyor belt may be adjusted by means of a fixed pivot at one end of said arm and pin and slot connections at the opposite end thereof.

3,375,917
BAKERY PRODUCT SUCTION TRANSFER APPARATUS
Frank M. Irving, Jr., York, Pa., assignor to Alto Company, York, Pa., a partnership
Filed Jan. 17, 1967, Ser. No. 609,849
3 Claims. (Cl. 198—179)

An endless belt for vacuum suspension of bakery products, the belt having a backing sheet and a product engaging skin; a plurality of closely spaced conical passages through the belt to present a plurality of the larger openings of the passages to each product for delicate handling thereof; and the exposed surface of the skin including the passages being pliable and more dense than the interior body thereof to present a smooth wearing face to the product. Preferably, the holes in the backing sheet of the belt are larger than the mating passages to facilitate alignment and the skin of the belt is made up of a plurality of removable mats.



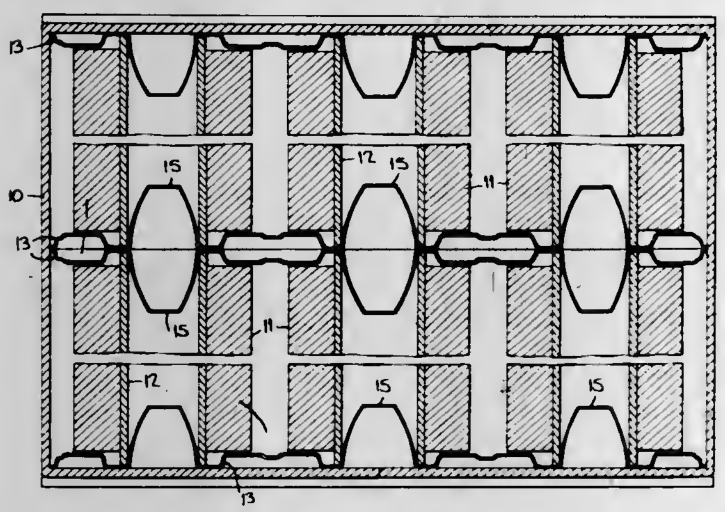
3,375,918
CHAIN DISPENSER
Adolph L. Platky, St. Louis, Mo., assignor to Nixdorff-Krein Manufacturing Company, St. Louis, Mo., a corporation of Delaware
Filed Feb. 20, 1967, Ser. No. 617,372
5 Claims. (Cl. 206—56)



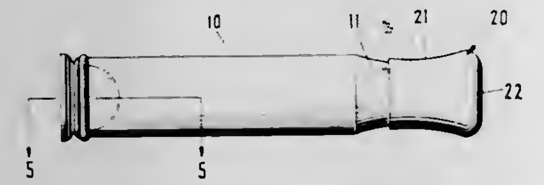
A device for dispensing a desired length of chain from a closed container having a chamber-defining portion with an opening for withdrawal of chain therethrough; there being a resilient finger extending across said opening for gripping of the chain between said finger and the proximate edge of the opening when in a state of rest and being upwardly swingable upon application of a pulling force on the chain to allow withdrawal through said opening.

3,375,919
YARN SHIPPING CONTAINER AND DIVIDER THEREFOR
Wilfred C. Schlager, Chicago, Ill., and William F. Henderson, Winnsboro, S.C., assignors to Uniroyal Inc., a corporation of New Jersey
Filed Aug. 22, 1966, Ser. No. 574,167
7 Claims. (Cl. 206—65)

A divider for yarn package shipping cartons, designed especially for use in shipping tube-type packages of textured synthetic filament yarn. Each divider has a plurality of substantially conical projections each surrounded by an annular channel which in turn is surrounded by an annular ridge of less height than the projection. Two dividers in facing arrangement are used for each tier of yarn packages, each two aligned projections entering the opposite ends of a respective yarn-carrying cylinder.

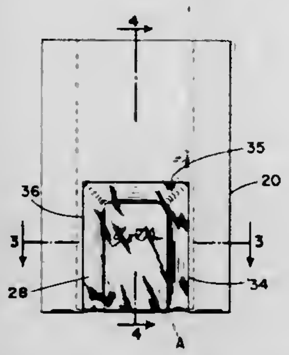


3,375,920
FILTER MATERIAL
Herman L. Shaw, 5333 Collins Ave.,
Miami, Beach, Fla. 33140
Filed July 1, 1966, Ser. No. 562,217
6 Claims. (Cl. 206—78)



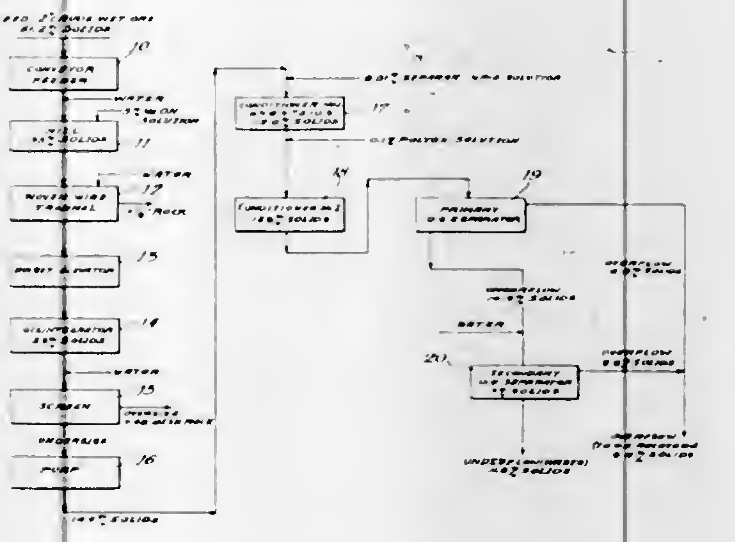
1. A cigarette holder construction comprising a plastic casing having an open mouthpiece end and an open cylindrical cigarette tip receiving end, a fluid impregnated fibrous mass positioned within said casing,
   a removable cap for said open cylindrical cigarette receiving end having sidewalls adapted to engage the sidewall of said receiving end, and
   a removable covering for said open mouthpiece end comprising a film of tearable plastic material.

3,375,921
ARTICLE DISPLAY PACKAGE AND METHOD AND BLANKS FOR MAKING SAME
Robert Joseph Ligon, Beechwood Circle,
Boxford, Mass. 01921
Filed Jan. 31, 1967, Ser. No. 612,958
12 Claims. (Cl. 206—80)



Article display mounts bearing articles inserted through an opening in the mount and enclosed in heat shrunk film, including those of the stand-up type, provide greater areas of film for stretching during the packaging process and impose less stress on the heat shrunk film, particularly where the articles possess sharp corners or other protrusions, by utilizing an article positioning means to center or otherwise locate the enclosed article or articles with respect to the opening borders which hence can be spaced well away from the article thereby enlarging the film area without leaving the article free to move around in the enclosure. Various blank forms include a foldable flap which when folded over the opening acts as the article locator and permits a novel method of packaging utilizing the locator flap as the article positioning means during the packaging operation.

3,375,922
PROCESS FOR BENEFICIATING DIATOMACEOUS EARTH ORES
Carl C. Martin, Golden, Colo., and Don T. Goodhue, Lompoc, and Dorothy M. Rengel, Palos Verdes, Calif., assignors, by mesne assignments, to GREFCO, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed Aug. 9, 1965, Ser. No. 478,296
12 Claims. (Cl. 209—5)

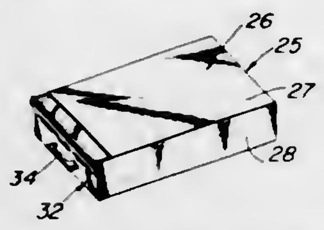


Crude diatomaceous earth is milled and suspended in water using an alkaline dispersing (deflocculating) agent (i.e. sodium hydroxide, TSPP, etc.) with pH adjusted to at least 7.6, preferably 9 to 11. Then the slurry (10 to 20% solids) is slowly agitated and the clay and other impurities are flocculated with small amounts of a water soluble, polymeric organic reagent in one or more stages. After settling and removing the flocculated clay and other suspended impurities, the suspended beneficiated diatom particles are recovered by adding lime or acid, preferably with additional flocculating reagent and after appropriate pH adjustment above 11 or below 5, to the suspension. Separation of the flocculated clay minerals and the beneficiated diatomite is accomplished in conventional thickening and separating devices or filters.

3,375,923
COMBINATION ARTICLE STORAGE AND SORTING DEVICE
Evan L. Leban, 28 W. 281 Buena Vista Drive,
Glen Ellyn, Ill. 60137
Filed Sept. 27, 1966, Ser. No. 582,384
15 Claims. (Cl. 209—97)

8. A combination article storage and sorting device comprising
- (1) a housing;
- (2) an article-receiving hopper disposed above the said housing and including a top and bottom;
- (3) a combination article storage and sorting drawer unit slidably mounted on the said housing and including

  - (a) a plurality of article-storage compartments spaced longitudinally of and extending transversely of the said article storage and sorting drawer unit and each having an open upper end;
- (4) an article sorting mechanism comprising
  - (a) sorting gate member movably mounted adjacent the bottom and normally closing the bottom of the said article-receiving hopper;

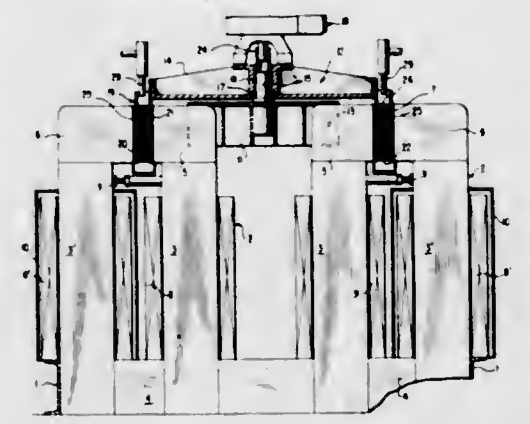


- (5) said combination article storage and sorting drawer unit including
  - (a) an inclined trackway extending longitudinally thereof;
- (6) means normally urging the said sorting gate member into engagement with the said inclined trackway as the said combination article-receiving and storage drawer unit is moved in and relative to the said housing so as to provide a discharge throat or outlet at the bottom of the said hopper and thereby discharge articles selectively from the said hopper into the said article storage compartments.

3,375,924
DIFFERENTIAL FROTH FLOTATION OF MOLYBDENITE AND COPPER SULFIDES UTILIZING "NOKES" REAGENT
Burton Corbett and James J. Bean, Miami, Ariz., assignors to Miami Copper Company, Division of Tennessee Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 14, 1965, Ser. No. 447,962
8 Claims. (Cl. 209—167)

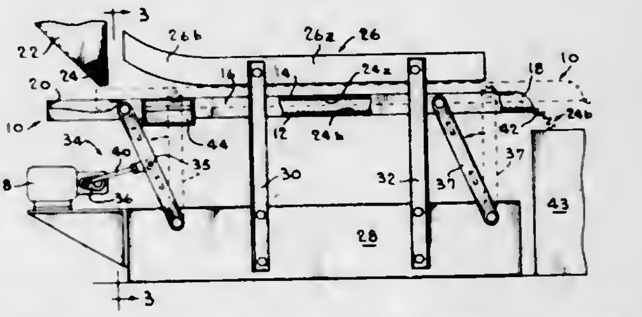
An improved process of differential froth flotation applied to a flotation pulp of molybdenite and copper sulfides utilizing a "Nokes" reagent for depressing the copper sulfides and a collector reagent for floating the molybdenite, wherein the flotation pulp is maintained at an unusually high pH, i.e. no lower than about 11.4 and preferably within a range of about 11.4 to 12.4.

3,375,925
MAGNETIC SEPARATOR
James Hall Carpenter, Jacksonville, Fla., assignor to Carpco Research & Engineering, Inc., Jacksonville, Fla., a corporation of Florida
Continuation-in-part of application Ser. No. 335,069, Jan. 2, 1964. This application Oct. 18, 1966, Ser. No. 587,494
24 Claims. (Cl. 209—214)



A method and an apparatus for separating materials of differing magnetic susceptibility utilizing a plurality of loose, unattached, individually movable bodies, at least some of which are composed of a highly permeable material, wherein the bodies are successively passed into, through and out of an effective magnetic field.

3,375,926
MAGNETIC APPARATUS
Raymond L. Watts, Mukwonago, Wis., assignor to Wehr Corporation, a corporation of Wisconsin
Filed Dec. 16, 1964, Ser. No. 418,728
8 Claims. (Cl. 209—223)



A magnetic separator construction wherein material, which contains both magnetic and non-magnetic portions, is introduced between two vertically spaced surfaces. A magnetic assembly is arranged to attract magnetic portions of the material to the upper surface and both surfaces, together with the material therebetween, are oscillated with a vertical and horizontal component. The oscillation results in movement of the magnetic portions in one horizontal direction along the upper surface and also in movement of the non-magnetic portions in an opposite horizontal direction along the lower surface, thereby achieving the desired separation.

3,375,927
METHOD OF INCREASING THE CAPACITY OF HORIZONTAL ROTARY VACUUM FILTERS
Edwin B. Lopker, 7F Dupont Towers East, 5100 Dupont Blvd., Fort Lauderdale, Fla. 33308
No Drawing. Filed May 15, 1967, Ser. No. 638,622
1 Claim. (Cl. 210—67)

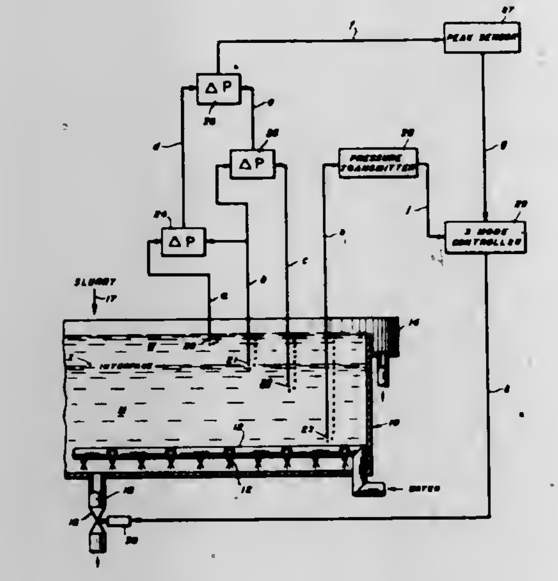
A method for increasing the capacity of a horizontal rotary vacuum filter having at least one filter area which rotates about a center comprising carrying out a plurality of complete filtration cycles during each revolution of the filter area including feeding a slurry to be filtered to the filter area at N number of points in the path of the filter, vacuum filtering the slurry to produce a filter cake, and removing the filter cake remaining after filtration at N number of points in the path of the filter, the non-active area of the filter being that area where removal of the filter cake from the filter area is accomplished and not exceeding in percent of total filter area for each filtration cycle the resultant of

$$\frac{100\%}{N+1}$$

N being greater than 1, whereby the capacity of the filter is increased in percentage increase of slurry up to $(100\sqrt{N}-100)\%$, assuming a theoretical 0% non-active area.

3,375,928
METHOD AND APPARATUS FOR CONTROLLING THE LEVEL OF AN INTERFACE
Paul W. Chase, Mountain Iron, Minn., assignor to United States Steel Corporation, a corporation of New Jersey
Filed Dec. 28, 1965, Ser. No. 517,032
10 Claims. (Cl. 210—83)

A control for holding an interface between two liquids at a predetermined level. Useful where a slurry continuously feeds into a vessel, and overflow and underflow products continuously discharge therefrom, but the interface between the two products may be poorly defined. The control measures pressures at four levels in the vessel, and by taking differences and sensing peaks, regulates the rate of discharge of the underflow to hold the interface.

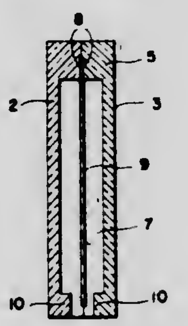


3,375,929
CHROMATOGRAPHIC DEVICE

Roy Arthur Jeffreys, Elizabeth Anne Morris, and Reginald Burford Morris, London, England, assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Dec. 16, 1966, Ser. No. 602,357

3 Claims. (Cl. 210—198)



Apparatus for development of flexible chromatographic elements employed in thin-layer chromatography including a reservoir for eluent and a pair of support plates, for example, rectangular plates constructed of glass, which define a narrow chamber open at only one end enclosing the element and which support the element by means of raised surfaces at each end of the chamber without contact between it and the faces of the support plates so that one end is immersed in the eluent.

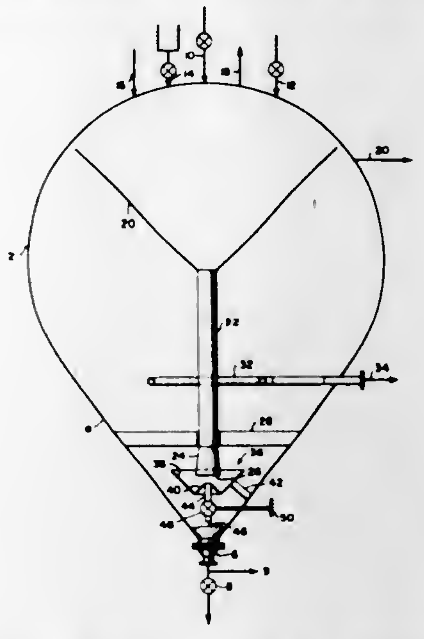
3,375,930
HOT PROCESS SOFTENERS

Samuel B. Applebaum, Philadelphia, Pa., assignor to Crane Co., Chicago, Ill., a corporation of Illinois

Filed Mar. 15, 1966, Ser. No. 534,366

1 Claim. (Cl. 210—207)

A hot process softener is provided with a downcomer terminating at an opening near the bottom of a downwardly converging conical region, at the bottom of which there is a blow-off connection. A sombrero-shaped baffle is situated below the opening of the downcomer, and a valved passage is provided permitting flow of liquid through the baffle to the region directly above the blow-off connection in order to control the accumulation of sludge.

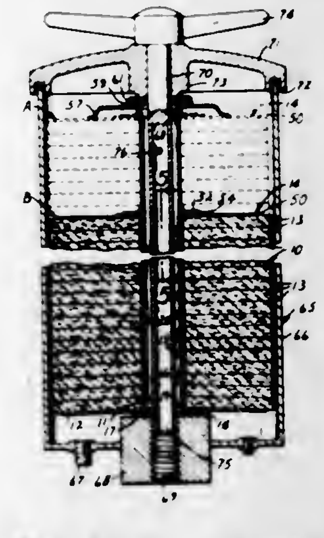


3,375,931
DISPOSABLE FLUID FILTER ELEMENT

John C. Sorenson, % Duluth Filter Co., 4230 W. 2nd St., Duluth, Minn. 55807

Filed Sept. 27, 1965, Ser. No. 490,336

3 Claims. (Cl. 210—350)



A disposable fluid filter element made up of a plurality of annular disks formed from refined cellulose and wood fibers, with said disks assembled in a cylindrical stack and maintained under substantial axial pressure by a centrally located tube flanged outwardly at either end thereof and end plates between said flanges and outermost disks. One of said end plates is mounted for axial movement toward said other plate to reduce radial channeling through said disk members. A method of forming disks so that the fibers therein lie approximately in the plane of the disk and a method of forming the disks into a fluid filter element.

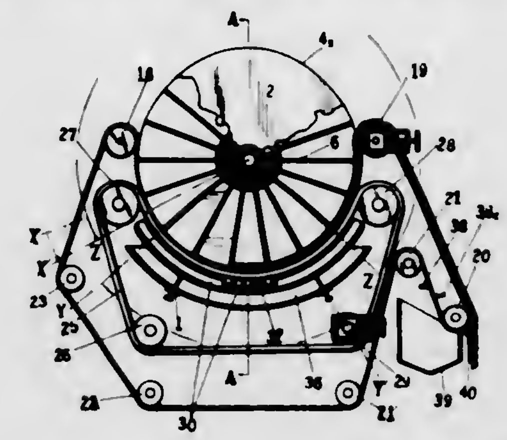
3,375,932
CONTINUOUS FILTRATION DEVICE OF THE PRESSURE TYPE

Eiichi Ishigaki, Kagawa Prefecture, Japan, assignor to Ishigaki Kiko Co., Ltd., Sakaide, Kagawa Prefecture, Japan

Filed Mar. 21, 1966, Ser. No. 536,072

2 Claims. (Cl. 210—390)

A continuous filtration device of the pressure type, comprising a machine frame, a revolving drum rotatably mounted on said machine frame, said drum having a plurality of pressure chambers arranged radially with respect to the axis of the drum and opening radially out of said drum, two series of rollers rotatably mounted on said machine frame, an endless filter cloth extending over one of said series of rollers and guided along and against a portion of the circumferential wall of the drum and covering the open ends of the radial chambers, a porous endless belt extending over the other series of rollers and guided along and in contact with said filter cloth and along said portion of the circumferential wall of the drum, liquid feed means coupled to said drum and feeding a liquid material to said pressure chambers, and means coupled to said drum supplying compressed gas to said pressure chambers.

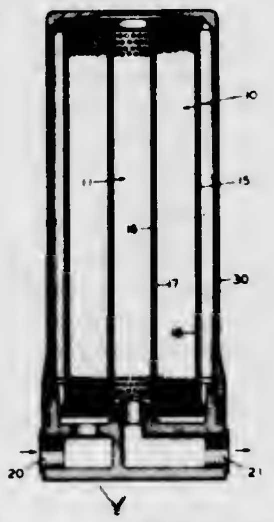


3,375,933
SEMI-RIGID POLYMER ENCAPSULATED FILTER MEDIUM CONTAINING AN UNENCAPSULATED ADSORBENT MATERIAL

Clarke A. Rodman, Riverside, R.I., assignor to Fram Corporation, Providence, R.I., a corporation of Rhode Island

Filed Feb. 1, 1965, Ser. No. 429,215

1 Claim. (Cl. 210—502)



Adsorption filter for removing dissolved impurities from fluid. Unencapsulated absorbent particles (e.g., activated carbon) are supported in a semi-rigid matrix formed of a sintered mass of solids encased in thermoplastic polymer casings, said encased solids being attached to each other by thermoplastic bonds between the casings to form the semi-rigid matrix.

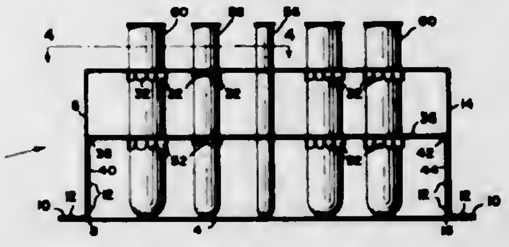
3,375,934
DISPOSABLE TEST TUBE RACK

Edward A. Bates, Philadelphia, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

Filed Oct. 13, 1965, Ser. No. 495,636

1 Claim. (Cl. 211—72)

A test tube rack has top, bottom and side panels with a panel intermediate the top and bottom panel, the panels being hinged to provide for the collapsing of the rack for shipment and storage. Aligned openings in the top and intermediate panels receive test tubes, the openings advantageously being bordered by tabs to provide for enlargement of the openings by a test tube of a diameter greater than that of the opening.

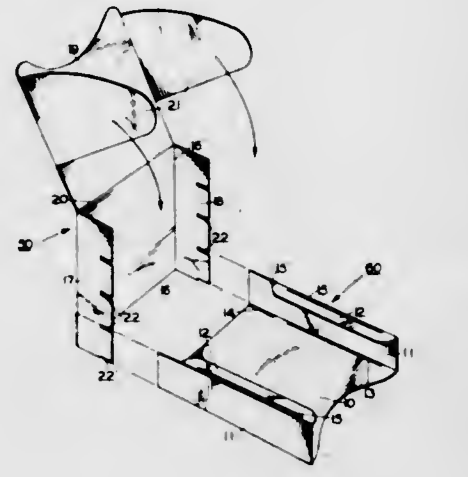


3,375,935
MOUNTABLE AND DEMOUNTABLE FILE BOX ASSEMBLY

Donald E. Whyte, 6507 Firwood Drive, Vancouver, Wash. 98665

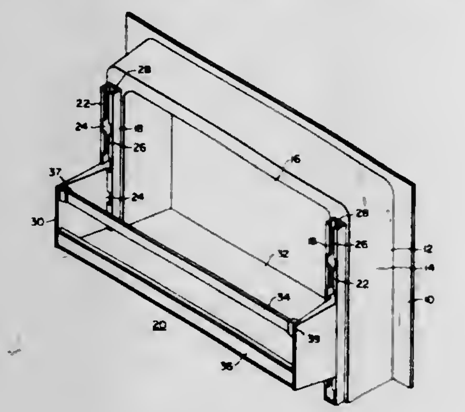
Filed Sept. 2, 1966, Ser. No. 576,969

3 Claims. (Cl. 211—135)



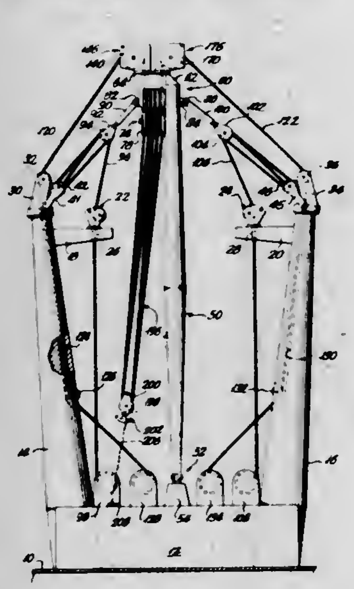
1. A file box assembly comprising a main frame member and a plurality of identical shelf members, a back wall panel in said main frame member, a pair of side flaps at the sides of said back wall panel respectively, a top wall panel at the top of said back wall panel, a shelf panel in each of said shelf members, a pair of side walls at the sides of each shelf panel respectively, a flange at the top of each side wall, cooperating engaging means on said walls of said shelf members and on said side flaps of said back wall panel for mounting said shelf members on said main frame member, each of said shelf members having slots extending part way along between the shelf panel and each of said side walls and also similar slots between each of said side walls and the top flange, and a pair of locking splines at the sides of said top wall panel of said main frame panel respectively, said locking splines being of such length and so arranged as to extend down into the lowermost shelf member when said shelf members are in place in said main frame member and said top wall panel and said shelf panels of said shelf members are brought into parallel relationship, whereby, with said shelf panels mounted in place on said main frame member, the inserting of said locking splines down through the aligned slots in said shelf members will cause the assembly to be held firmly in set-up position as a file box.

3,375,936
SHELF AND SHELF SUPPORT STRUCTURE
Michael H. Kessler, Grove City, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 3, 1966, Ser. No. 569,995
5 Claims. (Cl. 211—176)



1. A shelf and shelf support construction, comprising:
a pair of upright stringers, each having an interior vertical trackway and presenting a front face with vertically spaced, expanded-width notches, and a vertical slot narrower than said notches traversing a substantial number of said notches;
a shelf adapted to be supported from said stringers, said shelf having a pair of mounting brackets laterally spaced to register with said stringer trackways, each bracket including lower lug means contoured to be slid freely in a vertical direction in said trackway and removable forwardly from said trackway at any notch location;
each bracket further including upper lug means contoured to interlock with the lower edge of any notch to prevent downward and forward movement of said upper lug means relative to said stringer.

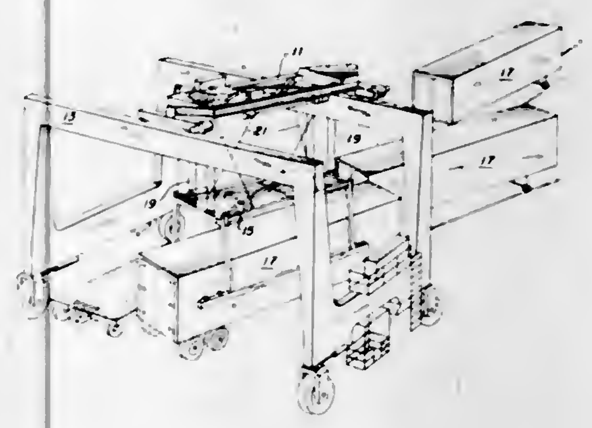
3,375,937
CARGO HANDLING APPARATUS
William K. Bradshaw, Hampton, Va., assignor to Newport News Shipbuilding and Dry Dock Company, Newport News, Va., a corporation of Virginia
Filed Apr. 24, 1967, Ser. No. 633,106
14 Claims. (Cl. 212—3)



A boom including a head portion and a heel portion is mounted for substantially universal movement at the heel portion thereof and is adapted to swing between a pair of spaced king posts. Topping lift means is connected between the king posts and the head portion of the boom for maneuvering the boom. In a first modification, an upper purchase sheave assembly means is supported at the head portion of the boom and includes a plurality of sheaves which are mounted for rotation about a common axis which is fixed with respect to the boom. A cargo fall cable is reeved around the sheaves of the upper purchase sheave assembly means and a plurality of rotatable sheaves mounted in a lower purchase block means which supports a cargo hook. A pair of fairlead sheaves are pivotally mounted at the uppermost end of the boom, the hoisting leads of the cargo fall cable passing over these fairlead sheaves. Guide sheaves are positioned intermediate the fairlead sheaves and the sheaves of the upper purchase sheave assembly means. These guide sheaves are positioned to receive a portion of the cargo fall cable passing over an associated fairlead sheave. The fairlead sheaves as well as the guide sheaves are all offset on one side of the boom as is the upper purchase sheave assembly means. The guide sheaves are also offset fore and aft of the boom respectively to guide a portion of the cargo fall cable when the boom operates either fore or aft of the king posts.

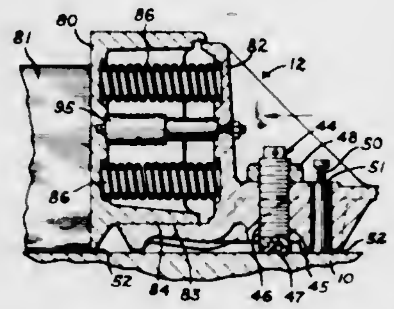
In a modified form of the invention, a second upper purchase sheave assembly means similar to the first-mentioned upper purchase sheave assembly means is provided at the opposite side of the boom to provide a symmetrical arrangement. A second lower purchase block means is also provided, and in this case, a connector means is connected between the lower purchase block means and supports the cargo hook. The connector means is detachable from at least one of the lower purchase block means to permit the lower purchase block means to be swung through. The second upper purchase sheave assembly means has a pair of guide sheaves operatively associated therewith in the same manner as the first-mentioned pair of guide sheaves. In this modification, one of the fairlead sheaves is operatively associated with the first upper purchase sheave assembly means, and the other fairlead sheave is operatively associated with the second upper purchase sheave assembly means. A cross-over sheave means is provided, this cross-over sheave means being mounted for rotation about an axis which extends substantially normally to the axis of rotation of the sheaves of the two upper purchase sheave assembly means. The cargo fall cable is reeved over this cross-over sheave means so that a common cargo fall cable is employed throughout the apparatus.

3,375,938
ANTI-SWAY DEVICE
Geoffrey H. Crittenden, Alameda, and Arthur E. Mills, Orinda, Calif., assignors to Pacific Coast Engineering Company, a corporation of California
Filed July 11, 1966, Ser. No. 564,257
13 Claims. (Cl. 212—13)



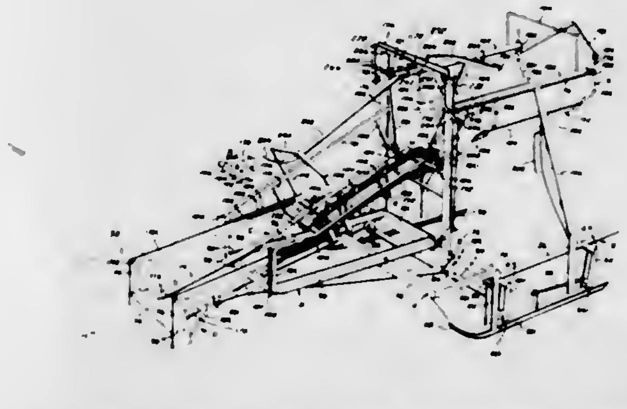
An apparatus for abating the pendulum motion of large suspended loads. Wire ropes reelable from drums secured to the lifting apparatus, and having a common brake, are secured to the suspended load. A differential assembly permits the wire ropes to unreel without resistance when all are unreeled equally, but applies the brake automatically to any of the ropes which unreel faster than other of the ropes. Spring motors rereel the ropes when they go slack.

3,375,939
PAPERCUTTER
Leo D. Barley, Dayton, Ohio, assignor to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Jan. 28, 1966, Ser. No. 523,754
10 Claims. (Cl. 214—1.6)



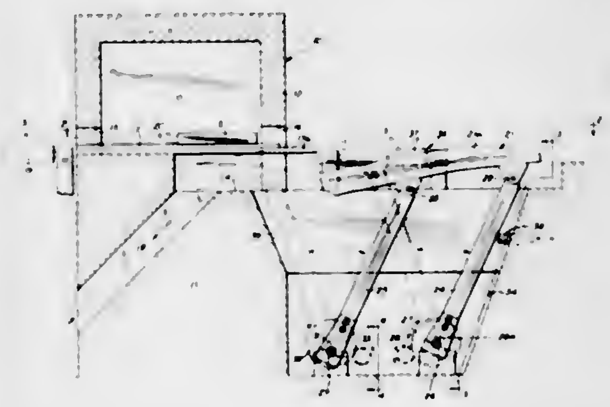
1. A cutting apparatus comprising a table for supporting a pile of sheet material to be cut, cutting means mounted above said table, a back gage movable on said table and adapted to position said pile under said cutting means, drive means mounted beneath said table for moving said back gage, said table being provided with a slot in the direction of the back gage movement, guide block means extending through said slot and fixed to said back gage, cooperating means on said table in sliding engagement with said guide block means for maintaining said back gage in alignment with said table, said guide block means further being in driving engagement with said drive means for movement of said back gage, and yielding means mounted on the forward portion of said back gage for deflecting and absorbing the impact when the back gage is initially engaged with a pile and which will remain undeflected when said pile is being moved normally across the table.

3,375,940
AUTOMATIC STOOKERS
Geoffrey B. Thompson, Whitby, Ontario, and Robert D. Thompson, Ajax, Ontario, Canada, assignors to The Kelvin-Thompson Company Limited, St. Mary's, Ontario, Canada, a corporation of Canada
Filed Dec. 21, 1964, Ser. No. 419,744
19 Claims. (Cl. 214—6)



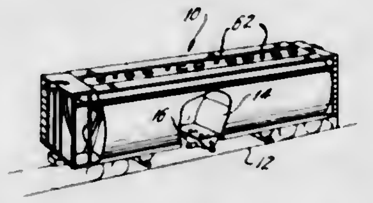
Automatic bale stooker apparatus for use in conjunction with a baling machine including a ramp structure for conducting bales from the baling machine to a bale dropping assembly and including pusher means for positively feeding bales to the dropping assembly. The ramp structure also may include a flexible forward portion adapted to maintain a bale-conducting passage between the stooker apparatus and the baling machine irrespective of the relative angular movement between stooker and baler in making turns. The dropping assembly includes co-acting bale jaws which, in a closed position, receive bales and, in an open position, drop bales onto a stook forming platform disposed beneath the jaws. The platform is movable for discharge of a stook built up thereon.

3,375,941
ARTICLE TRANSFER MECHANISM
Theodore Repper, Jr., 505 Middletown Federal Savings & Loan Bldg., Middletown, Ohio 45042
Filed Feb. 18, 1966, Ser. No. 528,456
4 Claims. (Cl. 214—26)



A transfer device for use in a rolling mill operation for extracting slabs from the laterally spaced support bars of a holding furnace and depositing them on a conveyor having a series of laterally spaced rollers which are also spaced longitudinally from the support bars. The device comprises a transfer unit having a set of arms parallel with said bars and rollers and laterally spaced for sequential insertion between the spaced support bars and withdrawal therefrom for insertion between the spaced rollers. Means are provided for reciprocating the transfer unit to and from the holding furnace and associated means for elevating the transfer arms while interposed between the spaced support bars to lift a slab therefrom and sequentially lower the arms when shifted to positions between the spaced conveyor rollers to deposit the extracted slabs on the latter.

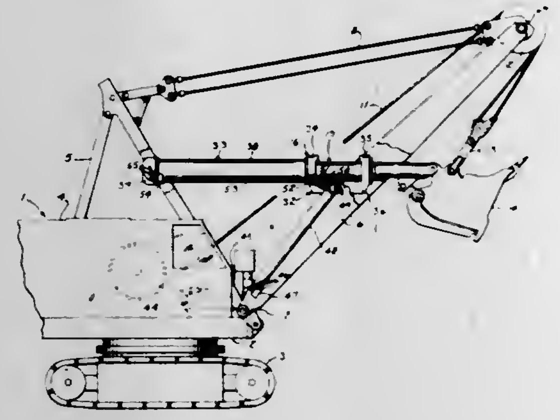
3,375,942
APPARATUS FOR UNLOADING RAILROAD CARS AND THE LIKE
Thomas D. Boram, Northumberland, Pa., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Apr. 8, 1966, Ser. No. 541,147
3 Claims. (Cl. 214—83.28)



A railroad hopper car is provided with outlets in the bottom of each hopper at both sides of the car and liquid inlets at the bottom and top of each hopper. The intake of a pump is connected to one hopper outlet, the outlet of the pump is connected to the top inlet of the same hopper and to a discharge conduit for the material in the hopper, and a water supply conduit is connected to the inlet at the bottom of the hopper. Each hopper has a motor driven agitator with oppositely directed impellers at the bottom of the hopper. Valves are provided for controlling the supply of water to the bottom inlet, for recycling liquid from the connected outlet to the inlet at the top of the hopper, and finally pumping the liquid through the discharge conduit.

3,375,943
HYDRAULIC CROWD FOR SHOVEL

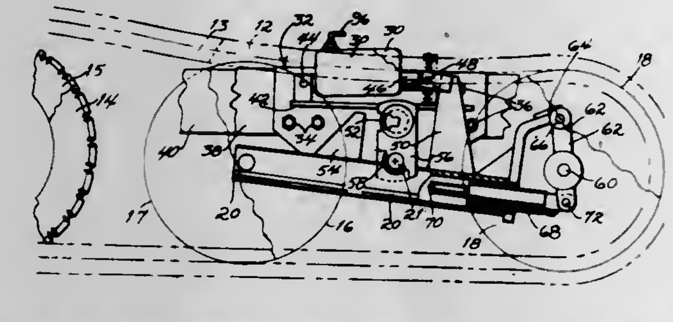
Tom Learmont, Milwaukee, and Theodore M. Willgrubs, South Milwaukee, Wis., assignors to Bucyrus-Erie Company, South Milwaukee, Wis., a corporation of Delaware
Filed July 7, 1966, Ser. No. 563,452
1 Claim. (Cl. 214—135)



The crawler-mounted power shovel has a boom projecting from the front of its revolving frame and supported at the top by cables from an A-frame. A saddle block is pivotally mounted on the boom to support a tubular dipper handle for reciprocating crowd movement. A tubular crowd frame projects rearwardly from the saddle block. A double acting hydraulic ram has its cylinder end-mounted inside the dipper handle and its piston rod anchored to the back end of the crowd frame to crowd the dipper handle. Fluid is pumped to and from the cylinder through the piston rod.

3,375,944
CONTROL DEVICE FOR BOGIE SUSPENSION OF LOADERS

Eugen Bexten, Hamilton, Ontario, Canada, assignor to International Harvester Company, a corporation of Delaware
Filed Jan. 26, 1965, Ser. No. 428,062
10 Claims. (Cl. 214—140)

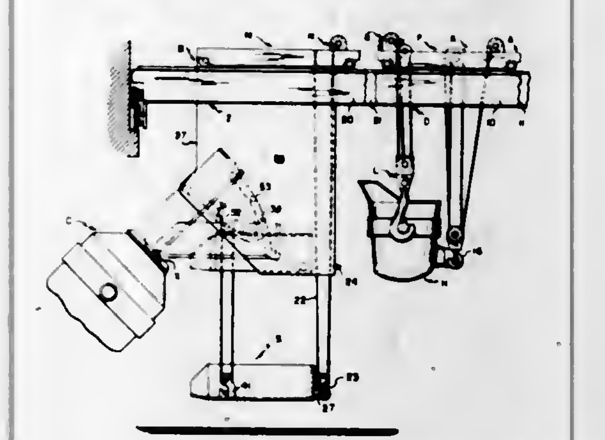


1. In a front wheel suspension for a track type loader vehicle:

a vehicle frame carrying a longitudinally forwardly cantilevered loader bucket;
a generally longitudinally extending bogie beam mounted to the frame to oscillate about a fixed transverse axis intermediate the ends of the beam;
first and second track wheels rotatably carried at the respective forward and other end of the beam;
an endless track trained over the track wheels;
first and second upstanding stop plates carried by the respective ends of the beam adjacent the first and second track wheels;
stop means on the frame engaged by the first or second stop plate respectively when the first or second wheel undergoes jounce;
control means on the frame comprising a single acting plunger, and a fixed fluid cylinder having plunger receiving means receiving same consisting of a closed cylinder chamber; and
means interconnecting the plunger and one of the plates so that first wheel jounce-force places the single acting plunger in compression, said plunger thereby effectively preventing first wheel jounce motion but drawing a void in the closed cylinder chamber to yield therewith, and to readily move in response to, jounce motion of the second wheel.

3,375,945
FURNACE CHARGER CRANE

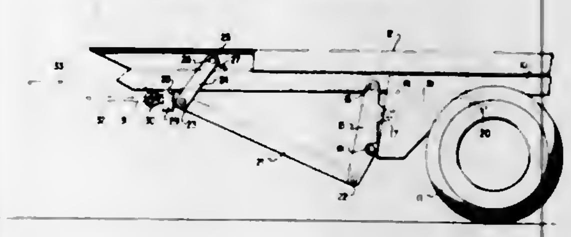
Ross B. McCready, Alliance, and Klaus W. Forster, Brecksville, Ohio, assignors to Kerma Corporation, Alliance, Ohio, a corporation of Ohio
Filed Feb. 28, 1966, Ser. No. 530,491
13 Claims. (Cl. 214—316)



A crane-type charger for basic oxygen furnaces having cable-type hoist means for connection to a container for material to be charged and in which the container is pivoted about a locus spaced a substantial distance from its supporting connection to the hoist means.

3,375,946
RETRACTABLE HITCH FOR TILTING BED TRUCKS

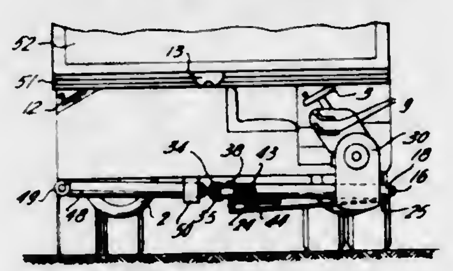
Robert B. Drake, 600 S. 31st St., Springfield, Ill. 62703
Filed Feb. 9, 1966, Ser. No. 526,291
5 Claims. (Cl. 214—505)



A hitch mechanism for tilting bed vehicles enabling the towing of heavy equipment with stability characterized by a linkage on the tilt bed carrying the hitch mechanism and having a connection with a non-tilting portion of the vehicle, whereby tilting of the bed by power means causes the hitch mechanism to retract so as to clear the ground and to return to a normal towing position when the bed is returned to level.

3,375,947
HOISTING APPARATUS

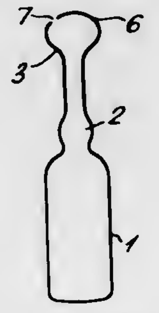
Shlomo Kissilov, 83 Arlozaroff St., Haifa, Israel
Filed Aug. 5, 1966, Ser. No. 570,558
10 Claims. (Cl. 214—674)



1. A hoisting apparatus comprising an automotive fork lift vehicle having a body, a fork lift, means for mounting said fork lift on said vehicle in a substantially vertical position to enable said fork lift to be operated for hoisting purposes and for swinging said fork lift to a horizontal and collapsed position under said body and below the wheel axle, and jack and attachment means on and at the top of said vehicle for lifting and attachment of said vehicle to a conveyance having a body constructed to firmly receive said attachment means at the base of said conveyance body.

3,375,948
VENTED ENCLOSED GLASS AMPOULE AND METHOD OF MAKING IT

Charles Creevy, Greenford, and Henry Thomas Clark, Chelsfield, England, assignors to Glaxo Laboratories Limited, Greenford, England, a British company
Filed Feb. 10, 1965, Ser. No. 431,554
Claims priority, application Great Britain, Feb. 12, 1964, 5,923/64
7 Claims. (Cl. 215—32)

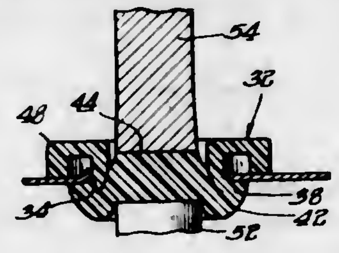


A glass ampoule made by drawing glass tubing and fusing the top and bottom closed. The closed top is heat softened and the air pressure in the ampoule is raised by heating to prevent collapse of the soft top, then a small opening not over about .05 inch in diameter is made in the soft top by a narrow flame jet, the air pressure preventing entry of glass spicules into the ampoule. Then, or later, the top is heat softened and spun to form an upwardly open funnel top.

3,375,949
CARRIER HANDLE

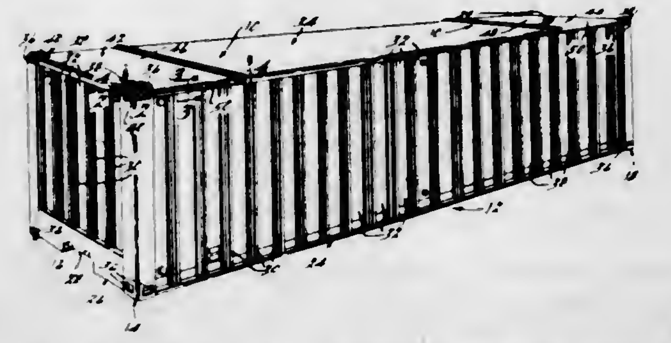
Walter E. Hidding, 505 Banbury Road, Addison, Ill. 60101
Filed Mar. 20, 1964, Ser. No. 353,439
6 Claims. (Cl. 220—94)

1. As an article of manufacture, the combination comprising: means including plate means having an aperture; and handle means of polymeric material, having a grippable portion defined by a flexible band and mounting means secured to said plate means, said mounting means including a resilient, expanded ring-like formation of resilient material disposed beneath said plate means and extending radially beyond the edges of said aperture to resist extraction therethrough, said mounting means further including a locking member forcibly situated within said ring-like formation and permanently deformably expanded to resist radial contraction of said ring-like formation.



3,375,950
ROOF CONSTRUCTION

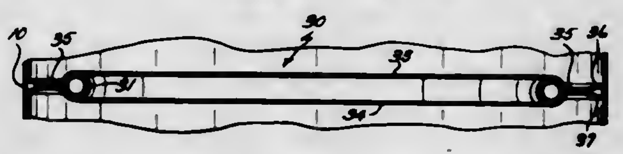
George Chieger, Birmingham, Mich., assignor to Fruehauf Corporation, Detroit, Mich., a corporation of Michigan
Filed Mar. 15, 1966, Ser. No. 534,313
1 Claim. (Cl. 220—1.5)



In combination with a shipping container including a pair of laterally opposed side walls, a pair of end walls, a central roof portion extending between the side walls, an attachment means releasably engageable with associated apparatus for conveying the container, a roof construction comprising a substantially flat roof panel having a central portion extending laterally between the side walls and longitudinally between one of the end walls and the adjacent end of the roof portion, the panel including integral first and second laterally outwardly and downwardly extending edge portions overlying the portions of the upper edges of the side walls of the container adjacent which the associated conveying apparatus is moved preparatory and subsequent to engaging the attachment means, the panel further including a forwardly and downwardly extending portion overlying the upper edge of one of the end walls, whereby to prevent the conveying apparatus from engaging and damaging the upper edge portions of the container in the event the conveying apparatus is inadvertently misaligned with respect to the attachment means, and a roof bow portion formed integrally of the panel and extending laterally between the side walls of the container for reinforcing the roof portion thereof.

3,375,951
TANK WAFER

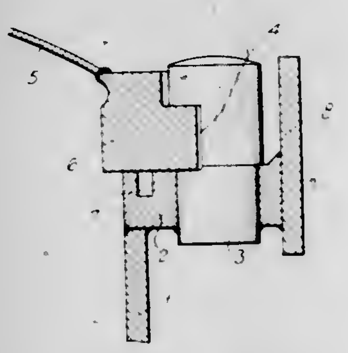
Forrest A. Donald, Mansfield, Ohio, assignor to Barnes Manufacturing Co., Mansfield, Ohio, a corporation of Ohio
Filed June 24, 1965, Ser. No. 466,720
1 Claim. (Cl. 220—26)



This invention relates generally to water supply tanks used in independent water supply systems wherein the water is circulated by means of an air head maintained within the tank. More particularly, the present invention is directed to a tank wafer or float for preventing the absorption of air by the water in a pneumatically pressurized water tank.

3,375,952
VAT WITH LID

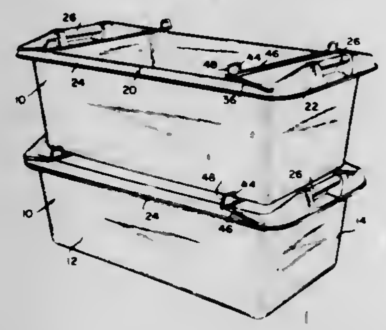
Erik Henningsen, Hvidovre-Copenhagen, Denmark, assignor to Vald. Henriksen A/S, Soborg-Copenhagen, Denmark
Filed Sept. 21, 1966, Ser. No. 580,929
Claims priority, application Denmark, Sept. 23, 1965, 4,893/65
3 Claims. (Cl. 220—40)



1. A vat with a circular lid of the kind in which sealing is provided by a packing between the wall of the vat and the edge of the lid and in which the lid is retained by means provided on the edge of the lid and on the wall of the vat, respectively, the said means engaging each other when the lid is turned in relation to the vat, characterised by a number of pins distributed on the circumference of a flange at right angles to the wall of the vat, the said pins being on the side facing inwardly towards the centre of the vat provided with notches of a height corresponding to the thickness of the edge portion of the lid, the said edge portion being provided with recesses of such number and form and so distributed along the circumference as corresponds to the number, form and distribution of the pins.

3,375,953
RECEPTACLES

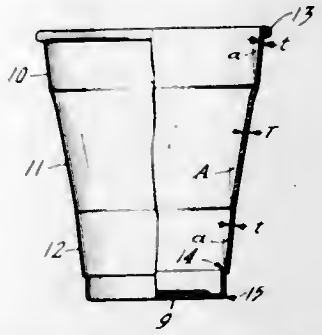
August W. Miller, Jr., Portage, Wis., assignor to Portage Plastics Co., Inc., Portage, Wis., a corporation of Wisconsin
Filed July 1, 1966, Ser. No. 562,360
7 Claims. (Cl. 220—97)



The invention is a tote box adapted to be used with other like boxes in several ways. The boxes have sloping sides for nesting and a heavy rounded rim. Each end is provided with a raised hand hold.

3,375,954
NESTABLE CONTAINER

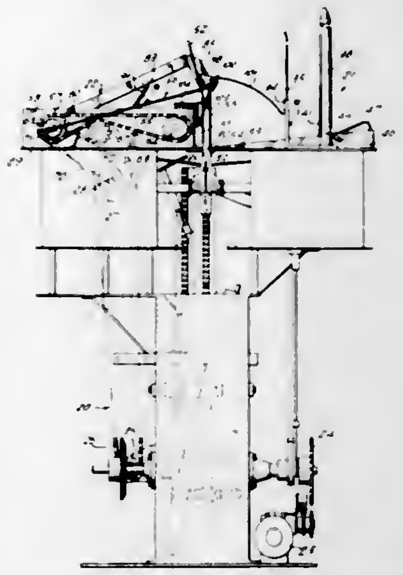
Arvid Honkanen, Easton, Pa., and James Kenneth Haney, Phillipsburg, N.J., assignors to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 19, 1966, Ser. No. 587,792
7 Claims. (Cl. 220—97)



A nestable container adaptable to hold hot beverages has a side wall with a finger-grasping, frusto-conical section and a lower frusto-conical section, the latter section having a smaller cone angle than the former section, whereby the finger-grasping section may be made thicker than the lower section to increase the insulating effect without adversely affecting the axial spacing between nested cups.

3,375,955
FEED MECHANISM

Raymond Vahle, Tappan, N.Y., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Oct. 30, 1962, Ser. No. 234,167
15 Claims. (Cl. 221—13)

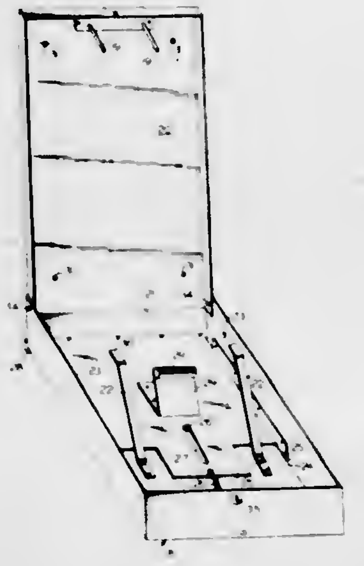


1. A feed mechanism comprising means defining an article dispensing path, a fixed article guide disposed to one side of said article dispensing path, a pivotal article guide mounted adjacent said fixed article guide on the opposite side of said path therefrom and single means for sequentially positioning an article on said pivotal article guide and then swinging said pivoted article guide towards a position generally parallel to said fixed article guide to position the article in said path.

3,375,956
DEVICES FOR DISPENSING PAPER TOWELS, HANDBILLS, STATIONERY AND THE LIKE

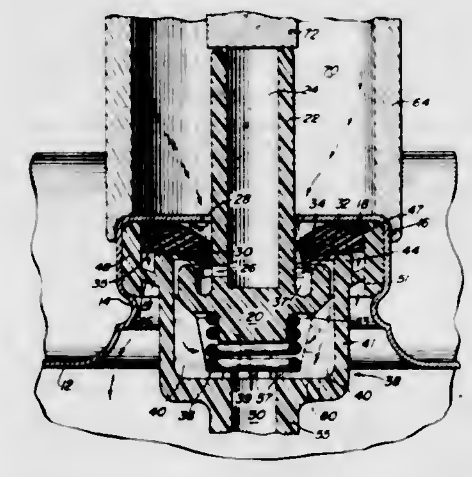
Jacob M. Katz, 225 E. 57th St., New York, N.Y. 10022
Filed May 27, 1966, Ser. No. 553,411
1 Claim. (Cl. 221—259)

A stack of upright sheets is against the back wall of a cabinet in which there is a means for holding the stack in the upper region of the sheets, but the sheets remain individually releasable for movement downwardly and outwardly of the cabinet; the cabinet having no bottom wall. A first spring-biased stack-pressing means is slidably mounted within the cabinet, and spring-biased to a normally raised position; there being accessible means for shifting it downwardly to partially eject the first sheet of the stack. A second spring-biased stack-pressing means is mounted within the cabinet, spaced from said first means, arranged to allow downward movement of the sheet being ejected, but prevents any return movement thereof; said second means automatically assuming the position of the changing plane of the ever-changing first sheet.



3,375,957
PRESSURE FILLABLE AEROSOL VALVE ASSEMBLY

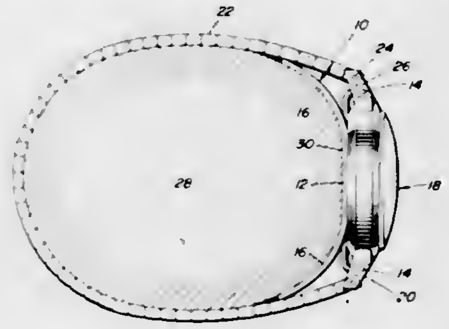
Clarence O. Kuffer, Niles, Ill., assignor to Aerosol Research Company, a division of Valve Corporation of America, a corporation of Delaware
Filed June 8, 1966, Ser. No. 556,039
7 Claims. (Cl. 222—402.16)



This application illustrates and describes a pressure fillable aerosol valve assembly in which pressurized propellant may be forced rapidly into an associated container through a valve shell portion intermediate the periphery of the shell and the valve housing portion of the shell, such as through an apertured diaphragm interconnecting the peripheral portion of the valve shell and the valve housing portion of the valve shell.

3,375,958
ADAPTER FOR WRIST WATCH

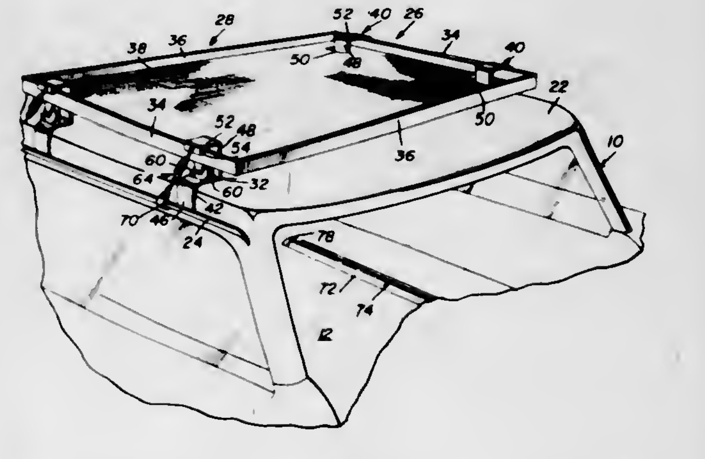
Henry N. Cooper, 16 Cross Keys Road, Baltimore, Md. 21210
Filed Mar. 30, 1967, Ser. No. 627,011
3 Claims. (Cl. 224—4)



An adapter for use with a wrist watch is disclosed permitting the watch to be worn on the edge of the wrist. Not only is the wearer able to view the dial more conveniently so positioned but the danger of accident to the crystal is markedly reduced. In essence, the adapter consists of a flat mesa or base upon the top surface of which the watch is placed. Upturned tabs at the ends of the base enter the spaces between the ends of the band and the watch case. Bendable curved side or end portions can be tailored to the contour of the wearer's wrist and thus hold the watch in the desired position secured only by the normal strap.

3,375,959
CONVERTIBLE AND DETACHABLE LUGGAGE RACK FOR STATION WAGONS

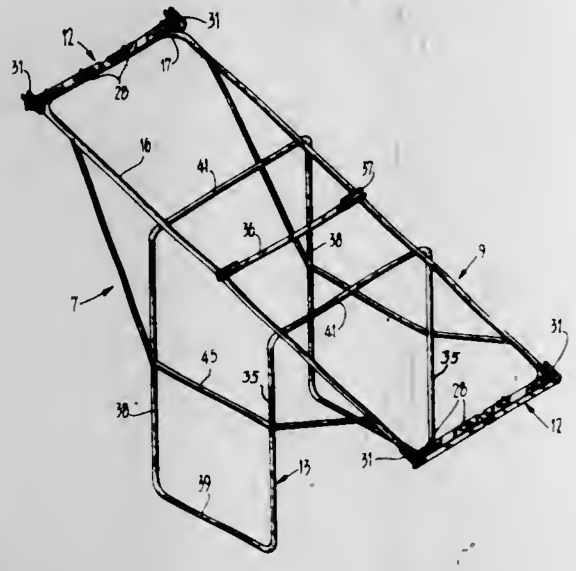
Everett E. Hamilton, 7550 Canterbury, Drive, Springfield, Ill. 62707
Filed June 22, 1966, Ser. No. 559,439
7 Claims. (Cl. 224—42.01)



A support rack adapted to be carried by a vehicle and to have a load supported therefrom and first and second rack supporting means adapted to be supported from the top and an inner floor portion, respectively, of a vehicle, the first and second rack supporting means and the rack structure including coacting means operative to selectively removably support the rack structure from the first and second rack supporting means against movement relative thereto.

3,375,960
CANOE TRANSPORTING RACK

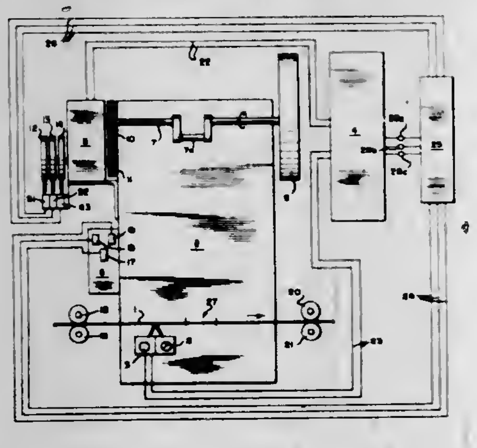
Charles M. Stevens, 44681 Camellia Drive, Fremont, Calif. 92804, and Loren N. Stevens, 2117 Placer Drive, San Leandro, Calif. 94578
Filed Sept. 28, 1966, Ser. No. 582,700
3 Claims. (Cl. 224—42.11)



A supporting frame is described by which a canoe or the like boat can be transported in an inclined and balanced position on the back of a pack animal. The frame includes a generally rectangular main frame which has supporting brackets at each of its corners adapted to receive the gunwales of a canoe. Each of the canoe supporting brackets is rotatably mounted on a slide member whose lateral positioning relative to the main frame can be adjusted whereby the rack can support differently sized canoes in a stable and balanced condition. Leg structures depend centrally from the main frame and the lower end portion of each is adapted to be received within a saddle bag or the like on the pack animal. The lower ends of each of the leg structures is angularly related to the main frame so that the main frame is inclined with respect to the back of the pack animal when the lower portions of the leg structures are received within the saddle bags whereby the forward end of the canoe can extend over the head of the pack animal.

3,375,961
CONTROL FOR FEEDING DEVICE

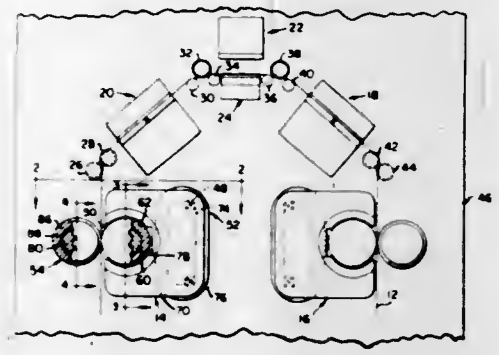
Antonius Augustinus Flick, Rotterdam, Netherlands, assignor to Hunter Douglas International, Ltd.
Filed Mar. 29, 1966, Ser. No. 543,764
10 Claims. (Cl. 226—32)



1. In apparatus for detecting and correcting spacing errors on a strip of material being stepped sequentially past a work station at which operations are performed on it at operating points denoted by markers on the strip, including feeding means in front of said work station for feeding said strip thereto, means for detecting, during a given sequential step of said strip, an error in the spacing of a given operating point marker from the immediately preceding operating point marker, and means responsive to detection of such error for correcting the length of the terminal step which carries the operating point corresponding to the given marker to the work station for properly positioning the operating point indicated by said given marker at the work station, the improvement wherein said error detecting means includes first means for generating a first signal representative of the zero-error location of said given marker second means for generating a second signal representative of the actual location of said given marker, a comparator for generating an output signal representative of the difference between said first and second signals, and a memory for storing representations of the comparator output signals; and said correcting means includes step control means responsive to a representation stored in the memory for varying the length of said terminal step in accordance with the stored representation.

3,375,962
RECORD MEDIA HANDLING APPARATUS

Donald A. Bange and Robert M. Sternberg, Dayton, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Oct. 20, 1965, Ser. No. 498,494
10 Claims. (Cl. 226—176)

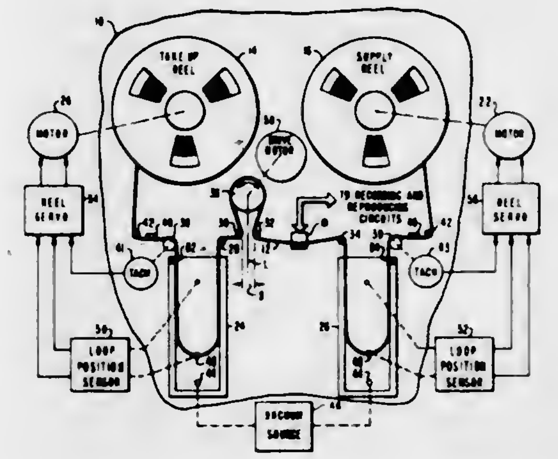


A record media driving device including a constantly rotating capstan having a pair of annular magnetic elements capable of providing a portion of a magnetic flux path for operating the device; a stationary electromagnetic member having a configuration which substantially surrounds the capstan except for that portion of the capstan which engages the record media to be driven; and a pinch roller which cooperates with the capstan in driving the record media. The pinch roller has an annular magnetic element which is resiliently mounted and which is capable of being drawn toward the capstan by energization of the electromagnetic member.

3,375,963
HIGH PERFORMANCE TAPE TRANSPORT

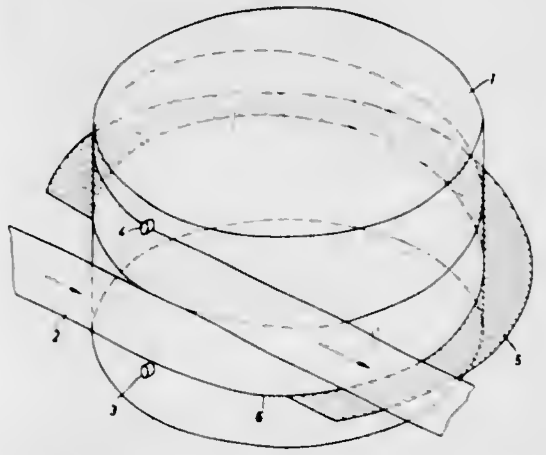
Ben C. Wang and Stephen T. Chai, Los Angeles, Calif., assignors to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Oct. 27, 1964, Ser. No. 406,737
6 Claims. (Cl. 226—178)

4. A tape transport comprising: a pair of tape reels and a tape path extending there between; a pair of buffer means disposed along said tape path and including balanced tape tension applying means for drawing tape toward each of said buffer means with a tension of more than about four ounces; a tape head disposed along said tape path between said buffer means; a controlled drive capstan of predetermined diameter disposed along said tape path between said tape head and one of said buffer means; a final pair of tape wrap guides having tape engaging surfaces, said guides being disposed along said tape path on either tape-path side of said capstan, and being air bearing members having spring means acting against a longitudinal edge of the tape, the cross-sectional dimension of the guides and the wrap angle about the guides being selected such that the wrap angle per inch of tape length is approximately 250°, the effective distance between said tape engaging surfaces of said pair of wrap guides being less than the diameter of said capstan, to provide greater than 180° tape wrap about said capstan, and the positions of said buffer means relative to said tape wrap guides being such as to provide substantial tape wrap about each of said guides.



3,375,964
GUIDE DEVICE IN AN APPARATUS FOR MAGNETIC RECORDING AND REPRODUCING OF HIGH-FREQUENCY SIGNALS

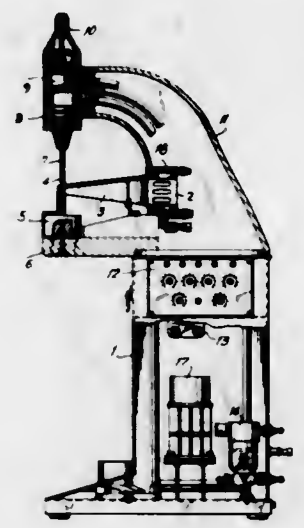
Karl Heinz Greifenhagen, Gottfried-Neukamstrasse 6, and Dieter Söhnlein, Gerhard-Hauptmann-Strasse 2, both of Kronach, Upper Franconia, Germany
Filed Aug. 23, 1965, Ser. No. 483,903
Claims priority, application Germany, Aug. 27, 1964, L 37,832
2 Claims. (Cl. 226—197)



A magnetic recording and reproducing apparatus with a tape guide drum provided with known guide means which prevent the tape from axial displacement. An additional guide surface is positioned normal to the drum surface and below the guide means.

3,375,965
ULTRASONIC WELDER

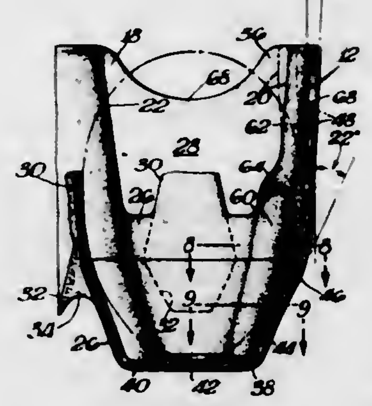
Mikhail Pavlovich Zaitsev and Jury Vasiljevich Kholopov, Leningrad, U.S.S.R., assignors to Vsesojuzny-Nauchno-Issledovatelsky Institute Elektrosvarochnogo Oborudovania, Leningrad, U.S.S.R.
Filed Oct. 27, 1964, Ser. No. 406,774
4 Claims. (Cl. 228—1)



An ultrasonic welder having a housing containing a transducer for converting electrical energy into mechanical vibratory energy at an ultrasonic frequency, and a vibratory energy concentrator for transmitting the vibratory energy from the transducer substantially in a horizontal direction to a first rod disposed substantially vertically in a working position and rigidly fixed at its lower end, a second rod being provided above the said first rod in vertical alignment therewith for clamping workpieces to be welded between the adjacent ends of the said rods, a drive being connected with the second rod for adjustment of its vertical position to enable placement of the workpieces between the rods and to apply a clamping force to the workpieces during welding.

3,375,966
FULL DEPTH CARTON FOR LARGE EGGS

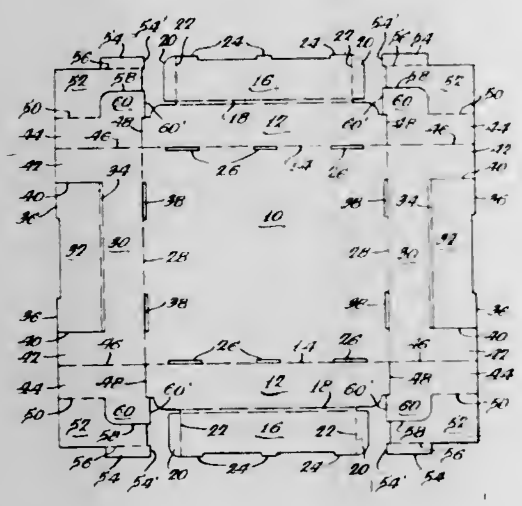
Kenneth L. Crabtree, Fairfield, Maine, assignor to Keyes Fibre Company, Waterville, Maine, a corporation of Maine
Filed Feb. 10, 1967, Ser. No. 615,162
9 Claims. (Cl. 229—2.5)



A molded pulp egg carton of the full depth style, as opposed to the foldable cover style, having outwardly bulged pockets to receive the commercially popular large sizes of eggs while retaining the maximum carton width dimensions required for packaging the filled cartons in standard size cases and also maintaining the minimum draft angle required for removing the damp molded cartons from the open-face suction forming dies on which they are made.

3,375,967
CONTAINER FOR FROZEN FOODS AND THE LIKE

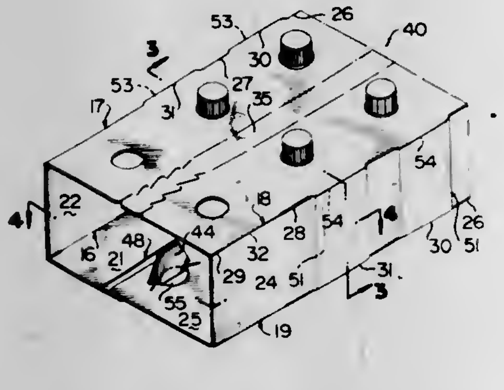
Roderick K. Robinson, Wisconsin Rapids, Wis., assignor to Consolidated Papers, Inc., Wisconsin Rapids, Wis., a corporation of Wisconsin
Filed Nov. 16, 1966, Ser. No. 594,892
9 Claims. (Cl. 229—34)



The present invention relates to an improved container especially adapted for blast-freezing of poultry and other frozen foods.

3,375,968
WRAPAROUND CARRIER

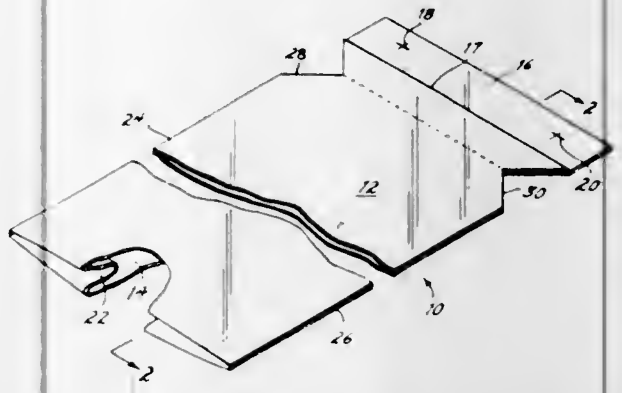
Arthur J. Weiss, Bergenfield, N.J., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Aug. 29, 1966, Ser. No. 575,576
7 Claims. (Cl. 229—40)



1. A blank of the type adapted to be formed into a generally tubular carrier comprising a generally planar sheet material member, a plurality of fold lines dividing said member into side, top, first and second terminal closure panels, a plurality of openings in one of said closure panels, a plurality of locking tabs carrier by the other of said closure panels and being alignable for entry into said openings, each of said openings being defined by first and second cut lines, each first cut line being generally U-shaped in configuration and opening toward a terminal edge of said one closure panel, each of said second cut lines being generally V-shaped and opening away from said terminal edge, and each U-shaped cut line merging with an associated one of the V-shaped cut lines at points inwardly of the terminal ends of the latter cut lines.

3,375,969
SIDE WELD BAG

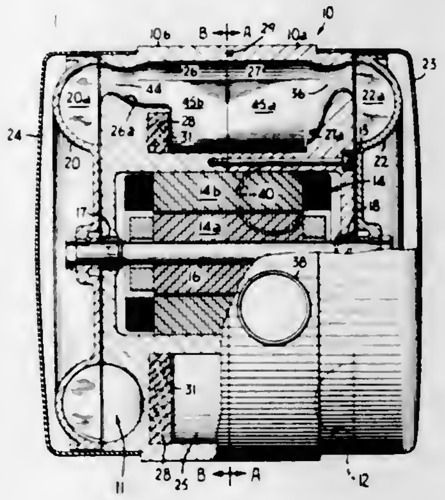
Francis A. Davis, Jr., Lansdale, Pa., assignor to Paramount Packaging Corp., Chalfont, Pa., a corporation of Pennsylvania
Filed Apr. 4, 1967, Ser. No. 628,372
4 Claims. (Cl. 229—53)



A side weld bag made from a flexible polymeric material is provided having a constriction adjacent the open end of the bag which is constructed in a manner so as to facilitate dispensing from a wicket assembly.

3,375,970
STAGED COMPRESSORS

Gunther Zoehfeld, West Hurley, N.Y., assignor to Rotron Manufacturing Company, Inc., Woodstock, N.Y., a corporation of New York
Filed May 25, 1966, Ser. No. 552,867
13 Claims. (Cl. 230—117)

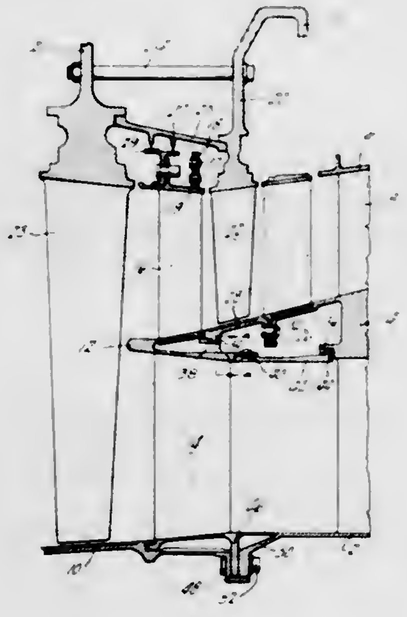


A regenerative compressor including a motor and a housing, the housing having a pair of annular compressor chambers and a generally annular central cavity surrounding the motor and disposed between the chambers. Each chamber has associated therewith an impeller disposed for coaxial rotation by the motor to generate fluid flow in each chamber between an inlet passage and an outlet passage communicating with that chamber and the central cavity. The housing includes an intake port and an exhaust port, each of which communicates with the central cavity for receiving and exhausting the fluid to be compressed. Baffles disposed in the central cavity isolate the respective pairs of inlet and outlet passages to each of the compressor chambers and segment the central cavity into a plurality of secondary chambers so that, by selectively placing the baffles, the compressor can be operated to establish independent, parallel or series fluid flow between the intake and exhaust ports.

3,375,971
ATTACHMENT MEANS FOR TURBOFAN LOW COMPRESSOR ASSEMBLY

David L. Fitton, East Hartford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Sept. 1, 1966, Ser. No. 576,759
7 Claims. (Cl. 230—133)

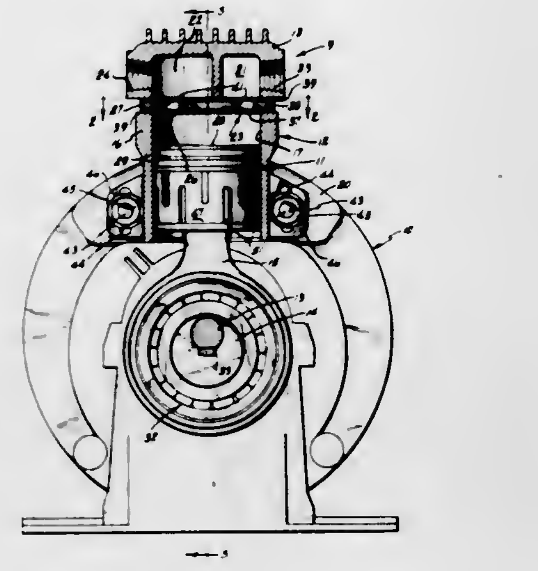
1. In a turbofan engine, a compressor stator vane support assembly, comprising:
- a fan casing,
- a splined flow splitter, concentric with said fan casing,
- a ring connected to the aft end of said flow splitter, said ring having a plurality of inwardly projecting tangs, said tangs being axially aligned with said splines,
- an inner support ring concentric with said fan casing and said flow splitter,
- a row of guide vanes extending between said fan casing and said flow splitter, said guide vanes being connected to said flow splitter at one end and to said fan casing at the other end, and
- at least one row of compressor stator vanes extending between said flow splitter and said inner support ring, said stator vanes being connected to said flow splitter at one end and to said inner support ring at the other end.



3,375,972
PUMP FOR A GASEOUS MEDIUM

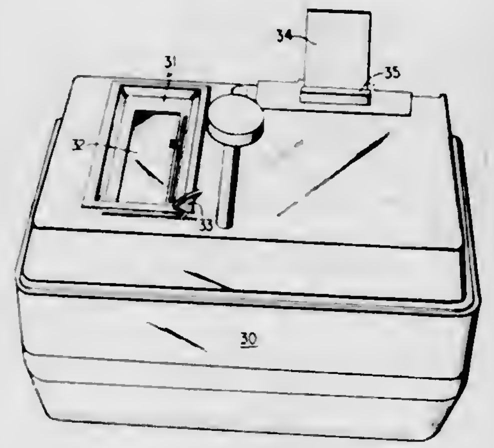
Joseph Raufeisen, Inverness, Ill., assignor to Zefex Inc., Rockford, Ill., a corporation of Illinois
Filed Aug. 11, 1966, Ser. No. 571,926
9 Claims. (Cl. 230—172)

1. The combination of a support structure and a rotary output shaft mounted thereon, a cylinder having a cylindrical body, means mounting said cylinder on said structure with the axis of the body disposed radially of said shaft, a head having inlet and outlet ports and secured to one end of said body remote from the shaft, and a valve assembly mounted at said end of said body and having inlet and outlet valves communicating respectively with said inlet and outlet ports, a piston reciprocable in said cylinder, and an eccentric rotatable with said shaft and connected to said piston to reciprocate the piston through a stroke equal to the throw of the eccentric during rotation of the shaft, said mounting means including guide elements permitting shifting of said cylinder body relative to said support structure and into a different position radially of said shaft to provide a minimum clearance volume defined by said piston, said cylinder body and said valve assembly when said piston is at the outer limit of its stroke and when said eccentric is replaced by an eccentric having a different throw.



3,375,973
DATA APPARATUS

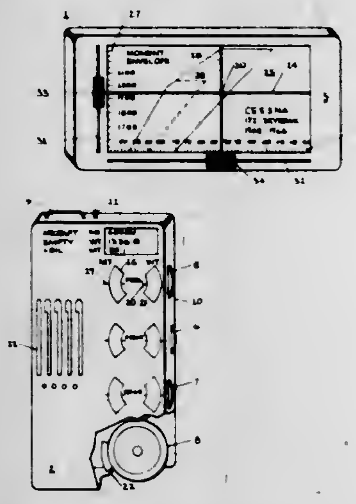
Wilhelm K. Kolster, Michigan City, Ind., assignor to Swiss Controls & Research, Inc., Michigan City, Ind., a corporation of Illinois
Filed June 15, 1965, Ser. No. 464,125
6 Claims. (Cl. 234—59)



A data selecting and recording apparatus that will permit the user thereof to select various bits of data from any one of a plurality of columns of an indexical master list, and to record that data as punched holes in a card capable of being fed through a totalizing machine.

3,375,974
AIRCRAFT COMPUTER

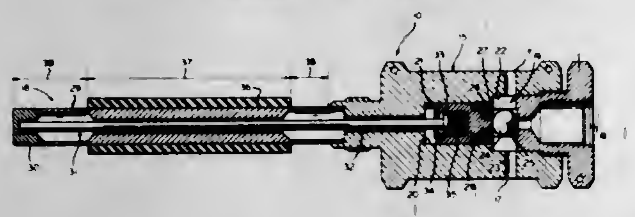
Albert J. Naber and Phyllis L. Naber, both of Rte. 2, Box 277B, Tucson, Ariz. 85715
Filed Dec. 8, 1966, Ser. No. 600,078
6 Claims. (Cl. 235—61)



A load and center of gravity computer for pilots having weight-moment scales and a numerical-total addiator, a graph on which the total weight and total moment are indexed and a safe-limit zone-marking on the graph.

3,375,975
PNEUMATIC TEMPERATURE SENSING PROBE

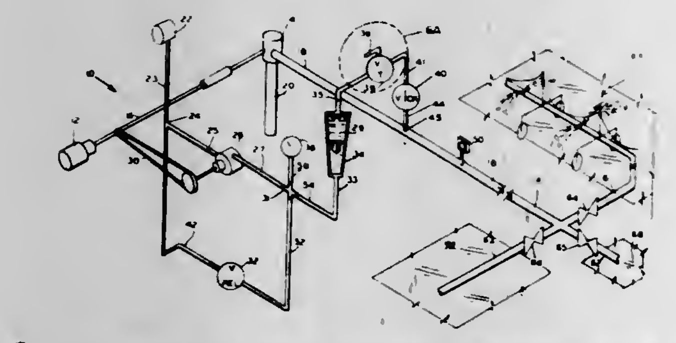
Robert P. Smith, Newbury Park, Calif., and Lester E. Haskett, Fort Worth, Tex., assignors to Vapor Corporation, Chicago, Ill., a corporation of Delaware
Filed Mar. 21, 1966, Ser. No. 535,860
2 Claims. (Cl. 236—87)



Pneumatic temperature sensing probe for controlling a valve including a sensing tube having a sleeve of insulation intermediate the ends with the opposite ends exposed, whereby the sleeve defines reset action.

3,375,976
FERTILIZER APPLICATION PROCESS

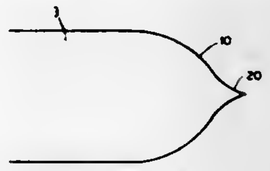
Otis C. Stamps and David W. Neikirk, Clovis, N. Mex., assignors to Inject-O-Meter Manufacturing Company, Inc., Clovis, N. Mex., a corporation of New Mexico
Continuation-in-part of application Ser. No. 546,443, Apr. 29, 1966, now Patent No. 3,326,232, dated June 20, 1967. This application Apr. 19, 1967, Ser. No. 632,081
4 Claims. (Cl. 239—10)



A process of applying chemical fertilizers by a combination of a high pressure pump system with an irrigation apparatus and effecting application of such fertilizers to farm land at a substantially constant weight of fertilizer per unit area of the land at any of several desired levels of intensity.

3,375,977
ULTRASONIC ATOMISER

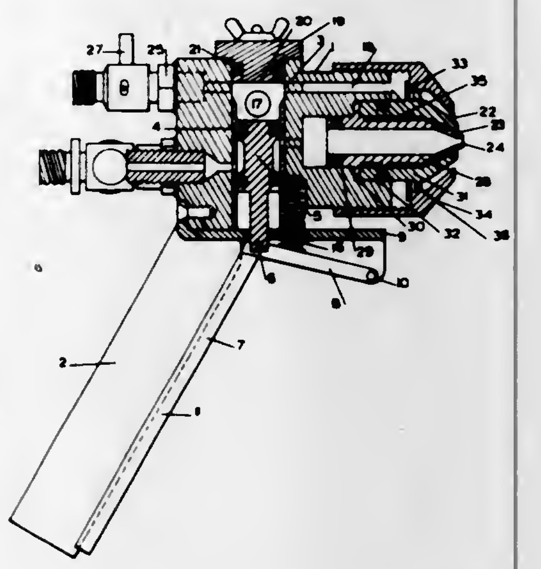
Harold Millman Butterworth, Crawley, and Ernest Arthur Neppiras, Reigate, England, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 12, 1965, Ser. No. 439,359
Claims priority, application Great Britain, Mar. 25, 1964, 12,613/64
5 Claims. (Cl. 239—102)



1. An apparatus for ultrasonic atomization of liquids comprising, a velocity transformer having a cylindrical body portion terminating in a free end face, said end face having an ogival shape fairing into said body portion and means adjacent said cylindrical body for applying a thin film of liquid to the surface of said free end face whereby vibration of said free end face will atomize said liquid film.

3,375,978
SPRAY GUN WITH SELF-PURGING NOZZLE

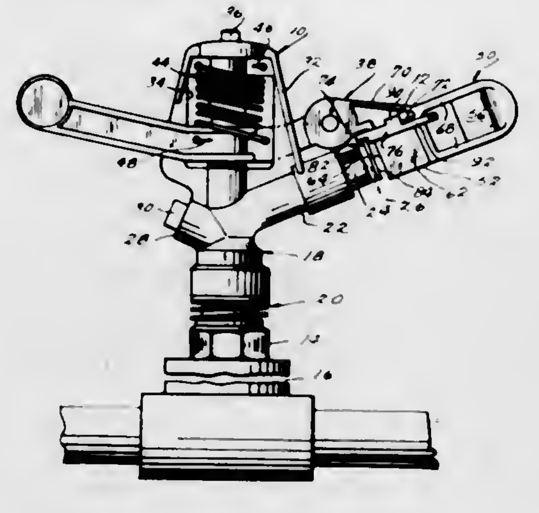
Lawrence C. Rennie, Johannesburg, Transvaal, Republic of South Africa, assignor to Rand Mines Limited, Johannesburg, Transvaal, Republic of South Africa
Filed Mar. 21, 1966, Ser. No. 535,997
3 Claims. (Cl. 239—113)



The body of the spray gun has two concentric liquid discharge nozzles and a concentric air discharge nozzle. There is a manually operated valve assembly in the body having two terminal positions. The body further has independent liquid and air feed passages extending between each inlet and corresponding nozzle. The valve assembly, in one terminal position, connects the liquid inlets to the corresponding discharge nozzle through the independent liquid and air feed passages, and in the other terminal position closes both liquid inlets and automatically connects the air inlet to both liquid feed passages and air feed passage. The body further has a separate and independent manually controlled air inlet valve which maintains the air inlet open throughout the spraying operation.

3,375,979
CLIP-ON ATTACHMENT FOR THE IMPULSE ARM OF STEP-BY-STEP ROTARY SPRINKLERS

Wilbur H. Busker, Bartonville, and Donald W. Parker, Peoria, Ill., assignors to L. R. Nelson Mfg. Co., Inc., Peoria, Ill., a corporation of Illinois
Filed June 27, 1966, Ser. No. 560,588
10 Claims. (Cl. 239—230)



1. In combination, a sprinkler of the type including a step-by-step rotatable sprinkler body having a water discharge outlet therein,

an impulse arm mounted for oscillating movement with respect to said sprinkler body,

spring means resiliently biasing said arm for movement in one direction into a limiting position with respect to said sprinkler body,

said arm having a section disposed in the path of a stream of water issuing from said sprinkler body outlet when said arm is disposed in said limiting position shaped so that the water impinging thereon will effect a movement of said arm in the opposite direction away from said limiting position,

interengaging means acting between said arm and said sprinkler body operable during repeated oscillating movements of said arm as a result of the operation of said arm section and spring means in response to a continuous stream of water issuing from said outlet to effect repeated step-by-step rotary movements of said sprinkler body, and

an attachment for covering the exterior of said sprinkler body outlet when no stream of water is issuing therefrom to prevent insects and the like from entering said outlet and nesting within said sprinkler body to clog the same, said attachment comprising

a mounting member mounted in operatively attached position on said arm, said mounting member being mounted in said operatively attached position by movement in one direction from an initial attaching position,

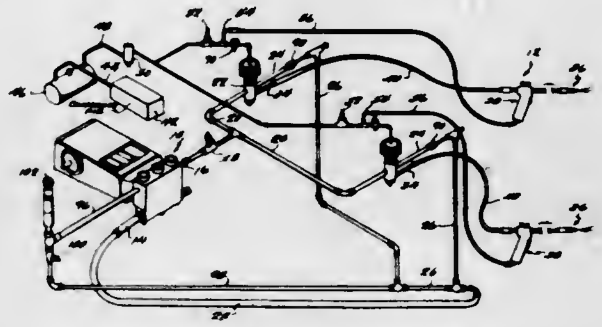
said mounting member including a resilient locking portion movable in a direction transverse to said one direction yieldingly out of a normally biased position during the movement of said mounting member in said one direction from said initial attaching position toward said operatively attached position and operable to resiliently move into its normally biased position in response to the movement of said mounting member to said operatively attached position,

said mounting member and said locking portion including abutment surfaces engaging said arm to positively prevent movement of said mounting member with respect to said arm in all directions, and

an outlet covering flap carried by said mounting member in a position to be disposed closely adjacent the exterior of said outlet when said arm is disposed in said limiting position so as to prevent ingress of insects and the like through said outlet when no stream is issuing from said outlet, said flap being movable out of covering relation to said outlet by a stream of water issuing from said outlet so as to permit said stream to impinge upon said arm portion and effect the aforesaid repeated oscillating movements of said arm.

3,375,980
WATER BLAST CONTROL SYSTEM

Jack F. Hinrichs, Houston, Tex., assignor to Hydro-Services, Incorporated, Missouri City, Tex., a corporation of Texas
Filed July 21, 1966, Ser. No. 566,917
5 Claims. (Cl. 239—411)

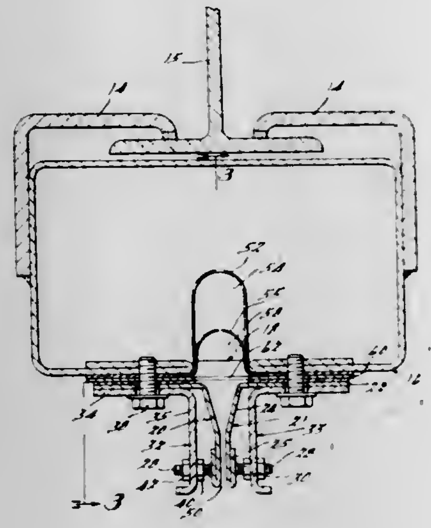


1. An improved system for discharging a fluid under pressure comprising a blasting gun having discharge nozzle means and pneumatic control means incorporated in said gun, first conduit means adaptable to deliver said fluid to said nozzle means from a source of said fluid remote from said nozzle means, second conduit means adaptable to bypass said nozzle means, said first and second conduit means in fluid communication with valve means remote from said gun and adaptable to be actuated by said pneumatic control means incorporated in said gun whereby said valve means is selectively positioned to deliver fluid under pressure from said source to said first and second conduits, said second conduit provided with an orifice nozzle having a discharge opening substantially equal to that of said discharge nozzle of said blasting gun, third conduit means adaptable to deliver pneumatic pressure to said gun and fourth conduit means adaptable to bypass said gun and deliver said pneumatic pressure to said valve means on actuation of said pneumatic control means incorporated in said gun.

3,375,981
APPARATUS FOR CLEANING AND INHIBITING CORROSION IN AIR PREHEATERS AND THE LIKE

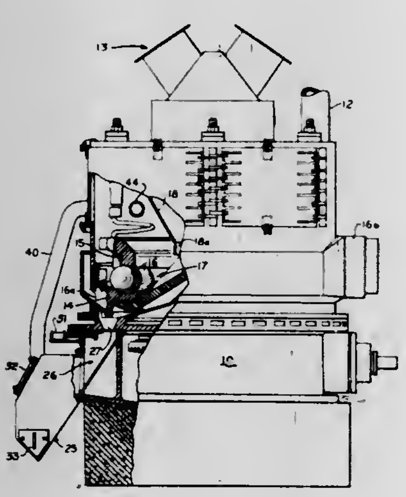
Julian W. Keck, 2520 San Domingo St., Coral Gables, Fla. 33134
Filed Nov. 19, 1965, Ser. No. 508,803
2 Claims. (Cl. 239—553.3)

A device for dislodging fouling materials from the interstices of an air preheater by discharging liquid in a flat sheet having accurately defined stable margins is constructed as a rectangular tube having an inlet at one end and a continuous discharge slot along the bottom. The effective width of the slot is controlled by adjustably distortable gates projecting along its margins. A pair of perforated screens bridge the slot and are arched inwardly into the body in spaced relationship to each other. The perforations in the screens turn the longitudinally flowing liquid 90° and direct it downwardly through the slot, so that the downward flow through the slot is virtually unaffected by horizontal forces resulting from the velocity head in the body. The gates are protected by anchoring angle irons which project from the body in parallel relation to and farther than the gates.



3,375,982
METHOD AND SYSTEM FOR REDUCING COAL LOSSES AT PYRITE TRAPS OF A COAL PULVERIZER

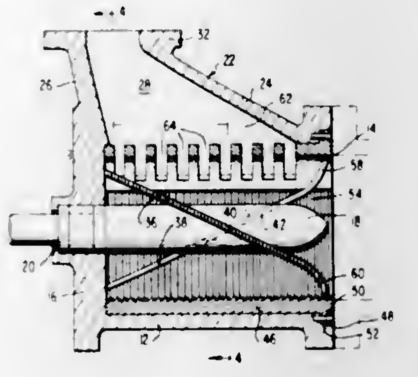
Richard S. Lease, 24 Evans Heights, Gallipolis, Ohio 45631
Filed June 17, 1966, Ser. No. 558,321
11 Claims. (Cl. 241—19)



11. The method of pulverizing material such as coal or the like which comprises subjecting it to a milling means under the influence of an air stream which carries the lighter particles toward a discharge zone of lesser pressure and permits the heavier particles to drop with some lighter particles in a zone of higher pressure, and recirculating the last-named lighter particles from the zone of higher pressure to the zone of lower pressure and returning them to the milling means.

3,375,983
ROTARY PUMP

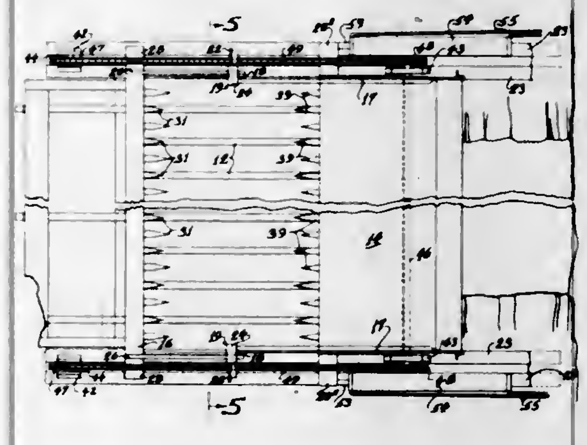
Ulrich C. von Eiff, Malintzin 34–B, Coyoacan, and Angel Lira Ugalde, Oruro 40, Col. Lindavista, both of Mexico City, Mexico
Filed Oct. 15, 1965, Ser. No. 496,370
Claims priority, application Mexico, Oct. 24, 1964, 79,482
17 Claims. (Cl. 241—46)



A pump having a tubular casing defining an inlet at one end and adding an outwardly convergent tangential outlet passage slanting away from the inlet in cooperation with a concentric shaft having a plurality of essentially flat blades fixed obliquely from the shaft to sweep the interior of the casing. The blades are laterally bent at one or both ends. The pump is particularly adapted for conveying liquids containing solid and semi-solid materials and particularly relates to a new and novel rotary pump for the conveyance of thick pulps, effluents containing fibrous materials, thick slurries, various pastes and liquids containing solid or semi-solid matter with or without simultaneous comminution of the matter in the liquid.

3,375,984
LUMP CRUSHER AND FEEDER

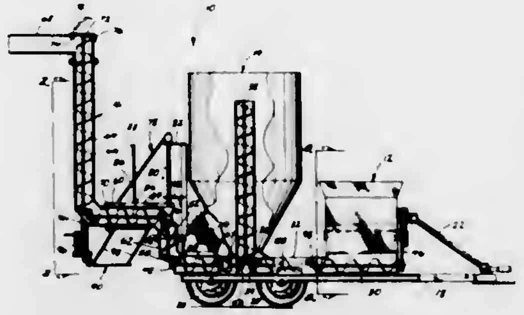
Davis B. Robbins, P.O. Box 2664, Birmingham, Ala. 35202
Filed Oct. 22, 1965, Ser. No. 501,507
5 Claims. (Cl. 241—69)



A lump crusher and feeder having a grizzly with a pair of oppositely disposed crusher members mounted superjacent the grizzly. Means is provided to move the crusher members toward and away from each other to engage opposite sides of lumps. Vertically spaced spikes facing each other are carried by the crusher members with the lowermost spikes projecting beyond the uppermost spikes.

3,375,985
FEED GRINDING, MIXING AND DISPENSING MACHINE

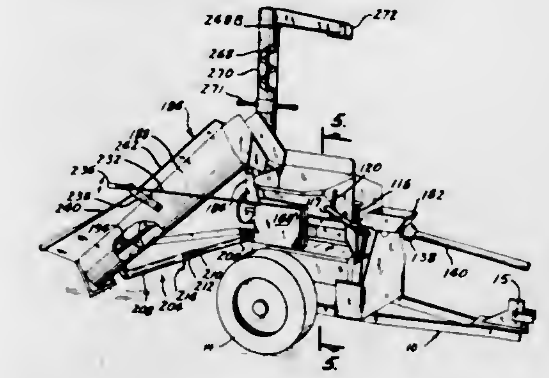
John N. Dodgen and Kenneth R. Johnson, Humboldt, Iowa, assignors to Dodgen Industries, Inc., Humboldt, Iowa, a corporation of Iowa
Filed July 14, 1965, Ser. No. 471,871
16 Claims. (Cl. 241—98)



A feed mixing apparatus having a feed grinder at one end of a frame and a discharge unit at the opposite end of the frame, a feed mixer positioned between the grinder and the feed discharge unit and an auger conveyor interconnecting the grinder with the feed mixer and a second auger conveyor interconnecting the mixer with the discharge unit. Each of the auger conveyors transmitting power therethrough and being independent of any external power transmission means. An auger conveyor may be positioned between the two conveyors and within the feed mixer chamber and being driven by the auger conveyor communicating with the feed grinder.

3,375,986
ROLLER MILL

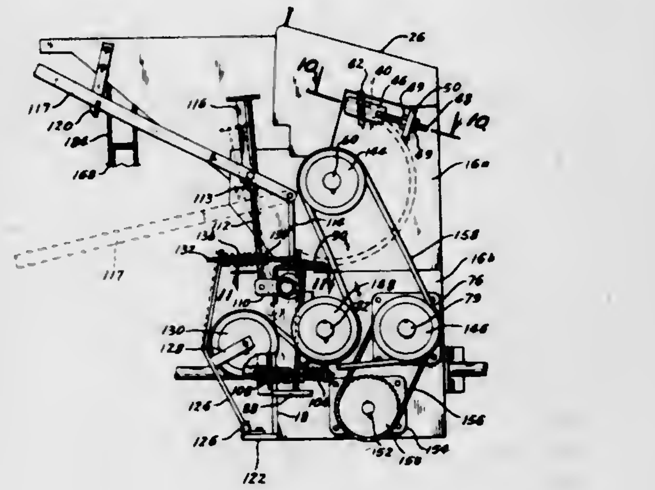
Joe W. Dodgen, Kenneth R. Johnson, and Merton D. Snapp, Humboldt, Iowa, assignors to Dodgen Industries, Inc., Humboldt, Iowa, a corporation of Iowa
Original application Nov. 20, 1963, Ser. No. 325,117, now Patent No. 3,194,288, dated July 13, 1965. Divided and this application May 3, 1965, Ser. No. 452,688
2 Claims. (Cl. 241—222)



A material conveyor and power transmission device in a roller mill having a compartment with means therein for crushing feed substances, a horizontal auger shaft in the compartment connected to an elbow tube rotatably secured to the compartment and receiving one end of the auger shaft, a second auger tube secured to the elbow tube and extending at right angles to the horizontal auger, a second auger shaft in the auger tube and a compartment in the elbow tube, a gear means in the compartment of the elbow tube and extending into the elbow tube for connection to the auger shaft, a second elbow tube being identical and interchangeable with the first elbow tube and being rotatably secured to the outer end of the auger tube, and a material passageway extending through the elbow tube past the compartment. The gear means in the compartment of the elbow tube includes stub shafts co-axially disposed within the auger tubes and having squared ends received in complementary shaped sockets on the auger shafts and meshing beveled gears on the stub shafts within the elbow tube compartments. A flipper bar may be mounted on the socket of the auger shaft.

3,375,987
ROLLER MILL

Joe W. Dodgen, Kenneth R. Johnson, and Merton D. Snapp, Humboldt, Iowa, assignors to Dodgen Industries, Inc., Humboldt, Iowa, a corporation of Iowa
Original application Nov. 20, 1963, Ser. No. 325,117, now Patent No. 3,194,288, dated July 13, 1965. Divided and this application May 3, 1965, Ser. No. 452,742
2 Claims. (Cl. 241—232)



A roller mill having a vertical compartment with parallel disposed rolls rotatably mounted in the lower portion of the compartment, support means for at least one of the rolls whereby the roll is laterally movable with respect to the other roll, a first control means secured to the movable roll to move the roll from an operative to an inoperative position with respect to the other roll, and a second control means on the first control means to limit the operative position of the movable roll when the first control means moves the movable roll to its operative position with respect to the other roll.

3,375,988
FIGURE 8 COIL WINDER

Karl V. Hude and William J. Powers, Jr., Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Sept. 26, 1966, Ser. No. 581,889
3 Claims. (Cl. 242—1)

1. A figure 8-coil winder comprising:

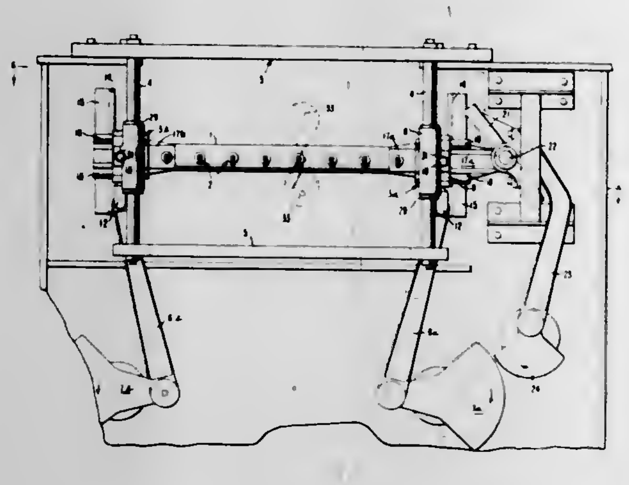
(a) two pairs of stationary vertically aligned, guide members;

(b) a three-way joint slidably mounted on each of said pairs of guide members, each said joint comprising a generally U-shaped yoke, the two arms of which are respectively mounted on the guide members for vertical movement, and a saddle member positioned between and carried by the arms of the yoke, and mounted therein for lateral movement in a horizontal plane, said saddle member having a passage therethrough which extends in a direction normal to said lateral movement;

(c) a rigid horizontal crossbar on which are mounted a plurality of substantially horizontally spaced and aligned wire feed shuttes, and an extension means at each end of the crossbar, slidably journaled in the passage through the respective saddle members;

(d) drive means connected to each three-way joint for simultaneously, vertically reciprocating said joints, thereby vertically reciprocating the crossbar while maintaining its horizontal disposition;

(e) rocker means connected to the extension means at one end of the crossbar for twice reciprocating the



crossbar in a horizontal direction during each of its vertical reciprocations; and

(f) cam means opertaively associated with each saddle member for displacing the crossbar in a horizontal direction normal to the crossbar's longitudinal axis, said displacement reaching a maximum at about the middle of the crossbar's vertical movement.

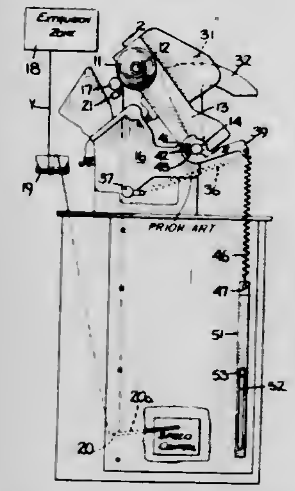
3,375,989

WINDING DEVICE

James M. League, Cumberland, Md., assignor to Celanese Corporation, a corporation of Delaware

Filed July 20, 1965, Ser. No. 473,370

2 Claims. (Cl. 242—18)



An apparatus and method for winding yarn onto a rotating package mounted on a pivoted, counterbalanced support wherein a spring is used to counterbalance the pressure exerted between the windings on a bobbin and an idler roll in contact therewith wherein the spring exerts a counterbalancing force along a line which moves through an arc of not more than about 5 degrees during the movement of the rotating package from the empty to fully wound position while increasing the pressure exerted on the idler roll as the yarn package increases in diameter, thereby decreasing the yarn tension and relaxing the spring counterbalancing force.

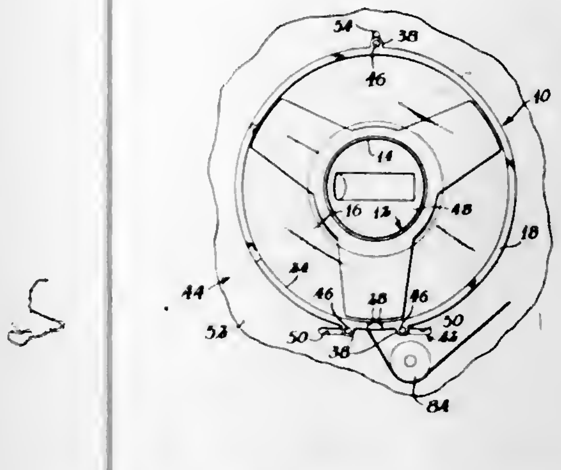
3,375,990

REEL COVER AND APPARATUS FOR MOUNTING ON A REEL

Arnold P. Hultgren, River Forest, Ill., assignor to Amerline Corporation, Chicago, Ill., a corporation of Illinois

Filed July 6, 1965, Ser. No. 469,401

25 Claims. (Cl. 242—55.13)



A reel cover and apparatus for selectively moving the cover in and out of engagement with the flanges of the reel. The apparatus and the cover include cooperating means which cause the cover to move in and out of engagement with the reel flanges. The inner periphery of the reel cover is always maintained in alignment with the outer periphery of the reel flanges both in the open and closed position. In the closed position, dust sealing relationship is provided between the reel and the cover; and in the open position, while on a computer machine or the like, the dust sealing inner periphery of the cover is separated from but aligned with the outer periphery of the reel flanges.

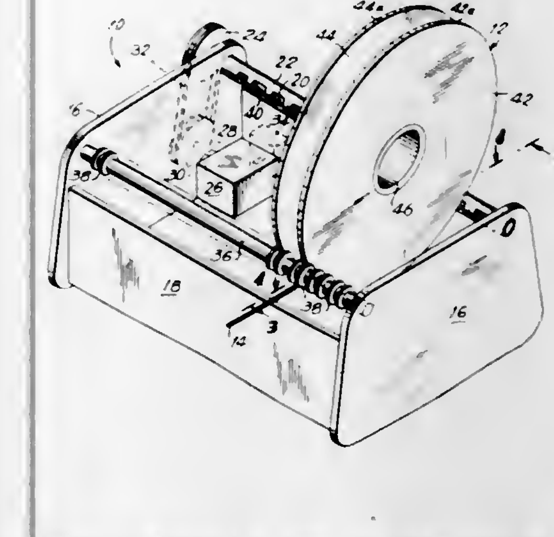
3,375,991

MULTIPLE SPOOL WIND-UP DEVICE

Arthur R. Conforti, 860 Duncan Drive, Westbury, N.Y. 11590, and Edward Conforti, 153 India St., Greenpoint, Brooklyn, N.Y. 11222

Filed Mar. 18, 1966, Ser. No. 535,539

1 Claim. (Cl. 242—66)



A wind-up device for one or more spools which are straddled between a drive shaft which, when rotated, drives the spools in rotation and a support shaft having thereon rotatable idler members for each spool such that the spools can be rotated at different speeds. These different speeds may unavoidably result from the different drag resistances of the materials being wound on the spools.

3,375,992

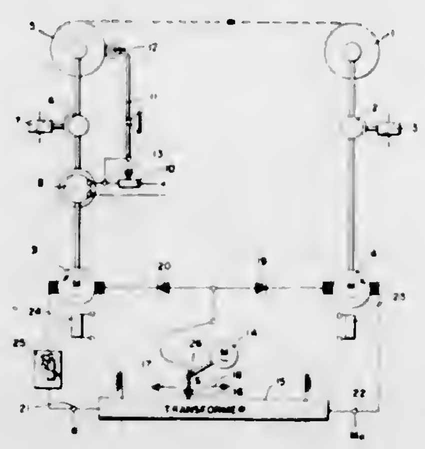
APPARATUS FOR THE BEAMING AND WINDING OF THREAD BOLTS AND MATERIAL WEBS

Friedrich Garske, Wuppertal-Oberbarmen, Germany, assignor to J. P. Bemberg Aktiengesellschaft, Wuppertal-Oberbarmen, Germany

Filed Feb. 4, 1966, Ser. No. 525,245

Claims priority, application Germany, Feb. 4, 1965, B 80,371

5 Claims. (Cl. 242—75.51)



Winding and unwinding of thread bolts and material webs in which a constant thread tension is maintained utilizing two motors or motor groups which are coupled to one another in such a way that the turning speed difference produced from the speed of the thread bolt between the drive part of a coupling and the driven part of the coupling is kept within the limits in which the coupling presents a range of constant or approximately constant torque.

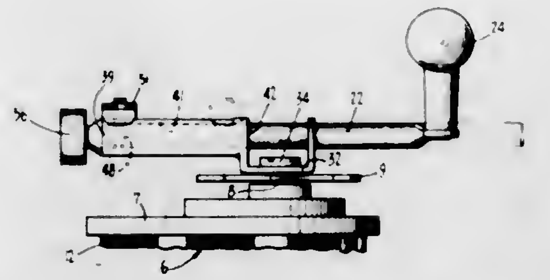
3,375,993

ADJUSTABLE CRANK MECHANISM FOR FISHING REELS

Maurice S. Hayes, 22142 Thelma St., Hayward, Calif. 94541

Continuation-in-part of application Ser. No. 446,354, Apr. 7, 1965. This application Feb. 15, 1966, Ser. No. 527,469

8 Claims. (Cl. 242—84.1)



1. An adjustable crank mechanism for a fishing reel having a spool and a shaft provided with an internally threaded end portion extending axially outwardly of said spool, comprising an adaptor member having a flat web provided with an aperture therein of a size and shape to receive said end portion of the shaft with said web extending diametrically of the shaft axis, a flange extending upwardly from one end of said web and substantially normal thereto on one side of said web aperture and provided with an arm-receiving aperture, a longitudinally extending arm having a handle adjacent an end thereof slidably mounted in said flange aperture in intersecting perpendicular relationship to the axis of said shaft and movable between a first position wherein said handle is at a maximum distance from said axis and a second position wherein said handle is at a minimum distance from said axis, said arm being disposed in parallel spaced relation to said web and in spaced relation to said shaft to form chamber means for receiving therein the head of an adaptor mounting screw positioned between said web and said arm when the shank of such screw engages the threaded end portion of said shaft, said adaptor member including supporting means adjacent the other end of said web and on the other side of said web aperture for supporting said arm as the arm is moved through the flange aperture, and securing means interconnecting said supporting means and said arm for releasably holding said arm in said first and second positions of arm movement and at selected arm positions therebetween.

3,375,994

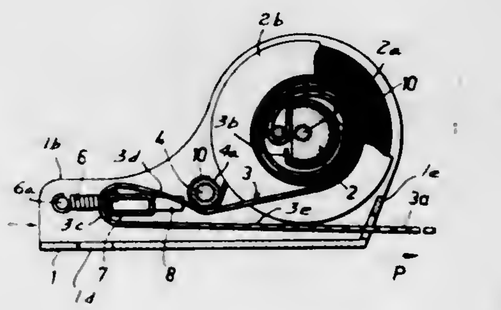
WINDING DEVICE FOR SAFETY BELTS AND THE LIKE

Guenther Wohlert, Hamburg-Wandsbek, Wolfgang Wolff, Hamburg-Rahlstedt, and Per-Olof Weman, Hamburg-Garstedt, Germany, assignors to Sigmatex AG, Basel, Switzerland

Filed Mar. 22, 1966, Ser. No. 536,448

Claims priority, application Germany, Mar. 23, 1965, S 96,122

7 Claims. (Cl. 242—107.2)



An improved automatic winding device which can collect or reel up safety belts of the type used in automotive vehicles or analogous elongated flexible elements to store them on a reel or another suitable takeup and which is provided with automatic locking or blocking means to prevent unwinding of convoluted material off the takeup when such unwinding is not desirable or harmful.

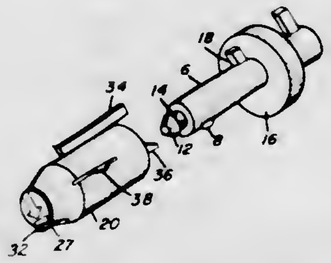
3,375,995

SPINDLE ADAPTER

Robert J. Roman, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed June 24, 1966, Ser. No. 560,233

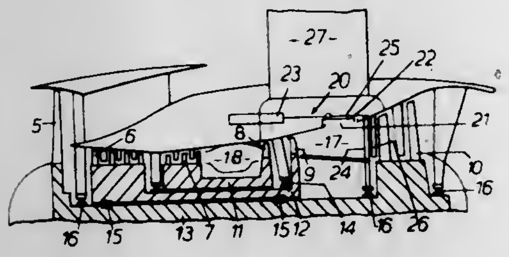
6 Claims. (Cl. 242—68.3)



A spindle adapter for a spindle adapted to drivingly support a reel having a center opening of one size; the adapter when mounted on the spindle cooperating therewith to drivingly support a reel having a center opening of a larger size.

3,375,996
GAS TURBINE ENGINES

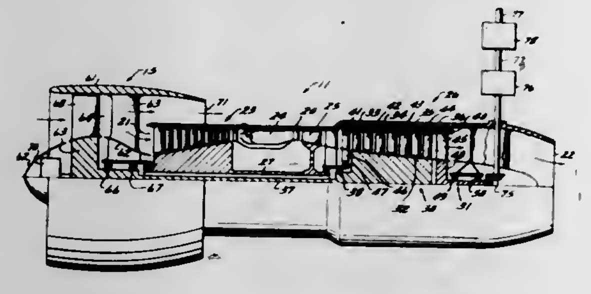
Geoffrey L. Wilde, Turnditch, Cowers Lane, England, assignor to Rolls-Royce Limited, Derby, England, a British company
Filed Feb. 16, 1967, Ser. No. 616,629
Claims priority, application Great Britain, July 12, 1966, 31,208/66
7 Claims. (Cl. 244—7)



A by-pass gas turbine jet propulsion engine for a helicopter, the engine having a fan driven by a fan turbine axially spaced from and disposed downstream of the low pressure turbine of the engine and having a valve which either allows the engine gases to pass to the fan turbine to drive the fan for forward propulsion, or deflects the engine gases to drive the helicopter rotor for vertical takeoff.

3,375,997
COMPOUND AIRCRAFT AND PROPULSION SYSTEM

William Bruce Gist, Jr., Lynnfield, Mass., assignor to General Electric Company, a corporation of New York
Filed June 10, 1966, Ser. No. 556,672
6 Claims. (Cl. 244—17.11)

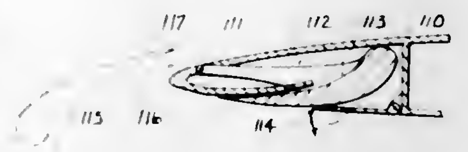


A gas turbine powerplant having a pair of power turbine rotors each connected to an independent power output means. One of the power turbine rotors drives a horizontal thrust producing means, such as a bypass fan, and the other power turbine rotor drives a vertical thrust producing means, such as a helicopter rotor assembly. The power turbine rotors each have a plurality of axially spaced rows of turbine buckets, the rows of the first rotor being interdigitated with the rows of the rows of the second rotor causing the two rotors to rotate in opposite directions. Proportioning means control the relative amounts of power supplied to the horizontal and vertical thrust producing means. The proportioning means include braking means for controlling the rotation of at least one power turbine rotor.

3,375,998
LEADING EDGE FLAP AND APPARATUS THEREOF

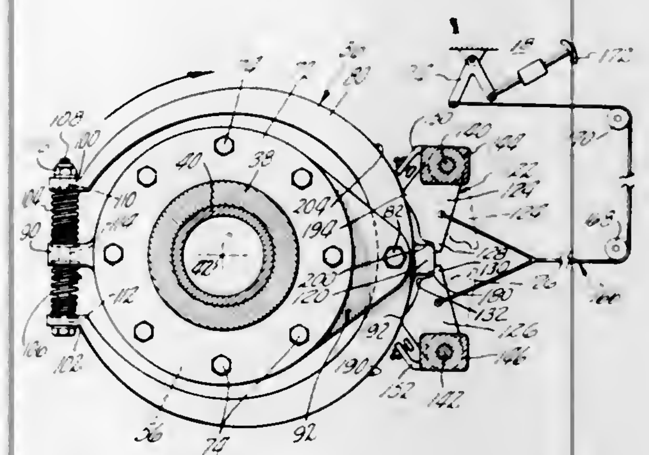
Alberto Alvarez-Calderon, Palo Alto, Calif. (Av. Salaverry 3463 Orrantia, Lima, Peru)
Filed Apr. 16, 1962, Ser. No. 187,903
5 Claims. (Cl. 244—42)

1. A wing having a leading edge portion, an upper surface and a forward lower surface and a leading edge flap mounted on said wing by means of a bracket fixedly attached to said flap and pivoted to said wing at a single hinge axis adjacent and approximately parallel to said leading edge, with said flap being a streamlined body and having a thin spanwise edge and a rounder spanwise edge and means for moving said flap between a first inverted position in which said flap is faired adjacent to said lower surface and is disposed below said upper surface of said wing with its thin edge adjacent to said leading edge portion and its rounded edge trailing said thin edge and said leading edge portion, and a second upright position in which said flap is substantially in front of and downwardly inclined with respect to said leading edge portion of said wing and in which the undersurface of said flap in said second position adjacent to said thin edge of said flap is spaced from the leading edge portion of said wing to define converging slot walls therebetween for fluid flows upwardly through said slot; said leading edge flap being further characterized by having a camber greater than that of the said leading edge portion of said wing, with said leading edge flap in said first position having its said thin spanwise edge contiguous to a portion of said forward lower surface and its said rounded edge contiguous to a portion of said upper surface of said wing leading edge portion.



3,375,999
AUTOMATICALLY RELEASABLE AND RE-ENGAGEABLE AIRCRAFT WHEEL ANTI-SWIVELLING LOCK MECHANISM

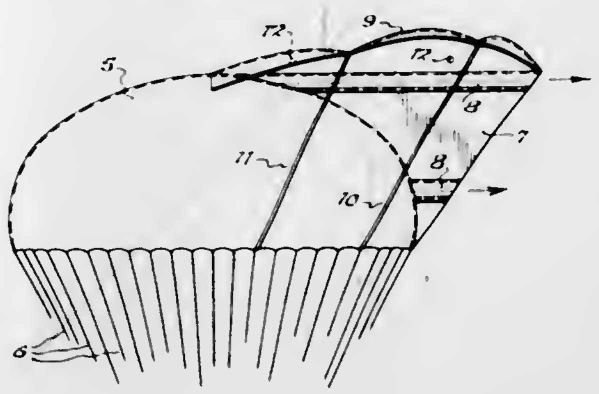
Jean P. Labrecque, Stratford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Apr. 6, 1966, Ser. No. 540,723
18 Claims. (Cl. 244—50)



A releasable lock mechanism for a castoring wheel which includes two members which are mounted to castor with the wheel and which are movably connected to each other and which carry a projection receivable in a moveable detent so that with the projection secured in the detent the wheel is locked against castoring motion until the side load imparted to the wheel is sufficient to cause the two members to move relative to one another and thereby force the detent mechanism out of engagement with the projection to thereby free the wheel for castoring motion.

3,376,000
DIRECTIONALLY STABLE PARACHUTE

Sigmund P. Rose, 25—03 Steinway St., Astoria, N.Y. 11102
Filed July 6, 1967, Ser. No. 651,602
6 Claims. (Cl. 244—152)

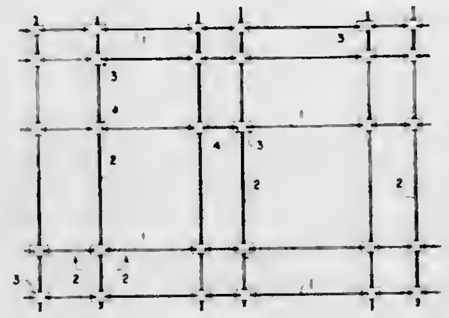


This invention is directed to a parachute provided with an external radial fabric fin having a wing-like fabric stabilizer along its upper edge.

The fin is provided with a pair of spaced parallel ducts that are stiffened by the passage of air from within the canopy; and restraining tapes extend from the lateral edges of the stabilizer to the periphery of the canopy in its immediate vicinity to prevent abnormal upward deformation of the stabilizer.

3,376,001
MESH WITH VARIABLE SPACES

André Wieme, Zwevegem, Belgium, assignor to Trefileries Leon Bekaert, SPRL, Zwevegem, Belgium
Filed Apr. 9, 1965, Ser. No. 446,881
Claims priority, application Netherlands, Apr. 15, 1964, 64—4,052
3 Claims. (Cl. 245—3)

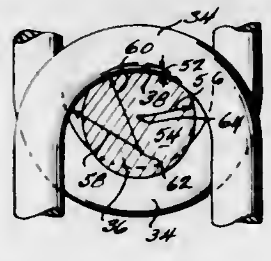


Wire mesh consisting of vertically and of horizontally oriented wires, connected at the intersecting points by elastically flexible strips in such manner that the wires may be laterally shifted.

3,376,002
CONNECTING BAR

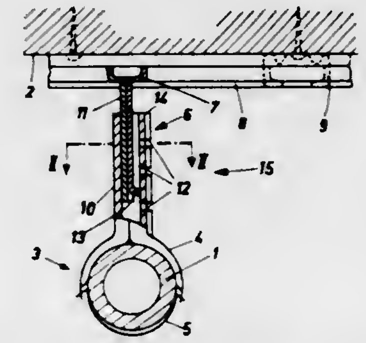
Donald E. Andrews, Cambridge, Md., and Richard C. Carmean, Deerfield, Mich., assignors to Cambridge Wire Cloth Company, Cambridge, Md., a corporation of Maryland
Filed Mar. 5, 1965, Ser. No. 437,439
17 Claims. (Cl. 245—6)

A connecting bar for connecting adjacent intermeshed transversely disposed spirals of a woven wire conveyor belt including a rod having a seat means of varying depth cut transversely therein for receiving the arcuate vertices of the convolutions of adjacent spirals, the seat means having longitudinal axis which is arcuate in longitudinal profile and which intersects opposite transverse sides of the rod.



3,376,003
PIPE CLAMP

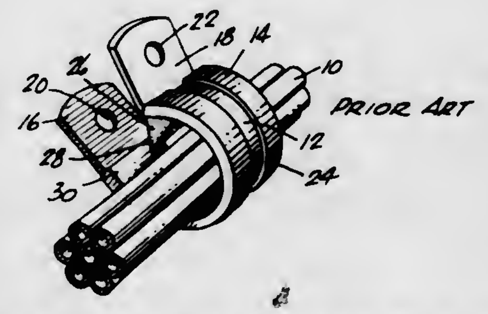
Hans Zimmermann, Langentalstrasse 60–66, Geislingen an der Steige, Germany
Filed Nov. 29, 1965, Ser. No. 510,173
Claims priority, application Germany, Dec. 1, 1964, L 11,206
7 Claims. (Cl. 248—59)



A pipe clamp having a radially extending hanger adapted to be connected to a supporting surface. The hanger includes a pair of support parts which are telescopically positioned one within the other and, in the normal condition thereof, are relatively movable one within the other. The one support part is provided with apertures therein while the other support part is provided with a fastening projection adapted to be received within one of said apertures. Deformation of one of said parts causes the projection to be received within one of the apertures for fixedly fastening said first and second parts relative to each other.

3,376,004
SNAP CLAMP

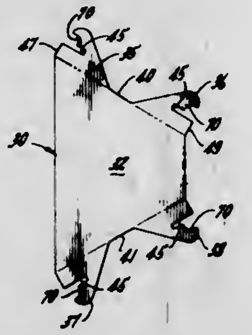
Israel Goldman, Los Angeles, Calif., assignor, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
Filed June 16, 1966, Ser. No. 558,011
7 Claims. (Cl. 248—74)



A snap clamp especially adapted for use in the retention and support of tubing, rods, or a plurality of electrical wires. An integral locking device consisting of a bridge struck from one end of the clamp and an engageable tongue extending from the other end, when engaged, retain these items within the clamps independently of its mounting to a support.

3,376,005
ELECTRICAL BOX MOUNTING CLIP FOR USE WITH METAL STUDS

Wesley W. Swanquist, Oswego, Ill., assignor to All-Steel Equipment, Inc., a corporation of Illinois
Filed Aug. 20, 1965, Ser. No. 481,323
5 Claims. (Cl. 248—223)

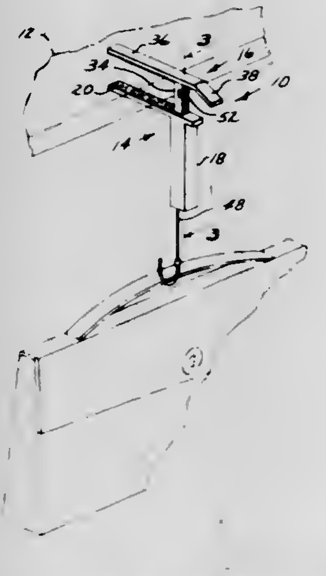


The present invention relates to a mounting arrangement for boxes such as electrical outlet boxes, junction boxes, and other such housings and equipment.

The bracket, which is the subject matter of this application, is capable of interchangeable use with either channel or wire-type studding, both of which enjoy substantial use in the building trade at this time. The invention takes advantage of the inherent flexibility of these types of studding, by providing pairs of rigid ears which are constructed and arranged to be pressed onto the studding and provide a gripping pressure to hold the box to the stud.

3,376,006
SUSPENSION CLAMP DEVICE

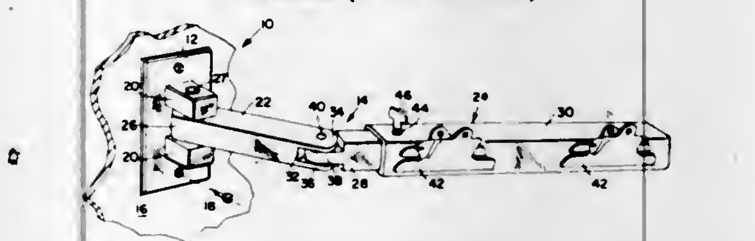
Mary Zezula, 889 E. Monterey, Pomona, Calif. 91766
Filed Sept. 19, 1966, Ser. No. 580,253
11 Claims. (Cl. 248—227)



1. A suspension clamp device comprising:
a first member having a first clamping jaw extending therefrom,
a second member in slidable relation with the first member and having a second clamping jaw extending therefrom,
pulley means on the second member,
and a cord extending from a point of attachment on the first member upwardly about said pulley means and downwardly therefrom with a depending end portion,
whereby upon suspension of an article from said depending cord end portion the first and second clamping jaws are urged toward each other to clamp about a support to suspend the article from the support.

3,376,007
HOLDING DEVICE

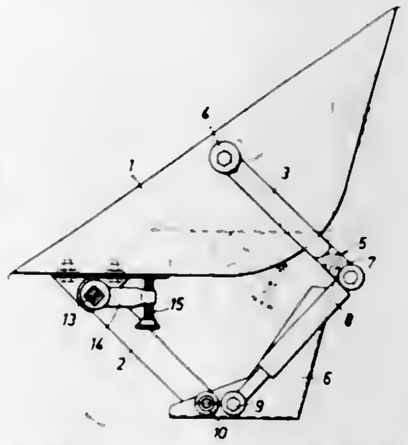
James I. Chesterley, Nashua, N.H., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed Jan. 28, 1966, Ser. No. 523,701
3 Claims. (Cl. 248—282)



A holding device for display pads having a mounting block, an arm member pivotally attached to the mounting block, the arm assembly including a plurality of sections arranged in telescoping relationship to selectively vary the length of the arm, clamping means connected to the arm assembly for holding a display pad.

3,376,008
MOVABLE VEHICLE SEAT

Arnold Tschursch, Bruckmuhl-Hinrichsegen, Germany, assignor to Georg Fritzmeier KG., Grosshelfendorf uber Munich, Germany
Filed Dec. 2, 1966, Ser. No. 598,810
Claims priority, application Germany, Dec. 6, 1965, F 47,849
6 Claims. (Cl. 248—376)

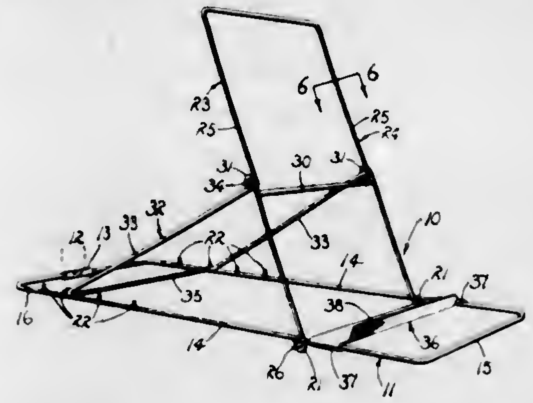


1. A vehicle seat including support means, a seating member and means movably to connect said seating member to said support means, said connecting means comprising a lever pivotally mounted at its one end to the lower end of said support means and at its other end to a lower portion of said seating member, a linkage member pivotally mounted at its one end to the upper end of said support means and at its other end to an upper portion of said seating member, said linkage member extending substantially in parallel to said lever at least when said seating member is in a lower first position, spring means fixedly coupled at its one end to said other end of said lever and abutment means fixedly mounted to the other end of said spring means for engagement with said seating member to prevent free downward movement thereof with respect to said lever in said lower first position but to permit free upward movement of said seating member.

3,376,009
READING STAND

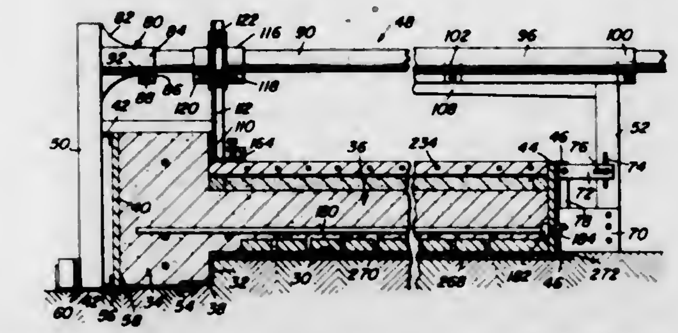
John A. Domino, 5283 E. Huntington Blvd., Fresno, Calif. 93702
Filed June 21, 1966, Ser. No. 559,287
1 Claim. (Cl. 248—456)

A stand for supporting reading materials and the like providing a wire base having a substantially rigid wire back support pivotally mounted thereon and a brace pivotally mounted on the back support and adjustably engageable with the base to hold the back support in selected angular positions, and a material supporting trough adjustably removably mounted on the base for dependably clamping materials against said back support.



3,376,010
FORMING APPARATUS

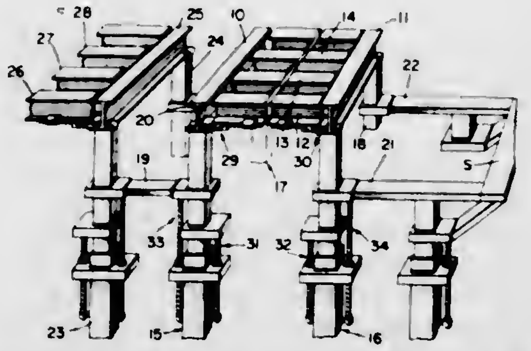
Wilbur V. Myer, Rte. 4, c/o Bolton, Sallisaw, Okla. 74955
Filed May 11, 1965, Ser. No. 454,950
19 Claims. (Cl. 249—13)



Apparatus for forming poured concrete walls including a horizontal casting table and form boards in wall defining relationship thereabout. A plurality of adjustable clamping units overlie the casting table and engage the top and foot form boards for retaining the position thereof. An adjustable shoulder form is mounted on the clamping units so as to define, in conjunction with an offset in the casting table, the opposed footing shoulders from which the wall itself extends.

3,376,011
CONCRETE SHORING APPARATUS

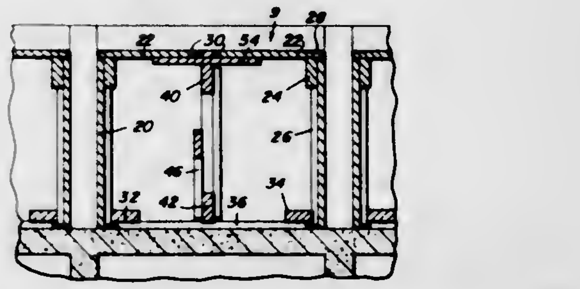
Joseph Petchuk, 2227 Midvale Ave., Los Angeles, Calif. 90064
Filed Aug. 4, 1965, Ser. No. 477,171
3 Claims. (Cl. 249—28)



A concrete shoring apparatus is provided in the form of horizontal span support members running in parallel relationship and including span support cross pieces extending between the members at right angles. The members are supported on vertical legs which are adjustable in height and there is included coupling means enabling the lowering of the cross pieces without affecting the support members so that after partial curing of concrete shored by the apparatus, the forms may be stripped. The shoring apparatus can then be reused. Also included are beam support cross pieces whose level may be controlled by suitable coupling to the vertical legs without affecting the level of the main support members. This structure enables the beams to be stripped at the same time the span forms are stripped the same legs serving the dual function of supporting the beam support pieces and principal support members for the span.

3,376,012
FORM FOR BURIAL CRYPTS

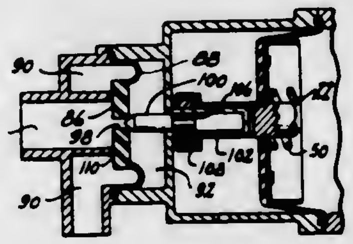
Hal L. Grammer, 5045 N. 12th St., Suite 128, Phoenix, Ariz. 85014
Filed Apr. 1, 1965, Ser. No. 444,590
9 Claims. (Cl. 249—146)



A collapsible form including a pair of opposed side members, each having an inwardly directed top panel which is selectively engaged by an elongated central truss. The central truss includes a top member which is received between the top panels of the side members so as to maintain the side members in position. The truss is vertically collapsible so as to withdraw the member thereon from between the side member top panels and enable an inward falling of the side members so as to effectively collapse the form for removal from a formed enclosure.

3,376,013
MECHANISM FOR DELIVERING PREDETERMINED FLUID QUANTITIES

Lawrence George Mallett, Walled Lake, Mich., assignor to American Standard Inc., a corporation of Delaware
Filed Mar. 12, 1965, Ser. No. 439,255
6 Claims. (Cl. 251—38)



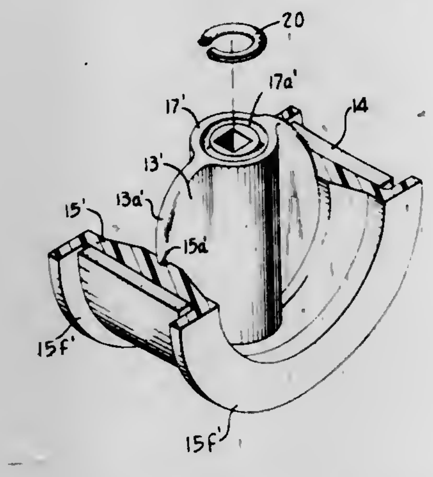
The invention contemplates a liquid flow valve which can be manually drawn open rather quickly, but which can then only close rather slowly under the control of an air dashpot mechanism. The rate of valve closing (dashpot movement) is controlled by a manually adjustable metering valve element which controls the admission of air into the dashpot chamber. Power for the dashpot movement is provided by a spring mechanism which is loaded incident to manual opening of the liquid valve.

3,376,014
REPLACEABLE SUBSTANTIALLY RIGID FLUOROCARBON RESIN VALVE UNIT FOR USE IN BUTTERFLY VALVES

Frederick Henry Buckley, Woodstown, N.J., and Joseph David Lengyel, Newark, Del., assignors, by mesne assignments, to Garlock Incorporated, Palmyra, N.Y., a corporation of New York

Filed Mar. 9, 1965, Ser. No. 438,181

3 Claims. (Cl. 251—306)



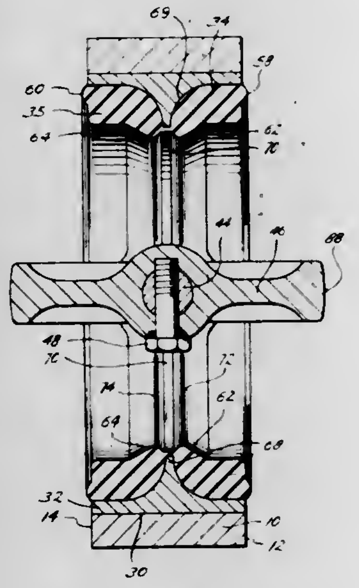
A butterfly valve device having a replaceable resilient backed substantially rigid fluorocarbon resin valve liner and a pivoted fluorocarbon resin encapsulated butterfly disc.

3,376,015
HIGH PRESSURE DISC VALVE

Earl R. Forsman and Samuel S. Clark, Houston, Tex., assignors to Keystone Valve Corp., Houston, Tex., a corporation of Texas

Filed Nov. 25, 1964, Ser. No. 413,873

24 Claims. (Cl. 251—306)



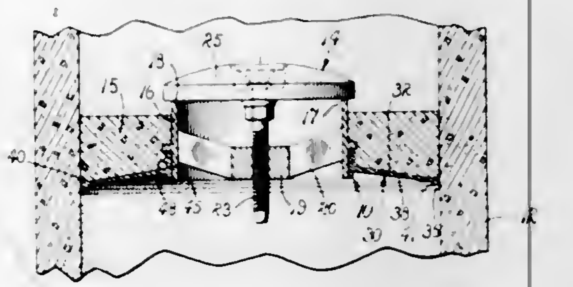
The embodiment disclosed is a two-way, high pressure butterfly valve. The valve body slidably receives a seat assembly with a rigid outer base and an inwardly extending flange aligned with and slightly clearing the disc when closed, and resilient seat members against opposite sides of the flange having inner radii small enough to interfere with and close enough together to seat on the disc simultaneously. They are joined together by a thin protective web of elastomer across the flange, which web also clears the disc. Each seat member provides a pressure energized seal only when it is on the upstream side of the valve and is supported by the dam against extrusion past the disc. The downstream member will not hold high pressure, but is required for holding pressure in the other direction and, with the web over the dam, serves to protect the core and dam from contact with materials being handled.

3,376,016
METHOD AND DEVICE FOR SETTING VALVES IN IRRIGATION PIPES

Onslow R. Showalter, Jr., 6459 Kings Canyon, Fresno, Calif. 93702

Filed Nov. 25, 1964, Ser. No. 413,829

6 Claims. (Cl. 251—359)



A device for holding a valve in adjusted position within an elongated pipe while affixing the valve to the pipe by pouring a constraining wall of cementitious material thereabout providing a support member having a portion supporting the valve and a radially extended flange supporting said cementitious material and having a peripheral edge resiliently frictionally engageable with the inner surface of the pipe.

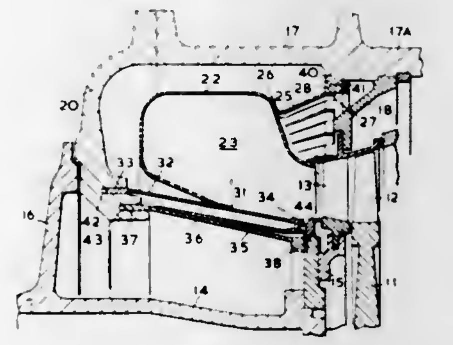
3,376,017
TURBINES

Waheeb Rizk, Roy Bolesworth, Clifford Arthur Keer, and John Charles Waldron, Whetstone, England, assignors to The English Electric Company Limited, London, England, a British company

Filed Sept. 16, 1965, Ser. No. 487,669

Claims priority, application Great Britain, Sept. 25, 1964, 39,144/64

27 Claims. (Cl. 253—39)



A turbine has two gas inlets feeding gas into an annular inlet liner which has an annular outlet through which the gas flows to the turbine stator and rotor blades. The gas inlets extend in a direction transverse to the vertical center line of the turbine and are symmetrically disposed one on either side of the vertical center line. The annular inlet liner is mounted within an outer pressure-containing casing so that relative thermal expansion of the annular inlet liner and the outer pressure-containing structure is accommodated while the concentricity of the annular inlet liner and the turbine stator and rotor blades is maintained. The outer pressure-containing structure is mounted so as to be freely capable of radial expansion relative to the inner structure within which the turbine rotor is mounted.

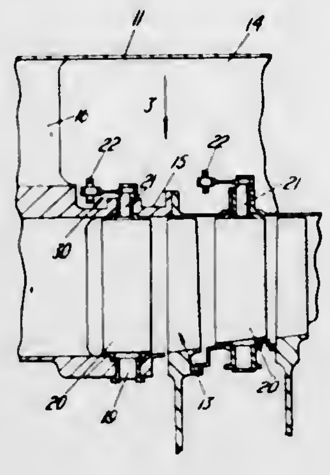
3,376,018
VANE OPERATING MECHANISM

Douglas Herbert Williamson, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a British company

Filed Dec. 21, 1966, Ser. No. 603,652

Claims priority, application Great Britain, Jan. 10, 1966, 1,123/66

10 Claims. (Cl. 253—78)



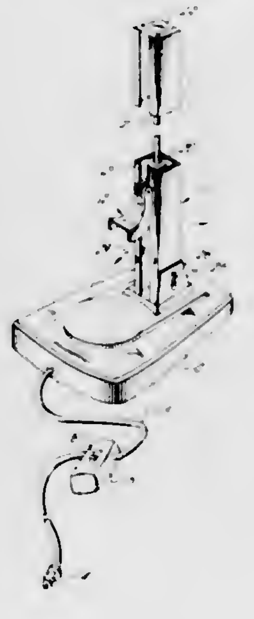
A vane operating mechanism having a rotatable ring, connected by arms to a spindle extending from each vane root, rotation of the ring effecting pivotal movement of the vane. One end of each arm is part-spherical and is received by an aperture in the ring, the aperture being so shaped that the arm may be introduced into the aperture, and then turned to lock it in position. Each arm has a flexible portion to accommodate deformation during operation.

3,376,019
LIFTING DEVICE, PARTICULARLY VEHICLE JACK

William W. Weiss, Norwalk, Conn., assignor to Superior Electric Motor Sales, Inc., a corporation of New York

Filed Feb. 17, 1967, Ser. No. 616,830

14 Claims. (Cl. 254—103)



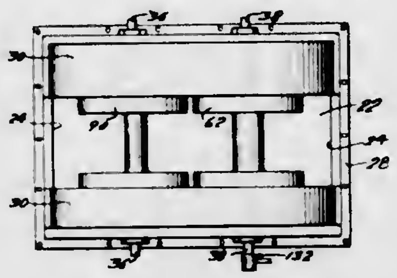
A unilateral rotary motion-longitudinal motion translator is mounted on a smooth spindle set on a base; it includes a pair of sleeves, the inner one carrying springs inclined with respect to the spindle; the outer one a car lift attachment. A motor, preferably one which can be plugged into a vehicle cigarette lighter, drives the spindle which will make the car lift attachment travel up the spindle; when the motor is stopped, the springs will bind and hold a car jacked in raised position without further brakes. The ends of the spindle are relieved to prevent over-running of the motion or translator.

3,376,020
MECHANICAL INTERLOCK SYSTEM FOR HOISTING MACHINERY

Bernard R. Klinke, Seattle, Wash., assignor to Smith-Berger Manufacturing Corporation, Seattle, Wash.

Filed Aug. 9, 1965, Ser. No. 478,288

10 Claims. (Cl. 254—185)



1. A mechanical interlock system, said system comprising:

(a) a first shaft and a second shaft;
(b) said first and second shafts being spaced apart;
(c) a first gear keyed to said first shaft;
(d) a first set of planetary gears meshing with said first gear;
(e) a first ring gear meshing with said first set of planetary gears;
(f) a first ring gear support journaled on said first shaft;
(g) said first ring gear support and said first ring gear being connected;
(h) a first drum on said first shaft;
(i) said first drum and said first set of planetary gears being connected;
(j) a first gear on the second shaft;
(k) a second drum on the second shaft;
(l) means connecting the first gear on the second shaft and the second drum;
(m) gear means between said first gear on the second shaft and said first set of planetary gears;
(n) a cable between said first and second drums; and,
(o) when said cable is being wound on the first drum said cable provides a reaction energy to the second drum and which reaction energy is channelled from the second drum through the first gear on the second shaft, said gear means, and said first set of planetary gears to the first drum to assist the first drum in the winding of the cable onto the first drum.

3,376,021
PNEUMATIC VIBRATORS WITHOUT BEARINGS

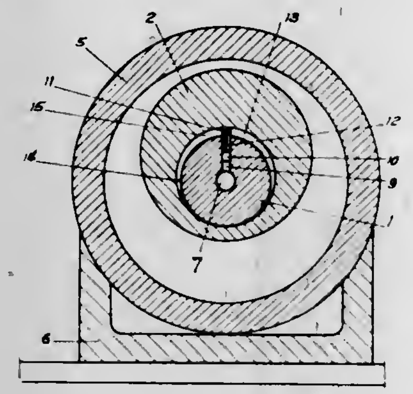
Michel Alphonse Fontaine, Boisemont, France, assignor to Vibratechniques S.A., Paris, France, a corporation of France

Filed Apr. 25, 1966, Ser. No. 544,741

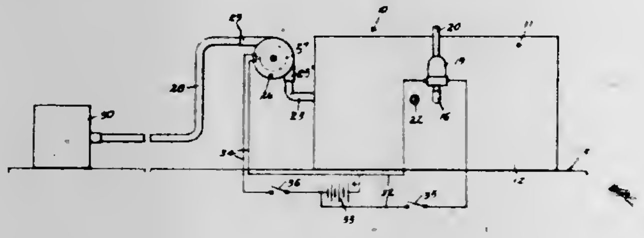
Claims priority, application France, May 13, 1965, 16,940, Patent 1,443,363

5 Claims. (Cl. 259—1)

A pneumatic vibrator having a hollow cylinder and an inner cylinder disposed within the hollow cylinder. One of the cylinders is stationary and the other cylinder is capable of freely rolling with hypocycloidal motion relative to the stationary cylinder. A movable plate is carried by one of the cylinders and divides the space between the cylinders into two chambers. Inlet and exhaust openings are provided so as to interconnect the two chambers with a fluid pressure source and with the atmosphere, respectively.

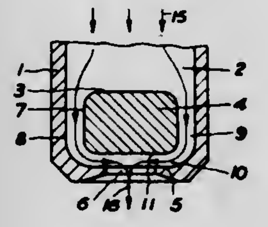


3,376,022
MIXING AND DISPENSING APPARATUS FOR POISON SPRAY
Frederick M. Gleockler, Cherry Hill, N.J.
(R.D. 1, Ridgely, Md. 21660)
Filed July 12, 1967, Ser. No. 652,939
7 Claims. (Cl. 259—2)



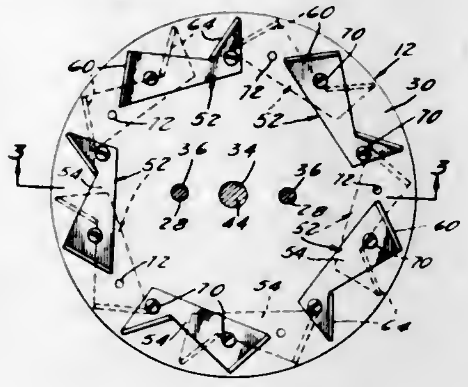
An apparatus for use in safely mixing poison spray, having a pump for supplying the mixture from a mixing container to a spray head for spraying field crops and orchards. A blower and filter carries off and collects spray dust and fumes from the mixing container, during the mixing operation, to protect workmen in the vicinity of the apparatus. The pump and blower are connected to the container above the liquid level therein during the mixing of the spray. The container is rotated to locate the pump connection adjacent a bottom part of the container for dispensing the spray.

3,376,023
MIXING PROCESS
James Richard Lage, Kirchhalde 186, Umiken, Brugg, Switzerland
Filed Aug. 17, 1965, Ser. No. 480,301
Claims priority, application Switzerland, Aug. 28, 1964, 11,314/64; Jan. 28, 1965, 1,203/65
4 Claims. (Cl. 259—4)



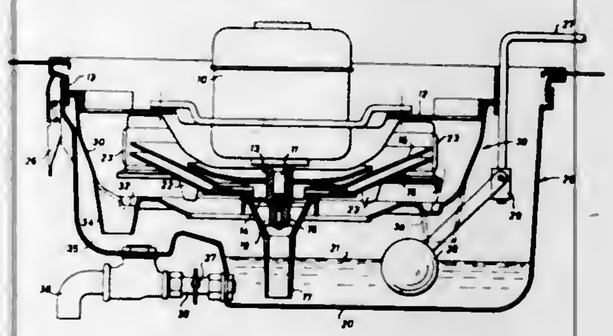
The apparatus includes a hollow, cylindrical casing with a mixing chamber therein, an outlet and a centrally apertured end wall. Also an elongated insert body is supported coaxially in the chamber and a cylindrical outlet conduit is connected coaxially to the end wall. The method comprises mixing of materials in certain flow paths of which there are four in number, each path comprising a portion of the material.

3,376,024
DISSOLVER BLADE
Frank L. Beechler, 953 Rex Road, Pico Rivera, Calif. 90660, and William M. A. Kuypers, 569 E. Mar Vista, Whittier, Calif. 90602
Filed Nov. 1, 1966, Ser. No. 591,236
2 Claims. (Cl. 259—134)



Paint blending apparatus having a disc with a plurality of removable teeth attached thereto adjacent the periphery thereof, each tooth having a body and an outwardly turned flange adjacent each end, the flanges being in planes of chords of said disc.

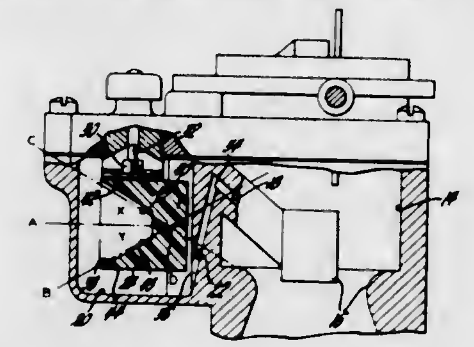
3,376,025
EQUIPMENT FOR HUMIDIFYING AIR
Karl Flury, Adliswil, Zurich, Switzerland, assignor to Defensor, Zurich, Switzerland
Filed Feb. 19, 1965, Ser. No. 434,747
Claims priority, application Switzerland, Feb. 29, 1964, 2,574/64
3 Claims. (Cl. 261—29)



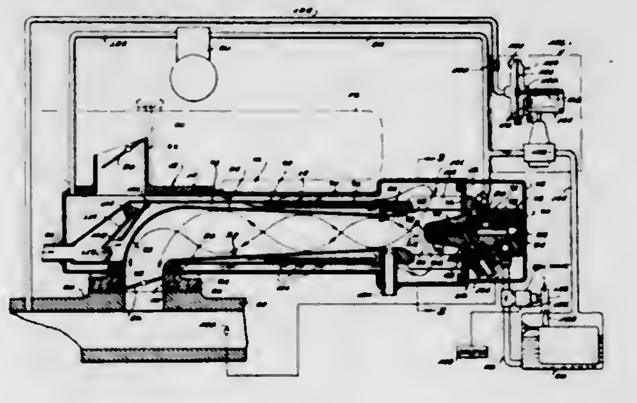
Air humidifying apparatus having a tank for containing a liquid and at least one centrifugal distributor disc together with means for feeding liquid from the tank to an inner portion of the disc. A fan produces a stream of air to remove at least some of the droplets of liquid thrown outwardly from the disc, and a guide ring extends around, below and spaced from the distributor disc for directing the air stream and collecting the droplets of liquid thrown outwardly from the disc.

3,376,026
CARBURETOR FUEL BOWL FLOAT
James L. Fisher, Brockport, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 30, 1966, Ser. No. 538,799
1 Claim. (Cl. 261—70)

A float for an internal combustion engine carburetor fuel bowl is constructed with a recess on the forward side to improve its response to a change in the attitude or angular orientation of the fuel level within the carburetor relative to the attitude of the carburetor.

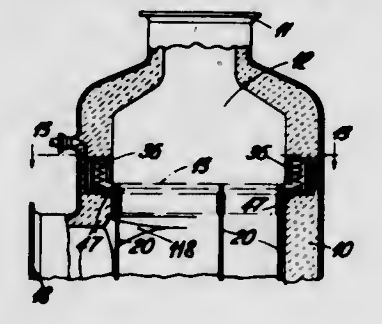


3,376,027
FUEL ATOMIZING CARBURETORS
Richard D. Kopa, Van Nuys, Calif., assignor to The Regents of The University of California, a corporation of California
Filed Feb. 19, 1964, Ser. No. 345,881
10 Claims. (Cl. 261—145)



A carburetor having a fuel atomizing means and a device for mixing exhaust gas with the air-fuel mixture. A linkage for operating the needle valve which controls fuel flow in unison with the throttle valve is provided and a dashpot is included in the linkage for resisting opening movement of the throttle.

3,376,028
TUBULAR RECUPERATIVE HEAT EXCHANGERS WITH SOCKET MEMBERS JOINING TUBE SECTIONS END TO END
Dennis Brigham Leason, Dorking, and Stanley Harry Gwalter, Wallington, England, assignors to Central Electricity Generating Board, London, England, a British body corporate
Filed May 23, 1966, Ser. No. 552,129
2 Claims. (Cl. 263—20)

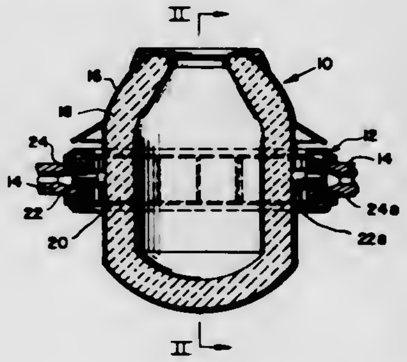


A tubular recuperative heat exchanger has tubes, more particularly ceramic tubes, formed in a number of lengths, joined end to end by socket members. The socket members abut one another in the transverse direction to give lateral support for the tubes. The socket members may form a baffle for the fluid passing over the outside of the tube or they may have helical castellations so as to permit free passage of the fluid outside the tube whilst still supporting the tubes against swaying.

ERRATUM

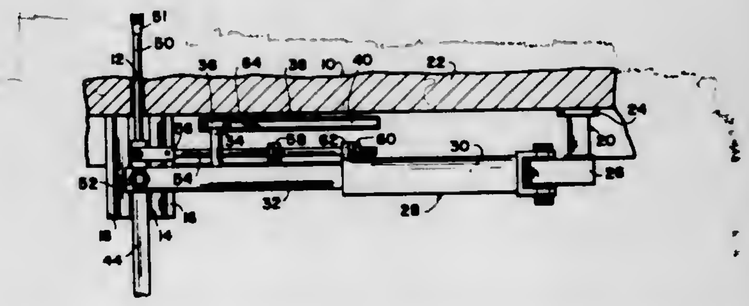
For Class 266—27 see:
Patent No. 3,376,243

3,376,029
CONVERTER HAVING BALL AND SOCKET TRUNNION BEARINGS
Edouard Menu, Chaville, France, assignor to Societe Fives Lille-Cail, Paris, France
Filed Nov. 22, 1965, Ser. No. 509,009
Claims priority, application France, Nov. 22, 1964, 995,921
6 Claims. (Cl. 266—36)



In a steel converter, a retort carrier envelopes a portion of the retort like a trunnion ring. The socket portions of two ball-and-socket bearings are fixed to the carrier closely adjacent the respective trunnions. Two shafts, which have a common axis and extend from the retort in opposite directions, are received in recesses of the ball portions of the bearings, and at least one of the shafts is axially slidable in the associated ball portion.

3,376,030
MOUNTING FOR TAPPING CONDUIT PLUG DRILL
John W. Adams, Milford, N.J., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Substituted for abandoned application Ser. No. 162,332, Dec. 27, 1961. This application July 19, 1965, Ser. No. 473,114
6 Claims. (Cl. 266—42)



An apparatus for drilling an opening through a plugged furnace tapping hole, comprising a telescoping motor extensible towards and retractable away from the tapping hole, and a drill pivotally carried by the motor. A guide means, comprising a guide track and a roller connected to the motor, is provided for causing operation of the motor to raise and lower the drill; and link means is connected to the drill for causing the latter to be pivoted during the operation of the motor.

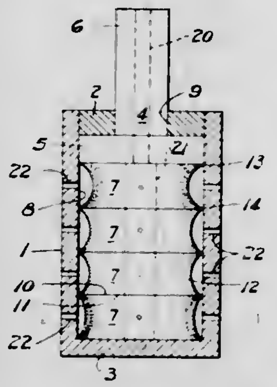
3,376,031

SHOCK ABSORBER

Patrick P. Lee, Tonawanda, N.Y., assignor to Destech Labs, Inc., Buffalo, N.Y.

Filed Oct. 19, 1965, Ser. No. 497,873

10 Claims. (Cl. 267—1)



The shock absorber casing has a cylindrical bore, a transverse wall and a pressure transmitting follower received in sliding engagement within the bore. Between the follower and wall is a column of resilient shock absorber discs each having parallel upper and lower planer bearing surfaces joined by a concavely recessed peripheral side surface having a parabolic section about an axis equidistant from the bearing surfaces, the bearing surfaces of adjacent discs being in direct abutting engagement whereby the energy absorbing material of the discs is continuous throughout the column, and each of the discs prior to deformation engaging the casing bore substantially only along a pair of line surfaces defined by the bearing and side surfaces, thereby stabilizing the column against lateral collapse during deformation.

3,376,032

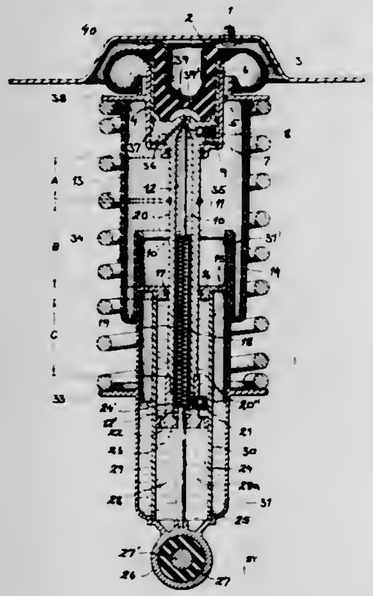
SHOCK ABSORBER FOR VEHICULAR SUSPENSION SYSTEMS AND THE LIKE

Leopold Franz Schmid, Stuttgart, Germany, assignor to Alfred Teves, Maschinen- und Armaturenfabrik KG, Frankfurt am Main, Germany, a corporation of Germany

Filed Nov. 18, 1965, Ser. No. 508,517

Claims priority, application Germany, Dec. 2, 1964, Sch 36,199

9 Claims. (Cl. 267—8)



A self-leveling shock absorber having a cylinder connected with the axle and a piston connected with the chassis and formed with a central bore receiving a pump plunger on the piston which, together with a valve whose stem is received in the bore, controls the pumping of fluid into a working chamber which displaces a spring seat to stress the spring surrounding the piston-and-cylinder arrangement to compensate for changes in the loading of the vehicle.

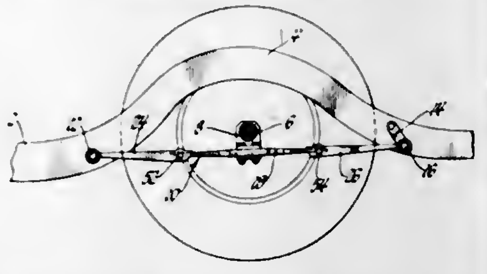
3,376,033

UNITIZED COMPOSITE SPRING CONSTRUCTION

Frank A. Sherwood, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed May 2, 1966, Ser. No. 546,732

7 Claims. (Cl. 267—47)



1. In a suspension structure including a sprung and an unsprung mass, a unitized composite leaf spring comprising opposite end portions substantially insensitive to bending loads along their lengths rigidly connected to a central portion of fiberglass reinforced plastic which is elastically deformable responsive to bending loads imposed along the entire length of said spring.

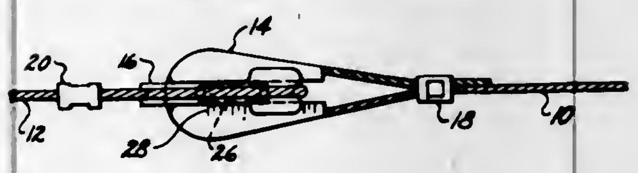
3,376,034

GUY WIRE SHOCK ABSORBER

Albert A. Ondrejka, 3200 Glenvalley Drive, Midwest City, Okla. 73110

Filed Dec. 13, 1965, Ser. No. 513,915

4 Claims. (Cl. 267—71)



A guy wire shock absorber including a pair of opposed interlocking bifurcated teardrop-shaped members having a shock absorbing material located between the members and grooves to restrict the movement of the guy wires.

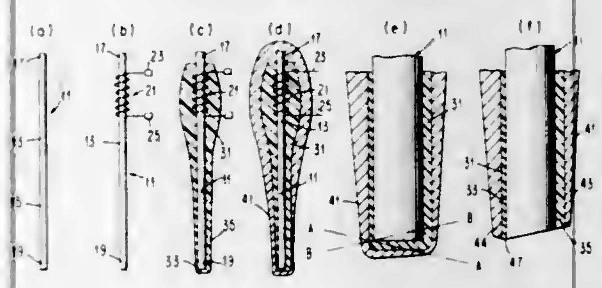
3,376,035

ELECTROMAGNETIC TRANSDUCER MANUFACTURE

Geoffrey Bate, Poughkeepsie, and John R. Morrison, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Dec. 10, 1964, Ser. No. 417,392

12 Claims. (Cl. 29—603)



A magnetic recording head is provided wherein a small electric coil is placed about a magnetic wire, which wire in turn is coated with a non-magnetic material and which is then coated with magnetic material. A gap is provided by removing the bottom portion of the heretofore described layers and wire.

3,376,036

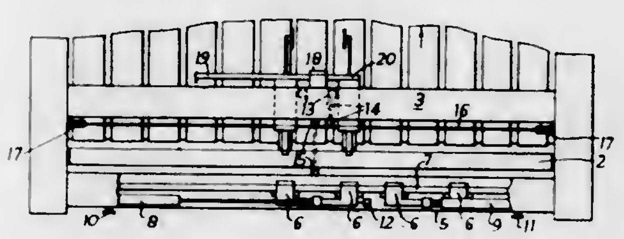
LAUNDRY FEEDING MACHINE

Henry John Weir, Sedbury, Chepstow, England

Filed Jan. 30, 1967, Ser. No. 612,386

Claims priority, application Great Britain, Jan. 31, 1966, 4,265/66

13 Claims. (Cl. 271—54)



A laundry feeding machine having two clamps adapted to receive and hold two corners of the leading edge of the article to be fed; a conveyor; means for moving the clamps transversely apart from a rest position to tension the leading edge; and feed transfer means comprising two pairs of transfer grips, each pair being adapted to receive, in respective grips, said two corners of an article to be fed and each pair being movable between a respective feed station at which a respective operator can insert the corners into the grips and a common transfer station at which the grips of the pair are each adjacent a respective clamp when the clamps are in their rest positions, means for moving the grips between the feed stations and the transfer station and means for transferring, at the transfer station, the corners of the articles from the grips to the respective clamps.

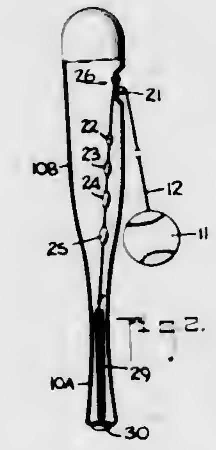
3,376,037

BAT AND TETHERED BALL COMBINATION

Irving Lepselter, 520 E. 90th St., New York, N.Y. 10028

Filed July 7, 1965, Ser. No. 470,101

6 Claims. (Cl. 273—26)



A hollow bat containing a cord extending out through an opening in the side of the bat. The cord has on its outer end a ball which can be struck by the bat. Means is provided to impede movement of the cord through the opening when the ball is struck. The cord contains indicia along its length to indicate the effectiveness of the hit.

3,376,038

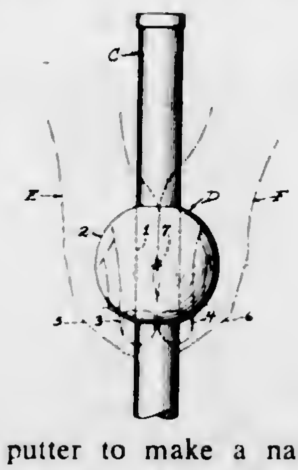
GOLF CLUB PUTTER WITH GRIP LOCATOR

John R. Henry, 28 Westminster Drive, Oakland, Calif. 94618

Filed May 21, 1965, Ser. No. 457,702

1 Claim. (Cl. 273—81)

A golf club putter having a shaft with a spherical member adjustably mounted on the handle portion of the shaft so that the center of the spherical member lies on the shaft longitudinal axis. The spherical member provides a natural gripping surface for the hands of the golfer thus



permitting the putter to make a natural swing like a pendulum with the putter head acting as the weight.

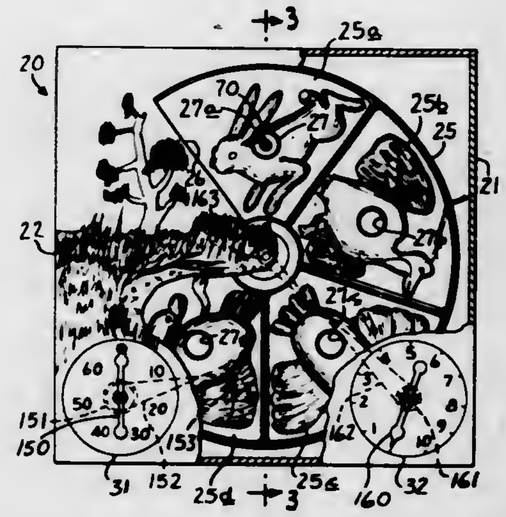
3,376,039

PHOTOCELL TARGET WITH INDEXED TARGET DISK

Russell S. Fenton, 308 Eaton St., Northfield, Ill. 60093

Filed Feb. 5, 1965, Ser. No. 430,553

8 Claims. (Cl. 273—101.1)



A light beam actuated target having a target disk with a plurality of target sectors each with a hole therethrough for alignment with a photocell. A drive mechanism for successively presenting the holes in the target disk to a photocell positioned behind the disk including a continuously running motor rotating a pinion, a rockable drive gear normally having a toothless gap adjacent the pinion, and a Geneva mechanism responsive to rotation of the drive gear through a revolution to index the target disk. To rock the drive gear into mesh with the pinion, a solenoid is energized in response to energization of the photocell and operates at trip pawl to force a pawl lever carried by the drive gear into the path of an arm carried on the shaft of the pinion. An elapsed time indicator is driven by the motor and a "hit" indicator is coupled to the Geneva mechanism and advanced to indicate another hit each time the photocell is energized.

3,376,040

COMPACTED FRANGIBLE TARGET OF AGGLOMERATED PARTICULATE MATERIAL

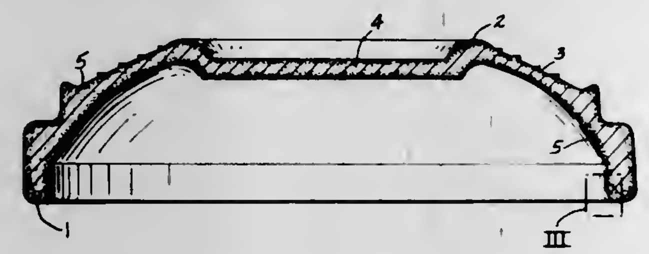
Vernon C. Moehlman, St. Louis, and Robert J. Klein, Florissant, Mo., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed Jan. 16, 1964, Ser. No. 338,031

6 Claims. (Cl. 273—105.4)

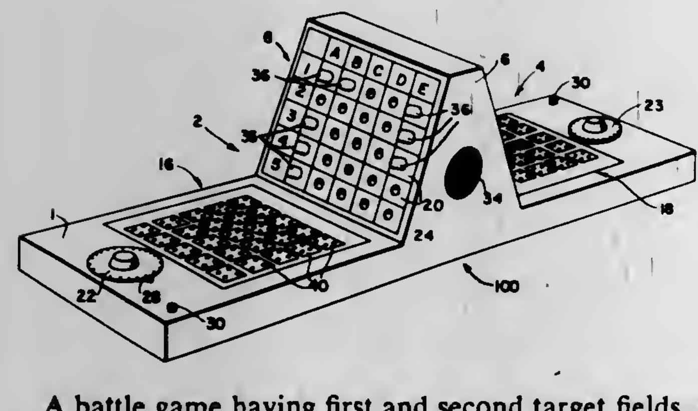
1. A projectable target of the frangible type having a body portion composed of a coherent but brittle compact

of agglomerated granules comprising a filler material of limestone particles and particles of coal tar pitch binding said limestone particles, said pitch constituting from about 8 to about 25 percent of said target by weight and having a melting point of about 170° to 350° F., said body composed of not less than from about 85 to 95 percent by volume of said granules and the balance cellular voids.



3,376,041
BATTLE GAME APPARATUS WHEREIN THE TARGETS ARE RANDOMLY POSITIONABLE ELECTRIC BULBS

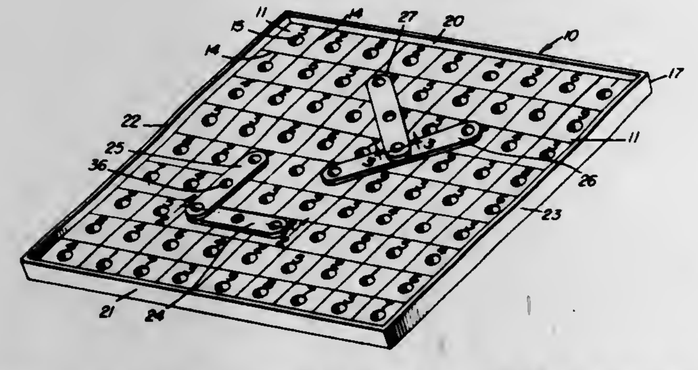
Francis P. Anderson, 2 Harwick Road, Westbury, N.Y. 11590
Filed Apr. 24, 1964, Ser. No. 362,344
1 Claim. (Cl. 273—130)



A battle game having first and second target fields, each including coordinately arranged battle zones. Electric bulbs having removable covers of different colors are receivable within said battle zones to serve as the targets. Power and connecting means are provided whereby each player can selectively cause energization of battle zones to thereby eause an electric bulb, if positioned within the selective battle zone, to glow, thus signifying a hit.

3,376,042
GAME PIECE AND SPANNER CONNECTOR GAME APPARATUS

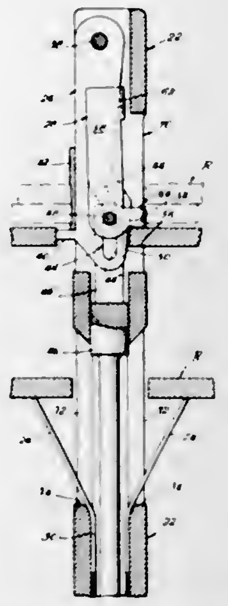
Ralph E. Dunlap and Elizabeth H. Dunlap, both of Meeting House Road, Hockessin, Del. 19707
Filed June 11, 1965, Ser. No. 463,179
10 Claims. (Cl. 273—130)



Game apparatus having a plurality of game pieces and a plurality of spanner connectors, at least some of the game pieces differing from the others by having different indicia, and the spanner connectors and the game pieces, with the latter in any of a number of possible playing relations, may be interrelated through couplings so that the spanner connectors as they are progressively associated with each other and the game pieces provide a pattern which play has created.

3,376,043
RECORD CHANGER SPINDLE

Michael H. Estkowski, St. Joseph, Mich., and James L. D. Morrison, Los Angeles, Calif.; said Estkowski, assignor to V-M Corporation, Benton Harbor, Mich., a corporation of Michigan
Filed Apr. 22, 1965, Ser. No. 449,996
6 Claims. (Cl. 274—10)

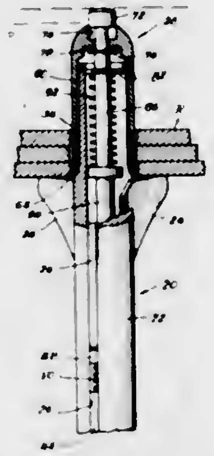


A record changer spindle having primary record supporting fingers which normally support a stack of records on the spindle and are withdrawn to release the lowermost record in the stack to a turntable for playing. The spindle has a secondary record supporting arrangement which supports the remaining stack of records when the primary record supporting fingers are withdrawn. The secondary record supporting arrangement includes a recess formed in the spindle body to provide a record supporting shelf located approximately at the height of the next-to-lowest record in the stack, a pivoted pusher for pushing the next to the lowermost record into an eccentric position in the recess so as to partially overlie the shelf, and a record holder which engages on the eccentric positioned record to hold it on the shelf. An actuator rod is movably mounted within the spindle body for operating the pusher and is also pinned to the record holder to actuate both the record holder and pusher in timed sequence to its operation of the primary record supporting fingers.

3,376,044
RECORD CHANGER SPINDLE

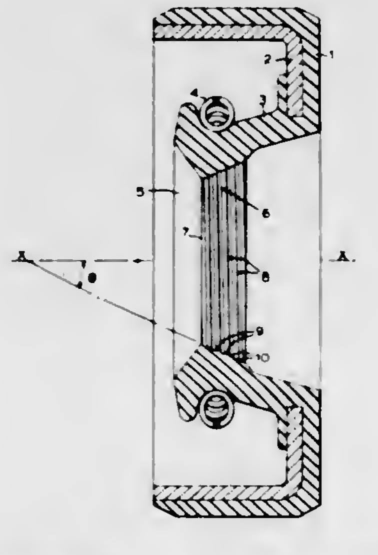
Gerald H. Freier, Benton Harbor, Mich., assignor to V-M Corporation, Benton Harbor, Mich., a corporation of Michigan
Filed May 4, 1965, Ser. No. 453,164
6 Claims. (Cl. 274—10)

Record changer spindle having fingers which support a stack of records on the upper end of the spindle and move downwardly with operation of an actuator to carry the bottom record of the stack to the turntable. The spindle has an expandable cap which slidably seats over the upper end of the spindle and is spring biased so that it moves downwardly with the actuator to expand its lower ends on a sloping portion of the spindle wall and so that the cap supports the other records in the stack. On the return stroke of the actuator it raises the fingers to the bottom record of the stack to take the weight of the stack off the cap whereupon a further spring acts to raise the cap and relocate it for the next record change cycle.



3,376,045
SHAFT SEALS

Ernest T. Jagger, Newcastle-upon-Tyne, England, assignor to George Angus & Company Limited, Newcastle-upon-Tyne, England, a British company
Filed Sept. 8, 1965, Ser. No. 485,720
Claims priority, application Great Britain, Sept. 24, 1964, 38,997/64
7 Claims. (Cl. 277—134)

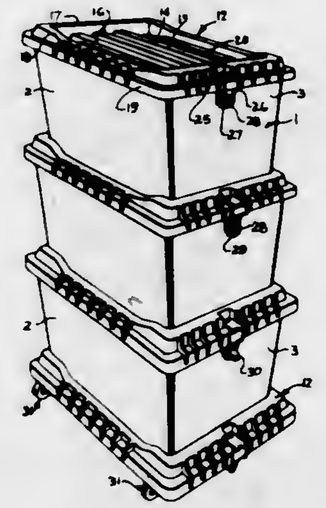


A lip-type seal comprising a frusto-conical synthetic rubber ring, a surface of which ring forms a preferred conical angle with the seal axis, the ring being moulded with a screw thread to feed back oil, and a flank surface of the screw thread being substantially parallel to the seal axis.

3,376,046
MATERIAL HANDLING SYSTEM

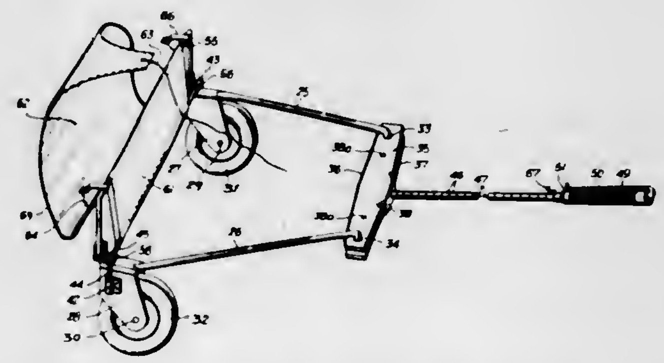
Jerome S. Kivett, 6801 Locust, Kansas City, Mo. 64131, and Marvin Katz, 5400 Rosewood, Roeland Park, Kans.
Filed Mar. 29, 1965, Ser. No. 443,592
4 Claims. (Cl. 280—33.99)

Multiple containers have tapered side and end walls so that they are nestable within each other for storage. Lids for the containers have depressed top portions forming pockets for receiving the bottom of a container to permit stacking without lateral sliding. Selected lids have wheels secured to the under surface thereof, whereby a lid may be used on the bottom of a stack as a truck, and yet the wheels may be hidden within the container when the lid is used for its normal function. The lids have lip portions cooperating with corresponding lip portions on the containers for maintaining the lid engaged with the container at one end and a hasp and latch member are respectively secured to the lid and container at a position opposite from the engaging lips to secure the lid in place.



3,376,047
COLLAPSIBLE VEHICLE

Wilhelm Schuster, Neubauzelle 57, Linz (Danube), Austria
Filed June 15, 1966, Ser. No. 557,771
Claims priority, application Austria, June 16, 1965, A 5,468/65
9 Claims. (Cl. 280—37)

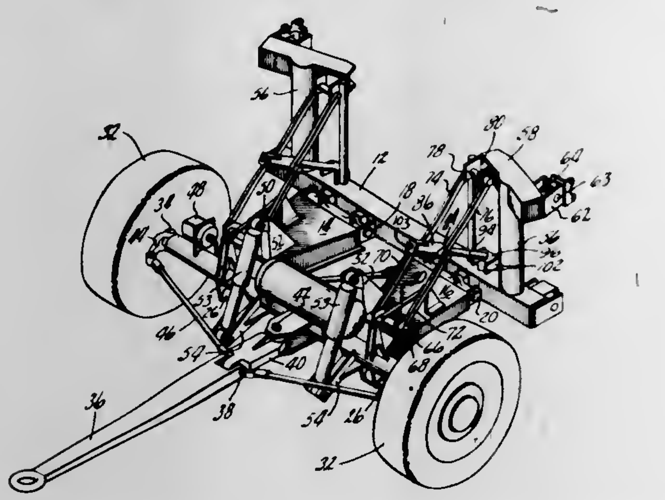


A collapsible vehicle for the transportation of tools, suitcases, shopping bags, sport equipment, etc., which includes a frame of isosceles trapezoidal configuration defined by hingedly interconnected member cooperating with a support and a releasable latch, the front and rear members having a total length equal to the combined length of the size of the trapezoid, which is swingable so that the members can lie substantially parallel to one another.

3,376,048
TRAILER DOLLY LIFT SYSTEM

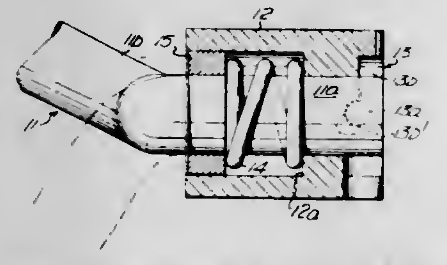
Marshall B. Thornton, Granby, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed June 1, 1965, Ser. No. 460,015
2 Claims. (Cl. 280—43.2)

Front and rear detachable trailer dollies are provided, each having jack operated toggle mechanism for lifting the trailer and supporting it in running position, the jack for each mechanism being connected at one of its ends to the dolly frame and at its other end to the common pivot for the links comprising the toggle. Running loads are taken by the dolly carried jack member which directly engages the toggle at its common pivot point as the toggle moves into an over-center position.



3,376,049
BICYCLE AND LIKE PROP-STAND

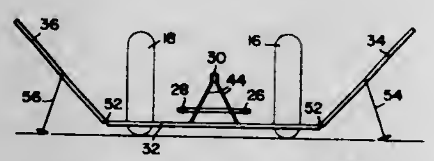
John McGregor Gordon, Nuthall, Nottingham, England, assignor to Raleigh Industries Limited, a corporation of the United Kingdom
Filed Mar. 18, 1966, Ser. No. 535,386
Claims priority, application Great Britain, July 17, 1965, 30,445/65
8 Claims. (Cl. 280—301)



The invention concerns a bicycle or like prop-stand. It consists essentially of a cylindrical housing having an abutment within the bore thereof and a rotatable prop member axially adjustable and supported in said abutment. A cam on said housing and a follower on said prop with means for retaining said prop in operative and inoperative positions.

3,376,050
INTEGRAL DRAWBAR WITH FOLDABLE SECTIONS

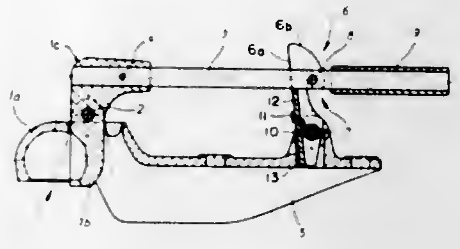
William Vinall Lohrman, Davenport, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Aug. 11, 1966, Ser. No. 571,880
4 Claims. (Cl. 280—411)



2. For use with a tractor having a three-point hitch, an integral drawbar comprising a main frame section, a pair of outrigger frame sections pivotally secured to the sides of the main frame section and movable between an extended horizontal working position and a folded transport position, a pair of folding legs, and means operable to secure each of said folding legs either in an operative position in which the leg extends downwardly from said associated outrigger section to engage the ground or in an inoperative position, the legs being of such length that when the folding legs are in their operative position and the main frame section and outrigger sections are in a raised horizontal position, that lowering of the main frame section will cause the outrigger frame sections to become partially folded.

3,376,051
TRAILER HITCH

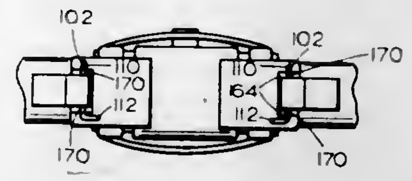
Ludwig Bacher, 3496 Rankin Ave., Windsor, Ontario, Canada
Filed Feb. 10, 1966, Ser. No. 526,523
Claims priority, application Germany, Feb. 13, 1965, B 80,525
1 Claim. (Cl. 280—512)



The invention relates to a trailer hitch for coupling a trailer to a ball member carried by a towing vehicle. The hitch comprises a fixed ball-shell part and a pivoted ball-shell part for gripping the ball member. An elongated lever has one end fixed to the pivoted ball-shell part for moving the latter between ball-gripping and ball-releasing positions. A latch structure is provided for locking the lever down to hold the pivoted ball-shell part in ball-gripping position. The lever is flexibly resilient, and when locked down is flexed from its free state condition and held in tension. The latch structure comprises a pair of substantially identical latch members disposed in generally upright laterally spaced relation on opposite sides of the plane of swinging movement of the lever, having aligned downwardly opening recesses for receiving aligned pins extending outwardly from opposite sides of the lever to lock the lever down.

3,376,052
IRRIGATION PIPE COUPLER

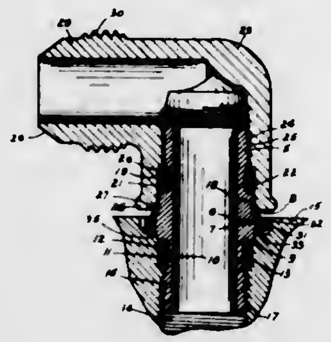
Paul B. Zimmerer, Bernard J. Zimmerer and Arthur L. Zimmerer, all of Lindsay, Nebr. 68644
Filed Feb. 24, 1966, Ser. No. 529,711
1 Claim. (Cl. 285—5)



An irrigation pipe and coupler assembly in which one end of the coupler tube and a pipe therein are connected by an attachment assembly on the right side of the tube and an attachment assembly on the left side of the tube, each assembly having a connection portion permanently attached to the tube and another connection portion permanently attached to the pipe, the connection portions having aligned apertures receiving a pin removably disposed therethrough for rapid connection and disconnection of the coupler tube and the pipe, an annular riser connection section on the top side of the tube, the bottom side of the tube being free of such connection assemblies.

3,376,053
ROTATABLE HIGH PRESSURE FLUID FITTING

Milan Novakovich, Balboa Island, and Robert D. Weber, Costa Mesa, Calif., assignors to Rosan Engineering Corp., Newport Beach, Calif., a corporation of California
Filed Aug. 13, 1964, Ser. No. 389,362
3 Claims. (Cl. 285—92)



1. In combination, a work piece having a threaded bore with a counterbore at its upper end and including an upwardly and radially outwardly inclined bottom wall between said bore and counterbore and a smooth circumferential wall surface adjacent said inclined bottom wall; and an insert, comprising:

a tubular stud having external threads engaged with the threads of said bore, a first annular groove provided in said stud, said groove positioned so as to be opposite said smooth wall portion of said bore after fully threading said stud into said bore;

an integral radial flange projecting outwardly from said stud, said flange having a portion of the peripheral face thereof beveled and the remaining portion of said peripheral face provided with longitudinal serrations, said beveled portion of said flange face having a circumferentially continuous sealing surface thereon and said sealing surface being seated in tight sealing engagement with said inclined bottom wall of said bore;

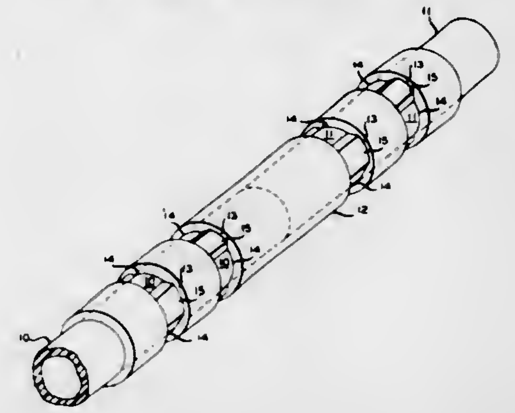
an externally and internally serrated locking ring received in said counterbore, said internal serrations being in engagement with the external serrations of said stud flange, said external serrations of said locking ring being pressed into the workpiece adjacent said counterbore, so as to lock said stud from rotational movement relative to said workpiece, said stud being provided with a smooth wall portion and a second annular groove on the opposite side of the flange from said first annular groove, second threads situated on said stud on the opposite side of the flange from first threads, said second threads having a thread pitch less than the thread pitch of said first threads;

a head rotatably mounted on said stud, a smooth circumferential wall portion extending inwardly from one end thereof, said head being provided with internal threads adjacent said wall portion engageable with said second threads of said stud, the said wall portion of said head extending over and beyond the second annular groove of said stud after said head is in threaded engagement with said stud, said head having the axis of a portion thereof in a plane on an angle relative to the axis of said stud; and

sealing means positioned in said first and said second annular grooves, respectively.

3,376,054
CONDUIT FITTINGS HAVING BAND CLAMPING MEANS

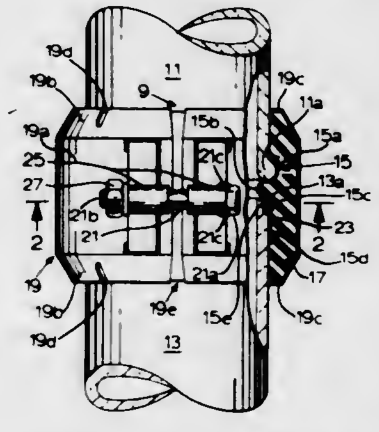
Charles A. Poux, Titusville, Pa., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 7, 1964, Ser. No. 416,225
4 Claims. (Cl. 285—174)



A method and means for securing fittings to a thermoplastic conduit is provided by forming slots in the fitting wall around its periphery so that a metal band clamp attached over the fitting contacts the conduit wall and provides a frictional purchase necessary to secure the fitting to the conduit.

3,376,055
COUPLING FOR BEADLESS-END PIPES

William E. Donroe, Penfield, N.Y., assignor to Garlock Inc., Palmyra, N.Y., a corporation of New York
Filed Apr. 19, 1966, Ser. No. 543,694
3 Claims. (Cl. 285—236)



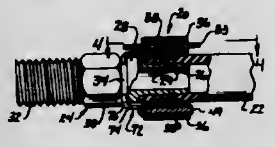
A flexible, corrosive-resistant, tubular liner of a pipe coupling includes a flexible inner, circular corrugation extending between a flat, beadless end of one pipe and an adjacent end of another pipe, and a flexible outer corrugated portion includes an outer, circular corrugation which surrounds an outer, marginal end portion of said one pipe and adjoins said inner corrugation at a flat, annular portion of said liner extending radially outwardly beyond the outer edge of said flat end of said one pipe. A rubber sleeve surrounds the liner and a clamping collar surrounds the sleeve and clamps the latter and the liner firmly upon end portions of the two pipes.

3,376,056
HOSE CLAMP

Robert S. Linstead, 11934 Ventura Blvd., Loves Park, Ill. 61111
Filed June 15, 1966, Ser. No. 557,659
11 Claims. (Cl. 285—243)

1. A hose coupling for connecting to an end portion of a resilient hose, the coupling comprising: a tubular insert adapted to fit in the end portion of the hose, first and second members adapted to engage the outer surface of

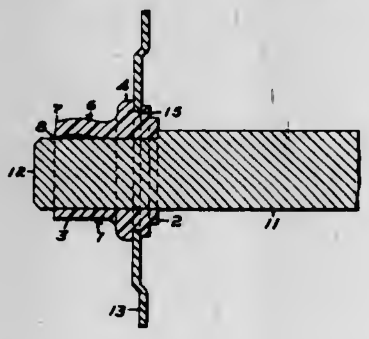
the end portion of the hose and each including a plurality of arcuate pieces and a plurality of spacers laminated in staggered relationship, the arcuate pieces being of generally equal thickness and each including an intermediate portion having a substantially semicircular inner edge, each arcuate piece having end portions extending beyond the intermediate portion and a slot at one end portion in substantial axial alignment with the slots in other arcuate pieces of the respective member, at least one arcuate piece of each member defining a circumferentially extending rib on the inner surface of the member and



adapted to deform the hose when in assembled position said spacers on each member being intermediate the ends of the arcuate pieces and having a thickness at least as thick as the arcuate pieces whereby the ends of the arcuate pieces may be interposed between the ends of the other member arcuate pieces and with the slots in registry, first means disposed in said slots for connecting the first and second members, and second means at the other end of the arcuate pieces for connecting the first and second members.

3,376,057
ONE-PIECE SYNTHETIC RESINOUS BUSHING

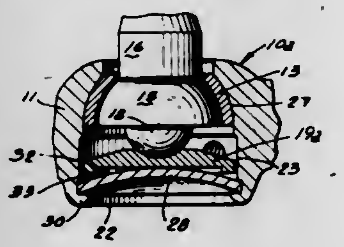
Harold S. van Buren, Jr., Cambridge, Mass., assignor to United-Carr Incorporated, Boston, Mass., a corporation of Delaware
Filed Mar. 3, 1966, Ser. No. 531,496
6 Claims. (Cl. 287—52.04)



A one-piece, molded plastic bushing which is attached to the hub of a fan blade has a spring finger which resiliently engages a rotatable shaft passing through the bushing.

3,376,058
JOINT WITH CONTOURED PLUG CLOSURE

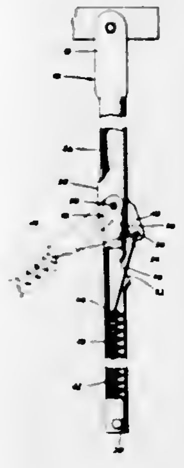
Edward J. Herbenar, Detroit, Mich., assignor to TRW Inc., Cleveland, Ohio, a corporation of Ohio
Filed July 21, 1965, Ser. No. 473,763
4 Claims. (Cl. 287—90)



A ball and socket joint having the socket closed by an inwardly bowed disk engaging a joint component with a spring force to maintain the joint components in proper bearing relation and to take-up wear developed in use of the joint. The inwardly bowed closure member may act directly on a seat for the ball stud or through an interposed spring to provide an added spring force for taking up wear and for maintaining the joint components in properly seated engagement.

3,376,059
CONVERTIBLE TRAILER AND SUPPORTING POST THEREFOR

Donald L. Corl, Nappanee, Ind., assignor to Exterior Products, Inc., Nappanee, Ind., a corporation of Indiana
Filed Apr. 7, 1966, Ser. No. 541,007
4 Claims. (Cl. 287—99)

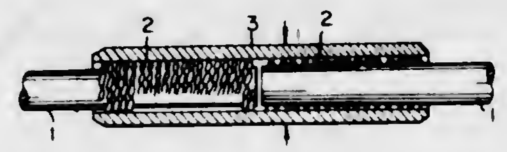


A convertible trailer and supporting post apparatus therefor including two elongated members pivotally connected at the ends thereof. The upper end of one member projects or telescopes slightly into the lower end of the other member. This lower member end may be regarded as a socket. The backside of the socket is adapted to be engaged by a portion of the upper member end for positioning the members in straight-line alignment. The front side of the socket is provided with an elongated opening which is sufficiently enlarged to allow the upper member end to be positioned therein. The members thus are movable with respect to each other about the pivotal connection. A helical spring is mounted within the member not having the socket above-mentioned and is secured at its lower end to this member. The upper end of the spring is secured to a rod or wire which extends through an opening in this member and connects to the lower end of a rigid bracket secured to the exterior of the socket portion of the lower member end. The point to which the rod is connected to this bracket is positioned beneath the pivotal connection of the members and rearwardly of the members. Thus a moment arm is established between the connection of the rod to the bracket and the pivotal connection of the members. The rod is chosen with a length which will tension the spring when the members are in straight-line alignment whereby the spring acts to maintain this straight-line alignment.

3,376,060
METALLIC MEMBER AND JOINT ASSEMBLY

Hiroyuki Tomioka, Amagasaki-shi, Japan, assignor to Shinko Wire Co., Ltd., Amagasaki-shi, Japan
Filed Dec. 3, 1965, Ser. No. 511,483
Claims priority, application Japan, Dec. 14, 1964, 39/70,562
6 Claims. (Cl. 287—108)

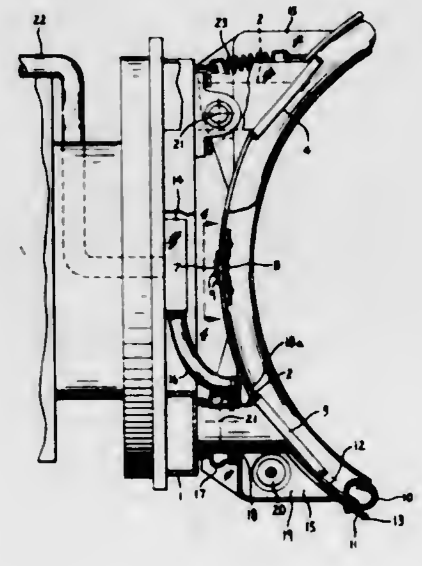
A joint for connecting the ends of two wires or rods in which the ends are inserted in a sleeve, and wire coils are radially interposed between the ends and the sleeve. The coils are wound from wire of triangular cross section which is twisted about its axis prior to winding so that spaced narrow edge portions of the wire define the



coil surface. The sleeves are compressed after assembly with the wire ends and the coils so that the edge portions of the coil wires bite into the joined wire ends and the sleeve to lock them to each other.

3,376,061
SUCTION LOAD-HANDLING APPARATUS

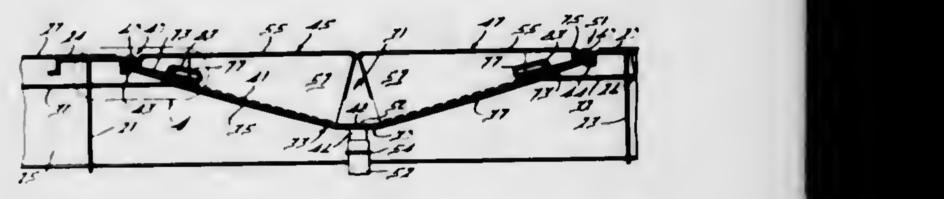
Donald A. Harris, Vancouver, Wash., and John E. Olson, Portland, Oreg., assignors to Hyster Company, Portland, Oreg., a corporation of Nevada
Filed Feb. 3, 1966, Ser. No. 524,908
20 Claims. (Cl. 294—64)



The present application discloses a suction cup for handling cylindrical loads of different diameters mounted on a rotatable load apron of a lift truck. The cup includes a pair of cylindrically curved plate sections hinged together along a straight side edge of each for articulation relative to the load apron about a longitudinal hinge axis of the cup. An endless tubular elastomer sealing lip with a removable load-engaging portion extends forwardly from peripheral edges of the plate sections. Pairs of load-engaging pads are positioned within the cup on opposite sides of the hinge axis. These pairs of pads are mounted independently of the plate sections by posts which extend through the curved plate sections to connect the pads directly to the load apron. The pairs of pads are mounted at a constant inclination toward one another to define wedging surfaces. Thus, a load to be lifted is engaged only by the pads and sealing lip and supported primarily by the frame-mounted pads rather than by the articulated plate sections so as to provide an unusually stable load support. Moreover, because of the constant inclination of the pad surfaces with respect to the horizontal when the plates are disposed in a position with one pad directly above the other, the vacuum force required to lift a cylindrical load with its longitudinal axis in a horizontal plane varies only with the weight of the load and not its diameter.

3,376,062
HINGED COIL WELL COVER

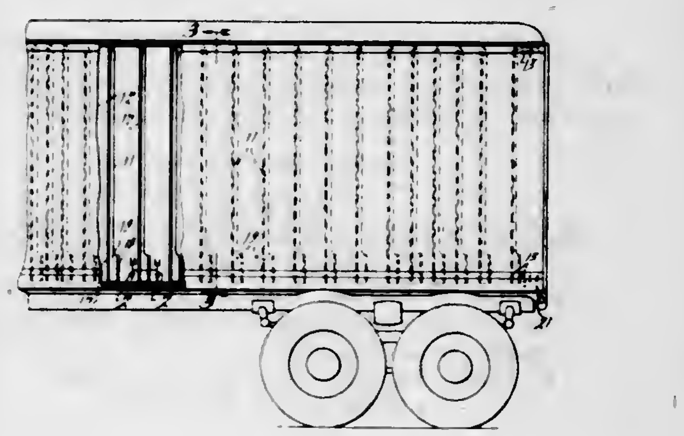
Eugene Chosy, Grosse Pointe Farms, and Anton Heinrichs, Grosse Pointe Woods, Mich., assignors to Fruehauf Corporation, Detroit, Mich., a corporation of Michigan
Filed May 2, 1966, Ser. No. 547,024
4 Claims. (Cl. 296—28)



1. In a transporting vehicle, a floor having laterally spaced, horizontal, load-supporting surfaces, a channel between said horizontal surfaces having downwardly tapered surfaces converging toward the center of said channel, at least one pair of laterally spaced covers positionable in said channel, each of said covers having a horizontal upper surface and a tapered lower surface, said lower surfaces, when seated on respective ones of the channel tapered surfaces locating the cover upper surfaces substantially coextensive with each other and with said floor horizontal surfaces, hinge means pivotally and slidably interconnecting each said cover with said floor, whereby each said cover is movable from a first position within said channel to a second position outside and spaced laterally from said channel.

3,376,063
TRAILER CONSTRUCTION

Adrian F. Hulverson, Grosse Pointe Woods, Mich., assignor to Fruehauf Corporation, Detroit, Mich., a corporation of Michigan
Filed Aug. 18, 1966, Ser. No. 573,226
7 Claims. (Cl. 296—28)

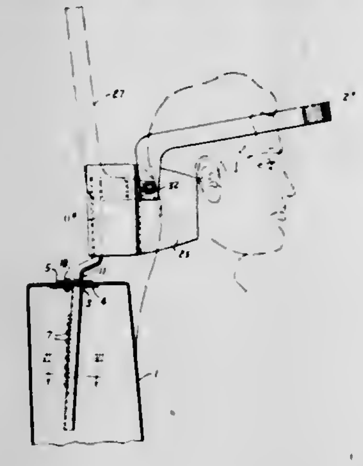


1. In a vertical supporting member for a vehicle wall, said member having a channel-shaped cross section on one end of its length and a fraction of said cross section throughout the remainder of its length.

3,376,064
HEAD AND NECK PROTECTOR

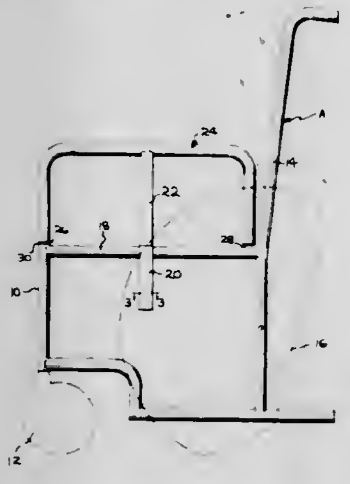
Mary Ruth Jackson, 3629 Fairmount St., Dallas, Tex. 75219
Filed Dec. 30, 1966, Ser. No. 606,249
7 Claims. (Cl. 297—391)

A head and neck protector to be mounted on the back rest of an automobile's seat including a head encircling member to limit unusual movement of the head in all directions but permitting normal movement of the head.



3,376,065
REMOVABLE ARMREST ASSEMBLY FOR INVALID WHEELCHAIRS

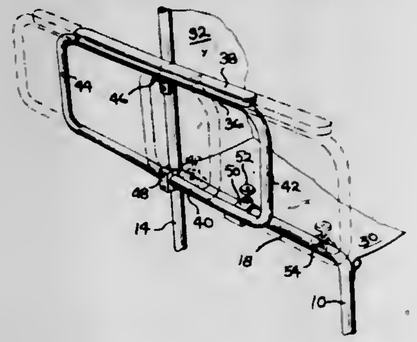
Harmon E. Kernes, Toledo, Ohio, assignor to Howmet Corporation, Archbold, Ohio, a corporation of Delaware
Filed Oct. 31, 1966, Ser. No. 590,630
4 Claims. (Cl. 297—414)



A removable armrest assembly for an invalid wheelchair employing a single socket attachment for easy removal and replacement of the armrest assembly.

3,376,066
HORIZONTALLY ADJUSTABLE ARMREST FOR INVALID WHEELCHAIRS

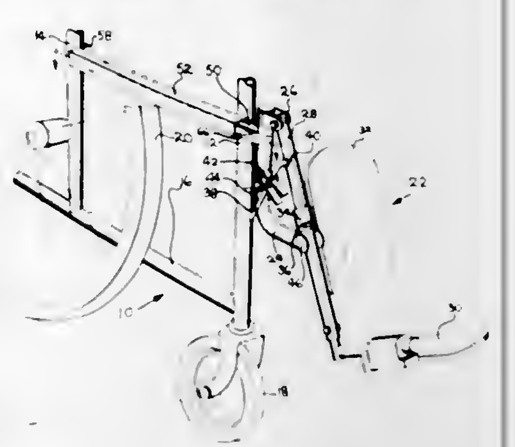
Harmon E. Kernes, Toledo, Ohio, assignor to Howmet Corporation, Archbold, Ohio, a corporation of Delaware
Filed Oct. 31, 1966, Ser. No. 590,628
4 Claims. (Cl. 297—417)



An invalid wheelchair having armrest assemblies which are horizantally adjustable for facilitating the entering and leaving of the wheelchair from either side thereof.

3,376,067
ADJUSTABLE LEGREST ASSEMBLY FOR AN INVALID WHEELCHAIR

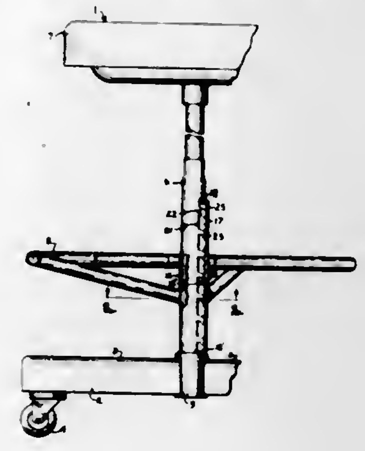
Harmon E. Kernes, Toledo, Ohio, assignor to Howmet Corporation, Archbold, Ohio, a corporation of Delaware
Filed Nov. 4, 1966, Ser. No. 592,048
2 Claims. (Cl. 297—427)



An adjustable footrest and legrest assembly for invalid wheel chairs having horizontally spaced apart side frames, each provided with a horizontally disposed tubular member having an open front end. The footrest and legrest assembly for each side frame including a rearwardly projecting member for insertion and infinite horizontal adjustment therein.

3,376,068
FOOTRING MOUNTING FOR CHAIRS

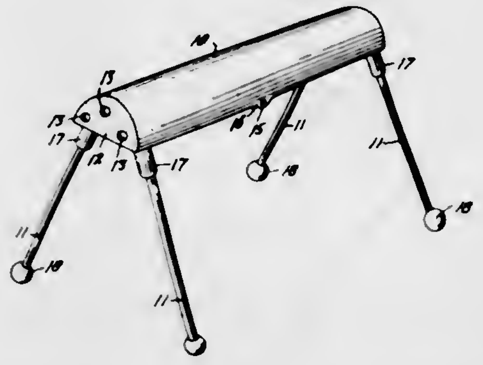
Thomas G. Walkinshaw, Mission, Kans., assignor to Cramer Industries, Inc., Kansas City, Kans., a corporation of Missouri
Filed Oct. 3, 1966, Ser. No. 583,823
10 Claims. (Cl. 297—437)



This invention relates to a footrest or ring vertically and adjustably mounted on a pedestal of a chair wherein there is mounted upon a barrel a hub or elongated sleeve surrounding the barrel, and is vertically and rotatably slidable with respect thereto. The hub has a vertically extensible bulge portion, to which a pin is rigidly secured having its inner ends projecting inwardly of the bulge portion. An elongated strip member is rigidly secured to the barrel, and has a plurality of spaced apart slots, the upper edge of the slots extending laterally and downwardly into the strip member and into the pockets for receiving the pin. The upper side of the slot forms a cam surface for guiding and aiding in the pin being entered into the slots and pockets and removal of the pin from the pockets and slots by upward pressure on the ring. There is also included a stop member at the top, for preventing dislodgement of the ring and its parts from the barrel.

3,376,069
PORTABLE FOOTRESTS FOR CARD PLAYERS

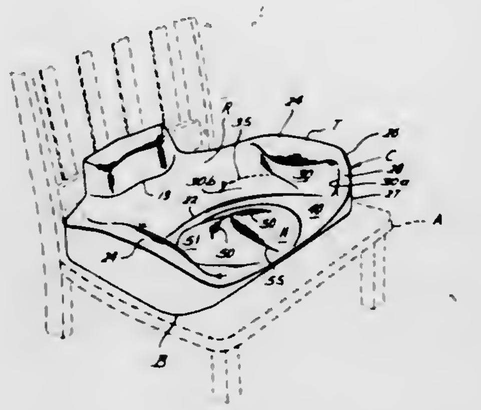
Elbert W. Lowdermilk, 1950 W. Dartmouth Ave., Englewood, Colo. 80110
Filed Sept. 28, 1966, Ser. No. 582,663
2 Claims. (Cl. 297—439)



A hollow, elongated body shell, of semi-cylindrical, open bottomed cross section, with closed semi-circular ends, provided with a transverse leg-mounting strip at each extremity of the open bottom and with a leg-retaining rod extending transversally across the open bottom intermediate said mounting strips, said ends having leg-storage holes and said mounting strips having leg-receiving sockets.

3,376,070
CONTOURED SEAT CUSHION

Merle E. Johnson, 1417 Carlisle, Rosenberg, Tex. 77471
Filed July 22, 1966, Ser. No. 567,211
1 Claim. (Cl. 297—459)



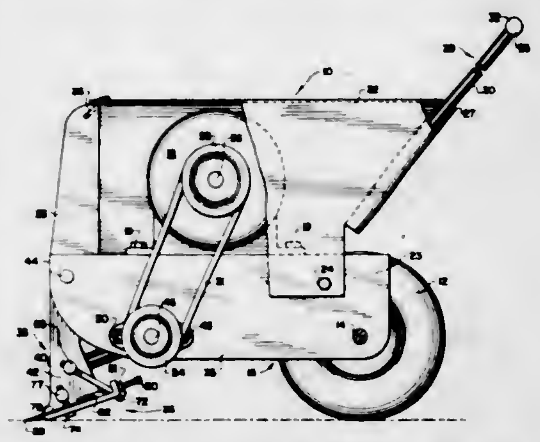
A seat cushion contoured for properly aligning and supporting the pelvic girdle of a person seated thereon.

Sitting in an erect position in most conventional chairs or bench type seats for extended periods of time is frequently fatiguing due to the failure of such conventional seats to properly support the pelvic girdle. As a result of improperly positioning the pelvic girdle, a substantial amount of weight of the upper body is borne by the superior and inferior posterior articular processes or zygaphysis of the lumbar vertebrae and sacrum which causes fatigue in the low back, tiredness between the shoulders, and an over-all tenseness and weariness.

3,376,071
FLOOR STRIPPING MACHINE

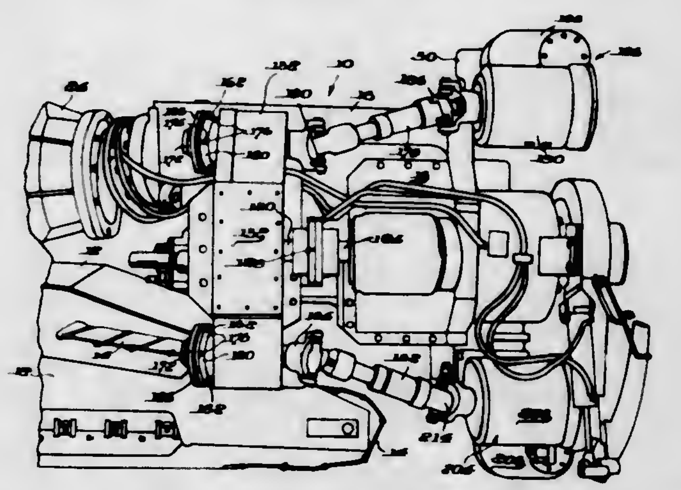
Roy H. Stein, 3920 Zephyr, Wheat Ridge, Colo. 80033
Filed Dec. 7, 1965, Ser. No. 512,600
6 Claims. (Cl. 299—37)

The present power-operated floor stripping machine includes a cutting head and blade pivotally mounted on a mobile frame. An eccentric cam is mounted on a first shaft journaled in said frame and a power means is connected to the said first shaft to impart rotary movement thereto. A rod connects the cam and a second shaft rotatably mounted on said cutting head, thus effecting a reciprocating stripping motion of the cutting head and the cutting blade positioned therein whenever the power means rotates the first shaft.



3,376,072
BORING TYPE MINING MACHINE HAVING MECHANICALLY DRIVEN HORIZONTAL ROTARY TRIMMER BARS

Jerry Karlovsky, Jr., Nashville, Ill., assignor to National Mine Service Company, Pittsburgh, Pa., a corporation of West Virginia
Filed Dec. 10, 1965, Ser. No. 512,893
9 Claims. (Cl. 299—59)

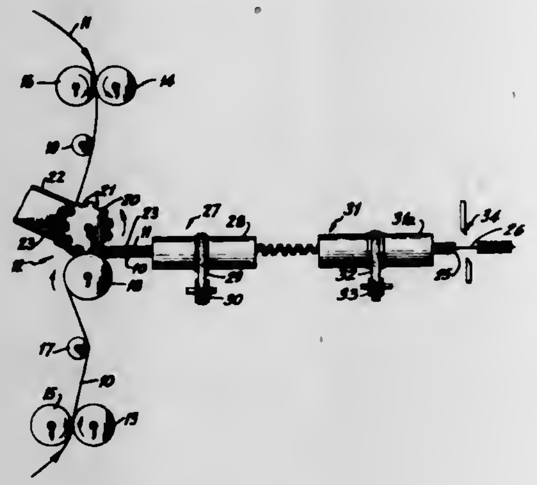


A boring type mining machine having mechanically driven horizontal trimmer bars with a disconnect means. The trimmer bars are drivingly connected to the gearing in the main transmission by gearing in an auxiliary transmission secured to the side walls of the main transmission and shafting extending forwardly from the auxiliary transmission. The shafting is drivingly connected to the trimmer bars and is located along the side of the mining machine. A shear pin type disconnect means forms a part of the shafting and is operable to disconnect the trimmer bars from the transmission. The disconnect means is located along the side of the mining machine and is accessible from the side of the machine and rearwardly of the boring heads.

3,376,073
BRISTLE FEEDING MECHANISM

Theodore Marks, Hartsdale, and Joseph T. Gelardi, Yonkers, N.Y., assignors to American Technical Machinery Corporation, Mount Vernon, N.Y., a corporation of New York
Filed Oct. 28, 1965, Ser. No. 505,506
7 Claims. (Cl. 300—2)

In a brush-making machine wherein bristle-feeding means is employed to feed bristles between a pair of adjacent wires, which wires are thereafter twisted, control means are provided for determining the spacing between groups of brush elements. The control means comprises means for sensing increments of linear travel of the wires, means coupled to the sensing means for counting said sensed increments, and actuating means responsive to the counting means and coupled to the bristle-feeding means whereby to prevent the bristle-feeding means from feeding bristles between the wires for a predetermined time while the wires are fed to and past the bristle feeding station.

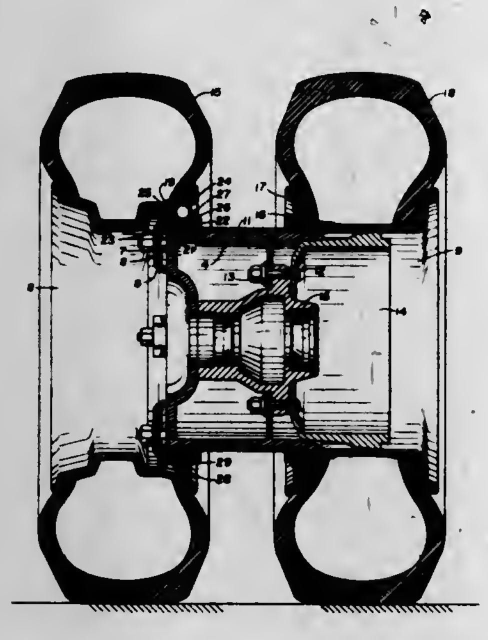


3,376,074

DYNAMIC WHEEL BALANCER UNIT

Beauford I. Whitlock, Stafford, Kans., assignor to AWB Manufacturing, Inc., Stafford, Kans., a corporation of Kansas

Filed Aug. 15, 1966, Ser. No. 572,456
7 Claims. (Cl. 301—5)



1. A dynamic balancing wheel assembly, comprising:

(a) a rim having a ring accommodating axially facing circumferentially extending recess, said recess being formed in part by an axially extending rim flange, said rim flange also being provided with a radially opening groove along one axial edge of said recess;

(b) a dynamic balancer ring positioned within said recess in abutment with said rim along a portion of the inwardly oriented portion of the ring;

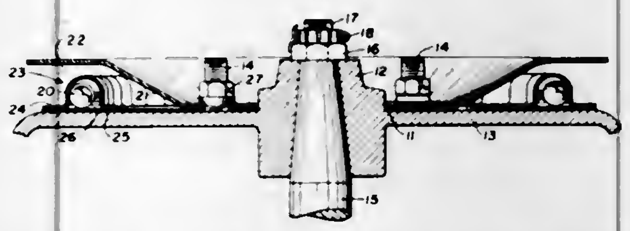
(c) a resilient O-ring type retainer accommodated within said groove in abutment with a portion of the outwardly oriented periphery of the ring.

3,376,075

DYNAMIC WHEEL BALANCER

Arlan E. Mitchell, Stafford, Kans., assignor to AWB Manufacturing, Inc., Stafford, Kans., a corporation of Kansas

Filed Aug. 19, 1966, Ser. No. 573,728
3 Claims. (Cl. 301—5)



1. A dynamic wheel balancer for concentric mounting on a motor vehicle wheel between a brake drum and a rim which are securable each to the other by a plurality of lug bolts, comprising:

(a) an annular plate provided with a first set of circular apertures angularly spaced about said plate to correspond with the angular spacing of said lug bolts with the center of said apertures lying on a circle the center of which coincides with the center of said plate and the circumference of which coincides with the circumference of a circle defined by the center of said lug bolts,

(b) each of said apertures being defined by a substantially cylindrical wall having a diameter slightly larger than the diameter of one of said lug bolts, an axis which is normal to the surface of said plate, and the front-to-back depth of which is at least the distance between the apexes of adjacent ridges on the threads of said lug bolts; and

(c) a dynamic balance ring carried by said plate in concentric relationship to the center thereof;

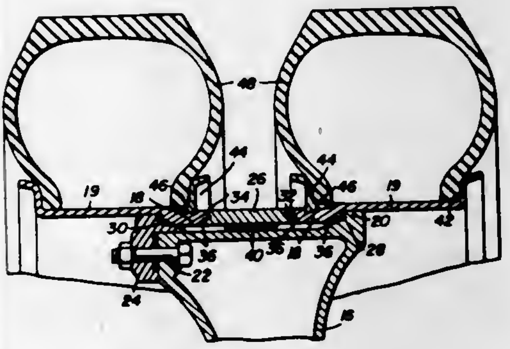
(d) the thickness of said plate being less than the distance between the apexes of adjacent ridges on the threads of said lug bolts and said wall defining said apertures is formed by an axially projecting portion of said plate which has a front-to-back depth of at least the distance between apexes of adjacent ridges on the thread of said lug bolts.

3,376,076

WHEEL STRUCTURE WITH REVERSIBLE RIMS

Fred Durrenmatt, 1446 Burke Ave.,
St. Paul, Minn. 55113

Filed Apr. 6, 1966, Ser. No. 540,575
8 Claims. (Cl. 301—13)



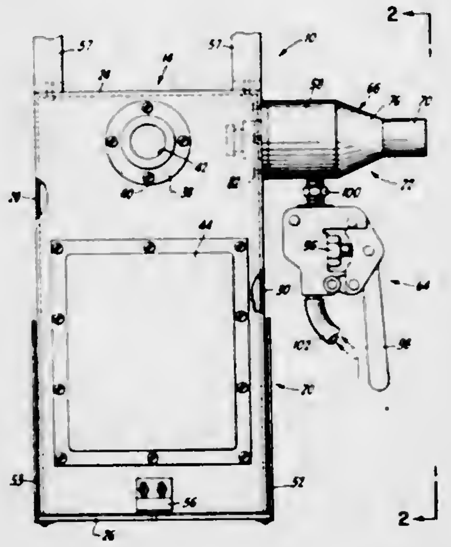
A wheel body including opposite sides and circumferentially spaced pairs of opposing abutment means with one set of corresponding abutment means being removably supported from the wheel body and with outer rim means being provided and including means adapted to support tire casing means therefrom as well as inwardly projecting circumferentially spaced abutment means clampingly receivable between the corresponding pair of abutment means carried by the wheel body, the abutment means carried by the rim means including substantially identical oppositely axially facing abutment surfaces and the pairs of abutment means carried by the wheel body including substantially identical opposing abutment surface portions complementary to the abutment surface portions carried by the rim means whereby the latter may be readily reversed in position on the wheel body.

3,376,077

PNEUMATIC CONVEYOR

Jerome Barnaby Chambers, Billings, Mont., and Nicholas Kruger, New York, N.Y., assignors to American Machine & Foundry Company, a corporation of New Jersey

Filed July 18, 1966, Ser. No. 566,109
2 Claims. (Cl. 302—59)



A tube cleanout device comprising a collector housing with walls forming a chamber having an inlet opening for connection to a tube to be cleaned out and having an outlet opening: a gas evacuator having an inlet opening connecting to the housing outlet opening and having an outlet opening and having a gas inlet port; and a manual gas-injector valve connecting to the evacuator gas inlet port and supplied with compressed gas; in which said housing has a resilient member mounted on one of said wall portions within said chamber and arranged to face said chamber inlet opening, said wall portion and resilient member is disposed directly opposite said chamber inlet opening, and said resilient member has a substantially smooth inner surface.

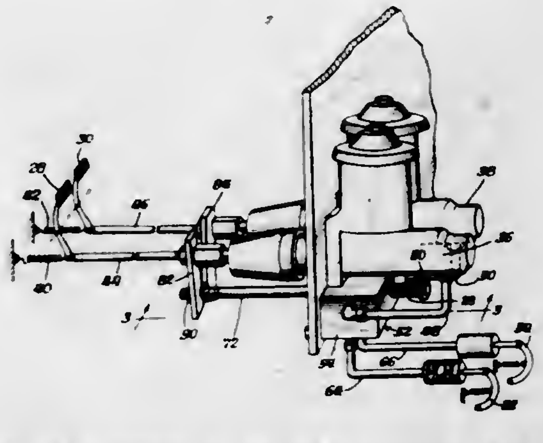
3,376,078

BALANCED BRAKE SYSTEM

Robert S. Brace, Memphis, Tenn., and Herbert D. Sullivan, Hinsdale, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey

Filed Dec. 9, 1965, Ser. No. 512,688
4 Claims. (Cl. 303—6)

1. A braking system for a vehicle having transversely spaced wheels, brake means for each wheel, and in the use of which braking of one of the wheels produces a steering action and braking of both of the wheels produces a stopping action, and brake pedals associated with respective brake means, comprising, means operable upon actuation of either of the brake pedals for transmitting braking power from the pedal to the respective brake means, and means operable in response to simultaneous actuation of both the pedals for equalizing the power from the pedals to both of said brake means and wherein the braking system is of hydraulic nature and includes a pair of master cylinders associated with respective brake pedals and brake means, and said braking system includes branches interconnecting the master cylinders, means operatively interconnecting the brake pedals with respective master cylinders, valve means controlling the branches of the hydraulic system and when closed shutting off communication between those branches, means biasing the valve means to an open position, and means individually interconnecting each pedal with said valve means and normally biasing said valve means to a normally closed position and operative only in response to actuation of both brake pedals for moving the valve means to open position for establishing communication between both branches, and said interconnecting means being individually disconnectable from said valve means while the other interconnecting means is in connecting position with its respective pedal to permit said valve means to move to open position upon actuation of at least a certain pedal for operation of all of the brake means.

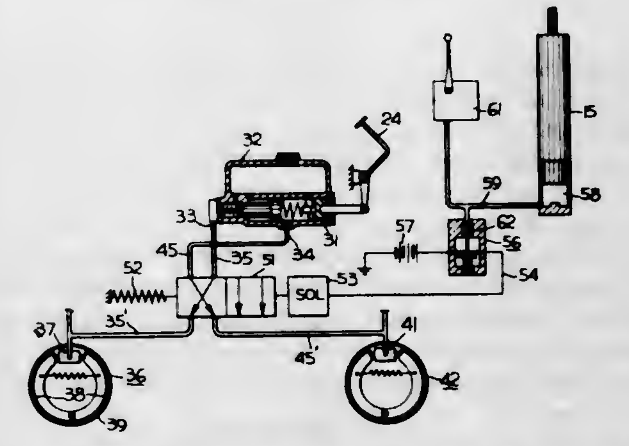


3,376,079

LOAD RESPONSIVE BRAKING SYSTEM

Neil J. Ryskamp, Markham, Ill., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

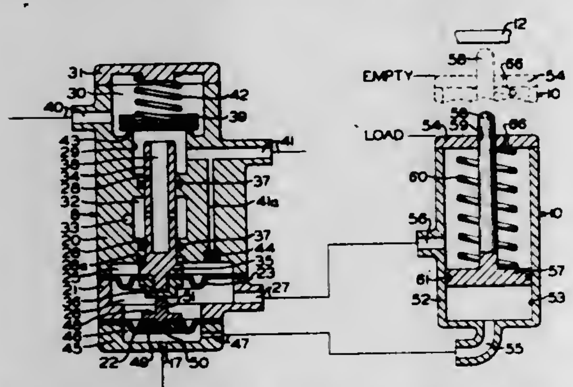
Filed Apr. 29, 1966, Ser. No. 546,302
5 Claims. (Cl. 303—22)



The rear wheel brakes of a lift truck are supplied greater braking force than the front wheel brakes when the load carried by the lift ram is below a predetermined amount, in which condition the rear wheels are more heavily loaded than the front wheels because of the rear counterweight. When the lift ram load is above such predetermined amount, the front wheels receive greater effort than the rear wheels. Outputs with pressure fluid at two pressure levels are provided on the truck and connected, respectively, through a reversing value to the front and rear fluid brake circuits. The reversing value means is automatically shifted when the pressure in the lift cylinder exceeds a predetermined value.

3,376,080
EMPTY AND LOAD BRAKE CONTROL APPARATUS FOR RAILWAY CARS

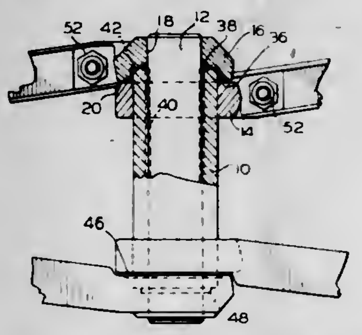
James H. Kettering, Irwin, and Francis R. Racki, Pittsburgh, Pa., assignors to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Sept. 30, 1966, Ser. No. 583,335
5 Claims. (Cl. 303—22)



An empty and load brake control apparatus for railway cars in which a load measuring operation is automaticaly effected each time a brake application is made to thereby cause a change in the degree of the application effected subsequent to each change in the load carried by the car.

3,376,081
DUAL SEALED TRACK JOINT

Jack M. Dell, Wheaton, and Paul F. Plomb, Elmhurst, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Jan. 3, 1966, Ser. No. 518,437
8 Claims. (Cl. 305—11)

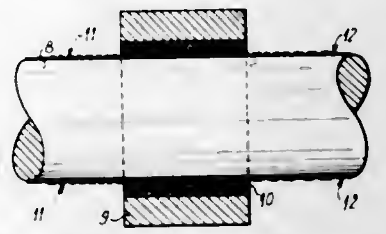


Dual sealed track joint providing the environment of a bushing counterbore and a track link bushing having a thrust and projecting into the counterbore in an outer circumferential ring of pressure contact or face contact with the base of the counterbore. The seals seal the ring of pressure contact from both sides, with an outer one of the dual seals being of large diameter and sealing off the ring of contact from outside contaminant, and the other seal being of small diameter and forming an inner seal between the base of the counterbore and the inner circumferential face portion of the thrust end of the bushing.

3,376,082
SELF-LUBRICATING FRICTION DEVICE BETWEEN TWO SURFACES

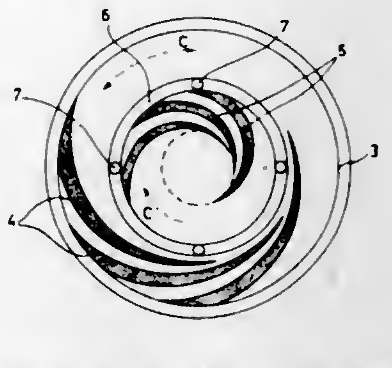
Robert Soder, Montreux-Territet, Switzerland, assignor to Ebauches S.A. Neuchatel, Switzerland, a firm of Switzerland
Filed Aug. 17, 1965, Ser. No. 480,391
Claims priority, application Switzerland, Aug. 17, 1964, 10,734/64
16 Claims. (Cl. 308—3)

A self-lubricating friction device between two surfaces such as a bearing and a shaft in which at least one of the surfaces has a layer constituted of a mixture of a self-lubricating material and a ductile metal, the mixture itself being agglomerated by a binder which also contains a self-lubricating material.



3,376,083
AXIAL BEARING

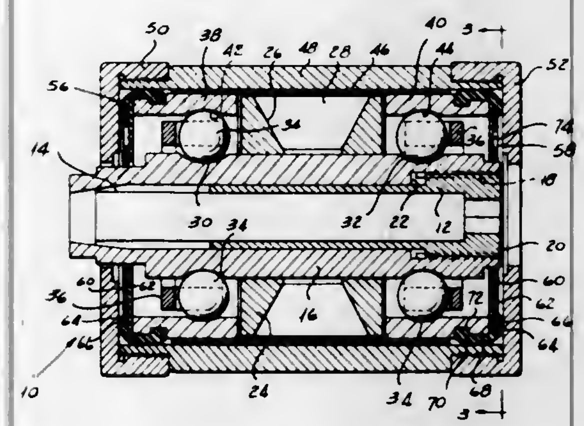
Everhardus Albertus Muijderman, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 1, 1966, Ser. No. 530,925
Claims priority, application Netherlands, Mar. 27, 1965, 65—3,950
5 Claims. (Cl. 308—9)



A hydrodynamic axial bearing for a rotating shaft. The bearing is defined by the confronting surfaces of a support member and a pressure member between which a lubricant is supplied. A first and second pattern of shallow grooves is located in one of the confronting surfaces. The grooves of the first pattern extend in a direction opposite to the grooves of the second pattern such that the grooves of the first pattern will force the lubricant radially inwardly during clockwise rotation and the grooves of the second pattern will force the lubricant radially inwardly during rotation in a counter-clockwise direction.

3,376,084
DENTAL HANDPIECE

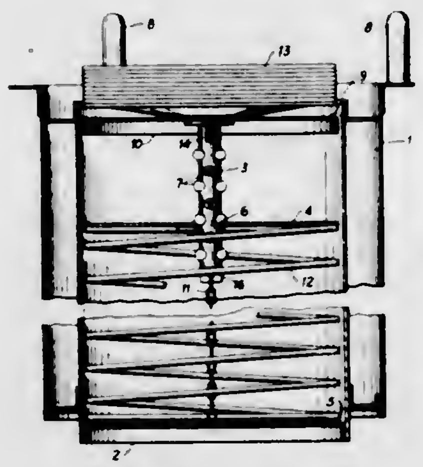
Lewis W. McKee, Brookfield Center, Conn., assignor to The Barden Corporation, Danbury, Conn., a corporation of Connecticut
Filed Jan. 7, 1965, Ser. No. 423,955
4 Claims. (Cl. 308—184)



3. A shield and shock absorber for a bearing having an outer ring including in combination a disk-like member of resilient material having an annular peripheral flange thereon engaging the outer periphery of said ring, a relatively rigid disk and a lip on said resilient disk-like member holding said relatively rigid disk in assembled relationship with said resilient member.

3,376,085
ADJUSTABLE DISH DISPENSER

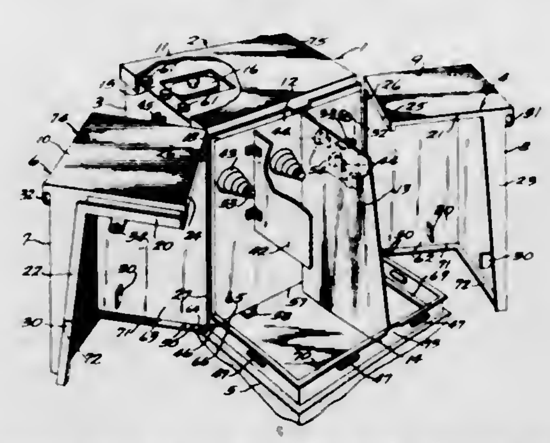
Patrick Fred McPherson, Deep River, Conn., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Oct. 21, 1965, Ser. No. 499,513
Claims priority, application Great Britain, June 9, 1965, 24,385/65
1 Claim. (Cl. 312—71)



A self-levelling, storing and dispensing apparatus comprising, a housing, a helical compression spring having a predetermined constant supported in said housing, a carrier connected to the upper end of said compression spring for supporting material stored in said housing, and a rod, vertically adjustable through a series of integral lateral projections connecting said carrier and a plate over said spring, said projections bearing serially and selectively against said plate, whereby the constant of said spring may be altered by limiting the distance said rod passes through said plate, the bottom of said rod being connected to said housing to maintain the level of said carrier constant as the constant of said spring is varied.

3,376,086
HOUSING FOR ELECTRICAL APPARATUS

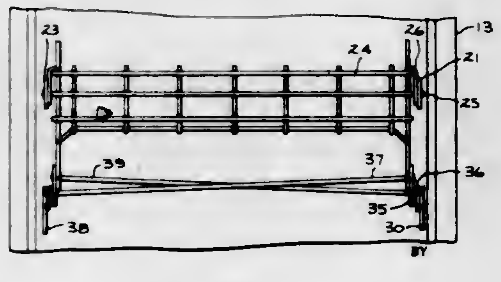
John L. Fisher, South Zanesville, Ohio, assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Oct. 18, 1966, Ser. No. 587,487
7 Claims. (Cl. 312—100)



A ground level electrical apparatus housing having two doors which when opened allow access to the housing from its top and three sides and which may be removed from the housing when opened. One door and an edge portion of the housing each have an outward facing U-shaped flange and the other door has a flange which overlaps the U-shaped flanges so that water on the surface of the housing can run into the U-shaped flange and be drained away by it.

3,376,087
COMBINED SUPPORTING RACK AND COUNTERBALANCE FOR DISHWASHER

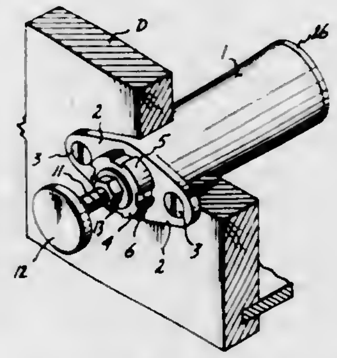
Albert L. Hardy, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Sept. 12, 1966, Ser. No. 578,634
9 Claims. (Cl. 312—269)



1. A structure comprising:
(a) a cabinet,
(b) at least one supporting rack adapted to receive and support articles thereon,
(c) means pivotally supporting said rack from said cabinet for movement relative to said cabinet, and
(d) an elongated torsion bar having one end rigidly connected to said rack and the other end rigidly connected to said means.

3,376,088
CABINET DRAWER AND DOOR OPENER

William Bol, 3556 NE. 110th, Seattle, Wash. 98125, and Robert G. Johnson, Edmonds, Wash., said Johnson assignor to said Bol
Filed July 19, 1966, Ser. No. 566,263
10 Claims. (Cl. 312—319)



A pusher for exerting an opening force on a cabinet door or drawer and interengageable between such cabinet door or drawer and stationary cabinet structure includes a plunger slidably received in a barrel. A compression spring interengaged between the plunger and the barrel can move them forcefully into relatively extended relationship. Intermittently operable latch means engageable between the barrel and the plunger to hold them in contracted condition at the end of one stroke and to permit relative extension of such parts during the next stroke include indexing projections and notches to effect relative rotation of a tubular latch element incrementally first to a position in which tubular latch element engages the barrel to hold the compression spring in contracted condition and then to a position in which the tubular member is released for movement lengthwise of the barrel by the spring, which simultaneously moves the plunger into extended relationship relative to the barrel.

3,376,089

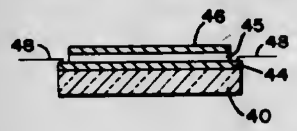
HIGH SPEED OPTICAL SHUTTER

Eugene C. Letter, Penfield, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 159,105, Dec. 13, 1961. This application Apr. 25, 1966, Ser. No. 544,929

The portion of the term of the patent subsequent to Dec. 27, 1983, has been dedicated to the Public

6 Claims. (Cl. 350—160)



1. An optical shutter comprising an electrically conducting reflective film consisting essentially of magnesium, and means for applying sufficient high voltage electrical energy across said film to remove the film and destroy the reflectivity of the optical shutter.

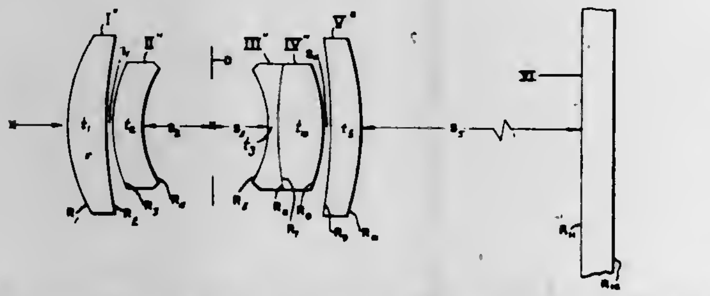
3,376,090

MODIFIED 4-MEMBER GAUSSIAN PROJECTION OBJECTIVE

Lena M. Hudson, Brighton, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York

Filed Aug. 28, 1964, Ser. No. 392,767

1 Claim. (Cl. 350—209)



A modified Gaussian photographic objective having a relatively wide total field angle of at least 64 degrees within which the chromatic and mono-chromatic image aberrations are very well corrected.

3,376,091

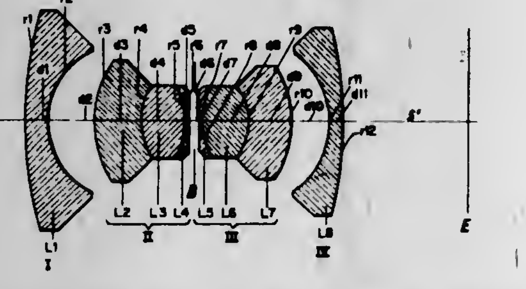
COMPACT WIDE-ANGLE CAMERA OBJECTIVE

Werner Wagner, Odernheim (Glan), and Karl Heinrich Macher, Bad Kreuznach, Germany, assignors to Jos. Schneider & Co. Optische Werke, Kreuznach (Rhineland), Germany, a corporation of Germany

Filed Aug. 12, 1964, Ser. No. 388,997

Claims priority, application Germany, Aug. 14, 1963, Sch 33,712

2 Claims. (Cl. 350—209)



Optical objective with an outer pair of dispersive lens members and an inner pair of collective lens members, the latter being in the form of triplets each consisting of a positive lens sandwiched between two negative lenses; the negative lens members are meniscus-shaped singlets with outer surfaces having radii of curvature larger than those of any of the surfaces except the confronting inner surfaces of the triplets.

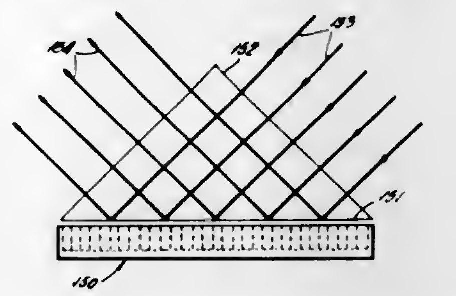
3,376,092

SOLID STATE DISPLAY COMPOSED OF AN ARRAY OF DISCRETE ELEMENTS HAVING MOVABLE SURFACES

David S. Kushner, Old Bethpage, and Elliott H. Kahn, Brooklyn, N.Y., assignors to Kollsman Instrument Corporation, Elmhurst, N.Y., a corporation of New York

Filed Feb. 13, 1964, Ser. No. 344,720

9 Claims. (Cl. 350—285)



A display composed of a matrix of individually movable members having surfaces movable from one plane to another in order to modify the illumination observed at their respective discrete positions. The individual members are piezoelectric or magnetostrictive elements which are individually electrically extended and contracted to modify the position of their individual illumination controlling surfaces.

3,376,093

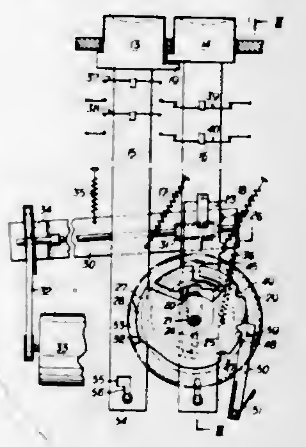
SOUND RECORDING APPARATUS

Otto Freudenschuss, Vienna, Austria, assignor to Karl Vockenhuber and Raimund Hauser, both of Vienna, Austria

Filed Mar. 3, 1965, Ser. No. 436,775

Claims priority, application Austria, Mar. 10, 1964, A 2,081/64

38 Claims. (Cl. 352—25)



Apparatus for recording sound on film, comprising, in combination, a mode selector switch movable between a "forward," a "reverse" position, and a "standstill" position, film feed drive means responsive to the position of the mode selector switch and arranged to effect a forward movement of a film along a predetermined path in the apparatus when the mode selector switch is in the "forward" position and to effect a reverse movement of the film along the path when the mode selector switch is in the "reverse" position, projection means responsive to the position of the mode selector switch and arranged to effect a standstill projection of a portion of the film in a predetermined position in the path when the mode selector switch is in the "standstill" position. A film length meter is provided for registering the amount of such reverse movement and for providing an indication when the film has subsequently performed such forward movement by the same amount. A sound recorder is provided operable to record sound on the film during such forward movement thereof, and a recording switch means is arranged to initiate the operation of the sound recorder in response to the indication by the film length meter.

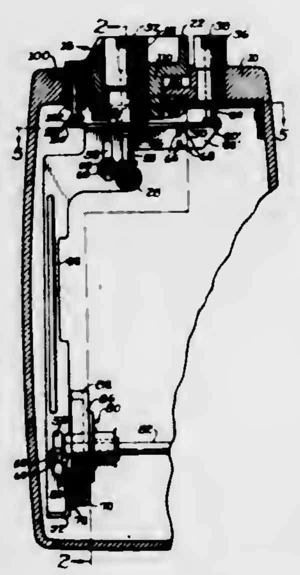
3,376,094

CAMERA DRIVE CONTROL

Albert R. Baginski, Chicago, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois

Filed Mar. 1, 1965, Ser. No. 436,005

6 Claims. (Cl. 352—137)



A manually operable camera drive control assembly having an elongated start button longitudinally movable to a plurality of positions relative to the housing of the camera, and a control ring surrounding the button and being rotatable between several positions in which it is releasably retained. Portions arranged on the control ring cooperate with the start button and a drive transmission actuator member longitudinally movable with the button, upon rotation of the control ring from one position to another. A spring urges the start button to a first position when said button has been displaced, and is released.

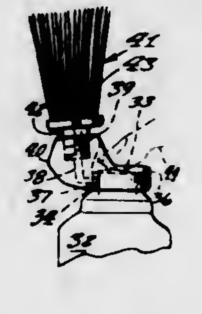
3,376,095

PRESSURIZED SHAVING LATHER BRUSH

John J. Modla, 46 Jones St., Jersey City, N.J. 07306, now by change of name William D. Johnson

Filed Mar. 8, 1965, Ser. No. 437,660

1 Claim. (Cl. 401—190)



Shaving brush attachment for pressurized shaving cream can comprising a hollow base, a stem having bristles mounted thereon, the stem being threadedly attachable to one end of the base and having a central opening communicating the bristles with the hollowed out portion of the base, means on the other end of said base for mounting the attachment on the pressurized can and communicating the shaving cream dispensing mechanism of the can with the hollowed out portion of the base, and means for activating the shaving cream dispensing mechanism.

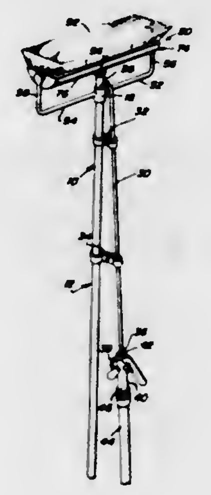
3,376,096

PRESSURIZED PAINT SUPPLY ASSEMBLY WITH EXTENSION APPLICATOR

Frank E. Mayden, Springfield, Ill., assignor of one-half to Theresa E. Mayden, Springfield, Ill.

Filed Nov. 18, 1965, Ser. No. 508,525

6 Claims. (Cl. 401—270)



A paint applicator including an extension handle from one end of which the applicator is supported and provided with pressurized paint conduit means operatively removably communicated with the paint applicator at one end and with the other end thereof disposed adjacent the end of the extension handle remote from the applicator and adapted for communication with a suitable source of paint under pressure.

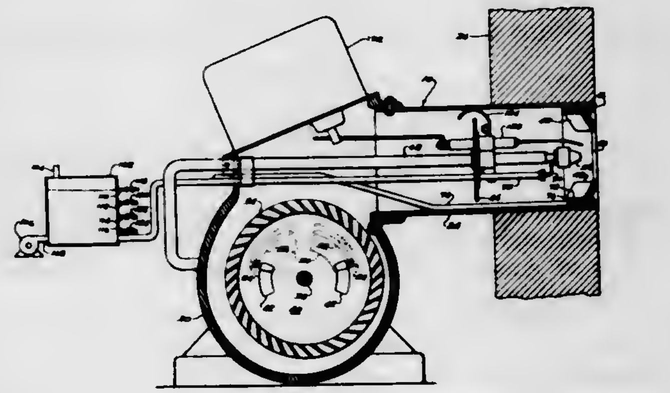
3,376,097

OIL BURNING PROCESS

Albert Biber, Verona, and Bruce R. Walsh, Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Original application Dec. 3, 1964, Ser. No. 415,720. Divided and this application Dec. 8, 1966, Ser. No. 600,234

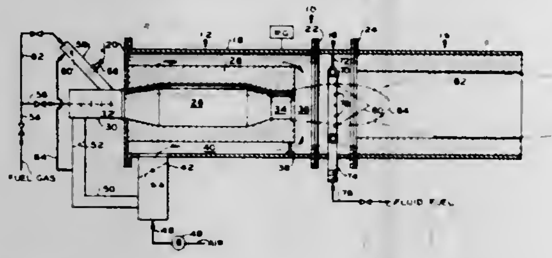
5 Claims. (Cl. 431—9)



A combustion process wherein substantially complete combustion of fuel oil in the presence of only substantially a stoichiometric quantity of air is achieved by utilizing an aspirating nozzle in an air blast tube. Atmospheric air is blown through the air blast tube and swirled at the discharge end thereof. Compressed air is swirled through the aspirating nozzle and aspirates fuel oil. A second portion of compressed air is charged directly to the air blast tube and is swirled together with the atmospheric air. The quantity of the second portion of compressed air is established so that substantially complete combustion of fuel oil is achieved in the presence of only a stoichiometric quantity of air.

3,376,098
TWO-CHAMBER BURNER AND PROCESS

Robert C. Pryor, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Aug. 29, 1966, Ser. No. 575,820
6 Claims. (Cl. 431—10)

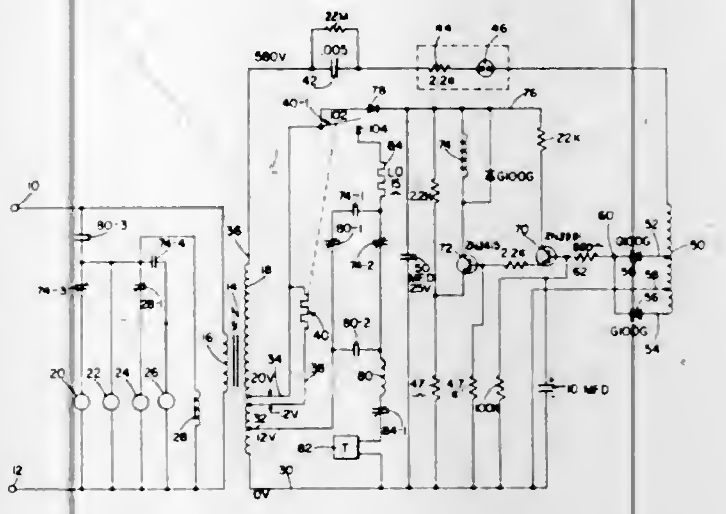


1. A burner comprising in combination:
(a) a burner housing of generally cylindrical, elongated configuration;
(b) a hollow, elongated refractory booster burner body fixed in the upstream end of said housing coaxial therewith and forming an axial booster burner combustion chamber and a surrounding air heating annulus with said housing, said chamber having a restricted outlet on its downstream end and a burner in the upstream end thereof;
(c) means for feeding a combustible mixture of fuel gas and air to the burner of (b) and means for igniting same;
(d) means for feeding primary air to said heating annulus;
(e) an elongated hollow refractory primary burner body coaxial with said housing in the downstream end thereof spaced from the burner body of (b) to provide a substantial free gas space therebetween and forming an axial primary combustion chamber;
(f) a hollow fuel ring in the gas space of (e) coaxial with said housing having orifices therein directed in a conical pattern downstream into the primary combustion chamber of (e), said free gas space communicating between the annulus of (b) and said primary combustion chamber to provide for flow of heated combustion air from said annulus to said primary combustion chamber; and
(g) means for feeding fluid fuel to the fuel ring of (f).

3,376,099
ELECTRICAL CONTROL CIRCUITRY FOR BURNERS

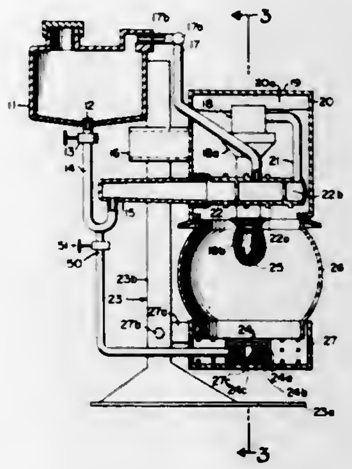
Philip Giuffrida, North Andover, and Phillip J. Cade, Winchester, Mass., assignors to Electronics Corporation of America, Cambridge, Mass., a corporation of Massachusetts
Filed Mar. 30, 1966, Ser. No. 538,713
6 Claims. (Cl. 431—26)

A combustion control system includes a main control relay; an ultraviolet radiation sensor and electronic circuitry connected to the sensor for operating a flame relay; fuel control elements and an ignition transformer; a time delay relay; a safety lockout switch; and a time delay switch having a bimetallic actuator heated by a heater connected to a 0.2 volt source. When the system is energized the electronic circuitry connected to the sensor is immediately energized. A set of normally closed flame relay contacts, a set of normally closed safety lockout switch contacts, and a set of normally open time delay switch contacts are connected in the energizing circuit of the main control relay. After a short time interval the time delay switch contacts close and the main control relay is energized to start a combustion cycle. However, if the electronic circuitry causes the flame relay to be immediately energized, the control relay circuit is interrupted so that combustion cannot be initiated. In the combustion cycle the time delay relay is energized and after a predetermined interval the ignition transformer is de-energized by that relay and cannot be again re-energized until the main control relay has been de-energized.



3,376,100
COMBUSTION APPARATUS

Landon L. Palmer and Ernest W. Weaver, Sr., Toledo, Ohio, assignors, by direct and mesne assignments, to Alfred E. Rhoden, Toledo, Ohio
Filed May 20, 1966, Ser. No. 551,766
6 Claims. (Cl. 431—36)



Combustion apparatus in which fuel is gravity fed from an air tight container through a valve in a fine, continuous stream to a vaporizer. Heat from the vaporizer is prevented from vaporizing fuel behind the valve so that an exact control over the amount of fuel vaporized, and thus burned, is maintained. Vaporized fuel is fed back to the container to maintain a desired equilibrium of pressure.

CHEMICAL

3,376,101
PROCESS OF MODIFYING CELLULOSIC TEXTILES WITH GLYOXAL-BISCARBAMATE REACTION PRODUCTS

Sidney L. Vail and Clifford M. Moran, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Oct. 22, 1963, Ser. No. 318,129

3 Claims. (Cl. 8—116.3)

1. A process for imparting wash-wear properties to cotton fabric, comprising:
(a) wetting the said cotton fabric with an acid catalyzed aqueous solution of 1,3-dicarbomethoxy-4,5-dihydroxyimidazolidine,
(b) drying the fabric for about 7 minutes at about 60° C., and
(c) curing the dried fabric from about 1 to 3 minutes, at a temperature of about 160° C.

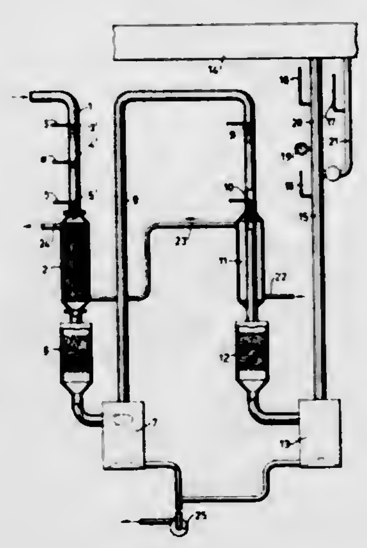
3,376,102
METHOD OF REMOVING VOLATILE ACIDS FROM VAPORS IN THE MANUFACTURE OF SULPHATE CELLULOSE

Emil Teodor Venemark, deceased, late of Ornskoldsvik, Sweden, by Rut Venemark, legal representative, Lund, Sweden, assignor to Mo och Domsjo Aktiebolag, Ornskoldsvik, Sweden, a limited company of Sweden

Continuation-in-part of application Ser. No. 176,083, Feb. 27, 1962. This application May 9, 1966, Ser. No. 559,704

Claims priority, application Sweden, Feb. 28, 1961, 2,133/61

12 Claims. (Cl. 23—2)



Method of removing volatile acidic compounds such as hydrogen sulfide and mercaptans from vapors produced during the sulfate pulping process which comprises atomizing an aqueous alkali solution into a stream of the vapors containing the volatile acidic compounds in a volume ratio of alkali solution to vapor of about 0.15 to about 1 liter per cubic meter at a rate of at least 5 meters per second at an alkali solution load of at least 250 liters per minute per square meter to form a final alkali solution having a pH of at least 8.

3,376,103
PROCESS FOR ROASTING VANADIUM ORES

Angus V. Henrickson and John A. Hermann, Golden, and Adolph E. Meyer, Wheatridge, Colo., assignors to Kerr-McGee Corporation, a corporation of Delaware

No Drawing. Filed Mar. 9, 1964, Ser. No. 350,573

20 Claims. (Cl. 23—15)

Vanadium values are recovered from vanadium bearing ores by a novel process including a plurality of roasting stages in the presence of at least one substantially neutral salt of an alkali metal selected from the group consisting of sodium and potassium and a strong mineral acid. The ore is roasted under oxidizing conditions until the vanadium values are solubilized, and then the roasted ore is leached with an aqueous medium to produce an aqueous leach liquor containing the solubilized vanadium values. Thereafter, the vanadium values are recovered from the leach liquor.

3,376,104
EXTRACTION OF RHENIUM AND PRODUCTION OF MOLYBDIC OXIDE FROM SULFIDE ORE MATERIALS

Martin E. Messner and Stuart R. Zimmerley, Salt Lake City, Utah, assignors to Kennecott Copper Corporation, New York, N.Y., a corporation of New York

Filed July 22, 1964, Ser. No. 384,424

7 Claims. (Cl. 23—15)

A process for extracting rhenium and molybdenum values and for producing molybdic oxide from sulfide ore materials, such as molybdenite concentrates, containing both rhenium and molybdenum values. The ore material is mixed with a calcium reagent of the nature of calcium hydroxide or calcium oxide and is then calcined at a temperature within the range of from about 566° to 732° C. to produce calcium perrhenate and calcium molybdate. Since the former is water-soluble and the latter water-insoluble, a water leach places the calcium perrhenate in solution free of calcium molybdate. Separation of the liquid and solids yields a solution that is treated for the recovery of rhenium values and residue solids that are treated for the recovery of molybdenum values, desirably by leaching with a mineral acid to produce an acid molybdate solution, which is further treated for the production of molybdic oxide by reducing the dissolved molybdenum to the trivalent state, precipitating molybdenum hydroxide therefrom, and converting the molybdenum hydroxide to molybdic oxide.

3,376,105
ION EXCHANGE EXTRACTION OF VANADIUM

Alfred W. Naumann, Suffern, N.Y., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed May 13, 1964, Ser. No. 367,230

10 Claims. (Cl. 23—22)

A process is provided for recovering vanadium in the form of ammonium metavanadate from impure metavanadate ion containing solutions having a pH ranging from about 6.0 to about 7.2 which comprises the step of contacting a basic anion exchange resin possessing replaceable chloride ions with a metavanadate ion containing solution to thereby load the ion exchange resin with metavanadate ions, treating the metavanadate loaded resin with an ammonium containing stripping solution whose chloride content is so regulated that it will effectively remove the metavanadate ions from the ion exchange resin without causing the metavanadate ions to be precipitated in the ion exchange resin bed and then recovering the vanadium value as ammonia metavanadate.

3,376,106
BOEHMITE ALUMINA PRODUCTS

John L. Gring and John Mooi, Homewood, Ill., assignors to Sinclair Refining Company, New York, N.Y., a corporation of Maine
Original application May 22, 1961, Ser. No. 111,798, now Patent No. 3,245,919, dated Apr. 12, 1966. Divided and this application Apr. 28, 1965, Ser. No. 462,775
8 Claims. (Cl. 23—141)

1. A novel boehmite alumina product with particles of irregular edges, a pore structure totalling at least about 0.5 cc. per gram in pores larger than 80 A. in size, an average crystallite size greater than about 40 A. up to about 200 A. by X-ray diffraction, and composed of a non-homogeneous integral aggregation of polycrystalline boehmite sub-units, said particles having a largest dimension of at least about 500 A. by electron microscope.

2. The product of claim 1 wherein the product is platelet in form.

3. The product of claim 1 wherein the product is granular in appearance and the particles are acicular in form.

3,376,107
STOICHIOMETRIC TRANSITION METAL HYDRIDES

Akira Oka, 71 Sugamo 1-chome, Toshima-ku, Tokyo, Japan
No Drawing. Filed May 15, 1964, Ser. No. 367,843
Claims priority, application Japan, May 20, 1963, 38/25,289; Oct. 10, 1963, 38/52,715; Jan. 31, 1964, 39/4,410; Feb. 18, 1964, 39/8,362; Feb. 21, 1964, 39/9,028
1 Claim. (Cl. 23—204)

This invention relates to stable stoichiometric hydrides of metals of IV–B group of the periodic table and preparation method thereof and utilization thereof in the powder metallurgical process.

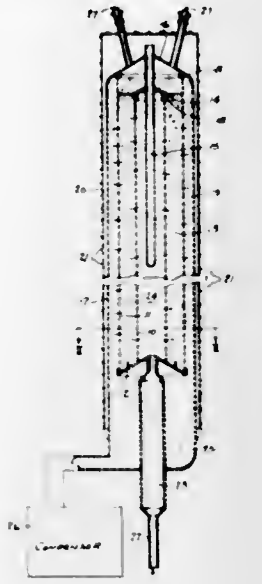
3,376,108
OXYGEN-CATALYZED PRODUCTION OF TETRAFLUOROHYDRAZINE

John R. Lovett, Edison, and Theodore M. Rosenblatt, Plainfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Oct. 6, 1960, Ser. No. 61,028
2 Claims. (Cl. 23—205)

1. In the process of converting NF_3 to tetrafluorohydrazine, N_2F_4, by reacting NF_3 in a flowing gas stream with copper in a reaction zone at a reaction temperature in the range of 600° to 1500° F., the improvement which comprises admixing with the NF_3 gas stream containing less than 0.5 wt. percent of the nitrogen oxides NO and N_2O based on the NF_3 feed charged to the reaction zone, a proportion of oxygen-containing gas of the group consisting of O_2, NO, and N_2O to make said NF_3 gas stream contain 1 to 6 wt. percent of the nitrogen oxides NO and N_2O as said gas stream is contacted in the reaction zone with the copper to reduce the induction time for conversion of the NF_3 to N_2F_4 by reaction with fresh copper in said reaction zone and to activate the used copper in the reaction zone so that higher conversion to N_2F_4 is maintained, and recovering the resulting N_2F_4 product by separation from the effluent gaseous reaction product mixture flowing from the reaction zone.

3,376,109
PREPARATION OF SILICON CHLORIDES

Donald F. Stedman, Ottawa, Ontario, Canada, assignor to Canadian Patents and Development Limited, Ottawa, Ontario, Canada, a corporation of Canada
Filed Apr. 30, 1965, Ser. No. 452,127
5 Claims. (Cl. 23—205)



A process of reacting a gas with a solid reactant in which the solid reactant is arranged in a thin layer to prevent the formation of either hot or cold spots in the solid reactant during an exothermic or endothermic reaction, respectively. An example of such a process is the reaction of chlorine with solid silicon arranged in a thin layer to produce the higher silicon chlorides.

3,376,110
SOLID STABILIZED HYDROGEN PEROXIDE COMPOSITIONS

Dimitry Alexis Shiraeff, Kutztown, Pa., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Jan. 30, 1967, Ser. No. 612,349
9 Claims. (Cl. 23—207.5)

A solid stabilized hydrogen peroxide composition comprising hydrogen peroxide and a stabilizing amount of a water-insoluble polymeric N-vinyl heterocyclic compound which may be prepared by drying an aqueous slurry of said components.

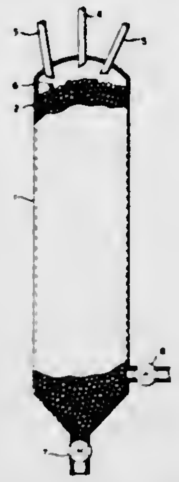
3,376,111
PRODUCTION OF HIGH STRUCTURE FURNACE CARBON BLACK

Albert F. Stegelman, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Aug. 17, 1964, Ser. No. 389,930
11 Claims. (Cl. 23—209.4)

Production of a high structure furnace carbon black from a hydrocarbon feedstock by introducing a stream of said feedstock into a body of hot combustion gases in a carbon black furnace, introducing around said stream of feedstock a sheath of a predominantly acetylene gas, and recovering said carbon black from the effluent from said furnace.

3,376,112
PRODUCTION OF CHLORINE THROUGH OXIDATION OF FILM OF FERRIC CHLORIDE SALT COMPLEX

Wendell E. Dunn, Jr., Newark, and John F. Maurer, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Aug. 3, 1965, Ser. No. 476,826
14 Claims. (Cl. 23—219)



This process is directed to flowing a molten salt complex of the formula $XFeCl_4$ where X is an alkali metal as a thin film over a moving bed of particulate inert material cocurrently with an oxygen-containing gas, and recovering chlorine as a product.

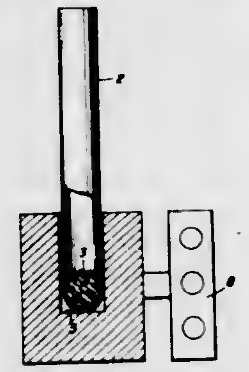
3,376,113
CATALYTIC HYDROLYSIS OF PHOSGENE

Ludo K. Frevel, Midland, and Leonard J. Kressley, Saginaw, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed May 13, 1965, Ser. No. 455,656
5 Claims. (Cl. 23—219)

This invention relates to a vapor phase process for the catalytic hydrolysis of phosgene. The hydrolysis is accomplished by passing phosgene through a bed of activated alumina at a temperature of between about 95° C. and about 190° C. in the presence of water to convert the phosgene to HCl and CO_2. This process finds particular utility in removing phosgene from gaseous streams which contain a relatively small proportion thereof.

3,376,114
METHOD FOR MEASURING THE BINDING CAPACITY OF SERUM PROTEINS

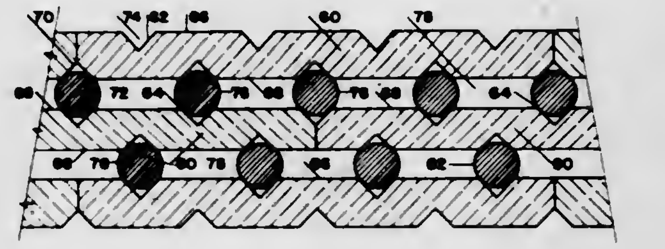
Byron T. Eberle, Waukegan, Ill., assignor to Abbott Laboratories, a corporation of Illinois
Original application May 2, 1960, Ser. No. 26,044, now Patent No. 3,206,602, dated Sept. 14, 1965. Divided and this application Aug. 4, 1965, Ser. No. 489,449
4 Claims. (Cl. 23—230)



1. A method for measuring the binding capacity of serum proteins with thyroid hormone substances which comprises the steps of mixing a tracer amount of L-triiodothyronine labeled with radioactive iodine with blood serum, placing in intimate contact with such mixture a resin sponge comprising a polyurethane foam of intercommunicating cell type containing 0.5 to 160 parts by weight of a strong base anion-exchange resin per 100 parts by weight of polyurethane matix, incubating the mixture and said resin sponge, measuring with suitable detecting means the initial radioactivity of the combined mixture and the resin sponge, removing the serum, washing the resin sponge with water, and measuring with suitable detecting means the residual radioactivity in the sponge.

3,376,115
REGENERATIVE MASS

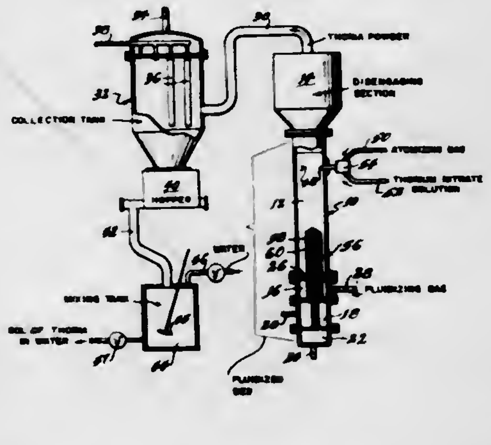
Wheaton W. Kraft, Scarsdale, N.Y., and John J. Schorsch, Matawan, N.J., assignors to The Lummus Company, New York, N.Y., a corporation of Delaware
Filed Sept. 24, 1964, Ser. No. 399,034
14 Claims. (Cl. 23—277)



1. A regenerative mass for use in a regenerative furnace comprising:
- a plurality of refractory tiles, said tiles being arranged in a plurality of layers, said layers being in parallel planes spaced from each other; and
- spacing means between said layers, said spacing means defining with said tiles a plurality of narrower planar passages within each space between adjacent layers, each of said plurality of passages in the spaces between each of said layers being separate from the other passages in the same space and adjacent spaces.

3,376,116
FLUID BED DENITRATION OF THORIUM NITRATE

Wilbert J. Robertson, Overland, and Gerrald E. Kerr, St. Louis, Mo., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
Filed Feb. 6, 1967, Ser. No. 614,782
8 Claims. (Cl. 23—345)



A process for the thermal denitration of thorium nitrate in a fluid bed reactor by spraying thorium nitrate solution on a heated fluidized bed of dense, high-fired thorium dioxide.

3,376,117

N,N-DIFLUOROAMINOSULFONYL FLUORIDE

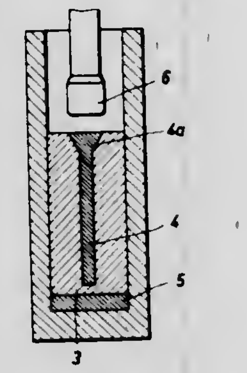
George Neil Sausen, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Sept. 29, 1961, Ser. No. 141,592
1 Claim. (Cl. 23—357)

1. The compound N,N-difluoroaminosulfonyl fluoride.

3,376,118

METALLIC COMPOSITE ARTICLE

Peter Odenthal, Dusseldorf, Germany, assignor to Mannesmann Aktiengesellschaft, Dusseldorf, Germany, a corporation of Germany
Filed Jan. 5, 1965, Ser. No. 423,426
2 Claims. (Cl. 29—183.5)



A metallic composite body has an outer section that includes an annular part and an inner longitudinal core filling a bore in the annular part. The bore has an elongated cylindrical portion, the cross sectional area of which is not more than one-third of that of the annular part, and has near one end a conical portion. The largest diameter of that conical portion, however, is smaller than the inner diameter of an internally plated article fabricated from the composite body by piercing or rolling.

3,376,119

POROUS METALS

Ludwig Bruns and Günther Schnuchel, Dormagen, Germany, assignors to Erdolchemie Gesellschaft mit beschrankter Haftung, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed May 27, 1964, Ser. No. 370,681
Claims priority, application Germany, Aug. 20, 1963, E 25,364
17 Claims. (Cl. 29—192)

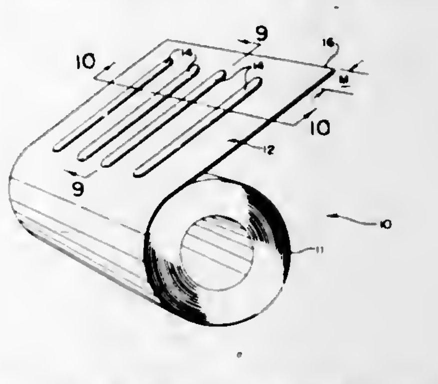
Heating a mixture of heat-resistant filler particles and a metal compound capable of being transformed by thermal decomposition into the corresponding metal at a temperature, e.g. 200–400° C., below the sintering temperature yet sufficient for such decomposition, whereby the resulting metal coats the filler particles and welds them together at their contact points to form a high strength porous metal coated body, e.g. of random or predetermined shape, usable as an oxidation catalyst, e.g. for olefin oxidation.

3,376,120

COILED STRIP

Joseph J. Hiegel, Salem, Ohio, assignor to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Original application Feb. 3, 1964, Ser. No. 341,876, now Patent No. 3,332,268, dated July 25, 1967. Divided and this application Oct. 10, 1966, Ser. No. 608,468
5 Claims. (Cl. 29—193)

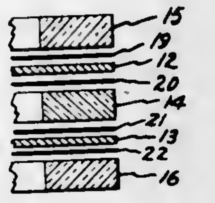
1. An article of manufacture comprising an elongated member, a portion of the length of said member being spirally coiled upon itself from one end thereof, the remaining length of said member defining a lead end portion having at least one rib extending longitudinally thereof for a portion of the length of said end portion, whereby said lead end portion extends in cantilever self-supporting fashion from said coiled portion.



3,376,121

COMPOSITE BODY AND METHOD OF MAKING

Jackson Lawrence, West Sand Lake, N.Y., assignor to General Electric Company, a corporation of New York
Filed July 15, 1964, Ser. No. 382,722
3 Claims. (Cl. 29—195)



1. A composite body comprising a niobium member, an alumina member and a bonding interface between said members consisting essentially of the interaction products of the alumina member and a zirconium-niobium eutectic.

3,376,122

METHOD OF PROTECTING THE SURFACES OF GLASS MOLDING EQUIPMENT

Joseph J. Domicone, Elmira, and Hermann L. Rittler, Horseheads, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
No Drawing. Filed May 20, 1965, Ser. No. 457,469
6 Claims. (Cl. 65—27)

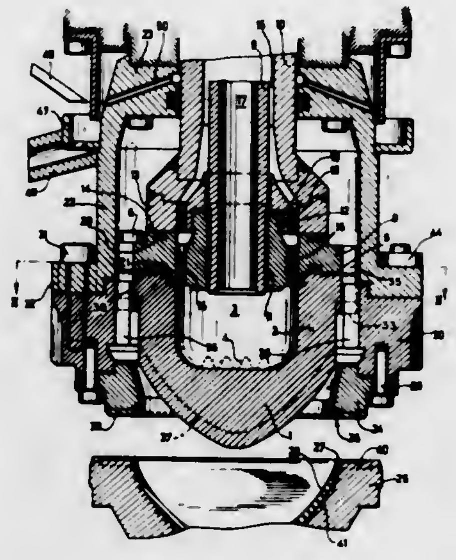
1. A method of eliminating deposits and corrosion on the forming surfaces of glass molding equipment resulting from contact with molten fluorine containing glass comprising applying a substantially anhydrous alcoholic solution of boric oxide to the forming surfaces under operational conditions whereby the fluorine is converted to volatile reaction products.

3,376,123

GLASS MOLDING DEVICE

Gerrit de Leeuw, Leerdam, Netherlands, assignor to N.V. Vereenigde Glasfabrieken (United Glassworks), Schiedam, Netherlands
Filed Sept. 24, 1964, Ser. No. 398,962
1 Claim. (Cl. 65—308)

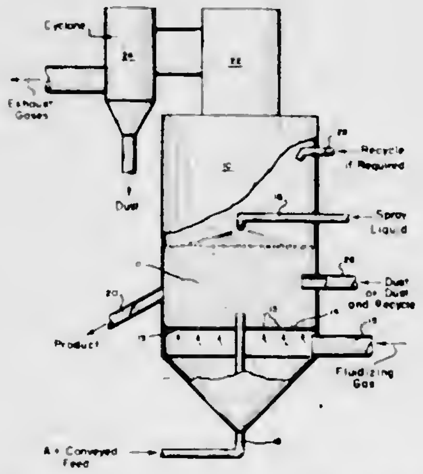
A glass molding apparatus having a plunger which has a cavity supplied with coolant and which is easily replaceable with another similar plunger. The coolant is conducted into and out of the cavity by means of two coaxial hollow spindles which engage an annular covering disk at their lower ends, which disk is secured onto the inner spindle and engages the top of the plunger, the plunger and spindles being enclosed by a cap which has a mold ring at its lower end, and ribs on its side which extend into vertical splines on the covering disk so that the plunger drops downwardly until it engages the mold ring when the covering disk is disengaged from the inner spindle. Removal of the plunger is accomplished by removing the mold ring from the cap.



3,376,124

FLUIDIZED BED ACIDULATION AND AGGLOMERATION OF PHOSPHATE MATERIALS

Clinton A. Hollingsworth, Lakeland, Fla., assignor, by mesne assignments, to The Borden Company, a corporation of New Jersey
Filed May 4, 1964, Ser. No. 364,670
12 Claims. (Cl. 71—39)



Dry, granular acidulated phosphatic products, such as granular triple superphosphate, are produced by treating particulate phosphatic raw materials, such as ground phosphate rock, with a mineral acid, such as phosphoric acid, in a fluid bed reactor to effect, concurrently, acidulation of the phosphatic raw material and granulation and drying of the resultant acidulation reaction product.

3,376,125

METHOD FOR REGULATING PLANT GROWTH

William C. McConnell, Atlanta, Ga., and Henry W. Rahn, Pittsburgh, Pa., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Sept. 29, 1964, Ser. No. 400,216
10 Claims. (Cl. 71—65)

Sodium azide is applied in effective amounts to the soil, to the parts of plants growing therein or to seeds to control the development thereof.

3,376,126

METHOD FOR REGULATING PLANT GROWTH

William C. McConnell, Atlanta, Ga., and Henry W. Rahn, Pittsburgh, Pa., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Continuation-in-part of application Ser. No. 358,121, Apr. 7, 1964. This application Dec. 28, 1966, Ser. No. 605,200
25 Claims. (Cl. 71—65)

According to this invention, potassium azide is utilized either alone or in combination with other chemical compounds to kill, deactivate or regulate the growth of organisms, e.g., plants, fungi, and soil micro-organisms, e.g., bacteria. Potassium azide is also used in accordance with this invention to provide plant nutrients to crop plants. Thus, in a preferred embodiment of this invention, a single application of potassium azide provides both pesticidal and fertilizing benefits to the soil.

3,376,127

AQUATIC HERBICIDAL METHODS

William C. McConnell, Griffin, Ga., and Henry W. Rahn, Pittsburgh, Pa., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Continuation-in-part of application Ser. No. 470,265, July 8, 1965. This application May 11, 1966, Ser. No. 549,136
36 Claims. (Cl. 71—66)

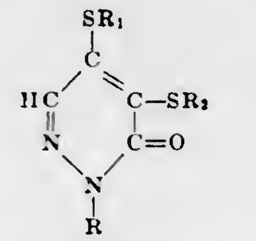
Water soluble azides are applied to submerged areas to kill aquatic weeds. In a typical application, 2 to 4 pounds per acre potassium azide is applied to a submerged rice field to selectively kill aquatic weeds such as ducksalad.

3,376,128

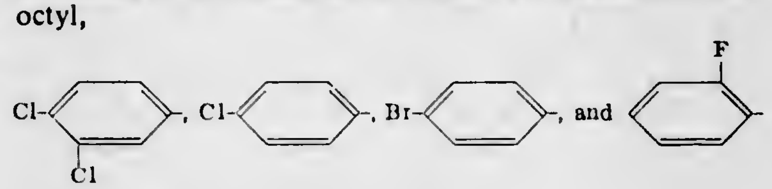
4,5-DIMERCAPTOPYRIDAZONES

Franz Reicheneder, Ludwigshafen (Rhine), Germany, Karl Dury, deceased, late of Kirchheimbolanden, Germany, by Johanna Maria Dury, heiress-at-law, Kirchheimbolanden, Germany, and Adolf Fischer, Mutterstadt, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed Dec. 21, 1965, Ser. No. 515,491
Claims priority, application Germany, Dec. 29, 1964, B 79,923
3 Claims. (Cl. 71—90)

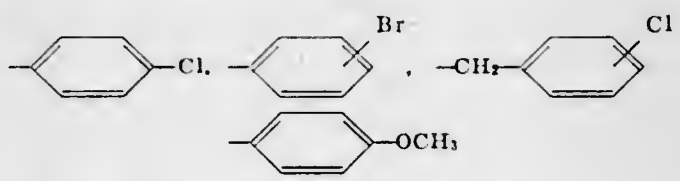
1. A compound having the formula



in which R denotes a member selected from the group consisting of hydrogen, methyl, phenyl, cyclohexyl, cyclooctyl,



R_1 methyl, ethyl, phenyl, benzyl,



$-CH_2-CCl{=}CCl_2$, cyclohexyl, the radical of tetrahydrofuran, the radical of benzothiazole, and the radical of acetic acid, and R_2 has the same meanings as R_1.

2. A method of regulating plant growth which comprises treating the soil with a phytotoxic amount of a compound as claimed in claim 1.

3,376,129

METHOD OF MANUFACTURE OF A HIGH-DISPERSION CARBONYL IRON

Vitaly Grigorjevich Syrkin, Ulitsa A. Tolstogo 38/2, Apt. 3, and Iosif Semenovich Tolmassky, 3rd Vladimirskaja ulitsa 3, Apt. 16, both of Moscow, U.S.S.R.; Anna Ernestovna Fridenberg, deceased, late of Moscow, U.S.S.R., by Serafima Ernestovna Fridenberg, administrator, Derbenevskaja naberezhnaja, 1/2, Apt. 49, Moscow, U.S.S.R.

No Drawing. Filed Nov. 25, 1964, Ser. No. 415,562

2 Claims. (Cl. 75—.5)

The invention consists of a process of manufacturing high-dispersion iron carbonyl powder by decomposition by heating iron pentacarbonyl in the presence of gaseous ammonia in a reactor having three superposed heating zones and maintaining temperatures in said zones of successively decreasing gradients from top to bottom, particularly in the range of 302° C. to 312° C. in the upper zone, of from 285° C. to 298° C. in the middle zone and from 275° C. to 282° C. in the bottom zone, and subsequently recovering the formed iron carbonyl powder in a filter.

3,376,130

PROCESS FOR DEPHOSPHORIZATION OF PIG IRON PARTICULARLY PIG IRON RICH IN PHOSPHORUS

Theodor Kootz and Heinz Maas, Duisburg-Hamborn, Germany, and Erik Axel Bengtsson, Domnarvet, Sweden, assignors to Stora Kopparbergs Bergslags Aktiebolag, Falun, Sweden, a Swedish company

No Drawing. Filed Mar. 2, 1965, Ser. No. 436,661

Claims priority, application Germany, Mar. 3, 1964, T 25,740

1 Claim. (Cl. 75—52)

1. A process for dephosphorizing a bath of molten high phosphorus pig iron and producing slag having a high phosphorus content for use as a fertilizer comprising the steps of blowing oxygen onto the bath and a layer of slag floating on the top thereof, adding basic slag-forming material selected from the group consisting of calcium oxide, magnesium oxide, alkali metal oxide and mixtures thereof and acid slag forming material selected from the group consisting of silicon dioxide, titanium dioxide, aluminum oxide, phosphorus pentoxide and mixtures thereof, the proportions of said basic and acidic slag-forming materials being such during the entire blowing period as to maintain a ratio of basic to acidic materials in the slag in the range of 0.8 to 1.5 by weight, maintaining the bath at a temperature below 1500° C. by the addition of cooling agents, mechanically agitating the bath to maintain uniform conditions throughout the bath and enhance the interaction between the iron and slag, continuing the blowing of the bath so long as phosphorus is transferred from the melt to the slag, and removing the slag containing a quantity of phosphorus pentoxide required for a highly effective fertilizer and before the slag is reduced to a degree at which phosphorus is transferred from the slag back into the melt.

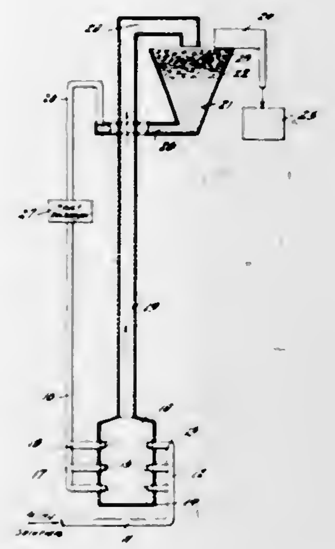
3,376,131

RECOVERY OF ALUMINUM FROM MERCURY SOLUTION

Walther Schmidt, Henrico County, Va., assignor, by direct and mesne assignments, of one-half to Reynolds Metals Company, Richmond, Va., a corporation of Delaware, and one-half to Nora International, Milan, Italy, a corporation of Bahama Islands

Filed June 4, 1965, Ser. No. 461,363

14 Claims. (Cl. 75—68)



This invention is concerned with a process for the recovery of aluminum from solutions of aluminum in mercury involving the following steps:

(1) Rapidly cooling a solution of aluminum in mercury in a first stage pressure zone so as to form a slurry containing fine particles of aluminum;

(2) Rapidly transferring said slurry out of said pressure zone; and

(3) Holding the slurry in a second stage for a period of time sufficient to allow the fine aluminum particles to recrystallize to larger crystals.

3,376,132

IMPACT RESISTANT NICKEL-CHROMIUM ALLOYS

Stuart Walter Ker Shaw, Sutton Coldfield, and Reginald Massey Cook, Birmingham, England, assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 30, 1965, Ser. No. 452,366

Claims priority, application Great Britain, May 5, 1964, 18,647/64

4 Claims. (Cl. 75—171)

The impact resistance of certain nickel-chromium alloys of specified composition is enhanced through control of carbon content. In addition to nickel, chromium and carbon, the alloys contain tungsten, aluminum, zirconium and boron, molybdenum and columbium being optional.

3,376,133

MULTICOLOR ELECTROSTATIC PRINTING

Jerome Roteman, Freehold, N.J., assignor to Interchemical Corporation, New York, N.Y., a corporation of Ohio

Filed Nov. 25, 1964, Ser. No. 413,832

6 Claims. (Cl. 96—1.2)

A process of multicolor electrostatic printing which does not require repeated charging prior to application of each color. The process comprises (1) charging the photoconductive surface to a uniform potential, preferably negative, (2) exposing the charged surface to light through a negative color separation image transparency of a first color, (3) applying a developer corresponding to said first color and carrying a charge of the same polarity as that originally applied to the surface, and then, without recharging the surface, repeat steps (2) and (3) for each additional color that is to form a part of the multicolor print.

3,376,134

PHOTOCONDUCTIVE COMPOSITIONS COMPRISING ZINC OXIDE AND METHODS FOR USING SUCH

Frederick A. Stahly and Westlake L. Goehring, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 16, 1965, Ser. No. 440,315

9 Claims. (Cl. 96—1.8)

1. A photoconductive coating composition comprising a high dielectric resinous binder insulator having uniformly dispersed therein photoconductive zinc oxide particles and at least 3 percent by weight of the zinc oxide of the product of dimerization of an unsaturated fatty acid monomer in which said fatty acid monomer has from 12 to 24 carbon atoms.

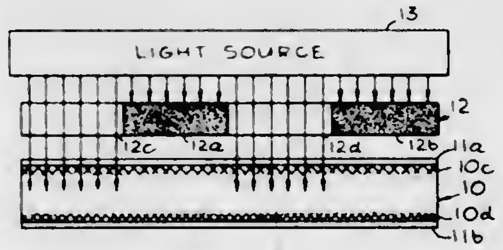
3,376,135

NEGATIVE AND POSITIVE VIEW FROM A POLARIZED FILM STRUCTURE

Alvin A. Snaper, Burbank, Calif., assignor of twenty percent to Allen E. Botney, Van Nuys, Calif.

Filed Sept. 26, 1963, Ser. No. 311,883

7 Claims. (Cl. 96—27)



The present invention deals with photographic film whose opposite surfaces have been polarized in such a manner that it can be used to great advantage in the fields of film processing, information storage and retrieval, and data processing. One surface of the film is processed so that it will respond to one form of polarized light to present a negative image of the data recorded thereon and the other surface is processed so that it will respond to another form of polarized light to present a positive image of the same data.

3,376,136

PHOTOGRAPHIC ELEMENTS AND PROCESSES

Sigrid Seide, New Brunswick, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 27, 1964, Ser. No. 340,491

12 Claims. (Cl. 96—28)

Photopolymerizable element comprising a support bearing a thermoplastic photopolymerizable stratum containing (a) a thermoplastic organic compound solid at 50° C., (b) an ethylenically unsaturated compound containing at least one terminal ethylenic group, (c) an addition polymerization initiator and (d) a polymeric dye absorbing actinic radiation in a portion of the visible spectrum and not absorbing appreciable radiation where the initiator is activatable, and image transfer processes using said elements (which have been exposed).

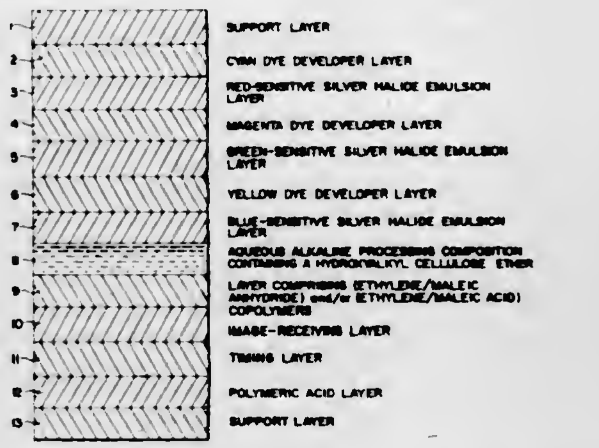
3,376,137

COLOR DIFFUSION TRANSFER ELEMENTS AND PROCESSES

Leonard C. Farney, Melrose, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Continuation-in-part of application Ser. No. 350,704, Mar. 10, 1964. This application Mar. 25, 1965, Ser. No. 442,626

5 Claims. (Cl. 96—29)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SUPPORT LAYER
CYAN DYE DEVELOPER LAYER
RED-SENSITIVE SILVER HALIDE EMULSION LAYER
MAGENTA DYE DEVELOPER LAYER
GREEN-SENSITIVE SILVER HALIDE EMULSION LAYER
YELLOW DYE DEVELOPER LAYER
BLUE-SENSITIVE SILVER HALIDE EMULSION LAYER
AQUEOUS ALKALINE PROCESSING COMPOSITION CONTAINING A HYDROXYALKYL CELLULOSE ETHER
LAYER COMPRISING (ETHYLENE/MALEIC ANHYDRIDE) and/or (ETHYLENE/MALEIC ACID) COPOLYMERS
IMAGE-RECEIVING LAYER
TIMING LAYER
POLYMERIC ACID LAYER
SUPPORT LAYER

A photographic diffusion transfer image-receiving element comprising, in sequence, a support layer, a polymeric acid layer, a polymeric image-receiving layer and a polymeric layer of 5 to 25 milligrams per square foot of (ethylene/maleic anhydride) or (ethylene/maleic acid) copolymer.

3,376,138

PHOTOSENSITIVE PREPOLYMER COMPOSITION AND METHOD

Michael N. Giangualano, now by judicial change of name Michael Nicholas Gilano, 1718 W. Chalet Ave., Anaheim, Calif. 92804, and Irvin W. Martenson, 16615 Pequeno Place, Pacific Palisades, Calif. 90272

Filed Dec. 9, 1963, Ser. No. 328,828

19 Claims. (Cl. 96—35.1)

A photosenstive prepolymer chemical composition is disclosed for photographic relief images of particular use in the graphic arts, such as for printing plates, printed circuit boards, name plates and chemical milling; and the method of preparing and using the photoresist composition. A prepolymer of an allyl ester of an unsaturated monobasic acid or of an aliphatic carboxylic acid having two or more allyl groups is combined with a sensitizing agent which, upon absorbing actinic radiation, promotes polymerization of the prepolymer to the insoluble, infusible state.

3,376,139

PHOTOSENSITIVE PREPOLYMER COMPOSITION AND METHOD

Michael N. Giangualano, now by judicial change of name Michael Nicholas Gilano, 1718 W. Chalet Ave., Anaheim, Calif. 92804; Irvin W. Martenson, 16615 Pequeno Place, Pacific Palisades, Calif. 90272; and Lawrence H. Ott, 1245 E. Altadena Drive, Altadena, Calif. 91001

Continuation of application Ser. No. 229,605, Oct. 10, 1962. This application Feb. 1, 1966, Ser. No. 539,236

12 Claims. (Cl. 96—35.1)

1. A photosensitive resist composition consisting essentially of:

(a) a prepolymer of an aryl allyl ester having more than one allyl group, said prepolymer being a solvent-soluble material which is a solid at ambient temperature, and which undergoes very little shrinkage when further cross-linked by actinic radiation, and

(b) a photopolymerization sensitiving agent which, upon absorbing actinic radiation at room temperature accelerates polymerization of said prepolymer.

3,376,140

PROCESS FOR REMOVING FLAVOR PRECURSORS FROM PEANUTS

Harsch C. Ince, Jr., Wallingford, Pa., assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Aug. 19, 1965, Ser. No. 481,085

6 Claims. (Cl. 99—126)

A process for preparing a substantially flavor-free peanut product having the texture of roasted peanuts by extracting raw peanut kernels at a temperature of from about 100° F. to about 160° F. with an amount of water sufficient to give a water to peanut weight ratio of at least 2:1, and drying the peanut kernels so extracted for from about 30 minutes to about 150 minutes at a temperature of about 200° F. to about 325° F. to a final moisture content of less than about 4% by weight.

3,376,141

PROCESS FOR PRESERVING BANANAS

Salvador V. Delgado and Carmen Delgado, both of 33755 Highway 74, Hemet, Calif. 92343

No Drawing. Filed Feb. 24, 1964, Ser. No. 347,049

4 Claims. (Cl. 99—154)

Bananas are preserved by completely peeling ripe ones, immersing the peeled bananas in salt water for a short period of time, then subjecting the bananas to a disinfectant, after which the natural color of the bananas is fixed by a conventionally known fixing agent. The bananas are then placed on a table in a hothouse or closed room and maintained at a temperature of from 80° to 100° F. for a period of about ten days during which the bananas are turned at least once.

3,376,142

METHOD FOR CONTROLLING APPLE SCALD

Hilary F. Goonewardene, Moorestown, N.J., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Dec. 28, 1964, Ser. No. 421,647

6 Claims. (Cl. 99—154)

Compounds comprising chlorodiphenylamines having utility in controlling apple storage scald. These compounds are prepared by methods published in the literature.

3,376,143

CORROSION INHIBITING AND SEALING COMPOSITION

Erik Fredrik Barkman, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

No Drawing. Original application Sept. 30, 1960, Ser. No. 59,509. Divided and this application Oct. 12, 1964, Ser. No. 413,669

10 Claims. (Cl. 106—14)

A corrosion inhibiting and sealing composition for anodically formed coatings on aluminum and aluminum alloys is a dilute aqueous solution of a water soluble basic organic nitrogen compound which does not contain a polar substituent, such as nicotinamide or ethyl p-amino-benzoate. This may be combined with a soluble dichromate or molybdate, or both.

3,376,144

WOOD PRESERVATIVE GREASE COMPOSITION

Robert E. Stutz, Los Altos Hills, Calif., assignor to Chapman Chemical Company, Memphis, Tenn., a corporation of Illinois

No Drawing. Filed Oct. 14, 1964, Ser. No. 403,908

2 Claims. (Cl. 106—15)

A wood preservative composition thickened with a combination of micro-crystalline wax, water-soluble non-ionic surfactant and water (a gel-promoter) and combined with a mixture of an organic wood preservative liquid, and an alkaline inorganic alkali metal salt. This wood preservative composition is combinable with various dispersing agents, bentonite compounds and inert inorganic fillers. The individual components of the wood preservative composition are intermixed and heated, cooled and then milled to obtain a grease-like material that is applied to wood at areas of probable deterioration to preserve the wood throughout various climate conditions.

3,376,145

CLAY PRODUCTS AND THE LIKE

William K. Wallace, Casper, Wyo., assignor to Benton Clay Co., Casper, Wyo., a corporation of Wyoming

No Drawing. Filed June 14, 1963, Ser. No. 287,753

8 Claims. (Cl. 106—38.28)

1. A clay material for metal and mineral treating purposes consisting essentially of an admixture of a major portion of clay and a minor portion of finely divided activated charcoal and containing 5 to 10 ounces of tetra sodium pyrophosphate per ton of admixture.

3,376,146

LOW DENSITY CEMENT COMPOSITION

Farris Mitchell, Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Oct. 30, 1964, Ser. No. 407,866

2 Claims. (Cl. 106—97)

This specification discloses a low density cement composition, and an aqueous slurry thereof, comprising portland cement and particulate carbon, such as ground anthracite coal. The particulate carbon is of a size that will pass through a 20-mesh standard screen and is in the amount of from 25 to 233 percent by weight of the portland cement. The slurry may also contain other cement additives such as salts of lignosulfonic acid, various cellulose derivatives, calcium chloride, sodium chloride, and oil.

3,376,147

FIRE RESISTANT WALLBOARD

Robert M. Dean, Tonawanda, N.Y., assignor to National Gypsum Company, Buffalo, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 20, 1964, Ser. No. 391,003

10 Claims. (Cl. 106—109)

1. A fire resistant wallboard consisting essentially of gypsum, unexpanded vermiculate and unexpanded perlite both uniformly dispersed in said gypsum, said unexpanded vermiculite being present in an amount and of a particle size sufficient to compensate by expansion on exposure to heat for the shrinkage of said gyspum when said gypsum is dehydrated by exposure to heat, said expansion of vermiculite and shrinkage of gypsum producing fissures within the wallboard and said perlite being present in an amount and of a particle size sufficient to substantially fill said fissures by secondary expansion of perlite upon exposure to heat through said fissures, said shrinkage of

said gypsum and said compensation provided by said vermiculite and perlite on expansion being within about ⅛" expansion and $\frac{3}{16}$" contraction per linear foot.

3,376,148

LABELING ADHESIVE

Peter S. Columbus, Whitestone, and Ronald T. Mason, New York, N.Y., assignors to The Borden Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Feb. 16, 1965, Ser. No. 433,211

3 Claims. (Cl. 106—139)

This invention relates to water resistant casein labeling adhesives for fastening labels to bottles which are subject to immersion in ice and water to be chilled while labeled comprising water as the largest component, casein and a solubilizing agent for casein as the major dry components and from about 0.25 to about 12 parts by weight, for each 100 parts by weight of casein, of a water soluble gum selected from the group consisting of gum tragacanth, gum karaya, Irish moss, and mixtures thereof.

3,376,149

PREPARATION OF CARBON BLACK DISPERSION FOR PRODUCING A HIGH OPTICAL DENSITY OF CELLULOSE ACETATE FILM BASE

Gerald Clifford Gandy and Martin Salo, Kodak Park, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 25, 1966, Ser. No. 537,283

9 Claims. (Cl. 106—193)

This invention is directed to special methods and compositions for preparing opaque cellulose acetate films that contain particles of carbon black dispersed therein. The methods involve initially the preparation of a concentrate of the carbon black and an alcohol soluble cellulose butyrate with appropriate organic solvents. This concentrate is then dispersed in a solution of a high acetyl cellulose acetate (from about 42.5 to about 44% acetyl) in appropriate organic solvents to yield a useful film casting composition.

3,376,150

IMIDE AND POLYIMIDE SOLUTIONS

William Edward Collins, Tonawanda, N.Y., and Keith Allan Maas, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 11, 1964, Ser. No. 395,924

6 Claims. (Cl. 106—287)

Solutions of imides and polyimides of organic diamines and organic tetracarboxylic acid in antimony trichloride alone or admixed with arsenic trichloride, useful for coating and bonding operations and analytical determinations.

3,376,151

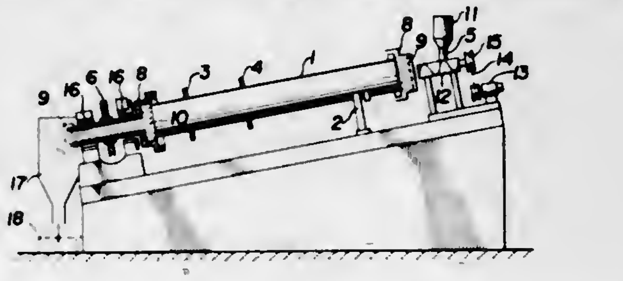
METHOD OF FORMING RESIN LINING INSIDE A METAL PIPE

Tatsumi Okamoto, 914 Totsuhon-machi, Kakura-ku, Kitakyushu-shi, Japan; and Atsuo Hirayama, 248–13 Ooi-Hayashi-cho, Shinagawa-ku; Shumpei Kawanami, 1109 Higashi-Oizumi-cho, Nerima-ku; and Yoshihiro Nishikawa, 130–1 Kamihoyashinden, Hoya-cho, Kita-Tama-gun, all of Tokyo, Japan

Filed Mar. 4, 1964, Ser. No. 349,313

4 Claims. (Cl. 117—18)

Method of coating the interior of a long metal pipe with thermoplastic resin which comprises rotating the pipe in tilted disposition while feeding coating resin into the upper end, simultaneously heating the pipe externally and cooling the pipe in spaced relation to the heating, the simultaneous heating and cooling action being advanced downwardly along the pipe to spirally line the interior of the pipe.



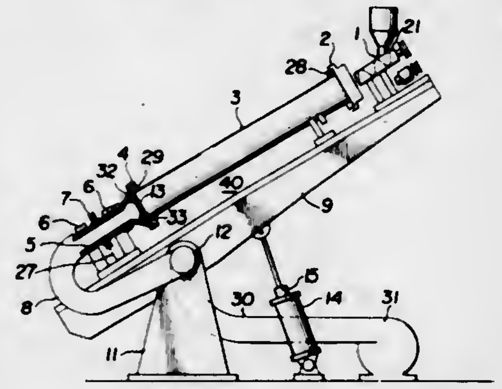
3,376,152

METHOD FOR FORMING A RESIN LINING INSIDE A METAL PIPE

Tatsumi Okamoto, 914 Totsuhon-machi, Kakura-ku, Kitakyushu-shi, Japan; and Atsuo Hirayama, 248–13 Ooi-Hayashi-cho, Shinagawa-ku; Shumpei Kawanami, 1109 Higashi-Oizumi-cho, Nerima-ku; and Yoshihiro Nishikawa, 130–1 Kamihoyashinden, Hoya-cho, Kita-Tama-gun, all of Tokyo, Japan

Filed Mar. 4, 1964, Ser. No. 349,308

2 Claims. (Cl. 117—18)



Method of lining a metal pipe with resin which includes preheating the pipe to a temperature to cause adherence of the resin, rotating the pipe, feeding synthetic resin rapidly into the pipe, adhering the resin to the interior of the pipe by the heat applied during the preheating, guiding the resin outwardly around a baffle and through a narrow opening at the lower end of the pipe to coat the flanged end of the pipe.

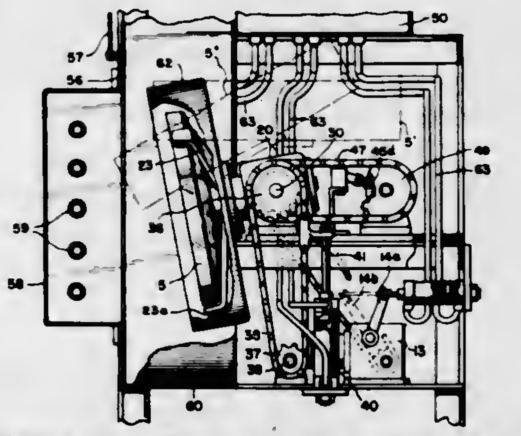
3,376,153

METHOD OF COATING CATHODE-RAY TUBES

Joseph P. Fiore, Wheeling, Ill., assignor to The Rauland Corporation, Chicago, Ill., a corporation of Illinois

Filed Oct. 20, 1964, Ser. No. 405,076

5 Claims. (Cl. 117—33.5)



In the disclosed method of coating a cathode-ray tube, the cap section of the tube is supported in a horizontal plane with its flange extending upwardly and coating material is deposited on the central surface of the cap in an amount exceeding that required to coat the screen area.

The cap is then tilted and concurrently rotated at speeds selected in relation to the charge and viscosity of the coating material to distribute the material uniformly over the screen as the cap is tilted to an angle of about 30 degrees from the horizontal. Tilting is then interrupted and the excess coating material is removed while the rotation of the cap is continued. Thereafter, the tilting is resumed and the cap is quickly displaced to an angle of the order of 90 degrees relative to the horizontal and, while in that position, the coating is dried by rotating the cap at a higher speed in front of suitable heaters.

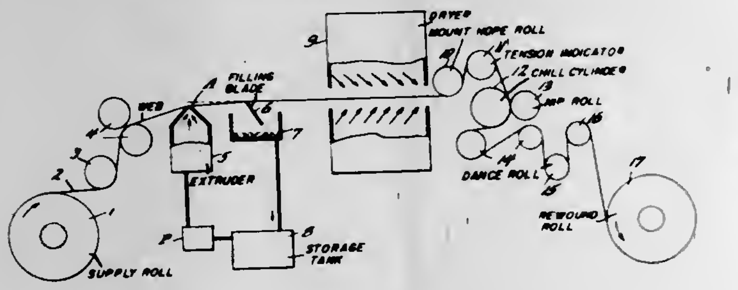
3,376,154

CARBON PAPER AND METHOD FOR THE MANUFACTURE THEREOF

John Campbell, Kenmore, and William E. Beazley, Lewiston, N.Y., Donald R. Benn, Niagara Falls, Ontario, Canada, and Milton J. Grandin, Niagara Falls, N.Y., assignors to Moore Business Forms, Inc., Niagara Falls, N.Y., a corporation of Delaware

Filed Sept. 17, 1963, Ser. No. 309,571

13 Claims. (Cl. 117—364)



1. In a process for the manufacture of carbon paper having a carbon ink coating on a tissue paper support, the improvement of preparing said tissue paper having pinholes therein for reception of said coating comprising the steps of applying a composition comprising at least one thermoplastic resin and a volatile solvent to the underside surface of a substantially horizontal continuously moving web of said tissue paper maintained under tension, said composition having a viscosity between 40 and 50 centipoises at 24° C., filling said pinholes and simultaneously removing said composition from said underside surface of said web by passing said web across the sharp edge of a blade at an angle of between 75 and 110° with respect to the oncoming web of tissue paper, such that said composition does not spray through the pores of said paper and, drying said web, whereby said pinholes are filled with said resin.

3,376,155

ALPHA,BETA UNSATURATED CARBOXYLIC ACID PRIMER FOR POLYESTER CONCRETE COATING

Lawrence E. O'Donnell, Tonawanda, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Apr. 6, 1964, Ser. No. 357,751

4 Claims. (Cl. 117—72)

1. A process for coating concrete which comprises applying to the surface an alpha,beta unsaturated carboxylic acid primer and spreading on the primed surface a thermosetting polyester resin composition.

3,376,156

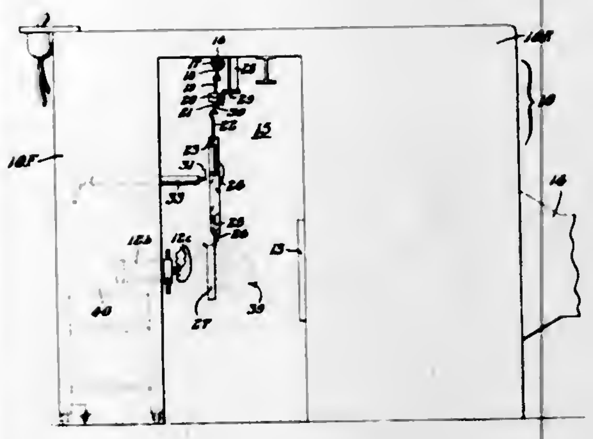
SPRAY PAINTING EMPLOYING HIGH VOLTAGE CHARGING

Douglas C. Whitaker, Greenwood Ave., Wyncote, Pa. 19095, and Thomas J. Gallen, 1516 Buck Road, Feasterville, Pa. 19047

Filed Mar. 19, 1964, Ser. No. 353,051

6 Claims. (Cl. 117—93.2)

A method and apparatus for spray painting work pieces is disclosed in which atomized paint particles are ejected from a grounded spray gun and directed at, or into the path of, inductively charged work pieces.



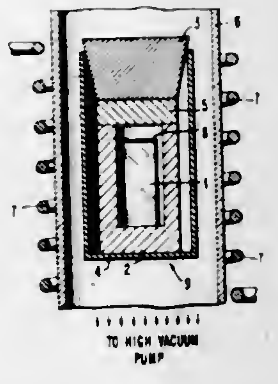
3,376,157

METHOD OF PREPARING TRANSPARENT FERROMAGNETIC SINGLE CRYSTALS

Carl F. Guerci, Mount Kisco, and Merrill W. Shafer, Yorktown Heights, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Nov. 1, 1963, Ser. No. 320,798

6 Claims. (Cl. 117—106)



A process for epitaxially depositing optically transparent, ferromagnetic, single crystal films of europium II chalcogenides selected from the group consisting of europium oxide, europium sulfide, and europium selenide is described. A suitable single crystal, MgO for example, is placed in a container formed from a pure powder of one of the chalcogenides and covered. The container is then heated in vacuuo in a temperature range of 600–1850° C. for a time sufficient to form a single crystal film from chalcongenide material from the walls of the container.

3,376,158

PROCESS FOR PRODUCING MICROPOROUS POLYMERIC STRUCTURES BY FREEZE-COAGULATION OF LATICES

Kenneth R. Buser, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 341,124, Jan. 29, 1964. This application Mar. 16, 1966, Ser. No. 534,639

11 Claims. (Cl. 117—119.2)

A process for preparing vapor permeable microporous polymeric structures from latices which comprises applying a freeze-coagulable polymeric latex to a porous substrate, freezing and coagulating the latex, and drying the resulting product.

3,376,159

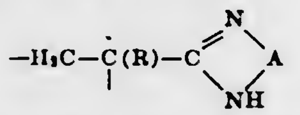
TREATMENT OF SILICEOUS FIBERS WITH AQUEOUS MIXTURES OF VARIOUS UNSATURATED POLY-IMIDAZOLINE ANCHORING AGENTS AND RESULTING ARTICLE

Thomas J. Drennen, Lafayette Hill, and Louis E. Kelley, Wyncote, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed July 28, 1964, Ser. No. 385,759

6 Claims. (Cl. 117—126)

A water-soluble salt of a polymer containing at least 50 mole percent of units of the formula



wherein

A is a $(C_2–C_3)$-alkylene group having at least 2 carbon atoms extending in a chain between the adjoined N atoms, and

R is selected from the group consisting of H and CH_3

is used as an anchoring agent in the deposition of organic or inorganic materials suspended in water on to siliceous fibrous materials.

3,376,160

TREATMENT OF CELLULOSIC MATERIAL WITH APO-THIOUREA FLAME RESISTANCE AND THE RESULTING MATERIAL

Robert B. Le Blanc, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed June 29, 1964, Ser. No. 378,973

11 Claims. (Cl. 117—136)

A method for rendering cellulosic textiles durably flame retardant, even after repeated laundering, comprising treating the textiles with an aqueous solution containing a mixture of thiourea and tris(1-aziridinyl) phosphine oxide (APO).

3,376,161

COMPOSITION FOR IMPARTING ANTI-SCUFF PROPERTIES TO A FIBROUS ARTICLE AND THE RESULTING ARTICLE

Carlos A. Duharte-Francia, Evergreen Park, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Nov. 1, 1963, Ser. No. 320,679

10 Claims. (Cl. 117—161)

1. A composition of matter for impregnating fibrous material to impart thereto anti-scuff characteristics comprising in aqueous solution one to ten percent by weight of each of.

(1) a first quaternary ammonium chloride having the type formula of

$$(R_1)(R_2)(R_3)(R_4)\vdots N—Cl$$

quaternary

where R_1 and R_4 are methyl groups and R_2 and R_3 are hydrocarbon groups having from 12 to 18 carbon atoms,

(2) a dimethylpolysiloxane having a molecular weight in the range of 69,000 to 71,000 and

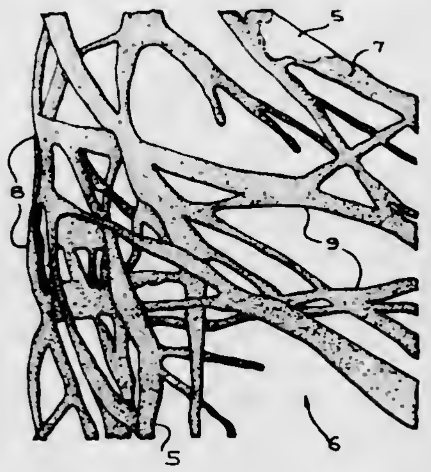
(3) a second quaternary ammonium chloride having a type formula of

$$(R_6)(R_7)(R_8)(R_5NH·CO·CH_2)\vdots N—Cl$$

quaternary

where R_5 is a hydrocarbon group having from 16 to 18 carbon atoms, R_6 is a hydrocarbon group having hydroxyl and alkoxy groups substituted thereon, and R_7 and R_8 are hydroxyl-group substituted hydrocarbon groups.

6. A fiber article having at least the outer fibers thereof coated and impregnated with an anti-scuff composition comprising a mixture of a first quaternary ammonium chloride, a dimethylpolysiloxane, and a second quaternary ammonium chloride, said first quaternary ammonium chloride having two hydrocarbon groups having 12 to 18 carbon atoms and having two methyl groups, said dimethylpolysiloxane having a molecular weight in the range of 69,000 to 71,000, and said second quaternary ammonium chloride having a type formula of



$$(R_6)(R_7)(R_8)(R_5NH·CO·CH_2)\vdots N—Cl$$

quaternary

where R_5 is a hydrocarbon group having from 16 to 18 carbon atoms, R_6 is a hydroxy and ethoxy containing hydrocarbon group, and R_7 and R_8 are hydroxy-containing hydrocarbon groups.

3,376,162

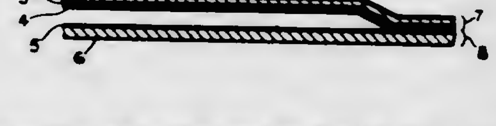
ELECTROGRAPHIC TRANSFER SHEET

Alexander Spencer and Alan Francis Blake, Tottenham, London, England, assignors to Gestetner Limited, Tottenham, London, England, a British company

Filed Nov. 12, 1965, Ser. No. 508,462

Claims priority, application Great Britain, Nov. 23, 1964, 47,601/64

10 Claims. (Cl. 117—216)



The invention provides an electrographic sheet for the electrical imaging of lithographic plates comprising a sheet of electrically conductive thin impervious paper having on one side an electrically conductive layer and, in said layer, an outer layer of oleophobic material transferable to a planographic plate by electric discharge.

3,376,163

PHOTOSENSITIVE CELL

Ilse Abrahamsohn, Boston, Mass., assignor to Itek Corporation, Lexington, Mass., a corporation of Delaware

Filed Aug. 11, 1961, Ser. No. 130,960

5 Claims. (Cl. 136—89)

1. In a photosensitive cell comprising a pellucid conductive substrate and disposed thereon, a first and second separately sensitized, pellucid, photoconductor containing layer, each of said layers having a thickness of less than about 10 microns and each layer comprising the same photoconductor substance chosen from the group consisting of cadmium sulfide, zinc sulfide and mixtures thereof and a copper activator, the improvement wherein said

second layer comprises an amount of copper activator substantially greater than the amount of copper activator in said first layer to provide ratio of the difference between the light current and the dark current to the dark current of the cell of at least about 10^7.

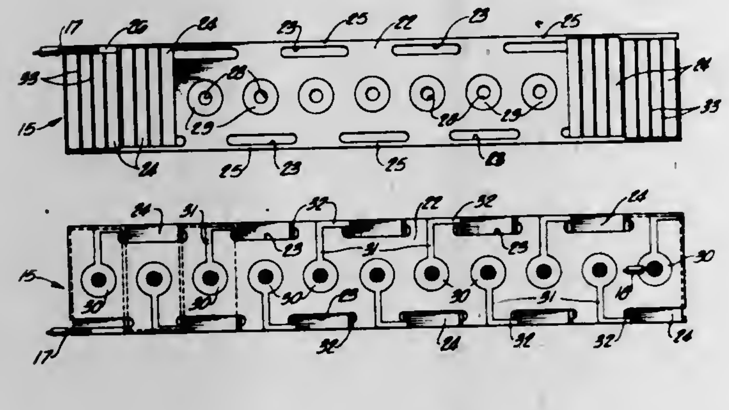
3,376,164

PHOTOVOLTAIC POWER ASSEMBLY

Peter Bachwansky, Sierre Madre, Calif., assignor, by mesne assignments, to Globe-Union Inc., Milwaukee, Wis., a corporation of Delaware

Filed Aug. 1, 1963, Ser. No. 299,262

8 Claims. (Cl. 136—89)



This invention relates to a photovoltaic power assembly and more particularly relates to such an assembly for mounting a plurality of semiconductor elements in electrical series relationship.

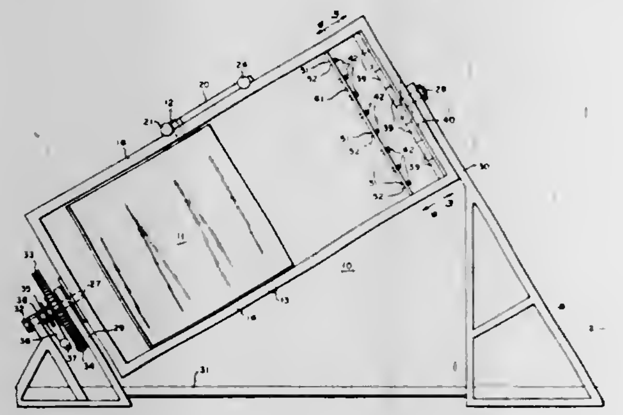
3,376,165

APPARATUS FOR CONVERTING SOLAR ENERGY TO ELECTRICITY

Charles G. Abbot, 4409 Beechwood Road, Hyattsville, Md. 26782

Filed Oct. 22, 1965, Ser. No. 501,946

14 Claims. (Cl. 136—89)



1. A solar energy converter adapted to convert solar energy to electrical energy comprising means to cause the maintenance of a solar beam in a fixed direction parallel to the axis of the Earth at any daylight hour including a plane reflecting surface for reflecting the solar beam in the fixed direction, an array of optical elements supported in the path of said reflected solar beam to subdivide the reflected beam into a plurality of focused beams having their foci located in a plane normal to the Earth's axis, and an array of primary radiation sensitive elements disposed in said focal plane, each adapted to receive one of said subdivided beams and convert the solar energy of said beam into electrical energy.

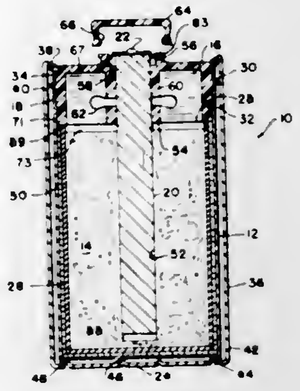
3,376,166

DEFERRED ACTION DRY CELL BATTERY STRUCTURE

Wayne Richard Hruden, Windsor, Ontario, Canada, assignor to Hruden Industries, Inc., Ann Arbor, Mich., a corporation of Michigan

Filed Sept. 28, 1964, Ser. No. 399,569

6 Claims. (Cl. 136—90)



1. Battery structure comprising an outer zinc can negative electrode having a top portion, an inner bobbin positive electrode of acetylene black, ammonium chloride, zinc chloride and manganese dioxide filling the lower portion of the zinc can negative electrode and having an axially extending recess therein, a layer of absorbent paper impregnated with an electrolyte solution between the negative and positive electrodes, an electrical contact rod having an upper end portion and extending into the recess in the bobbin and axially upwardly of the bobbin above the top of the zinc can, an electrolyte solvent chamber positioned between the top portion of the zinc can and the upper end portion of the rod above the bobbin, said chamber comprising an outer cylindrical portion having upper and lower ends, an inner cylindrical neck portion having upper and lower ends and a radially extending portion between the upper ends of the outer cylindrical portion and the neck portion forming an annular portion of the top of the battery structure, a rod sleeve secured to the rod in spaced relation to the top of the bobbin and immediately below the neck portion of the chamber having an upper and lower end, an annular bellows member between the neck portion of the chamber and the rod sleeve and a trigger membrane extending between the lower end of the rod sleeve and the lower end of the outer cylindrical portion of the chamber, a liquid electrolyte solvent in said chamber, an anode cap positioned over the top of the rod and held in position by the neck portion of the chamber, an outer jacket over said zinc can radially exteriorly thereof and a negative electrode over the bottom of the zinc can held in position by the outer jacket.

3,376,167

ELECTRICAL PRIMARY CELLS HAVING INDIUM COATING ON ANODE

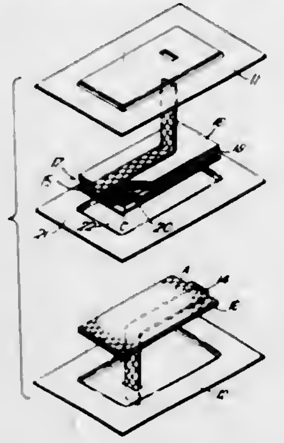
Herbert D. Hughes, Banstead, Richard W. Lewis, East Grinstead, and Alan H. Partridge, Horsham, England, assignors, by mesne assignments, to Burndept Limited

Filed Nov. 29, 1965, Ser. No. 510,254

Claims priority, application Great Britain, Dec. 2, 1964, 48,987/64

10 Claims. (Cl. 136—100)

This invention relates to an electric primary cell comprising a hermetically sealed outer casing of flat box-like shape. The anode has an open framework construction and has a coating thereon comprising indium. The coating optionally may contain also bismuth. The cathode has an associated depolarizer and the cell itself contains an alkaline electrolyte. The spacing between the cathode and anode is maintained between 4 and 6 mm.



3,376,168

METAL - CONTAINING GRAFT - POLYMERIZED PRODUCT AND METHOD OF MAKING SAME

Carl Horowitz, Brooklyn, N.Y., assignor to Yardney International Corp., New York, N.Y., a corporation of New York

No Drawing. Filed Aug. 2, 1962, Ser. No. 214,195

7 Claims. (Cl. 136—146)

1. A method for graft polymerizing a polymerizable vinyl monomer onto a backbone of an organic polymer susceptible to grafting which comprises the steps of:

(1) depositing onto said backbone colloidal particles of a metal selected from the group consisting of silver, platinum, gold, nickel and copper in elemental form, said metal being capable of activating a free-radical-producing polymerization catalyst; and

(2) contacting the organic backbone upon which said colloidal particles have been deposited with a solution of said monomer and said free-radical-producing polymerization catalyst to graft said monomer to said backbone.

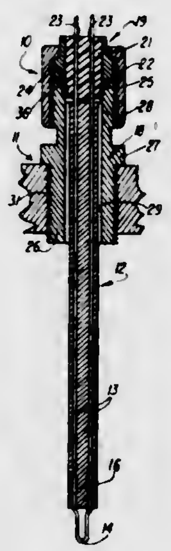
3,376,169

THERMOCOUPLE ASSEMBLY HAVING A DEFORMABLE FERRULE HOUSING

Bayard C. Davis, Elmhurst, Ill. (272 Illinois St., Glenview, Ill. 60025), and Alvin Singer, 4646 Laurel Ave., Glenview, Ill. 60025

Filed July 12, 1963, Ser. No. 294,611

3 Claims. (Cl. 136—230)



A holder for supporting a pair of thermocouple wires comprises three basic elements, namely, a deformable ferrule, a main body portion with a tapered receiving aperture for the ferrule and a threaded exterior wall portion, and a securing nut which is threaded onto the main body portion with the ferrule situated therebetween. The ferrule comprises a sleeve member having an external flang and an insert plug situated within the sleeve and having apertures for passing the thermocouple wires. Tightening of the securing nut deforms the ferrule to effect a sealing between respectively the ferrule sleeve and the tapered receiving aperture and the insert plug and thermocouple wires.

3,376,170

THERMOCOUPLE JUNCTIONS

Maurus C. Logan, Elizabeth, and Howard B. Gibson, Glen Ridge, N.J., assignors to The Thomas & Betts Co., Elizabeth, N.J., a corporation of New Jersey

Filed Feb. 27, 1964, Ser. No. 347,720

12 Claims. (Cl. 136—233)

A thermocouple junction having a pair of metal wires of dissimilar metal in intimate contact with each other in a preformed sintered powdered metal sleeve. The metal sleeve contains the metals of the wires in approximately the same ratios and is circumferentially compressed completely about the wires to fill any space therebetween. The joint between the sleeve and wires is free of any solder or similar bonding metal so as to provide a uniform E.M.F.-temperature characteristic of the junction.

3,376,171

COPPER ALLOY

Anthonius Catharina Wilhelmus Verdonk, Eindhoven, and Pieter Johannes Bernard Kradolfer, Zeist, Netherlands, assignors to N.V. Cirex, Almelo, Netherlands

No Drawing. Continuation of application Ser. No. 359,542, Apr. 3, 1964. This application Nov. 1, 1966, Ser. No. 591,341

Claims priority, application Netherlands, Apr. 11, 1963, 291,498

3 Claims. (Cl. 148—3)

A method of manufacturing a fine-grained copper alloy in which an alloy of copper containing beryllium and between 1.25 and 2% by weight of cobalt are cast by heating the alloy to a temperature between 1100° and 1200° C.

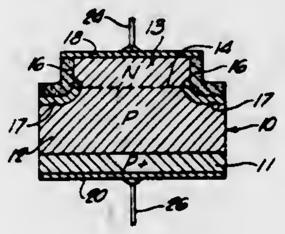
3,376,172

METHOD OF FORMING A SEMICONDUCTOR DEVICE WITH A DEPLETION AREA

Mieczyslaw W. Byczkowski, West Covina, Calif., assignor, by mesne assignments, to Globe-Union Inc., Milwaukee, Wis., a corporation of Delaware

Original application May 28, 1963, Ser. No. 283,728. Divided and this application Oct. 22, 1965, Ser. No. 509,468

10 Claims. (Cl. 148—191)



A process for passivating the edge of a P-N junction in a semiconductor device by forming an oxide layer over the edge of the junction and then forming a high resistivity conversion layer in the semiconductor under the oxide layer and across the junction.

3,376,173
ENCAPSULATION OF LIGHT METAL HYDRIDES AS ROCKET PROPELLANTS
David R. Carley and James H. Dunn, Baton Rouge, La., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed May 2, 1960, Ser. No. 26,365
5 Claims. (Cl. 149—5)

1. A process for coating a metal hydride with aluminum metal which comprises contacting a metal hydride of a metal of the first three A groups of the Periodic Chart of the Elements which is solid at the contacting temperature with a complex of aluminum hydride and a tertiary amine having a total of up to and including about 18 carbon atoms while maintaining said metal hydride at a temperature above the decomposition temperature of aluminum hydride but below the decomposition temperature of said metal hydride.

3,376,174
POWDER CONTAINING NITROCELLULOSE, METAL OR METAL HYDRIDE AND A SUPERFICIAL LAYER OF MODERATING AGENT
Claude Napoly, Finistere, Jean-Jacques Humbert, Charente, and Alain Lamboley, Puteaux, France, assignors to Etat Francais, représenté par le Ministre, des Armées, Délégation Ministérielle pour l'Armement, Paris, France
No Drawing. Filed Sept. 16, 1966, Ser. No. 579,820
Claims priority, application France, Sept. 21, 1965, 32,029
4 Claims. (Cl. 149—13)

The present invention is directed to propulsive powders for mortar shells. The powder comprises a granular mixture of a major proportion of a propulsive organic nitrate preferably nitrocellulose and a powdered metal or metal compound such as aluminum, magnesium, beryllium, lithium and lithium hydride. The granular powder mixture in addition possesses a superficial layer of a moderator such as centralites, dinitrotoluene, camphor, diphenylamine and urethanes which is applied by a glossing technique. Preferred powders contain from 0.5 to 10% by weight of the metal or metallic compound and from about 0.5% to 20% by weight of the moderator.

3,376,175
PREREACTION OF BINDERS FOR QUICKMIX PROCESSING OF PROPELLANTS
Randall D. Sheeline, Woodland Hills, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware
Filed Apr. 18, 1963, Ser. No. 274,021
2 Claims. (Cl. 149—19)

2. In a process for the manufacture of mixtures of polymeric materials and filling substances which comprises providing (1) at least one dispersion of polymer-forming materials in non-reactive liquid organic dispersion mediums, wherein said polymer-forming materials consist essentially of at least one component selected from the class consisting of silicone polymers, silicone rubbers, glycidyl polyethers having terminal epoxy groups, polyurethane material, polymerized di-(thioethoxy) methylene, partially polymerized materials having the general formula:

$$HS(SR—O—CH_2—O—RS)_nSH$$

in which R is a hydrocarbon group and n is a number selected from the series, 1, 2, 3 . . ., and isocyanate resins having the general formula:

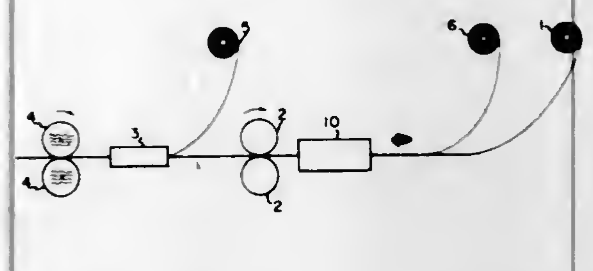
$$ONC—C_3H_6—O(C_3H_6—O)_n—C_3H_6—CNO$$

wherein n is as defined above and such that the molecular weight of the resin is from about 2,000 to about 3,000, and wherein the ratio by weight of polymer-forming materials-to-dispersion mediums in (1) is from about 1:19 to about 1:1 and (2) at least one dispersion of solid particulate filling substances consisting essentially of inorganic perchlorates in non-solvent and non-reactive liquid organic dispersion mediums, said dispersion mediums being mutually miscible, providing an individual stream of each of said dispersions, bringing said streams together under conditions of turbulence to form a common stream of uniform composition, permitting said dispersed polymerized materials and said dispersed filling substances to coalesce and form an agglutinated composition of substantially uniformly dispersed filling substances in said polymerizable materials, the improvement comprising intimately mixing said polymer-forming material with a curative for a sufficient period of time to partially cure said polymer-forming material prior to forming said dispersion.

3,376,176
AQUEOUS INORGANIC NITRATE SALT SLURRY CONTAINING NITRIC ACID AND ENTRAPPED AIR
Neil E. Gehrig, Schuylkill Haven, Pa., assignor to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware
No Drawing. Continuation of application Ser. No. 411,698, Nov. 17, 1964, now Patent No. 3,296,044, dated Jan. 3, 1967. This application Dec. 23, 1966, Ser. No. 604,202
6 Claims. (Cl. 149—46)

A sensitized blasting composition prepared by a method wherein an inorganic nitrate, a nitric acid sensitizer, an acid resistant surfactant or an acid resistant stabilizer or both, and air are mixed as an aqueous slurry containing entrapped air.

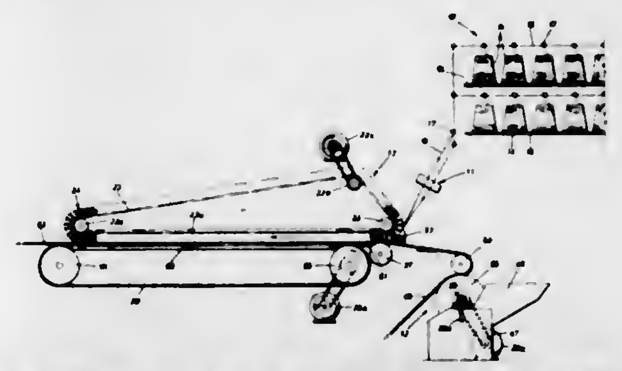
3,376,177
PROCESS FOR THE MANUFACTURE OF ELECTROLUMINESCENT LAMPS
Robert S. Bowser and Thomas J. Sentementes, Wakefield, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed May 4, 1964, Ser. No. 364,632
5 Claims. (Cl. 156—67)



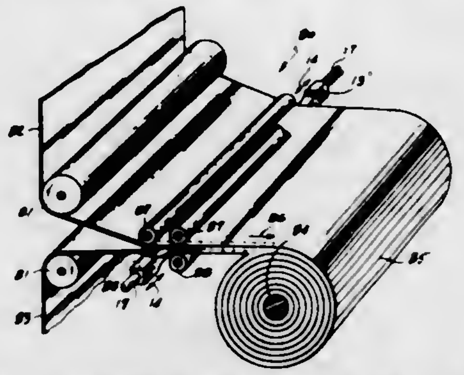
1. A method of fabricating continuous electroluminescent lamps, the steps which comprise: placing an electrically conductive sheet of glass paper over a sheet of metal foil coated with a particulate layer of phosphor dispersed in a resinous organic media; passing said glass sheet and said coated metal foil through a roller thereby bonding said glass paper to said phosphor layer.

3,376,178
CARPETMAKING METHOD AND APPARATUS
William D. McAlpine, 44 Cumbrian Court, Brampton, Ontario, Canada
Filed May 3, 1965, Ser. No. 452,632
Claims priority, application Great Britain, May 5, 1964, 18,704/64
11 Claims. (Cl. 156—72)

10. A method for making a carpet of the loop-pile type which comprises: feeding a material to be looped into the space between and in gripping engagement with the ends of a plurality of spaced-apart blades and the surface of a member whose said surface is shaped to conform generally to the locus of the path described by said ends of said blades as said blades move in a path having a first portion with a smaller radius of curvature than the radius of curvature of a second portion of said path, moving said ends of said blades toward adjacent ones of said blades during movement of said blades from said first to said second portions of said path, thereby looping said material between adjacent ones of said blades, and pressing and holding against the looped material an adhesive coated surface of a backing material to bond the looped material to said backing material.



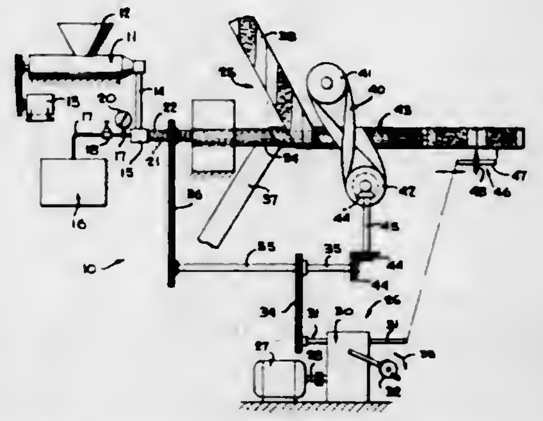
3,376,179
METHOD AND APPARATUS FOR HIGH FREQUENCY JOINING OR SEALING OF THERMOSOFTENING MATERIALS
Lewis Balamuth, New York, N.Y., assignor to Cavitron Ultrasonics Inc., Long Island City, N.Y., a corporation of New York
Filed June 12, 1964, Ser. No. 374,701
18 Claims. (Cl. 156—73)



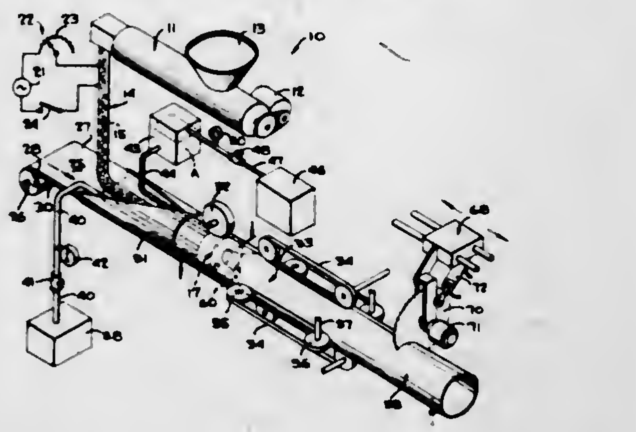
Normally solid materials, at least one of which is thermosoftening and thus a poor transmitter of shear vibrations, are joined together by placing surfaces of the materials to be joined in close proximity to each other, applying high frequency mechanical vibrations directly to the surfaces in close proximity to each other, as by a tool interposed therebetween and being vibrated at a high frequency and with a small amplitude, which vibrations have major components of motion in directions parallel to such surfaces so as to exert a rubbing action thereon which heats and, hence, softens the thermosoftening material substantially only at its contacted surface, whereupon the tool is withdrawn from between the surfaces which are pressed together until the softened material solidifies to provide a firm bond therebetween.

3,376,180
METHOD AND APPARATUS FOR FORMING A SPIRAL WOUND TUBE HAVING AN EXTRUDED PLASTIC LINER
Ralph A. Larson, Michigan City, Ind., Ronald L. Millar, Elmhurst, Ill., and Curtis E. Maier, Koenigstein, Germany, assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed July 31, 1963, Ser. No. 298,985
25 Claims. (Cl. 156—195)

This invention relates to a novel apparatus for forming a spiral wound tube and at the same time extruding a tubular lining into the interior of the spirally wound tube and securing the same thereto. The tube is formed by winding webs upon a rotating mandrel during the simultaneous extrusion of the lining from an extrusion nozzle associated with the mandrel. The formed tubular lining is urged radially outwardly into contact with the interior of the tube by means of a source of vacuum in fluid communication with a chamber between the tubular lining and the tube.



3,376,181
METHOD AND APPARATUS FOR BLOWING PLASTIC LINER IN CONTINUOUSLY FORMED TUBES HAVING LONGITUDINAL SEAM
Ralph A. Larson, Michigan City, Ind., Ronald L. Millar, Elmhurst, Ill., and Curtis E. Maier, Koenigstein, Germany, assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed July 31, 1963, Ser. No. 298,854
13 Claims. (Cl. 156—203)



2. A method of extruding a tubular lining to a longitudinally seamed tube during the fabrication of the seamed tube comprising the steps of advancing a strip of material along a predetermined path, progressively forming the strip of material into a tube with the longitudinal edges thereof in contact, seaming the longitudinal edges of the seamed tube, extruding a tubular lining into the interior of the seamed tube, applying an adhesive coating to an interior surface of the seamed tube and forming a partial vacuum in a chamber between the seamed tube and the tubular lining thereby expanding the tubular lining into adhesive contact with the interior of the seamed tube.

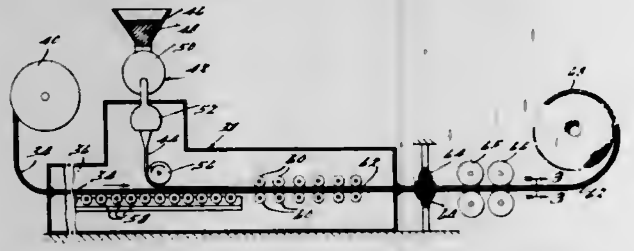
3,376,182
METHOD AND DEVICE FOR TRANSFERRING AND RETAINING PRINTED MATTER
Marvin C. Borell, 5808 Portland Ave., Minneapolis, Minn. 55417, and Leonard J. Hanson, Jr., 11820 Live Oak Drive, Minnetonka, Minn. 55343
Filed June 25, 1965, Ser. No. 467,049
9 Claims. (Cl. 156—235)

A method of transferring and retaining printed matter from a printed surface in which a tape with a transparent portion has a pressure sensitive adhesive coating on one face which has an added solvent or lubricant added thereto, the tape being applied to the printed surface to transfer the printed material to the adhesive coating,

and being removed, without injury to the printed surface because of the solvent, and then being applied to a backing member to provide a permanent reference record.

3,376,183
METHOD OF MAKING A COMPOSITE BEARING MATERIAL

Joseph M. Flynn and Gordon J. Le Brasse, Ann Arbor, Mich., assignors to Federal-Mogul Corporation, a corporation of Michigan
Filed May 5, 1964, Ser. No. 365,047
4 Claims. (Cl. 156—244)



1. The method of making a composite bearing material which comprises the steps of providing a hard metal backing strip, applying a metallic powder layer to one surface of said backing strip, sintering said powder layer forming a composite strip comprising a porous sintered matrix having a porosity of from about 10% to about 50% by volume which is tenaciously bonded to said backing strip, providing a heat softenable plastic consisting essentially of an interpolymer of tetrafluoroethylene and hexafluoropropylene incorporating a solid filler dispersed as discrete particles substantially uniformly therethrough, heating said composite strip and said plastic to a temperature at which a heat softening of said plastic occurs to enable extrusion thereof, extruding the heat softened said plastic at a pressure of from about 200 p.s.i, to about 10,000 p.s.i. into direct contact with said porous matrix and in lateral confined relationship with respect to the longitudinal side edges of said strip effecting a concurrent impregnation of at least some of the pores of said matrix and a coating of the exposed surface of said matrix with a substantially continuous residuary film of said plastic, cooling the coated and impregnated said composite strip to a temperature below the heat softening point of said plastic, and thereafter further compressing the cooled said composite strip effecting a gauging thereof and a sizing of said residuary film.

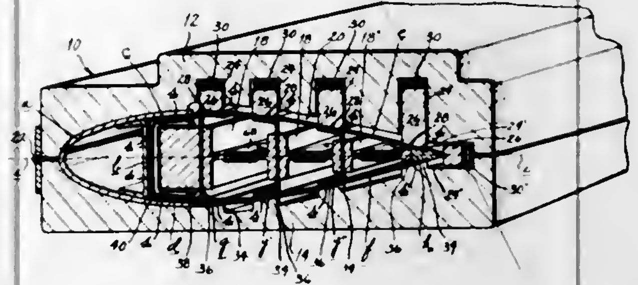
3,376,184
PRESSURE BONDING SYSTEM FOR SPANWISE REINFORCED AIRFOILS

Jack L. Ritchey, Traverse City, Winston E. Brownlee, Sutton's Bay, and Stanley Steed, Traverse City, Mich., assignors, by mesne assignments, to Lawrence H. Egland, Frank Hohman, and Allan Donald, as trustee
Filed June 11, 1965, Ser. No. 463,252
8 Claims. (Cl. 156—580)

1. A bonding fixture assembly for use in bonding structural members to form a hollow spanwise-reinforced airfoil or the like, comprising

a female fixture having longitudinally-extending upper and lower parts hollowed from a parting plane to define an airfoil-shaped cavity wherein to receive such structural members,

first fluid pressure-applying means recessed within at least one of said fixture parts aft of the point of maximum thickness of such shaped cavity for resiliently applying forces to such structural members inwardly and forward, and

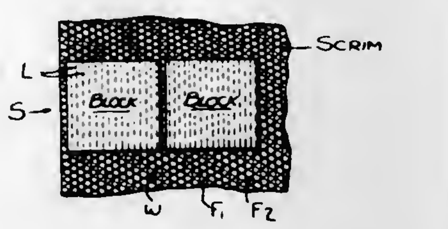


a mandrel insertable and removable longitudinally into and from said cavity of said fixture inwardly of such structural members and forwardly of said first fluid pressure means, said mandrel having second fluid pressure-applying means for applying forces to such structural members outward and aft in opposition to those applied by said first fluid pressure-applying means,

whereby, bonding together of such structural members may be effected under a substantial balance of such resiliently applied forces.

3,376,185
CONTOUR CORE STRUCTURE

Gerald D. Shook, Huntington, and Robert S. Levine, Harrison, N.Y., assignors to Balsa Development Corporation, New York, N.Y., a corporation of New York
Filed Aug. 12, 1964, Ser. No. 389,149
3 Claims. (Cl. 161—37)



A tessellated contour core blanket which is conformable to a contoured surface such as the hull of a vessel for lamination thereto, the blanket being constituted by an open mesh of non-stretchable, flexible scrim material formed of fiberglass threads, a layer of individual balsa blocks being secured to the mesh by parallel lines of pressure-releasable adhesive, the blocks being selectively dislodgeable from the scrim when they are pressed against a contoured surface to conform thereto.

3,376,186
CENTRIFUGALLY CAST HOLLOW GLASS BODY

Paul A. Douillard, Stockbridge, and Raymond W. Jones, Richard A. Cunningham, and John R. Lucek, Pittsfield, Mass., assignors to General Electric Company, a corporation of New York
Filed Aug. 7, 1962, Ser. No. 215,438
2 Claims. (Cl. 161—42)

1. In a centrifugally cast integral hollow glass body having a central axis and a circular cross section perpendicular to said axis, a unitary metal ring generally

perpendicular to and centered on said axis, said ring having a series of perforations at spaced apart points around said axis, said glass body being centrifugally cast onto said ring with said ring embedded in said glass body between the ends thereof and extending completely through said body and beyond the inside and outside surfaces thereof, at least the major part of said perforations being within said body with the glass of said body extending homogeneously through said perforations and integrally joining the glass of said body on both sides of said ring, said ring being bonded to said glass to provide a hermetic seal at all points of contact, and said ring and said glass having substantially the same thermal expansion characteristics.

3,376,187
METHOD OF FORMING A DECORATIVE SURFACE COVERING AND ARTICLE FORMED THEREBY

Allan W. McKee, Jr., Millersville, and David T. Zentmyer, Lancaster Township, Lancaster County, Pa., assignors to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Dec. 26, 1962, Ser. No. 247,076
6 Claims. (Cl. 161—164)

6. A thermoplastic vinyl resin surface covering having a terrazzo-like appearance in which the decorative layer is comprised of a plurality of particles of a thermoplastic vinyl resin composition having a metallic sheen imparted thereto by means of a leafing metallic pigment incorporated in said composition with a matrix of a darker metallic color surrounding said particles and uniting said particles into a continuous decorative sheet material.

3,376,188
TERPOLYMER COMPOSITIONS AND PROCESS OF PRODUCING SAME

Robert E. Clayton and Byron M. Vanderbilt, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Jan. 4, 1965, Ser. No. 423,372
12 Claims. (Cl. 161—193)

Natural or synthetic rubbers are reinforced with siliceous materials such as fillers or glass fibers. The siliceous materials are first treated with an organosilane and thereafter with an elastomeric terpolymer of ethylene, a higher alpha olefin and a diolefin; the terpolymer-coated siliceous materials are then cured while in contact with the rubber to be reinforced.

3,376,189
METHOD FOR THE PRODUCTION OF A FIRE-RESISTANT MINERAL FIBERBOARD WITH STARCH BINDER

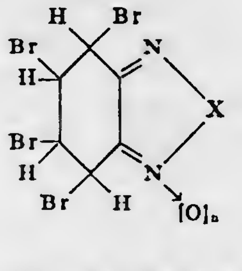
Ernst H. B. Nyström, Skolduagen 21, Djursholm, Sweden
No Drawing. Continuation-in-part of application Ser. No. 562,515, July 5, 1966, which is a continuation-in-part of application Ser. No. 236,717, Nov. 9, 1962. This application Jan. 24, 1967, Ser. No. 611,260
4 Claims. (Cl. 162—152)

A fire-resistant, felted, synthetic, mineral fiberboard and method of making the same including mixing mineral synthetic fibers, water and from 6 to 12% of ungelatinized starch to form a 0.4 to 2.5% aqueous suspension of the fibers and the starch; adjusting the pH of the mixture to a value between about 4.2 and 6.9; forming the mixture into a wet matt; cutting the wet matt into sheets; subjecting test sheets of the matt to pressures of varying magnitude to determine at which range of pressure the fibers crush; and applying a pressure below the determined crushing pressure for a period of about 10 to 120 minutes while maintaining a temperature of about 140° to 220° C. to simultaneously dry the matt and effect gelatinization of the starch and thus fixation of the fibers, the pressure during drying being sufficient to produce a dried board having a density between about 0.5 and 1.1 grams per cubic centimeter. When boards manufactured in accordance with this technique are subjected to fire, they will swell at least 25% in volume and usually in excess of 100% of their initial volume.

3,376,190
AGENT FOR THE COMBATMENT OF MOULDS

Harmannus Koopman and Albert Tempel, Van Houtenlaan, Weesp, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Jan. 15, 1965, Ser. No. 425,926
Claims priority, application Netherlands, Jan. 17, 1964, 64—307
6 Claims. (Cl. 167—33)

Use of tetrabromo compounds of the formula



as fungicides. In the formula *n* is 0 or 1 and X is oxygen or sulfur.

3,376,191
METHODS OF PRODUCING PESTICIDAL COMPOSITIONS CONTAINING PECAN SHELL FLOUR AS A CARRIER AND A PRODUCT THEREFROM

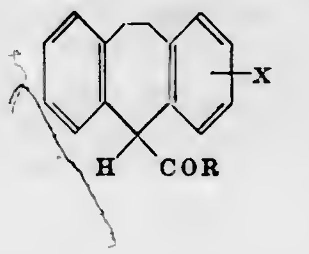
William P. Reeves, Valdosta, Ga., assignor to Southeastern Reduction Company, Inc., Valdosta, Ga.
No Drawing. Filed Aug. 23, 1965, Ser. No. 481,961
4 Claims. (Cl. 167—42)

1. The method of producing a pesticidal product for protecting shade grown tobacco comprising removing the softer spongy inner liners from pecan shells to reduce their tannin content to the range of 0.4% to 1.0%, grinding the shells to a powder of sufficient fineness to pass an 80 mesh screen with a major portion passing a finer mesh, and mixing the resultant flour with a pesticide selected from the group consisting of insecticides and fungicides.

3,376,192
10,11-DIHYDRO-5H-DIBENZO[a,d]CYCLOHEPTENES AS LOCAL ANESTHETICS

Paul Greengard, New York, N.Y., assignor to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 267,324, Mar. 12, 1963. This application Oct. 22, 1965, Ser. No. 502,303
11 Claims. (Cl. 167—52)

1. A process for locally anesthetizing which comprises administering to an animal and human host requiring local anesthesia a compound of the formula



wherein

X is selected from the group consisting of hydrogen and halogen;

R is selected from the group consisting of N-(lower) alkyl-N-hydroxy(lower)alkylamino and —OZ and —NHZ in which Z is selected from the group consisting of (lower)alkylamino(lower)alkyl, di(lower) alkylamino(lower)alkyl, 1-piperidyl(lower)alkyl and 3-(N-methylpiperidyl)

or the pharmaceutically acceptable acid addition salts or pharmaceutically acceptable quaternary ammonium salts thereof.

3,376,193

17 - ACYLATES OF 9α - FLUORO - 11β,17α - DIHYDROXY - 16 - METHYL - 1,4 - PREGNADIENE-3,20-DIONE AND CORRESPONDING-11-KETO STEROIDS AND PHARMACEUTICAL COMPOSITIONS THEREOF

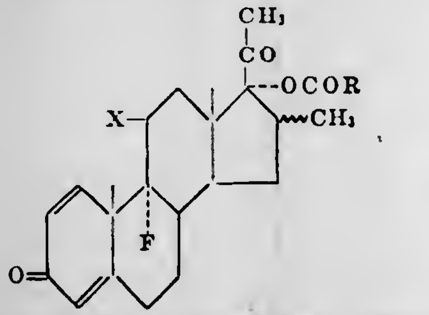
Joseph Elks and Esme Joan Bailey, London, England, assignors to Glaxo Laboratories Limited, Greenford, England, a British company

No Drawing. Continuation-in-part of application Ser. No. 428,242, Jan. 26, 1965. This application June 23, 1965, Ser. No. 466,434

Claims priority, application Great Britain, Jan. 28, 1964, 3,622/64

15 Claims. (Cl. 167—65)

12. A pharmaceutical composition selected from the group consisting of ointments, creams, lotions, powders, drops, suppositories, retention enemas, chewable tablets, suckable tablets and aerosols said composition containing as active ingredient from 0.001% to 5% by weight of a steroid compound of the formula:



(I)

wherein X is a hydroxyl group in the β-configuration and R is an alkyl group having one to three carbon atoms.

3,376,194

METHOD OF TREATING HYPERTENSION EMPLOYING SELECTED THIOUREAS

Arthur Berger, Skokie, Ill., and Edeltraut E. Borgaes, Delmenhorst, Germany, assignors to Baxter Laboratories, Inc., Morton Grove, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 334,636, Dec. 30, 1963. This application Sept. 26, 1966, Ser. No. 581,708

4 Claims. (Cl. 167—65)

This invention is concerned with methods of treating hypertension with thioureas.

3,376,195

METHODS FOR RELIEVING PAIN AND INFLAMMATION WITH 4-(PHENYL-AMINO) QUINOLINES

André Allais, Les Lilas, Seine, and Pierre Girault, Paris, France, assignors to Rousell-UCLAF, Paris, France, a corporation of France

No Drawing. Continuation-in-part of application Ser. No. 410,282, Nov. 10, 1964. This application Oct. 11, 1966, Ser. No. 585,763

Claims priority, application France, July 10, 1961, 867,515, Patent 1,399; Oct. 17, 1961, 876,199, Patent 1,369,967

4 Claims. (Cl. 167—65)

The invention relates to a novel method of relieving pain and inflammatory manifestations in humans by the administration of certain 4-(phenylamino)-quinoline derivatives.

3,376,196

METHOD OF AMELIORATING THE EFFECTS OF AND PREVENTING INFLUENZA INFECTIONS

George L. Dunn, Wayne, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 571,197, Aug. 9, 1966. This application May 18, 1967, Ser. No. 639,293

18 Claims. (Cl. 167—65)

α-Methylcyclohexanemethylamine and α,α - dimethylcyclohexanemethylamine have been found to possess anti-influenza activity in infected mice.

3,376,197

ANABOLIC COMPOSITION COMPRISING 1,2β - METHYLENE - 5α - ANDROSTANE DERIVATIVES

Hans Mueller and Friedmund Neumann, Berlin, and Rudolf Wiechert, Berlin-Wannsee, Germany, assignors to Schering Aktiengesellschaft, Berlin, Germany

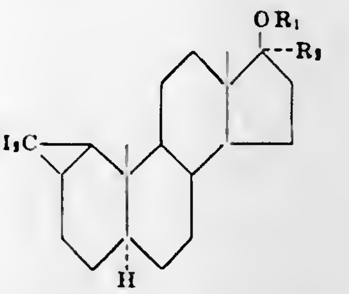
No Drawing. Filed Apr. 26, 1966, Ser. No. 545,245

Claims priority, application Germany, Apr. 30, 1965, Sch 36,965

14 Claims. (Cl. 167—74)

1,2β-methylene-5α-androstane derivatives, processes for their preparation, compositions containing the same and method for their use.

The above set forth derivatives are mainly 1,2β-methylene-5α-androstane derivatives of the formula



wherein R_1 is hydrogen or acyl and R_2 is hydrogen, alkyl, alkenyl, and alkinyl.

3,376,198

METHOD OF PRODUCING ANTIBODIES IN MILK

William E. Petersen, St. Paul, Minn., and Berry Campbell, Monrovia, Calif., assignors to Collins Products, Inc., Waukon, Iowa, a corporation of Iowa

No Drawing. Continuation-in-part of application Ser. No. 789,502, Jan. 28, 1959, which is a continuation-in-part of application Ser. No. 500,038, Apr. 7, 1955. This application July 21, 1965, Ser. No. 473,833

14 Claims. (Cl. 167—78)

1. The method of producing antibodies in therapeutically significant concentrations in milk in its natural state, comprising the steps of:

(A) introducing a plurality of preselected antigens in a non-pathogenic condition into the udder of a pregnant ungulate through a teat canal, and

(B) subsequent to parturition, milking said ungulate.

3,376,199

SOFT CAPSULATED AQUEOUS MEDICAMENT IN WATER-IN-OIL EMULSION FORM

Clarence Leonard James Coles, Ruislip, and David John Trigger, Dartford, Kent, England, assignors to Glaxo Laboratories Limited, Greenford, England, a British company

No Drawing. Filed Mar. 6, 1964, Ser. No. 350,087

Claims priority, application Great Britain, Mar. 12, 1963, 9,762/63

30 Claims. (Cl. 167—83)

There is disclosed the presentation of an oral dosage unit of an aqueous medicament in a soft gelatin capsule. The medicament is in the form of a water-in-oil emulsion, the emulsion and the continuous oil phase thereof having viscosities such that at the normal storage temperature of the capsulated composition, migration of the globules of the internal water phase is substantially prevented.

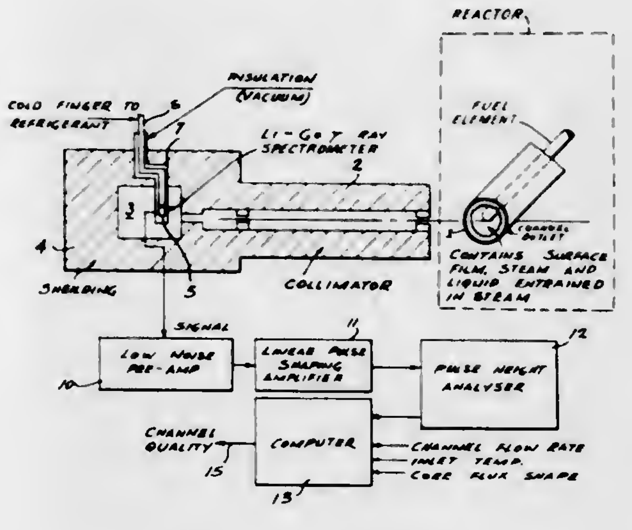
3,376,200

VAPOUR QUALITY MEASUREMENT BY DELAYED GAMMA RADIATION EMISSION

Arthur G. Ward, Deep River, Ontario, Canada, assignor to Atomic Energy of Canada Limited, Ottawa, Ontario, Canada, a corporation of Canada

Filed Aug. 26, 1966, Ser. No. 575,419

7 Claims. (Cl. 176—19)



An apparatus for determining the quality of a coolant used in a nuclear reactor is described in which the coolant passes through the core of the reactor and is subjected to neutron irradiation. If the coolant contains a substance which undergoes delayed production of gamma radiation after the neutron bombardment, a detector past which the coolant is led after irradiation will detect the gamma radiation. The output from the detector is connected to a computer which calculates coolant quality on the basis of the signals from the detector and other chosen inputs dependent upon known conditions in the reactor.

3,376,201

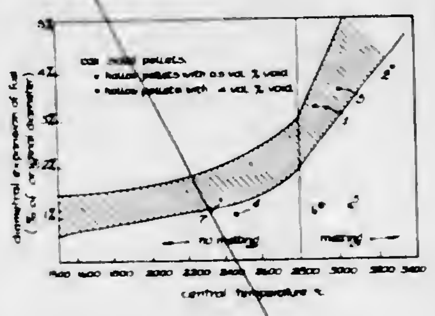
CLADDED CERAMIC NUCLEAR REACTOR FUEL ELEMENT HAVING AXIAL VOID

Alastair S. Bain, Deep River, Ontario, Canada, assignor to Atomic Energy of Canada Limited, Ottawa, Ontario, Canada, a corporation of Canada

Filed Apr. 25, 1966, Ser. No. 545,012

4 Claims. (Cl. 176—67)

A nuclear reactor fuel element has a sheathing member of such thickness that it would be collapsible under the expected coolant pressures in a nuclear reactor if not forced against the surface of the fuel elements. The nuclear fuel is in the form of uranium dioxide pellets having an axial void. The fuel element is designed to be operated at a temperature so that the central portion of the fuel is in a plastic condition and swells into the axial void which is approximately 4% by volume and only sufficiently large to accommodate this expansion.



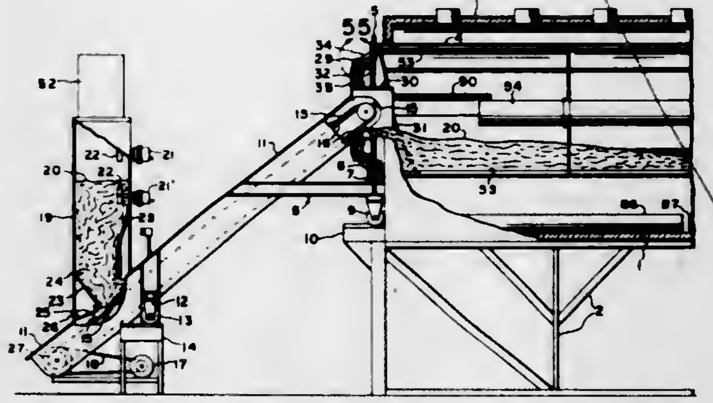
3,376,202

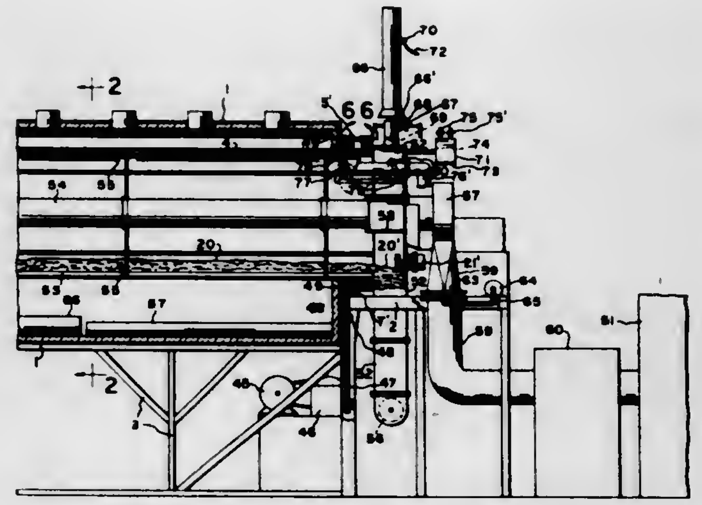
WASTE CONVERTER

Harold E. Mescher, Pico Rivera, Calif., assignor to Pacific Scientific Company, San Francisco, Calif., a corporation of California

Filed Oct. 8, 1964, Ser. No. 402,512

4 Claims. (Cl. 202—90)





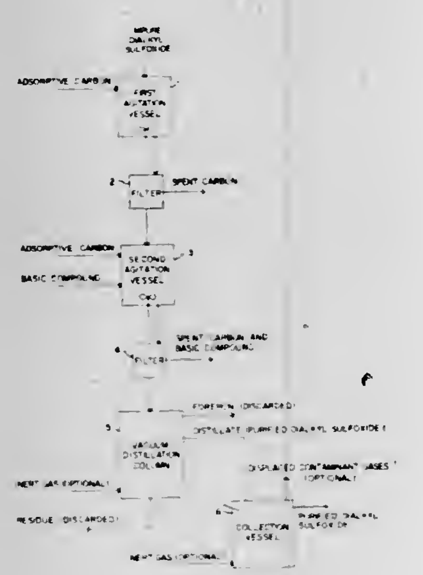
1. A material converter for continuously producing charcoal and gas products, comprising a casing containing a heated rotatable retort, means for supplying raw material such as wood chips, paper, grain hulls, etc., to said retort and removing charcoal material therefrom, means for sealing said retort, conduit means provided within said retort and extending exteriorly thereof for conducting combustible gases therefrom, the drier portion of said gases being used for heating said retort, said converter having valve means connected in said conduit means for controlling the flow of said gases through said conduit means, control means communicating with

the interior of said retort and connected to said valve means for controlling the latter, whereby the gas pressure within said retort is retained substantially at atmospheric pressure during operation, a flare stack adjacent said retort connected for receiving gas therefrom, and means for igniting the gas in said flange stack, said control means comprising a temperature sensitive element within said flare stack connected for controlling the operation of said valve means.

3,376,203

PURIFICATION OF DIALKYL SULFOXIDES BY TREATMENT WITH ADSORPTIVE CARBON

Homer Baird Lackey, Washougal, Wash., assignor to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada
Continuation-in-part of application Ser. No. 384,548, July 22, 1964. This application July 28, 1965, Ser. No. 475,579
13 Claims. (Cl. 203—4)



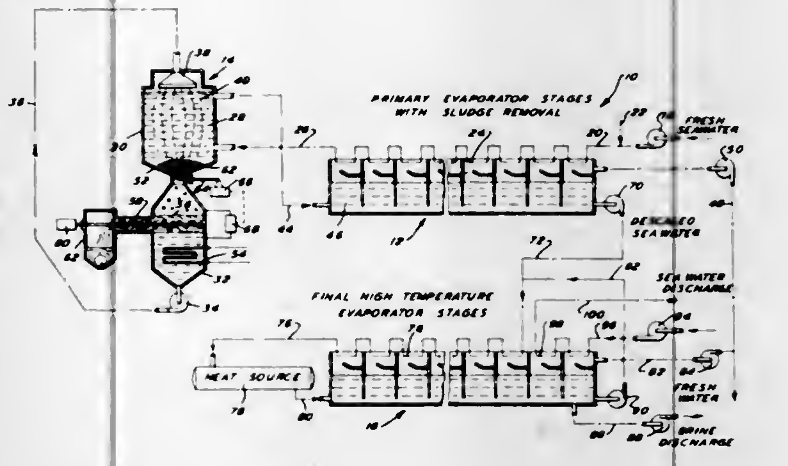
A method for removing impurities from dialkyl sulfoxides having up to 6 carbon atoms, particularly those impurities manifesting like absorbance in the 270–300 mu range, by contacting the dialkyl sulfoxide with adsorptive carbon followed by fractional distillation at reduced pressure and collection of the purified sulfoxide as distillate. During or following distillation, the sulfoxide may be contacted with an inert gas to displace undesirable contaminant gases absorbed therein. The dialkyl sulfoxide may be contacted with a basic compound during or following the last carbon contact and before and/or during distillation to minimize degradation during distillation by extracted acids.

3,376,204

NON-SCALING HIGH TEMPERATURE SEA WATER DISTILLATION UNIT

Robert A. Tidball, Swarthmore, Pa., assignor, by mesne assignments, to Baldwin-Lima-Hamilton Corporation, Philadelphia, Pa., a corporation of Delaware
Continuation-in-part of application Ser. No. 362,602, Apr. 27, 1964. This application Sept. 14, 1964, Ser. No. 396,343
7 Claims. (Cl. 203—7)

A method for distilling sea water at high temperature, and a non-scaling apparatus wherein the method may be performed, the apparatus comprising a primary multistage flash distilling plant wherein substantially all scale-forming constituents are removed from the sea water and wherein a portion of the descaled sea water is flashed to form a fresh water distillate, and a secondary multistage flash distilling plant wherein the portion of the descaled sea water not flashed in the primary distilling plant is reheated to a temperature in excess of the temperature at which scale-forming constituents precipitate from fresh sea water, and a portion thereof flashed to form a further fresh water distillate.



3,376,205

METHOD OF REVIVING SILICATE SEALING SOLUTIONS

Charles C. Cohn, Atlantic City, N.J., assignor to Samuel L. Cohn and Charles C. Cohn, copartners trading and doing business as Colonial Alloys Company, Philadelphia, Pa.,
No Drawing. Filed July 15, 1964, Ser. No. 382,946
2 Claims. (Cl. 204—35)

An alkali silicate sealing bath in which turbidity has appeared after some use is rendered clear by first adding a sufficient quantity of an alkali to raise the pH of the bath to a value in excess of the normal operating pH in order to remove the turbidity. The bath is then either heated or allowed to stand for a period, and its pH is subsequently adjusted by the addition of acid or alkali to the normal operating value.

3,376,206

ELECTROLYTE FOR THE ELECTRODEPOSITION OF PALLADIUM

George J. Kaban, Port Washington, and David W. Hall, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed June 30, 1964, Ser. No. 379,395
2 Claims. (Cl. 204—47)

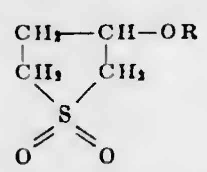
Palladium coating processes and baths using water soluble salts of palladium with strong acids, buffering salts of weak bases and strong acids and organic complexing agents at a pH between 4 and 5.5, e.g., $PdCl_2$, NH_4Cl and disodium ethylenediamine tetraacetic acid, for preparing highly catalytically active palladium films for subsequent electroless deposition of magnetic films are described herein.

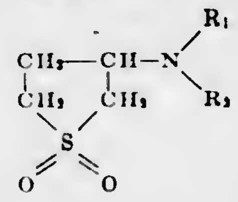
3,376,207

ELECTRODEPOSITION OF NICKEL AND ELECTROLYTES THEREFOR

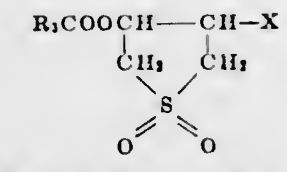
Harry Axel Herman Ericson, Warby, Fittja, Sweden, assignor to Patent-Serm AG., Lucerne, Switzerland, a firm
No Drawing. Filed May 17, 1965, Ser. No. 456,541
26 Claims. (Cl. 204—49)

1. An aqueous acid bath solution for electroplating nickel containing at least one nickel salt as a source of nickel which plating solution includes as brightener a sufficient amount of a compound selected from the group consisting of compounds having the structural formula





and

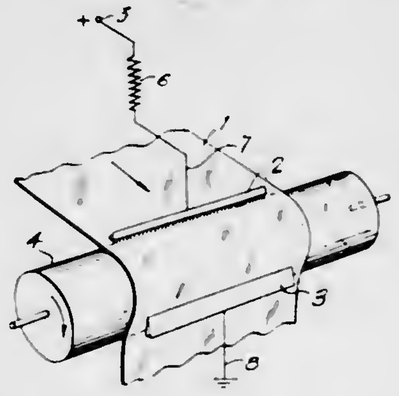


wherein R, R_1, R_2 and R_3 are selected from the group consisting of hydrogen, alkanyl, alkenyl and alkynyl radicals, hydroxy derivatives of said alkanyl, alkenyl and alkynyl radicals, amino radicals and sulfonic acid radicals and X is halogen.

3,376,208

METHOD OF IMPROVING THE ADHESIVE PROPERTIES OF POLYOLEFIN FILM BY PASSING A DIFFUSE ELECTRICAL DISCHARGE OVER THE FILM'S SURFACE

Herbert H. Wood, St. Hilaire, Quebec, Canada, assignor to Canadian Industries Limited, Montreal, Quebec, Canada, a corporation of Canada
Filed May 19, 1965, Ser. No. 456,950
Claims priority, application Great Britain, May 19, 1964, 20,584/64
7 Claims. (Cl. 204—168)

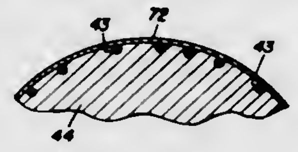


Polyolefine surfaces are rendered more receptive to printing inks, adhesives and the like by passing the surface tangentially through an elongated corona discharge. The discharge, which may be direct current or alternating current, does not pass through the polyolefine and as a result possible puncturing of the polyolefine is avoided.

3,376,209

ANODE FORMED OF LEAD BASE AND DURIRON

Rolland C. Sabins, 522 Catalina Blvd., San Diego, Calif. 92106
Continuation-in-part of application Ser. No. 407,302, Oct. 29, 1964. This application Nov. 6, 1964, Ser. No. 412,873
10 Claims. (Cl. 204—196)

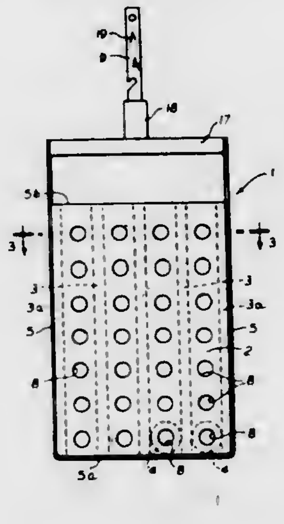


7. A composite anode comprising:
(A) lead base;
(B) and an iron-silicon alloy exposed at the outer surface of the lead base.

3,376,210

PROCESS AND APPARATUS FOR ELECTROPLATING ANNULAR BODIES

Bernhard Kiefer, Heilbronn, and Alfred Buske, Neckarsulm, Germany, assignors to Firma Karl Schmidt G.m.b.H., Neckarsulm, Wurttemberg, Germany, a corporation of Germany
Filed Apr. 30, 1964, Ser. No. 363,949
Claims priority, application Germany, May 4, 1963, Sch 33,242
6 Claims. (Cl. 204—297)

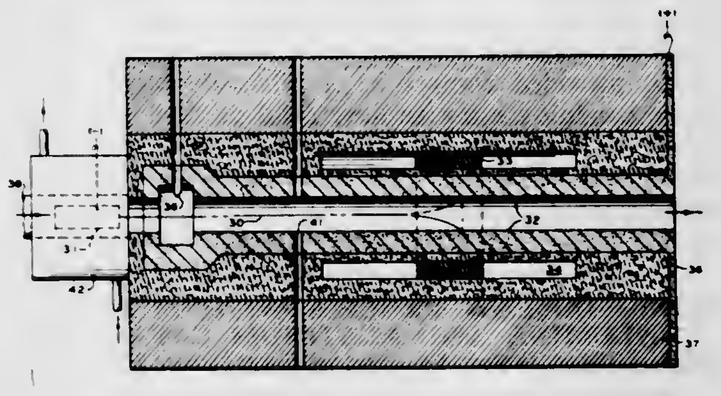


Electroplating the internal surface of an annular body, such as a bearing, by immersing the bearing in an electrolysis bath, connecting the outer axially extending surface of the bearing as cathode, and passing current through the bath from an anode disposed externally of the annular body. The annular body is held between nonconducting plates disposed at the ends of the annular body and each having an opening coaxial with the annular body.

3,376,211

METHOD AND APPARATUS FOR PERFORMING CHEMICAL REACTIONS BY MEANS OF AN ELECTRIC ARC

Geir Bjornson, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Apr. 19, 1965, Ser. No. 449,145
11 Claims. (Cl. 204—311)



A plasma arc reactor comprises in combination a cathode, a reaction chamber comprised of an elongated graphite anode insulated by refractory metal oxide of substantial thickness, electromagnetic means for rotating an arc within the reaction chamber, and means for feeding reactant gases to the reaction chamber.

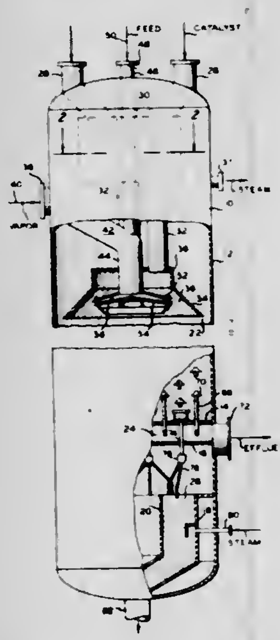
3,376,212
METHOD OF PREVENTING CRYSTALS FROM FORMING IN CREOSOTE AND THE RESULTING PRODUCT

Philip X. Masciantonio, Penn Township, Westmoreland County, and Myron H. Wilt, Monroeville Borough, Pa., assignors to United States Steel Corporation, a corporation of Delaware
No Drawing. Filed Feb. 10, 1966, Ser. No. 526,353
3 Claims. (Cl. 208—2)

Prevents undesirable formation of crystals in creosote. Creosote treated with a gaseous olefin as an alkylating agent in the presence of an aromatic sulfonic acid catalyst. The crystal-forming compounds are converted to alkyl derivatives, which are soluble in creosote.

3,376,213
CATALYTIC CRACKING REACTOR AND METHOD OF PREVENTING THE FORMATION OF COKE ON THE CONDUITS

Kenneth A. Harper, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Apr. 9, 1965, Ser. No. 447,020
11 Claims. (Cl. 208—48)

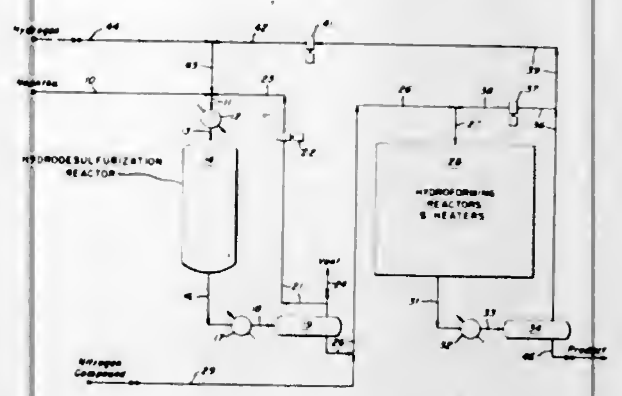


In feeding a liquid stream of hydrocarbon oil at incipient cracking temperature and a hotter vapor stream of hydrocarbons axially into a surrounding catalytic cracking zone, the liquid stream is introduced axially and directly into contact with the surrounding vapor stream within a short delivery conduit to minimize contact of cracking liquid hydrocarbon with the vapor conduit. Structure for this is provided comprising a relatively large diameter vapor conduit having a short axial section, axially with which a relatively small diameter liquid feed conduit communicates, terminating at the juncture of the two conduits.

3,376,214
HYDROFORMING PROCESS WITH MORDENITE, ALUMINA AND PLATINUM CATALYST

Ralph J. Bertolacini, Chesterton, and Harry M. Brennan, Hammond, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed Sept. 28, 1965, Ser. No. 490,792
3 Claims. (Cl. 208—89)

1. An improved naphtha hydroforming process which comprises hydrodesulfurizing feed naphtha to reduce the sulfur content thereof to below about 50 p.p.m. by wt., and produce a desulfurized naphtha, adding 1 to 100 p.p.m. of combined nitrogen to said desulfurized naphtha and contacting said combined nitrogen-containing naphtha in the presence of hydrogen under hydroforming conditions with a catalyst consisting essentially of 0.01 to 10 wt. percent platinum group metal on a support containing 0.1 to 15 wt. percent mordenite and 85 to 99.9 wt. percent alumina, said mordenite having been introduced into said alumina by blending said mordenite in a finely-divided state into a sol of said alumina prior to gelling and drying.



3,376,215
HYDROCARBON CONVERSION PROCESS AND CATALYST

Ralph J. Bertolacini, Chesterton, and Harry M. Brennan, Hammond, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed Sept. 28, 1965, Ser. No. 491,016
10 Claims. (Cl. 208—138)

1. A hydrocarbon conversion catalyst comprising a co-catalytic solid support and a Group VIII noble metal, said support consisting essentially of (1) adsorbent refractory inorganic oxide and (2) mordenite structure zeolite having deposited thereon about 10 to about 1000 p.p.m. by weight, based on zeolite, of a metal selected from the class consisting of alkali metals, alkaline earth metals and mixtures thereof, said solid support containing from about 0.1 to about 25 wt. percent of said mordenite structure zeolite, said Group VIII noble metal having been incorporated with said support.

3,376,216
RECLAMATION OF USED LUBRICATING OILS BY SULFURIC ACID TREATMENT

Donald D. Carlos, Crown Point, and Joseph M. Divijak, Jr., Griffith, Ind., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 19, 1966, Ser. No. 573,461
13 Claims. (Cl. 208—179)

Carbonaceous impurities and sludge are removed from mineral lubricating oils which contain acylated nitrogen-containing, polymeric ashless dispersants by contacting the oil with at least about 20 lbs., often about 25 to 40 lbs., per barrel of oil, of aqueous sulfuric acid having a concentration of about 80 to 90 volume percent, allowing the resultant mixture to settle and then separating a lubricating oil of improved viscosity and color.

3,376,217
METHOD FOR REMOVING THIOPHENES FROM LIGHT OIL WITH SULFURIC ACID

Charles J. De Grange, Hobart, and Steven F. Gobla, Gary, Ind., assignors to United States Steel Corporation, a corporation of Delaware
No Drawing. Filed Feb. 10, 1965, Ser. No. 431,694
4 Claims. (Cl. 208—224)

1. A method of substantially removing thiophenes from light oil produced in coal distillation and having about 5000–7000 parts per million of thiophene, which method comprises the steps of:

(a) intimately mixing said light oil with between about 3.25 and 4.5% by volume of said light oil of concentrated sulphuric acid and with between about 0.1 and 1.0% by volume of said light oil of a crude solvent naphtha fraction having a boiling range between about 160° C. and 205° C.,

  (1) said fraction containing indene in the range between about 0.035% and .450% by weight of said light oil,

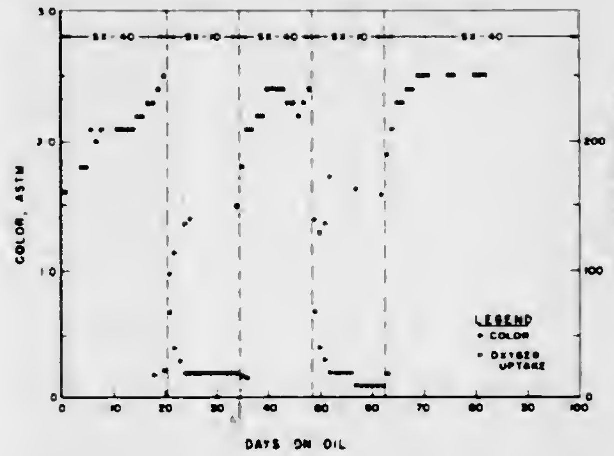
(b) continually mixing said light oil, said sulphuric acid and said fraction for a period between about 1.5 and 4.25 hours at a temperature in the range of about 15° C. and 60° C.,

(c) allowing said mixture to separate into an acid layer and an oil layer, and

(d) separating said acid layer from said oil layer and thereby recovering light oil having a thiophene content of less than about 30.4 p.p.m. of said light oil.

3,376,218
REFINING OF LUBRICATING OIL AND REACTIVATION OF THE CATALYST

Roland L. Menzl, Hammond, Madison E. Marks, Chesterton, and Robert H. Crowther, Crown Point, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed Mar. 17, 1965, Ser. No. 440,534
10 Claims. (Cl. 208—264)



1. In a process for the hydrotreating of a high-viscosity petroleum lubricating oil wherein said lubricating oil is hydrotreated under hydrogenation conditions in the presence of a hydrogenation catalyst until the activity of said catalyst declines to an undesirable level, said catalyst consisting essentially of hydrogenation components selected from the group consisting of cobalt, molybdenum, the oxides, sulfides and mixtures thereof, on an alumina base, the improvement which comprises subsequently employing said catalyst to hydrotreat a low-viscosity petroleum lubricating oil for a time sufficient to at least partially restore the hydrogenating activity of said catalyst and, after the hydrotreating of said low-viscosity petroleum lubricating oil, employing said catalyst to hydrotreat said high-viscosity petroleum lubricating oil.

3,376,219
REMOVING TASTE AND ODOR COMPOUNDS FROM WATER

Joseph K. G. Silvey, Denton, Tex. 76201
No Drawing. Filed Nov. 9, 1964, Ser. No. 409,955
8 Claims. (Cl. 210—11)

Objectionable tastes and odors in water originating with Actinomycetes are removed from the water by adding to it bacteria of the species *Bacillus cereus*.

3,376,220
POLYCYANO LUBRICATING OIL DETERGENTS

Robert Gordon Anderson, Novato, and Donald J. Anderson, San Anselmo, Calif., assignors to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed Mar. 25, 1966, Ser. No. 537,313
5 Claims. (Cl. 252—32.7)

Lubricating oil compositions containing oil soluble aralkyl polycyano compounds having an oil solubilizing aliphatic hydrocarbon amino substituent, the compounds providing detergency and dispersancy.

3,376,221
METAL SALTS OF MIXED PHOSPHOROTHIOIC AND PHOSPHINOTHIOIC ACIDS

Thomas Albert Butler, Cleveland, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio
No Drawing. Original application Aug. 3, 1964, Ser. No. 387,171, now Patent No. 3,300,409, dated Jan. 24, 1967. Divided and this application Sept. 14, 1966, Ser. No. 579,224
18 Claims. (Cl. 252—32.7)

1. A metal salt of a phosphorus acid mixture comprising (A) a di-hydrocarbon phosphorothioic acid having at least 3 aliphatic carbon atoms in each hydrocarbon radical and (B) a diaryl phosphinothioic acid wherein the aryl group is selected from the class consisting of phenyl, halophenyl, and alkylphenyl having up to about 6 carbon atoms in the alkyl substituent; wherein the molar ratio of (A) to (B) is within the range of from about 1:2 to 1:0.05 and the ratio of aliphatic carbon atoms to phosphorus atoms is at least about 6.

3,376,222
PROCESS FOR PREPARING LUBRICATING GREASE

Richard L. McMillen, Painesville, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio
No Drawing. Continuation-in-part of applications Ser. No. 323,135, Nov. 12, 1963, and Ser. No. 558,287, June 17, 1966. This application Sept. 20, 1966, Ser. No. 580,575
14 Claims. (Cl. 252—33)

1. A method of forming a gel adapted for the preparation of high film strength lubricating greases, which method comprises:

(I) Preparing a substantially neutral, carbonated calcium sulfonate complex having a metal ratio of at least about 10 by the process which comprises preparing and mixing at a temperature within the range of from about 30° to about 100° C., a mass in which, at 50° C., at least 50 percent of the components are in the liquid state, and in which mass the active components consist of:

  (A) a carbonated calcium sulfonate complex having a metal ratio of from about 1.1 to about 8.0;

  (B) an oil-soluble calcium phenate; the ratio of equivalents of *A*:*B* being in the range from about 20:1 to about 2:1;

  (C) an aliphatic monohydric alcohol, in an amount of at least about 5 percent by weight of A;

  (D) a calcium base, in an amount such that there is present in the mass a total of at least about 10 equivalents of calcium per equivalent of A;

and then treating the mass with carbon dioxide until the base number thereof is less than about 20 and heating it to drive off substantially all of the alcohol and any water present; and

(II) Heating a mixture of the complex of I and from about 2 to about 40 percent by weight of water at a temperature of at least about 40° C. until said complex has gelled.

3,376,223

UREA CONTAINING GREASE COMPOSITIONS

Dean W. Criddle, Pleasant Hill, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Sept. 28, 1966, Ser. No. 582,503

3 Claims. (Cl. 252—40.7)

1. A grease composition having a hydrocarbonaceous oil of lubricating viscosity and from 10 to 30 weight percent of a grease thickener comprising a reaction product of a fatty acid of from 14 to 20 carbon atoms, calcium acetate and urea, wherein the mole ratio of fatty acid to calcium acetate is 1:1–2 and of fatty acid to urea is 1:05–1.5 by shearing at a temperature at least 275° F. and not in excess of 450° F.

3,376,224

LUBRICATING COMPOSITIONS AND ANTIOXIDANTS THEREFOR

John Scotchford Elliott, Eric Descamp Edwards, and Anthony David Brazier, London, England, assignors to Castrol Limited, London, England, a British company

No Drawing. Filed May 18, 1964, Ser. No. 368,407

Claims priority, application Great Britain, May 24, 1963, 20,934/63

12 Claims. (Cl. 252—47.5)

1. A lubricating composition consisting essentially of a major proportion of synthetic neutral organic carboxylic ester lubricating oil and a minor proportion of additives (a) and (b) as follows:

(a) N - n - decoxymethyl-3,7-dioctyl phenothiazine in such proportion to provide from 0.04 to 0.15% of sulphur by weight of the composition, and

(b) at least one secondary aromatic amine selected from the group consisting of phenyl-α-naphthylamine, phenyl-β-naphthylamine, pp'-dioctyldiphenylamine, mixed heptyl dephenylamines and compounds having the formula

$$(R'O)_m\text{—}Ar''\text{—}NH\text{—}Ar'''\text{—}(OR'')_n$$

wherein Ar'' is selected from the group consisting of a benzene nucleus and alkyl substituted derivatives thereof, Ar''' is a member selected from the group consisting of benzene and naphthalene nuclei and alkyl substituted derivatives thereof, R' and R'' are saturated alkyl radicals containing a total of from 8 to 20 carbon atoms, *m* is from 1 to 2 and *n* is from zero to 1, the proportions of the secondary aromatic amine being such as to provide from 0.1% to 0.2% of nitrogen by weight of the composition.

3,376,225

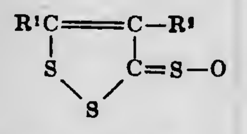
LUBRICATING OIL CONTAINING TRITHIONE-S-OXIDES AS ANTIOXIDANTS

Donald J. Anderson, San Anselmo, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed June 6, 1966, Ser. No. 555,245

5 Claims. (Cl. 252—48.2)

1. A lubricating oil composition containing in an amount sufficient for antioxidation a composition of the formula:



wherein R¹ and R² are hydrogen or hydrocarbyl having a total of from 1 to 22 carbon atoms.

3,376,226

PIEZOELECTRIC LEAD ZIRCONATE TITANATE CERAMIC WITH CHROMIUM AND THORIUM ADDITIVES

Tsuneo Akashi, Masao Takahashi, Fumio Yamauchi, Norio Tsubouchi, and Tomeji Ohno, Tokyo, Japan, assignors to Nippon Electric Co., Ltd., Tokyo, Japan

No Drawing. Continuation-in-part of application Ser. No. 349,323, Mar. 4, 1964. This application Mar. 6, 1967, Ser. No. 620,674

3 Claims. (Cl. 252—62.9)

A piezoelectric ceramic composition having a solid solution of lead zirconate - titanate - stannate as a base and additional constituents of small quantities of thorium oxide and chromium oxide. The ceramic composition has a greatly enhanced electromechanical coupling factor and a high mechanical quality factor, as well.

3,376,227

LITHIUM NICKEL FERRITE MAGNETIC SWITCHING ELEMENT

Gerrit Antonie Herman van Driel, Cornelis Jacobus Esveldt, and Johannes Engelmundus Joosten, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed June 18, 1964, Ser. No. 376,238

Claims priority, application Netherlands, June 20, 1963, 294,371

4 Claims. (Cl. 252—62.61)

1. A method of manufacturing an annular magnetic core having an outer diameter of about 2.8 to 4 mms., an inner diameter of at least 0.6 times the outer diameter, and a height of about 1 to 2 mms., for use as a switching element for controlling core storages comprising the steps, forming a finely-divided mixture of about 14 to 15 mol percent of Li_2O, about 6 to 7 mol percent of NiO, and about 77 to 81 mol percent of Fe_2O_3, compressing said mixture into an annular body having approximately the said dimensions, heating said annular body to a temperature of about 1370° C. to 1400° C. within not more than 16 minutes, maintaining said annular body at said temperature for about 5 to 10 minutes, cooling said body to a temperature of about 940° C. to 960° C. within a period of time of about 70 to 90 minutes, and finally thereafter bringing said body into direct contact with air at ambient temperature to quench the same.

3. An annular magnet core made in accordance with the process defined in claim 1.

3,376,228

ETCHING COMPOSITION AND METHOD

John Ruzicka, Brooklyn, N.Y., assignor to Ball Brothers Company, Inc., Muncie, Ind., a corporation of Indiana

No Drawing. Continuation of application Ser. No. 200,320, June 6, 1962. This application May 19, 1965, Ser. No. 457,206

13 Claims. (Cl. 252—79.4)

1. An etchant composition consisting essentially of from about 11.2 percent to about 16 percent of nitric acid, from about 85.2 percent to about 80.4 percent of water, and from about 1.4 percent to about 6 percent of a composition which consists essentially of from 4 percent to 24 percent by weight of a sulfated castor oil having a combined SO_3 content of from 5 8 percent to 6.5 percent, free fatty acid calculated as oleic acid, of from 12 percent to 21 percent, alkalinity as NaOH from 1.0 percent to 2.3 percent, moisture from 21 percent to 26 percent, total fatty matter 62 percent to 68 percent, and a pH from 6 to 8, from 28 percent to 8 percent by weight of a second sulfated castor oil having a combined SO_3 content of from 4.9 percent to 5.5 percent, free fatty acid calculated as oleic acid, of from 18 percent to 25 percent, alkalinity as NaOH from 1.0 percent to 2.3 percent, moisture from 21 percent to 26 percent, total fatty matter 62 percent to 68 percent, and a pH of from 6 to 8, from 65 percent to 85 percent of a solvent wherein from 40 percent by volume to 60 percent by volume is an ethylene glycol monoalkyl ether wherein the alkyl group has from 1 to 6 carbon atoms, and the remainder is hydrocarbon petroleum solvent having a Tag closed cup flash point of at least 135° F. at least 20 percent of which is aromatic, and from 0.3 percent to 2 percent of a surface-active agent selected from the group consisting of an alkyl benzene sulfonate wherein the alkyl portion contains 10 to 12 carbon atoms, sodium N-methyl-N-oleoyl taurate, sodium N-methyl-N-tallow acid taurate, sodium N-methyl-N-coconut oil acid taurate, sodium N-methyl-N-palmitoyl taurate, sodium N-cyclohexyl-N-palmitoyl taurate and coconut acid ester of sodium isethionate.

3,376,229

SYNTHETIC DETERGENT BAR

Robert A. Haass, Ridgewood, and Vincent Lamberti, Teaneck, N.J., assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Dec. 11, 1964, Ser. No. 417,801

9 Claims. (Cl. 252—117)

An improved detergent-containing hand bar containing isethionate esters, soaps and fatty acids as the minor ingredients. The invention provides a minor amount of unesterified isethionate to be used as a firming agent.

3,376,230

STABILIZED SOLUTIONS OF FERRIC CHLORIDE IN TOLUENE DIISOCYANATE

Herbert Felix McShane, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 8, 1965, Ser. No. 424,186

6 Claims. (Cl. 252—188.3)

This invention is directed to a solution of ferric chloride and toluene diisocyanate stabilized with halogen such as chlorine, said halogen being dissolved in said diisocyanate prior to adding ferric chloride.

3,376,231

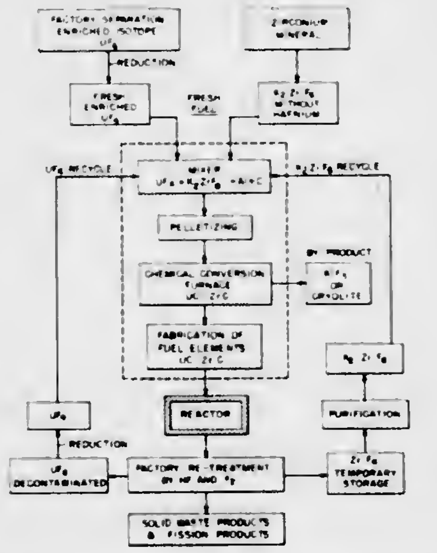
PROCESS FOR THE PREPARATION OF MIXED CARBIDES

Pierre Beucherie, Biandrono, and Joseph Gerard Wurm, Varese, Italy, assignors to European Atomic Energy Community (Euratom), Brussels, Belgium

Filed June 7, 1966, Ser. No. 555,898

Claims priority, application Belgium, June 16, 1965, 14,214

4 Claims. (Cl. 252—301.1)


FACTORY SEPARATION ENRICHED ISOTOPE UF_6
ZIRCONIUM MINERAL
REDUCTION
FRESH ENRICHED UF_4
FRESH FUEL
K_2ZrF_6 WITHOUT HAFNIUM
UF_4 RECYCLE
MIXER $UF_4+K_2ZrF_6+Al+C$
K_2ZrF_6 RECYCLE
PELLETIZING
BY PRODUCT
CHEMICAL CONVERSION FURNACE UC ZrC
$KAlF_4$ OR CRYOLITE
FABRICATION OF FUEL ELEMENTS UC ZrC
K_2ZrF_6
UF_4
REACTOR
PURIFICATION
REDUCTION
UF_6 DECONTAMINATED
FACTORY RE-TREATMENT BY HF AND F_2
ZrF_4 TEMPORARY STORAGE
SOLID WASTE PRODUCTS & FISSION PRODUCTS

Mixed carbides of the types UC–ZrC and UC–NbC for use in nuclear reactors are prepared by reacting a mixture of uranium tetrafluoride, aluminum and a complex fluoride of alkali metal and a metal of Group IV–B or Group V–B. Examples of suitable complex salts are K_2ZrF_6, K_2NbF_7 and Na_2ZrF_6. The reaction is carried out initially at about 1400° C., in an inert atmosphere following which the temperature is raised to about 1700° C., under vacuum to complete the conversion to the desired carbide with sublimation of volatile other reaction products.

3,376,232

PURIFICATION OF STABILIZERS

Harry W. Coover, Jr., and Richard L. McConnell, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed May 27, 1964, Ser. No. 370,670

10 Claims. (Cl. 252—400)

Compounds such as quinolines, primary and secondary amines, including diamines, and esters of acids such as thiodipropionic acid, known to be useful for example as antioxidants or antiozonants for organic materials are purified and stabilized to deterioration by treating said compounds with an organic trivalent or pentavalent phosphorus compound such as a triorganophosphite, a diorganohydrogen phosphite, an organophosphorus oxide, or a phosphorus amide.

3,376,233

BENZO-BIS-TRIAZOLE POLYMERS

Walter George Gall, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 4, 1965, Ser. No. 423,386

13 Claims. (Cl. 260—2)

A thermally stable polymeric material containing a substantial proportion of benzo-bis triazole units in the chain is prepared by a process in which an aryl bis-diazonium salt having from 1 to 3 aromatic rings is coupled with m-phenylene diamine in aqueous solution under substantially neutral conditions at from 0–50° C. and then oxidized with a complex of a divalent copper salt with an amine, including ammonia, at a temperature in the range between 50° C. and about 150° C.

3,376,234

PROCESS FOR CONTROLLING REACTION OF SODIUM AZIDE WITH PHENYLHALOPHOSPHINE

John E. Herweh and Algirdas C. Poshkus, Lancaster, Pa., assignors to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania

No Drawing. Filed Jan. 21, 1966, Ser. No. 522,018

1 Claim. (Cl. 260—2)

The process having the utility of controlling the hazardous reaction between sodium azide and a phenylhalophosphine by admixing the azide with ¼–¾ of the stoichiometric amount of the phenylhalophosphine and adding the resulting slurry to the balance of the phenylhalophosphine maintained at a temperature in the range of 150°–180° C. to produce a moldable plastic useful in electrical insulation.

3,376,235

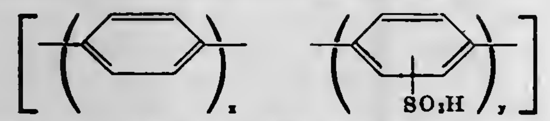
SULFONATED p-POLYPHENYL

Robert J. Hartle, Gibsonia, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Nov. 26, 1965, Ser. No. 510,069

2 Claims. (Cl. 260—2.2)

Sulfonated p-polyphenyl which is useful as an ion exchange resin is represented by the formula



where x is an integer of about 50 to about 100, y is an integer of about 10 to about 20, the sum of x and y is about 60 to about 120, the ratio of x to y is about 5:1 to about 10:1 and the sulfo-containing benzene rings are randomly dispersed in the chain.

3,376,236

VINYL ALKANOATE-ALKYL MALEAMATE COPOLYMERS AS SURFACTANTS FOR POLYURETHANES

William E. Erner, Hamden, Conn., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Dec. 30, 1964, Ser. No. 422,422

5 Claims. (Cl. 260—2.5)

Polyurethane foams are prepared using as surfactant a binary copolymer of a vinyl alkanoate (vinyl acetate typical) and an alkyl maleamate (butyl N,N-dimethylmaleamate typical) or a ternary copolymer of the above two components plus a dialkylmaleate.

3,376,237

FOAMED POLYLACTAM CONTAINING SURFACTANT

Mack F. Fuller, Wenonah, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 25, 1965, Ser. No. 435,320

10 Claims. (Cl. 260—2.5)

Polymerizing lactams to foamed polylactams, e.g., polycaprolactam, under substantially anhydrous conditions in the presence of a lactam-base salt, by adding a cocatalyst capable of promoting polymerization at a temperature below the melting point of the polymer and adding a blowing agent. Polymerization is conducted in the presence of from about 0.15 to 1.5% of a surfactant having the formula $RN(CH_2CH_2COOM)_2$ wherein R is an aliphatic hydrocarbon having from 10 to 20 carbon atoms and M is a salt-forming cation, e.g., the surfactant disodium N-stearyl β-iminodiproprionate.

3,376,238

PROCESS FOR FORMING CROSSLINKED ORIENTED, MICROPOROUS POLYOLEFIN FILM

Razmic S. Gregorian, 8460 Piney Branch Court, Silver Spring, Md. 20901, and Charles C. Kirk, 2808 Johns Hopkins Road, Laurel, Md. 20810

No Drawing. Continuation-in-part of application Ser. No. 337,186, Jan. 13, 1964. This application May 19, 1966, Ser. No. 551,248

4 Claims. (Cl. 260—2.5)

A process for forming crosslinked biaxially oriented, microporous, polyolefin-containing film comprising admixing said polyolefin with a finely divided pore forming solid, heating the mixture above the melting point of the polyolefin to shape same in the form of film, crosslinking the shaped mixture by either adding an organic compound capable of generating free-radicals or employing ionizing irradiation and thereafter extracting the pore forming solid at a temperature below the degradation temperature of the crosslinked polyolefin. The polyolefin film can, if desired, be biaxially oriented either after the crosslinking step or after the extraction of the pore forming solid.

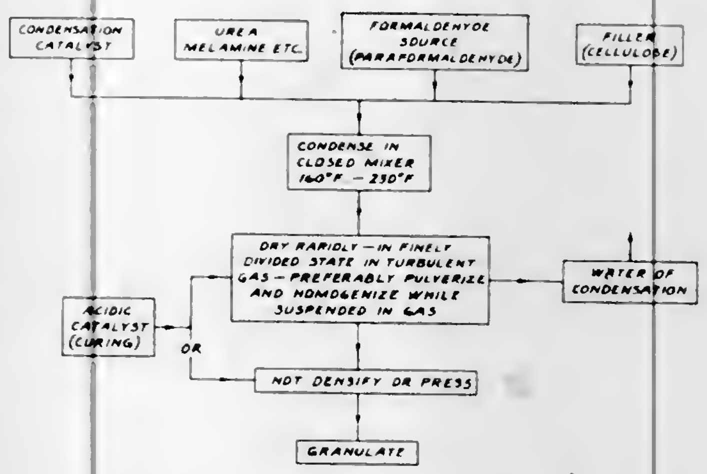
3,376,239

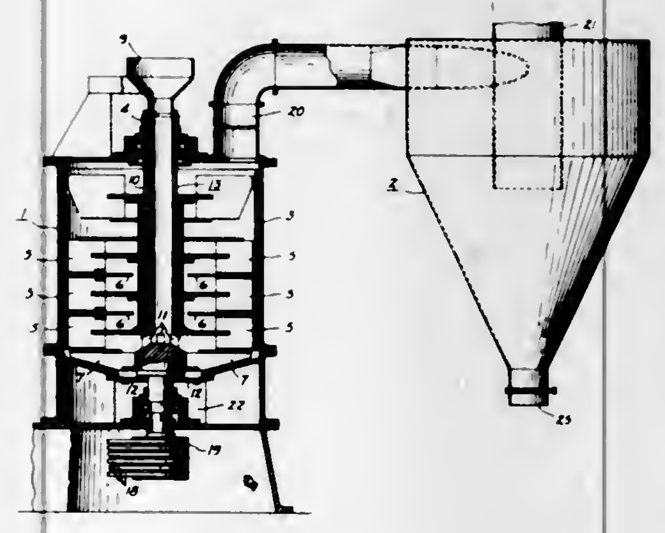
PROCESS OF MANUFACTURING AMINOPLAST MOLDING POWDER

Gerhard F. Pfeiffer, Auburn Road, Landenberg, Pa. 19350

Continuation-in-part of application Ser. No. 143,486, Oct. 6, 1961. This application June 7, 1965, Ser. No. 469,363

6 Claims. (Cl. 260—17.3)


CONDENSATION CATALYST
UREA MELAMINE ETC.
FORMALDEHYDE SOURCE (PARAFORMALDEHYDE)
FILLER (CELLULOSE)
CONDENSE IN CLOSED MIXER 160°F – 230°F
DRY RAPIDLY — IN FINELY DIVIDED STATE IN TURBULENT GAS — PREFERABLY PULVERIZE AND HOMOGENIZE WHILE SUSPENDED IN GAS
WATER OF CONDENSATION
ACIDIC CATALYST (CURING)
OR
NOT DENSIFY OR PRESS
GRANULATE



An unusually high flow urea-aldehyde or melamine-aldehyde molding powder is controllably produced by a substantially dry reaction in a closed vessel of paraformaldehyde and the solid amine in the presence of a finely divided filler and an alkaline catalyst, and flash-drying and grinding the moist reacted mixture in a high velocity gas, as for example in a fluid energy mill.

3,376,240

MOLD BOND RELEASE COATING OF PVA AND LIGNITIC SULPHITE WASTE

Robert W. Childers, Tulsa, Okla., and Richard K. Snow, Westwood, N.J., assignors to Raymond International Inc., New York, N.Y., a corporation of New Jersey

Continuation-in-part of application Ser. No. 429,[illegible]18, Jan. 29, 1965. This application Nov. 17, 1966, Ser. No. 602,440

9 Claims. (Cl. 260—17.5)

The following specification describes a composition made up of lignitic waste material, polyvinyl alcohol, and water in special proportions for use as a concrete to mold release coating. The specification also describes a method of forming textured concrete surfaces by the use of the coating to retard surface curing followed by surface washing.

3,376,241

PROCESS OF PREPARING WATER-SOLUBLE ALKYD RESINS

Adolf Adriaan Que, Rijswijk, South Holland, Netherlands, assignor to N.V. Chemische Industrie Synres, Hook of Holland, Netherlands, a corporation of the Netherlands

No Drawing. Filed Dec. 12, 1963, Ser. No. 329,990

Claims priority, application Netherlands, Dec. 28, 1962, 287,308

8 Claims. (Cl. 260—20)

1. A process for preparing water-soluble alkyd resins, said process comprising condensing a polyhydric alcohol with a polycarboxylic acid or anhydride, said polycarboxylic acid or anhydride comprising 10–40 mol percent of at least one tricarboxylic acid or acid of higher basicity selected from the group consisting of citric acid, a maleinized unsaturated fatty acid and maleinized colophony wherein the equivalent ratio of polycarboxylic acid or anhydride to polyhydric alcohol is such that a water-soluble alkyd resin is obtained having a hydroxy number of 25–200 and an acid number of 25–100 and neutralizing the thusly produced resin by the addition of ammonia or an amine.

5. The process as claimed in claim 1, wherein the tricarboxylic acid or acid of higher basicity is maleinized colophony.

3,376,242

POLYESTERS DERIVED FROM ADIPIC ACID-ISOPHTHALIC ACID MIXTURES AS PLASTICIZERS FOR VINYL HALIDE POLYMERS

David Henry Clemens, Willow Grove, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Original application Sept. 23, 1963, Ser. No. 310,932. Divided and this application Oct. 15, 1965, Ser. No. 496,653

6 Claims. (Cl. 260—22)

1. A resinous composition comprising a vinyl chloride polymer plasticized with a plasticizing amount of a polyester of the formula

$$T-G-\left[A-G\right]_n-T$$

in which:

T is at least one saturated fatty acid residue having an average carbon atom content of 12 to 16,

G is 1,2-propylene glycol residue,

A is an organic dibasic acid residue derived from adipic and isophthalic acids in a ratio ranging from 85–60 and 15–40, respectively, and

n has a value from about 7 to about 12.

3,376,243

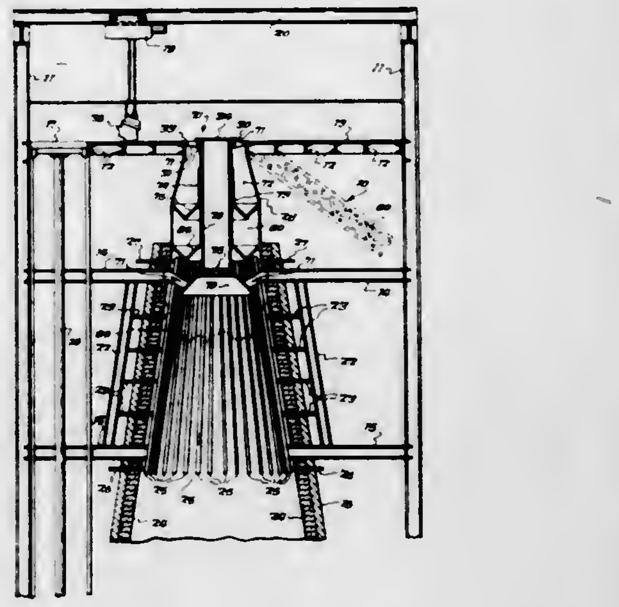
BLAST FURNACE CHARGER CONSTRUCTION

Victor Reinstein, Jr., 39 Bellevue Blvd., Cheektowaga, N.Y. 14225

Filed Apr. 20, 1965, Ser. No. 449,424

11 Claims. (Cl. 266—27)

A blast furnace construction having an outer shell, a refractory liner in the outer shell, a central charging chute at the top of the furnace for large scrap, a bell construction coaxial with the central chute for delivering small charge material to the furnace, a water-cooled skirt for protecting the refractory at the upper portion of the furnace from bouncing large scrap, and a deflector proximate the skirt for both deflecting the small charge into a banked condition against the side of the furnace and for deflecting bouncing large scrap away from the water-cooled skirt.



3,376,244

POLYPROPYLENE WAX FILM

Victor A. Rundle, Oakland, Calif., assignor to Chevron Research Company, a corporation of Delaware

No Drawing. Filed Oct. 30, 1964, Ser. No. 407,897

6 Claims. (Cl. 260—28.5)

Wax-stereoregular polypropylene compositions are used having major amounts of wax to form self-sustaining films having excellent tensile properties by extruding the wax polypropylene composition at about the fusion temperature of the mixture and then rapidly cooling the extrudate.

3,376,245

ANTISTATIC COMPOSITION CONTAINING POLYEPOXIDE RESIN

Byron A. Sample, Jr., Bertie J. Reuben, and Julian J. Hirshfeld, Decatur, Ala., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed May 15, 1964, Ser. No. 367,860

9 Claims. (Cl. 260—29.2)

This invention relates to a novel composition and process of rendering antistatic protection to a synthetic textile without discoloring the same by incorporating phosphoric acid or hypophosphorus acid in an aqueous dispersion of an antistatic composition consisting of a high molecular weight polyamine and a polyepoxide obtained as a condensation product of epichlorohydrin and a polyol.

3,376,246

POLYVINYL CHLORIDE PLASTISOLS HAVING GREATLY IMPROVED PROPERTIES

David L. Valentine and Dean C. Finney, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 434,663, Feb. 23, 1965. This application Feb. 7, 1966, Ser. No. 525,372

27 Claims. (Cl. 260—31.6)

1. A vinyl chloride resin composition having enhanced adhesion to substrates comprising a vinyl chloride polymer, a plasticizer for said vinyl chloride polymer, and from about 10 to 60 parts per hundred parts of said polymer of an unsaturated polyester having a molecular weight of up to about 4000 of a dibasic acid and a diol which is

solid at room temperature and which consists essentially of recurring units having the formula $(—G—A_1—G—A_2)$ wherein G is a divalent residue of a diol selected from the group consisting of 2,2,4-trimethyl-1,3-pentanediol, 2,2-bis(4-hydroxycyclohexyl) propane, and 2,2-dimethyl-1,3-propanediol, A_1 is a divalent residue of a dibasic acid selected from the group consisting of fumaric, maleic, itaconic, mesaconic, and citraconic acid, and A_2 is a divalent residue of a dibasic acid selected from the group consisting of fumaric, maleic, itaconic, mesaconic, citraconic, o-phthalic, isophthalic, terephthalic, tetrahydrophthalic, adipic, succinic, azelaic, sebacic, suberic, and glutaric acid.

3,376,247

SLIP CASTING COMPOSITION WITH CYCLOPENTADIENE AS A DEFLOCCULANT

Richard L. Reddy, Lewiston, N.Y., and Lionel C. Montgomery, North Olmsted, and Carl A. Grulke, Berea, Ohio, assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Aug. 12, 1964, Ser. No. 389,203

3 Claims. (Cl. 260—32.8)

A slip is provided for slip casting refractory materials which comprises a finely divided solid refractory material suspended in a liquid vehicle having a minor proportion of polymeric cyclopentadiene dissolved therein as a deflocculant.

3,376,248

COPOLYMERS OF ALPHA-OLEFINS AND OLEFIN-SUBSTITUTED CYCLOALKANES AND FIBERS THEREFROM

Earl V. Kirkland, Millington, N.J., assignor to Celanese Corporation, a corporation of Delaware

No Drawing. Filed Oct. 2, 1964, Ser. No. 401,217

20 Claims. (Cl. 260—33.6)

Crystalline copolymers are prepared by polymerizing in the presence of a Ziegler-Natta type catalyst a mixture comprising (a) from 5–95% of 3-methyl-1-butene and/or 4-methyl-1-pentene, and (b) from 95–5% of at least one olefin-substituted cycloalkane selected from the group consisting of vinylcycloalkanes and allylcycloalkanes. Fibers are formed from spinning solutions of the copolymers.

3,376,249

PROCESS INCORPORATING SODIUM PYROPHOSPHATE TREATED KAOLINITE WITHIN POLYESTER

Richard Young Meelheim, Kinston, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 8, 1964, Ser. No. 395,019

5 Claims. (Cl. 260—40)

1. In the preparation of synthetic linear condensation polyester textile fibers, including the steps of polymerizing bifunctional ester-forming components to form a linear polyester having an intrinsic viscosity of at least 0.3, melt-spinning the polyester into filaments and drawing the filaments into textile fibers; the improvement of treating finely-divided kaolinite with an aqueous solution of sodium pyrophosphate and removing the water to form a precombination of kaolinite with 0.1% to 0.9% by weight of pyrophosphate based on the weight of kaolinite, dispersing said dry precombination in glycol and adding the dispersion in said polymerizing step to form a polyester containing up to 10% by weight of kaolinite based on the weight of polyester fibers; said kaolinite being substantially free of oxides of metals other than aluminum and silicon, and consisting of particles which have equivalent spherical diameters in the range of 0.2 to 7 microns with an $(E.S.D.)_{10\%}$ value in the range of 1 to 5 microns.

3,376,250

ULTRAVIOLET LIGHT STABILIZED, ZINC OXIDE PIGMENTED, 1-OLEFIN RESIN COMPOSITION

Gordon C. Newland and John W. Tamblyn, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Jan. 22, 1965, Ser. No. 427,499

5 Claims. (Cl. 260—41)

A normally solid, white, thermoplastic composition for shaping into articles comprising (1) polyethylene or a copolymer of propylene and butene-1, (2) a pigmenting amount of zinc oxide, and (3) a stabilizing amount of zinc N,N-dialkyldithiocarbamate or 2,6-didodecyl-p-cresol when (1) is polyethylene, or a stabilizing amount of zinc N,N-dialkyl-dithiocarbamate or dialkyl-3,3′-thiodipropionate when (1) is a copolymer of propylene and butene-1.

3,376,251

METAL CONTAINING OLEFIN POLYMERS HAVING IMPROVED COLOR

John H. Hennes, Newport News, Va., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Mar. 1, 1965, Ser. No. 436,321

3 Claims. (Cl. 260—41)

The tendency of metal ion containing compounds to discolor olefin polymers is substantially reduced and the achromic characteristic of the polymer maintained by adsorbing the metal containing compound on a finely divided, inorganic mineral adsorbent substrate, prior to its incorporation in the olefin polymer.

3,376,252

URETHANE COATING COMPOSITIONS

Donald L. Peiser and Donald B. Parrish, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed May 27, 1965, Ser. No. 459,416

8 Claims. (Cl. 260—45.7)

Moisture curable urethane coating compositions are rendered stable to deteriorating and/or gelling by incorporation of 2,2-dimethoxypropane.

3,376,253

FLAME RETARDING ACRYLONITRILE POLYMER COMPOSITIONS

Edward V. Burnthall and Julian J. Hirshfeld, Decatur, Ala., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed May 5, 1966, Ser. No. 547,742

12 Claims. (Cl. 260—45.7)

Fire resistant acrylic articles are obtained by dissolving an acrylic polymer in a solvent containing fluoboric acid and extruding the resulting polymer solution into a coagulating bath to coagulate the polymer. The bath contains a dissolved metal salt which reacts with the fluoboric acid of the polymer solution to form a fluoborate salt which is impregnated throughout the coagulated polymer. The fluoborate salt is insoluble in the coagulating bath and has a solubility in water of less than one-half mole per liter.

3,376,254

STABILIZED SOLUTIONS OF COPOLYMERS FROM ACRYLONITRILE AND VINYLIDENE CHLORIDE

Heino Logemann, Leverkusen-Schlebusch, Eberhart Degener, Opladen, and Heinz Rachwalsky, Dormagen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Aug. 6, 1965, Ser. No. 477,921

Claims priority, application Germany, Aug. 25, 1964, F 43,822; Aug. 27, 1964, F 43,834, F 43,836

8 Claims. (Cl. 260—45.75)

There are disclosed novel solutions of copolymers of acrylonitrile with vinylidene chloride having a chlorine

content of 20 to 60%, in organic solvents, which solutions are made stable against discoloration when subjected to increased temperature by incorporating a tin salt selected from the group consisting of stannous chloride, stannic chloride, stannous tertiary-butyl salicylate and stannous boro-fluoride. Films and fibres formed from the above stabilized solutions do not undergo any of the discoloration phenomena as previously observed.

3,376,255

STABILIZATION OF ACYLATED OR ALKYLATED POLYOXYMETHYLENES

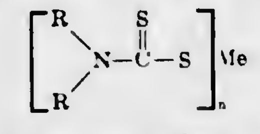
Kuno Wagner, Leverkusen, Hans Scheurlen, Burscheid, and Helmuth Kritzler, Cologne-Flittard, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Original application May 24, 1960, Ser. No. 31,259, now Patent No. 3,296,194, dated Jan. 3, 1967. Divided and this application June 2, 1966, Ser. No. 554,667

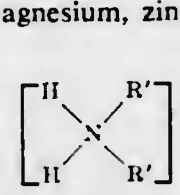
Claims priority, application Germany, June 4, 1959, F 28,611

4 Claims. (Cl. 260—45.75)

1. A composition comprising a thermally stabilized, normally solid, synthetic high molecular weight polyoxymethylene selected from the group consisting of acylated and alkylated polyoxymethylenes and a stabilizing amount of a compound of the formula:



wherein each R is a monovalent substituent selected from the group consisting of aliphatic having up to 20 carbon atoms and araliphatic or together with the nitrogen atom to which they are attached form a monovalent heterocyclic ring moiety, Me is a cation selected from the group consisting of sodium, potassium, lithium, calcium, strontium, barium, magnesium, zinc, iron, cobalt, nickel, ammonium and



wherein each R′ is a monovalent substituent selected from the group consisting of aliphatic and araliphatic, the total number of carbon atoms in the R′ substituents being from 8 to 40, and *n* is a whole number corresponding to the valency of Me.

3,376,256

POLYVINYL CHLORIDE STABILIZED WITH METAL SALTS OF ACYCLIC POLYCARBOXYLIC ACIDS

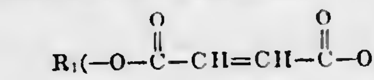
Peter P. Klemchuk, Yorktown Heights, N.Y., assignor to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

No Drawing. Original application June 11, 1962, Ser. No. 201,255, now Patent No. 3,305,568, dated June 21, 1967. Divided and this application Oct. 18, 1966, Ser. No. 598,565

1 Claim. (Cl. 260—45.75)

1. A composition of matter comprising a polymer of vinyl chloride and from 0.01% to 10% by weight, based on the polymer, of a salt of

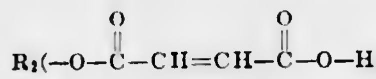
- (a) an acidic moiety derived from an acid selected from the group consisting of
  - (i) a compound of the formula



$$R_1(-O-\overset{O}{\overset{\|}{C}}-CH=CH-\overset{O}{\overset{\|}{C}}-O-H)_2$$

wherein R_1 is selected from the group consisting of alkylene having 2 to 6 carbon atoms, alkenylene having 2 to 6 carbon atoms, and 1,4-dimethylene-cyclohexane,

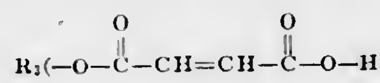
  - (ii) a compound of the formula



$$R_2(-O-\overset{O}{\overset{\|}{C}}-CH=CH-\overset{O}{\overset{\|}{C}}-O-H)_3$$

wherein R_2 is 1,1,1-tris(lower alkylene)lower alkane, and

  - (iii) a compound of the formula



$$R_3(-O-\overset{O}{\overset{\|}{C}}-CH=CH-\overset{O}{\overset{\|}{C}}-O-H)_4$$

wherein R_3 is 1,1,1,1-tetrakis(lower alkylene) methane, and

- (b) a metallic moiety selected from the group consisting of zinc, calcium, cadmium, barium and di(lower alkyl)tin.

3,376,257

FULLY AROMATIC POLYBENZOXAZOLES AND PROCESS FOR THEIR PREPARATION

Ryoji Nakanishi and Takashi Kubota, Kanagawa-ken, Japan, assignors to Toyo Rayon Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

Filed June 11, 1964, Ser. No. 374,391

Claims priority, application Japan, June 14, 1963, 38/30,508; Feb. 17, 1964, 39/8,132

13 Claims. (Cl. 260—47)

A process for the preparation of aromatic polybenzoxazoles which comprises reacting (a) a diamino-dihydroxydiphenyl compound having an acyl group as an amino-protecting group with (b) an aromatic dicarboxylic acid derivative to form a polyester and thereafter heating the polyester to deacylate the same and form the polybenzoxazole.

3,376,258

POLYESTERS AND POLYAMIDES OF IMPROVED STABILITY

Hermann Gysling, Riehen, and Hans Jakob Peterli, Basel-Land, Switzerland, assignors to J. R. Geigy A.G., Basel, Switzerland

No Drawing. Filed Dec. 5, 1963, Ser. No. 328,198

Claims priority, application Switzerland, Dec. 11, 1962, 14,489/62, 14,490/62

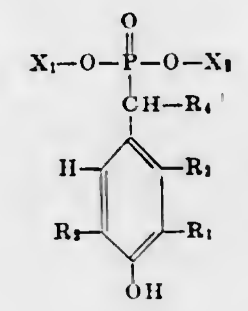
9 Claims. (Cl. 260—47)

Various aspects of the invention are disclosed. The first aspect provides new fiber-forming polyesters as well as process for their preparation. The polyesters are obtained by reacting

(a) HO—A—OH

(b) ROOC—B—COOR′, and

(c)

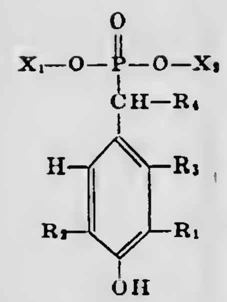


In the second aspect, fiber-foaming polyamides are provided as well as process for their preparation. The polyamides are obtained by reacting

(a) $H_2N—A—NH_2$

(b) HOOC—B—COOH, and

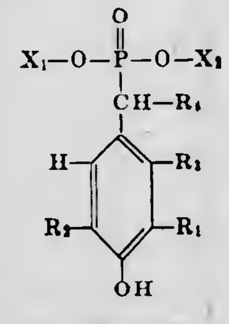
(c)



In a further aspect of the invention, the fiber-forming polyamide is provided which is the reaction product of

$$HOOC—D—NH_2$$

or a lactam or polymer thereof with a phosphonic acid ester of the formula



3,376,259

NOVEL EPOXIDE RESINS PREPARED FROM α,α',α"-TRIS(HYDROXYPHENYL) - 1,3,5 - TRIISOPROPYLBENZENE AND 2,2 - BIS(p-HYDROXYPHENYL)PROPANE

Oliver A. Barton, Florham Park, and Ralph M. Hetterly, Morristown, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Aug. 18, 1965, Ser. No. 480,753
6 Claims. (Cl. 260—47)

This specification discloses novel terpolymeric epoxides prepared by reacting α,α',α"-tris(hydroxyphenyl)-1,3,5-triisopropylbenzene, 2,2 - bis(p-hydroxyphenyl)propane, and epichlorohydrin in the presence of an alkali. When cured, the epoxides of the invention have surprisingly high heat distortion temperatures.

3,376,260

PROCESS FOR PREPARING POLYIMIDES FROM DIAMINES AND DIANHYDRIDES IN THE PRESENCE OF A BASIC CATALYST

Charles Gerhard Fritz, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Nov. 26, 1965, Ser. No. 510,056
10 Claims. (Cl. 260—47)

1. A process for preparing polyimides wherein materials selected from the class consisting of an aromatic diamine together with an aromatic diester diacid, in which all amino, ester and acid groups are directly attached to aromatic rings and in which one acid and one ester group form a pair attached to adjacent carbon atoms, are reacted at from 100 to 200° C. in solution and in the presence of from 1 to 30 mole percent, as calculated on the acid groups, of a base selected from the class consisting of alkoxides containing from 1 to 6 carbon atoms; salts of lower fatty acids containing from 1 to 6 carbon atoms; carbonates; and hydroxides; of the alkaline earth metals and alkali metals, to form an anhydride which in turn reacts with the amine present to form a polyamide acid which cyclizes at from 100 to 200° C. to form a precipitate of polyimide in the form of a powder having a surface area of at least 1 square meter per gram.

3,376,261

PROCESS FOR PREPARING POLYCARBONATES

Winston J. Jackson, Jr., and John R. Caldwell, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 137,973, Sept. 14, 1961. This application Mar. 16, 1966, Ser. No. 534,644
11 Claims. (Cl. 260—47)

1. In the process for preparing a polycarbonate by condensation of a bisphenol with a diacid chloride wherein two liquid phases of a reaction mixture comprising (1) an alkaline aqueous phase containing a bisphenol and (2) a water-immiscible organic solvent phase containing a diacid chloride, are intimately contacted and an interfacial polycondensation reaction proceeds, the improvement consisting of having in the reaction mixture (A) from 0.1 to 5.0 weight percent, based on the bisphenol weight, of a surface-active agent, (B) an amount measured in milliliters of said solvent which is about 0.3 to about 2.0 times the weight of said bisphenol measured in grams, and (C) from about 1 to about 4 volumes per volume of said organic solvent of an inert water-immiscible hydrocarbon liquid non-solvent for the polymer, whereby the polymer forms as a precipitated solid as the reaction proceeds.

3,376,262

PHENOL-FORMALDEHYDE RESIN MODIFIED WITH TETRALIN HYDROPEROXIDE AND TETRALONE

Joseph Z. Pasky, Oakland, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 413,634, Nov. 24, 1964. This application July 10, 1967, Ser. No. 652,023
10 Claims. (Cl. 260—59)

Phenol-formaldehyde derived bonding resins are modified by adding a minor amount of tetralin hydroperoxide, tetralone or mixtures thereof. Molded objects prepared by the use of these modified resins have impact strengths which exceed those of the conventional resins by as much as a factor of 8.

3,376,263

METHOD FOR PRODUCING HIGH MOLECULAR WEIGHT POLYOXYMETHYLENE

Shinichi Ishida, Kunio Sato, and Norimasa Fujita, Tokyo, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan
No Drawing. Filed Nov. 3, 1965, Ser. No. 506,275
Claims priority, application Japan, Nov. 27, 1964, 39/66,465
8 Claims. (Cl. 260—67)

A process for producing high molecular weight polyoxymethylene by polymerizing monomeric formaldehyde under substantially anhydrous conditions in the presence of 0.0001–0.2 mol percent of an aliphatic diaziridine compound having 2 to 20 carbon atoms per molecule as a reaction catalyst.

3,376,264

PROCESS FOR PRODUCING STABILIZED POLYURETHANE FIBERS

Horst Wieden, Wilhelm Brenschede, Hans Lenz, and Wolfgang Rellensmann, Dormagen, and Gunther Nischk, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Continuation-in-part of application Ser. No. 425,337, Jan. 13, 1965. This application May 19, 1965, Ser. No. 457,171
Claims priority, application Germany, May 23, 1964, F 42,967
7 Claims. (Cl. 260—75)

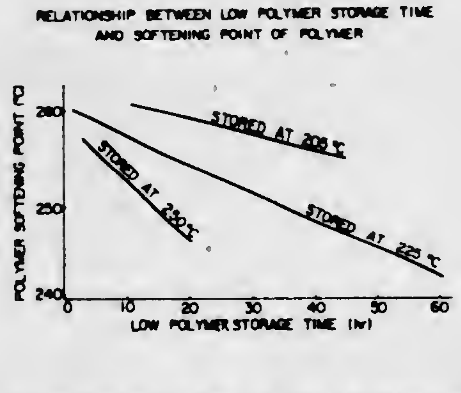
Stabilized polyurethane fibers are produced by (A) reacting in a solvent which will dissolve polyacrylonitrile (1) an NCO prepolymer prepared from a linear polyester containing terminal hydroxyl groups and an aromatic diisocyanate with (2) water and (3) a bifunctional chain extending agent containing tertiary nitrogen compounds and (B) spinning the solution into an elastic fiber having improved dyeability with acidic dyes.

3,376,265

PROCESS FOR PRODUCING POLYESTERS

Rei Yokouchi, Yoshimitsu Ichikawa, Etsuro Hosoi, Toshikazu Aoki, and Kenji Takagishi, Mishima-shi, Shizuoka-ken, Japan, assignors to Toyo Rayon Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan
Filed Oct. 15, 1963, Ser. No. 318,478
Claims priority, application Japan, Oct. 19, 1962, 37/46,312; Sept. 7, 1963, 38/46,782
1 Claim. (Cl. 260—75)

1. In a process for producing polyesters having a softening point between 209° C. and 230° C. from the mono- and di-esters of terephthalic acid of alkanols having 1–4 carbon atoms and ethylene glycol by means of an ester interchange and polymerization reaction, the improvement which comprises (1) employing an ester interchange catalyst consisting of antimony oxide and (2) carrying out the polymerization in the presence of a catalyst consisting of magnesium chloride in an amount of 0.05–0.2% by weight based on said mono- and di-esters of terephthalic acid.



3,376,266

POLYURETHANES PRODUCED FROM 1,2-DIVINYL ETHYLENE GLYCOL

Erhard F. Hoegger and James Herbert Werntz, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Mar. 2, 1964, Ser. No. 348,752
5 Claims. (Cl. 260—77.5)

Tough, film-forming polyurethanes produced from 1,2-divinyl ethylene glycol, and optionally a saturated aliphatic glycol, and arylene diisocyanates. The process of preparing the above polymers by reacting the monomers at a temperature between 0° C. and 100° C. for a time sufficient to obtain a polymer of film-forming molecular weight.

3,376,267

MELTABLE 1,3,4-POLYOXADIAZOLES AND THEIR PREPARATION

Gerfried Pruckmayr, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Dec. 3, 1964, Ser. No. 415,813
8 Claims. (Cl. 260—78)

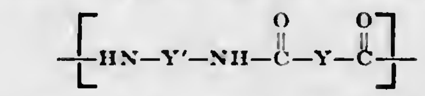
Meltable low molecular weight polyoxadiazoles useful in bonding metals are prepared by heating aromatic tri- or di-esters with aromatic di- or tri-hydrazides respectively.

3,376,268

AMIDE-HETEROCYCLIC POLYMERS

Jack Preston, Raleigh, N.C., assignor to Monsanto Company, a corporation of Delaware
No Drawing. Filed Feb. 26, 1964, Ser. No. 347,392
18 Claims. (Cl. 260—78)

1. An amide-heterocyclic polymer composed of regularly recurring structural units of the formula



$$\left[-\text{HN}-\text{Y}'-\text{NH}-\overset{\overset{\text{O}}{\|}}{\text{C}}-\text{Y}-\overset{\overset{\text{O}}{\|}}{\text{C}}-\right]$$

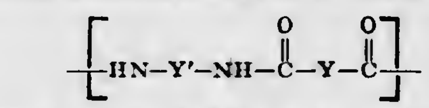
wherein Y' and Y are selected from the group consisting of Ar and Ar-X-Ar, wherein Ar is a divalent hydrocarbon aromatic radical oriented other than ortho, X is a symmetrical heterocyclic 5 member ring radical containing from one to three hetero elements selected from As, N, O, P, S or Se, wherein all occurrences of X must be the same in each recurring structural unit, and wherein at least one Ar-X-Ar radical must be present in the recurring structural unit, said polymer having at least one plane of symmetry in each recurring structural unit.

3,376,269

POLYAMIDES CONTAINING ADJACENT HETEROCYCLE LINKAGES

Jack Preston, Raleigh, N.C., assignor to Monsanto Company, a corporation of Delaware
No Drawing. Filed Feb. 26, 1964, Ser. No. 347,385
11 Claims. (Cl. 260—78)

1. An amide-heterocyclic polymer composed of regularly recurring structural units of the formula



$$\left[-\text{HN}-\text{Y}'-\text{NH}-\overset{\overset{\text{O}}{\|}}{\text{C}}-\text{Y}-\overset{\overset{\text{O}}{\|}}{\text{C}}-\right]$$

wherein Y' and Y are selected from the group consisting of Ar and Ar-X—X-Ar wherein Ar is a divalent hydrocarbon aromatic radical oriented other than ortho, X is a divalent 5 or 6 ring member heterocyclic radical containing from 1 to 3 hetero elements selected from As, N, O, P, S and Se, wherein all occurrences of X in the structural unit must be the same, and wherein at least one Ar-X—X-Ar radical must be present in each recurring structural unit, and wherein there is at least one plane of symmetry in each repeating unit.

3,376,270

POLYAMIDES FROM XYLYLENE DIAMINES AND PHENYLINDAN DICARBOXYLIC ACIDS

James S. Ridgway, Durham, N.C., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 457,828, May 21, 1965. This application Dec. 16, 1966, Ser. No. 602,121
5 Claims. (Cl. 260—78)

Copolyamides are produced from hexamethylene diamine, adipic acid, xylylene diamine and a phenylindan dicarboxylic acid. These polyamides are useful in the fabrication of textile fibers which are characterized by having good sonic modulus retention.

3,376,271

POLYESTER RESINS AND METHOD OF MAKING SAME

John E. Masters and Darrell D. Hicks, Louisville, Ky., assignors to Celanese Coatings Company, a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 415,782, Dec. 3, 1964. This application Sept. 20, 1965, Ser. No. 488,726
The portion of the term of the patent subsequent to May 14, 1980, has been disclaimed
11 Claims. (Cl. 260—78.4)

1. In the preparation of thermoplastic polyesters from dicarboxylic acid anhydrides and monoepoxides, the proc-

ess for preparing branch chain polyesters having end groups which do not react with each other during preparation, comprising a compound which acts as a reaction initiator which is a monomer, a polymer or a copolymer having at least three functional constituents of the group consisting of carboxyl radicals, phenolic radicals or combinations thereof, the number of such groups being equal to the number of branch chains desired, reacting the initiator, the anhydride and the monoepoxide by heating the reactants at an elevated temperature below 150° C. sufficient to bring about a reaction of the anhydride with the alcoholic hydroxyl group forming carboxyl groups, the reaction of monoepoxide with the phenolic hydroxyl groups to form alcoholic hydroxyl groups, as well as a reaction of monoepoxide with the carboxyl groups also forming alcoholic hydroxyl groups and maintaining the temperature below that at which the carboxy-hydroxy reaction takes place so that end groups of polyester chains growing by the successive addition of anhydride and monoepoxide to the initiator, do not react with each other and form water, said monoepoxide being free of substituents capable of reacting with an acid anhydride.

3,376,272
POLYESTER RESINS

John E. Masters and Darrell D. Hicks, Louisville, Ky., assignors to Celanese Coatings Company, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 415,194, Dec. 1, 1964. This application Sept. 20, 1965, Ser. No. 488,792

The portion of the term of the patent subsequent to May 14, 1980, has been disclaimed

8 Claims. (Cl. 260—78.4)

1. In the preparation of thermoplastic polyesters from dicarboxylic acid anhydrides and monoepoxides, the process for preparing branch chain polyesters having end groups which do not react with each other during preparation, comprising an alcoholic compound which reacts as an initiator and is selected from the group consisting of polymers or copolymers having a molecular weight in excess from about 1400 and containing at least three hydroxyl radical substituents, the number of substituents being equal to the number of branch chains desired, reacting the initiator, the anhydride and the monoepoxide by heating the reactants at an elevated temperature below 150° C. sufficient to bring about a reaction of the anhydride with the alcoholic hydroxy groups forming carboxyl groups, as well as the reaction of monoepoxide with the carboxyl groups forming additional alcoholic hydroxyl groups and maintaining the temperature below that at which a carboxy-hydroxy reaction takes place so that the end groups of polyester chains growing by the successive addition of anhydride and monoepoxide to the initiator, do not react with each other and form water, said monoepoxide being free of substituents capable of reacting with an acid anhydride.

3,376,273
POLYESTER RESIN COMPOSITIONS AND METHODS

John E. Masters and Darrell D. Hicks, Louisville, Ky., assignors to Celanese Coatings Company, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 415,194, Dec. 1, 1964. This application Sept. 20, 1965, Ser. No. 488,796

The portion of the term of the patent subsequent to May 14, 1980, has been disclaimed

5 Claims. (Cl. 260—78.4)

1. In the preparation of thermoplastic polyesters from dicarboxyl acid anhydrides and monoepoxides, the process for preparing branch chain polyesters having end groups which do not react with each other during the preparation comprising a monomeric polyhydroxy alcohol which acts as a reaction initiator and is reactive primarily with the anhydride rather than the monoepoxide, said alcohol selected from at least one member of the group consisting of erythritol, dipentaerythritol and tripentaerythritol each having at least three hydroxyl radical substituents, the number of substituents being equal to the number of branch chains desired, reacting the initiator, the anhydride and the monoepoxide by heating all of the reactants at an elevated temperature below 150° C. sufficient to bring about a reaction of anhydride with substituents of the initiator forming carboxyl groups, as well as a reaction of monoepoxide with the carboxyl groups, thus providing hydroxyl groups for reaction with the anhydride, and maintaining the temperature below that at which a carboxyl-hydroxy reaction takes place so that end groups of polyester chains growing by successive addition of anhydride and monoepoxide to the initiator do not react with each other and form water, said monoepoxide being free of substituents capable of reacting with an acid anhydride.

3,376,274
PHOSPHONATED POLYMERS

Nicodemus E. Boyer, Parkersburg, W. Va., and Raymond R. Hindersinn, Lewiston, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 260,832, Feb. 25, 1963. This application Feb. 27, 1967, Ser. No. 618,999

12 Claims. (Cl. 260—78.4)

Thermoset homopolymers and copolymers are produced from phosphonate esters having a plurality of unsaturated groups. The coplymers include another vinyl monomer. A typical phosphorus monomer is tetraallyphosphonosuccinate.

3,376,275
URETHANES IN FILMS TO IMPROVE SLIDING PROPERTIES

Friedrich Bayerlein, Rudolf Keller, and Dieter Mahling, Ludwigshafen (Rhine), Peter Becker, Worms, and Conrad Gajek and Hans Wilhelm, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Dec. 17, 1963, Ser. No. 331,118

Claims priority, application Germany, Dec. 22, 1962, B 70,117

5 Claims. (Cl. 260—80.3)

1. A composition of matter containing a mixture of a thermoplastic polymer A of ethylenically unsaturated compounds selected from the group consisting of ethylene, propylene, acrylic esters, methacrylic esters, acrylonitrile, methacrylonitrile, vinyl esters, vinyl ethers and mixtures thereof and a compound B selected from the group consisting of triphenylmethane-4,4′,4″-trialkylurethane wherein the alkyl groups respectively have 1–20 carbon atoms and a compound of the formula

$$R—X—R'—X—R''$$

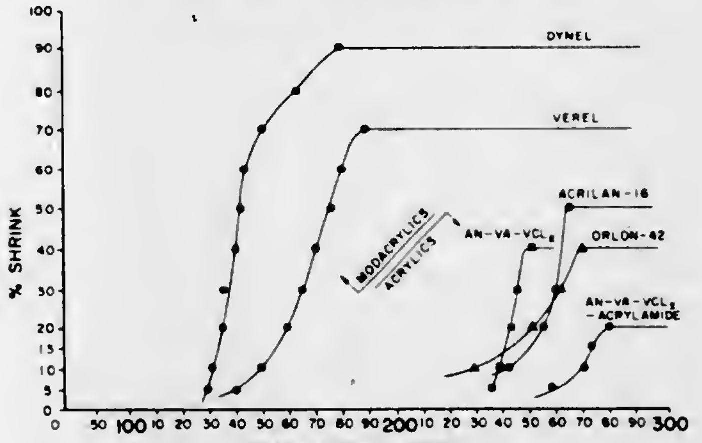
wherein R and R″ represent a member selected from the group alkyl of 1–20 carbon atoms and cyclohexyl; R′ represents a member selected from the group consisting of hexamethylene, phenylene, tolylene, diphenylene methane, and naphthylene, and X represents a urethane group of the formula —HNCOO—, the compound B being present in an amount of from 0.01 to 2% by weight with reference to the total weight of said polymer.

3,376,276
LOW SHRINKAGE MODACRYLIC INTERPOLYMER

Ernest F. Stroh, Decatur, Ala., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed Dec. 7, 1964, Ser. No. 416,317

8 Claims. (Cl. 260—80.73)



Dyeable flame-resistant polymers which are capable of being formed into fibers containing from about 3 to about 20 percent acrylamide, from about 60 to about 85 percent acrylonitrile, from about 5 to about 25 percent vinylidene chloride, and from about 3 to about 8 percent vinyl acetate.

3,376,277
ANTISTATIC MOLDING COMPOSITION

Friedrich Seifert, Fritz Baxmann, and Dieter Carla, Marl, Germany, assignors to Chemische Werke Huls Aktiengesellschaft, Marl, Germany, a corporation of Germany

No Drawing. Filed June 29, 1964, Ser. No. 379,024

Claims priority, application Germany, Jan. 30, 1964, C 32,005

1 Claim. (Cl. 260—85.5)

This invention concerns antistatic agents for styrene polymers and copolymers. The antistatic agents are admixed with and incorporated into the polymers prior to molding. The antistatic agents are alkyl sulfonates wherein the alkyl groups have an average chain length of 15 carbon atoms.

3,376,278
PROCESS FOR THE CHEMICAL MODIFICATION OF THE SOLID SURFACE OF A POLYMER

Albert Wayne Morgan, North St. Paul, Minn., and Jack Spencer Swenson, Grinnell, Iowa, assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Nov. 6, 1964, Ser. No. 409,615

9 Claims. (Cl. 260—93.7)

This invention relates to a method for chemically modifying the surface of polymers having aliphatic carbon-hydrogen bonds by contacting the surface with a divalent carbon species, preferably a divalent carbon species derived from the exposure of an organic diazo compound to radiation causing decomposition thereof.

3,376,279
PREVENTION OF COLD FLOW IN POLYBUTADIENES BY THE ADDITION OF A HALOGENATED ALKENE TO THE POLYMERIZATION MIXTURE AT THE COMPLETION OF THE POLYMERIZATION

Ollie G. Buck and Gerald R. Kahle, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Nov. 2, 1964, Ser. No. 408,369

6 Claims. (Cl. 260—94.3)

High cis-polybutadiene having a reduced tendency to cold flow in the unvulcanized stage is made by polymerizing 1,3-butadiene with a catalyst formed by mixing at least an organometal compound and a component containing titanium and iodine wherein a halogen-containing alkene, containing at least two active halogen atoms attached to a carbon which is alpha to the doubly bonded carbon atom, is added to the polymerization mixture at the completion of the polymerization.

3,376,280
DISAZO DYESTUFFS CONTAINING A 1,3-BENZO-DIOXANE GROUP

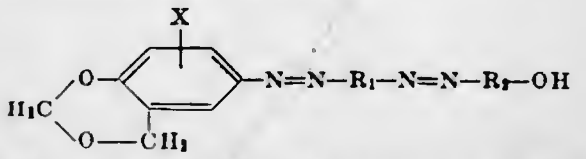
Alois Gottschlich and Karl-Heinz Freytag, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Jan. 18, 1965, Ser. No. 426,430

Claims priority, application Germany, Jan. 28, 1964, F 41,849

13 Claims. (Cl. 260—152)

An azo dyestuff of the formula:



wherein R_1 is a residue of the benzene or naphthalene series joined to the two azo groups in p-positions, R_2 is a residue of the benzene series in which the OH group is in the o- or p-position to the azo bridge, X is a nonionic substituent customarily employed in dyestuffs.

3,376,281
CHLORINATED HYDROXYL-CONTAINING COMPOSITIONS AND URETHANE POLYMERS PREPARED THEREFROM

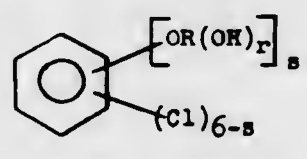
Eugene F. Cox, Charleston, and Robert J. Knopf, St. Albans, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Sept. 13, 1965, Ser. No. 487,064

7 Claims. (Cl. 260—209)

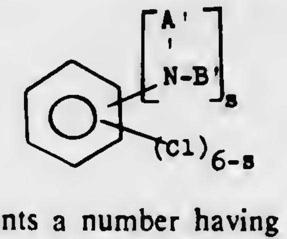
1. A composition of the formula:

(a)



wherein R represents the residue after removal of the hydroxyl groups of an alkylene oxide adduct of sorbitol, pentaerythritol, sucrose, alpha-methylglucoside, or a glycol glucoside, said alkylene oxide adduct having r+1 alcoholic hydroxyl groups, wherein *r* represents a number having a value of from 3 to 7, and wherein *s* represents a number having an average value in the range of from 1 to 2, or

(b)



wherein *s* represents a number having an average value in the range of from 1 to 2, wherein A′ represents hydrogen or

$$-\left(R^1O\right)_nH$$

wherein *n* represents a number having a value of at least 1 and wherein R^1 represents alkylene of from 2 to 4 carbon atoms, and wherein B′ represents

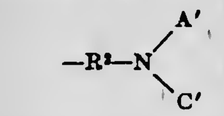
(1)

$$-\left(R^1O\right)_nH$$

wherein R^1 and *n* have the significance stated above,

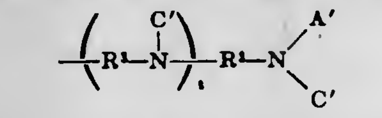
(2) omega-hydroxyalkylcarbonyl

(3)



wherein R^2 represents a divalent group having up to 20 carbon atoms and being selected from the class consisting of alkylene, alkyleneoxyalkylene, bis(alkyleneoxycarbonyl)alkenylene, bis(alkylenecarbonyl)alkylene, cycloalkylene, bis(alkyleneoxy)carbonyl, alkylenearylenealkylene, alkylenecycloalkylenealkylene, bis(cycloalkylene)alkylene, and bis(alkyleneoxy)alkylene, wherein the variable A′ has the significance stated above, and wherein C′ represents omega-hydroxyalkylcarbonyl or $-\!(R^1O)_nH$ wherein R^1 and n have the significance stated above, or

(4)



wherein R^3 represents alkylene of from 2 to 6 carbon atoms, wherein t represents a number having a value of from 1 to 3, and wherein the variables A′ and C′ have the significance stated above.

6. The composition of claim 1 wherein the alkylene oxide adduct of sub-paragraph (a) is an alkylene oxide adduct of sucrose.

3,376,282

POLYMERIC DERIVATIVES OF CATIONIC XANTHOMONAS COLLOID DERIVATIVES

Richard G. Schweiger, San Diego, Calif., assignor to Kelco Company, San Diego, Calif., a corporation of Delaware

No Drawing. Filed Jan. 8, 1964, Ser. No. 336,364

6 Claims. (Cl. 260—209.6)

1. The process of forming a novel composition of matter which comprises bringing together in aqueous suspension substantially stoichiometrically equivalent quantities of deacetylated N,N-dialkyl aminoalkoxy Xanthomonas hydrophilic colloid in which said alkyl and said alkoxy groups each have from one to five carbon atoms, and a water dispersible polymeric hydrophilic colloid which contains carboxyl groups, said water dispersible colloid being selected from the group consisting of alginic acid, pectic acid, polyacrylic acid, cellulose glycollic acid, and starch glycollic acid.

3,376,283

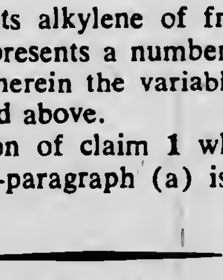
1-ARABINOFURANOSYL-3-HYDROCARBYL-CYTOSINES AND PROCESS

James H. Hunter, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Oct. 21, 1965, Ser. No. 500,370

5 Claims. (Cl. 260—211.5)

1. Compounds selected from the group consisting of (1) free base 1-arabinofuranosyl-3-hydrocarbylcytosine of the formula:



wherein R is a member selected from the group consisting of alkyl of from 1 to 8 carbon atoms, inclusive, benzyl, α-methylbenzyl, and phenethyl; R^1 and R^2 are members selected from the group consisting of hydrogen and lower-alkyl, and (2) acid addition salts thereof.

3,376,284

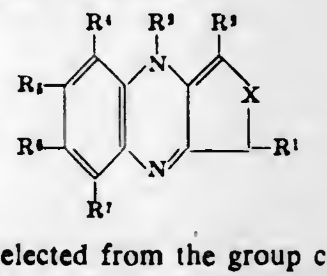
N-SUBSTITUTED CYCLOPENTAQUINOXALINES

Gerhard R. Wendt, Havertown, and Kurt W. Ledig, Philadelphia, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

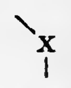
No Drawing. Filed Aug. 24, 1966, Ser. No. 574,804

4 Claims. (Cl. 260—211.5)

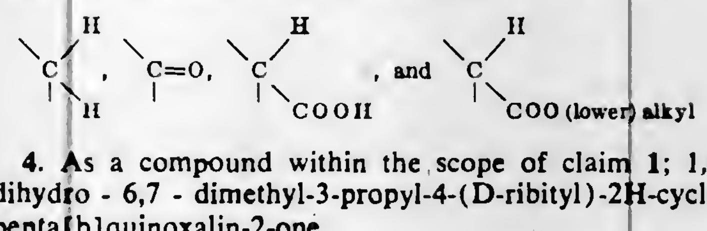
1. A compound of the formula:



in which R^1 is selected from the group consisting of hydrogen and carb(lower)alkoxy, R^2 is a member of the group consisting of hydrogen, lower alkyl, phenyl and carb(lower)alkoxy, R^3 is a member of the group consisting of lower alkyl and hydroxy(lower)a.kyl, and R^4, R^5, R^6 and R^7 each represent a member of the group consisting of hydrogen and lower alkyl, with R^5 and R^6 also representing chlorine, while



stands for a member of the group consisting of



4. As a compound within the scope of claim 1; 1,4-dihydro - 6,7 - dimethyl-3-propyl-4-(D-ribityl)-2H-cyclopenta[b]quinoxalin-2-one.

3,376,285

DISSOLUTION OF CELLULOSE ETHERS

Clayton D. Callihan, Baton Rouge, and Joseph R. Boudreaux, Plaquemine, La., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 12, 1964, Ser. No. 403,337

7 Claims. (Cl. 260—232)

Cellulose ethers of improved water dispersibility are obtained by spraying the ether with an oxidizing reagent specific to the oxidation of a vicinal diol on a polysaccharide chain. The cellulose ether is maintained in an agitated condition and sprayed with a solution of the oxidizing reagent. The preferred embodiment involves incorporating into the applicating solution to be sprayed a small amount of a non-ionic, organic wetting agent such as a polyalkylene oxide surfactant.

3,376,286

PREPARATION OF AMYLOSE ESTERS FROM ACTIVATED AMYLOSE

Felix J. Germino, Peekskill, N.Y., and Raymond J. Moshy, Westport, Conn., assignors to American Machine and Foundry Company, a corporation of New Jersey

Original application Dec. 29, 1960, Ser. No. 79,427, now Patent No. 3,184,335, dated May 18, 1965. Divided and this application July 24, 1964, Ser. No. 397,050

5 Claims. (Cl. 260—233.5)

1. The method of preparing amylose esters comprising partially swelling the amylose in an aqueous medium in a period not exceeding 4 hours, precipitating the swollen amylose with an organic liquid compound which is miscible with water but which is a non-solvent for amylose, separating the solid amylose from the liquid phase, washing said amylose with an organic non-aqueous non-solvent liquid and reacting said product with an acyl compound.

3,376,287

NOVEL INHIBITED GRANULAR STARCH PRODUCTS PREPARED BY THE REACTION OF STARCH WITH PHOSGENE

Wadym Jarowenko, Plainfield, and Morton W. Rutenberg, North Plainfield, N.J., assignors to National Starch and Chemical Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 28, 1965, Ser. No. 467,677

4 Claims. (Cl. 260—233.5)

Inhibited, granular starch derivatives crosslinked by labile, carbonate ester linkages characterized by their instability in the presence of acids, bases or heat; said derivatives resulting from the reaction of starch with phosgene. The thus produced derivatives display utility as thickening agents for food products and in various sizing, coating and adhesive applications.

3,376,288

PHENYL PYRAZOLE CARBONYL SUBSTITUTE 6-AMINO PENICILLANIC ACIDS

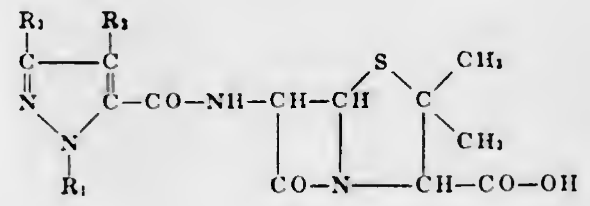
Odon Feher, Istvan Koczka, and Laszlo Vargha, Budapest, Hungary, assignors to Chinoin Gyogyszer-es Vegyeszeti Termekek Gyara RT., Budapest, Hungary, a firm

No Drawing. Filed May 31, 1966, Ser. No. 553,691

Claims priority, application Hungary, Sept. 24, 1965, GO-964

2 Claims. (Cl. 260—239.1)

1. Compounds of the general formula



I.

(wherein R_1 is a member of the group consisting of phenyl, bromophenyl, chlorophenyl, and cyclohexyl, R^2 is a member of the group consisting of halogen and alkyl having 1 to 5 carbon atoms, R_2 is a member of the group consisting of hydrogen and alkyl having 1 to 5 carbon atoms) and pharmaceutically acceptable salts thereof.

3,376,289

NOVEL 5,6 - DIHYDRO - 6 - OXO - PYRIDO[2,3-b] [1,4]BENZOXAZEPINES AND PROCESS FOR THEIR PREPARATION

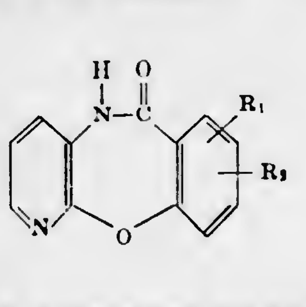
Günther Schmidt, Biberach an der Riss, Germany, assignor to Boehringer Ingelheim G.m.b.H., Ingelheim am Rhein, Germany, a corporation of Germany

No Drawing. Filed Mar. 9, 1965, Ser. No. 438,374

Claims priority, application Germany, Mar. 20, 1964, T 25,870

21 Claims. (Cl. 260—239.3)

1. A compound of the formula



wherein R_1 and R_2 are each selected from the group consisting of hydrogen, halogen, lower alkyl, lower alkoxy, lower alkanoyloxy, amino, lower alkanoylamino, lower alkanoyl and, together with each other and adjacent carbon atoms of the benzene ring to which they are attached, a benzo ring.

3,376,290

PROCESS FOR PREPARING BENZODIAZEPINES

Rodney Ian Fryer, North Caldwell, and Leo Henryk Sternbach, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Dec. 9, 1965, Ser. No. 512,773

9 Claims. (Cl. 260—239.3)

Reacting 2-amino benzophenone imines with haloacetyl halides to prepare 1,4-benzodiazepin-2-ones.

3,376,291

17α-DIHALOPREGNENO[3,2-c]PYRAZOLES AND PROCESS FOR THEIR PREPARATION

John H. Fried, Palo Alto, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed Feb. 10, 1966, Ser. No. 526,403

18 Claims. (Cl. 260—239.5)

As novel compounds, 17α-dihalomethylpregneno[3,2-c]-pyrazole steroids containing optional substitution and/or unsaturation at one or more positions on both the pyrazole moiety and the steroid nucleus which compounds are anti-inflammatory and corticoid agents and processes for the preparation of such compounds.

3,376,292

16α,17α-DIHALOMETHYLENE[3,2-C]PYRAZOLE DERIVATIVES OF THE PREGNANE SERIES

Colin C. Beard, Boulder, Colo., and Alexander D. Cross, Mexico City, Mexico, assignors to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Continuation-in-part of application Ser. No. 486,226, Sept. 9, 1965. This application Sept. 23, 1966, Ser. No. 581,457

13 Claims. (Cl. 260—239.5)

16,17α - difluoro- or -dichloro - methylenepregn-4-eno [3,2-C] pyrazoles optionally substituted at C–6 with methyl, fluoro or chloro; at C–9 with α-fluoro or α-chloro; at C–11 with β-hydroxy, β-chloro, or keto; at C–16 with β–methyl; at C–21 with hydroxy, fluoro, the C–21 esters, and tetrahydrofuranyl and tetrahydropyranyl ethers thereof; and at the 2′- position with methyl, phenyl or p-halophenyl. These compounds are anti-inflammatories.

3,376,293

FLUORO STEROIDS AND METHODS OF PREPARING THE SAME

Henry M. Kissman, Nannet, N.Y., and Martin J. Weiss, Oradell, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Continuation-in-part of application Ser. No. 778,595, Dec. 8, 1958. This application Jan. 18, 1960, Ser. No. 2,838

21 Claims. (Cl. 260—239.55)

A process of preparing fluorine derivatives of the pregnane and androstane series and new steroids resulting therefrom by reacting a salt the anion of which is derived from beta-dicarbonyl pregnane or beta-dicarbonyl androstane with perchloryl fluoride and subsequently with an alkaline agent in a hydrolytic solvent, is described. The products of the process are useful agents in one or more of the following glucocortoid, and androgenic and progestational fields.

3,376,294

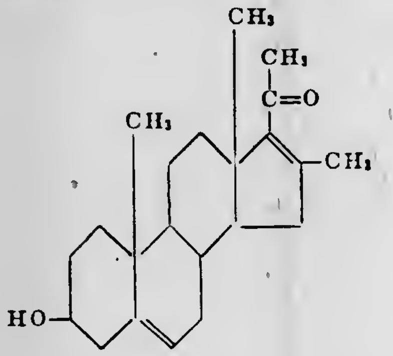
6-FLUORO-16-METHYLENE STEROID COMPOUNDS AND PROCESS

Eugene J. Agnello and Gerald D. Laubach, Lyme, and Walter T. Moreland, Niantic, Conn., assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

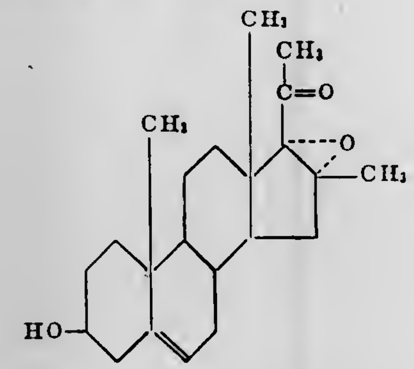
No Drawing. Filed Apr. 26, 1961, Ser. No. 105,576

5 Claims. (Cl. 260—239.55)

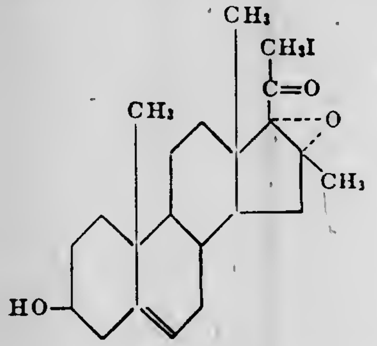
1. A process which comprises reacting a compound having the formula



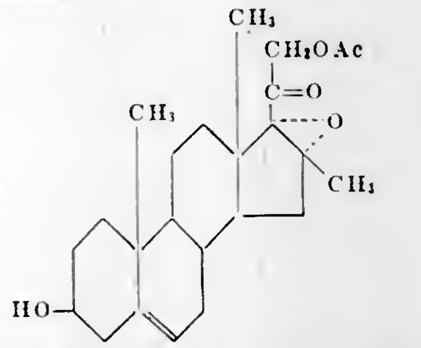
with at least a 10% molar excess of an equimolar mixture of aqueous sodium hydroxide and hydrogen peroxide at a temperature of from about 18° C. to about 35° C. for a period of from about ½ to about 6 hours to produce a compound having the formula:



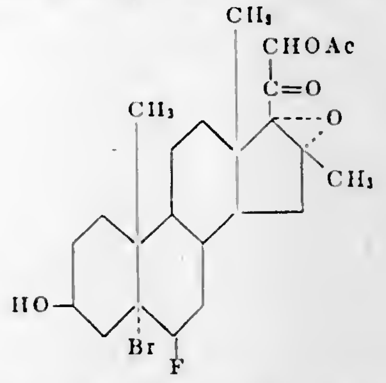
reacting resulting compound with from 4 to 6 molar equivalents of calcium oxide and 1.5 to 2 molar equivalents of iodine in a solvent system comprising two volumes of tetrahydrofuran and one volume of a lower alkanol containing up to four carbon atoms, the said solvent system containing tertiary butyl hydrogen peroxide in a quantity equivalent to from 0.006 to 0.018 g. of iodine per ml. of tetrahydrofuran at a temperature of from about 20° C. to about 40° C. for a period of from about two to about five hours to produce a compound having the formula



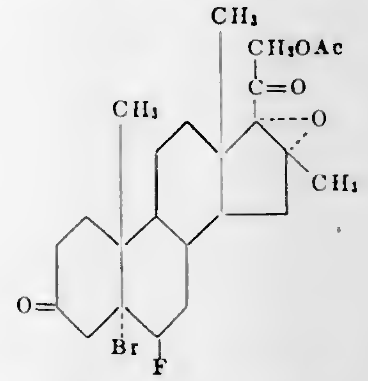
reacting resulting compound with from about 200% molar excess to about 2000% molar excess of a reagent selected from the group consisting of sodium and potassium salts of fatty acids containing up to five carbon atoms in a solvent selected from the group consisting of dimethylformamide and aliphatic esters and ketones containing up to five carbon atoms at a temperature of from about 40° C. to about 100° C. for a period of from about 4 to about 24 hours to produce the compound having the formula



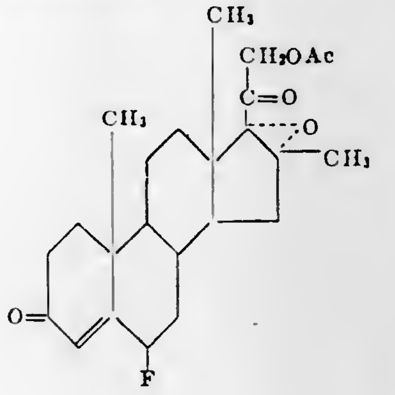
wherein Ac is an acyl hydrocarbon group containing only carbon, hydrogen, and oxygen up to a total of five carbon atoms; reacting resulting compound with from about 1.05 to about 1.5 molar equivalents of N-bromoacetamide and from about 25 to about 100 molar equivalents of anhydrous hydrogen fluoride in a solvent system consisting of tetrahydrofuran and methylene chloride containing from about 20% to about 40% tetrahydrofuran by volume at a temperature of from about −80° C. to about −50° C. for a period of about 1 to about 16 hours to produce a compound having the formula



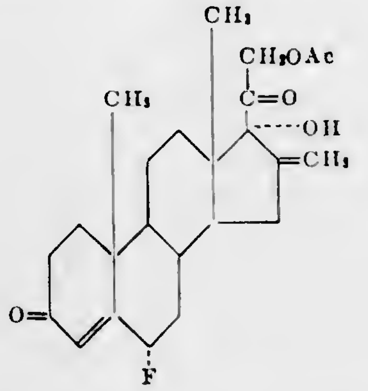
wherein Ac has the same meaning as above; oxidizing resulting compound to produce the compound having the formula



wherein Ac has the same meaning as above; reacting said compound with from about a molar equivalent to about a 200% molar excess of an alkaline reagent in a solvent selected from the group consisting of alkanols, esters and ketones, containing up to nine carbon atoms at a temperature of about 50° C. to about 130° C. for a period of about ½ to about 1 hour to produce a compound having the formula



wherein Ac has the same meaning as above and reacting resulting compound with hydrogen bromide in a reaction inert organic solvent at a temperature of from about 15° C. to about 40° C. for a period of from about 4 to about 24 hours to produce a compound having the formula



wherein Ac has the same meaning as above.

2. A compound selected from the group consisting of 5α - bromo - 6β-fluoro-16α,17α-epoxido-16β-methylpregnane-3β,21-diol-20-one and the 21-acyl esters thereof wherein the acyl moiety contains only carbon, hydrogen and oxygen up to a total of five carbon atoms.

3,376,295

PREPARATION OF 3-KETO-Δ^4-19-NOR STEROIDS

John Siddall, Palo Alto, Calif., assignor to Syntex Corporation, a corporation of Panama

No Drawing. Filed Nov. 1, 1965, Ser. No. 505,975

12 Claims. (Cl. 260—239.55)

1. A method of forming a 3-keto-19-nor-4-ene steroid containing acid labile groups which comprises treating a 3-alkoxy-2,5(10)-diene steroid containing said acid labile groups with a strong base and thereafter contacting the steroid thus obtained with an aqueous solution containing from 0.001% to 5.0% by weight of a lower molecular weight carboxylic acid.

5. A method of forming a 3-keto-19-nor-4-ene steroid containing acid labile groups which comprises treating a 3-alkoxy-2,5(10)-diene steroid containing said acid labile groups with potassium tert-butoxide in dimethyl sulfoxide solvent and thereafter contacting the steroid thus obtained with an aqueous solution containing from 0.001% to 5.0% by weight of oxalic acid.

3,376,296

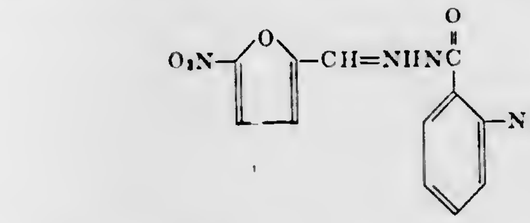
ORTHO-NITROBENZOIC ACID, 5-NITROFURFURYLIDENE HYDRAZIDE

Harold E. Van Essen, Jr., and Robert R. Baron, Charles City, Iowa, assignors to Salsbury Laboratories, a corporation of Iowa

No Drawing. Original application Dec. 17, 1965, Ser. No. 514,678, now Patent No. 3,330,724, dated July 11, 1967. Divided and this application Apr. 7, 1967, Ser. No. 629,108

1 Claim. (Cl. 260—240)

The new chemical compound o-nitrobenzoic acid, 5-nitrofurfurylidene hydrazide of the formula



having valuable properties in the control and treatment of poultry coccidiosis.

3,376,297

BIS-PYRRYLVINYLPYRIDINIUM SALTS

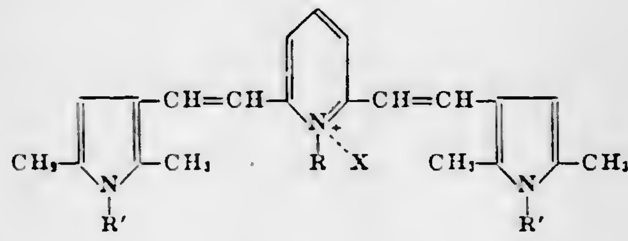
Arthur P. Phillips, Tuckahoe, and Robert B. Burrows, Ardsley, N.Y., assignors to Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, N.Y., a corporation of New York

No Drawing. Filed Oct. 12, 1964, Ser. No. 403,347

Claims priority, application Great Britain, Aug. 7, 1964, 32,275/64

7 Claims. (Cl. 260—240.1)

This invention relates to compounds which have anthelmintic activity, particularly against whipworms such as *Trichuris vulpis* in the dog, as well as activity against other parasitic nematode worms. The compounds of this invention are of the formula



wherein R is selected from the class consisting of lower alkyl and benzyl and wherein R′ is selected from the class consisting of alkyl having from 1 to 10 carbon atoms, phenethyl, phenyl, parachlorophenyl and $(CH_3)_2NCH_2CH_2$, and wherein X is a therapeutically acceptable anion.

3,376,298

PIGMENT DYES

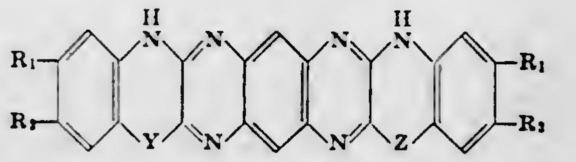
Willy Braun, Heidelberg, and Rolf Mecke, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Apr. 6, 1964, Ser. No. 357,797

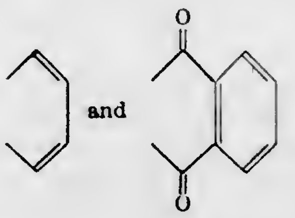
Claims priority, application Germany, Apr. 26, 1963, B 71,659

4 Claims. (Cl. 260—244)

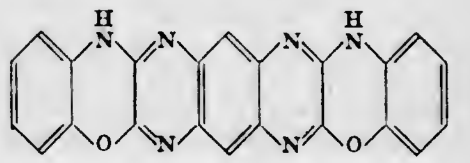
1. A dye of the formula



wherein Y and Z each represent a bridge member selected from the group consisting of —NH—, —O— and —S—, R_1 and R_2 each represent a substituent selected from the group consisting of —H, —Cl, —OCH_3, —NO_2 and benzoylamino with the proviso that at least one of said R_1 and R_2 is hydrogen, and wherein R_1 and R_2 taken together may further represent a divalent radical selected from the class consisting of



3. The dye of the formula:



3,376,299
ALKENYL SULFONAMIDES AND METHOD OF MAKING THE SAME

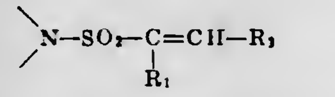
Rudolf Kühne, Helmut Diery, and Max Grossmann, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Apr. 16, 1963, Ser. No. 273,287

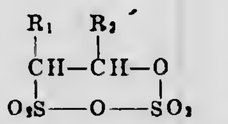
Claims priority, application Germany, Apr. 21, 1962, F 36,622

2 Claims. (Cl. 260—247.1)

1. A process for preparing an alkenyl sulfonamide having at least one

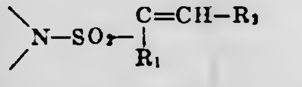

$$>N-SO_2-\underset{R_1}{\underset{|}{C}}=CH-R_3$$

group therein, which consists essentially of mixing a carbyl sulfate of the formula



wherein R_1 and R_2 each represent hydrogen or lower alkyl, at a temperature between $-10°$ and 100° C. with a member selected from the group consisting of ammonia and primary and secondary alkyl amines having 1–18 carbon atoms, cyano lower alkyl amines, cyclohexyl amine, benzyl amine and N-lower alkyl benzyl amines, lower carbalkoxy lower alkyl amines, lower alkylene diamines, piperidine, morpholine, piperazine, and tetrahydroisoquinoline in an aqueous medium in the presence of an alkaline earth metal hydroxide, the molar ratio of carbyl sulfate to amine being between about 1:1 and about 2:1.

2. An N-substituted alkenyl sulfonamide having two


$$>N-SO_2-\underset{R_1}{\underset{|}{C}}=CH-R_3$$

groups therein, wherein R_1 and R_2 are hydrogen or lower alkyl and >N . . . is derived from a lower alkylene diamine or piperazine.

3,376,300
O-(N-HETERO CARBONYL-INDOLYL-3)-GLYCOLIC ACIDS, AMIDES AND ESTERS THEREOF

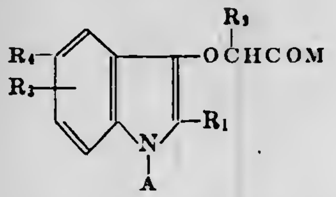
Tsung-Ying Shen, Westfield, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Dec. 31, 1964, Ser. No. 422,568

7 Claims. (Cl. 260—247.2)

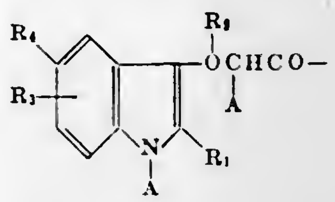
5. β-(N-morpholino) ethyl O-[1(p-chlorobenzoyl)-2-methyl-5-methoxy-3-indolyl] glycolate.

7. A compound of the formula



wherein A is selected from the group consisting of benzoyl; substituted benzoyl wherein said substituent is selected from the group consisting of lower alkoxy, halogen, lower alkylamino, lower dialkylamino, methyl, methylthio, trifluoromethyl, acetoxy, benzyloxy, hydroxy, phenoxy, trifluoroacetyl, p-N,N-dimethylsulfamyl; and 2′-thenoyl; α-naphthoyl; β-naphthoyl; 5-chloro-2-thenoyl; 5-chloro-2-furoyl; 2,5-dimethyl-3-thenoyl; 5-trifluoromethyl-2-furoyl; 3,4,5-trimethyl-2-thenoyl; 2-methyl-5-bromo-3-furoyl; 5-phenyl-2-thenoyl; 4-bromo-3-thenoyl; 1-methyl-2-pyrrolylcarbonyl; nicotinoyl; 6-chloronicotinoyl; 2-methyl-5-iodoisonicotinoyl; 6-chloroquinaldolyl; 5-cyano-6-methyl-2-trifluoromethylnicotinoyl; 2-o-fluorophenyl-4-quinolylcarbonyl; 1-isoquinolylcarbonyl; picolinoyl; 2-benzylthioisonicotinoyl; 5-chloro-2-thiazolylcarbonyl; 4-thiazolylcarbonyl; 1-pyrazolylcarbonyl; 2-benzyl-5-chloro-4-oxazolylcarbonyl; 2-methyl-5-trifluoromethyl-4-oxazolylcarbonyl; 2-methylthio-5-methyl-1-imidazolylcarbonyl; 2-bromo-4-thiazolylcarbonyl; 5-phthalimido-2-thiazolylcarbonyl; 4-methyl-4-morpholinothio-5-thiazolylcarbonyl; 3-methyl-5-isothiazolylcarbonyl; 4-1,2,3-thiadiazolylcarbonyl; 5-phenyl-4-1,2,3-thiadiazolylcarbonyl; 1-phenyl-3-pyrazolylcarbonyl; 1,3,5-trimethyl-4-pyrazolylcarbonyl; 2-benzimidazolylcarbonyl; 2-methyl-7-nitro-5-benzimidazolylcarbonyl; 6-fluoro-2-indolylcarbonyl; 3-indazolylcarbonyl; 4-benzofuroylcarbonyl; 2-methyl-5-benzothiazolylcarbonyl; 3-benzisoxazolylcarbonyl; 5-benzoxazolylcarbonyl; 2-ethyl-2,3-dihydro-7-thianaphthylcarbonyl; 6-nitro-6-isoindazolylcarbonyl; 2-benzisoxazolylcarbonyl; 2-benzothiophenecarbonyl; 5-pyrimidylcarbonyl; 3-pyridazinylcarbonyl; 2-benzylmercapto-4-chloro-5-pyrimidylcarbonyl; 4-morpholinomethyl-2-phenyl-5-pyrimidylcarbonyl; 6-chloro-3-pyridazinylcarbonyl and 6-methylpyrazinoyl;

R_1 is lower alkyl;
R_2 is selected from the group consisting of hydrogen, phenyl and lower alkyl;
R_3 is selected from the group consisting of hydrogen, halogen, trifluoromethyl, lower alkyl and lower alkoxy;
R_4 is selected from the group consisting of hydrogen, hydroxy, halogen, lower alkyl, lower alkoxy, amino, amino lower alkyl, lower alkyl amino, dilower alkylamino, cyano, nitro, mercapto, lower alkylthio, pyrrolidino, acetamido, N-methyl carbobenzyloxy amino, bis(β-hydroxyethyl)amino, 4-methylpiperazino, morpholino and allyloxy;
M is selected from the group consisting of hydroxyl, amino, lower alkoxy, lower alkenyloxy, lower alkynyloxy; and
OY wherein Y is selected from the group consisting of cations and



wherein A, R_1, R_2, R_3 and R_4 are as defined above, and the pharmaceutically acceptable acid addition salts of such compounds.

3,376,301
METHOD OF PRODUCING TRIALLYLIC ISOCYANURATES

William C. Francis and Donald L. Burdick, Overland Park, Kans., assignors, by mesne assignments, to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 51,507, Aug. 24, 1960. This application Jan. 20, 1964, Ser. No. 338,576

2 Claims. (Cl. 260—248)

1. In the method of preparing a triallylic isocyanurate which comprises reacting an alkali metal salt of cyanuric acid with an allylic halide selected from the class consisting of allyl halides and substituted allyl halides having substituents which are essentially non-reactive with said akali metal salt of cyanuric acid under isocyanurate-forming conditions, said reaction being carried out at a temperature in the range of about 60° to 150° C., the improvement of carrying out the reaction in an N,N-dilower alkyl formamide reaction medium under substantially anhydrous conditions.

3,376,302
PROCESS FOR THE PRODUCTION OF CHLORAMINO-s-TRIAZINES

Theodor Grauer, Arlesheim, Basel-Land, Switzerland, assignor to J. R. Geigy A.G., Basel, Switzerland

No Drawing. Filed Feb. 7, 1966, Ser. No. 525,382

Claims priority, application Switzerland, Feb. 19, 1965, 2,328/65

8 Claims. (Cl. 260—249.5)

1. In the production of 2-chloro-s-triazines substituted in at least one of the positions 4 and 6 of the triazine nucleus by an amino group, which production comprises reacting cyanuric chloride in an aqueous-organic medium with from one to two mols, per mol of cyanuric chloride, of an aminonitrogen containing reactant selected from the group consisting of primary and secondary organic amines in the presence of an acid binding agent in said medium, the improvement comprising performing the reaction betwen an amino-nitrogen containing member which is well soluble in at least one member selected from the class consisting of water and methylethyl ketone with cyanuric chloride in a reaction medium consisting essentially of a mixture of water and a partially water-soluble organic solvent having a boiling point in the range of from 50 to 120° C., which solvent is inert to the reaction partners.

3,376,303
BENZOTHIOXANTHENE DYESTUFFS AND PROCESS FOR PREPARING THEM

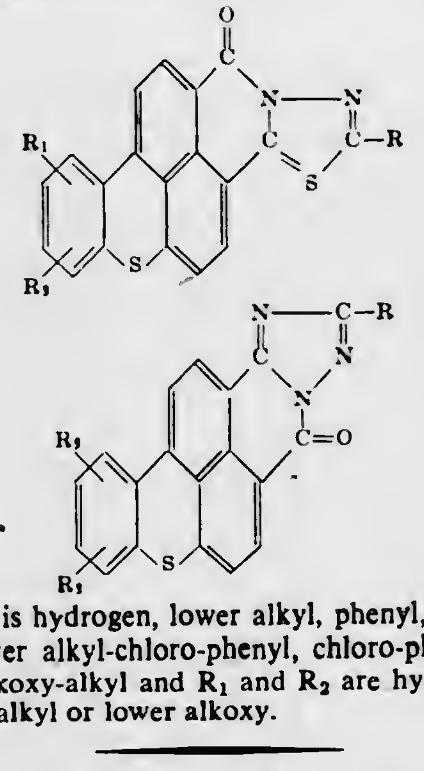
Otto Fuchs and Helmut Troster, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Feb. 8, 1966, Ser. No. 525,861

Claims priority, application Germany, Feb. 24, 1965, F 45,334

10 Claims. (Cl. 260—288)

1. Dyestuffs consisting of a mixture of isomeric compounds of the formulae



in which R is hydrogen, lower alkyl, phenyl, lower alkylphenyl, lower alkyl-chloro-phenyl, chloro-phenyl, benzyl or lower alkoxy-alkyl and R_1 and R_2 are hydrogen, chlorine, lower alkyl or lower alkoxy.

3,376,304
2-(R-R$_1$-R$_2$-METHYL)-6-R$_3$-6-R$_4$-FULVENES

Richard Joseph Mohrbacher, Fort Washington, and George Ireland Poos, Ambler, Pa., assignors to McNeil Laboratories, Incorporated, a corporation of Pennsylvania

No Drawing. Continuation-in-part of applications Ser. No. 105,288, Apr. 25, 1961, Ser. No. 179,783, Mar. 14, 1962, and Ser. No. 350,596, Mar. 9, 1964. This application Mar. 10, 1966, Ser. No. 533,226

14 Claims. (Cl. 260—288)

The compounds are of the class of substituted fulvenes useful as ultraviolet light absorbers.

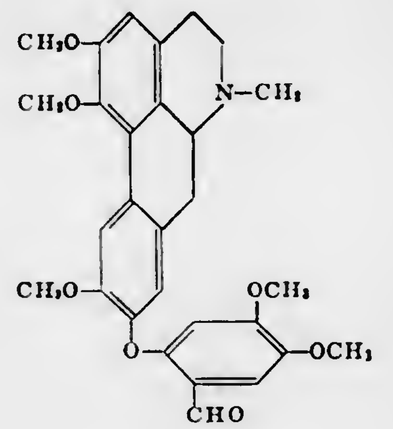
3,376,305
SYNTHETIC HERNANDIA ALKALOID

Michael P. Cava, Detroit, Mich., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 24, 1966, Ser. No. 536,966

1 Claim. (Cl. 260—289)

1. Hernandaline, a crystalline product of manufacture, having the structural formula:



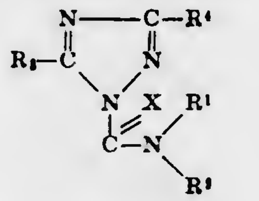
3,376,306
1-CARBOXAMIDO-3-AMINO-1,2,4-TRIAZOLES AND A PROCESS FOR THEIR PREPARATION

John R. Roland, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 242,636, Dec. 6, 1962. This application Aug. 11, 1964, Ser. No. 388,949

11 Claims. (Cl. 260—294)

1. A 1,2,4-triazole having the formula

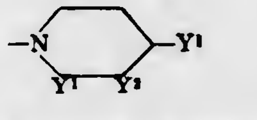


wherein

(A) X is of the group consisting of oxygen and sulfur,

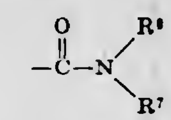
(B) when R^1 and R^2 are considered individually, R^1 is methyl and R^2 is of the group consisting of alkyl of 1–6 carbon atoms, alkenyl of 2–6 carbon atoms, alkoxyalkyl of 2–6 carbon atoms, hydroxyalkyl of 1–6 carbon atoms, methylalkylamino of 2–6 carbon atoms, alkylaminoalkyl of 2–8 carbon atoms, carbalkoxyalkyl having 1–4 carbon atoms in the alkoxy portion and 1–6 carbon atoms in the alkyl portion, carbonamidoalkyl having 1–6 carbon atoms in the alkyl portion and 1–5 carbon atoms in the amido portion, and cyanoalkyl having 1–6 carbon atoms,

(C) when R^1 and R^2 are joined together, a heterocyclic ring is formed with the carbamyl nitrogen, said ring being selected from the class consisting of morpholino, pyrrolidyl, piperidyl, dehydropiperidyl, 3-azabicyclo-(3.2.2)nonyl, monosubstituted piperidyl of the formula



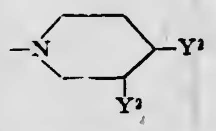
wherein Y^1 is of the class consisting of hydrogen and $-CH_3$,
Y^2 is of the class consisting of hydrogen, $-CH_3$, $-C_2H_5$ and $-COOR^3$ where R^3 is alkyl of 1–4 carbon atoms, and
Y^3 is hydrogen, hydroxyl, alkyl of 1–9 carbon atoms, cycloalkylalkyl of 4–9 carbon atoms, hydroxyalkyl of 1–9 carbon atoms, alkoxyalkyl of 2–9 carbon

atoms, trifluoromethyl, —COOR^3 where R^3 is alkyl of up to 4 carbon atoms,



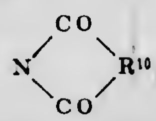
where R^6 and R^7 are alkyl of 1–4 carbon atoms, carboxyalkyl of 2–5 carbon atoms, dialkylaminoalkyl having a total of up to 8 carbon atoms, pyrrolidinomethyl and arylalkyl of 7–9 carbon atoms, and

disubstituted piperidyl of the formula



wherein Y^2 and Y^3 are defined the same as above,

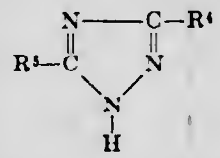
(D) R^4 is of the class consisting of —NH$_2$, NHR^6, NR^{6}R^7, NR^{8}COR^9, and



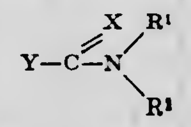
wherein R^6 and R^7 are of the class consisting of alkyl of 1–4 carbon atoms and aryl of 6 to 10 carbon atoms; R^8 is of the class consisting of hydrogen and alkyl of 1–4 carbon atoms, R^9 is of the class consisting of hydrogen, alkyl of 1–4 carbon atoms, aryl of 6–10 carbon atoms, carboxyalkyl of 2–6 carbon atoms, perfluoroalkyl of 1–4 carbon atoms and haloalkyl of 1–4 carbon atoms, and R^{10} is alkylene of 2–5 carbon atoms, and

(E) R^5 is of the class consisting of hydrogen, halogen, alkyl of 1–4 carbon atoms, alkoxy of 1–4 carbon atoms, carboxy and —CONH$_2$.

10. A process for preparing a 1,2,4-carbamyl triazole of claim **1** which comprises treating a triazole of the formula



wherein R^4 and R^5 are defined as in claim **1**, with an alkali metal hydride, followed by treatment with an N-disubstituted carbamyl halide of the formula



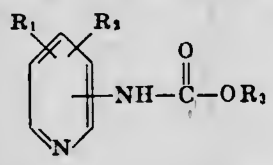
wherein X, R^1 and R^2 are defined as in claim **1**, and Y is halogen; wherein each step is carried out at a temperature between about 0° to 100° C.

3,376,307

AMINO ESTERS OF (2,3 or 4) PYRIDYL CARBAMIC ACID

Seymour Hyden, Spring Valley, and Godfrey Wilbert, Carmel, N.Y., assignors to Nepera Chemical Co., Inc.
No Drawing. Filed Oct. 29, 1964, Ser. No. 407,575
5 Claims. (Cl. 260—294.3)

A class of urethane derivatives of the formula:



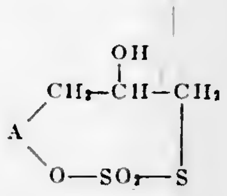
wherein R$_1$, R$_2$ and R$_3$ are as defined below. These compounds are useful as herbicides.

3,376,308

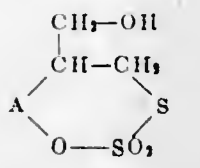
CERTAIN PYRIDINIUM, QUINOLINIUM AND ISOQUINOLINIUM SULFOBETAINE DERIVATIVES AND A METHOD FOR THEIR PREPARATION

Wolfgang Gündel, Dusseldorf-Oberkassel, Germany, assignor to Dehydag Deutsche Hydrierwerke G.m.b.H., Dusseldorf, Germany, a corporation of Germany
No Drawing. Filed Jan. 15, 1964, Ser. No. 337,723
Claims priority, application Germany, Feb. 2, 1963, D 40,815
The portion of the term of the patent subsequent to Oct. 18, 1983, has been disclaimed
6 Claims. (Cl. 260—294.8)

This invention relates to a mixture of thiosulfobetaines of the formula



and



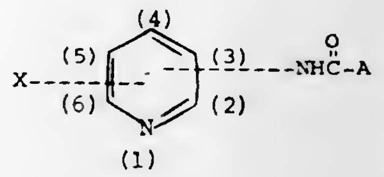
wherein A represents a pentavalent nitrogen compound selected from the group consisting of pyridinium, quinolinium, isoquinolinium and substituted derivatives thereof containing substituents selected from the group consisting of lower alkyl groups and halogens as well as the process for producing the same. The thiosulfobetaines of the invention are useful additives in copper electroplating baths where they produce an improved leveling effect in conjunction with known brightening agents.

3,376,309

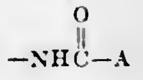
CERTAIN SUBSTITUTED PYRIDYLAMIDES AND PYRIDYLUREAS

Harold M. Foster, Middlesex, and John R. Kilsheimer, Westfield, N.J., assignors to Mobil Oil Corporation, a corporation of New York
No Drawing. Filed Mar. 29, 1965, Ser. No. 443,704
6 Claims. (Cl. 260—295)

1. A compound having the formula

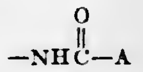


wherein the



$$-\mathrm{NH}\overset{\mathrm{O}}{\overset{\|}{\mathrm{C}}}-\mathrm{A}$$

group is attached in one of the 2-, 4-, and 5-positions, and wherein —A is selected from the group consisting of —NHR in which said R is an alkyl group containing from one to six carbon atoms, and a branched-chain alkyl group containing from three to six carbon atoms, and X is selected from the group consisting of halogen and alkoxy (—OCH$_3$ to —OC$_8$H$_{17}$) and is attached to a carbon atom in the pyridine ring which is nonadjacent to the position at which the



$$-\mathrm{NH}\overset{\mathrm{O}}{\overset{\|}{\mathrm{C}}}-\mathrm{A}$$

group is attached to the ring.

3,376,310

SUBSTITUTED 1-PHENYL-5-MERCAPTOTETRAZOLES

John R. Abbott and Ilmari F. Salminen, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Original application Sept. 1, 1964, Ser. No. 393,639, now Patent No. 3,295,976, dated Jan. 3, 1967. Divided and this application May 16, 1966, Ser. No. 565,365
10 Claims. (Cl. 260—308)

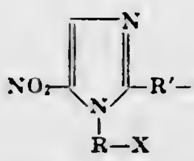
1-phenyl-5-mercaptotetrazoles which have a substituted sulfonamido group or a substituted acylamido group attached to the 1-phenyl group are used advantageously in compositions that are applied to photographic material during photographic processing prior to the development step, the development inhibiting affect produced by the immediate substituted 1-phenyl-5-mercaptotetrazoles being such that when compositions containing them are applied to multilayer color elements during processing prior to development, overdevelopment of the top (outermost layer) will be prevented even at temperatures up to about 160° F.

3,376,311

1-LOWER ALKYLSULFONYLALKYL-2-LOWER ALKYL-5 NITROIMIDAZOLES

Kenneth Butler, Waterford, Conn., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 406,542, Oct. 26, 1964. This application Aug. 5, 1966, Ser. No. 570,433
5 Claims. (Cl. 260—309)

Novel 1,2-di-substituted 5-nitroimidazoles and their acid addition salts are prepared, particularly imidazoles of the formula



where R and R′ are each alkylene of 1 to 7 carbons and X is halogen, lower alkylsulfoxy, lower alkylsulfonyl or trifluoromethyl.

3,376,312

4,4-DIPHENYL-CYCLOHEXYLAMINES AND DERIVATIVES THEREOF

Richard Unger, Siegmund Sommer, Ernst Schorscher, and Hans-Joachim Enenkel, Darmstadt, Germany, assignors to E. Merck A.G., Darmstadt, Germany
No Drawing. Filed Dec. 13, 1965, Ser. No. 513,586
Claims priority, application Germany, Dec. 15, 1964, M 63,487
17 Claims. (Cl. 260—326.87)

4,4-diphenyl-cyclohexylamines and derivatives thereof as therapeutic agents, particularly for effecting spasmolytic or cholinolytic activities.

3,376,313

PROCESS OF PREPARING ORGANIC DISULFIDES FROM THIOLS

Thomas J. Wallace, Elizabeth, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Nov. 15, 1963, Ser. No. 323,897
19 Claims. (Cl. 260—327)

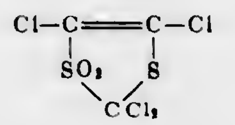
Organic sulfides are prepared by reacting an organic thiol with an organic compound containing the (S=O) moiety, the mole ratio of thiol to S=O containing compound being about 1:1 when it is desired to form cyclic disulfides and about 2:1 when it is desired to form acyclic disulfides. The organic disulfides produced are useful as additives in cosmetic products and depilatory creams.

3,376,314

HALODITHIOLEDIOXIDE AND ITS PRODUCTION

Don R. Baker, Pinole, George E. Lukes, El Cerrito, and Malcolm B. McClellan, San Jose, Calif., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed July 29, 1964, Ser. No. 386,067
4 Claims. (Cl. 260—327)

The invention relates to a certain chlorinated 1,3-dithiolene composition corresponding to the formula



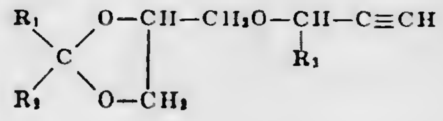
2,2,4,5-tetrachloro-Δ^4-1,3-dithiolene-1,1-dioxide, its preparation and microbiological activity. Especially effective in the control of the fungi, *Aspergillus niger* and Penicillium sp. and the bacteria *Escherichia coli.* In soil it was found to control the fungi *Rhizoctonia solani* and *Fusarium solani.*

3,376,315

UNSATURATED ETHERS OF DIOXANES AND DIOXOLANES

Joanne Denise Burger and William L. Howard, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Original application July 3, 1963, Ser. No. 292,718, now Patent No. 3,290,388, dated Dec. 6, 1966. Divided and this application July 11, 1966, Ser. No. 571,676
3 Claims. (Cl. 260—340.9)

1. A compound of the formula



wherein R$_1$, R$_2$, and R$_3$ are selected from the group consisting of hydrogen and lower alkyl.

3,376,316

LOWER ALKYL GAMMA KETO ACID 2-PYRANYL ESTERS

George Gal, Summit, and Meyer Sletzinger, North Plainfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Original application Dec. 28, 1962, Ser. No. 247,859, now Patent No. 3,171,841, dated Mar. 2, 1965. Divided and this application Aug. 21, 1964, Ser. No. 399,953
2 Claims. (Cl. 260—345.8)

Compounds of the class lower alkyl gamma keto acid 2-pyranyl esters useful as intermediates in the preparation of 1-acyl indole-3-aliphatic acids, which compounds are useful as anti-inflammatory agents.

3,376,317

2-ETHYLPYROMECONIC ACID AS AROMA AND FLAVOR COMPONENT

Charles R. Stephens, Jr., East Lyme, and Robert P. Allingham, Groton, Conn., assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 310,919, Sept. 23, 1963. This application Apr. 14, 1967, Ser. No. 630,818
1 Claim. (Cl. 260—345.9)

2-ethylpyromeconic acid and its use in improving the flavor and aroma of edibles and the aroma of perfumes.

3,376,318
PROCESS FOR SEPARATION OF HIGH-ENERGY PROPELLANT OXIDIZERS

Herman Bieber, Kenilworth, N.J., Harry M. Taylor, New York, N.Y., and Lawrence Spenadel, Fanwood, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Mar. 9, 1962, Ser. No. 179,522
4 Claims. (Cl. 260—347.7)

4. The method of separating tetrakis(NF_2) furan adduct from bis(NF_2) furan adduct, which comprises contacting a benzene solution of said adducts with a more polar perfluoro 3,4-dimethyl hexane solvent to extract a higher proportion of the tetrakis adduct than of the bis adduct, and in the more polar solvent immiscible with the benzene, separating the resulting extraction from the benzene solution and recovering the tetrakis adduct from the more polar solvent extract.

3,376,319
2-AZIDOCYCLOHEXANONE OXIME

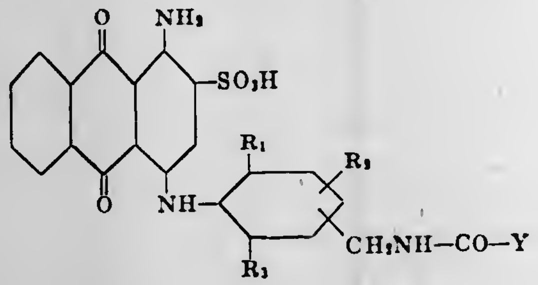
Theodor Weil, New Brunswick, and Hugo Stange, Princeton, N.J., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 23, 1965, Ser. No. 504,069
1 Claim. (Cl. 260—349)

The new compound, 2-azidocyclohexanone oxime, is a hypotensive agent that can be safely administered to mammals for an extended period of time in an amount sufficient to lower blood pressure, particularly the diastolic pressure.

3,376,320
ANTHRAQUINONE DYESTUFFS

Hans Rudolf Schwander and Jean-Pierre Jung, Riehen, and Peter Hindermann, Bottmingen, Basel-Land, Switzerland, assignors to J. R. Geigy A.G., Basel, Switzerland
No Drawing. Continuation-in-part of applications Ser. No. 261,864 and Ser. No. 261,865, Feb. 28, 1963. This application June 7, 1965, Ser. No. 462,073
Claims priority, application Switzerland, Apr. 23, 1958, 58,664
4 Claims. (Cl. 260—372)

1. A blue-dyeing anthraquinone dyestuff, for polyamide fiber materials, of the formula



wherein
each of R_1 and R_2 represents, individually, hydrogen or lower alkyl,
R_3 represents lower alkyl, and
Y represents $—CH_2Cl$, $—CH_2Br$, $—CH_2CH_2Cl$,

$$—CH_2CH_2Br$$

or $CHCl—CH_2Cl$.

3,376,321
3,17-DISUBSTITUTED 5,6-DICHLORO ANDROSTANES

John Wayne Cole, Deerfield, Ill., assignor to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois
No Drawing. Filed Aug. 3, 1965, Ser. No. 477,022
8 Claims. (Cl. 260—397.1)

3,17-disubstituted 5,6-dichloroandrostanes with androgenic/anabolic activity.

3,376,322
DIORGANOOXYDISULFIDE ESTERS

Quentin E. Thompson, Belleville, Ill., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Dec. 28, 1964, Ser. No. 421,678
17 Claims. (Cl. 260—397.2)

Disulfide esters of bivalent sulfur represented by the structure

$$R—O—S—S—O—R'$$

wherein R and R' are each selected from the group consisting of alkyl radicals and substituted alkyl radicals, said alkyl radicals having from 5 to 20 carbon atoms, arylalkyl radicals having from 7 to 24 carbon atoms, alkenyl groups having from 3 to 20 carbon atoms and cycloalkyl radicals having from 4 to 30 carbon atoms and their method of preparation which comprises reacting a monohydric alcohol with sulfur monochloride in the presence of a tertiary amine and said esters are useful as additives to increase the lubricity of mineral oils, as insecticides and fungicides and as curing agents in the vulcanization of rubber.

3,376,323
17α-DIHALOMETHYL STEROIDS AND PROCESS FOR THEIR PREPARATION

John H. Fried, Palo Alto, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama
No Drawing. Filed Jan. 6, 1966, Ser. No. 518,994
14 Claims. (Cl. 260—397.3)

As novel compounds, 17α-dihalomethyl steroids of the pregnane series containing optical substitution and/or unsaturation at one or more of the C–1, 2, C–3, C–6, C–6, 7, C–10, and C–16 positions which compounds are progestational agents and processes for the preparation of such compounds.

3,376,324
4α,8,14 - TRIMETHYL - 18 - NOR - Δ^{12} - 5α,8α,9β,14β-ANDROSTENE - 3α - OL - 17 - ONE AND DERIVATIVES THEREOF

Patrick A. Diassi, Westfield, N.J., assignor to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 406,877, Oct. 27, 1964. This application June 15, 1966, Ser. No. 557,608
9 Claims. (Cl. 260—397.3)

The disclosure herein relates to fusidic acid derivatives. The compounds claimed herein are useful in the treatment in such conditions as bursitis.

3,376,325
5β,6β-METHANOESTRANES

John S. Tadanier, Chicago, Ill., assignor to Abbott Laboratories, Chicago, Ill., a corporation of Illinois
No Drawing. Continuation-in-part of application Ser. No. 436,639, Mar. 2, 1965. This application Apr. 6, 1965, Ser. No. 446,122
4 Claims. (Cl. 260—397.4)

3β - methoxy - 10β - hydroxy - 5β,6β - methanoestranes with various substituents in the 17-position are described. The new compounds are useful androgens and growth-regulating agents for warm-blooded animals.

3,376,326
INTERESTERIFICATION OF GLYCERIDES

Neil R. Artman, Wyoming, Raymond M. Cartier, Springfield Township, Hamilton County, and David D. Whyte, Wyoming, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
No Drawing. Filed Dec. 31, 1964, Ser. No. 422,499
9 Claims. (Cl. 260—410.7)

A process for simultaneously interesterifying and selectively separating triglyceride oils high in combined linolenic acid by (1) contacting a triglyceride oil in a contact zone with a flowing stream of solvent selected from the group dimethylformamide, dimethylcyanamide, and 3,3 - dimethylaminopropionitrile with a countercurrent flowing stream of solvent selected from the group pentane, hexane, heptane and octane, there being introduced into said contact zone an interesterification catalyst selected from the group sodium and potassium methyl sulfinyl carbanion, and sodium and potassium t-butoxide; and (2) separating the two solvent phases.

3,376,327
PROCESS OF FORMING ALKALINE EARTH SOAP COMPOSITIONS

John W. Freeland, 819 W. Fern Drive, Fullerton, Calif. 92632
No Drawing. Filed Feb. 1, 1965, Ser. No. 429,676
4 Claims. (Cl. 260—413)

This invention provides a rapid, simple method of forming a calcium, magnesium, or a mixed calcium-magnesium soap of a fatty acid. The selected fatty acid, such as tall oil fatty acid, is heated to within 90° F. to 150° F., but sufficiently high to liquefy the fatty acid, whereupon finely divided calcium or magnesium oxide or calcium hydroxide or mixtures thereof is added in excess of the equivalent amount, whereupon the temperature of the mix suddenly increases. Before the mix passes from a liquid to a solid state, it is poured onto a horizontal surface, whereupon the mixture suddenly solidifies, and thereafter cools to room temperature. The slabs so formed may be broken into pieces or ground to a powder.

3,376,328
TRIORGANO (HYDROXYALKYLENOXY) TIN COMPOUNDS, THEIR TRIHYDROCARBYLTIN (IV) ALCOHOLATE AND HYDROCARBYLETHER DERIVATIVES AND THE PREPARATION THEREOF

Alwyn George Davies, London, England, assignor to M & T Chemicals Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 26, 1964, Ser. No. 406,563
19 Claims. (Cl. 260—429.7)

In accordance with certain of its aspects, this invention relates to novel compositions and to the process for preparing a compound of the formula

$$R_3Sn(—O—CR''_2—)_nOR'$$

wherein R is selected from the group consisting of alkyl, aryl, and alkenyl; R'' is selected from the group consisting of alkyl, aryl, alkenyl, hydrogen; R' is selected from the group consisting of alkyl, aryl, alkenyl, hydrogen and $—SnR_3$; and n is an integer; which process comprises reacting together R_3SnOR' and $R''_2{=}O$ in the molar ratio of one mole of R_3SnOR' to n moles of $R''_2C{=}O$.

3,376,329
PREPARATION OF DIALKYLTIN OXIDES

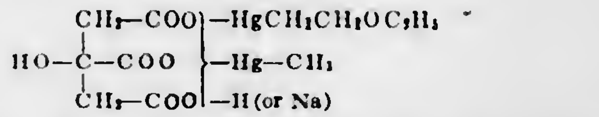
Paul Kobetz and Hymin Shapiro, Baton Rouge, La., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Mar. 31, 1965, Ser. No. 444,370
19 Claims. (Cl. 260—429.7)

Tin dialkyls are prepared by reacting an aluminum trialkyl metathetically with an anhydrous stannous salt of a hydrogen halide or of an organic monocarboxylic acid in a mixture of one or more hydrocarbons or polysiloxanes, or both, with a glycol ether. The two-phase product is separated; the dialkyltin-solvent phase is treated for recovery of the dialkyltin, which can then be treated with atmospheric oxygen to yield the corresponding dialkyltin oxide. Such oxides are effective rodenticides and insecticides and are intermediates in the preparation of thermal stabilizers for polyvinyl chloride.

3,376,330
ALKOXYALKYLMERCURY, ALKYLMERCURY CITRATES

Gustav Thomann, Riehen, Basel-Stadt, Switzerland, and Fred Kuhnen, Weil am Rhein, Germany, assignors to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland
No Drawing. Filed Nov. 18, 1964, Ser. No. 412,219
Claims priority, application Switzerland, Nov. 25, 1963, 14,383/63
3 Claims. (Cl. 260—432)

Compounds of the type of e.g.



$$\left.\begin{array}{l}CH_2—COO\\ HO—\overset{|}{\underset{|}{C}}—COO\\ CH_2—COO\end{array}\right|\begin{array}{l}—HgCH_2CH_2OC_2H_5\\ —Hg—CH_3\\ —H\ (\text{or Na})\end{array}$$

are useful as active fungicidal compounds in steeping agents for the treatment of seeds.

3,376,331
PREPARATION OF ALUMINUM CYCLOPENTADIENYL COMPOUNDS

Wolfram R. Kroll, Linden, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Oct. 30, 1963, Ser. No. 319,985
6 Claims. (Cl. 260—448)

Aluminum compounds are directly reacted with cyclopentadiene to form aluminum cyclopentadienyl compounds at temperatures ranging from 120–350° C., the cyclopentadiene being diluted in an inert gas stream.

3,376,332
PROCESS FOR THE CATALYTIC SYNTHESIS OF METHANOL

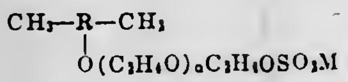
Takashi Eguchi and Tamotchika Yamamoto, Niigata-shi, Saburo Yamauchi, Tokyo, and Michio Kuraishi and Kazuo Asakawa, Niigata-shi, Japan, assignors to Japan Gas-Chemical Company, Inc., Tokyo, Japan
No Drawing. Original application Apr. 23, 1963, Ser. No. 274,946, now Patent No. 3,256,208, dated June 14, 1966. Divided and this application Feb. 17, 1966, Ser. No. 528,049
1 Claim. (Cl. 260—449.5)

1. A process for synthesizing methanol from carbon oxides and hydrogen comprising reacting gases containing carbon oxides and hydrogen at a temperature of between 200 and 400° C. and a pressure of at least 150 kg./cm.^{2} in the presence of a catalyst which is prepared by forming a homogeneous paste consisting essentially of basic cuprammonium chromate which has been decomposed at a temperature between 250° C. to 700° C., an aqueous solution of chromic acid and a substance selected from the group consisting of zinc oxide, zinc acetate and zinc hydroxide, drying said mixture to obtain a dried product, shaping said dried product, and reducing the thus shaped product at a temperature from 170° C. to 350° C.

3,376,333
SULFURIC ACID ESTERS OF LINEAR SECONDARY ALCOHOL ETHOXYLATES AND SALTS THEREOF AND METHOD OF PRODUCING SAME

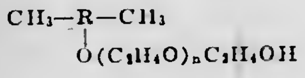
Robert Ernst and Majda Comar, Los Angeles, Calif., assignors to Textilana Corporation, Hawthorne, Calif., a corporation of California
No Drawing. Filed Nov. 16, 1964, Ser. No. 411,571
10 Claims. (Cl. 260—458)

A composition of matter consisting essentially of sulfuric acid esters of ethoxy linear saturated alcohols having the general formula



$$\begin{array}{l}CH_3-R-CH_3\\ \quad\ \ |\\ \quad\ \ O(C_2H_4O)_nC_2H_4OSO_3M\end{array}$$

where R is a linear unsubstituted alkyl chain of from about 6 to about 18 carbon atoms, *n* is a number from 0 up to about 19 and M is chosen from the group consisting of NH_4, lower alkanol amines, and alkali metals, said composition having an activity percent in excess of about 90% on a 100% solids basis, and a percent impurity of less than about 8% on a 100% solids basis and a process for making the above composition in which M is the ammonium ion by reacting an alcohol having the formula



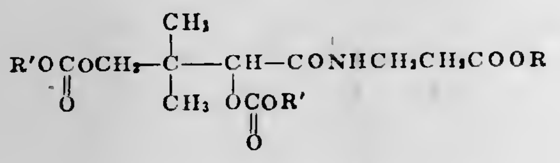
$$\begin{array}{l}CH_3-R-CH_3\\ \quad\ \ |\\ \quad\ \ O(C_2H_4O)_nC_2H_4OH\end{array}$$

in which R and *n* have the meaning given above, with sulfamic acid and subsequently, if desired, replacing the ammonium ion with an alkali metal or a lower alkanol amine by heating the ammonium salt with an alkali metal containing base, or an alkanol amine, the product being useful as a detergent in shampoos or cosmetic preparations.

3,376,334
CARBONIC ACID ESTERS OF PANTOTHENIC ACID

Kanjiro Kobayashi, Hishinomiya, and Mitsuo Matsumoto, Chofu, Japan, assignors to Nikko Chemical Kabushiki Kaisha, Chuo-ku, Tokyo, Japan, a corporation of Japan
No Drawing. Filed June 17, 1965, Ser. No. 464,827
Claims priority, application Japan, July 1, 1964, 39/36,964
1 Claim. (Cl. 260—463)

The compound is in the class of carbonic acid esters of pantothenic acid, is useful as a cosmetic aid and is an α,γ-dicarboalkoxy-pantothenic acid ester represented by the general formula



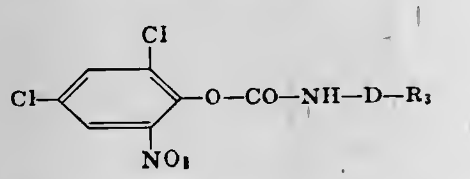
$$R'O\underset{\underset{\displaystyle O}{\|}}{C}OCH_2-\overset{\overset{\displaystyle CH_3}{|}}{\underset{\underset{\displaystyle CH_3}{|}}{C}}-\underset{\underset{\displaystyle O\underset{\underset{\displaystyle O}{\|}}{C}OR'}{|}}{CH}-CONHCH_2CH_2COOR$$

wherein R is a methyl or ethyl radical and R′ is a methyl, ethyl, propyl or isopropyl radical.

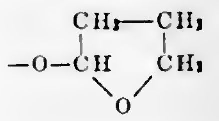
3,376,335
CARBAMIC ACID ESTERS

Karl Goliasch and Heinrich Pelster, Leverkusen, Ernst Muhlbauer and Rudolf Heiss, Cologne-Stammheim, and Hans Scheinpflug, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Jan. 5, 1965, Ser. No. 423,596
Claims priority, application Germany, Jan. 25, 1964, F 41,833
5 Claims. (Cl. 260—479)

1. A compound of the formula



wherein D is alkylene of 1–8 carbon atoms and R_3 is a member selected from the group consisting of alkoxy of 1–10 carbon atoms, chloro, cycloalkoxy of 5–6 carbon atoms in the ring, alkyl mercapto of 1–4 carbon atoms and



3,376,336
PROCESS FOR THE MANUFACTURE OF SURFACE ACTIVE OLEFIN SULFONATES

Werner Stein, Erkrath-Unterbach, and Horst Baumann, Hilden, Rhineland, Germany, assignors to Henkel & Cie. G.m.b.H., Dusseldorf-Holthausen, Germany, a corporation of Germany
No Drawing. Filed Jan. 7, 1965, Ser. No. 424,142
Claims priority, application Germany, Mar. 12, 1964, H 52,029; Aug. 24, 1964, H 53,620
9 Claims. (Cl. 260—513)

A process is disclosed for preparing substantially color free olefin sulfonates which comprises sulfonating a hydrocarbon mixture composed of at least 90% C_{8-22} olefins by the procedure of reacting the said olefin in a first stage with a sulfur trioxide-inert gas mixture and thereafter in a second stage completing the sulfonation by reacting the sulfonation product from the first stage with chlorosulfonic acid. The total amount of sulfonating agent employed in both stages amounts to 1.1 to 1.5 mols per mol of olefin; 0.65 to 1.05 mol of gaseous sulfur trioxide per mole of olefin being employed in the first stage and from 0.2 to 0.6 mol of chlorosulfonic acid per mol of olefin being utilized in the second stage. The final reaction product is thereafter hydrolyzed, the resulting product being a substantially color free olefin sulfonate.

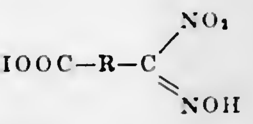
3,376,337
PREPARATION OF DICARBOXYLIC ACID MONOAMIDES

Bernard Pierre Brossard, Lyon, France, assignor to Rhone-Poulenc S.A., Paris, France, a French body corporate
No Drawing. Filed Oct. 22, 1965, Ser. No. 502,578
Claims priority, application France, Oct. 30, 1964, 993,386
9 Claims. (Cl. 260—534)

1. Process for the preparation of an aliphatic dicarboxylic acid monoamide of the formula:

$$HOOC—R—CONH_2$$

in which R is a polymethylene radical of 2 to 10 carbon atoms, which comprises hydrogenating a nitrolic acid of formula:



$$HOOC-R-C\begin{array}{l}\diagup NO_2\\ \diagdown\!\!\diagdown NOH\end{array}$$

where R is as hereinbefore defined, under superatmospheric hydrogen pressure in the presence of a hydrogenation catalyst and enough of a base to give a substantially neutral reaction mixture, the temperature being initially not above ambient temperature and being raised during the course of the reaction to 100° to 120° C.

3,376,338
SULFOXIMINES

Donald J. Anderson, San Anselmo, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed Sept. 1, 1965, Ser. No. 484,424
3 Claims. (Cl. 260—551)

Sulfoximines having one aliphatic hydrocarbon group of at least 30 carbon atoms find use as lubricating oil detergents.

3,376,339
PURIFICATION OF AMPHOTERIC AND BASIC ANTIBIOTICS

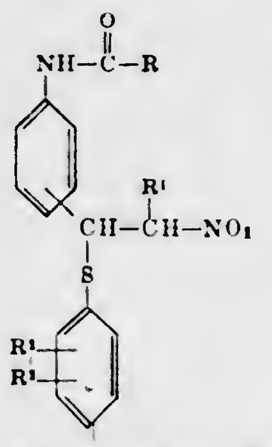
Gert Svanholm, Lyngby, Denmark, assignor to Novo Terapeutisk Laboratorium A/S, Copenhagen, Denmark
No Drawing. Filed June 10, 1963, Ser. No. 286,451
Claims priority, application Great Britain, June 12, 1962, 22,584/62
6 Claims. (Cl. 260—559)

1. A process for the purification of an impure antibiotic selected from the group consisting of tetracycline, polymyxin B and streptomycin comprising contacting the antibiotic with a no more than sparingly water-miscible organic solvent for said antibiotic, said contacting taking place while said antibiotic is in the presence of at least one organic ester selected from the group consisting of organic acid esters and organic acid ester salts of phosphorous acid, said organic acid esters having at least one dissociable hydrogen ion and said organic acid ester salts having at least one dissociable metal ion, each organic radical of said organic esters being a saturated hydrocarbon having at least 4 carbon atoms and being hydrophobic, whereby the antibiotic in essentially pure form is transferred to the solvent.

3,376,340
SUBSTITUTED CARBOXANILIDES

Louis F. Cason, St. Paul, Minn., assignor to Tuskegee Institute, Tuskegee, Ala., a corporation of Alabama
No Drawing. Filed Nov. 23, 1965, Ser. No. 509,409
2 Claims. (Cl. 260—562)

1. A compound of the formula:



wherein R is a member selected from the group consisting of hydrogen and lower alkyl containing 1 to 3 carbon atoms inclusive, R^1 is a member selected from the group consisting of hydrogen and methyl, and R^2 and R^3 are members selected from the group consisting of hydrogen and lower alkyl containing 1 to 4 carbon atoms inclusive.

3,376,341
PREPARATION OF N,N-DIMETHYLCYCLOHEXYLAMINE

Carl Robert Bauer, Elkton, Md., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Nov. 5, 1964, Ser. No. 409,311
4 Claims. (Cl. 260—563)

Catalytic hydrogenation of N,N-dimethylaniline to N, N-dimethylcyclohexylamine at elevated temperature and pressure. Pressure is reduced during the operation by the release of vapors. Additional hydrogen is then supplied to re-establish pressure and continue the reaction.

3,376,342
PROCESS FOR THE PREPARATION OF OXIME CARBAMATES

Bernard Loev, Broomall, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Continuation-in-part of application Ser. No. 285,594, June 5, 1963. This application Aug. 24, 1966, Ser. No. 574,812
3 Claims. (Cl. 260—566)

Process of preparing oxime carbamates by reacting an oxime with an excess of an alkali metal cyanate and an excess of trifluoroacetic acid in a non-aqueous medium at about 15–50° C. Stereoisomeric oximes are stereospecifically converted to the oxime carbamates by this process.

3,376,343
SALTS AND ACIDS CONTAINING THE $B_{10}H_{12}CH^-$ OR $B_{10}H_{10}CH^-$ ANION

Walter H. Knoth, Jr., Mendenhall, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed May 3, 1966, Ser. No. 547,153
9 Claims. (Cl. 260—567.6)

1. A compound selected from the class consisting of

$$M[B_{10}H_{12}CH] \text{ and } M[B_{10}H_{10}CH]$$

wherein $[B_{10}H_{12}CH]$ and $[B_{10}H_{10}CH]$ are anions of valence −1, and M is a cation selected from the class consisting of hydrogen, an alkali metal, one equivalent of an alkaline-earth metal, ammonium, aliphatically saturated hydrocarbyl-substituted ammonium, and tri(aliphatically saturated hydrocarbyl-substituted) sulfonium.

9. Process for preparing compounds of the formula

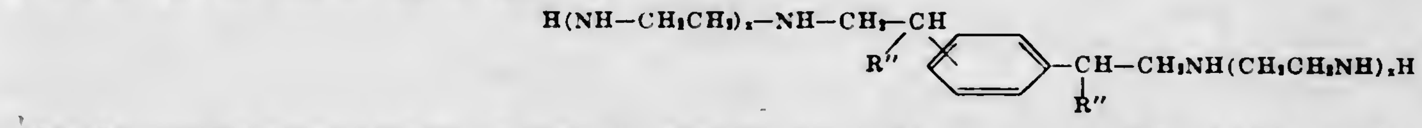
$$M[B_{10}H_{12}CH] \text{ and } M[B_{10}H_{10}CH]$$

wherein M is sodium, lithium or potassium, which comprises reacting a compound of the formula $B_{10}H_{12}CNR_2$ wherein each R is of up to 18 carbon atoms and is alkyl, cycloalkyl or aralkyl, bonded to the nitrogen through carbon bearing at least one hydrogen; with sodium, lithium or potassium in an inert solvent at a temperature of between 35 and 150° C.

3,376,344
N,N′-BIS-(2-AMINOETHYL)-1,3-BIS (2-AMINOALKYL) BENZENES

Robert E. Lane and William P. Frazier, Lake Jackson, Tex., and Otis C. Dermer, Stillwater, Okla., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Apr. 3, 1964, Ser. No. 357,310
2 Claims. (Cl. 260—570.5)

1.



wherein wherein R″ is —H or —CH_3 and *x* is an integer 1–4.

3,376,345
PROCESS FOR PREPARING POLY FLUORO ANILINES AND PHENOLS

Harold Crosbie Fielding, Northwich, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Sept. 2, 1964, Ser. No. 394,051
Claims priority, application Great Britain, Sept. 19, 1963, 36,912/63
4 Claims. (Cl. 260—577)

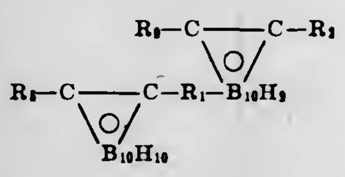
1. A process for replacing chlorine atoms in fluorochlorobenzenes with substituents selected from the group consisting of hydroxyl, amino and alkylamino comprising heating a fluorochlorobenzene with a substance chosen

respectively from the group consisting of water, ammonia, methylamine or ethylamine in the presence of a copper compound selected from cuprous chloride, cupric chloride or cuprous oxide at a temperature of 150° C. to 400° C.

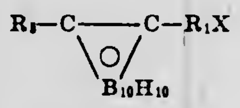
3,376,346
BORON-CONTAINING COMPOUNDS AND METHOD FOR MAKING THE SAME

Nelson N. Schwartz, East Trenton, and Marvin M. Fein, Westfield, N.J., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
No Drawing. Filed Dec. 1, 1964, Ser. No. 415,167
5 Claims. (Cl. 260—606.5)

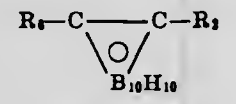
Polycarboranyl compounds of the formula



where R_1 is a saturated hydrocarbon and R_2, R_5, and R_6 are each hydrogen or alkyl. The compounds are prepared by reacting a haloalkylcarborane



where X is halogen, with a carborane



3,376,347
MONO- AND DI-C-HALOGENATED META- AND PARACARBORANE

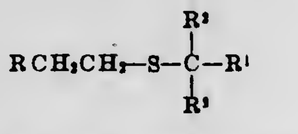
Marvin M. Fein, Westfield, and Murray S. Cohen, Morristown, N.J., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
No Drawing. Filed Dec. 2, 1964, Ser. No. 415,489
30 Claims. (Cl. 260—606.5)

Halogenated carborane compositions, in particular the meta- and paraisomers thereof and processes for their preparation. The compositions are useful as organic intermediates in general, and in particular as a reactant with other compositions to form thermally stable, acid and alkali resistant polymeric materials.

3,376,348
PREPARATION OF ALKYL SULFIDES

George B. Stratton, Lewiston, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Filed Feb. 12, 1964, Ser. No. 344,239
11 Claims. (Cl. 260—609)

1. A process for the preparation of an organic sulfide of the formula

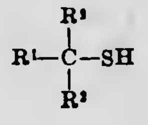


$$RCH_2CH_2-S-\overset{R^2}{\underset{R^3}{C}}-R^1$$

which comprises reacting a compound of the formula

$$RCH=CH_2$$

with a compound of the formula



$$R^1-\overset{R^2}{\underset{R^3}{C}}-SH$$

in the presence of an azo catalyst of 6 to 20 carbon atoms; wherein the substituents R, R^1, R^2 and R^3 are alkyl radicals of 1 to 20 carbon atoms.

3,376,349
PRODUCTION OF DICHLOROCARBENE ADDUCTS

Herman A. Bruson, Woodbridge, and Howard L. Plant, Milford, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
No Drawing. Filed Aug. 25, 1966, Ser. No. 574,950
14 Claims. (Cl. 260—611)

1. A method for preparing dichlorocarbene adducts of olefines which comprises heating chloroform and an olefinic dichlorocarbene acceptor with aqueous alkali metal hydroxide containing initially from 0.1 to 1.0 mole of water per mole of alkali metal hydroxide, in the presence of a saturated tertiary aliphatic monohydric alcohol having 4 to 5 carbon atoms.

3,376,350
CHLORINATED PHENYL ETHER

Richard Y. Wen, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Sept. 9, 1965, Ser. No. 486,199
1 Claim. (Cl. 260—612)

1. Bis(α,α,α-trichloro-p-tolyl) ether.

3,376,351
PROCESS FOR PRODUCING METHOXYPHENOL OR ETHOXYPHENOL

Garabed Amedjian, Noël Crenne, and Jacques Eugene Gabriel Morel, Lyon, France, assignors to Rhone-Poulenc S.A., Paris, France, a French body corporate
No Drawing. Filed Apr. 6, 1966, Ser. No. 540,489
Claims priority, application France, Apr. 9, 1965, 12,681
7 Claims. (Cl. 260—613)

Methoxyphenol and ethoxyphenol are prepared by oxidizing anisole or phenetole with an unsubstituted alkanoic acid having 1–4 carbon atoms and discontinuing reaction when not more than 6% of the anisole or phenetole has been oxidized.

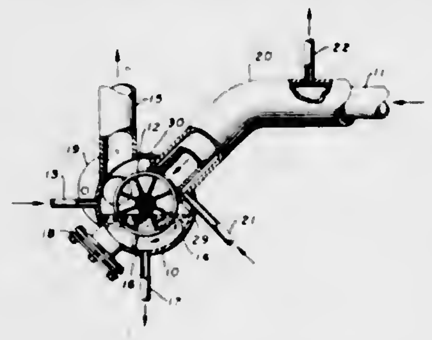
3,376,352
PROCESS FOR PRODUCING HYDROQUINONE FROM p-DIALKYL - BENZENE-BIS-HYDROPEROXIDES

Benito Domenicali and Gustavo Canti, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy
Filed Feb. 10, 1964, Ser. No. 343,868
Claims priority, application Italy, Feb. 21, 1963, 3,568/63
8 Claims. (Cl. 260—621)

1. A process for producing hydroquinone by decomposition in acid medium of a p-dialkyl-benzene-bis-hydroperoxide selected from the group consisting of p-diisopropyl - benzene-bis-hydroperoxide and p-di-sec-butylbenzene-bis-hydroperoxide, comprising gradually introducing the p-dialkyl-benzene-bis-hydroperoxide into a reaction mixture consisting of a non-aqueous solvent selected from the group consisting of benzene, toluene and xylene, in which the side products formed during the decomposition are soluble and the hydroquinone formed is insoluble, and of an acid catalyst, said solvent for the side products having a higher boiling point than that of the ketone that forms, neutralizing the decomposition mixture and recovering the insoluble hydroquinone from the solvent by mechanical means.

3,376,353
RECOVERY OF GLYCOLS FROM POLYESTER PRODUCTION

John E. Tate, Greenville, S.C., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Continuation-in-part of application Ser. No. 371,689, June 1, 1964. This application Mar. 17, 1967, Ser. No. 623,857
4 Claims. (Cl. 260—637)



Ethylene glycol vapors containing glycol-insoluble materials are condensed on a drum cooled and wetted by liquid glycol. The drum is scraped after the hot vapors impinge on it to remove any solid matter, and wetted with liquid glycol before re-contacting with the hot vapors.

3,376,354
SEPARATION PROCESS FOR CYCLIC OLEFINS

Wolfram R. Kroll, Linden, and Robert B. Long, Atlantic Highlands, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Sept. 24, 1965, Ser. No. 490,109
10 Claims. (Cl. 260—666)

1. A process for separation cyclic olefins selected from the group consisting of cyclic diolefins, cyclic triolefins, and mixtures thereof contained in a feedstream hydrocarbon mixture which comprises contacting said mixture with porous sorption active cuprous halide sorbent particles having a porosity of about 10% (of the total volume of a particle) 550 to 10,000 A. pores at temperature and pressure conditions sufficient to form a complex with the more reactive cyclic olefin.

3,376,355
PREPARATION OF 1,5,9-CYCLODODECATRIENE

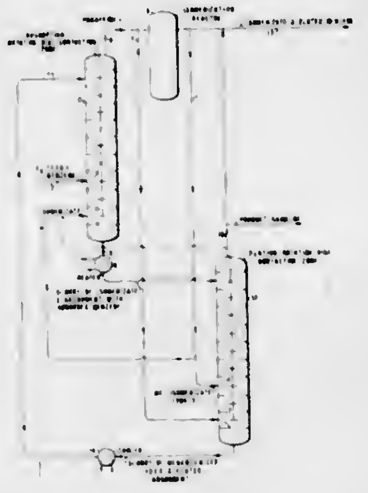
Cornelis E. P. V. van den Berg, Geleen, Netherlands, assignor to Stamicarbon N.V., Heerlen, Netherlands
No Drawing. Filed Feb. 10, 1966, Ser. No. 526,398
Claims priority, application Netherlands, Feb. 12, 1965, 65—1,739
6 Claims. (Cl. 260—666)

An improved process for the production of 1,5,9-cyclododecatriene by the trimerization of butadiene with high yields and reduced formation of high molecular weight products, is disclosed. The catalyst is prepared by reacting titanium tetrachloride with an alkyl aluminum compound and thereafter adding aluminum trichloride to the reaction product. Water in an amount of less than 3 moles per mole of titanium tetrachloride is added to the catalyst.

3,376,356
SORPTION PROCESS

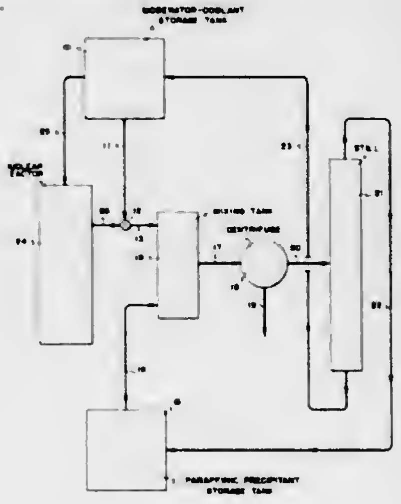
Ernest R. Freitas, San Leandro, Carl H. Deal, Jr., Orinda, and Richard K. Griep, Berkeley, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed June 18, 1962, Ser. No. 203,051
8 Claims. (Cl. 260—674)

8. In an adsorption process for removing benzene from a liquid hydrocarbon isomerization feed comprising benzene, naphthenes, and paraffins wherein the benzene is selectively adsorbed on silica gel in an adsorption zone, the isomerization feed is recovered from the adsorption zone free of benzene and the silica gel is regenerated by desorbing the benzene from the adsorbent with isomerizate in a desorption zone; the improvement which comprises (1) contacting, in an amount sufficient to replace the paraffins and naphthene components of the isomerization feed retained in the adsorbent during adsorption, the silica gel containing the adsorbed benzene with an isomerizate containing benzene, whereby a further amount of the paraffins and the naphthenes of the isomerization feed are withdrawn from the silica gel without substantially changing the amount of benzene present on the silica gel, and (2) contacting during desorption, the silica gel containing the isomerizate desorbent with a benzene-free, paraffin and naphthene containing hydrocarbon isomerization feed stream in an amount sufficient to replace the isomerizate desorbent from the silica gel.



3,376,357
PURIFICATION AND RECLAMATION OF MODERATOR-COOLANTS

James F. Black, Convent Station, N.J., assignor, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
Continuation-in-part of application Ser. No. 124,189, July 14, 1961. This application Jan. 27, 1966, Ser. No. 532,497
5 Claims. (Cl. 260—674)


MODERATOR-COOLANT STORAGE TANK
MIXING TANK
CENTRIFUGE
STILL
PARAFFINIC PRECIPITANT STORAGE TANK

1. A method of removing high-boiling polymers having molecular weights above 300 from a nuclear reactor coolant which is an aromatic hydrocarbon liquid that

boils principally within the range of about 550° to 800° F. and contains polynuclear aromatic hydrocarbons having average molecular weights of 180 to 260, said polymers having been formed by radiolysis and pyrolysis of hydrocarbons in said liquid and being colloidally dispersed in said liquid, which comprises contacting said liquid containing the polymers with a C_3 to C_{12} paraffinic hydrocarbon liquid admixed as a precipitant in an amount to cause said polymers to coagulate into solid agglomerates at temperatures above 100° F. under a pressure which maintains the paraffinic hydrocarbon in liquid phase, separating said solid agglomerates of the polymers from the resulting liquid mixture of aromatic hydrocarbons and precipitant at above 100° F., distilling of paraffinic precipitant from said aromatic hydrocarbon liquid which remains unvaporized to recover aromatic liquid freed of the high-boiling polymers for reuse as nuclear reactor coolant.

3,376,358

PREPARATION OF ALIPHATIC TRIENES

Wolfgang Schneider, Broadview Heights, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Sept. 28, 1965, Ser. No. 491,020

8 Claims. (Cl. 260—677)

1,4,9-decatrienes are prepared by reacting a conjugated diene such as butadiene or isoprene with ethylene in the presence of a catalyst formed by reacting together a reducible compound of nickel with a reducing agent such as alkali, alkaline earth and aluminum metals, hydrides, alkoxides and alkyls thereof, and a sulfone.

3,376,359

PREPARATION OF DECATRIENES

Wolfgang Schneider, Broadview Heights, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Sept. 28, 1965, Ser. No. 491,025

5 Claims. (Cl. 260—677)

Aliphatic trienes, 1,4,9-decatriene and dimentyl-1,4,9-decatriene, are prepared by reacting ethylene with butadiene or isoprene in the presence of a bisacrylonitrile nickel, bisfumaronitrile nickel, biscinnamonitrile nickel or bisacrolein nickel catalyst. These trienes are useful as third monomers to introduce unsaturation into polymers of ethylene and propylene.

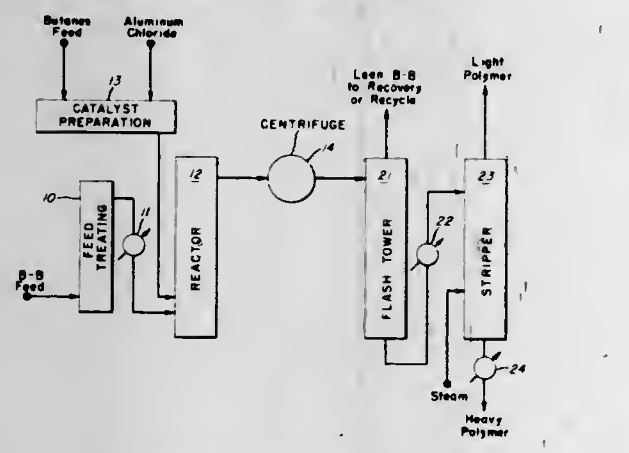
3,376,360

PROCESS EMPLOYING CENTRIFUGAL SEPARATION OF A CATALYST COMPLEX FROM POLYMERIZED HYDROCARBONS

James M. Feezel, Edwardsville, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed Nov. 27, 1963, Ser. No. 326,585

7 Claims. (Cl. 260—683.15)



4. In the process which comprises polymerizing normally gaseous olefins in a polymerization zone with Friedel-Crafts catalyst, whereby there is formed olefin polymer in admixture with Friedel-Crafts catalyst-hydrocarbon complex, withdrawing from said polymerization zone the admixture of said polymer and said complex and separating said admixture, the improvement which comprises separating said admixture by centrifuging immediately upon withdrawal of said admixture from said polymerization zone and introducing water into a separated complex phase during centrifuging so as to decompose and dissolve a substantial part of said complex.

3,376,361

FORMALDEHYDE BLOCK COPOLYMERS

George W. Halek, New Providence, Frank M. Berardinelli, South Orange, and Charles M. Hendry, Berkeley Heights, N.J., assignors to Celanese Corporation, a corporation of Delaware

No Drawing. Filed June 24, 1963, Ser. No. 290,157

11 Claims. (Cl. 260—823)

1. A method of producing a stable polymer having successively recurring oxymethylene groups interspersed with divalent comonomeric groups having adjacent carbon atoms which comprises passing a mixture of formaldehyde and a comonomer into a reaction zone in the presence of an inert liquid solvent and a cationic catalyst, said comonomer having adjacent carbon atoms and being capable of copolymerization with formaldehyde in the presence of said cationic catalyst and said mixture containing from about 0.5 to about 4 mols of formaldehyde per mol of comonomer, reacting said mixture in said reaction zone to produce a prepolymer containing substantially all the comonomer to be incorporated into the final polymer product and thereafter introducing additional formaldehyde sufficient to result in a total oxymethylene content in the final polymer product of at least about 85% by weight into said reaction zone and reacting said formaldehyde with said prepolymer to produce a polymer product of high molecular weight.

3,376,362

CARBOXYLATION OF HYDROCARBON RESINS

Roby Bearden, Jr. and Lloyd Albert Pine, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Apr. 13, 1965, Ser. No. 447,885

12 Claims. (Cl. 260—888)

Petroleum resins are made to compete with natural rosin by reaction with carbon monoxide in presence of a Lewis acid catalyst such as Koch acid ($H_3PO_4 \cdot BF_3 \cdot H_2O$ in which the $H_3PO_4:BF_3$ molar ratio is between 0.8:1.2 and 1.2:0.8 and the water content of between 5 and 11% by weight).

3,376,363

PROCESS FOR CRUMB SLURRY BLENDING AFTER RECOVERY IN POLYBUTADIENE PRODUCTION

Norman F. McLeod, Nederland, Tex., assignor to Texas-U.S. Chemical Company, Parsippany, N.J., a corporation of Delaware

No Drawing. Filed Mar. 26, 1963, Ser. No. 267,917

4 Claims. (Cl. 260—894)

1. The process of preparing polymer blends starting with polymer crumb which comprises forming individual polymers in solid finely divided crumb form as aqueous slurries, blending the aqueous slurries in appropriate quantities to obtain compositions having desired physical properties, separating the blended solids and drying said solids.

3,376,364

POLYPHOSPHITE STABILIZERS FOR POLYMERIC MATERIALS

Millard S. Larrison, Livingston, N.J., assignor to Weston Chemical Corporation, Newark, N.J., a corporation of New Jersey

No Drawing. Application Jan. 24, 1966, Ser. No. 522,395, now Patent No. 3,341,629, dated Sept. 12, 1967, which is a continuation-in-part of applications Ser. No. 366,891, May 12, 1964, and Ser. No. 376,202, June 18, 1964. Divided and this application June 29, 1967, Ser. No. 649,817

The portion of the term of the patent subsequent to Sept. 12, 1984, has been disclaimed

27 Claims. (Cl. 260—899)

Polymeric phosphites are prepared by reacting a hydrogenated dihydric phenol or an aromatic dihydric alcohol with a tertiary alkyl, aryl or haloaryl phosphite and stopping the condensation when 50 to 90%, most preferably 65 to 75%, of the theoretical amount of monohydric alcohol or phenol is formed. The most preferred material is that made from hydrogenated bisphenol A and triphenyl phosphite in which the product obtained has 6.3 to 6.8% phosphorus. The phosphites are useful in stabilizing halogen containing polymers (particularly vinyl chloride resins) and hydrocarbon polymers and are also useful as flame proofing agents for hydrocarbon polymers, cellulose and cellulose esters.

3,376,365

PHOSPHINOTHIOATE ESTER

Thomas M. Melton, Richmond, Va., assignor to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Dec. 28, 1964, Ser. No. 421,707

10 Claims. (Cl. 260—941)

Phosphinothioate esters having at least one alkyl bound to phosphorus through a sulfur atom, and also having one alkyl bound directly to phosphorus are provided. The new compounds are useful as insecticide.

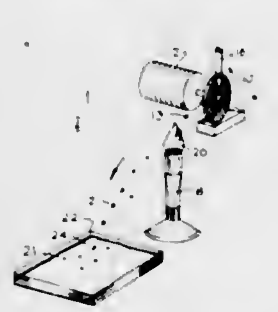
3,376,366

PROCESS FOR PRODUCING ORGANIC POLYMERIC FLEXIBLE CELLULAR FOAMED PARTICLES

**John M. Clark, 1872 Banbury,
Birmingham, Mich. 48010**

Filed Oct. 22, 1965, Ser. No. 502,204

7 Claims. (Cl. 264—51)



1. A process for producing organic polymeric flexible cellular foamed particles comprising the steps of making a mixture of blowing agent and liquid plastisol having the consistency of sprayable paint, forming the resulting mixture into tiny droplets and propelling said droplets through an open flame, cooling and collecting said droplets after they pass through said open flame.

3,376,367

METHOD OF MANUFACTURING A SPARK GAP SEMICONDUCTOR

Bettadapur S. Subramanya, Richmond, Va., and John W. Riddel, Fenton, and Karl Schwartzwalder, Holly, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

No Drawing. Filed Aug. 16, 1965, Ser. No. 480,182

8 Claims. (Cl. 264—57)

A method of manufacturing a spark gap semiconductor body from a uniform mixture of silicon carbide particles having a particle size of 400 mesh or finer and metal silicate particles such as aluminum silicate is disclosed. The mixture is formed into an article of the desired shape. The article is then embedded in a mass of silicon carbide particles and fired at a temperature ranging from 2600° F. to about 3150° F.

3,376,368

METHOD OF BONDING SHOE UPPERS TO RUBBER SOLES

Charles Giannone, Brooklyn, N.Y., and Dale Marsh, Maumee, Ohio, assignors to Interchemical Corporation, New York, N.Y., a corporation of Ohio

No Drawing. Filed Mar. 5, 1965, Ser. No. 437,596

1 Claim. (Cl. 264—135)

A process for coating a shoe upper with a calendered curable composition of sulfur-curable rubber and top-coating this with a vinyl copolymer coating composition and bonding the upper to butadiene-acrylonitrile rubber soles by means of the curing step for the soles, in the absence of migratory plasticizers.

3,376,369

PROCESS FOR MAKING MOLECULAR ORIENTED FIBERS OF POLYMERIZED LACTAMS

Charles Frank Fisher, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 13, 1964, Ser. No. 351,859

4 Claims. (Cl. 264—176)

Polymerizing an ω-lactam having 5 to 12 carbon atoms, e.g., ε-caprolactam, at a temperature below the crystalline melting point of the resulting polymerized ω-lactam, e.g., poly-ε-caprolactam, by mixing said lactam with from 0.5 to 5 mole percent of an anionic catalyst and from 0.01 to 2 mole percent of an acyclic cocatalyst and maintaining the mixture for a time sufficient to effect polymerization of from 70 to 90% of the monomer. Immediately after polymerization, and prior to crystallization, the partially polymerized material is extruded into fibers having a diameter less than about 20 mils and the temperature of the polymer during extrusion is from 10° to 40° C. below its crystalline melting point.

3,376,370

VINYLIDENE FLUORIDE YARNS AND PROCESS FOR PRODUCING THEM

Francis F. Koblitz, Erdenheim, and Robert G. Petrella, Philadelphia, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

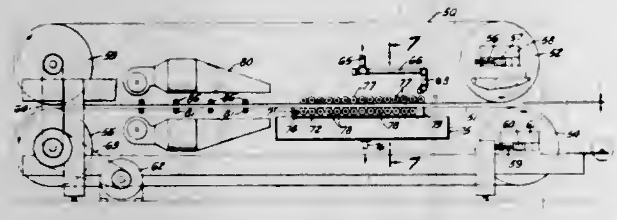
No Drawing. Original application Mar. 14, 1963, Ser. No. 265,036. Divided and this application July 7, 1964, Ser. No. 386,810

4 Claims. (Cl. 264—184)

A high-tenacity polyvinylidene fluoride yarn is prepared by spinning a solution of polyvinylidene fluoride in a solvent consisting essentially of a mixture of an amide and a ketone into a coagulation bath consisting essentially of a mixture of water and a ketone wherein the polyvinylidene fluoride coagulates to form filaments, vaporizing all solvent and water from the filaments, and orienting same by drawing.

3,376,371
CONTINUOUS CASTING PROCESS

Charles J. Opel, Huntington Beach, and Paul H. Bottoms, Hollywood, Calif., assignors to Swedlow, Inc., Garden Grove, Calif., a corporation of California
Filed Sept. 28, 1965, Ser. No. 490,945
10 Claims. (Cl. 264—216)



1. A process for preparing substantially rigid sheets and the like which comprises passing a fluid composition comprising a polymerizable organic monomer between and in contact with two moving surfaces, providing a pair of seals between said surfaces such that said fluid composition is confined in a space bounded on two opposing sides by said seals, allowing said fluid to fill the cavity defined by said surfaces and said seals, passing said composition and moving surfaces through at least one zone in which said composition is subjected to conditions which cause said monomer to polymerize, one of said surfaces being disposed above the other of said surfaces in said zone, said upper surface being of such a size and weight that it would bow downwardly into said fluid and toward said second surface if said surfaces were horizontal in said zone, maintaining the path of said surfaces through said zone at an incline to the horizontal to cause a fluid head to be developed by said fluid composition, said incline being sufficient for the fluid pressure between said surfaces to maintain said surfaces substantially parallel to each other and the spacing between said surfaces at a predetermined distance, bringing said surfaces together to an extent sufficient to compensate for any shrinkage of the composition during polymerization such that said surfaces are maintained in contact with said composition during polymerization, and removing the resultant polymerized sheet from both of said surfaces.

3,376,372
PROCESS OF FORMING CLOSURE SEALS

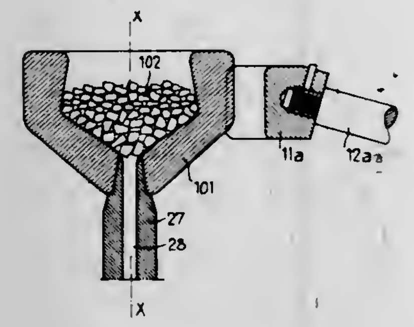
Don Raymond Kuespert, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed July 27, 1964, Ser. No. 385,501
3 Claims. (Cl. 264—268)

A process for forming closure seals for use in sealing containers of liquids and gases under pressure, which process comprises introducing into a closure structure a comminuted solid mixture comprising a highly-gelled elastomer and pressing said solid mixture with an opposed surface under at least about 50 p.s.i. pressure for about 2 to 10 seconds at a temperature between about 125° to 225° C. to form a solid pad.

ELECTRICAL

3,376,373
ELECTRIC GLASSMAKING FURNACE

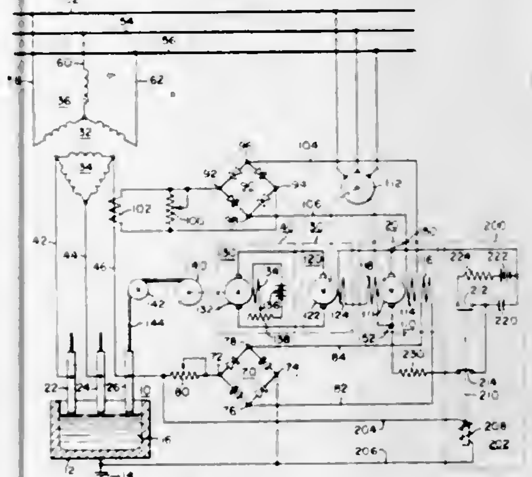
Jacques Marie Yves le Clerc de Bussy, Paris, France, assignor to Verreries Pochet et du Courval, Paris., France. a French body corporate
Filed Mar. 10, 1965, Ser. No. 438,574
Claims priority, application France, Mar. 17, 1964, 967,754
3 Claims. (Cl. 13—6)



1. An electric glassmaking furnace comprising a trough having a chamber, a refining device disposed in the trough in the hottest region of the chamber, said device comprising means for withdrawing in the course of the continuous pouring a portion of the molten glass in said region and thus removing it from the large movements due to the convection currents prevailing in the chamber, means for subjecting said portion to a rapid rise of temperature so as to diminish the viscosity and increase the size of the bubbles which are thus separated from the fine glass, means for discharging the fine glass thus obtained to the exterior as production thereof proceeds, and means for returning to the bath inside the furnace the thus-separated bubbles, said refining device comprising a single element disposed between electrodes, said element being unconnected to any source of voltage.

3,376,374
POLYPHASE ARC FURNACE WITH CONTROL SYSTEM TO RAISE ONE ELECTRODE PRIOR TO ALL ELECTRODES STRIKING AN ARC

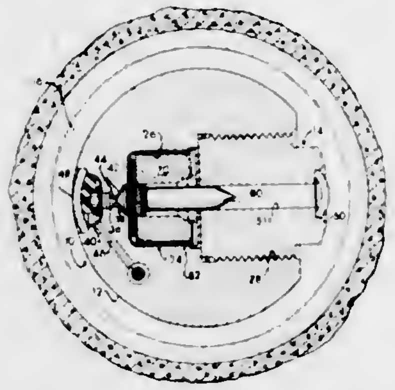
Powell O. Bobo, Wilkinsburg, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 30, 1964, Ser. No. 407,813
7 Claims. (Cl. 13—13)



A control and protective system for the electrodes of a polyphase electric arc furnace. The loss of voltage between the first electrode to contact the melt upon start-up of the furnace, is used as a signal to activate means which prevents further downward movement of this electrode. Electrode breakage is thus prevented during the start-up period of an electric arc furnace, when conventional control is ineffective due to the absence of arc current.

3,376,375
COMBINED PROPELLANT CHARGE AND BULLET UNIT FOR WELL

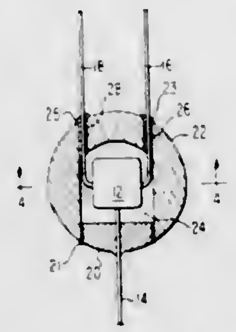
Forrest V. Porter, Houston, Tex., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Oct. 23, 1965, Ser. No. 503,521
7 Claims. (Cl. 175—4.58)



A combined propellant charge and bullet unit assembly for use in bullet perforating guns wherein the assembly includes a cup-shaped housing having an opening in the bottom thereof, a contact base disposed in the bottom of the cup-shaped case and covering the opening and adapted to engage an ignition member carried by the gun, a filament wire operably connected with the contact base and connected with a strap grounding the filament wire to the bullet gun, an insulating member placed between the filament wire and the contact base, an annular pelletized propellant charge positioned in the case relatively above the filament wire, an easily ignitable powder surrounding the filament wire in the center of the annular pellet, a seal member covering the open end of the case and having a central passageway therethrough, and a bullet positioned in the central passageway of the seal member with its rear end located adjacent the loose powder, whereby the powder is ignited by electrical energy and, in turn, ignites the charge to propel the bullet from the gun.

3,376,376
MINIATURE TRANSISTOR ENCLOSED IN A GLASS DISC-SHAPED HOUSING

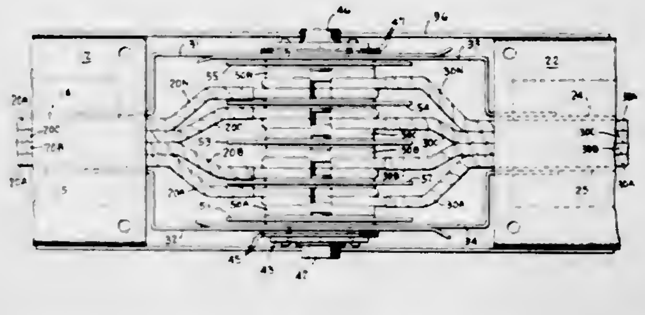
William C. Smith, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed June 16, 1964, Ser. No. 375,511
1 Claim. (Cl. 174—52)



1. An electronic active device and housing therefor comprising: an active device having at least two leads extending therefrom, a glass bead molded on one of said leads and having an area when viewed from the end of the lead on which it is molded at least as great as the correspondingly viewed area of active device, an all glass disc shaped housing including means defining a blind bore in a curved edge of the disc for accommodating the active device with slight room to spare, the area across the entrance of the blind hole being substantially the same size and shape as the glass bead molded to the lead, but having dimensions substantially less than the corresponding dimensions of said disc when viewed in a direction looking into said blind hole, at least one other smaller hole in the housing extending to the blind hole for accommodating the other lead attached to the active device, and solder glass seals hermetically sealing the active device within the housing by sealing around the glass bead where it is received in the blind bore and around the lead where is passes and the other and smaller hole in the housing.

3,376,377
ELECTRIC POWER BUSWAY WITH PHASE COLLECTION AND BRANCH TAKE-OFF MEANS

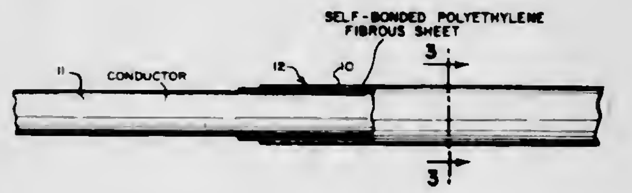
Joseph A. Fehr, Jr., Simsbury, Conn., assignor to General Electric Company, a corporation of New York
Filed Aug. 5, 1966, Ser. No. 570,596
9 Claims. (Cl. 174—72)



An electric power busway including a plurality of generally rectangular rigid busbar conductors supported in an elongated sheet metallic enclosure; the busbars are "fanned out" at each end of the housing in configurations adapted to overlap with ends of corresponding busbars of another similar busway section placed in a juxtaposed lengthwise relation thereto; the offsetting or "fanning out" of the busbars is made greater than necessary for electrical clearance purposes, and conductive spacer members are included which are removably retained in place; the spacer members may be removed and branch power take-off busbar ends inserted in their place, the latter being clamped and connected by the same simple clamp bolt means that clamps the two original sections.

3,376,378
COMMUNICATION CABLE

Kenneth R. Bullock, Sycamore, Ill., assignor to Anaconda Wire and Cable Company, New York, N.Y., a corporation of Delaware
Filed Aug. 2, 1965, Ser. No. 476,328
3 Claims. (Cl. 174—107)



1. A communication cable comprising a plurality of pairs of insulated wires, at least one metallic shield protecting said wires and an outer resinous plastic jacket covering said shield, each of said wires comprising an electrical conductor and an insulation having a thickness of 3 to 4 mils thereon, said covering being a sheet in web form of self-bonded continuous lengths of a substantially linear polyethylene fiber in multi-directional overlapping and interacting arrangement throughout said sheet providing a sheet density greater than about 7

lbs./ft.³ and a tensile strength above 0.3 lb./in.//oz./yd.², a dielectric constant less than about 2.0 and a mutual capacitance less than 0.83 μf./mile at 1000 c.p.s. for a sheet 3 to 4 mils in thickness, and said fiber being less than about 4 microns in thickness.

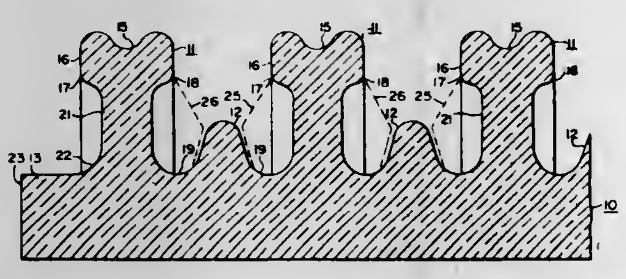
3,376,379

HIGH VOLTAGE BUSHING FOR HORIZONTAL MOUNTING WITH SHEDS HAVING RIMS PROTECTING A SUBSTANTIAL PORTION OF THE CREEP DISTANCE ALONG THE SURFACE OF THE BUSHING FROM ATMOSPHERIC FALLOUT

Charles F. Sonnenberg and James H. Frakes, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Continuation of application Ser. No. 574,828, Aug. 24, 1966. This application Mar. 20, 1967, Ser. No. 624,634

3 Claims. (Cl. 174—211)



A bushing especially suitable for mounting in a horizontal position in a region of severe atmospheric contamination has alternate major and minor sheds at spaced intervals. Each major shed has a rim portion at the outer periphery thereof which extends in both directions and protects the underneath surfaces of the body of the bushing from vertical fallout; each minor shed has sloping surfaces and a diameter less than that of the major sheds while still extending a sufficient distance from the body portion of the bushing to substantially isolate scintillations formed by wet contaminant and restrict the migration of corona streamers and scintillations from one major shed to another, whereby heat produced by the scintillations is permitted time to dry up wet contaminant and extinguish the scintillations and prevent the formation of a conductive path between major sheds.

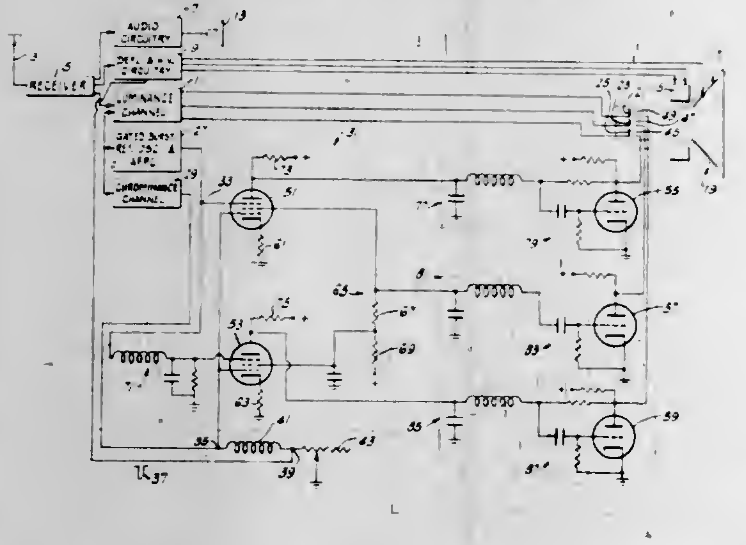
3,376,380

SYNCHRONOUS DEMODULATOR WITH STABILIZED AMPLIFIERS AND BLANKING

William D. Murphy, Emporium, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed Sept. 15, 1965, Ser. No. 487,458

3 Claims. (Cl. 178—5.4)



A color television receiver synchronous demodulation system includes a pair of demodulator tubes, a matrix network coupled thereto, and an individual amplifier coupled to a color picture tube and via a bias developing network to each of the demodulator tubes and the matrix network. Chrominance, reference oscillation and pulse signals are applied to each of the demodulator tubes to blank the demodulator tubes during scan retrace and provide a pair of color difference signals and amplified pulse signals. The color difference signals are treated in the matrix network to provide a third color difference signal and all three color difference signals are amplified and applied to the color picture tube. The amplified pulse signals are applied via a bias developing network to each of the amplifiers to provide stabilization against drift therein, amplified, and applied to the color picture tube to provide blanking of the color picture tube during scan retrace.

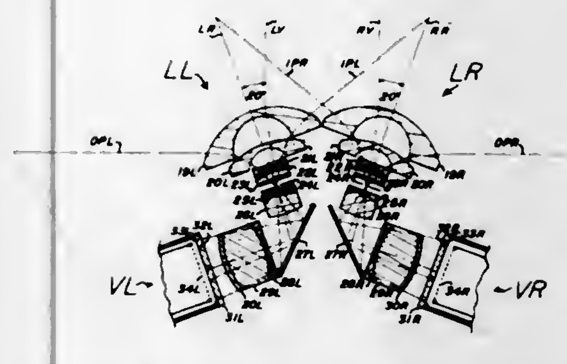
3,376,381

WIDE-ANGLE STEREOSCOPIC RECORDING AND VIEWING APPARATUS UTILIZING FISHEYE-TYPE DISTORTION AND DIVERGING LENS AXES

Harvey L. Ratliff, Jr., Amarillo, Tex., assignor of one hundred percent to Jetru Inc., Amarillo, Tex.

Filed Jan. 15, 1964, Ser. No. 337,878

5 Claims. (Cl. 178—6.5)



1. A wide-angle stereoscopic viewing device for use to re-create substantially distortion-free wide-angle stereoscopic scenes from compressed images having a predetermined amount of fisheye-type, barrel distortion at the ocular object plane with respective right and left picture centers which correspond to the intersection of the axes of symmetry of the fisheye-type compressing taking lenses which introduce the fisheye-type barrel distortion, said axes having a predetermined and operative angle with respect to each other, comprising: a supporting means; right and left wide-angle and expanding ocular lens means for expanding the rays and introducing a predetermined amount of pincushion distortion to nullify the fisheye-type barrel distortion and bring the rays into the eyes of a viewing observer at wide-angles, said ocular lens means having respective axes of symmetry which make an operative angle which is substantially the same said predetermined angle with respect to each other; right and left picture maintaining apparatus for maintaining the right and left fisheye-type, compressed and wide-angle images substantially perpendicular to the respective right and left ocular lens axes with the picture centers of the respective right and left images laterally displaced such as to produce the stereoscopic effect upon a viewing observer.

3,376,382

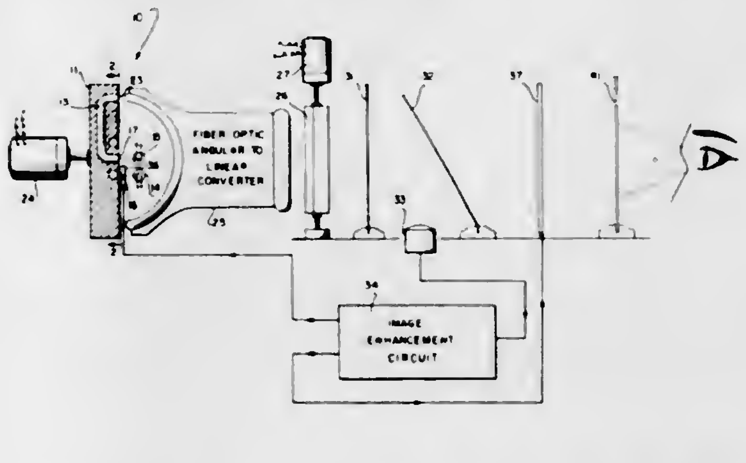
DIRECT VIEWING IMAGE ENHANCEMENT METHOD AND APPARATUS

Eugene D. McCalla, Smyrna, Ga., assignor to Lockheed Aircraft Corporation, Burbank, Calif.

Filed Nov. 10, 1964, Ser. No. 410,151

13 Claims. (Cl. 178—6.8)

A method and apparatus for enhancing images contained on a photographic transparency by scanning the transparency with a spot of light, measuring the amount of light passed through the transparency, and generating a signal to modulate the intensity of the scanning light spot. Scanning is accomplished in certain embodiments with two light spots which simultaneously scan the transparency while one light spot lags the other in the scan pattern by a period of time equal to the time delay present in the signal processing circuitry used with the apparatus. Where visual scanning of the transparency is desired, only the second light spot need be visible and the first light spot can be outside the visible light spectrum.


FIBER OPTIC ANNULAR TO LINEAR CONVERTER
IMAGE ENHANCEMENT CIRCUIT

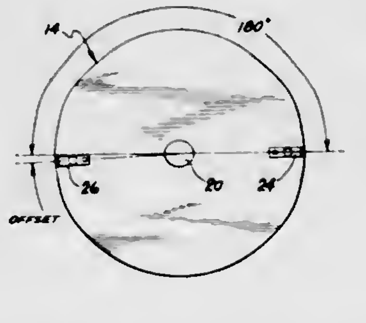
3,376,383

RECORDER HAVING OFFSET HEADS TO RECORD SYNC PULSES IN LINE FOR CROSSTALK REDUCTION

Michael O. Felix, San Carlos, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Apr. 8, 1964, Ser. No. 358,208

3 Claims. (Cl. 178—6.6)



A rotary head magnetic tape recording system for minimizing crosstalk between recorded adjacent parallel tracks extending transversely of the tape. A pair of magnetic heads are located on different diameters of the rotary head drum offset by a distance for which the horizontal sync pulses of a video signal recorded by the heads on adjacent tracks are aligned in a direction perpendicular to the tracks.

3,376,384

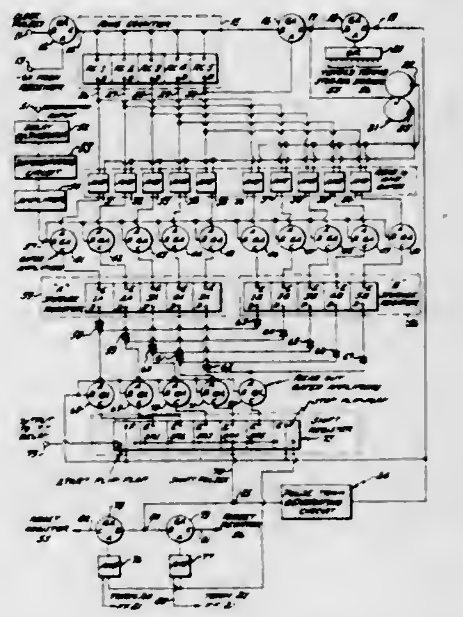
RECEIVER TO TELETYPEWRITER CONVERTER

William J. Achramowicz, Cherry Valley, Mass., assignor to the United States of America as represented by the Secretary of the Air Force

Filed Mar. 10, 1964, Ser. No. 350,921

1 Claim. (Cl. 178—26)

Code converter having a ring counter to sequentially gate amplifiers for alternately transferring pulse information into two storage registers for changing to DC levels of the same pattern as the pulse information. The DC levels are used to gate amplifiers to transfer information alternately into a shift register. "Start" and "stop" pulses cause the information to be shifted out for operating a teletypewriter.



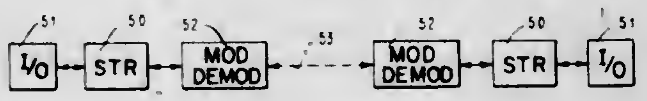
3,376,385

SYNCHRONOUS TRANSMITTER-RECEIVER

Roy J. Smith, Wappingers Falls, and Lawrence A. Tate, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Original application Aug. 25, 1960, Ser. No. 51,956, now Patent No. 3,208,049, dated Sept. 21, 1965. Divided and this application May 15, 1964, Ser. No. 367,642

11 Claims. (Cl. 178—69.5)



1. Apparatus for maintaining a receiver data bit sampling strobe in the center of transmitted data bit signals having a predetermined bit rate and time relationship to represent data characters comprising, a source of input pulses, frequency divider means for receiving said input pulses to normally generate said strobe pulse after a predetermined number of input pulses equal to the bit rate of said data bit signals, a plural stage counting means adapted to selectively count said input pulses, count controlling means responsive to said received data bit signals and said strobe pulses for causing said counter to count said input pulses during a portion of a mark signal and a portion of a space signal, means responsive to said counting means for indicating the relative position of said strobe pulses to said received data bit signals, and correcting means responsive to said count responsive means for selectively advancing the strobe output of said divider means with respect to the normal output.

3,376,386

CIRCUIT ARRANGEMENT FOR VARYING THE BAND WIDTH OF A FILTER IN DEPENDENCE OF THE VOICE FUNDAMENTAL FREQUENCY

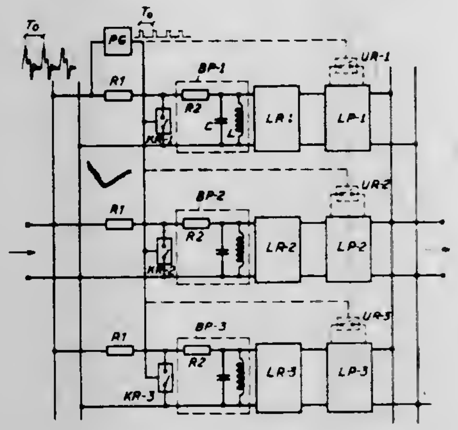
Gunnar Fant, Skirnervagen 1, Djursholm, Sweden

Filed Apr. 27, 1964, Ser. No. 362,772

Claims priority, application Sweden, May 8, 1963, 5,026/63

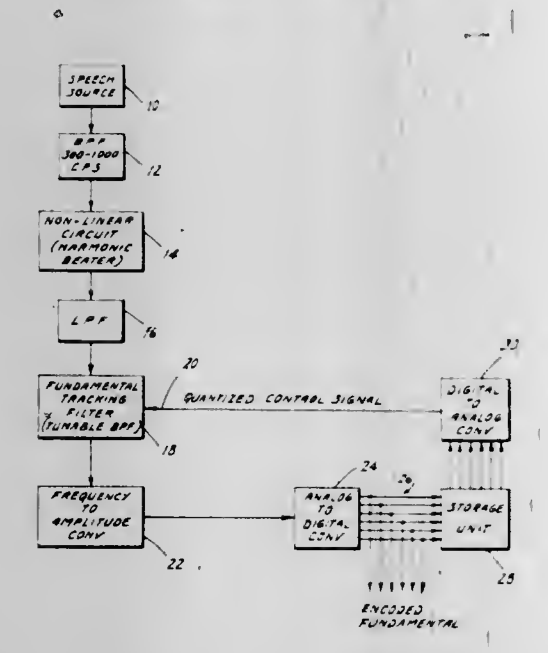
5 Claims. (Cl. 179—1)

An apparatus for emphasizing or bringing into strong relief the significant points or so-called formants in the envelope of the speech spectrum is used in the spectrum analysis of speech signals. The apparatus comprises a plurality of parallel channels connected between a common speech signal input and a common output. Each channel includes a band pass filter, a signal rectifier and a low pass filter serially connected between the input and output in that order. Each of the band pass filters includes a signal energy storing device such as a reactive element. Associated with each channel is a pulse operated switch which is used to discharge speech energy stored by its band pass filter. A pulse generator, connected to each switch, is controlled by the frequency of the voice fundamental signals to emit control pulses having durations which are short with respect to the voice fundamental period. The control pulses cause the switches to discharge the energy stored in the band pass filters during the preceding voice fundamental period.



3,376,387
FUNDAMENTAL FREQUENCY EXTRACTOR FOR VOICE SIGNALS

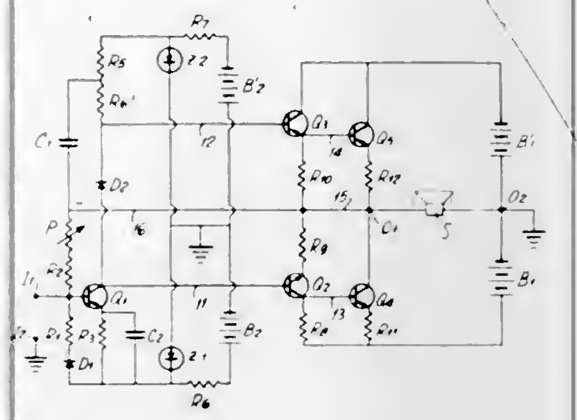
Lawrence E. Cassel, Norristown, Pa., assignor to Philco-Ford Corporation, a corporation of Delaware
Filed May 15, 1964, Ser. No. 367,736
16 Claims. (Cl. 179—1)



Fundamental frequency extractor for voice signals using tunable tracking filter to isolate fundamental, converter to supply digital signal indicative of frequency of isolated fundamental, unit for storing each digital signal until new one appears, and converter, responsive to stored digital signal, for supplying quantized analog signal to control input of tracking filter.

3,376,388
DIRECT-CURRENT-COUPLED TRANSISTOR POWER AMPLIFIERS

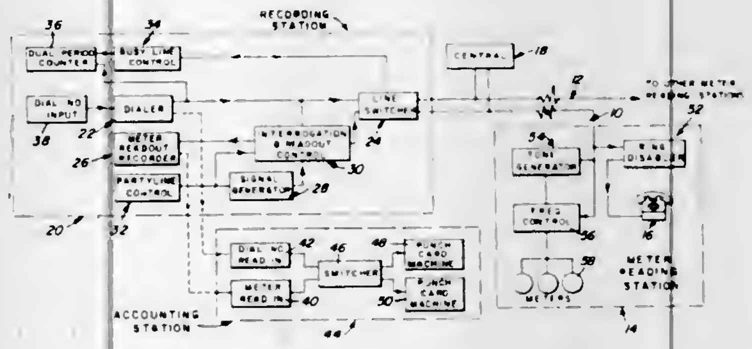
Martin G. Reiffin, 102 Gallows Hill Road, Peekskill, N.Y. 10566
Continuation-in-part of applications Ser. No. 311,732, Sept. 26, 1963, Ser. No. 388,399, Aug. 10, 1964, and Ser. No. 563,586, July 7, 1966. This application May 10, 1967, Ser. No. 654,947
51 Claims. (Cl. 179—1)



A transistor power amplifier is provided with direct-current-coupling between stages and to the loudspeaker. The output stage is push-pull single-ended and includes two transistors connected in series at a midpoint of the stage. A split power supply has a center-tap connected to one output terminal and the other output terminal is connected to said output stage midpoint. Amplification and drive stages are direct-current-coupled in cascade to the output stage. A direct-current negative feedback network extends from the output stage to an amplification stage to maintain the output terminals at substantially the same quiescent potential to prevent direct-current flow through the voice-coil of the loudspeaker.

3,376,389
INTERROGATORY TELEMETERING SYSTEM AND APPARATUS

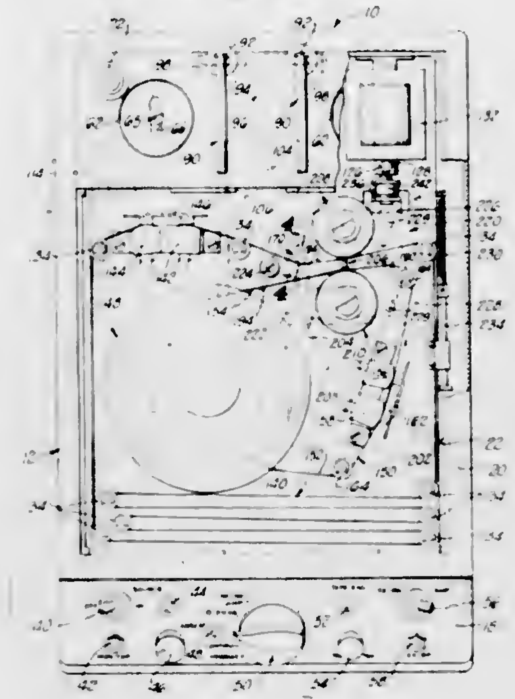
Donald G. Fair, 1830 N. 110th St., Omaha, Nebr. 68144
Filed Oct. 1, 1964, Ser. No. 400,681
18 Claims. (Cl. 179—2)



A multi-track record tape controls operation of an automatic dialer at a recording station from which meter reading stations are interrogated through telephone lines to effect meter readout. The meter readout data is recorded on the same tape which may then be inserted into a tape reader from which the readout data is transferred to an accounting circuit through which the information is converted into form suitable for billing subscribers.

3,376,390
TELEPHONE ANSWERING DEVICE

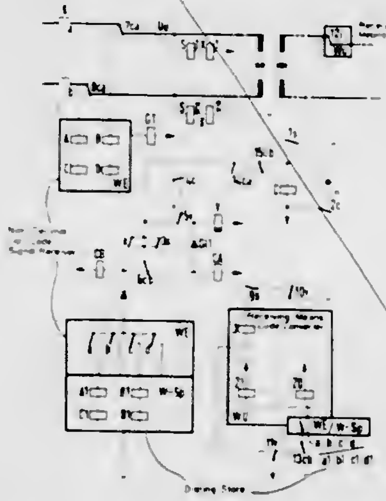
Kazuo Hashimoto, Tokyo, Japan
(28-2,2-chome Komazawa, Setagawa-ku, Tokyo, Japan)
Continuation-in-part of application Ser. No. 853,901, Nov. 18, 1959. This application July 8, 1963, Ser. No. 293,364
Claims priority, application Japan, Dec. 30, 1958, 33/38,442
6 Claims. (Cl. 179—6)



An apparatus having an actuating timer circuit which operates one time or many times while recording the incoming message, having a beep tone transmitting circuit which uses howling, and having a conductive foil on the outgoing message tape for completing a breaking circuit with an associated pole piece.

3,376,391
CONNECTION LAYOUT FOR A TELEPHONE INSTALLATION WITH KEYS

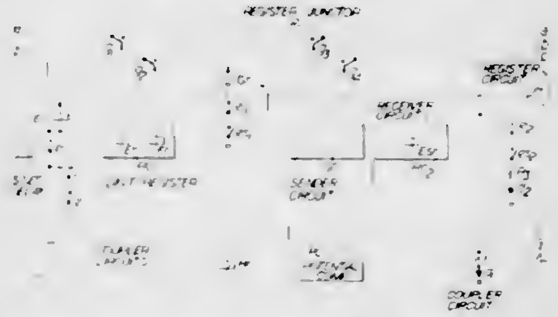
Dieter Finkhaüser, Unterpfaffenhofen, and Guenther Massow, Munich, Germany, assignors to Siemens Aktiengesellschaft, Munich, Germany
Filed May 11, 1964, Ser. No. 366,275
Claims priority, application Germany June 7, 1963, S 85,581
4 Claims. (Cl. 179—16)



The disclosure concerns an arrangement to permit use of the same repeater for both code and decimal dialing pulses, in telephone signalling systems. For this purpose a receiver circuit responsive to code dialing pulses is connected to the subscriber's line when the subscriber loop is completed, but time delay relay means is operative to interrupt that connection if a signal indicative of code dialing is not received within a short period of time. The circuit arrangement also includes relay means for supplying decimal dialing pulses directly to the outgoing connection from the repeater, under the control of the time delay means, when the code dialing signal is not received.

3,376,392
TELECOMMUNICATION SWITCHING SYSTEM

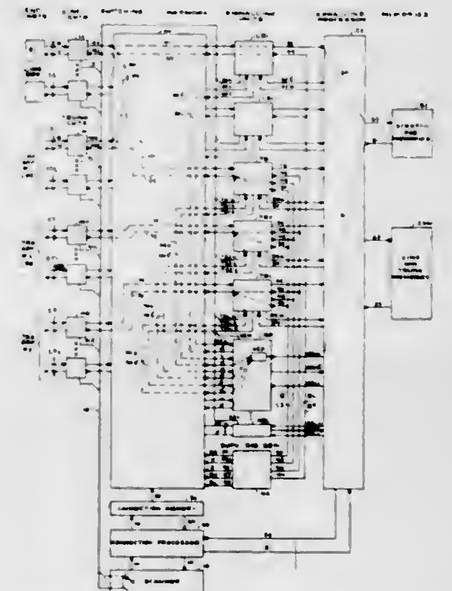
Henri Albert Julia Verhille, Borgerhout, Belgium, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 17, 1964, Ser. No. 360,655
Claims priority, application Netherlands, May 3, 1963, 292,270
10 Claims. (Cl. 179—18)



This telephone system provides a connection between a calling subscriber and a distant called subscriber over an outgoing junctor to speech conductors to permit the transmission of speech. A separate bypath connection is made from a register to the outgoing junctor to permit the transfer of information such as tariff information or a called subscriber number. A register controls the connection of the outgoing junctor to a free bypath so that when speech information is being transferred over the speech conductors, a bypath may be seized for transmitting other information without disturbing the speech.

3,376,393
METHOD OF AND APPARATUS FOR PROVIDING DIFFERENT RELEASE SIGNALS WITH DETECTION OF SEARCH BUSY OR CUT-THROUGH BUSY CONDITION IN A SATURATION SIGNALLING SYSTEM

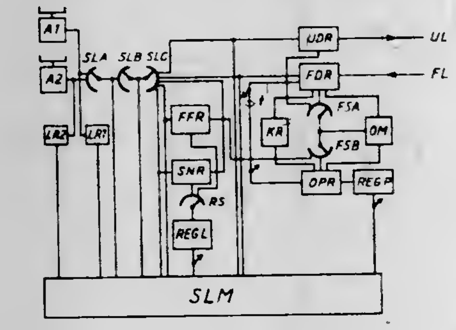
Sven Y. Sternung, Columbus, Ohio, assignor to North Electric Company, Galion, Ohio, a corporation of Ohio
Filed Sept. 22, 1964, Ser. No. 398,368
7 Claims. (Cl. 179—18)



A saturation signalling system having the ability when a call enters a switchboard which is already handling another call to the same addressee in a cut-through mode, to stop the search, send back a lock-in signal (even though the addressee is not listed as a local subscriber in such switchboard) and thereafter a release signal to indicate to the originating office that the addressee terminal was busy. In the case of a call to the same addressee in the search-busy mode, a release signal alone is returned to release the incoming trunk over which the call is received, and the call may continue its spread over the other paths which may have been selected.

3,376,394
PBX HAVING MULTIWIRE SIGNAL CHANNEL MEANS BETWEEN OPERATOR AND TRUNK EQUIPMENT

Sven Gustav Ingemar Kilander, Stuvsta, and Bert Olof Torsten Andersson, Bandhagen, Sweden, assignors to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden
Filed Apr. 9, 1965, Ser. No. 446,931
Claims priority, application Sweden, Apr. 17, 1964, 4,729/64
4 Claims. (Cl. 179—27)

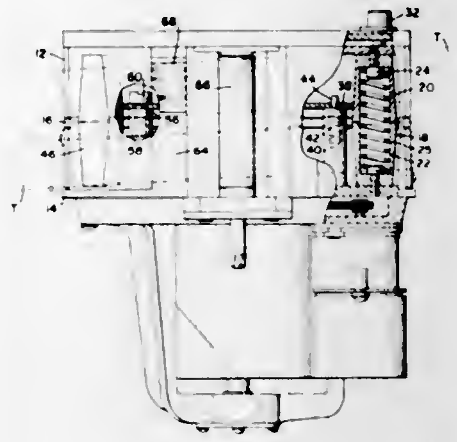


1. A circuit arrangement for a private automatic branch exchange with trunk lines and at least one manual operator's position, for transmitting signals between the line equipment of a trunk line and said operator's position, comprising a selecting means for connection of at least two talking wires between said line equipment and an operator's position, comprising a multiwire signal channel and a relay chain which comprises a relay means for each trunk line equipment and a relay means for each operator's position within the private branch exchange and in which only one relay means at a time may be operated, contact means which are actuated by said relay means and connect the wires of the signal channel to a signal sending means in the equipment corresponding to the operated relay means, a connecting relay in each line equipment and a connecting relay in each operator's position, provided with contacts which connect the wires of the signal channel to a signal receiving means belonging to respective equipment, and said connecting relay in one of the two equipments connected together by means of the selecting means is operated in a circuit through one of the wires of the selecting means when the relay means of the other equipment is operated and occupies the signal channel.

3,376,395
DEVICE FOR ADJUSTING THE ANGULAR RELATIONSHIP BETWEEN A ROTATING HEAD AND TAPE IN A HELICAL SCAN RECORDER

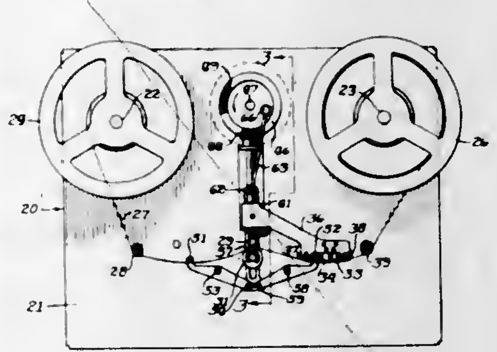
Wilburn L. Rumple, Palo Alto, Calif., assignor to Precision Instrument Company, Palo Alto, Calif.
Filed Jan. 13, 1964, Ser. No. 337,447
6 Claims. (Cl. 179—100.2)

A magnetic recorder in which two spaced drum-like members are arranged to guide tape obliquely across a gap between the two drums. A rotating transducer scans the space between the two drums to record and play back information on the tape which spans the gap in which guides are mounted on the drums to position the tape at a predetermined oblique angle and which further provides a device for varying the angle between the drums so that the tape angle with respect to the gap between the drums can be controllably varied.



3,376,396
BIDIRECTIONAL MAGNETIC RECORDER WITH MOVABLE HEAD ASSEMBLY

Gordon E. Bradt, Wilmette, Ill., and Joseph H. Lancor, Jr., Arcadia, Calif., assignors to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed June 26, 1964, Ser. No. 378,224
10 Claims. (Cl. 179—100.2)

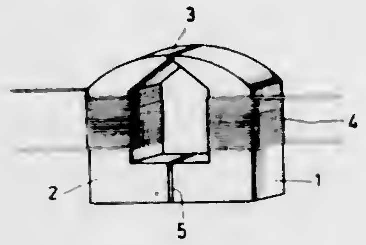


Disclosed in a novel shifting head assembly for a magnetic tape apparatus which bidirectionally moves a multitrack magnetic tape past the head assembly by a tape drive capstan. The assembly, including an erase head and a transducer head, is shiftable to position the heads relative to the capstan and the tape upon changing the direction of tape movement so that a segment of the tape is pulled first past the erase head and is then pulled past the transducer head regardless of the direction of tape movement.

3,376,397
POLE PIECE FOR MAGNETIC RECORDING HEAD

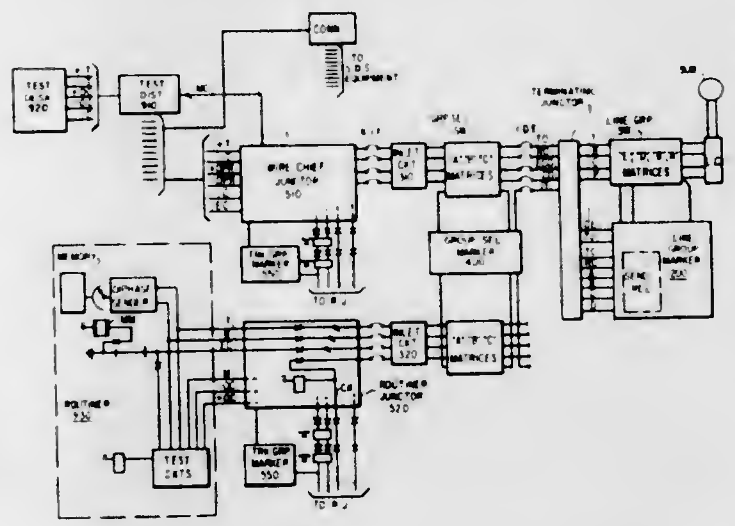
Willem Noorlander and Jan Bertus Thijssen, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 9, 1965, Ser. No. 446,828
Claims priority, application Netherlands, Apr. 22, 1964, 64—4,372
10 Claims. (Cl. 179—100.2)

1. As an article of manufacture a body of sintered oxidic ferromagnetic material which is joined to a body consisting of a non-magnetizable electrically non-conductive material consisting of at least 30% by weight of a compound having the formula $(Ba_uQ_v)(Ti_xR_y)O_{20}$, in which Q is an element selected from the group consisting of Sr and Zn and R is an element selected from the group consisting of Sn and Zr, $u+v\cong 2$ and $x+y\cong 9$, said compound having a crystal structure corresponding to that of $Ba_2Ti_9O_{20}$.



3,376,398
AUTOMATIC CENTRAL-OFFICE EQUIPMENT TESTING ARRANGEMENT

John R. Vande Wege, Glen Ellyn, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Apr. 20, 1964, Ser. No. 361,127
9 Claims. (Cl. 179—175.21)

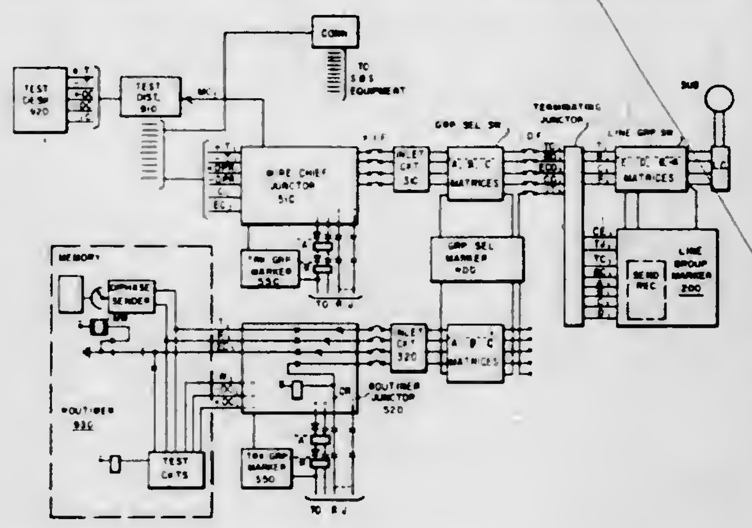


Marker-controlled coordinate switching system is arranged to permit test calls to subscriber lines via same terminating junctors and line section switching path as are used for normal calls. The switched path from a wirechief or routiner junctor through selector matrices to the terminating junctor include an extra control conductor, while the path from there through the line section includes only the two transmission conductors and the path-holding conductor. Each terminating junctor includes a relay operated during test calls for metallic cut-through. A relay tree is provided in the marker to connect to the cutoff relay of the line circuit for bridge cutoff control. During routiner calls the path from a terminating junctor to a called line may be released while the preceding path is held, and another path is then established from the same junctor to another called line for testing.

3,376,399
AUTOMATIC LINE-ACCESS ARRANGEMENT

Frank B. Sikorski, Des Plaines, and John R. Vande Wege, Glen Ellyn, Ill., assignors to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Apr. 24, 1964, Ser. No. 362,227
4 Claims. (Cl. 179—175.21)

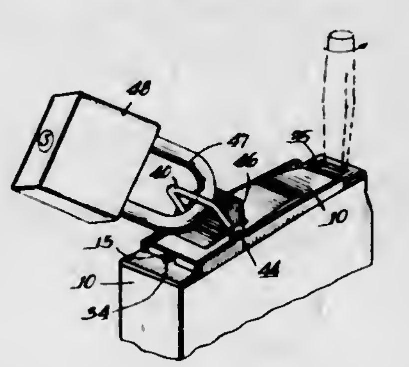
Marker-controlled coordinate switching system is arranged to permit test calls to subscriber lines via same terminating junctors and line section switching path as are used for normal calls. The switched path from a wirechief or routiner junctor through selector matrices to the terminating junctor include an extra control conductor, while the path from there through the line section includes only the two transmission conductors and the path-holding conductor. Each terminating junctor includes a relay operated during test calls for metallic cut-through.



A relay tree is provided in the marker to connect to the cutoff relay of the line circuit for bridge cutoff control. During routiner calls the path from a terminating junctor to a called line may be released while the preceding path is held, and another path is then established from the same junctor to another called line for testing.

3,376,400
HANDLE LOCKING ATTACHMENT FOR ELECTRICAL CONTROL DEVICES

Thomas N. Batt, Cedar Rapids, Iowa, and Harold A. Duvall, Pasadena, Calif., assignors to Square D Company, Park Ridge, Ill., a corporation of Michigan
Filed Mar. 10, 1965, Ser. No. 438,575
3 Claims (Cl. 200—42)



A handle locking attachment for a pivotable operating handle extending outwardly of a boss on a case of a molded case circuit breaker. A rectangular frame of the attachment fits around the boss and is secured to the case. A bail is pivotally mounted on the side portions of the frame and receives a padlock in interfering relationship with movement of the handle.

3,376,401
ARC BLOW-OUT DEVICES IN CURRENT-BREAKING APPARATUS

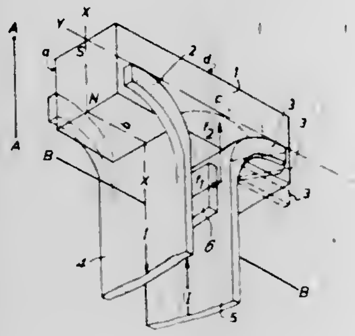
Jules Bazi, Rueil-Malmaison, and Louis Joseph Fechant, Le Vesinet, France, assignors to La Telemecanique Electrique, Nanterre, Seine, France, a joint-stock company of France
Filed Aug. 18, 1965, Ser. No. 480,641
Claims priority, application France, Aug. 24, 1964, 986,628
9 Claims. (Cl. 200—147)

1. Non-polarized arc blow-out device for current-breaking apparatus of the type comprising two laterally

placed extinction chambers and at least one magnetic mass producing a blow-out field the induction lines of which diverge transversely in relation to the direction of break of the contacts, the said blow-out device comprising:

fixed and mobile contact supports;

a magnetized mass having a plane of symmetry which is coincident with the longitudinal plane of symmetry of the fixed and mobile contact supports and the direction of magnetization of which is parallel to the said plane;



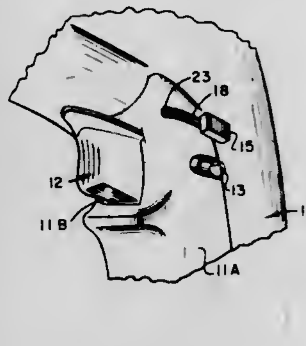
one of the poles of the magnetized mass being located opposite the fixed and mobile contacts while the fixed and mobile contact supports have a width at least equal to the width of this pole;

horns the outer edges of which are so arranged as to permit the movement of the feet of the arc parallel to the lateral faces of the magnetized mass, extending the fixed and mobile supports beyond their contacts;

and the length of the magnetized mass being at least equal to the distance between the ends of said horns when the contacts are open.

3,376,402
REVERSIBLE ELECTRIC SWITCH WITH LATERALLY EXTENDING REVERSING MEMBER FOR USE IN PORTABLE ELECTRIC TOOL OR APPLIANCE

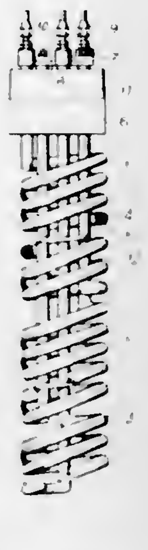
Thaddeus E. Bednarski, Timonium, Md., assignor to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed Sept. 25, 1967, Ser. No. 670,093
3 Claims. (Cl. 200—157)



A portable electric tool or appliance is provided with a handle having a pistol-grip configuration. The handle has a reversible electric switch mounted therein. The switch is actuated by a sliding trigger. The trigger protrudes forwardly of the handle, and is retractable within the handle upon engagement by the operator's finger. A reversing member is operatively connected to the switch; and the reversing member includes a portion extending laterally of the switch, through an aperture in the side of the handle, for convenient engagement by the operator's thumb.

3,376,403
BOTTOM-HOLE ELECTRIC HEATER

Drigă Mircea, Cimpina, Rumania, assignor to Ministerul Petrolului, Bucharest, Rumania
Filed Nov. 12, 1964, Ser. No. 410,682
4 Claims. (Cl. 219—10.49)

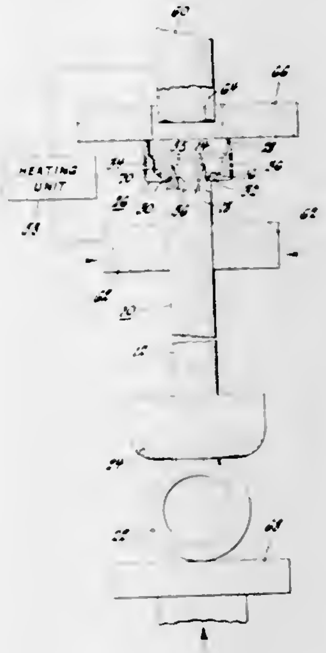


A bottom-hole electric heater comprising a plurality of conductors of preferably spiral shape which are encased in temperature resistant material and extend through a corresponding number of pipes of ferro-magnetic material. When an inductive current passes through the conductors heat energy is produced in the pipes due to the "Joule losses" caused by the eddy currents induced in the pipes.

The pipes also protect the conductors encased therein from damage while the bottom-hole heater is in the well casing.

3,376,404
METHOD OF MANUFACTURING SHOCK ABSORBER SUBASSEMBLIES

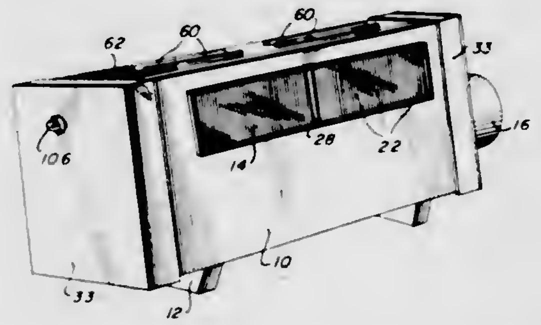
Robert J. Schweller, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 15, 1964, Ser. No. 382,801
2 Claims. (Cl. 219—107)



In preferred form, a method for manufacturing shock absorber subassemblies having a piston member with a layer of nylon on its cylindrical periphery comprising the steps of wetting the nylon layer to prevent contraction thereof during processing sufficient to remold the nylon sleeve, loosely connecting the piston member to a tubular end extension on a piston rod and electrically heating the extension and forming it to connect the piston rod to the piston member while concurrently thermally insulating the extension from the piston rod and controlling electrical heating to produce a resultant heat transfer to the nylon layer below that capable of producing blistering of the moistened nylon layer.

3,376,405
INCUBATING APPARATUS

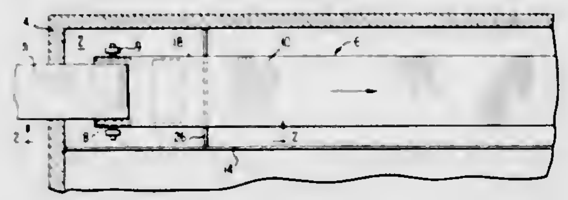
Francis B. Gower III, Chicago, Ill., assignor to Michael Reese Research Foundation, a nonprofit corporation of Illinois
Filed Nov. 27, 1964, Ser. No. 414,187
6 Claims. (Cl. 219—385)



Incubating apparatus including a solid, electrically conductive light transmitting means for (1) viewing the object being incubated, and (2) supplying the heat to the object.

3,376,406
FREEZER BELT DEFROSTER UNIT

Herbert B. Phelps, 1685 Overton Park, Memphis, Tenn. 38112
Filed July 26, 1965, Ser. No. 474,643
7 Claims. (Cl. 219—388)

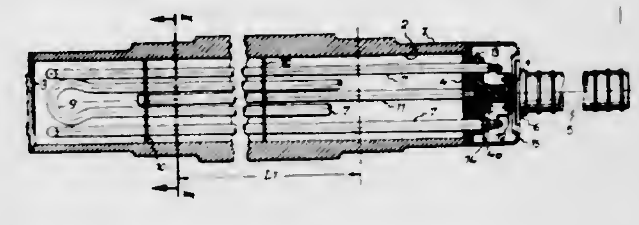


In a food freezer room there is an endless belt which carries on its top run food being frozen from one end of the room to the other, the belt running over sprockets at each end of the room. Disposed over the lower belt run just before it reaches the sprocket at the input end of the room is a radiant electric heater, and disposed under the lower belt run at the same location is a heated drain pan with a drain pipe leading from the room so as to catch the drippings of the belt which are melted therefrom by the radiant heater.

3,376,407
ELECTRIC HEATING UNIT FOR INSERTION INTO HOLLOW BODIES, ESPECIALLY CALENDER ROLLERS

Fritz W. Wagner, Krefeld, Germany, assignor to Joh. Kleinewefers Sohne, Krefeld, Germany
Filed July 16, 1965, Ser. No. 472,535
Claims priority, application Germany, July 18, 1964, K 53,509
5 Claims. (Cl. 219—470)

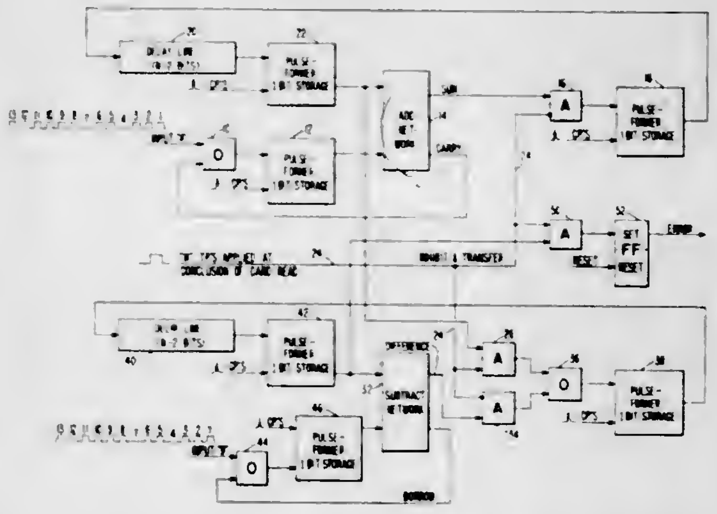
The present invention relates to a heat register for insertion into a hollow calender roll having an open end. The invention is characteried primarily in the provision of two groups of tubular heating rods supported by the said closure member along two complete concentric lines and extending at one side of the closure member while



terminal means respectively connected to said tubular heating rods are arranged on the other side of said closure member and are connected to collector means supported by said closure member.

3,376,408
HOLE COUNT CHECKER

George R. Cogar, Norwalk, Conn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed May 31, 1962, Ser. No. 198,808
12 Claims. (Cl. 235—61.7)

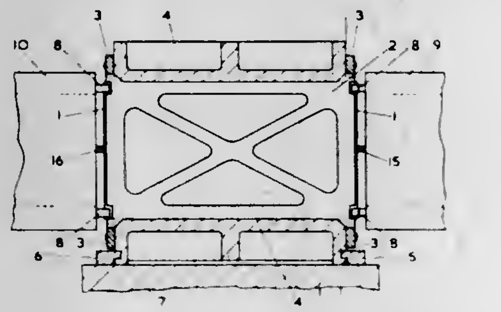


This invention relates to a hole count checker employed with card reading apparatus. In this invention the total number of holes in a punch card are counted at a first reading station and compared with the number of holes counted in a second reading station. A register including a binary adder is proved to accumulate the total number of holes sensed by the first reading station. When the card has been completely sensed the sum stored in the first register is transferred to a second register which includes a binary subtractor. The card is then transferred to a second reading station. The binary subtractor is proved to subtract a "1" from the contents of the second register whenever there is a hole detected on the card by the second sensing station. When the card has been completely sensed at the second station the contents of the second register will be zero if no errors have occurred.

3,376,409
INFORMATION STORAGE DEVICES

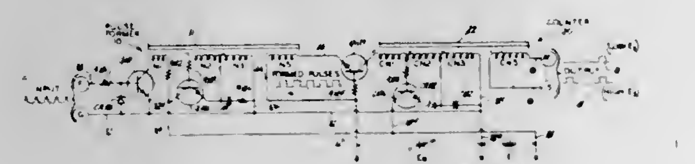
John Handley, 39 Wilhelmina Ave., Coulsdon, Surrey, England
Filed June 18, 1962, Ser. No. 203,387
Claims priority, application Great Britain, June 16, 1961, 21,758/61
6 Claims. (Cl. 235—61.11)

Information storage equipment, in which information is written on and/or read from flat sheet-like members of any desired shape; usually rectangular cards, although circular discs, for instance, can be used; which members are stacked in a container or containers, and are mechanically withdrawn therefrom, for writing and/or reading purposes and mechanically returned thereto thereafter.



3,376,410
VOLTAGE-CONTROLLED ADJUSTABLE COUNTER

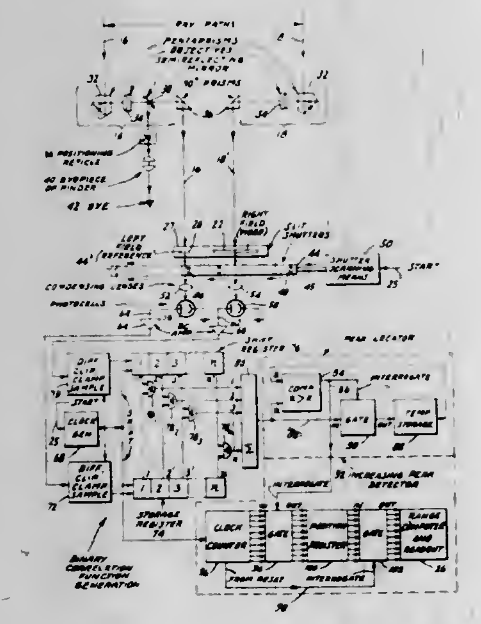
Robert S. Lundin, Thomaston, Conn., assignor to General Time Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 29, 1964, Ser. No. 363,361
17 Claims. (Cl. 235—92)



A counting system wherein the count is selectively adjustable. The modulus of a saturable core magnetic count stage is adjusted by a selectively adjustable voltage source in series with the input winding. Particular circuitry permits selection of zero for any digit in the count total.

3,376,411
AUTOMATIC RANGEFINDER

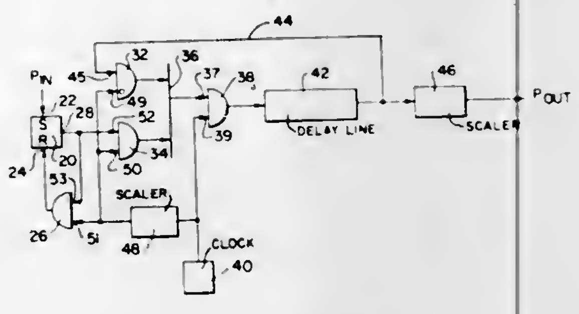
Angelo Montani, Great Neck, N.Y., James H. Witt, High Point Heights, Beltsville, Md., and George Ritsi, Norristown, Pa., assignors to Philco-Ford Corporation, a corporation of Delaware
Filed July 23, 1963, Ser. No. 297,150
9 Claims. (Cl. 235—151.32)



Automatic rangefinder using crosscorrelator to compare digital signals derived from scansion of object and object plus surroundings and provide range indication according to displacement of peak in resultant correlation signal.

3,376,412
DIGITAL FREQUENCY FILTER AND FUNCTION GENERATOR

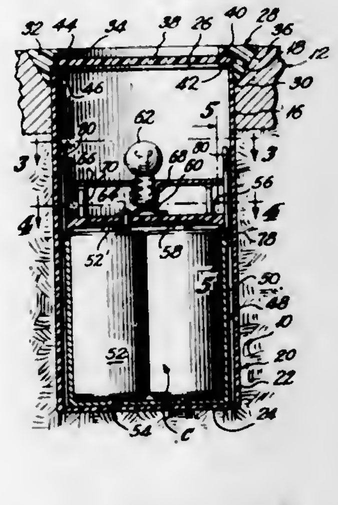
Melvin Prager, West Palm Beach, Fla., assignor, by mesne assignments, to Honeywell Inc., a corporation of Delaware
Continuation-in-part of application Ser. No. 299,745, Aug. 5, 1963. This application Dec. 13, 1963, Ser. No. 331,343
19 Claims. (Cl. 235—165)



1. A digital filter comprising:
means for serial-memory-time-compressing pulse samplings, taken at a predetermined rate, of only the frequency of an input signal; and
means for time-expanding the compressed pulse samplings so as to provide an output signal having a frequency which is a weighted average, over a predetermined time period, of the input signal frequency.

3,376,413
MEMORIAL LIGHT

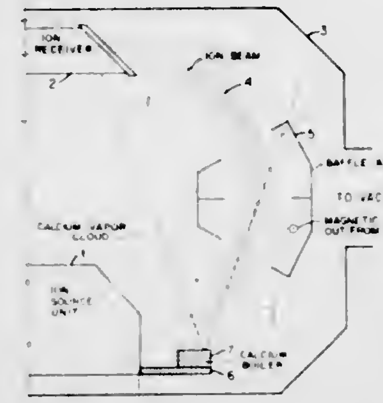
William J. Peters, Grass Valley, Calif., assignor to E. F. L., Inc., a corporation of California
Filed May 13, 1966, Ser. No. 549,905
8 Claims. (Cl. 240—6.4)



An elongated plastic container has a removable transparent closure on the upper end thereof and a metallic container containing electric cells within the bottom portion thereof. The metallic container carries an insulated closure plate which has on its bottom surface a metal cell contact plate and on its upper surface an incandescent electric lamp contact element. The metal plate, for carrying said lamp, is electrically connected to said metallic container by means projecting upwardly toward said closure and providing means for facilitating manual removal of the metallic receptacle and parts carried thereby.

3,376,414
CALUTRON WITH MEANS TO DIRECT CALCIUM GETTERING VAPOR INTO THE ION BEAM TO REDUCE TANK PRESSURE

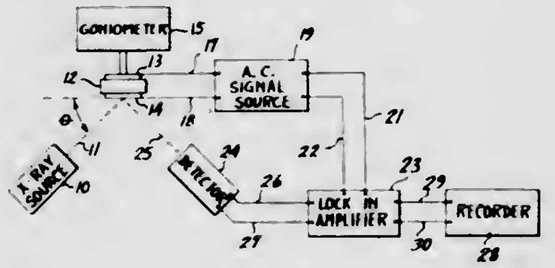
William A. Bell, Jr., King A. Spainhour, and Allen M. Veach, Oak Ridge, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed June 4, 1965, Ser. No. 461,568
4 Claims. (Cl. 250—41.9)



A calcium boiler is positioned within the tank unit of a calutron such that the calcium vapor from the boiler is directed toward the calutron ion beam and the vapor encompasses the greater portion of the ion beam. The gettering action of the calcium helps to further reduce the calutron tank pressure. However, the ion outputs for most isotopes, which are separated during use of the calcium boiler, are increased by at least tenfold over what was expected on the basis of improved vacuum alone, and ion beam resolutions are also greatly improved.

3,376,415
X-RAY SPECTROMETER WITH MEANS TO VARY THE SPACING OF THE ATOMIC PLANES IN THE ANALYZING PIEZOELECTRIC CRYSTAL

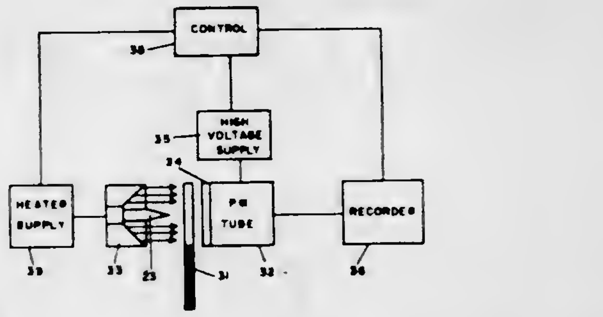
Reuben S. Krogstad, Seattle, and Robert W. Moss, Mercer Island, Wash., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed Dec. 30, 1964, Ser. No. 422,208
7 Claims. (Cl. 250—51.5)



An improved spectrometer is disclosed which uses a crystal excited by a signal source in a manner such that the spacing of the atomic planes within the crystal is varied by the alternating signals. A detector is positioned in the path of the X-rays reflected from the crystal with the output signals from the detector being applied to a frequency sensitive signal output circuit which is controlled by the signal generator serving to vary the spacing of the crystal atomic planes. The arrangement is such that noise problems encountered heretofore in the spectrometer art are greatly reduced and accurate signal information is provided regarding the composition of the target electrode or of material placed in the path of the X-rays reaching the detector. A system for ascertaining the composition of a given surface utilizing the described spectrometer is also disclosed.

3,376,416
THERMOLUMINESCENT DOSIMETRY SYSTEM

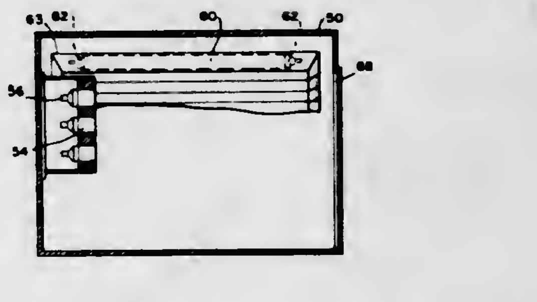
David F. Rutland, Santa Barbara, Richard C. Palmer, Goleta, and Ernest F. Blase, Santa Barbara, Calif., assignors to E G & G, Inc., a corporation of Massachusetts
Filed Apr. 6, 1964, Ser. No. 357,512
9 Claims. (Cl. 250—71.5)



A thermoluminescent dosimetry recording system adapted to record on a special chart record glow curves of thermoluminescent materials exposed to varying amounts of ionizing radiation, having means for supplying constant heating current to heater elements disposed adjacent said thermoluminescent materials, photomultiplier means disposed to detect the emitted glow and adapted to produce an electrical signal proportional thereto, and recording means connected to the photomultiplier means for recording the electrical signal on the chart record at a constant rate and including circuitry for automatically changing ranges.

3,376,417
WHOLE BODY SCINTILLATION DETECTOR FOR ANIMAL USE COMPRISING A PLURALITY OF PLASTIC PHOSPHOR RECTANGULAR LOGS

Charles R. Keck, Morris Road, Okmulgee, Okla. 74447, and Paul W. Jordan, Montana State University, Bozeman, Mont. 59715
Continuation-in-part of application Ser. No. 443,374, Mar. 29, 1965. This application May 31, 1966, Ser. No. 554,051
3 Claims. (Cl. 250—71.5)



1. A whole body scintillation detector and light pipe especially adjustable for animal use which comprises:
(A) a plurality of highly polished plastic phosphor rectangular log detectors arranged in a horseshoe configuration in a detection zone, with at least one circular plastic phosphor detector mounted at one end of said zone;
(B) a truncated conical section of plastic phosphor containing no fluor, mounted at each end of said logs as a light pipe;
(C) photomultiplier tubes mated to said truncated conical sections and to said circular phosphor detector, said photomultiplier tubes being connected in electrical additive relationship, whereby a source of radioactive energy striking said plastic phosphor, produces a burst of light which travels along said block

and is converted by said photomultiplier tubes to electrical energy.

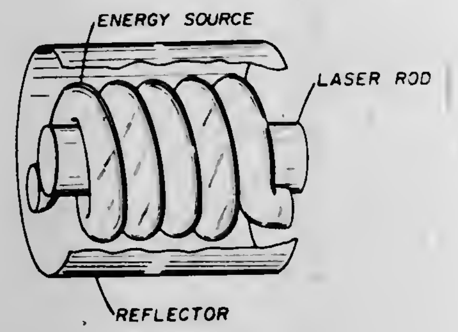
3,376,418

MEASURING LASER OUTPUT ENERGY COMPRISING A LEAD FLUOSILICATE GLASS DOSIMETER ELEMENT

Eugene C. Letter, Penfield, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York

Filed Mar. 30, 1964, Ser. No. 355,958

21 Claims. (Cl. 250—83)



8. A method for measuring laser excitation energy comprising irradiating a lead fluosilicate dosimeter material having a laser rod configuration with gamma or X-ray radiation to increase spectral absorption in the dosimeter material, placing the dosimeter material in a laser excitation device adapted to receive a laser rod shape, energizing a laser exciter means to emit spectral radiation in the visible to ultraviolet range, and measuring spectral absorption changes in the dosimeter.

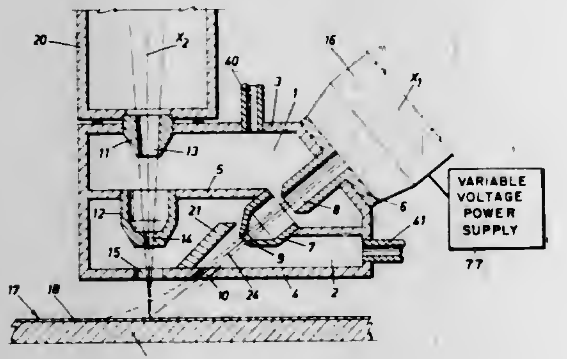
3,376,419

METHOD AND APPARATUS FOR DETERMINING THE THICKNESS OF INTEGUMENTS

Wilhelm W. B. Schumacher, Don Mills, Ontario, Canada, assignor to Ontario Research Foundation, Toronto, Ontario, Canada

Continuation-in-part of application Ser. No. 146,080, Oct. 16, 1961. This application May 11, 1964, Ser. No. 367,284

28 Claims. (Cl. 250—83.3)



1. A method for determining the thickness of an integument on a base material utilizing the known relationship between range and energy of electrons passing through matter, said integument and said base material having different chemical compositions, which comprises: directing an electron beam at said integument, varying the kinetic energy of said electron beam, detecting the penetration of said integument by said electron beam to derive an indication of the kinetic energy of said electron beam at which complete penetration of said integument occurs, and obtaining the thickness of said integument by relating the kinetic energy of said electron beam at which complete penetration of said integument occurs to the range-energy curve of electrons passing through matter.

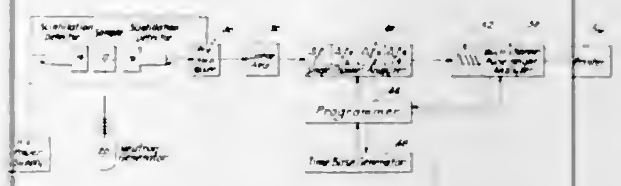
3,376,420

NEUTRON ACTIVATION SPECTROMETRY SYSTEM

Donald H. Frank, Skokie, Ill., assignor, by mesne assignments, to Nuclear-Chicago Corporation, formerly named Searle Nuclear Corporation, Des Plaines, Ill., a corporation of Delaware

Filed Aug. 10, 1964, Ser. No. 388,519

3 Claims. (Cl. 250—83.3)



3. Apparatus for neutron activation spectrometry comprising in combination means for producing a beam of high energy neutrons, means for directing said neutrons onto a sample target to cause the formation of a plurality of short-lived radioactive isotopes in said sample, detection means responsive to the relative energies in the radioactive sample, said detection means being adapted to generate a train of electrical data pulses, the amplitudes of which are proportioned to the energies of the various radioactive isotopes undergoing decay, means for directing the data pulses into a voltage discriminator having an adjustable upper voltage threshold window and an adjustable lower voltage threshold, the voltage discriminator being adapted to produce an output data pulse signal only in response to pulses having an energy range in the region between the upper and lower threshold settings, a multiple channel pulse height analyzer having means for time mode analysis, including means for storing incoming pulses in a plurality of groups of separate storage channels; means for coupling data pulse signals from said voltage discriminator to said multiple channel pulse height analyzer, and programmer means, including a time base generator for generating predetermined time base intervals for each memory group, for switching said upper and lower threshold settings in synchronism with switching of time base intervals corresponding to each of said desired groups of storage channels within the pulse height analyzer, whereby data pulse signals having particular energy levels are accumulated in predetermined groups of storage channels for a preselected time interval after which the threshold settings may repeatedly be changed and the storage address repeatedly advanced to accumulate further data pulse signals representing selected energy regions of interest until said selector has advanced through the available groups of storage addresses.

3,376,421

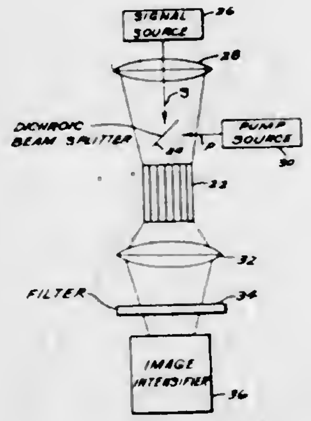
QUANTUM COUNTERS

Elias Snitzer, Sturbridge, Mass., assignor to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts

Filed Feb. 2, 1965, Ser. No. 429,707

29 Claims. (Cl. 250—83.3)

This invention contemplates a fiber optic device having a bundle of a number of cores of glass of one index of refraction doped with a rare earth fluorescent ion and each core being surrounded by a cladding of a lower index of refraction. An infrared image is applied to one end of the fiber optic bundle and pumping radiation is also applied to the fiber optic bundle with the result that at the output end of the fiber optic bundle a visible image is produced. A filter may be provided to separate the infrared image and the pumping radiation from the visible image which then can be viewed or it can be applied to an image intensifying tube for further amplification.



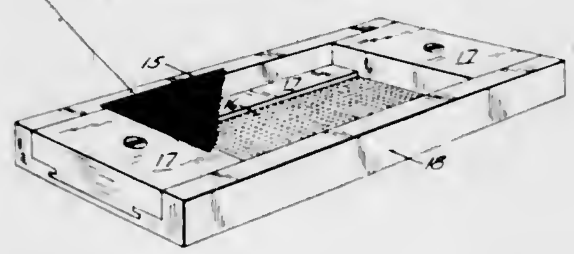
3,376,422

RADIOACTIVE SOURCE COMPRISING A SHEET ARTICLE CONTAINING A LAYER OF SMALL DISCRETE RADIOACTIVE BEADS

Donald L. Haes, Mounds View, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Filed July 15, 1964, Ser. No. 382,842

8 Claims. (Cl. 250—106)



1. An article, useful as an area source of radioactivity, handleable without dangerous radioactive material transfer to one's fingers, said article comprising a malleable and ductile metal substrate layer having a Brinell hardness number no greater than 75 at room temperature, and a compact monolayer of a multitude of discrete spheroidal elements between 5 and 250 microns in diameter pressed into said metal substrate layer to a partial extent at least equal to half the diameter of said elements, at least 90 weight percent of said elements being within a limited size range having an upper limit of diameter no larger than 30% greater than the lower size limit of diameter within said 90 weight percent portion of said elements, said spheroidal elements each consisting essentially of a hard and brittle spheroidal core containing radioactive material fixed therein and a reinforcing concentric metal veneer plating thereabout between 0.2 and 5 microns thick and no thicker than about 10% of the diameter of the core, said metal of said veneer plating being less ductile than the metal of said metal substrate layer and more ductile than the material of said brittle spheroidal core, said metal veneer plating further having a Brinell hardness number at room temperature in excess of that for the metal of said metal substrate layer, said spheroidal elements being each gripped laterally in said layer structure and held in said metal substrate layer by lateral compressive forces exerted thereupon by said metal of said metal substrate layer, the radioactive material fixed in said cores of said spheroidal elements and the concentration of said spheroidal elements per square inch of said metal substrate layer being such that at least one microcurie of radioisotope per square inch of surface of said sheet article is present.

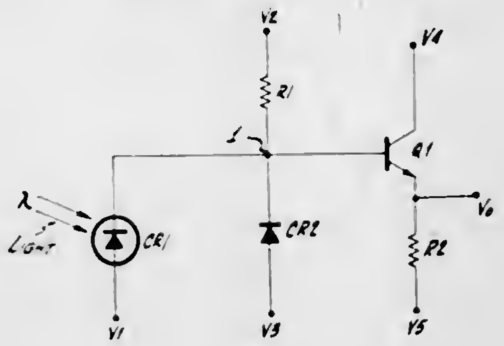
3,376,423

LIGHT RESPONSIVE CIRCUIT WHICH PREVENTS PHOTOSENSITIVE DEVICE SATURATION

Emrys C. James, Lake Park, Fla., assignor to Radio Corporation of America, a corporation of Delaware

Filed Mar. 15, 1965, Ser. No. 439,722

7 Claims. (Cl. 250—206)



4. A circuit comprising
a light responsive semiconductor having first and second electrodes,
means for coupling first and second reference potentials to said first and second electrodes, respectively, where said first reference potential is more positive than said second,
a diode having a cathode and an anode,
a transistor having a base, collector and emitter,
means for coupling one of said anode and cathode, one of said first and second electrodes, and said transistor base together and the other of said anode and cathode to a third reference potential intermediate said first and second potentials, and
means for coupling said transistor collector and emitter, respectively, to fourth and fifth reference potentials.

3,376,424

OPTICAL POSITIONING DEVICE IN COMBINATION WITH MULTIPLE REFLECTING PLURAL SPHERICAL MIRRORS

Norman Braslau, Katonah, and Wilton A. Hardy, Ossining, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 17, 1964, Ser. No. 419,004

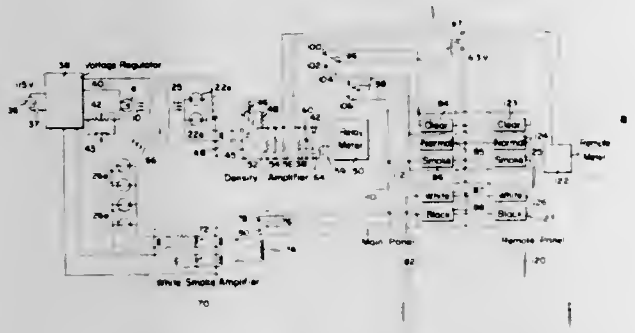
32 Claims. (Cl. 250—216)

1. An optical image selection device comprising, in combination:
means for providing an input optical image;

a plurality of reflecting means having effective centers of curvature that are arranged to multiply reflect the input image without distorting its shape;
a plurality of partially-transmitting masks;
and means for adjusting the effective center of curvature of at least one of the reflecting means to cause the various reflected images to be controllably positioned, wherein a predetermined image is positioned at a selected mask.

3,376,425
SMOKE DENSITY AND COLOR INDICATING MEANS

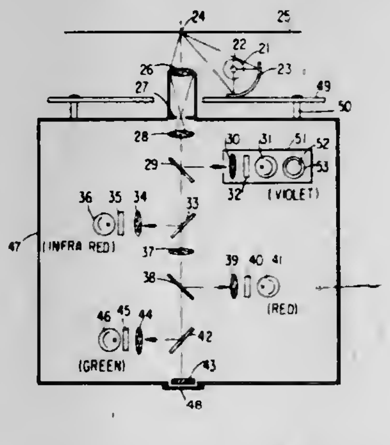
Howard E. Kraus, Erie, Pa., and Walter A. Smith, East Orange, N.J., assignors to Robert H. Wager Co., Inc., South Orange, N.J., a corporation of New Jersey
Filed Oct. 12, 1965, Ser. No. 495,170
13 Claims. (Cl. 250—218)



Smoke color and density indicating apparatus, including normally de-energized first, second and third indicating means, smoke density responsive means operable when the density of the smoke exceeds a given first value for energizing said first indicating means and a single one of said second and third indicating means, and smoke color responsive means operable when the quantity of light reflected by the smoke exceeds a predetermined value for reversing the states of energization of said second and third indicating means.

3,376,426
COLOR DETECTION APPARATUS FOR MULTIPLE COLOR PRINTING

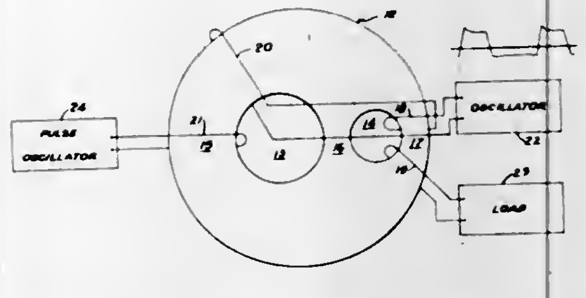
Joseph C. Frommer, Cincinnati, Ohio, and Warren L. Rhodes, Rochester, N.Y., assignors to Hurletron Incorporated, Danville, Ill., a corporation of Delaware
Continuation of application Ser. No. 453,537, Apr. 16, 1965, which is a continuation of application Ser. No. 174,694, Feb. 23, 1962. This application Nov. 4, 1966, Ser. No. 592,227
20 Claims. (Cl. 250—226)



1. A density monitor for colored inks applied to a web, said monitor providing bidirectional scalar indications of variation from normally desired density of each of a plurality of inks as they are being applied to the web, said monitor having means responsive to the amount of light absorption of each of said inks, comprising:
means for defining a discretely illuminated portion of said ink applied web and for receiving therefrom discrete spectrum components of the light reflected from said web in proportion to the density of the applied inks;
said receiving means having means for separately responding to representative wavelengths of each of said spectrum components and for transducing into electrical signals the quantum of each spectrum component in a manner which is primarily indicative of the density of its associated applied ink;
primarily substractive suppression matrix means coupled to said responding means for receiving all of said electrical signals, operating upon them in a primarily subtractive corrective mode, and removing from each said signal the influence of the inks associated with the other of said signals;
said matrix means having a plurality of discrete outputs each of which receives from said matrix means energizations separately manifesting the density of each of said inks; and
a plurality of bidirectional scalar generating and indicating means each respectively coupled to one of said plurality of matrix outputs;
each said bidirectional scalar means having means for generating a signal characteristic of the desired density of its associated ink and coacting this characteristic signal with said matrix output energizations to provide dynamic bidirectional indications of the density of the then being applied ink as compared with its desired density.

3,376,427
TRANSFLUXOR MAGNETIC SWITCH

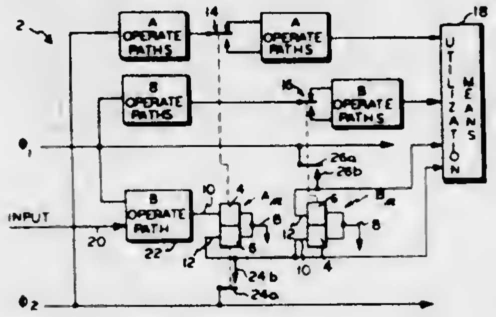
William James Mahoney, Darien, Conn., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Jan. 30, 1961, Ser. No. 85,763
11 Claims. (Cl. 307—88)



1. In a magnetic device, the combination of a core of magnetic material, said core having a plurality of apertures defining a first and a second magnetic path having common portions; a primary winding adapted to be energized from a source of asymmetric oscillator pulses; a secondary winding, said primary winding and said secondary winding being operatively disposed relative to said core to be magnetically coupled by flux in said second magnetic path; a set winding and a block winding separately disposed relative to said first magnetic path and operative to control the remnant state of said second magnetic path; and impedance means coupled between said primary winding and said set winding operative to control the magnitude of the flux created by said set winding in accordance with the magnitude of the signal energizing said primary winding.

3,376,428
DRY-SWITCHING RELAY BINARY LOGIC APPARATUS

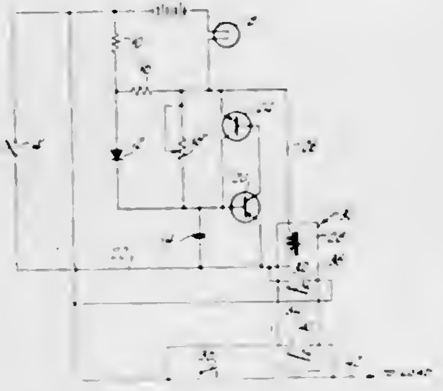
William R. Nugent, Lexington, Mass.
(8 Ravenscroft Road, Winchester, Mass. 01890)
Filed Aug. 11, 1964, Ser. No. 388,757
9 Claims. (Cl. 307—136)



An apparatus which utilizes polyphase power and relays to form logical networks by dry switching the relay contacts.

3,376,429
TIME DELAY CIRCUIT

Carl E. Atkins, Montclair, and Robert L. Ziolkowski, South Plainfield, N.J., assignors, by mesne assignments, to Wagner Electric Corporation, South Bend, Ind., a corporation of Delaware
Filed June 4, 1965, Ser. No. 461,241
7 Claims. (Cl. 307—141)



5. A time delay circuit comprising in combination a direct current source of energy, a unidirectional current element, a capacitor, an impedance and a signal device connected in series across said source for charging said capacitor, a high resistor connected between the junction of said signal device with said impedance and the junction of said unidirectional element and capacitor for providing a path for slow discharge of said capacitor, a semiconductor regenerative circuit connected in parallel with said impedance and having a control electrode connected to the junction of said high resistor and capacitor for preventing conduction by said semiconductor circuit when the charge in said capacitor is above a predetermined value, and switch means for shunting said unidirectional element and capacitor to initiate discharge of said capacitor and eventual shunting of said impedance by said regenerative circuit.

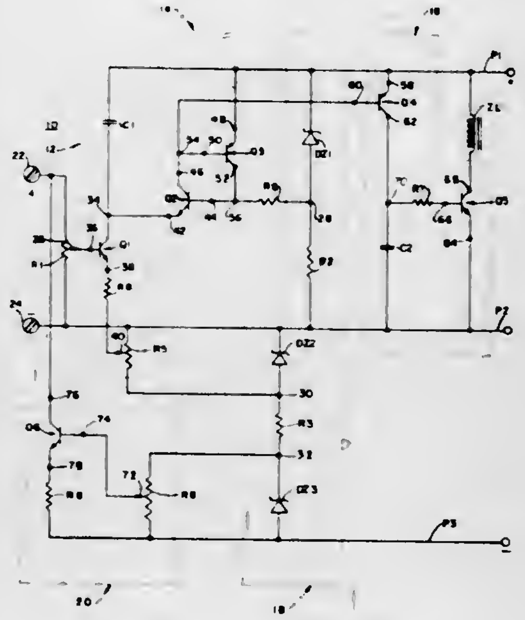
3,376,430
HIGH SPEED TUNNEL DIODE COUNTER

George E. Smith, Bridgeton, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Oct. 11, 1965, Ser. No. 494,471
10 Claims. (Cl. 307—225)

A counter circuit employing $n+1$ tunnel diode stages to count $2n$ bits in a successive progression and regression manner. The stages are all connected in parallel between positive and negative diode gated pulse input lines and adjacent stages are coupled through diode gated biasing networks. The last stage is coupled to the first stage through an inverter. With such an arrangement, one stage is always preconditioned near its switching threshold, and when it switches, it preconditions the next stage. When the last stage is switched, the inverted feedback re-switches the first stage, which in turn preconditions the next stage for re-switching, and so on. The preconditioning action is effected by current steering through the interstage coupling biasing networks.

3,376,431
CONTINUOUS ACTING CURRENT INTEGRATOR HAVING SELECTIVE ZERO BASE AND PROVIDING VARIABLE REPETITION RATE OUTPUT PULSES OF PREDETERMINED WIDTH AND AMPLITUDE

Kenneth C. Merrell, Brea, Calif., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed July 2, 1965, Ser. No. 469,255
27 Claims. (Cl. 307—229)



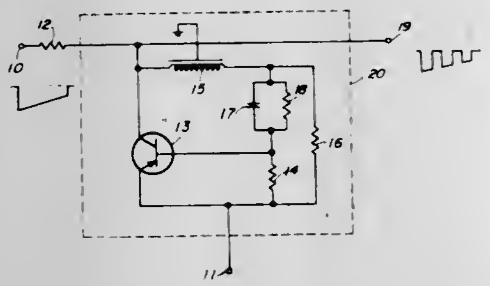
A continuous acting current integrator circuit is provided which generates an output pulse of predetermined width and amplitude for a given quantum of input current, the circuit including a suppression current generating network for selectively establishing a zero level of current input by opposing the input current, a selectively variable reference voltage network for controlling the current generating network, and a charging current network for charging an input capacitance, at a rate proportional to the magnitude of the input current, to predetermined reset voltage level, at which level the circuit generates an output pulse and resets the input capacitance to zero, to commence another charging cycle.

3,376,432
PULSE CHOPPER

Bernarr H. Humpherys, 719 Goldenrod St., Escondido, Calif. 92025

Filed Sept. 28, 1964, Ser. No. 399,947

3 Claims. (Cl. 307—240)



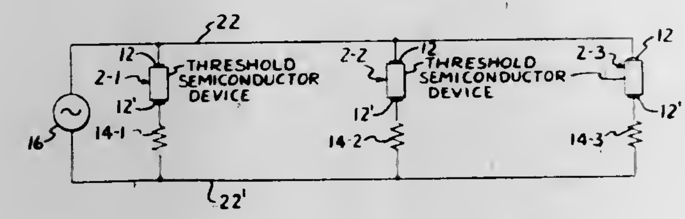
A solid state pulse chopper circuit for producing a pulse output signal having a higher repetition frequency than a pulse input signal. The amplitude of output signals is proportional to that of the input signals. The most basic embodiment requires no source of external power for operation but instead is powered by the input signal itself.

3,376,433
MULTI-BRANCH TRANSMISSION LINE SWITCHING SYSTEM USING THRESHOLD SWITCH DEVICES

Lionel Robbins, Oak Park, Mich., assignor, by mesne assignments, to Energy Conversion Devices, Inc., Troy, Mich., a corporation of Delaware

Filed Apr. 10, 1964, Ser. No. 358,794

5 Claims. (Cl. 307—242)


22
12
2-1
12'
THRESHOLD SEMICONDUCTOR DEVICE
2-2
12
THRESHOLD SEMICONDUCTOR DEVICE
12'
2-3
12
12'
16
14-1
14-2
14-3
22'

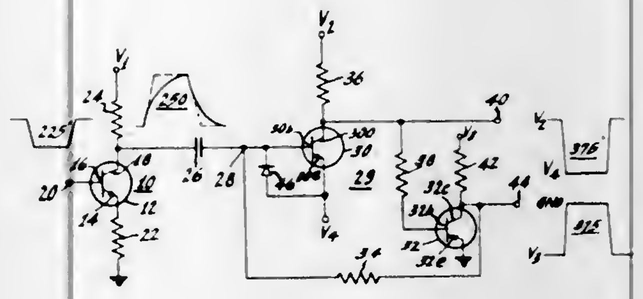
A transmission line is provided connected to voltage source means providing a selection of voltages of different amplitudes, one or more of the voltages being an A.C. voltage. A number of branch circuits to be respectively selectively responsive to said voltages are connected across the transmission line and each includes a bi-directional threshold semiconductor device in series with a load to be responsive to one of the voltages, each bi-directional semiconductor device comprising a semiconductor material having one condition wherein at least portions thereof between the load terminals have a high resistance where they act as insulators for blocking the flow of current therethrough in either or both directions when the peak value of an applied voltage is below a threshold voltage level which is at or below the peak value of the voltage to which the associated load is to be responsive, and having another condition wherein said at least portions thereof between the load terminals have a low resistance and are conductors of current therethrough substantially equally in either direction therethrough when the peak value of the applied voltage is raised above said threshold voltage level and revert to said one blocking condition when the current therethrough falls below a given holding current level.

3,376,434
PULSE DISTRIBUTION AMPLIFIER

Sol Weinstock, Riverside, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Apr. 2, 1965, Ser. No. 444,992

9 Claims. (Cl. 307—268)



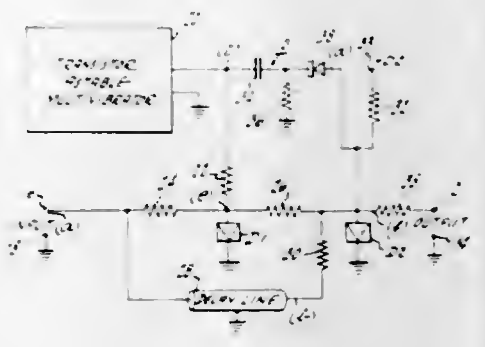
Apparatus for re-forming degraded input pulses by generating output pulses having leading corners of positive and negative transitions in time coincidence with respective leading corners of degraded input pulses, and also having decreased rise and fall times.

3,376,435
SYNCHRONIZING CIRCUIT EMPLOYING PLURAL BISTABLE-ELEMENTS FOR PRODUCING LOW FREQUENCY OUTPUT IN SYNCHRONISM WITH LOW AND HIGH FREQUENCY INPUTS

Charles M. Wine, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Continuation of application Ser. No. 199,288, June 1, 1962. This application Dec. 11, 1964, Ser. No. 417,743

11 Claims. (Cl. 307—269)



1. A synchronizing circuit for producing output pulses at a relatively low repetition rate in synchronism with input signals at a relatively higher repetition rate, said synchronizing circuit comprising,

an oscillator circuit providing pulses of the frequency of said low repetition rate,

two tunnel diodes each having high and low voltage stable states,

means connecting said oscillator circuit to one of said diodes to switch it periodically from its low voltage state to its high voltage state,

means connecting said one diode to the other of said diodes to apply the output of said one diode to said other diode,

a delay circuit,

means to apply said input signals to said one diode,

means to apply said input signals to said other diode through said delay circuit to switch said other diode from its low voltage state to its high voltage state only upon application thereto of both a delayed one of said input signals and said output from said one diode when said one diode is in its high voltage state,

said delay circuit delaying said input signal an amount less than one cycle of said input signal at said higher repetition rate, and

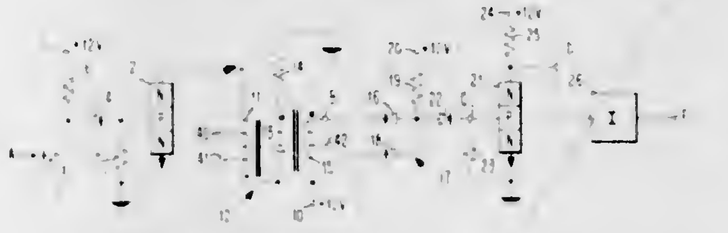
means to derive said output pulses from said other diode.

3,376,436
PRECISION DIGITAL DELAY CIRCUIT

Herbert W. Hines and Andrew R. Johnson, Endwell, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Aug. 13, 1965, Ser. No. 479,500

5 Claims. (Cl. 307—293)



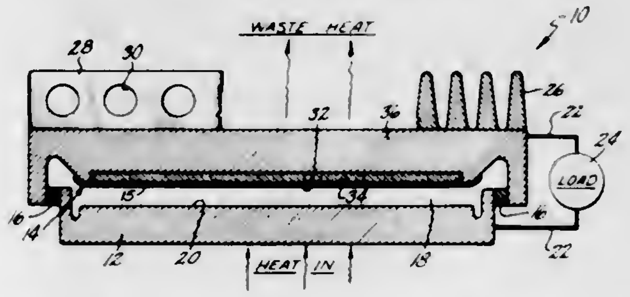
The circuit includes a logical AND circuit having a pair of input terminals, one of which receives the input signal which is to be delayed. The input signal is also applied to a transistor switch which drives a transformer having a square loop hysteresis characteristic from saturation of one polarity to saturation of the opposite polarity. During switching of the transformer, the pulse produced in the output winding of the transformer inhibits an output from the AND circuit; and, at the end of the switching time, the signal in the output winding terminates to permit satisfaction of the AND function thereby producing an output pulse with the desired delay interval. The output pulse terminates coincident with the termination of the input signal at which time the transformer core is restored to its initial state.

3,376,437
THERMIONIC CONVERSION MEANS

Russell G. Meyerand, Jr., and Donald W. Bell, Glastonbury, and Robert H. Bullis, West Hartford, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed June 22, 1964, Ser. No. 376,728

14 Claims. (Cl. 310—4)



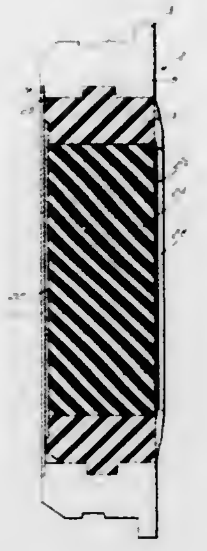
1. In a thermionic converter, an electron emitter adapted to be heated to a temperature to emit electrons and generate thermal radiation, a thermal-radiation-transparent and eelctron-opaque collector assembly, means to support said emitter and collector assembly in spaced relation to form an interelectrode gap therebetween, and means electrically connecting said collector assembly to said emitter.

3,376,438
PIEZOELECTRIC ULTRASONIC TRANSDUCER

John R. Colbert, Wood Dale, Ill., assignor to Magnaflux Corporation, Chicago, Ill., a corporation of Delaware

Filed June 21, 1965, Ser. No. 465,385

9 Claims. (Cl. 310—8.2)



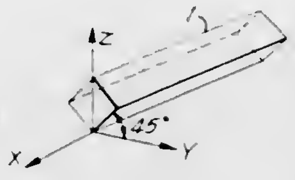
Ultrasonic transducer employing an improved damping means for the piezoelectric crystal, the damping means consisting of a self-sustaining sintered skeleton of metal particles impregnated with a sound insulator such as a silicone rubber.

3,376,439
QUARTZ RESONATOR

Ivan Grigorjevich Vasin, Olkhovskaja Ulitsa 47, Apt. 9, and Petr Grigorjevich Pozdnjakov, Otkrytoe Chausee 3, Korpus I, Apt. 26, both of Moscow, U.S.S.R.

Filed Aug. 21, 1964, Ser. No. 391,268

3 Claims. (Cl. 310—9.5)



1. A quartz resonator comprising a piezoelement adapted for undergoing torsional vibrations, said piezoelement being in the shape of an elongated rod having a rectangular section, said piezoelement being oriented such that the longitudinal length of the said piezoelement is arranged along the electric X-axis of a crystal, while the lateral sides of the piezoelement form angles of between 40 and 50° with the optical Z-axis and the mechanical Y-axis of the crystal; four electrodes mounted on the longitudinal sides of the piezoelement, said electrodes being formed by electroconductive coatings, and conductors connected with the said electrodes for energizing the same.

3,376,440
LIQUID METAL PISTON MHD GENERATOR

James P. Palmer, Setauket, N.Y., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Sept. 17, 1965, Ser. No. 488,295

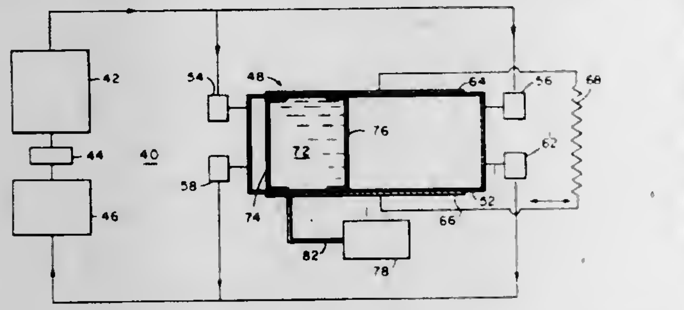
7 Claims. (Cl. 310—11)

1. Magnetohydrodynamic electrical generation apparatus comprising:

(a) means containing for reciprocal movement a slug of liquid metal, said slug being held in a piston like shape by a pair of end caps;

(b) means for establishing a magnetic field across the path of movement of said slug;

(c) closed electric circuit means extending across the path traversed by said slug, including means to contact electrically said slug moving along said path at an angle to the direction of slug movement thereby forming a complete electrical path for current flow through said slug when said slug is in electrical contact with said contact means; and

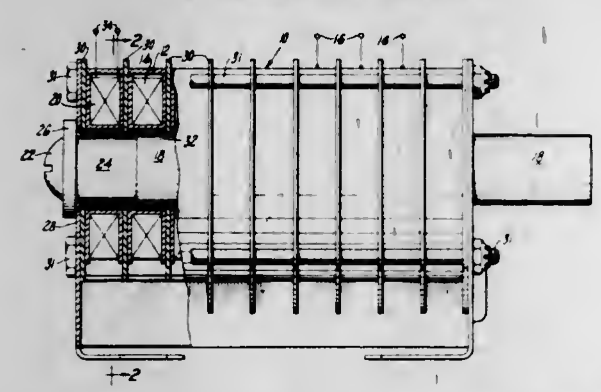


(d) means for driving said slug along said path through said magnetic field to cause an EMF across said slug, thereby causing electric current to flow through said electric circuit means while said slug is in contact electrically with said contact means.

3,376,441
LINEAR INDUCTION MOTOR ACTUATOR WITH ELECTROMAGNETIC DETENT

Robert H. Martin, Bristol, and Francis Norman Wroble, Wethersfield, Conn., assignors to Skinner Precision Industries, Inc., New Britain, Conn., a corporation of Connecticut

Filed July 22, 1965, Ser. No. 474,122
6 Claims. (Cl. 310—13)

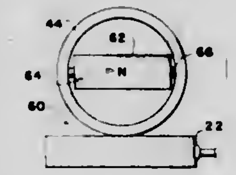


Mechanism comprising a linear induction motor having a stator, an electromagnet coil on the stator, a movable rod-armature including an end core of magnetic material, means for selectively applying AC power to the stator, and means for selectively applying DC power to the electromagnet when the AC power is removed from the stator.

3,376,442
ALTERNATING CURRENT ELECTRIC MOTOR

Vernon J. David, Durham, Kans. 67438

Filed Jan. 18, 1965, Ser. No. 426,155
12 Claims. (Cl. 310—156)

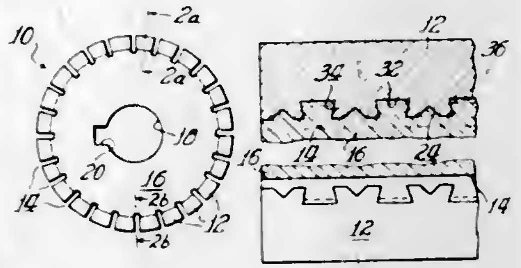


This invention relates to electric motors, and more particularly to electric motors having permanent magnet rotors of new materials, new designs, and new relationships with the stators. More particularly, this invention relates to new and novel electric motors having alternating current stators and permanent magnet type rotors each rotatable about an axis spaced above and inclined relative to the respective stator with the only requirement being that the rotor is placed within the magnetic field generated by the stator. More specifically, this invention relates to an electric motor using a permanent magnet having a minimum separation between poles and constructed of a metal ferrite such as barium ferrite, magnesium ferrite, or combinations thereof to provide a self-starting electric motor powered by a magnetic field with the axis of magnetic rotation and position thereof merely limited, first, by the strength of the magnetic field and, secondly, the axis of rotation cannot be aligned with the upright axis of the poles of the stator.

3,376,443
COMMUTATOR AND METHOD OF MAKING

John Warren McColl, Broadview, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed Nov. 30, 1961, Ser. No. 156,566
8 Claims. (Cl. 310—235)

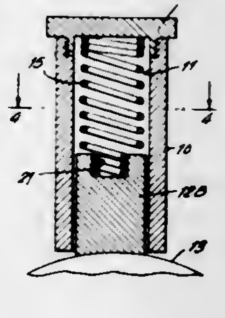


8. As an article of manufacture for the construction of a commutator having a plurality of peripheral electrically separated portions of electrical conductive material provided with anchoring means embedded in an insulating interior core; a strip of sheet material following a cylindrical curvature and having on its inwardly facing surface a plurality of elongated parallel ribs integral with said sheet material and following annular paths and having side surfaces forming an acute angle with the interior surface of said cylindrical member, and tooth-like impressions in the interior surface of said cylindrical strip between said ribs substantially perpendicular to said ribs.

3,376,444
CARBON BRUSH ASSEMBLY

Edgar P. Eaton, Jr., Morristown, N.J., and David Elow, New Rochelle, N.Y., assignors to Carbone Corporation, Boonton, N.J., a corporation of New Jersey, and Consolidated Spring Corp., Brooklyn, N.Y., a corporation of New York

Filed Sept. 13, 1965, Ser. No. 486,836
2 Claims. (Cl. 310—249)

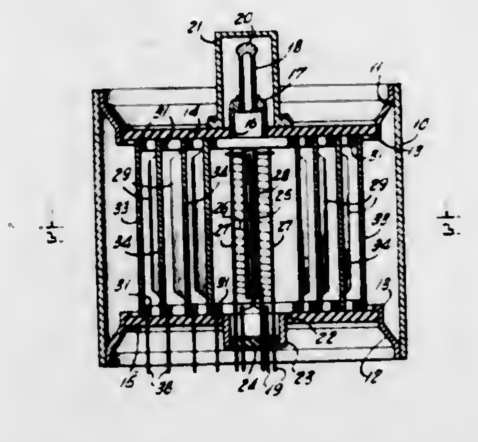


A carbon brush assembly for electrical motors in which the end of the brush is formed with a cavity into which a portion of a helical electric contact spring is received. The end of the spring is shaped to conform to the shape of the cavity to provide good electrical contacts therebetween under all operating conditions.

3,376,445
MOUNTING MEANS FOR ELECTRON DISCHARGE ELECTRODES

Robert F. Franklin, Chatham, and John J. McArtney, Basking Ridge, N.J., assignors to Wagner Electric Corporation, a corporation of Delaware

Filed Sept. 7, 1965, Ser. No. 485,276
6 Claims. (Cl. 313—39)

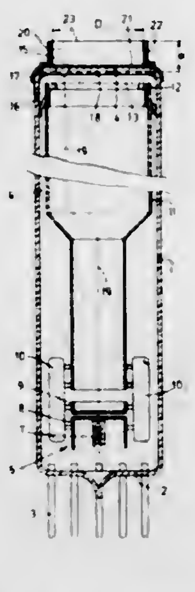


A cylindrical anode and a plurality of cylindrical dynodes are secured to metal rings at both cylindrical edges. The rings are secured to an upper and lower beryllium disk by brazing to a metalized surface on the disks. Lead-in wires are connected to the contact surface of the rings and are brought out through holes in the disks.

3,376,446
TELEVISION CAMERA TUBE EMPLOYING A PHOTO-SENSITIVE TARGET WITH A TRANSPARENT MEMBER FOR ABSORBING REFLECTED LIGHT FROM THE TARGET

Edward Fokko de Haan and Johan Haantjes, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Jan. 7, 1966, Ser. No. 519,370
5 Claims. (Cl. 313—65)

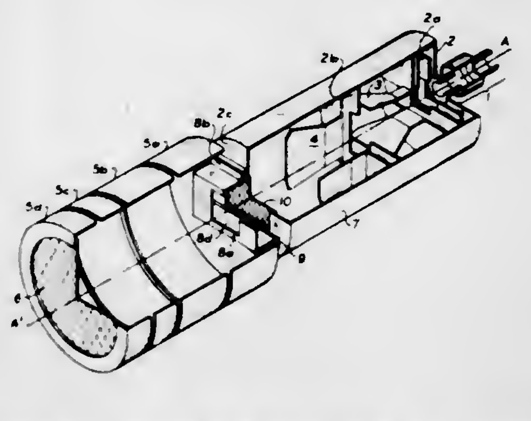


A television camera tube employing a photo-sensitive target supported by a glass end wall of a camera tube. A transparent member covered with a light absorbing material about its peripheral surfaces is placed directly in front of, and is bonded to the glass end wall supporting the photo-sensitive target and has a thickness such that light reflected by the target striking the surface of the member remote from the end-wall at the critical angle is reflected toward the peripheral surfaces where it is absorbed thus minimizing spurious light-response by the target.

3,376,447
CATHODE-RAY IMAGE SCANNING TUBE USING LOW-VELOCITY ELECTRON BEAM WITH ELECTROSTATIC DEFLECTION AND ANAMORPHOTIC LENS FOR IMPROVED FOCUSSING

Roger Auguste Petit, Palaiseau, France, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Dec. 17, 1964, Ser. No. 419,074
7 Claims. (Cl. 313—80)

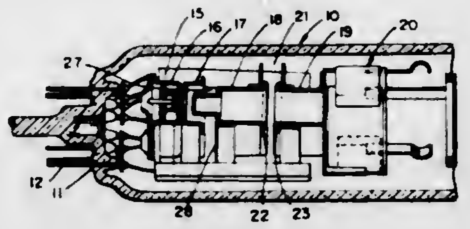


A cathode-ray image scanning tube, e.g., camera tube, storage tube and the like, employing a low velocity electron beam for scanning a target at right angles to the axis of the beam and employing an electrostatic deflection system and an electrostatic collimation lens between the deflection system and the target. An anamorphotic electrostatic lens is employed after the deflection system and between it and the collimating lens to make the virtual deflection centers of the vertical and horizontal deflection electrodes substantially coincide with the focus of the collimation lens.

3,376,448
MEANS FOR SHIELDING ELECTRON GUNS OF CATHODE RAY TUBES AGAINST SPURIOUS CHARGES

James W. Schwartz, Western Springs, Ill., assignor to National Video Corporation, Chicago, Ill., a corporation of Illinois

Filed Jan. 14, 1966, Ser. No. 520,780
2 Claims. (Cl. 313—82)



A flat, circular shield element is mounted adjacent the opposing rolled edge of the focusing grid and the accelerating grid in a multiple-gun cathode ray tube. Each of the shield elements extends radially outward beyond its associated rolled edge toward the envelope in the constricted neck portion of the tube. The shield elements associated with each gun cooperate to minimize the effect of spurious charges on the inside of the tube envelope or on the gun mounting structure.

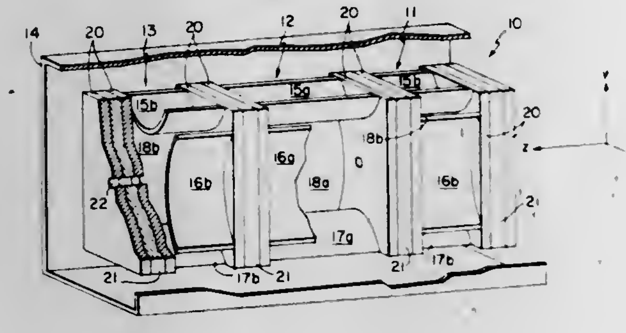
3,376,449

ELECTROSTATIC QUADRAPOLE LENS ASSEMBLY WITH TRANSVERSE INTERMEDIATE TERMINATION ELEMENTS OF RESISTIVE MATERIAL JOINING TOGETHER THE QUADRAPOLE ELECTRODES FOR PREVENTING BEAM ABERRATION

Stanley Harrison, Bedford, Mass., assignor to Ion Physics Corporation, Burlington, Mass., a corporation of Delaware

Filed Jan. 20, 1967, Ser. No. 610,596

9 Claims. (Cl. 313—83)



This invention teaches that the end effect aberrations of strong focusing lens can be reduced by providing each lens with an apertured termination of uniform sheet resistance. Preferably the termination must be thin and have a high resistivity.

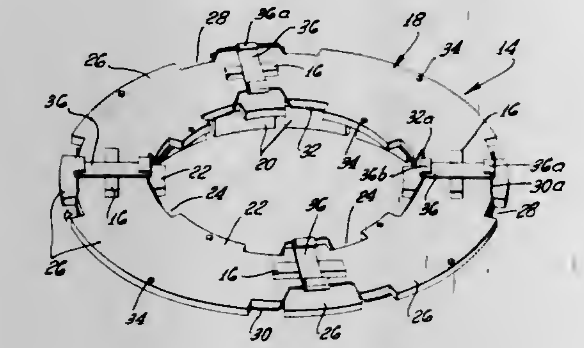
3,376,450

PERMANENT MAGNETS ASSEMBLY MEANS FOR CORRECTION OF PINCUSHION DISTORTION IN CATHODE RAY TUBES

Chester A. Franklin, North Hollywood, Calif., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland

Filed Aug. 24, 1966, Ser. No. 574,782

9 Claims. (Cl. 313—84)



1. In a vacuum tube producing a beam of electrons which is deflected in a manner to form a desired image on a fluorescent screen, a device for modifying the geometric shape of the image comprising: a mounting plate for surrounding a portion of the tube through which the beam passes; a pair of spaced spring retainers attached to said plate; a retaining element attached to and extending between said spring retainers; a permanent magnet clamped between said element and said plate as urged by said spring retainers, the dimensional relation of said element and retainers being such as to permit said magnet to be positioned in all directions in a plane parallel to said plate and to permit said magnet to be rotated on its own axis.

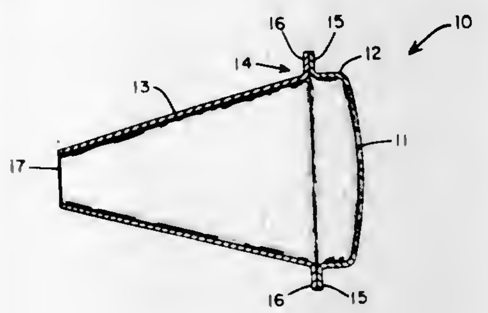
3,376,451

SHADOW MASK AND MAGNETIC SHIELD UNITARY CONSTRUCTION FOR COLOR TV PICTURE TUBES

Norman B. Mears, Dakota County, Minn., assignor to Buckbee-Mears Company, St. Paul, Minn., a corporation of Minnesota

Filed Sept. 12, 1966, Ser. No. 578,858

10 Claims. (Cl. 313—92)



1. For a color TV picture tube, in combination: a thin metallic shadow mask containing a myriad of miniature apertures through which electron beams travel from electron guns at the rear of the picture tube to the screen at the face of the picture tube; said mask being shaped to conform generally to the inside of the picture tube bulb for allowing the electron beams to strike appropriate spots on the face in proper focus; and a funnel-shaped metallic shield extending rearward from said mask, the base of the shield being rigidly attached to the periphery of said shadow mask for strengthening the mask to make it substantially inflexible.

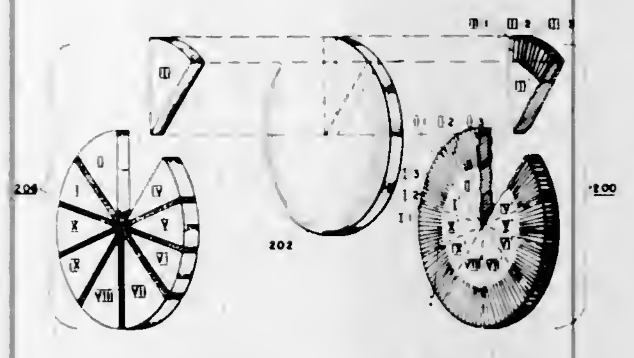
3,376,452

CIRCULAR ELECTROLUMINESCENT DISPLAY DEVICE

Kenneth P. Lally, Bayshore, N.Y., assignor, by mesne assignments, to Mid-Continent Manufacturing Co., Columbus, Ohio, a corporation of Ohio

Filed Nov. 9, 1964, Ser. No. 409,639

4 Claims. (Cl. 313—108)



1. An electroluminescent display device comprising

a first circular electrode layer having at least one planar surface and having N number of electrically discrete sector shaped electrodes, each of which has a sector angle of 360/N degrees.

a second circular electrode layer having at least one planar surface, and having N number of groups of electrodes, each such group having more than two radially arrayed electrodes positioned within a portion of said second electrode layer which is sector shaped with a sector angle of 360/N degrees, and all such groups having the same number of electrodes, all such electrodes in a given group being electrically discrete from each other but electrically connected to one only of the electrodes in each of the other groups,

said first and said second electrode layers each having a planar surface in contact with the opposite sides of the same layer of electroluminescent material throughout the total extent of said surface,

the electrode in at least one of said electrode layers being translucent.

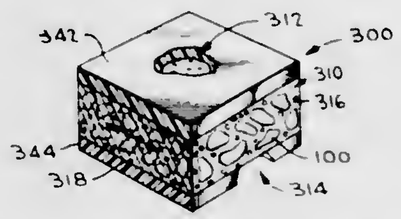
3,376,453

ELECTROLUMINESCENT DEVICES WITH LIGHT EMISSION GENERALLY PERPENDICULAR TO THE IONIC CURRENT FLOW

Sam L. Leach, 32653 Seagate Drive, Palos Verdes Peninsula, Calif. 90274

Continuation-in-part of application Ser. No. 442,436, Mar. 24, 1965. This application Dec. 23, 1966, Ser. No. 604,330

31 Claims. (Cl. 313—108)



Electroluminescent devices wherein the light emanates from the device in a direction generally perpendicular to the ionic current flow of the applied electric field, rather than parallel thereto. Various embodiments include, e.g., edge electrodes or split rear electrodes. With such devices it is not necessary for light to pass through a front electrode layer before emanating from the device. In certain embodiments the electroluminescent phosphor particles are protected against environmental humidity by encapsulation in a moisture-proof and vapor-proof coating of very minor thickness.

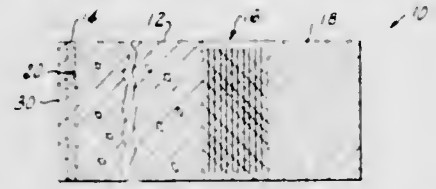
3,376,454

NUMERIC ELECTROLUMINESCENT DISPLAY DEVICE UTILIZING STACKED DIGIT

Elmer O. Stone, Seneca Falls., N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed Apr. 2, 1965, Ser. No. 445,009

9 Claims. (Cl. 313—109.5)



A numeric display device comprised of stacked electrodes suitably insulated one from another and each formed to represent a particular digit. The stacked electrodes are mounted on one side of an electroluminescent layer which has applied to the other side of a transparent common electrode. Application of a potential between the common electrode and one of the digit electrodes will cause that particular digit to appear on the face of the device.

3,376,455

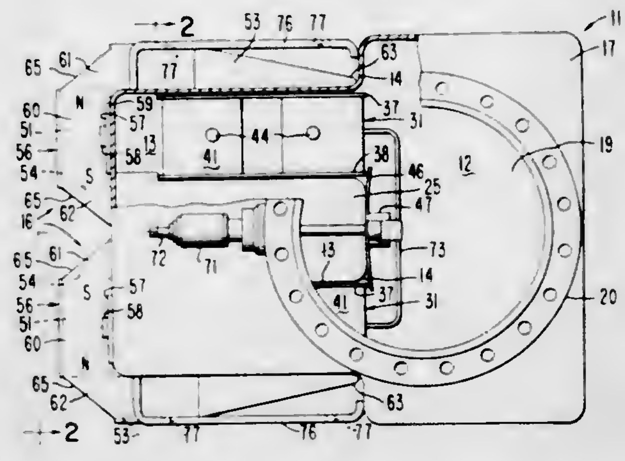
IONIC VACUUM PUMP HAVING MULTIPLE EXTERNALLY MOUNTED MAGNETIC CIRCUITS

Robert L. Jepsen, Los Altos, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Feb. 28, 1966, Ser. No. 530,638

10 Claims. (Cl. 313—161)

1. An improved ionic vacuum pump comprising an envelope having a port for communicating in gas tight relation with a device to be evacuated and defining a main chamber and a first plurality of spaced apart adjacent appendage chambers interconnected with and extending from said main chamber, anode partitioning means defining a plurality of open ended cellular compartments mounted within each appendage chamber, a cathode structure for disintegration by ion bombardment mounted within each appendage chamber to cover the open ends of said cellular compartments to define therewith a pump element



unit, terminal means for connecting a voltage source to establish a potential difference between said cathode structure and said anode partitioning means within each appendage chamber, means for generating a magnetic field in each appendage chamber directed substantially axially of the cellular compartments with the magnetic fields in adjacent appendage chambers in opposite directions.

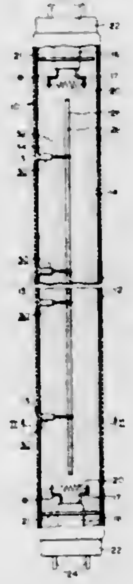
3,376,456

ELECTRIC DISCHARGE LAMP HAVING A RESILIENTLY SUSPENDED FRAGILE MEMBER THEREIN THAT DECREASES THE DIFFUSION LENGTH OF THE DISCHARGE

Albert W. Wainio, Livingston, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 5, 1964, Ser. No. 409,246

7 Claims. (Cl. 313—204)



1. In an electric discharge lamp having an envelope that contains an ionizable medium and a pair of spaced electrodes operable when energized to sustain an electric discharge therebetween, the improvement comprising the combination of:

a fragile elongated member disposed in the discharge spaced between said electrodes, and

means suspending said elongated member within said envelope at a predetermined location in the discharge space and in longitudinally extending relationship with the discharge path between said electrodes comprising (1) a pair of spaced nodular elements that are integral with and project transversely from the side wall of said envelope into the discharge space and (2) a corresponding number of resilient tie wires that are anchored in the respective nodular elements and have their free ends formed into expandable clasps that compressively grip and are mechanically interlocked with said elongated member,

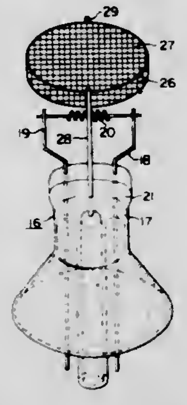
said nodular elements being so spaced that the expandable clasp portions of the respective tie wires grip preselected intermediate portions of the elongated member that are disposed inwardly from the ends of said member.

3,376,457
ELECTRIC DISCHARGE LAMP WITH SPACE CHARGE RELIEVING MEANS

Frederick W. Hoeh, Livingston, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 7, 1964, Ser. No. 416,263

6 Claims. (Cl. 313—205)



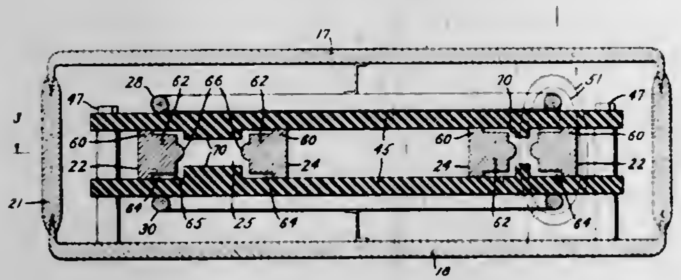
The anode voltage drop in a fluorescent lamp is reduced by mounting a pair of "electrically-floating" foraminous members, such as a pair of planar wire-grids, in spaced tandem relationship a predetermined distance in front of the anode. The distance between the foraminous members is such that the space therebetween constitutes a region along the discharge path that relieves the negative space charge near the anode.

3,376,458
SPARK GAP DEVICE

Tseng W. Liao, Media, Pa., assignor to General Electric Company, a corporation of New York

Filed Nov. 22, 1965, Ser. No. 509,095

6 Claims. (Cl. 313—217)



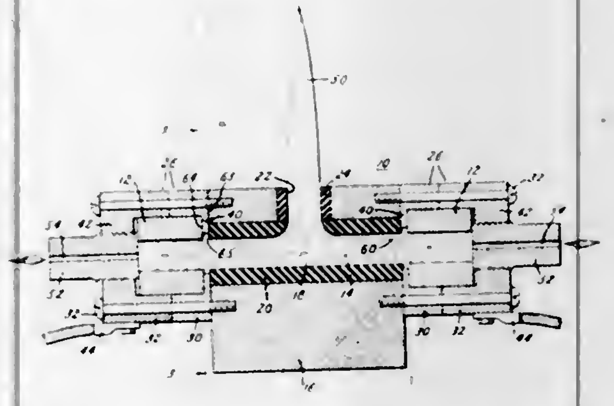
1. A spark gap device comprising:
(a) a pair of spaced-apart metallic arc runners, each being an elongated bar-like member,
(b) means for establishing an electric arc across the gap between said runners with one arc terminal on one runner and the other arc terminal on the other runner,
(c) means for rapidly driving said arc terminals along the length of their respective runners,
(d) a pair of sidewalls of insulating material extending between said runners at opposite edges thereof and generally parallel to said arc,
(e) each of said arc runners comprising a base and a portion projecting from said base toward the other of said arc runners, said base and said projecting portion both extending along the length of said runner,
(f) arc-terminal-locating means defining an arcing zone at the free end of said projecting portions where the arc is maintained while on said runners,
(g) said projecting portions being spaced from both of said sidewalls so that the shortest creepage path between said arc runners on a sidewall surface extends between said bases alongside and spaced from said projecting portions,
(h) said arc runners being so shaped that any straight line path extending between said arcing zone and the portions of said creepage path extending alongside said projecting portions adjacent said bases is intersected by one of said arc runners.

3,376,459
ARC PLASMA GENERATOR HAVING A VAPORIZABLE CONTAINMENT CHAMBER

Joseph J. Narbus, Lindenwold, N.J., and Gerhard Frind, Secane, Pa., assignors to General Electric Company, a corporation of New York

Filed Apr. 6, 1965, Ser. No. 445,989

9 Claims. (Cl, 313—231)



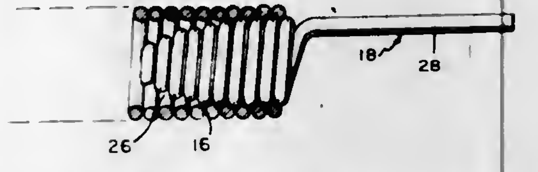
An arc plasma generator comprising an arcing passage in which the column of an electric arc is located. The arcing passage is lined with insulating material that evolves gas when heated by the arc. These gases are converted by the high temperature arc into a hot arc plasma that is expelled from the arcing passage through an exhaust passage located intermediate the ends of the arc column. Scavenging means substantially prevents electrode vapors from entering the plasma flowing toward the exhaust passage.

3,376,460
CONICAL SHAPED FILAMENT SUPPORT

Keith O. Jameson, Waldoboro, Maine, assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed Sept. 20, 1965, Ser. No. 488,319

4 Claims. (Cl. 313—274)



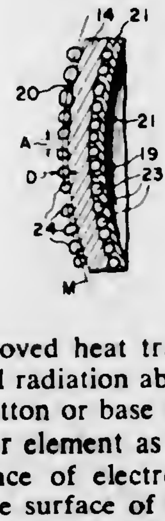
This invention relates to an improved method of axially supporting a legless filament in a tubular lamp. A tapered conductive wire insert is screwed into each end of a legless filament. The free end of the insert is provided with a straight leg that is welded to electrical sealing foils in the press seal of the lamp, thereby axially supporting and electrically connect the filament within a tubular envelope.

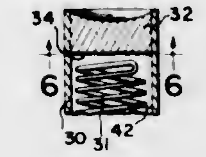
3,376,461
THERMIONIC CATHODES AND HIGH FREQUENCY ELECTRON DISCHARGE DEVICES

Samuel James Millward, Portola Valley, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Dec. 28, 1964, Ser. No. 421,549

19 Claims. (Cl. 313—337)





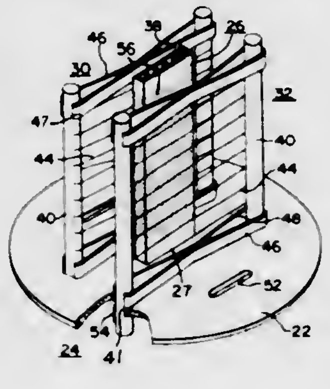
Improved heat transfer between a thermionic cathode thermal radiation absorption surface e.g., the back portion of a button or base member of an oxide type cathode and a heater element as well as improved radiation from and adherence of electron emissive material to the electron emissive surface of the thermionic cathode with a resultant reduction in heater power requirements for an equivalent emission surface temperature are realized by various roughness techniques such as machining, grinding, deposition of refractory metal particles in a manner such as to approach black body types of radiation and absorption characteristics.

3,376,462
ELECTRON DISCHARGE DEVICE GRID HAVING PARALLEL CROSS STRAPS CONNECTED AT THE CENTER THEREOF

Goliardo Miale and Edward R. Campagna, Bath, N.Y., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 24, 1965, Ser. No. 478,002

7 Claims. (Cl. 313—350)



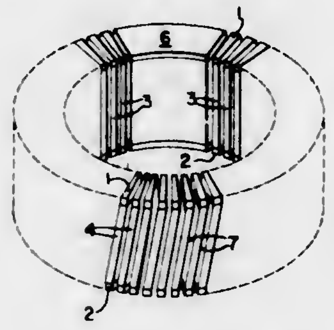
This invention relates to a frame grid type of electrode for an electron discharge device including a pair of side rods disposed in a substantially parallel relation, a plurality of grid wires disposed between and supported by the pair of side support rods, and at least one pair of frame straps disposed between and secured on both sides of the side support rods. More particularly, the frame straps are so shaped that a portion of one frame strap may be connected to a portion of the other frame strap and that the frame strap is withdrawn from the surface of an adjacently disposed electrode.

3,376,463
CROSSED FIELD MICROWAVE TUBE HAVING TOROIDAL HELICAL SLOW WAVE STRUCTURE FORMED BY A PLURALITY OF SPACED SLOTS

Joseph Feinstein, Livingston, N.J., assignor to S-F-D Laboratories, Inc., Union, N.J., a corporation of New Jersey

Filed Oct. 26, 1964, Ser. No. 406,305

8 Claims. (Cl. 315—3.5)



A microwave crossed-field tube of circular geometry is disclosed. The tube employs a circular helical slow wave structure formed by a metallic toroid slotted in such a manner as to form the helix. More specifically, the metallic toroid is slotted with a first array of radially directed slots passing partially through the cross-section of the toroid. A second array of peripherally spaced slots are provided which are inclined to the direction of the first slots, such inclined slots passing through the remaining cross-sectional portion of the toroidal member and interconnecting adjacent ones of the first array of slots to define the helix slow wave structure. In a preferred embodiment, the toroid is of rectangular cross-section and a pair of thermally conductive dielectric members support the toroid from the envelope of the tube and are affixed to the helix at opposed axial ends thereof.

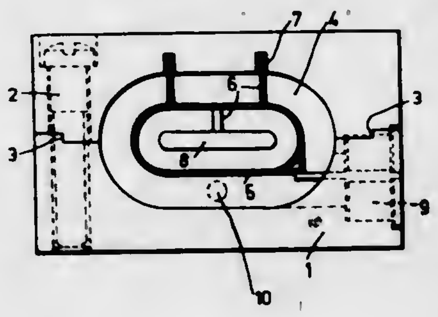
3,376,464
BEAM DEFLECTION SYSTEM COMPRISING A FLATTENED HELIX

Charles Loty, Nogent-sur-Marne, France, and André Eugène Guillaume, deceased, late of Crosne, France, by Georges-Albert Boutry, representative, Villencresnes, France, assignors to Laboratoires d'Electronique et de Physique Appliquees L.E.P.

Filed Nov. 21, 1966, Ser. No. 596,011

Claims priority, application France, Nov. 30, 1965, 40,195

5 Claims. (Cl. 315—3)



A charged particle beam deflection apparatus particularly for a cathode-ray tube, consisting of a pair of electrodes, one of which is a helical winding of substantially flat, conductive ribbon having a flattened part parallel to the axis of the winding and the other comprising an inner part disposed within and extending along the axis of the helical winding and an outer part practically completely surrounding the helical winding. The walls of these latter parts facing the helical winding are coaxial with the winding and have cross-sections which are similar to that of the helical winding.

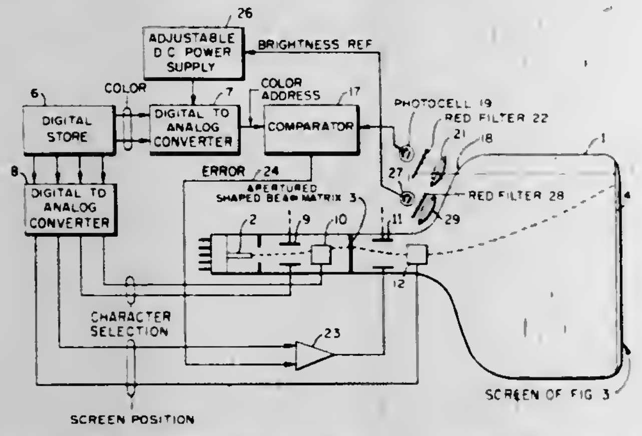
3,376,465

COLOR CHARACTER DISPLAY

Charles R. Corpew, San Diego, Calif., assignor, by mesne assignments, to Stromberg-Carlson Corporation, Rochester, N.Y., a corporation of Delaware

Filed Oct. 16, 1964, Ser. No. 404,431

8 Claims. (Cl. 315—10)



A data display system including a shaped beam tube having a target made up of successive phosphor strips of different colors, a control arrangement for positioning the electron beam so as to strike upon a desired portion of the target and impinge upon certain phosphor strips to produce an image of a prescribed color, a detector for detecting the intensity of the image, address control means for producing a signal indicative of a desired color, a comparator for determining the disparity between the signal produced by the address control means, and the detector and producing an error signal based thereon, and means responsive to the error signal for adjusting the position of the beam.

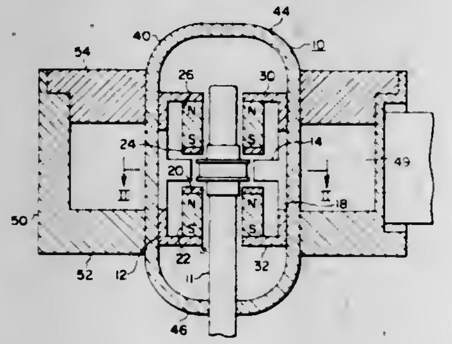
3,376,466

COAXIAL MAGNETRON HAVING MAGNETIC RETURN PATH THROUGH THE CYLINDRICAL ANODE

William A. Gerard, Horseheads, N.Y., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 1, 1964, Ser. No. 415,074

2 Claims. (Cl. 315—39.71)



The present invention relates to a coaxial magnetron in which the magnetic circuitry provides that magnets are positioned substantially coaxially with respect to the cathode of the magnetron and the magnetic field return is provided by means of the anode of the magnetron.

3,376,467

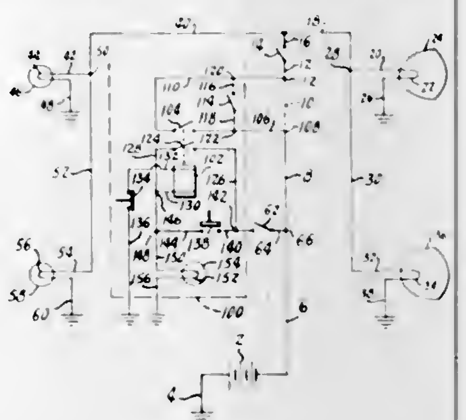
AUTOMOBILE HEADLAMP CIRCUIT WITH A SELF-HOLDING AND EXTINGUISHING CIRCUIT CONTROLLED BY THE IGNITION SWITCH

Harry A. Ree, 7906 Teton Way,
North Highlands, Calif. 95660

Filed Oct. 3, 1966, Ser. No. 583,773

10 Claims. (Cl. 315—82)

1. In an automobile lighting circuit which comprises a pair of headlights, tail lights, a source of electrical energy, a switch for energizing the lights, circuit means interconnecting the lights, switch and electric energy source and further including an ignition switch and circuit means interconnecting the ignition switch and the electric energy source;
   the improvement wherein the lighting circuit further includes a holding circuit for automatically turning the lights off when the ignition switch is opened and preventing energization of the lights when the ignition switch is again closed which comprises:
      an electric relay having a coil,
      a first pair of normally open contacts on the relay;
      circuit means icnluding the first contacts for opening and closing the lighting circuit between the electric energy source and the lights;



      a second pair of normally open contacts on the relay;
      circuit means from the electric energy source through the ignition switch, the second contacts, the relay coil to the opposite pole of the source of electric energy;
      a momentarily closing normally open switch; and
      circuit means connecting the momentarily closing switch in electrical parallel with the second pair of contacts to energize the relay coil to turn the lights on through the first contacts and close the second contacts to apply holding voltage to the relay coil to maintain the lights in the on position until the ignition switch is opened;
   whereby when the ignition switch is again closed the relay coil is not energized and the lights are not turned on again.

3,376,468

METHOD AND APPARATUS FOR HEATING GASES TO HIGH TEMPERATURES

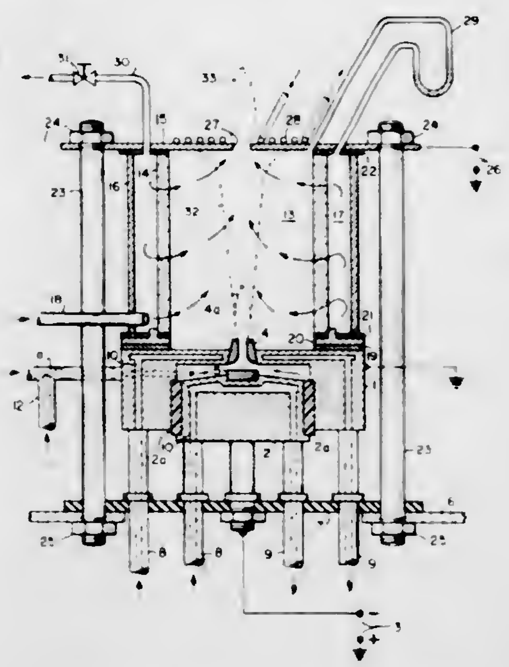
Thomas J. Hirt and Chester W. Marynowski, Mountain View, Calif. (both % Northern Natural Gas, Stanford Research Institute, Menlo Park, Calif. 94025)

Filed Oct. 11, 1965, Ser. No. 494,554

7 Claims. (Cl. 315—111)

5. Apparatus for heating gases to high temperatures comprising,
   (A) Means for creating an electric arc,
   (B) Means for supplying a gas stream to said arc to be heated thereby to form a preionizing zone of high temperature,
   (C) Means for introducing ionizing additives to said gas stream in advance of said arc to be ionized by heat from said arc,
   (D) An orifice for the flow of heated gas containing ionized additives from said zone of high temperature in the form of a jet,
   (E) A chamber downstream of said orifice into which said jet is discharged to create a high degree of turbulence in the chamber,
   (F) Means spaced from the jet for introducing a gas to be heated into portions of said chamber,

   (G) Means for maintaining a uniformity distributed electrical discharge through the gases within said chamber, and



   (H) Means for discharging heated gases from said chamber.

3,376,469

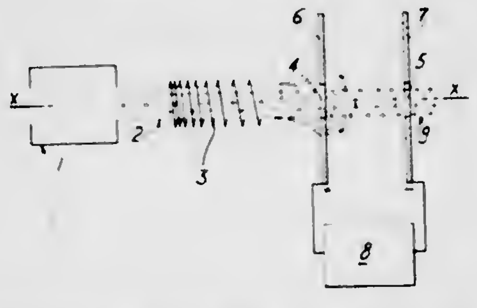
POSITIVE ION-SOURCE HAVING ELECTRON RETAINING MEANS

Terenzio Consoli, La Celle-Saint-Cloud, and Richard Geller, Antony, France, assignors to Commissariat à l'Energie Atomique, Paris, France

Filed Sept. 30, 1965, Ser. No. 491,699

Claims priority, application France, Oct. 14, 1964, 991,423

2 Claims. (Cl. 315—111)



An accelerated jet of positively and negatively charged particles is passed through a coil generating a magnetic field parallel to the long axis of the jet and having its intensity decreasing in the direction of flow to diverge negatively charged particles. The jet then passes through spaced parallel plates having openings in the cross-section of the jet with the upstream plate positively charged and the downstream plate negatively charged so that the upstream plate captures negatively charged particles.

3,376,470

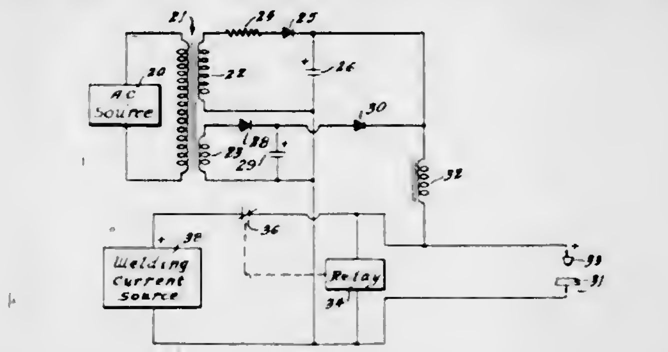
CAPACITOR DISCHARGE CIRCUIT FOR STARTING AND SUSTAINING A WELDING ARC

Cecil C. Stone and Robert H. Olp, Downers Grove, and George J. Pokorny, Glen Ellyn, Ill., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Aug. 12, 1965, Ser. No. 479,355

3 Claims. (Cl. 315—171)

A direct current arc starter for use with a welding current source includes a high-voltage, low-charge capacitor charged to a voltage sufficient to establish an arc and a low-voltage, high-charge capacitor charged to a voltage sufficient to sustain a stable arc. The capacitors are connected in parallel and a diode isolates the lower voltage



capacitor from the high voltage capacitor. The combined circuit is connected in series with an inductor to the welding electrodes.

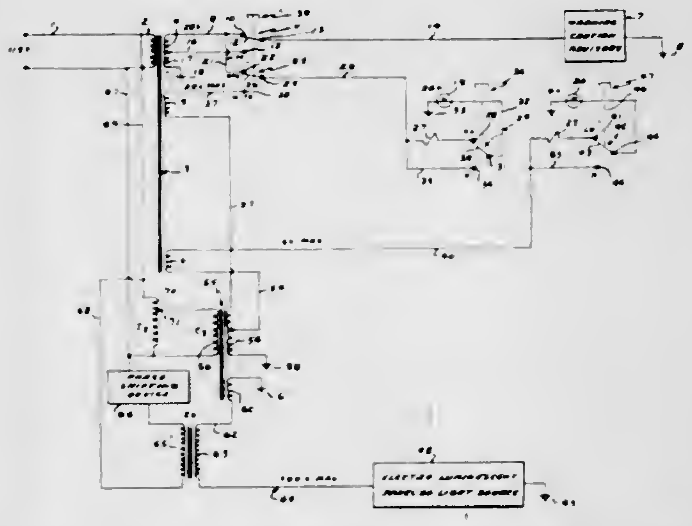
3,376,471

NONLINEAR LIGHTING CONTROL

Robert J. Boucher, Los Angeles, Calif., assignor to United States of America as represented by the Secretary of the Air Force

Filed Sept. 9, 1965, Ser. No. 486,245

6 Claims. (Cl. 315—178)



In order to cause the brilliance-voltage ratio of the lights of the bulb (filament) and luminescent (cold glow) types to coincide with respect to one another over the dimming range and thus obtain the same percentage dimming when the voltage is decreased, a transformer system is employed to provide the proper voltage to each type of light. The bulb type is fed from the secondary of a transformer and the luminescent type is fed, in part, from a second transformer, and in part, from a third transformer, all connected back to a single source of alternating current. A phase-shifting device is placed in the primary of the third transformer for altering the phase relation between the voltage and current to the aforementioned part of the energy supplied to the luminescent group. In this manner, the brilliance-voltage ratio of the latter is brought into coincidence with that of the bulb type.

3,376,472

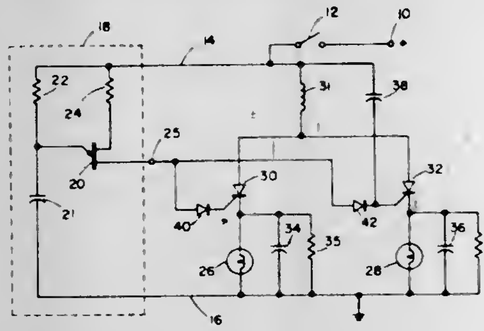
THYRISTOR SWITCHING MEANS FOR FLASHING ELECTRICAL LAMPS

Douglas W. Taylor and Reuben Wechsler, Phoenix, and Albert L. Markle, Mesa, Ariz., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

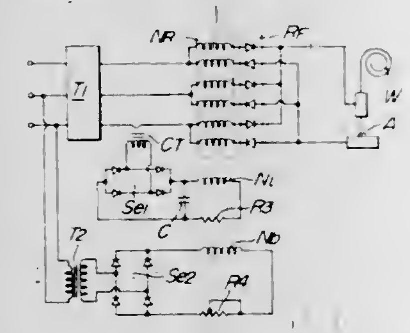
Filed June 7, 1965, Ser. No. 461,754

8 Claims. (Cl. 315—226)

A two-thyristor switching system connected through an inductance to a power supply for alternately lighting electrical lamps connected to and receiving current from the respective thyristors. A capacitor connected across each of the device lamps is charged by current flowing through the respective thyristors. The capacitor being charged serves to extinguish the connected thyristor when the supply voltage drops due to energization of the lamp connected to the other thyristor. A resistor is connected across each lamp to permit operation after lamp failure. A pulser supplies pulses through a pulse steering means to alternately actuate the thyristors to current conduction.

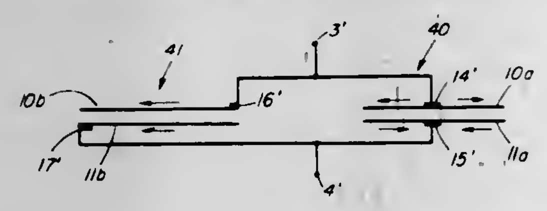


3,376,473
AUTOMATIC ARC WELDERS
Takeshi Oku, Suita-shi, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Kadoma-shi, Osaka, Japan, a corporation of Japan
Filed July 19, 1965, Ser. No. 472,838
Claims priority, application Japan, July 23, 1964, 39/42,242
1 Claim. (Cl. 315—291)



An automatic arc welder including a power supply and a control device connected so as to provide an advanced or rising output characteristic conforming to the characteristics of the welding arc wherein the output voltage increases with a steady increase in the output arc current.

3,376,474
ARC SUPPRESSION CIRCUIT AND COMPOUND IMPEDANCE ELEMENT FOR USE THEREIN
Norman I. Glover, Guilford, and Louis I. Knudson, Norwich, N.Y., and Harry G. Shoemaker, Norwich, Conn., assignors to General Laboratory Associates, Inc., Norwich, N.Y., a corporation of New York
Filed Sept. 3, 1965, Ser. No. 492,351
16 Claims. (Cl. 317—11)



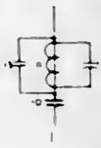
1. Arc suppression apparatus adapted for continuous connection between a cooperating pair of openable and closable contacts, comprising:

(a) a pair of terminals respectively connectable to said contacts;

(b) first capacitive impedance means connected permanently between said terminals and having relatively small series capacitance and substantially minimum effective series inductance; and

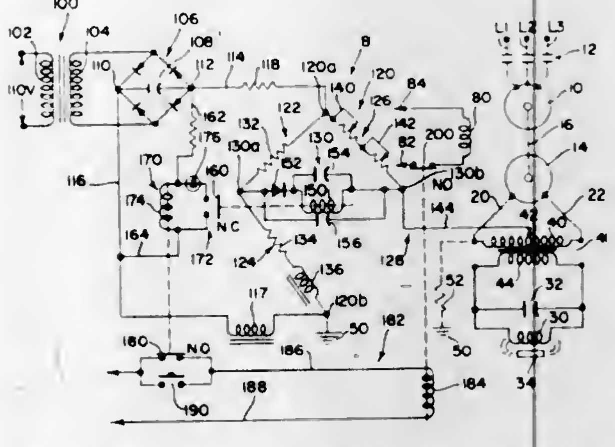
(c) second capacitive impedance means connected permanently between said terminals in parallel with said first impedance means and having relatively large series capacitance and a substantial effective series inductance.

3,376,475
CIRCUIT BREAKER WITH AUXILIARY RESONANCE CIRCUIT
Henry Greber, 225 W. 80th St., Apt. 8–D, New York, N.Y. 10024
Filed Sept. 7, 1965, Ser. No. 485,254
3 Claims. (Cl. 317—11)



This invention relates to a circuit breaker of high current interrupting capacity, which is achieved through insertion of an auxiliary resonance circuit in series with each main contact of the circuit breaker. The auxiliary resonance circuit consists of a condenser and inductance coil, whose magnitudes are so selected that their admittances cancel each other at commercial frequency on which the breaker is used. The auxiliary circuit can be introduced in series with the main circuit either at once, or in steps, first one element then the other. At resonance, the auxiliary circuit represents an infinite impedance that reduces the interrupted current to zero. The invention is suitable only for AC breakers.

3,376,476
GROUND DETECTOR FOR AN INDUCTION HEATING INSTALLATION
Cecil P. Porterfield and James G. Welt, Cleveland, Ohio, assignors to Park-Ohio Industries, Inc., a corporation of Ohio
Filed Feb. 1, 1966, Ser. No. 523,978
13 Claims. (Cl. 317—18)



1. A device for de-energizing the power supply of an induction heating installation upon the appearance of a ground across two selected points in said installation, said device comprising:

(a) a bridge circuit having two input terminals adapted to be connected to a supply of D.C. voltage, four inpedance legs and a null detecting intermediate branch spaced from said terminals by said legs;

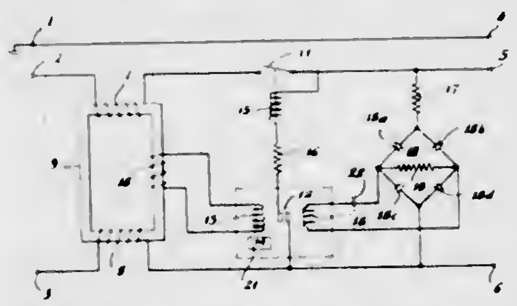
(b) a resistor adjusted to have a resistance level corresponding to the minimum allowable resistance across said two points, said resistor being connected in the first of said legs;

(c) the electrical circuit between said two selected points being connected within the second of said legs;

(d) said first and second legs being arranged within said bridge circuit so that current will tend to flow through said branch in a first direction when the resistance of said second leg is substantially above said minimum allowable level, current will tend to flow through said branch in a second direction when the resistance of said second leg is substantially below said minimum allowable level and no current will tend to flow through said branch when the resistance in said second leg is approximately at said minimum allowable level; and,

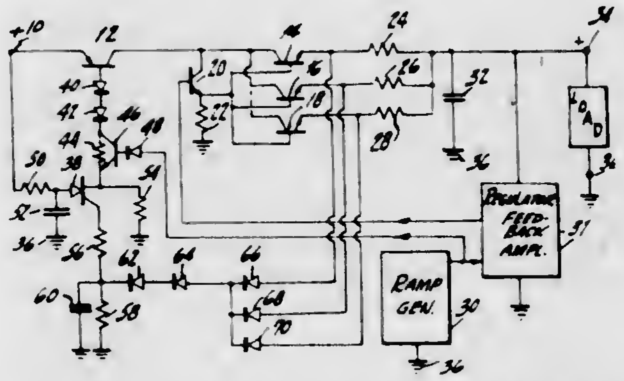
(e) means in said null detecting branch for de-energizing said power supply of said induction heating installation when current flow through said branch approaches zero.

3,376,477
PROTECTIVE CIRCUIT
Ralph Weinger, Laverock, Pa., assignor to Harvey Hubbell, Incorporated, Bridgeport, Conn., a corporation of Connecticut
Continuation-in-part of application Ser. No. 511,923, Dec. 6, 1965. This application May 12, 1967, Ser. No. 637,942
10 Claims. (Cl. 317—27)



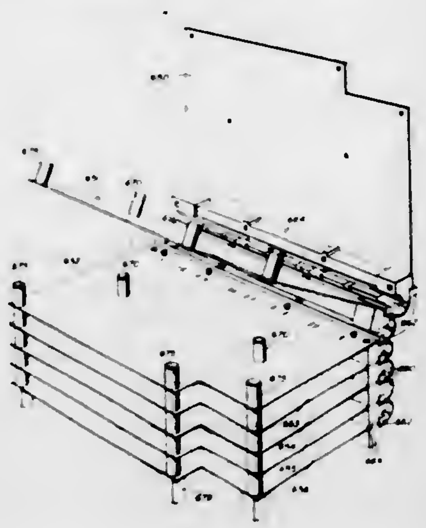
A protective circuit for an alternating current electrical load which includes a resetting subcircuit. The subcircuit produces a transient current pulse for establishing a resetting magnetic field regardless of the point in the line voltage cycle at which it is actuated.

3,376,478
VOLTAGE REGULATED POWER SUPPLY INCLUDING RAMP VOLTAGE STARTING MEANS AND OVER-CURRENT PROTECTIVE MEANS
Alfredo S. Sheng and Allen Y. Chen, Cherry Hill, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Jan. 28, 1966, Ser. No. 523,675
7 Claims. (Cl. 317—31)



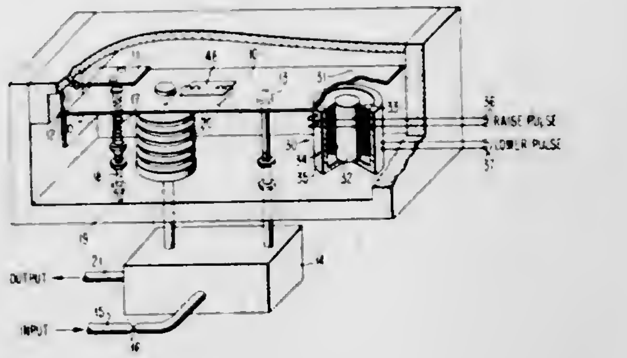
A voltage regulated source is provided which includes means to cause the voltage of the source to increase gradually to its set value when the power supply is turned on and means to shut the source off if elements thereof become short circuited.

3,376,479
MEANS FOR OPERATIVELY CONNECTING PRINTED CIRCUIT BOARDS
Warren R. Wines, Norwalk, Jay W. Sturdevant, Ridgefield, and Matthew Cannizzaro, South Norwalk, Conn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 30, 1965, Ser. No. 452,294
7 Claims. (Cl. 317—101)



An arrangement for operatively interconnecting a plurality of planar electronic packages for utilization as a rigid modular device. The elements comprising such packages are adapted for ready access to facilitate testing, replacement and repair operations. During access the module exposes the elements in the manner of an open book, while still maintaining insulated electrical interconnections without exerting mechanical stress.

3,376,480
ANALOG STORAGE DEVICE
Charles A. Walton, Los Gatos, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Nov. 25, 1964, Ser. No. 413,748
17 Claims. (Cl. 317—123)



1. In a force balance transducer having a displacement sensor and feedback actuator cooperating with a beam, means for applying a force command to said beam comprising:

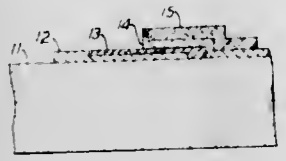
a pole piece of magnetic material having a high remanence characteristic,

means for altering the remanent magnetism of said pole piece in response to a command signal,

an armature portion of said beam, and support means positioning said pole piece adjacent to and spaced from said armature portion to exert a force thereon proportional to the remanent magnetism of said pole piece.

3,376,481
THIN FILM CAPACITOR

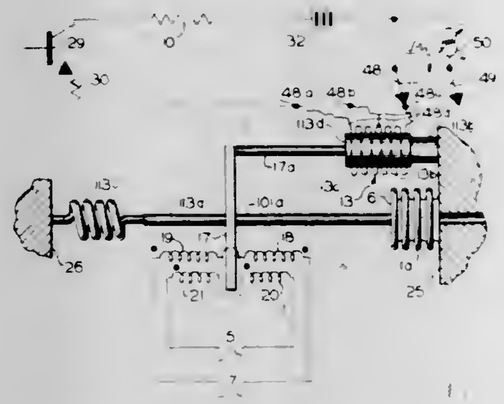
Julius Klerer, Plainfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, Berkeley Heights, N.J., a corporation of New York
Filed Oct. 31, 1966, Ser. No. 590,941
5 Claims. (Cl. 317—258)



1. A thin film capacitor including successively a substrate member, a layer of tantalum, an oxide layer of tantalum, a low density tantalum counterelectrode evidencing a density less than 16 grams cm.$^{-3}$, and an oxide layer on said low density tantalum.

3,376,482
REBALANCING SYSTEM USING MULTIPLE FORCE RANGE MOTOR AND POWER SOURCE

Roy W. Barthel, Penfield, N.Y., assignor to Taylor Instrument Companies, Rochester, N.Y., a corporation of New York
Filed Nov. 17, 1964, Ser. No. 411,875
9 Claims. (Cl. 318—32)

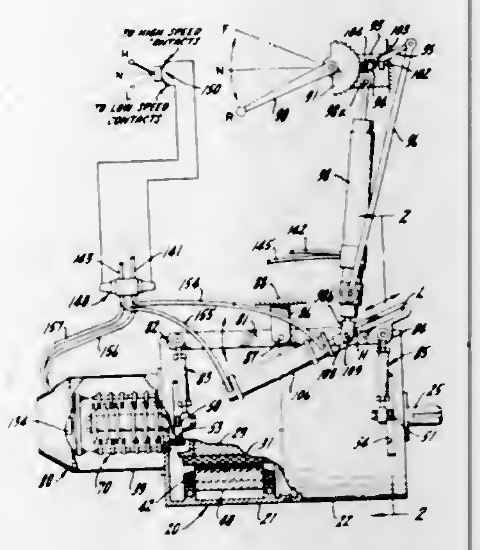


In a force balance transduction system, the balancing force is created by a feedback coil having two sections in circuit with a source of DC current, the current through the coil being a measure of the balancing force. A switch is provided which switches one section of the coil into or out of circuit with said source. This provides a range change for the system. The system is adjusted for the desired accuracy of range for the one-section condition. When the other section is switched in, a second source of DC is switched into the coil circuit. This second source may be adjusted to restore the desired accuracy.

3,376,483
BRUSH LIFTING MECHANISM FOR VARIABLE SPEED A-C MOTOR

Herschel H. Stilley and Kenneth S. Kordik, Rockton, Ill., assignors, by mesne assignments, of one-half to Warner Electric Brake & Clutch Company, South Beloit, Ill., a corporation of Delaware, and one-half to Herschel H. Stilley, Rockton, Ill.
Filed Sept. 30, 1965, Ser. No. 491,546
9 Claims. (Cl. 318—214)

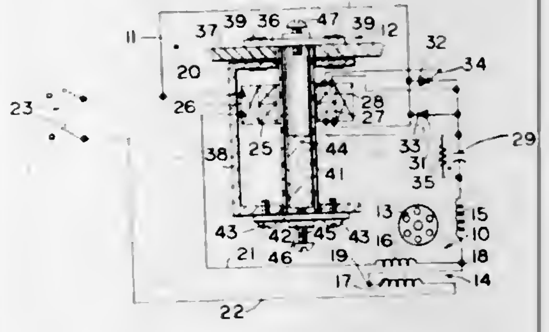
An A-C motor in which the speed may be changed by varying the number of winding poles including a brush and slip ring arrangement with provision for reducing wear in non-conducting brushes when the motor is switched to high speed operation by moving non-current carrying brushes out of contact with their respective slip rings.



A variable speed A-C motor in which the speed may be changed by varying winding poles with provision for the same mechanism changing the speed of the motor and also moving non-current carrying brushes out of contact with their respective slip rings for high speed motor operation.

3,376,484
SEMICONDUCTOR CONTROL CIRCUIT WITH MOVING IRON CORE

Alexander J. Lewus, 1617 S. 47th Court, Cicero, Ill. 60650
Filed Oct. 23, 1965, Ser. No. 503,136
8 Claims. (Cl. 318—221)



1. A control circuit for an electric motor including a main winding and a starting winding angularly displaced from each other in a stator core and inductively coupled to a rotor, comprising:

power circuit means for connecting said main winding to a power supply;

sensing transformer means, having a primary winding coupled to said power circuit means and having a secondary winding for developing a control signal;

starting circuit means, for connecting said starting winding to a power supply;

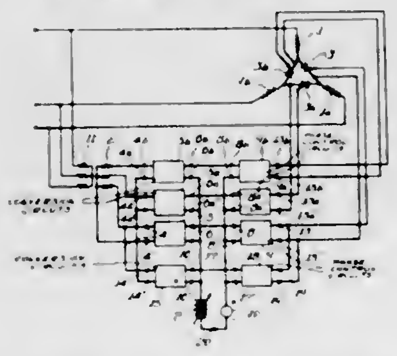
a signal-controlled semiconductor gate device, having input and output electrodes connected in series in said starting circuit means, and having a control electrode connected to said secondary winding of said sensing transformer means, for opening and closing said starting circuit means in response to said control signal;

a magnetic core located within the magnetic field of said primary winding and movable from a first position in which said core affords only limited coupling between said windings to a second position in which said core affords substantially greater coupling between said windings whenever the load current to said main winding exceeds a first threshold amplitude;

and means for restoring said magnetic core to its first position whenever the motor load current falls below a second threshold amplitude.

3,376,485
CONTROL SYSTEM FOR POLYPHASE INDUCTION MOTORS

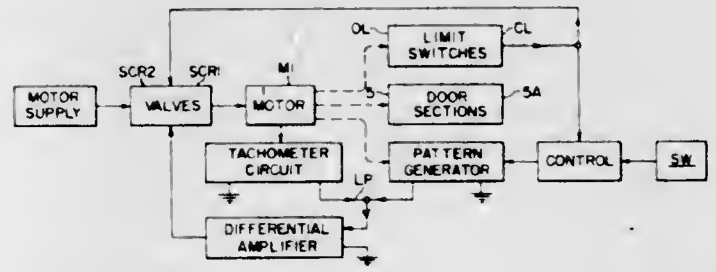
Iwao Shibata, Tokyo, and Nobuo Kawashima and Yuzo Yamaguchi, Yokohama, Japan, assignors to Toyo Denki Seizo Kabushiki Kaisha, Chuo-ku, Tokyo, Japan
Filed June 25, 1965, Ser. No. 466,888
Claims priority, application Japan, July 2, 1964, 39/37,527
6 Claims. (Cl. 318—227)



A control system for a star connected polyphase induction motor in which a ring connection of controlled rectifiers are connected to the primary winding of the motor at the neutral point thereof so that control of the motor is effected by the adjustment of the firing angle of the controlled rectifiers, the rectifiers being controlled to be individually fired to obtain a dynamic brake character and being controlled as regard their firing angles to control the braking effort.

3,376,486
SPEED-CONTROLLED SERVO-POSITIONER

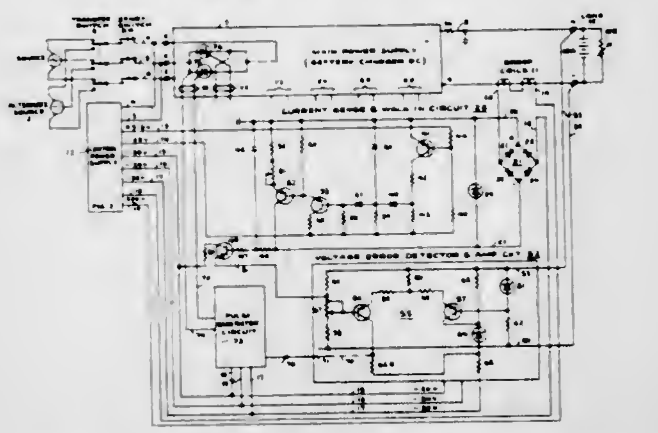
William R. Caputo, Jersey City, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 22, 1964, Ser. No. 384,317
10 Claims. (Cl. 318—257)



A speed-controlled door positioner wherein the door is positioned by a direct-current motor energized from an alternating-current source through two silicon controlled rectifiers so connected in the armature circuit of the motor as to supply pulses of current of opposite polarity when fired. A variable reluctance pattern generator connected to the door produces a control voltage proportional to the desired speed of the door as a function of door position and direction of travel. The difference between the control voltage and the back electromotive force of the motor controls the firing of the silicon controlled rectifiers through a differential amplifier and pulse generators connected between the outputs of the amplifier and the control electrode of the associated silicon controlled rectifiers.

3,376,487
CONTROL CIRCUIT FOR GRADUALLY APPLYING POWER TO A LOAD

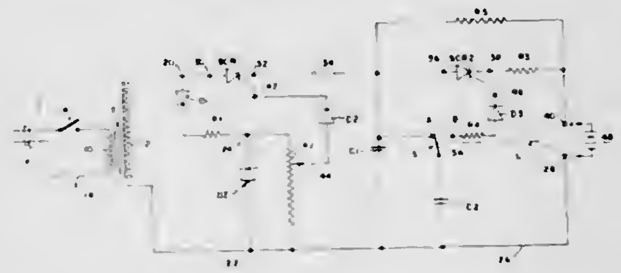
William H. Bixby, Columbus, Ohio, assignor to North Electric Company, Galion, Ohio, a corporation of Ohio
Filed Nov. 24, 1964, Ser. No. 413,457
11 Claims. (Cl. 320—32)



A system for supplying power from an alternating current source to a direct current load having a battery connected thereacross which includes voltage control means for maintaining an essentially constant voltage to the load, current control means for limiting the load current including override means for overriding the voltage control in a current limiting operation, and walk-in circuit means operative with power startup after an outage to provide changing signals at a preset rate of change to the override means in the current control to provide a substantially ramp current to the load.

3,376,488
SINGLE-CYCLE SELF-REGULATING BATTERY CHARGER

Robert R. Walsh, Wilmington, Del., assignor to All American Engineering Company, Wilmington, Del., a corporation of Delaware
Continuation-in-part of application Ser. No. 362,358, Apr. 24, 1964. This application Dec. 15, 1966, Ser. No. 602,035
14 Claims. (Cl. 320—40)



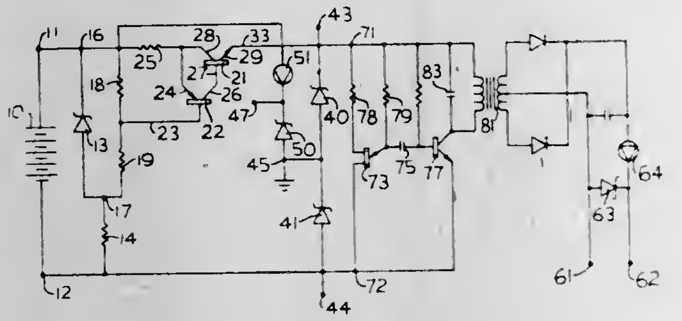
A battery charger is provided in which single charging cycles are either initiated by manual switching or by manual insertion of a battery between the load terminals of the charging circuit. Two solid-state controlled rectifiers are utilized, one to maintain a load capacitance charged to a reference potential and the other to either preclude a charging cycle or permit same to occur upon the manual switching of the charger circuit, by comparing the relative magnitudes of the voltage on the load capacitor and the terminal voltage of the battery to be charged.

3,376,489
REGULATED POWER SUPPLY

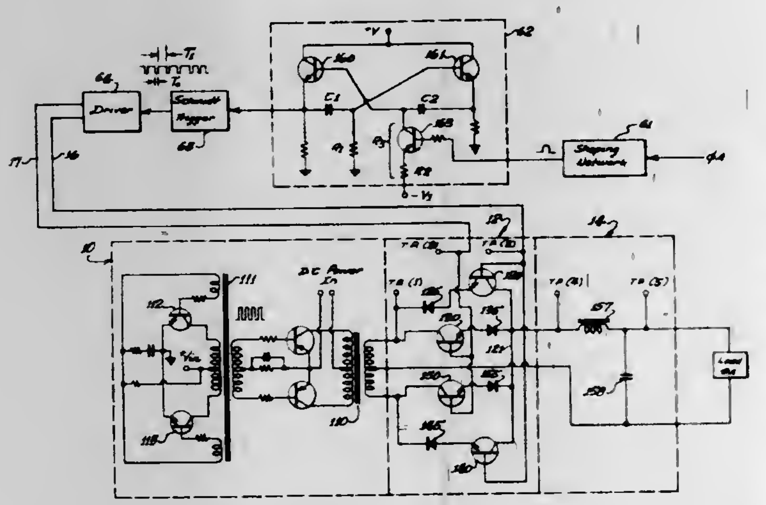
John W. Crayton, Washington, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Feb. 21, 1966, Ser. No. 529,009
7 Claims. (Cl. 321—2)

6. A closed loop constant current device having two input terminals and one output terminal and comprising

in combination: a D.C. voltage source connected across the two input terminals; a first transistor having a base, a collector and an emitter; a second transistor complementary to said first transistor and having a base, a collector and an emitter; and a resistor; and wherein the first input terminal connects to the base of said first transistor, wherein the second input terminal connects to said resistor which serially connects to the junction of the emitter of the first transistor and the collector of the second transistor, the collector of the first transistor being directly connected to the base of the second transistor, and wherein the output terminal connects to the emitter of said second transistor.



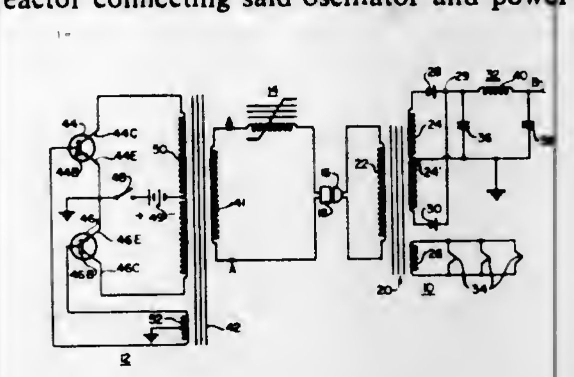
3,376,490
SYNTHESIZED WAVE STATIC INVERTERS
Fred S. Osugi, Alhambra, Calif., assignor to Electro-Optical System, Inc., Pasadena, Calif., a corporation of California
Filed Aug. 12, 1965, Ser. No. 479,073
5 Claims. (Cl. 321—5)



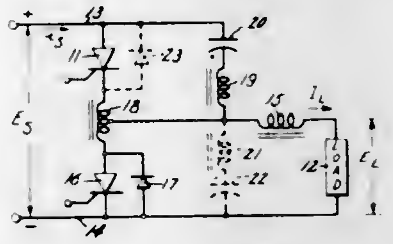
Synthesized output wave static inverter apparatus having an inverter for changing D.C. into an A.C. carrier at a frequency at least ten times the desired output wave frequency, signal generating means for generating a modulating signal composed of a recurring series of stretched waveform pulse trains having a minimum pulse frequency of at least about five times the output wave frequency, and means for modulating the A.C. carrier with the modulating signal, the thus modulated signal being fed to a low-pass filter having a cut-off at the lowest frequency of the pulses in the modulating signal.

3,376,491
DIRECT CURRENT INVERTER FOR OPERATING ALTERNATING CURRENT DEVICES
Joseph A. Mas, Woodbury, N.Y., assignor to Dynamic Instrument Corp., a corporation of New York
Filed Jan. 22, 1963, Ser. No. 253,170
1 Claim. (Cl. 321—25)

A transistorized oscillator developing square wave power for energizing a power supply adapted to be normally energized by sinusoidal power and including a saturable reactor connecting said oscillator and power supply and operable to become saturated within a time at least equal to one quarter of a cycle of the frequency of oscillation of said oscillator.

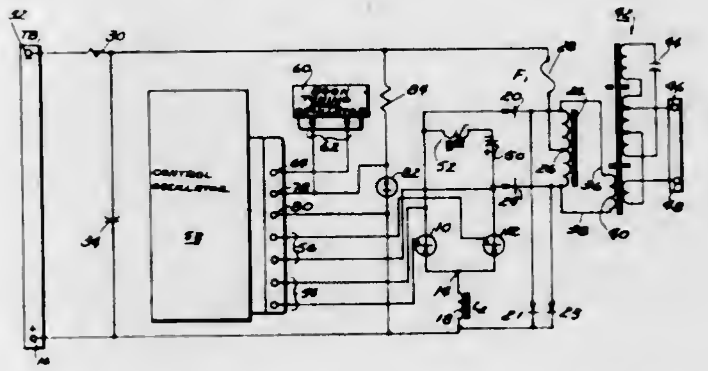


3,376,492
SOLID STATE POWER CIRCUITS EMPLOYING NEW AUTOIMPULSE COMMUTATION
Raymond E. Morgan, Schenectady, and Burnice D. Bedford, Scotia, N.Y., assignors to General Electric Company, a corporation of New York
Filed Mar. 26, 1964, Ser. No. 354,888
49 Claims. (Cl. 321—43)



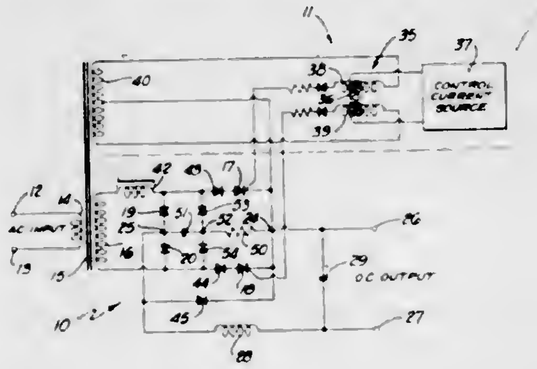
This invention comprises a family of improved power circuits using a pair of turn-on, nongate turn-off controlled conducting devices interconnected in series circuit relationship with a tapped first linear inductor across a pair of power supply terminals that are adapted to be connected across a source of electric potential. A load circuit is separately connected in series circuit relationship with the first of said pair of devices with the load circuit being connected through a direct current path between the tap point on the first linear inductor and one of the power supply terminals. The circuits are further comprised by commutation circuit means formed by at least one commutating capacitance and series connected second linear inductor with the series circuit thus comprised being connected between the tap point on the first linear inductor and to the remaining terminal (not connected to the first inductor) of one of the conducting devices. The series circuit comprised by the commutating capacitor and second inductor is tuned to series resonance at a commutating frequency having a period which is substantially shorter than the load current conducting periods of the power circuit. With this arrangement, one of the pair of controlled conducting devices is adapted to be intermittently rendered conductive for discharging the commutating capacitance through a portion of the first inductor and thereby terminating the conduction of the other of the pair of conducting devices. In preferred embodiments bidirectional conducting devices are employed, and where such bidirectional devices are employed the circuits may also provide operation in two different modes to allow for power supply to the load and for pump back of power from the load to the power source, as well as inversion from direct current to alternating current. Bridge type power circuits comprising the same basic circuit configurations are also provided.

3,376,493
INVERTER CIRCUIT HAVING IMPROVED CONTROL FREQUENCY COMPENSATING MEANS FOR PRODUCING A REGULATED A.C. OUTPUT
Donald A. Carlson, Skokie, Ill., assignor to Basic Products Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Sept. 16, 1963, Ser. No. 309,188
10 Claims. (Cl. 321—45)



A solid state inverter circuit having a synchronizing oscillator for stabilizing the controlling frequency of a pulse generator including a flip-flop circuit which, in turn, controls a firing of solid state controlled rectifiers, and having an auxiliary frequency characteristic circuit for causing an increase in the pulse generator frequency during a starting interval, and having a substantially sinusoidal wave form output.

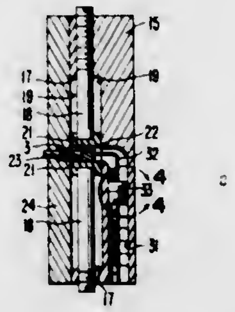
3,376,494
HIGH FREQUENCY CONTROLLED RECTIFIER CIRCUIT
Bruce L. Wilkinson, Torrance, Calif., assignor to Power Conversion, Inc., Long Beach, Calif., a corporation of California
Filed May 20, 1965, Ser. No. 457,360
4 Claims. (Cl. 321—45)



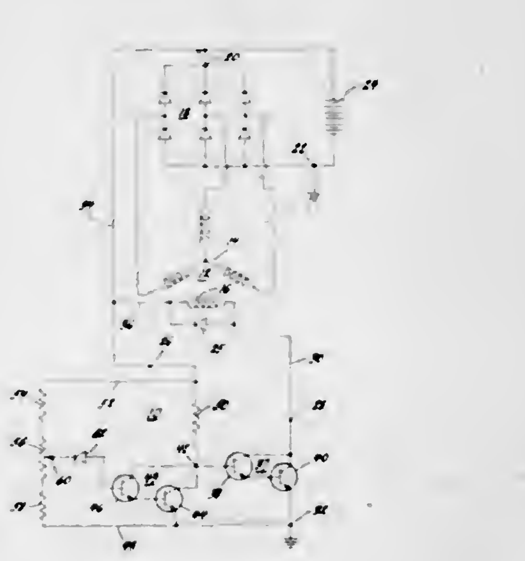
A rectifier circuit using SCR's for operation at 50 kilocycles per second and including a diode in series with and of the same polarity as an SCR for limiting reverse current, a saturable reactor in the A.C. input for delaying input current following polarity reversal, a diode in parallel with the output and of opposite polarity for increasing the time for turn-off, and a transient suppression circuit.

3,376,495
ADJUSTABLE BIAS NETWORK FOR MICROWAVE FREQUENCY DIODE MULTIPLIERS
Thomas C. Leonard, Topsfield, Mass., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed July 7, 1966, Ser. No. 563,551
7 Claims. (Cl. 321—69)

1. A microwave varactor frequency multiplier including; means forming an electrically variable capacitance diode; means for applying a signal to said diode means to produce frequency multiplication thereof to a microwave frequency; means forming an output circuit connected to said diode means for extracting the microwave output signal; means forming a diode bias circuit connected to said diode means for applying a bias signal thereto; said bias circuit means including, means forming a length of TEM mode transmission line having a center conductor, means forming a plug closing an end of said transmission line; said plug including, means providing a movable friction electrical contact with the center conductor of said transmission line, and means forming a capacitor integral with and movable with said plug and connected between said center conductor and the outer conductor of said transmission line, whereby adjustment of the position of said plug along said transmission line determines the choke inductance of said diode bias circuit to facilitate adjustment of the frequency multiplier.



3,376,496
VOLTAGE REGULATOR
Johan Lund and Ronald R. Mitchell, Kokomo, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 15, 1965, Ser. No. 487,502
2 Claims. (Cl. 322—28)

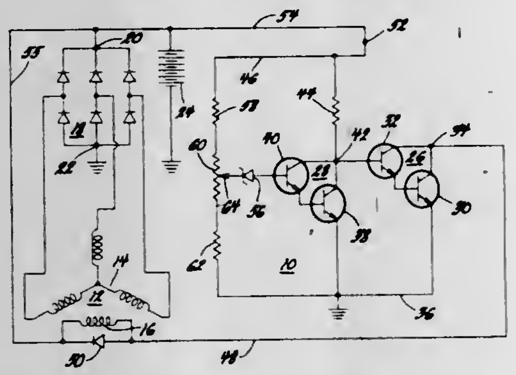


This invention relates to a transistor voltage regulator for regulating the output voltage of a generator and more particularly to a regulator for regulating generators of the type used to supply the electrical loads on a motor vehicle. The regulator is arranged so that it can be easily fabricated from one or more monolithic silicon blocks to provide an integrated voltage regulator of small size. The regulator has a relatively high input impedance and utilizes transistor switching circuits one of which is connected with the field of the generator and the other of which responds to the output voltage of the generator.

3,376,497

INPUT FILTER FOR TRANSISTOR VOLTAGE REGULATORS

Johan Lund, Kokomo, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 15, 1965, Ser. No. 487,501
5 Claims. (Cl. 322—28)

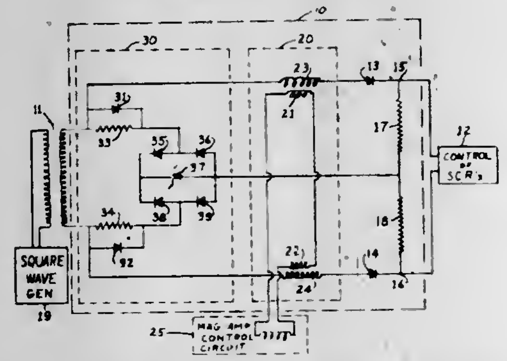


This invention relates to a transistor voltage regulator for regulating the output voltage of a diode rectified alternating current generator. The regulator has an R-C filter network for reducing the sensitivity of the regulator to high frequency ringing components developed by the diodes of the rectifier. This R-C filter network is the resistance of a voltage divider and the junction capacitance of semiconductor elements utilized in the regulator.

3,376,498

MAGNETIC AMPLIFIER REGULATED VOLTAGE SUPPLY SYSTEM

Henri H. Hoge, Baltimore, Md., assignor to Summit Electronics Inc., Baltimore, Md., a corporation of Maryland
Filed Dec. 22, 1964, Ser. No. 420,282
3 Claims. (Cl. 323—89)

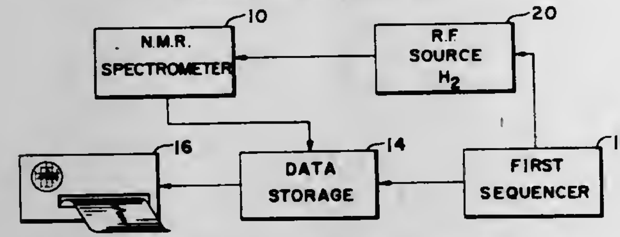


Circuitry limiting the voltage amplitude from a square wave source connected to a magnetic amplifier which in turn is connected to silicon controlled rectifiers supplying constant firing times thereto.

3,376,499

SIGNAL PROCESSING APPARATUS FOR FACILITATING THE DISPLAY OF FINE STRUCTURE IN GYROMAGNETIC RESONANCE SIGNALS

Raymond Freeman, Menlo Park, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Jan. 27, 1965, Ser. No. 428,413
5 Claims. (Cl. 324—.5)

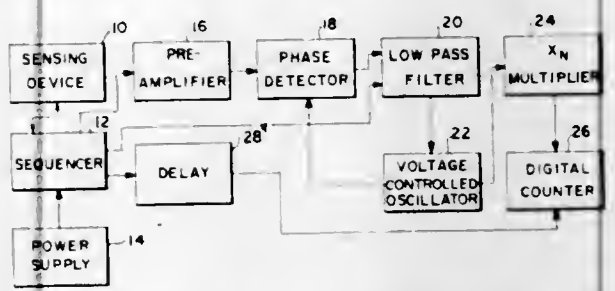


A gyromagnetic apparatus is disclosed for obtaining the resonance spectrum of an isotope normally obscured by other molecules having stronger resonance characteristics. During a first sweep of the resonance spectrum the resonance signal is time divided, converted to digital values and stored in a data storage device. During a second sweep of the resonance spectrum the sample is irradiated by an additional radio frequency field H_2 and the resulting spectrum converted to digital form is added with reverse polarity to the previously stored signal such that the second signal is effectively subtracted from the first during each subsequent sweep repetition whereby the net signal stored is representative of the resonance spectrum of the obscured isotope.

3,376,500

DIRECT READING MAGNETIC FIELD INTENSITY INDICATING APPARATUS

Lee E. Scaggs and Bernard D. Smith, San Jose, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California
Continuation of application Ser. No. 328,358, Dec. 5, 1963. This application Apr. 25, 1966, Ser. No. 544,911
6 Claims. (Cl. 324—.5)

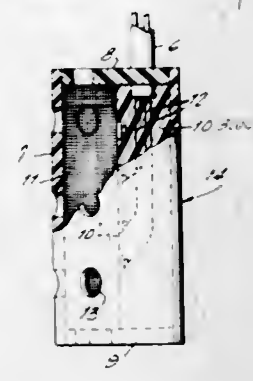


1. A readout circuit for a proton precession magnetometer comprising: means for sensing a proton precession signal; an oscillator for generating a signal having a predetermined center frequency in the vicinity of the frequency of the precession signal coupled to the output of said sensing means; a phase detector for comparing the frequency and phase of such precession and oscillator signals; means for locking the frequency and phase of the oscillator signal to that of the precession signal; a frequency multiplier coupled to the output of said oscillator for multiplying the oscillator signal; a counter coupled to said frequency multiplier for converting the multiplied frequency signal directly to a reading of magnetic field intensity; and, a sequencer for controlling the duty cycle of such sensing means and such counter.

3,376,501

CELL FOR DETERMINING THE CONDUCTIVITY OF LIQUIDS ENTRAINED IN POROUS MEDIA

Anthony Peranio, Haifa, Israel, assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Continuation-in-part of application Ser. No. 556,593, June 10, 1966. This application Dec. 9, 1966, Ser. No. 600,581
4 Claims. (Cl. 324—30)

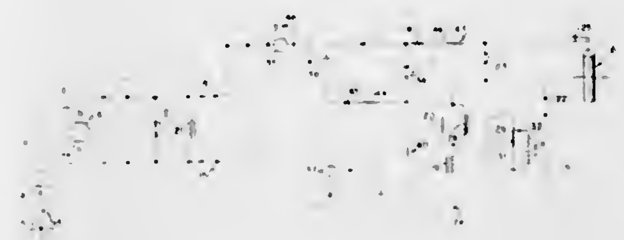


A cell for determining conductivity of liquids comprising a casing having a block of resinous material therein, a cable extending into the casing and block, at least one pair of electrodes embedded in the block having its surface exposed at a face of the block, wires connecting with the electrodes in the block, hollow space between the face and the opposite wall of the casing, a plurality of openings in the casing to allow liquid to enter the hollow space. The electrodes are spaced from the surrounding materials a distance about equal to or greater than the distance between the electrodes themselves.

3,376,502

APPARATUS HAVING STANDARD IMPEDANCE CALIBRATION MEANS FOR TESTING THE IMPEDANCE OF AN ELECTRICAL GROUND AND INCLUDING POLARITY REVERSING SWITCH MEANS

Frederick J. Rink, 2811 Wilmete Lane, Littleton, Colo. 80120
Filed June 18, 1965, Ser. No. 465,109
4 Claims. (Cl. 324—51)



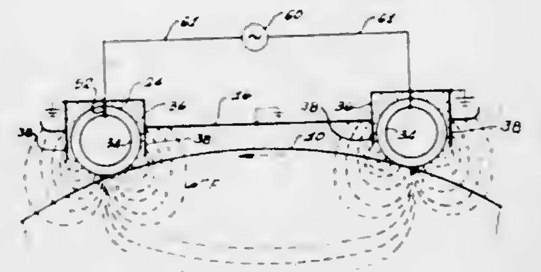
1. Electrical apparatus for testing the impedance of a test electrical ground comprising
  an A.C. power supply having a grounded neutral,
  test circuit means connected to said power supply including,
  indicator means, and means to apply current to said test circuit means connected in a series circuit arrangement,
  a standard resistor connected across said series circuit arrangement,
  said means to apply current to said test circuit means powered by connection to said A.C. power supply and said series circuit arrangement having one side connected to said grounded neutral and the other side connected to the test electrical ground,
  switching means to complete the circuit connection to said standard resistor to calibrate said test circuit means and alternatively to connect said test electrical ground to said means to apply current and said indicator means while breaking the circiut connection to said standard resistor,
  and additional polarity reversing switching means connected across said power supply to complete the connection of said grounded neutral to only one side of said means to apply current regard'ess of how said test circuit is connected to said grounded neutral of said A.C. power supply.

3,376,503

ROLLER ELECTRODE PROBE WITH CAPACITOR SHROUD FOR ELECTRICAL MOISTURE TESTING INSTRUMENT

John W. Lundstrom, Glendora, Calif., assignor to Moisture Register Company, Alhambra, Calif., a corporation of California
Filed June 1, 1965, Ser. No. 460,190
5 Claims. (Cl. 324—61)

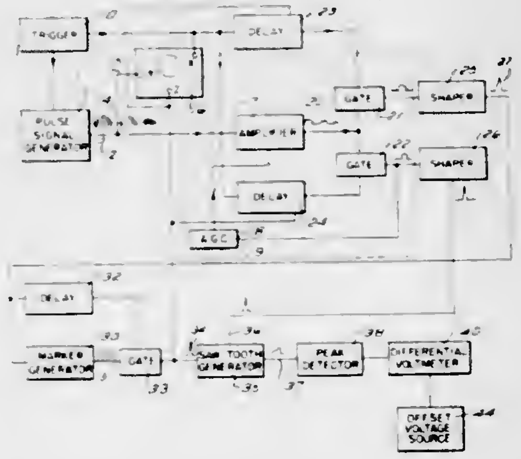
An electrically grounded shroud disposed about a roller electrode adapted for application to a rotating roll of paper or the like, whose moisture content is to be determined, the roller electrode and shroud being electrically connected to the output terminals of an oscillator, whereby an electric field is created between the electrode roller and shroud. This field penetrates into the paper roll, and the shroud is formed and located to produce a relatively shallow depth of penetration.



3,376,504

DIGITAL COARSE AND ANALOG FINE TIME INTERVAL MEASUREMENT

Bruce B. Chick, 235 Pleasant St., East Providence, R.I. 02916
Filed June 4, 1964, Ser. No. 372,581
4 Claims. (Cl. 324—68)



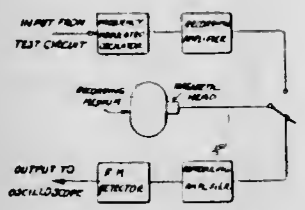
1. Time interval measurement device comprising a source of start and stop signals, a marker generator, the start signal keying said marker generator which initiates a series of accurately spaced markers, a delay means delaying by an adjustable amount the start signal, an AND gate, the AND gate passing a marker pulse upon coincidence of the delayed start signal and said marker pulse, a saw-tooth generator, said selected marker pulse triggering said saw-tooth generator, said stop pulse terminating generation of said saw-tooth, the saw-tooth generator output being fed to a peak detector to measure maximum saw-tooth rise whereby the time interval between said start and stop signals is indicated by the amount of delay from said delay means and the maximum saw-tooth rise.

3,376,505

FM RECORDING SYSTEM FOR DISPLAY OF TRANSIENTS

Robert M. Muir, Ames, Iowa, assignor to Iowa State University Research Foundation, Inc., Ames, Iowa, a corporation of Iowa
Filed June 19, 1964, Ser. No. 376,313
1 Claim. (Cl. 324—112)

A frequency modulated magnetic tape recording system for displaying transient response of a system including a frequency-modulated oscillator, a recording amplifier utilizing a voltage controlled unijunction transistor relaxation oscillator, a reproducing amplifier and demodulator



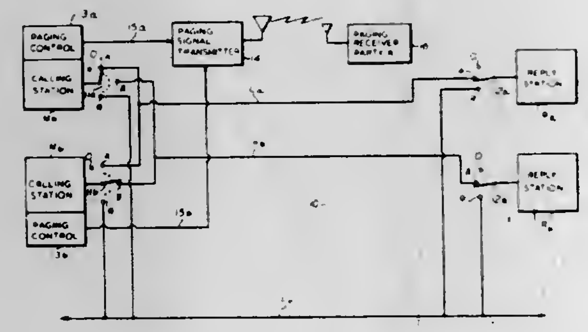
employing a pulse counting type of demodulation, a single recording head for reading, erasing and writing. The head is controlled by two momentary switches and the tape deck may be any commercially available type.

3,376,506

COMBINED PAGING AND INTERCOMMUNICATION SYSTEM WITH SEPARATE PAGING REPLY LINE COMMON TO ALL STATIONS

Howard M. Sontag, Roslyn, N.Y., assignor to Executone, Inc., Long Island City, N.Y., a corporation of New York

Filed Dec. 10, 1965, Ser. No. 513,052
14 Claims. (Cl. 325—64)



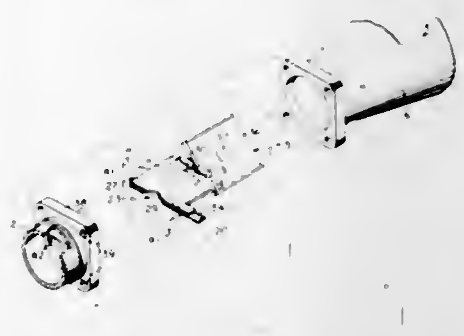
1. A paging communication system which comprises a calling station, a plurality of reply stations, circuits means defining a corresponding set of primary audio communication lines between said calling station and each of said reply stations, circuit means defining a paging reply line for audio communication between said calling station and any single reply station, a call switching circuit means for selectively connecting said calling station to an audio communication line corresponding to a given reply station for audio communication therewith via said last-mentioned line, and for selectively connecting said calling station to said paging reply line for audio communication with a reply station connected to said last-mentioned line, a reply switching circuit means associated with each of said reply stations for selectively connecting said reply station to its corresponding audio communication line for communication with the calling station thereover and for selectively connecting said reply station to said paging reply line for audio communication with the calling station thereover, a paging signal transmitter disposed for activation at said calling station to transmit a paging signal characteristic of a party being paged, and a receiver responsive to such transmitted paging signal, said receiver including means for indicating the receipt of such paging signal to a party being paged thereby, whereby when communication with such party is unsuccessfully attempted from the calling station to a selected reply station via the corresponding audio communication line, said party can be paged by activating the paging signal transmitter, and by connecting said calling station to the reply line via said call switching circuit means, said calling station can be placed in audio communication with any reply station connected to said reply line by its associated reply switching circuit means, whereupon the paged party upon indication of the receipt of the paging signal via said receiver indicating means can effect audio communication with the calling station through any reply station by connecting same to the reply line via its associated reply switching circuit means.

3,376,507

BALANCED MICROWAVE HYBRID FUNCTION MIXER ASSEMBLY

Albert H. McEuen, Saratoga, Richard M. Whiteborn, Menlo Park, Robert E. Dye, Campbell, and Edward J. Murphy, Los Altos Hills, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California

Original application Jan. 8, 1962, Ser. No. 164,892, now Patent No. 3,270,339, dated Aug. 30, 1966. Divided and this application June 27, 1966, Ser. No. 590,111
3 Claims. (Cl. 325—446)



A CW Doppler radar intruder alam system is disclosed. The radar employs a balanced mixer-duplexer for sending and receiving the radar signals. The balanced mixer-duplexer includes a section of waveguide capable of supporting two orthogonal modes. The transmitted signal, propagating in one of the orthogonal modes, passes through the section of waveguide and a quarter wave plate for circularly polarizing the output signal. The return echo signal passes through the quarter wave plate for changing the orientation of the polarization of the received signal to a polarization orthogonal to the transmitted signal. The section of waveguide containing the two orthogonal modes includes a printed circuit board forming a conductive septum. The septum is disposed with the plane of the septum normal to the polarization of the transmitted signal. A pair of rectifying diodes are disposed above the plane of the conductive septum and are connected such that a small portion of the transmitted signal is coupled into the diodes. On the other hand, the diodes are connected to be collinear with the polarization of the returned echo signal. The diodes are connected such that the two orthogonal modes are coupled in-phase into one of the diodes and in out-of-phase relation into the other diode to obtain balanced mixer operation. The beat frequency output of the balanced mixer is coupled through the printed circuit board to an output to be used for detection of intruders.

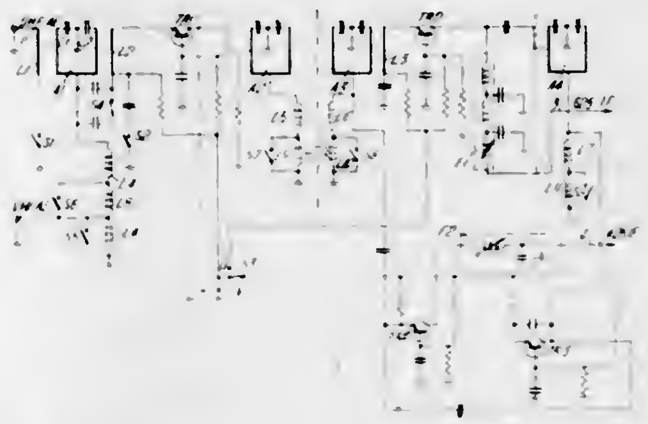
3,376,508

U.H.F. AND V.H.F. TUNER FOR RECEIVERS

James Douglas Jones, Cambridge, England, assignor to Pye Limited, Cambridge, England

Filed Nov. 3, 1964, Ser. No. 408.569
Claims priority, application Great Britain, Nov. 6, 1963, 43,824/63
8 Claims. (Cl. 325—459)

The present invention relates to a U.H.F. and V.H.F. tuner for television and radio receivers in which continuously variable tuning elements of the tuned circuits are ganged capacitors, which are associated with lecher wires for U.H.F. operation and wherein inductance coils



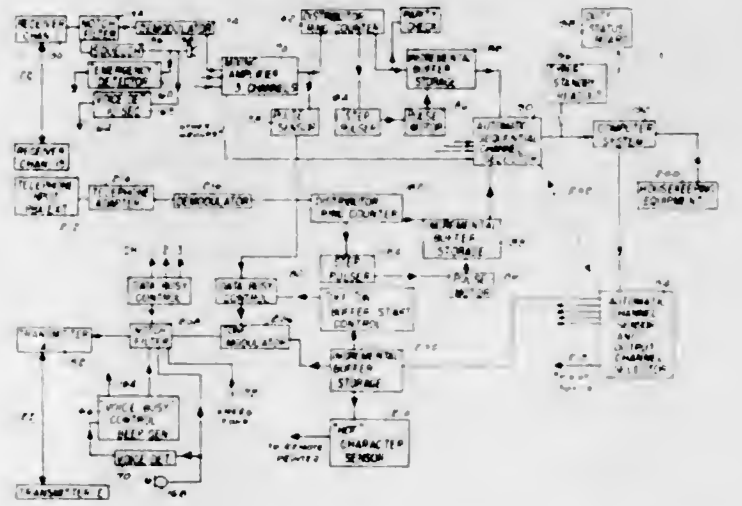
are connected to U.H.F. nodal points on the lecher wires for V.H.F. operation.

3,376,509

CENTRAL STATION FOR A MULTIPLE REMOTE-INTERROGATED INFORMATION SYSTEM, WITH BUSY SIGNALLING

Frederick P. Willcox, 261-1 Ocnoke Ridge, and Newland F. Smith, 140 Llewellyn Drive, both of New Canaan, Conn. 06840, and Harold E. Levitt, 701 Chapala, Pacific Palisades, Calif. 90272

Original application Nov. 2, 1962, Ser. No. 235,067, now Patent No. 3,281,789, dated Oct. 25, 1966. Divided and this application June 29, 1966, Ser. No. 574,894
1 Claim. (Cl. 325—57)



A system of the kind including a central radio station and a plurality of remote stations from any one of which an information store at the central station may be interrogated by pulse-code transmissions, and providing for two-way voice communications, includes at the central station a filter and control means by which a characteristic voice-busy signal is transmitted (to all of the remote stations) during the time when any remote station is engaged in voice signal transmission to the central station.

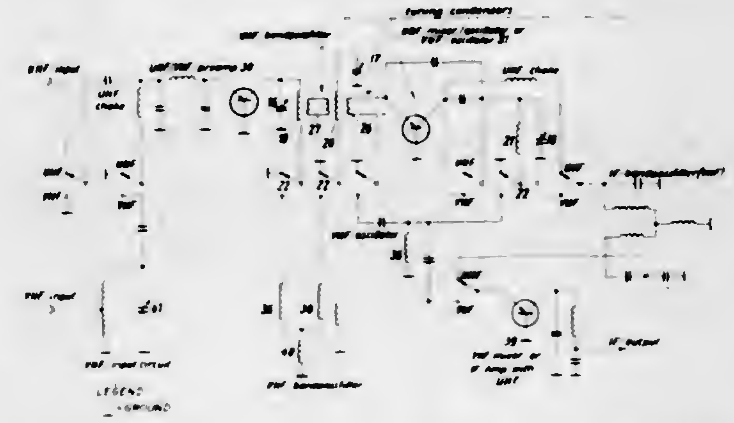
3,376,510

COMBINED UHF-VHF TUNER

Heribert Rümmer, Ingolstadt (Danube), Germany, assignor to Telefunken Patentverwertungs-G.m.b.H., Ulm (Danube), Germany

Filed Nov. 29, 1963, Ser. No. 327,338
Claims priority, application Germany, Nov. 29, 1962, T 23,091
9 Claims. (Cl. 325—459)

A combination UHF–VHF tuner enclosed in a single housing which is divided into two parts by an insulating partition wall, one of the parts containing the VHF tuning circuitry and the other part containing the UHF tuning circuitry, the housing also containing at least three transistors and a plurality of switches, the whole arrangement being so connected that the actuation of the various sets of switches select the frequency band and the selection of a single frequency within each band is



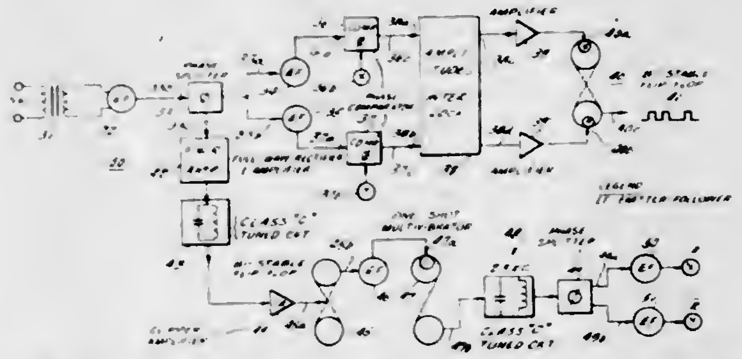
controlled by the rotation of a shaft carrying a plurality of rotary capacitors, the transistors being so connected with the various circuit elements as to constitute, respectively, a preamplifier, a mixer-oscillator or a local oscillator, and a mixer or IF-amplifier, the output from the third transistor being in the form of an IF-signal.

3,376,511

PHASE-SHIFT KEYING RECEIVER UTILIZING THE PHASE SHIFT CARRIER FOR SYNCHRONIZATION

Abraham Brothman, Dumont, N.J., Stephen J. Halpern, New York, N.Y., Richard D. Reiser, Waldwick, N.J., Allen A. Miller, Laurelton, N.Y., Stephen F. Finkey, Passaic, N.J., and William Chen, New York, N.Y., assignors, by mesne assignments, to Sangamo Electric Company, Springfield, Ill., a corporation of Delaware

Filed Aug. 9, 1963, Ser. No. 301,110
6 Claims. (Cl. 325—320)

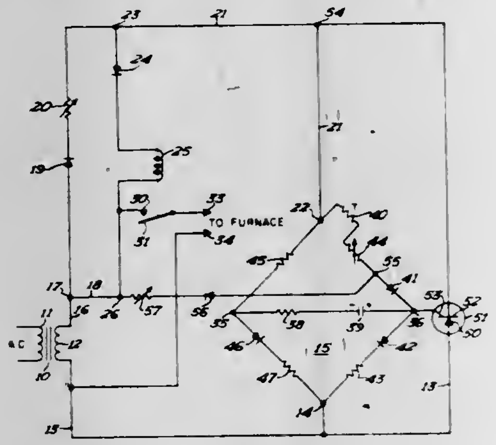


1. Communication means comprising first means for receiving phase modulated carrier signals; second means connected to said first means having two outputs; said second means including means for producing said phase modulated carrier signals at said first output, and means for producing said phase modulated signals with a 180 degree phase delay at said second output; third means connected to said second output for generating first and second carrier frequency standards phase displaced from one another 180 degrees; first phase comparison means for comparing said first output signal with said first carrier frequency standard to generate a signal only when said first carrier frequency and first output signal are in phase; second comparison means for comparing said first output signal with said second carrier frequency standard to generate a signal only when said second carrier frequency and said first output signal are in phase; demodulator means connected to said first and second phase comparison means and controlled only by the comparison means generating a signal to indicate an in phase condition for generating a demodulated output signal indicative of the

phase modulation state of said carrier signals received by said first means comprising amplitude interlock means coupled to the outputs of said first and second phase comparison means for comparing the relative amplitude of the signals output therefrom, and means coupled to the output of said amplitude interlock means for generating output signals representing the information received in said phase modulated carrier signal.

3,376,512
SEMICONDUCTOR APPARATUS

John E. Janssen, St. Louis Park, and Donald E. Benz, Minnetonka, Minn., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Mar. 11, 1965, Ser. No. 438,890
11 Claims. (Cl. 328—3)



1. Condition control apparatus comprising:

power terminals energized from a suitable source of alternating current potential;

condition sensing bridge means having first and second input terminals and four legs, three of said legs comprising rectifying means and impedance means serially connected, the fourth leg comprising impedance means, the impedance means in one of said legs being responsive to the condition being sensed, said rectifying means being polarized so that unidirectional current may flow through said bridge from said first to said second terminal;

connection means including further impedance means connecting said alternating current power terminals to said first and second input terminals to energize said bridge means whereby pulsating unidirectional current flows in said bridge means;

controlled rectifier means having a control circuit and an output circuit;

output terminals on said bridge means connected in controlling relation to said control circuit;

a series circuit loop load circuit energized from said power terminals including a portion of said connection means comprising load means, and said controlled rectifying means output circuit;

and further unidirectional current conducting means connecting said condition responsive impedance means in a parallel relation with said load means.

3,376,513
HIGH PRECISION COMPARATOR DEVICE

Peter L. Richman, Lexington, Mass., assignor, by mesne assignments, to Weston Instruments, Inc., Newark, N.J., a corporation of Delaware
Original application Jan. 2, 1963, Ser. No. 248,956, now Patent No. 3,195,054, dated July 13, 1965. Divided and this application Mar. 18, 1965, Ser. No. 440,874
4 Claims. (Cl. 328—151)

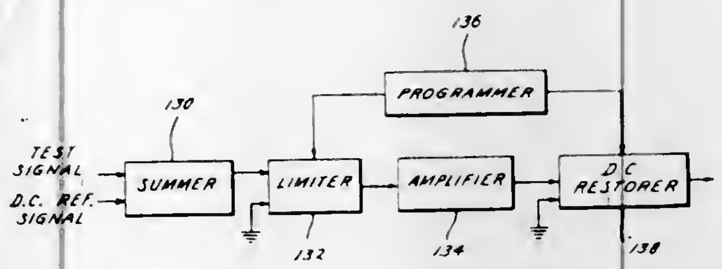
1. A precision device for comparing a datum voltage signal with a DC reference voltage, said device comprising in combination:

means for summing said datum and reference voltages,

means for clipping the peak values of said summed voltages within predetermined limits on at least one side of a ground potential common to both of said voltages,

means for periodically sampling the clipped summed voltages,

means for amplifying the periodic samples of said clipped summed voltages,



means for periodically sampling said ground potential, and

means for alternating said periodic samplings of ground potential with the amplified periodic samples of said clipped summed voltages for forming a waveform in which the peak values of the portions of said waveform derived from said clipped sum deviate from the values of the portions of said waveform derived from said ground potential in proportion to the difference between the peak values of said datum signal voltages and said reference voltage.

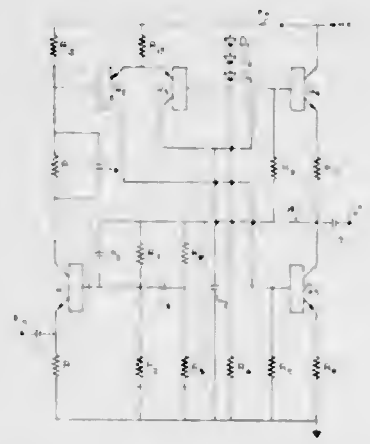
3,376,514
ENCODED SYNCHRONOUS DEMODULATOR CIRCUIT

Charles P. Womack, Marion, Iowa, and James K. Boomer, Kettering, Ohio, assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Dec. 21, 1965, Ser. No. 515,312
10 Claims. (Cl. 329—50)

1. In an encoded signal data demodulator circuit: signal input means constructed for receiving two input signals with one from a clock signal source and the other from a data modulated clock signal timed signal source; said signal input means including a circuit having two output connections across which with one phase relation of the two input signals there is a signal cancelling effect, and with the opposite phase relation there is a signal additive effect; a first signal rectifying circuit connected to one of said output connections and to a voltage potential reference source, and a second signal rectifying circuit connected to the other of said output connections and to the voltage potential reference source; a signal voltage charging device connected between the first signal rectifying circuit and the voltage potential reference source; voltage bias controlled to conduction-and-non-conduction means connected across said charging device; a signal summing circuit connected between said first and second signal rectifying circuits; signal path means connecting said signal summing circuit and a voltage threshold level activated circuit providing a resultant two voltage level signal waveform as determined by the signal waveform out of the summing circuit; output signal circuit path means from said voltage threshold level activated circuit; and control feedback circuit signal means interconnecting said output signal circuit path means and said voltage bias controlled to conduction-and-non-conduction means.

3,376,515
SINGLE-ENDED, PUSH-PULL TRANSISTOR AUDIO AMPLIFIER

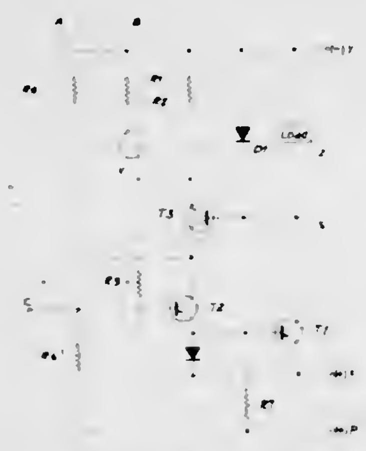
William G. Dilley, 4168 North 425 West, Ogden, Utah 84404
Filed Mar. 5, 1965, Ser. No. 437,497
4 Claims. (Cl. 330—15)



A wide band, audio amplifier characterized by low distortion and low noise. Transistorized input circuitry of common base configuration enables feedback to be applied directly to the transistor base from a network arranged to perform the functions of AC feedback and DC bias. A differential amplifier also operates in the common base mode. A single ended, push-pull output stage includes symmetrical portions utilizing respective transistors operating in the common emitter mode.

3,376,516
TRANSISTORIZED SWITCHING AMPLIFIER WITH PROTECTIVE CIRCUIT

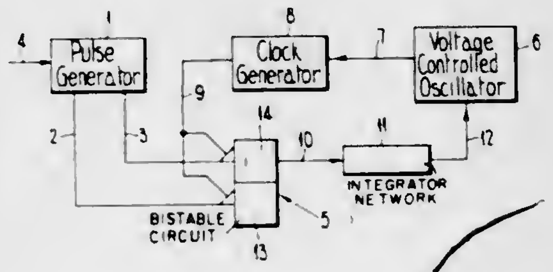
Lucien Budts, Paris, France, assignor to Thomson Automatismes, Chatou, France, a corporation of France
Filed Mar. 2, 1965, Ser. No. 436,574
Claims priority, application France, Mar. 18, 1964, 967,851, Patent 1,397,415
8 Claims. (Cl. 330—26)



Switching amplifier with two transistor stages and a control transistor connected therewith in an unstable circuit whereby the output stage is turned fully on in the presence of an input signal and cut off in the absence of such signal, the control transistor being so connected across a load energized from the output stage as to become blocked upon an abnormal reduction in load impedance whereupon the load current is reduced under the control of a fixed output resistance.

3,376,517
AUTOMATIC FREQUENCY CONTROL USING VOLTAGE TRANSITIONS OF AN INPUT REFERENCE SIGNAL

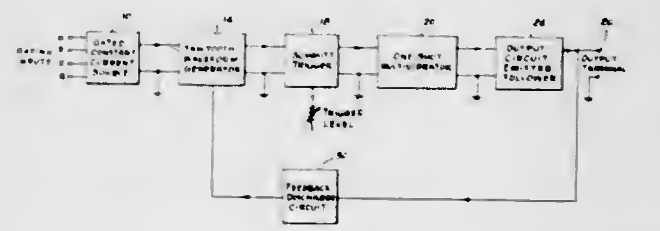
John Spackman Reynolds, Portchester, Fareham, England, assignor to The General Electric Company Limited, London, England, a British company
Filed Dec. 19, 1966, Ser. No. 603,045
Claims priority, application Great Britain, Dec. 21, 1965, 54,188/65
5 Claims. (Cl. 331—18)



An arrangement for controlling the frequency of an oscillator in dependence upon an input signal, in which pulses derived from the output of the oscillator are applied, together with pulses derived in response to transitions between voltage levels in the input signal, to inputs of a bistable circuit so that the bistable circuit is switched between its two states in dependence upon the relative timing of pulses in the two sets. An output signal from the bistable circuit is integrated and utilized to control the frequency of the oscillator.

3,376,518
LOW FREQUENCY OSCILLATOR CIRCUIT

Thomas Lee Emmer, Oak Ridge, Tenn., assignor to Radiation Instrument Development Laboratory, Division of Nuclear-Chicago Corporation, Melrose Park, Ill., a corporation of Delaware
Filed May 13, 1964, Ser. No. 366,963
4 Claims. (Cl. 331—111)

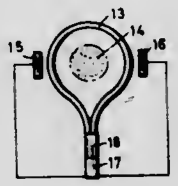


1. A low frequency oscillator circuit for generating a series of electrical pulses comprising a plurality of gated constant current means, a source of gating pulses, an integrating capacitor, means for applying said gating pulses to one of said constant current means for selecting a predetermined constant current value therefrom, the constant current means being adapted to charge the capacitor to a linear sawtooth waveform, discharge means for abruptly periodically discharging the capacitor to a

fixed reference potential, voltage discriminator means being connected to the integrating capacitor and adapted to respond to a voltage level across the capacitor exceeding a predetermined threshold value by generating a pulse signal, pulse shaper means being connected to the output of the voltage discriminator and adapted to respond to the pulse signal from the discriminator by generating an output signal, the discharge means being connected between the pulse shaper and the integrating capacitor adapted to discharge the capacitor to the fixed reference potential in response to the output signal.

3,376,519
DELAY LINE FOR TRAVELING WAVE TUBES

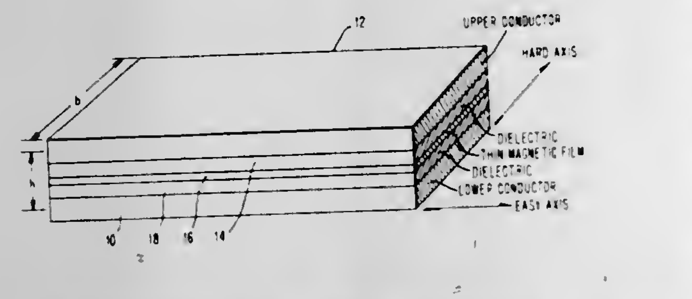
Roland Liebscher and Erich Mayerhofer, Munich, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany
Filed Sept. 26, 1962, Ser. No. 226,419
8 Claims. (Cl. 333—31)



1. A delay line, particularly for traveling wave tubes with wire- or strip-shaped conductor pieces which are fastened to a metal spar extending in the longitudinal direction of the delay line and forming with it a helix having a cross-section which is flattened on at least one side, said metal spar having, intermediate the points at which the individual conductor pieces are fastened thereto, notches formed therein which are of such shape and depth that the metal spar with the notches represents an inherent delay line only at frequencies which are higher than the operating frequency range, and wherein at least one metal bar, extending parallel to the metal spar, is symmetrically disposed with respect to the conductor pieces a short distance therefrom on the side of the helix facing away from the metal spar.

3,376,520
THIN MAGNETIC FILM IMPEDANCE TRANSFORMER

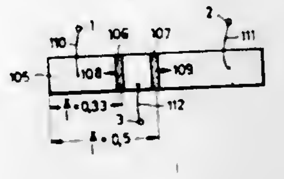
William E. Flannery, Norristown, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed May 31, 1963, Ser. No. 284,408
6 Claims. (Cl. 333—34)



1. An impedance transformer comprising, first and second conductors, a thin magnetic film having a varying thickness disposed between said first and second conductors, and an insulating layer disposed between said magnetic film and at least one of said first and second conductors, said thin magnetic film being characterized by a linearly varying value of H_k.

3,376,521
MECHANICAL VIBRATOR WITH ELECTROSTRICTIVE EXCITATION

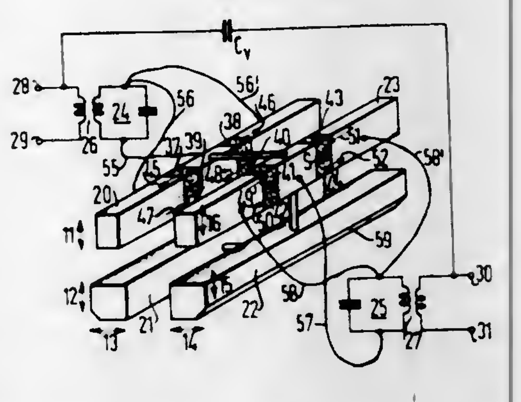
Karl Traub, Munich, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany
Filed May 19, 1964, Ser. No. 368,717
Claims priority, application Germany, May 21, 1963, S 85,317
1 Claim. (Cl. 333—71)



An electromechanical filter having blocks of electrostrictive material along the length of an elongated metallic vibrator, the blocks being arranged with their planes extending perpendicular to the longitudinal axis of the metallic resonator and polarized in the direction of the longitudinal axis of the resonator whereby the harmonics of the vibrations may be filtered.

3,376,522
ELECTROMECHANICAL BAND FILTER WITH REACTIVE BRIDGING MEANS FOR SHIFTING OR ADDING ADDITIONAL ATTENUATION POLES

Karl Traub, Munich, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany
Filed Sept. 21, 1965, Ser. No. 489,804
Claims priority, application Germany, Sept. 21, 1964, S 93,270
6 Claims. (Cl. 333—71)

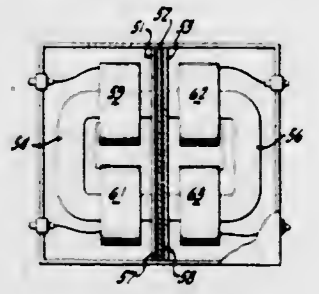


An electromechanical band filter comprising several mechanically coupled resonators, at least the end resonators provided with electromechanical transducers for the transition from electrical to mechanical vibrations, the filter containing at least one element generating an attenuation pole in the filter blocking range, and at least one reactance bridging the element generating the attenuation pole, the reactance including at least the coupling of the element generating the attenuation pole to the adjacent resonators.

3,376,523
TRANSIENT-SUPPRESSING MAGNETIC TRANSMISSION LINE

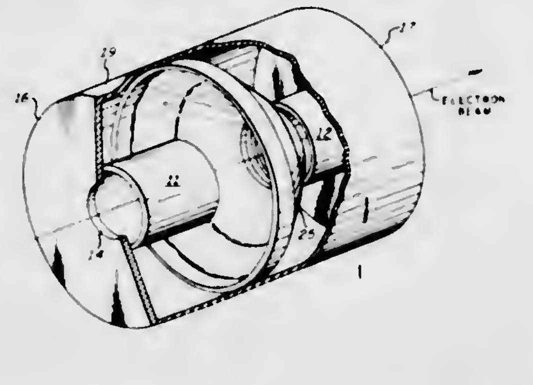
Quentin A. Kerns, Orinda, Calif., assignor to The Regents of The University of California, Berkeley, Calif.
Continuation-in-part of application Ser. No. 366,441, May 11, 1964. This application Dec. 27, 1966, Ser. No. 613,696
5 Claims. (Cl. 333—78)

A magnetic transmission line, for example, a power transformer, wherein electrical fields surround the conductors of the line and magnetic fields extend between the conductors, and wherein the line is interrupted by a permeable membrane through which the fields are propagated and wherein low-frequency electric fields are but slightly attenuated in said membrane while high-frequency electric fields are severely attenuated by the skin effect of the membrane so that the membrane will pass low-frequency electromagnetic energy but will filter out high-frequency transients.



3,376,524
DOUBLE-MODE BROADBAND RESONANT CAVITY

Chao Chen Wang, Mineola, N.Y., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed July 13, 1964, Ser. No. 382,279
5 Claims. (Cl. 33—83)



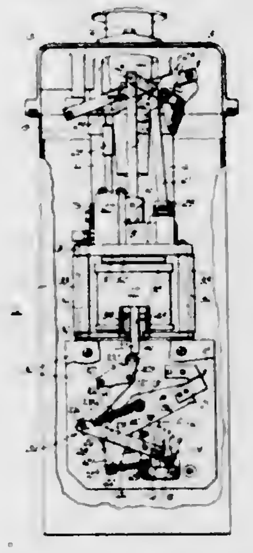
1. A broadband resonant cavity tube comprising,
a hollow conductive cavity member having first and second end walls,
first and second aligned reentrant nibs on the respective end walls of said cavity and forming a gap therebetween
- said cavity being adapted to support standing electromagnetic waves at a first frequency in a first cavity mode characterized by electric field lines that extend across said gap between said nibs, and supporting standing electromagnetic waves at a second frequency in a second cavity mode characterized by electric field lines in the gap that extends between the respective nibs and the side wall of said cavity member,

an apertured conductive cup-shaped member coaxially disposed in said gap adjacent one of said nibs,
said cup-shaped member being positioned in the region of said gap to intersect substantally normally the electric field lines of said first mode.

3,376,525
REPEATING CIRCUIT INTERRUPTER

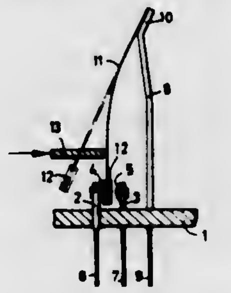
Kazuo Henry Date, South Milwaukee, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed July 9, 1964, Ser. No. 381,308
13 Claims. (Cl. 335—26)

1. A repeating circuit interrupter having switch means, condition responsive means in circuit with said switch means and operable from an initial state to a final state upon the occurrence of an abnormal circuit condition, switch operating means for opening said switch means as said condition responsive means operates to its final state, first means for holding said condition responsive means in its final state, means operatively associated with said switch means for releasing said condition responsive means when said switch means reaches its fully open position, said switch operating means returning said condition responsive means to its initial state, second means for preventing said switch means from moving out of its fully open position and means for releasing said switch means after said condition responsive means returns to its initial state, said switch operating means being operative to return said switch means to its closed position.



3,376,526
ELECTRICAL RELAY AND CONTACT ARRANGEMENT THEREFOR

Josef Fischer, Herbert Krautwald, and Wolfgang Hübner, Munich, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany
Continuation of application Ser. No. 197,997, May 28, 1962. This application Jan. 23, 1967, Ser. No. 622,846
1 Claim. (Cl. 335—197)



An electrical contact structure, utilizing rigid contact carriers, each anchored at one end and in a supporting plate and having one end of a resilient contact spring secured to and supported by the free end of the carrier, the latter being capable of adjusting deformation, to enable disposition and adjustment of the spring pressure of contacts at the free end of such spring with one or more stationary contacts disposed adjacent the supporting plate.

3,376,527
MAGNETIC SLUG SWITCH

George Risk, Columbus, Nebr., assignor to George Risk Industries, Inc., Columbus, Nebr., a corporation of Colorado
Filed May 2, 1966, Ser. No. 546,755
9 Claims. (Cl. 335—207)

1. A magnetic slug switch to control the flow of electrical current between at least two of a plurality of dis-

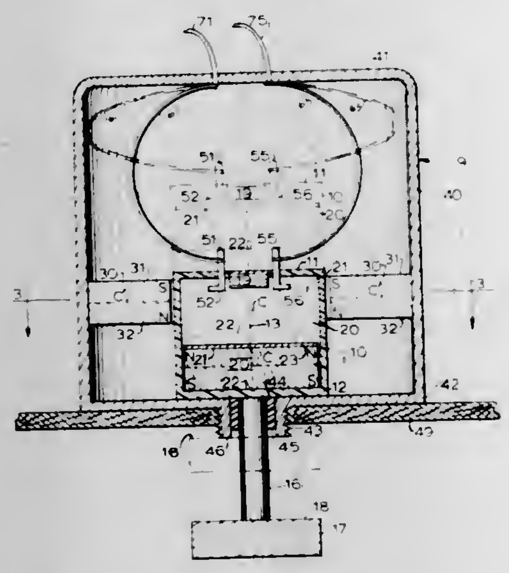
tinctly separated electrical leads, said magnetic slug switch comprising:

(A) A tubular hollow casing having a longitudinal central axis, an upper first end and a lower second end both ends being transversely disposed with respect to the casing longitudinal axis, said tubular hollow casing together with its longitudinal central axis being substantially vertically disposed, the upright longitudinal walls of said tubular casing being provided of a structural material that is of low magnetic permeability;

(B) A magnetic slug disposed internally within said hollow casing, said magnetic slug having an upper first end located nearer to the casing upper first end, said magnetic slug having a lower second end located nearer to the casing lower second end, said magnetic slug having a permanently positioned magnetic North pole at one end thereof and a permanently positioned magnetic South pole at the other end thereof, said magnetic slug having a magnetically neutral transverse meridian between the first and second ends thereof, the cross-sectional size of the magnetic slug being slightly less than the cross-sectional size of the tubular casing hollow interior whereby the magnetic slug is vertically slidably disposed within the tubular casing along the longitudinal central axis thereof so that the slug upper first end is always nearer to the casing upper first end than is the slug lower second end, said magnetic slug having two stations within the casing including a primary station at the lower extremity of its longitudinal travel and a second station at the upper extremity of its longitudinal travel, the magnetic slug being normally positioned at its lower primary station located nearer to the lower second end of the casing than to the upper first end of the casing when the casing is so vertically disposed; a plurality of distinctly separated electrical leads attached to the tubular casing, said electrical leads having terminal ends within the tubular casing between the upper first end of the casing and the upper first end of the magnetic slug; the upper first end of said magnetic slug having a structurally continuous electrical conductor portion adapted to simultaneously engage at least two of said distinctly separated electrical leads when the magnetic slug is at its upper secondary station;

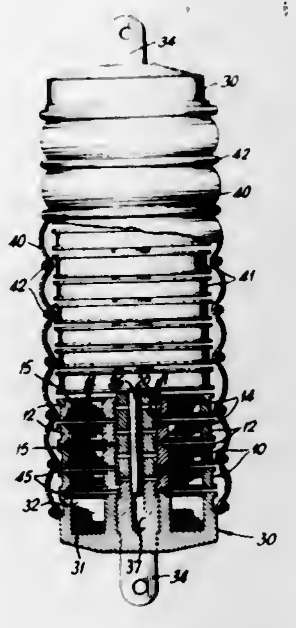
(C) An external magnet disposed externally of said tubular casing, said external magnet having an upper first end and a lower second end, the external magnet second end being located nearer to the casing second end than is the external magnet first end, said external magnet having a permanently positioned North pole at one end thereof and a permanently positioned South pole at the other end thereof, the magnetic polarity of the external magnet first end being identical to the magnetic polarity of the slug second end, the magnetic polarity of the external magnet second end being identical to the magnetic polarity of the slug first end, said external magnet having a magnetically neutral transverse meridian between the first and second ends thereof, said external magnet providing a relatively fixed normal station wherein the external magnet transverse meridian is spaced a given finite distance from the transverse meridian of the magnetic slug and also between the transverse meridian of the magnetic slug at its lower primary station and the casing first end whereby the mutually repellent magnetic forces of the slug and external magnet maintain the slug at its lower primary station, the distance between the primary and secondary stations for the slug within the casing being less than said given finite distance, and

(D) Means to provide movement of the casing along its longitudinal central axis toward the external magnet upper first end to cause the magnetically neutral transverse meridian of the slug to approach the external magnet lower second end and to pass the magnetically neutral transverse meridian of the external magnet whereby the mutually repellant magnetic forces of the slug and external magnet abruptly repel the slug to its upper secondary station against the terminal ends of at least two of said distinctly separated electrical leads, the degree of relative movement between the movable casing and external magnet exceeding said given distance whereby an opposite degree of relative movement between the casing and external magnet will return the slug to its lower primary station.



3,376,528
ELECTROMAGNETIC ACTUATING DEVICE

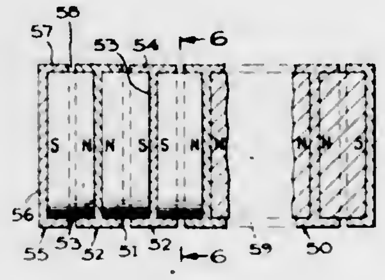
James C. Macy, Westfield, N.J., assignor, by mesne assignments, to Thrust, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Sept. 10, 1965, Ser. No. 486,454
22 Claims. (Cl. 335—296)



Magnetic actuating devices wherein the existing magnetic gap is broken up into a plurality of increments. The structure can include a single electric coil with a plurality of magnetic segments to break up the magnetic gap; a plurality of electric coils with associated core pieces; or a helical coil core piece arrangement. The magnetic gap can be filled with air or a fluid medium having ferromagnetic properties.

3,376,529
MAGNET ASSEMBLY FOR FILTERING

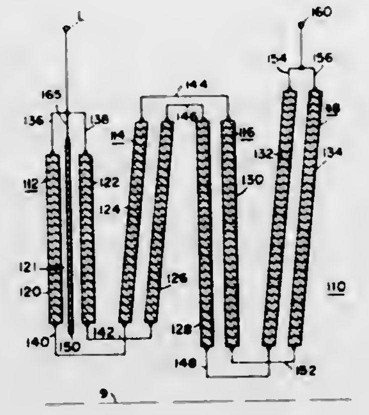
Saburo Miyata, 58 Shimo Takanawa, Minato-ku, Yokohama, Japan
Filed June 2, 1965, Ser. No. 460,673
10 Claims. (Cl. 335—305)



A longitudinally extending series of magnets, comprising discs or spheres having magnetic poles in line with the direction of the length of the series is provided with intermediate pole pieces which embrace and substantially enclose the polar area of an adjacent magnet. The pole pieces between pairs of magnets embrace polar areas of two magnets and end pole pieces embrace the end polar area of the first and last magnets of the series. Like poles face one another. A sleeve of non-magnetic material surrounds and supports the series of magnets and pole pieces.

3,376,530
AXIALLY SPACED TRANSFORMER PANCAKE COILS HAVING STATIC PLATE

Heinz G. Fischer, Muncie, Ind., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 27, 1966, Ser. No. 545,649
5 Claims. (Cl. 336—70)

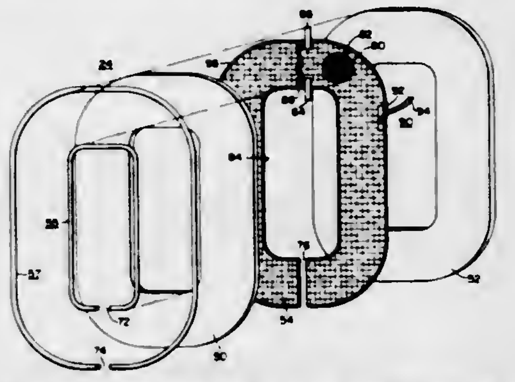


Electrical transformers of the type which utilize a plurality of axially spaced pancake coils connected to form a winding thereof, and one or more static plate members disposed and electrically connected to more uniformly distribute surge potentials across the winding.

3,376,531
ELECTRICAL INDUCTIVE APPARATUS WITH WIRE CLOTH SHIELDING MEANS

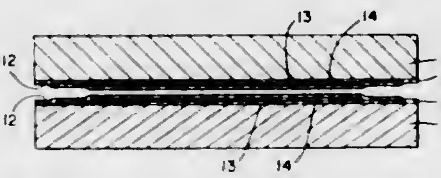
Heinz G. Fischer and Clifford J. Bell, Muncie, Ind., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 26, 1966, Ser. No. 575,430
8 Claims. (Cl. 336—70)

An electrical transformer having shielding means which includes an electrically conductive portion disposed between electrical insulating members. The electrically conductive portion is formed of wire cloth having an electrical resistivity between .02 and 2 ohms per square.



3,376,532
PROTECTIVE COVER FOR RELATIVELY MOVABLE CONDUCTIVE MEASURING SCALES

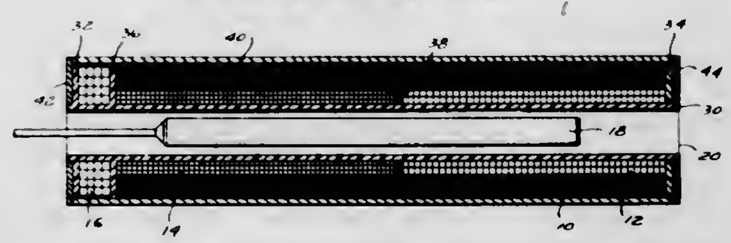
John F. Walter, Atlanta, Ga., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed June 16, 1965, Ser. No. 464,504
1 Claim. (Cl. 336—115)



1. In a displacement measuring system including a first scale member movable in a predetermined path of travel with respect to a second scale member, the improvement comprising: the construction of each of said scale members to include a base member, at least one electrically conductive member insulatively disposed on a surface of each of said base members, and an overlying protective resin bonded glass fiber cover secured to each of said electrically conductive members, the first and second scale members being adapted to be mounted such that said resin bonded glass fiber covers face one another in closely spaced apart relationship defining a predetermined clearance therebetween, the coverage of said surfaces by their respective protective covers being at least coextensive with the coverage of said surfaces by their respective conductive members, each said protective cover being of a composition having sufficient resistance to penetration that each conductive member is substantially protected from damage resulting from the introduction of a foreign abrasive particle in the clearance aforesaid.

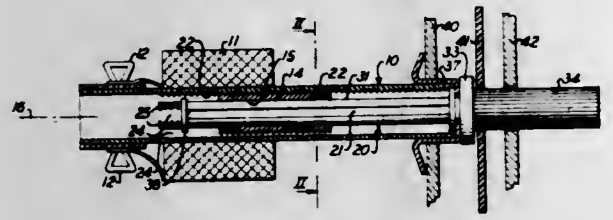
3,376,533
DIFFERENTIAL TRANSFORMERS

Jacob Chass, Forest Hills, N.Y., assignor to Pickering & Company, Inc., Plainview, N.Y., a corporation of New York
Filed May 9, 1967, Ser. No. 637,151
5 Claims. (Cl. 336—136)



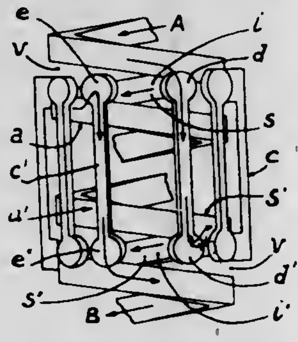
A non-symmetrical differential transformer having a null position at one end and an output voltage which is a linear function of the displacement of an armature core from the null position.

3,376,534
VARIABLE INDUCTANCE
James J. Aguirre, 5819 W. Patterson Ave.,
Chicago, Ill. 60634
Filed May 5, 1966, Ser. No. 547,891
10 Claims. (Cl. 336—136)



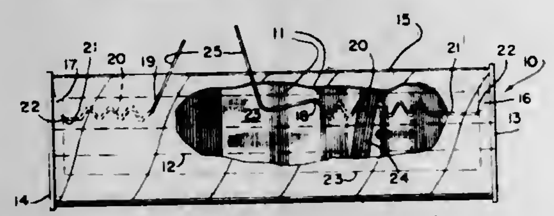
In variable tuners having axially moving slugs inside tubular coil forms, internal ribs on the central apertures of the slugs which are received in corresponding grooves of tuning rods prevent jamming that is prevalent in slugs and tuning rods having polygonal and other similar cross-sectional shapes.

3,376,535
DEVICES OF MOVING CONNECTIONS BETWEEN TWO FIXED ELECTRIC WINDINGS
Paul Gout, 22 Rue Roger Barbe, Seyssinet,
Isere, France
Continuation-in-part of application Ser. No. 324,108, Nov. 15, 1963. This application July 21, 1966, Ser. No. 566,778
Claims priority, application France, Nov. 30, 1962, 43,099, Patent 1,349,306
11 Claims. (Cl. 336—138)



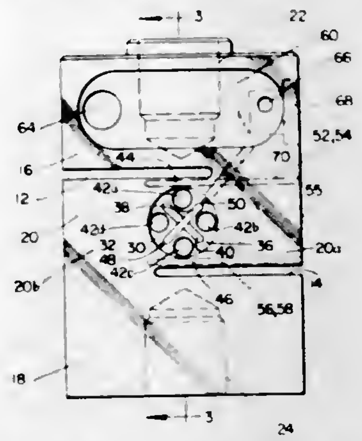
A control for two electrically conductive coils consisting of two circular arrangements of separate contacts or brushes, one for each coil, the contacts of one arrangement being connected to respective contacts of the other arrangement, the contacts selectively making contact with the turns of the coils or fitting between the turns.

3,376,536
ELECTRIC COILS HAVING SERPENTINE LEADS
Otto N. Bloom, 5025 Earle St.,
Rosemead, Calif. 91770
Filed Feb. 11, 1965, Ser. No. 431,851
2 Claims. (Cl. 336—192)



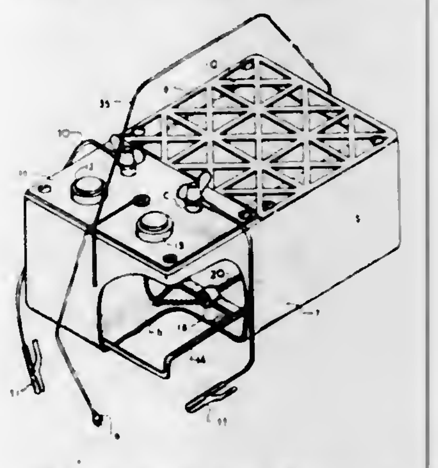
1. An electric coil comprising a cylindrical winding of fine gauge insulated wire, a pair of leads connected to the ends of the winding at opposite ends of the coil, each lead being substantially larger in diameter than the wire of said winding and formed between its ends in a substantially flat, serpentine portion extending longitudinally along and conforming substantially to the outer surface of said winding, a strip of insulating material underlying each serpentine portion, a covering wrapping formed of a strip wound about said winding and said serpentine portions, the free ends of said leads extending outwardly through said wrapping, the wrapping wound about said serpentine portion and insulating strips securing said leads to said coil while said serpentine portions prevent displacement of said leads during winding of said wrapping and said leads are rigidly fixed to said coil against displacement and to form supports for said coil.

3,376,537
SHEAR STRAIN LOAD CELL
Jean-Pierre A. Pugnaire, Arlington, Mass., assignor, by mesne assignments, to Bytrex, Inc., Waltham, Mass., a corporation of Massachusetts
Continuation-in-part of application Ser. No. 346,028, Feb. 19, 1964. This application Feb. 11, 1966, Ser. No. 540,109
18 Claims. (Cl. 338—5)



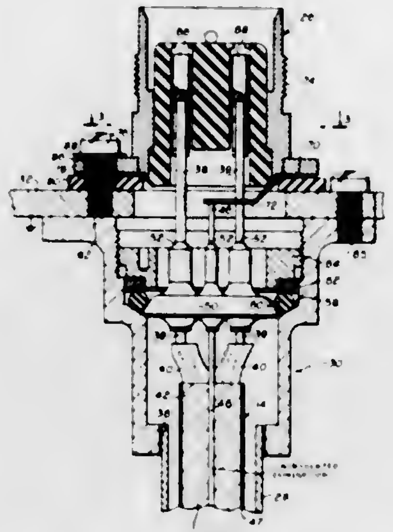
The instant load cell converts tension and compression forces to shear strain in a thin disk mounted in a member that receives the load in a direction transverse to the small thickness of the disk. The member is arranged to have passing therethrough the neutral axis about which it bends when the load has components directed parallel to the thickness dimension of the disk, and the disk is disposed on this neutral axis. Shear strain in the disk can be further concentrated along the disk portions of maximum strain due to the shear by weakening other portions of the disk.

3,376,538
PORTABLE ELECTRIC WELDING DEVICE
Robert Gagnon, 3075 Leo Ave., Val Caron,
Ontario, Canada
Filed June 7, 1965, Ser. No. 462,034
1 Claim. (Cl. 338—231)



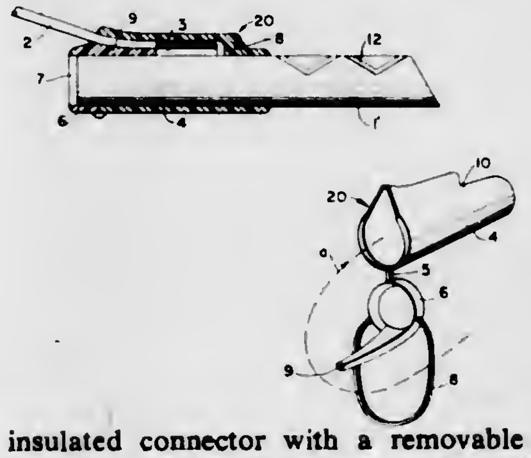
Portable arc welding apparatus readily carried around by hand to the location needed, the apparatus deriving its power by simply plugging into a conventional socket installed in the known electric system from which light and power are derived. The apparatus includes a liquid container or casing with an open top, the resistance elements being mounted on a skeleton frame and grid in the bottom of the casing submerged in a liquid bath. The resistance elements are connected in parallel and the welding circuit comprises a source of power, a positive wire connected to one end of an electrode or welding rod clamp and a negative wire and resistance elements connected in circuit therewith and with a lead wire connected to the other electrode or welding rod clamp. The open top of the casing is closed by cover means partly grilled and open for ventilation and partly imperforate dielectric for supporting fuses and electrode terminal posts.

3,376,539
VIDEO PAIR CABLE TERMINAL
Daniel E. Robinson, Metuchen, and Harry A. Holm, Clifton, N.J., assignors to General Cable Corporation, New York, N.Y., a corporation of New Jersey
Filed Apr. 26, 1966, Ser. No. 545,436
9 Claims. (Cl. 339—14)



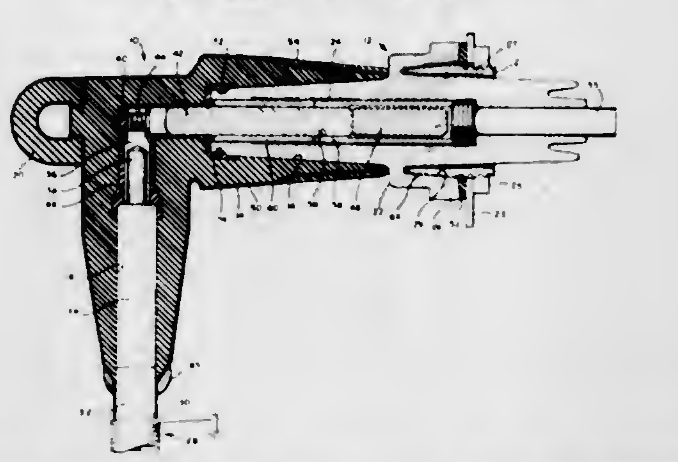
1. A video pair cable terminal construction including a housing for receiving the end of a video pair cable which has a grounding conductor and insulated conductors with shielding around the insulated conductors, a receptacle with quick detachable terminal means for connection to the ends of the insulated conductors beyond the insulation, fastening means for connecting the housing to a mounting plate, other fastening means for connecting the receptacle with the mounting plate, means for electrically insulating the receptacle from the mounting plate and means for connecting the receptacle with the grounding conductor of the cable.

3,376,540
CONNECTOR WITH REMOVABLE INSULATING SLEEVE
Karl-Albert Turban, Karlsruhe, Germany, assignor to Multi-Contact A.G., Basel, Switzerland
Filed Dec. 8, 1965, Ser. No. 512,449
12 Claims. (Cl. 339—59)



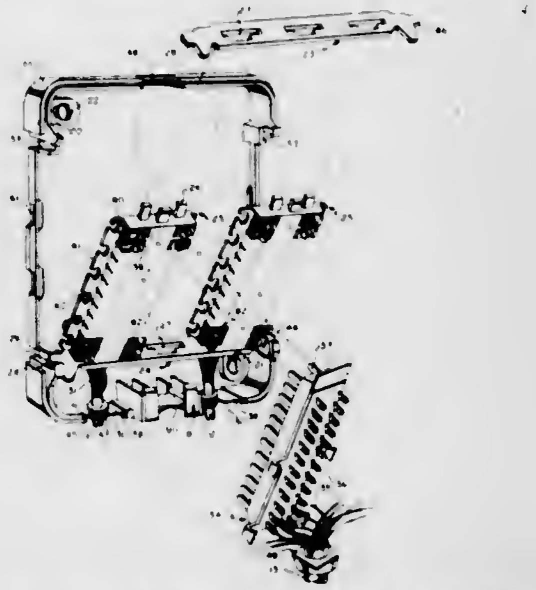
An insulated connector with a removable insulating sleeve or sheath that can be put on or taken off manually without the use of tools. The connector comprises a connector body; a lead, arranged on the side of and attached to the outer circumference of the connector body; and removable sleeve-shaped insulating means made of elastic material for covering the connector body and the lead. The insulating means has a tubular part of a tear-drop shaped cross section which surrounds the connector body and the lead and a cap-like closure part connected to the tubular part, in the region of one end of the tear-drop shaped cross section, by means of a hinge. The closure part is capable of being snapped onto the tubular part so that, in a first position, it covers the end of the connector and, in a second position, it is off the connector. The closure part, further, carries a loop for locking itself to the tubular part when it is in its first position.

3,376,541
SAFE BREAK TERMINATOR
Edwin A. Link, Waukesha, Wis., assignor to RFE Corporation, Waukesha, Wis.
Filed Mar. 11, 1966, Ser. No. 533,462
6 Claims. (Cl. 339—61)



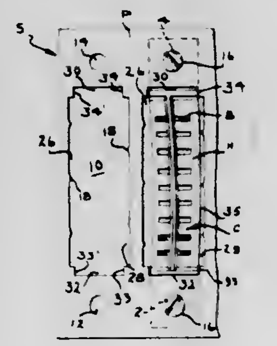
Disclosed herein is an electrical connector including a first and second member one of which is made of an elastic material with each member having an electrically conductive part with each part adapted to be connected to the other and an electrically conductive layer on said one elastic member to shield the connection.

3,376,542
TELEPHONE TERMINAL BLOCK HAVING SNAP-ON CONNECTOR STRIP
Leopold G. Vlaminck, Berchem-Antwerp, Belgium, assignor to Automatic Electric Laboratories Inc., Northlake, Ill., a corporation of Delaware
Filed Oct. 4, 1965, Ser. No. 492,805
4 Claims. (Cl. 339—125)



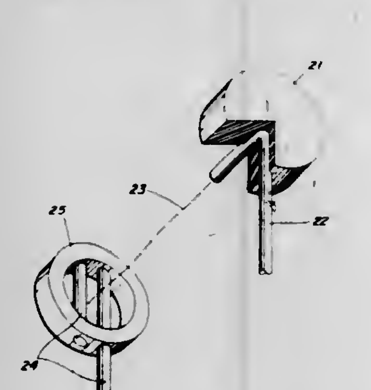
A telephone terminal block comprising a base attached to a support surface, at least one connector strip removably mountable, in snap-on fashion, on said base, and a multi-terminal plug adapted to be mated with the connector strip. The conductors of a pre-installed telephone cable are connected to the terminals of the connector strip prior to the strip and grommet-held end portion of the telephone cable being mounted on the base; after which the multi-terminal plug, also prewired to a telephone conductor cord, is mated with the connector strip. A snap-on cover, having ribs on the inside surface thereof to secure the end portion of the cable to the base, is placed over the base, enclosing the connector strip and plug.

3,376,543
ALIGNMENT OF CONNECTOR BLOCKS IN A PANEL
Kemper Martel Hammell, Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Oct. 18, 1965, Ser. No. 497,271
3 Claims. (Cl. 339—132)



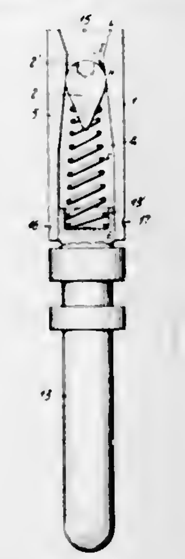
In a panel for mounting and aligning electrical connectors, the panel has openings therein, each of the openings having opposed locating sections and opposed recessed sections, the opposed locating sections receiving ends of a section of an electrical connector with aligned surfaces of the locating sections in the same plane and one surface of one of the locating sections perpendicular to this plane serving as aligning surfaces for the connector, the opposed recessed sections being spaced from respective sides of the connector section to provide clearance therefor.

3,376,544
ELECTRICAL CONNECTOR
Donald M. Locke, White Rock, N. Mex., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Aug. 5, 1966, Ser. No. 571,155
3 Claims. (Cl. 339—149)



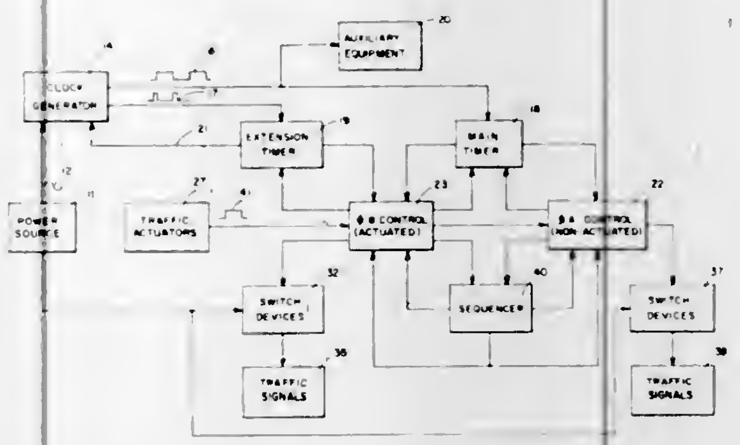
This invention is a miniature electrical cable connector consisting of a male member imbedded in plastic and engaging a female member composed of two parallel wires mounted in a circular metal ring which is also imbedded in plastic.

3,376,545
MECHANICAL WIRE JOINT
Renato Anzini, Losone, Switzerland
Filed Sept. 23, 1965, Ser. No. 489,663
Claims priority, application Switzerland, Oct. 12, 1964, 13,239/64; May 8, 1965, 6,522/65
4 Claims. (Cl. 339—273)



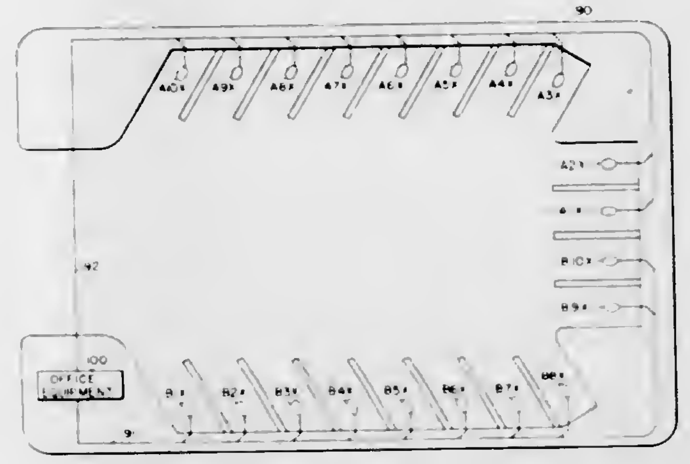
A fastener for wires and the like having a tubular shell whose cavity is open in one direction and tapers toward the open end, and a locking member wedgedly engaging the tapering wall of the cavity under the restraint of a spring which biases the locking member in an outward direction. A recess in the exposed surface of the locking member permits a pointed tool securely to engage the member for depressing the same against the spring to permit insertion of a wire or release of a clamped wire. The preferred locking member is drop shaped having a hemispherical outer portion and a tapering inner portion.

3,376,546
TRAFFIC CONTROL SYSTEM
Vernor B. Cress, Jr., Rowland Heights, Eugene P. Hoyt, Santa Ana, Ramey B. Metz and Robert D. Pollock, Anaheim, Stanley M. Kerber, Fullerton, Ray W. Cabe, Manhattan Beach, and Peter F. Apitz, Placentia, Calif., assignors to Tamar Electronics Industries, Inc., Anaheim, Calif., a corporation of Delaware
Filed June 28, 1965, Ser. No. 467,397
15 Claims. (Cl. 340—37)



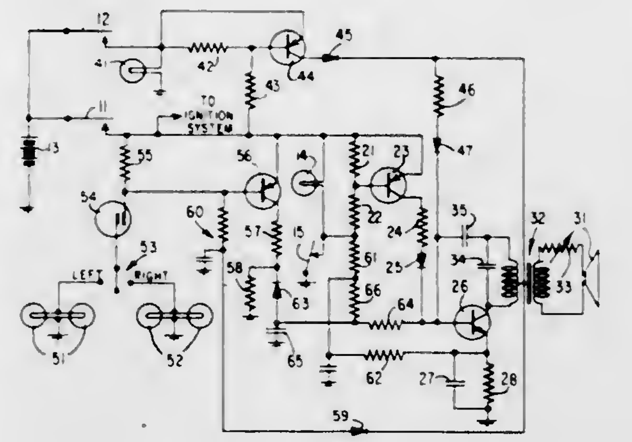
The clock pulse output of a clock generator is fed to a timer circuit, such timer circuit including a counter for counting the clock pulses and selector switch means for selecting various predetermined outputs of the counter. The various outputs from the selector switches are fed to logical gating control circuits, which are utilized to control the operation of traffic signals in accordance with a predetermined program and a response to pedestrian and vehicle actuators.

3,376,547
PARKING AREA SCANNING SYSTEM
John H. Auer, Jr., Fairport, N.Y., assignor to General Signal Corporation, Rochester, N.Y., a corporation of New York
Filed Oct. 20, 1964, Ser. No. 405,070
15 Claims. (Cl. 340—51)



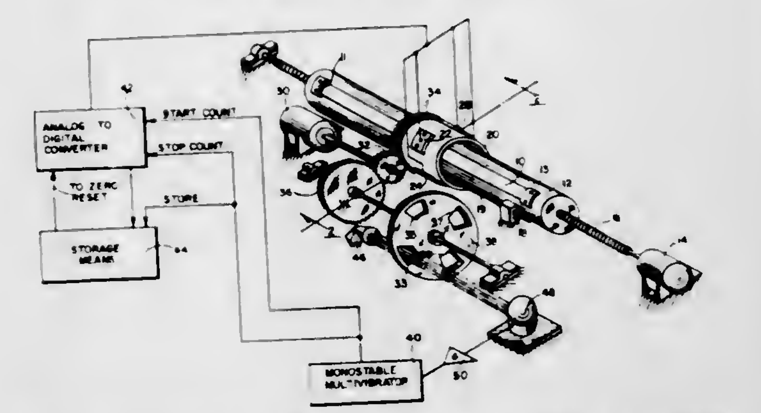
Apparatus for indicating the location of vacant parking places within a parking facility. A number of transducers, which are disposed throughout the parking facility and each of which monitors a particular parking place, are combined to operate with a single transceiver. This transceiver is selectively connected to each of said transducers, in turn, by switching circuits and as each parking place is monitored a corresponding indicator is made to register that place as occupied or vacant.

3,376,548
WARNING SYSTEM FOR INDICATING OPERATION OF VEHICULAR ELECTRICAL SYSTEM
Kamil Y. Jabbar and Richard T. Race, Chicago, Ill., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Apr. 19, 1965, Ser. No. 449,211
9 Claims. (Cl. 340—52)



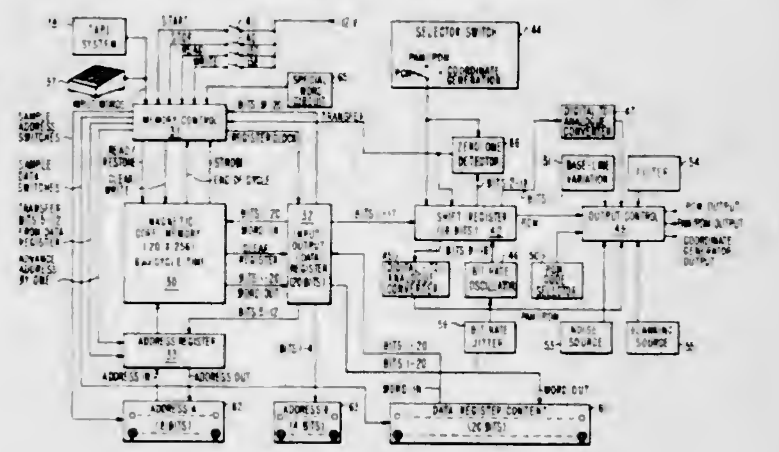
Warning system for vehicular electrical system having ignition switch, light switch, oil pressure switch and turn indicator switch, including transistor oscillator connected to loudspeaker for providing an audible warning. The transistor is rendered conductive when the light switch is closed and the ignition switch is open, and when the oil pressure switch is closed with either the light switch or the ignition switch closed. The transistor is also rendered conductive by the turn indicator switch at a predetermined time after the turn indicator switch has been operated.

3,376,549
MAGNETIC TAPE SIGNAL QUANTIZER
John P. Ford, Canoga Park, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware
Filed June 15, 1961, Ser. No. 117,201
9 Claims. (Cl. 340—172.5)



1. In combination with a tape having analog information stored along a longitudinally extending track thereof, the combination comprising:
a transducer; and
means for generating a quantized output signal having an amplitude indicative of the information on one area of said track, said generating means comprising means for moving said transducer across said track.

3,376,550
CODE SIMULATOR
Mei-Goon Wong, Los Angeles, and Douglas R. Maure, Pasadena, Calif., assignors, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Filed May 17, 1963, Ser. No. 281,147
17 Claims. (Cl. 340—172.5)



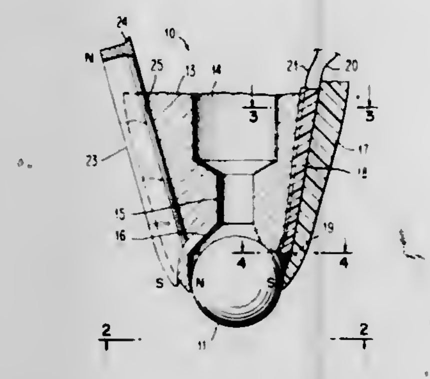
1. A code format simulator system comprising:
memory means for storing word groups of information in the form of electrical pulses at different address positions, each word group containing electrical pulse information indicative of a word group type;
controllable means for reading out said word groups from a normal sequence of address positions;
means responsive to the pulse information indicative of the word group type for producing a signal identifying the type of word group which is read out;
control means responsive to a signal identifying certain types of word groups for altering said normal sequence in accordance with the electrical pulse information contained in the word read out; and
output means including a register means for receiving other types of word groups read out in sequence from said memory means and for producing a continuous coded output signal modulated in accordance with the electrical pulse information contained in this other type of word group.

3,376,551
MAGNETIC WRITING DEVICES

John W. Armbruster, North Tarrytown, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed May 21, 1964, Ser. No. 369,155

31 Claims. (Cl. 340—172.5)



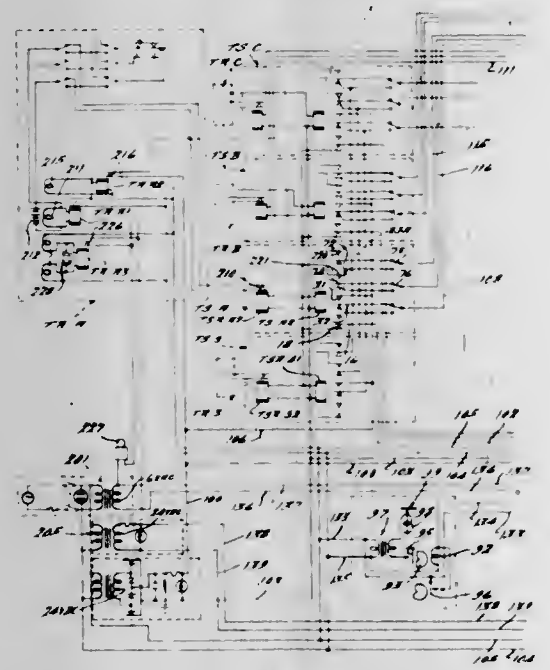
1. A ball tip instrument for writing motion engagement with a surface, said ball tip being adapted to gyrate during said writing motion engagement in accordance with the particular writing motions, characterized by:
   said ball tip having a structural attribute which is the heterogeneity of the ball providing the gyratory capability of producing unique patterns of output signals characteristic of the particular writing motions; and
   means positioned adjacent to said ball tip and cooperative with said structural attribute of said ball tip during gyrations thereof to produce said unique patterns of output signals.

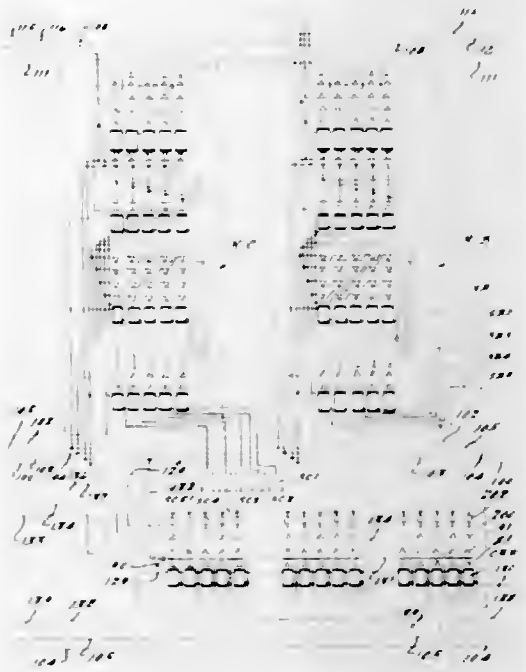
3,376,552
VOICE RECORDING SYSTEMS WITH PLURAL INPUT STATIONS

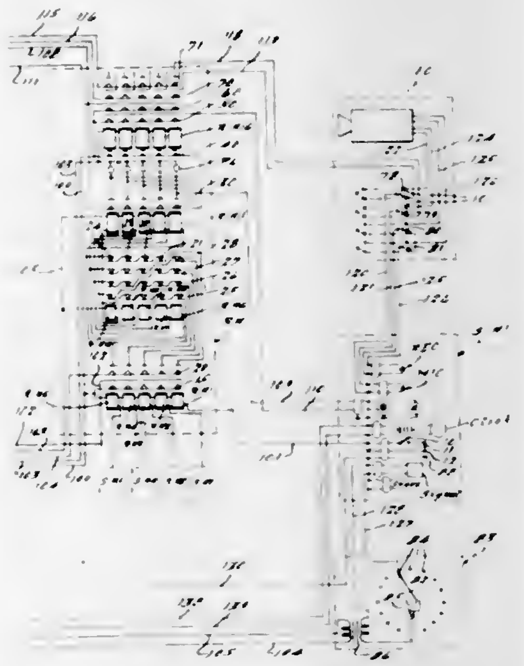
Stuart David Le Barre, 14021 Lincoln, Oak Park, Mich. 48237

Continuation of application Ser. No. 828,645, July 21, 1959. This application Feb. 23, 1965, Ser. No. 440,342

1 Claim. (Cl. 340—172.5)







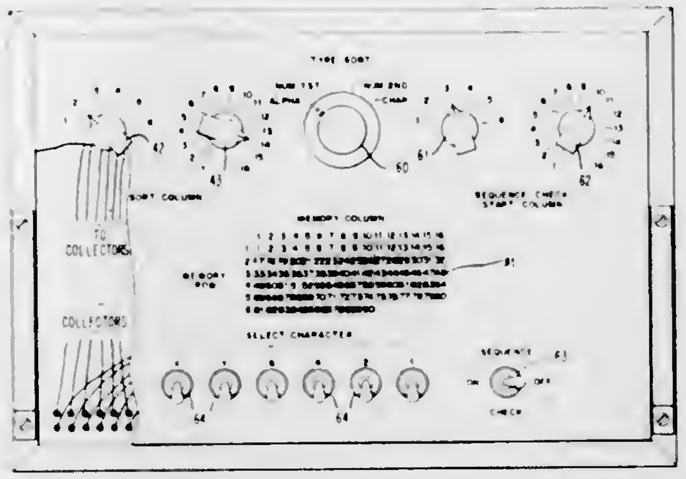
1. A system for recording verbal conversation at a central station from a plurality of remote sources comprising:
   a plurality of primary recording devices,
   a secondary recording device,
   means at each of said remote sources for energizing and conditioning said primary and secondary recording devices for the reception of intelligence, means for routing said verbal conversation to said secondary recording device,
   transfer means for sensing the condition of said primary recording devices prior to recording of said verbal information on said secondary recording device, means for switching from the secondary recording device to one of said primary recording devices upon the availability and commencement of operation of any one of said primary recording devices,
   means for locking out the remaining remote sources while one of said remote sources is in operation,
   indicator means at said central station and at each of said remote sources for indicating the condition of the recording system,
   an oral communication connection extending between each of said remote sources, and said central station, and
   indicator means at each of said remote sources and said central station for indicating the condition of said oral communication system.

3,376,553
DIAL CONTROLLED AUXILIARY PLUGBOARD PANEL

Donald O. Neddenriep, Maple Glen, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Apr. 5, 1965, Ser. No. 445,626

3 Claims. (Cl. 340—172.5)



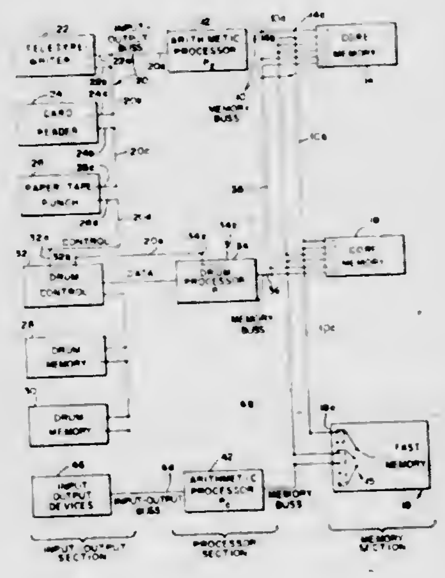
The present device provides a removable plugboard for controlling a data processing system which has plug holes therein disposed to enable plug hub wires with jack plugs to be inserted therethrough to mesh with protruding prongs on the back plugboard of the data processing machine. In addition there is a second level control panel on said removable plugboard which includes rotary switches and toggle switches whose contacts are wired by jack plugs through certain of said plug hole positions in order that the mere setting of the dial effectively relocates a plug hub wire so as to permit the selection of a memory address location without physically relocating the wires.

3,376,554
DIGITAL COMPUTING SYSTEM

Alan Kotok, Belmont, and Chester G. Bell, Concord, Mass., assignors to Digital Equipment Corporation, Maynard, Mass.

Filed Apr. 5, 1965, Ser. No. 445,565

30 Claims. (Cl. 340—172.5)



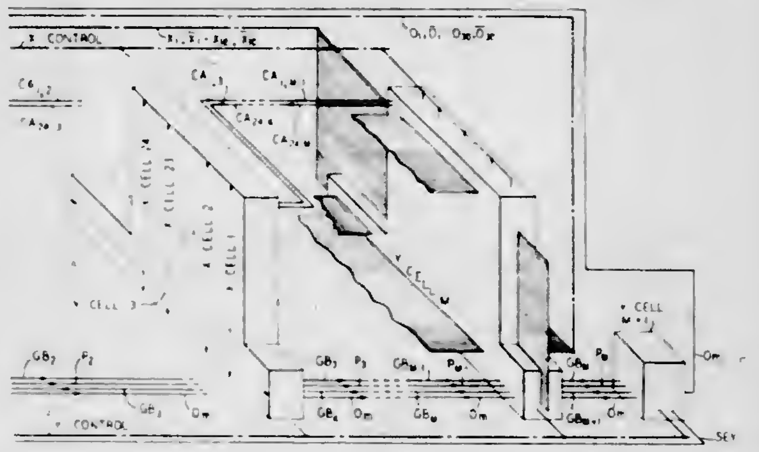
A digital data processing system of one or more processors, plural input-output devices per processor, and plural memory units connects each input-output device and each memory unit to each processor in parallel so that additional devices and units can be added to a processor on a modular, "plug-in" basis. Each processor enables a selected input-output device transfer data with it, and quickly returns the data conductors to normal condition after each data transfer. The processor also requests service from a single memory unit and is signalled when the request is accepted. Each memory unit selects one of plural simultaneous service requests on a priority basis that can alternate priority levels. Each memory unit is automatically "disconnected" from the memory buss data conductors immediately after completing an information transfer but before completing the memory cycle for the transfer.

3,376,555
TWO-DIMENSIONAL ASSOCIATIVE MEMORY SYSTEM

Bently A. Crane, Parsippany, and John A. Githens, Morris Township, Morris County, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 395,161, Sept. 9, 1964. This application June 18, 1965, Ser. No. 465,088

27 Claims. (Cl. 340—172.5)



An associative memory system comprising a first and second array of storage cells, each cell in turn comprising a plurality of storage registers. Each cell in the first array shares a storage register with a particular cell in the second array to thereby enable transference of information between the two arrays. Operations may be performed on the cells in either array in accordance with the condition of cells in the other array.

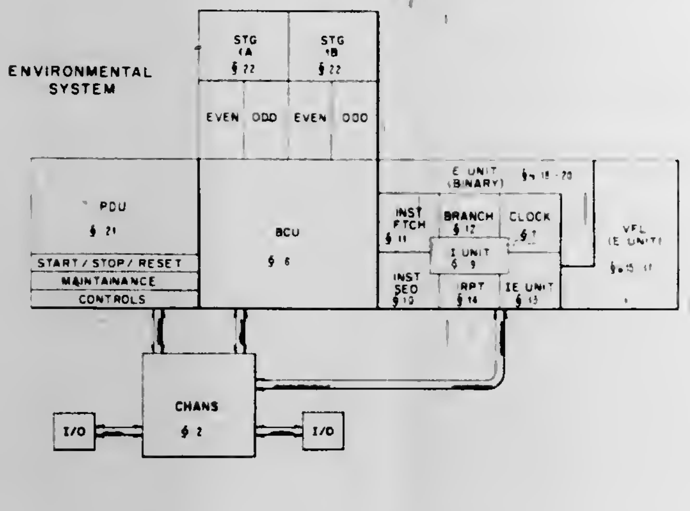
3,376,556
STORAGE REFERENCE PRIORITY IN A DATA PROCESSING SYSTEM

Leo J. Hasbrouck, Poughkeepsie, N.Y., Charles Richard Holleran, Saratoga, Calif., Lewis E. King, Highland, N.Y., and William P. Wissick, Sunnyvale, Calif., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 445,316, Apr. 5, 1965. This application Jan. 13, 1967, Ser. No. 609,239

14 Claims. (Cl. 340—172.5)

The specification discloses an illustrative embodiment for the invention comprising a large scale data processing system of the type which is composed of a plurality of quasi-independent units. The environmental data processing system includes a central processing unit or portion, which is herein referred to as a CPU, a plurality of storage units, a plurality of input/output control devices referred to herein as channels, as well as control and maintenance facilities which are found is a power distribution unit, herein referred to as a PDU. The CPU of the environmental system includes a control or instruction unit hereinafter referred to as an I unit, and an arithmetic and logic or execution unit, hereinafter referred to as an E unit. The I unit includes controls for instruction fetching, branching, interruption handling, communication with the input/output channels, and other related functions. The E unit of the environmental system can perform algebraic and logical operations, moving, shifting, and other functions.



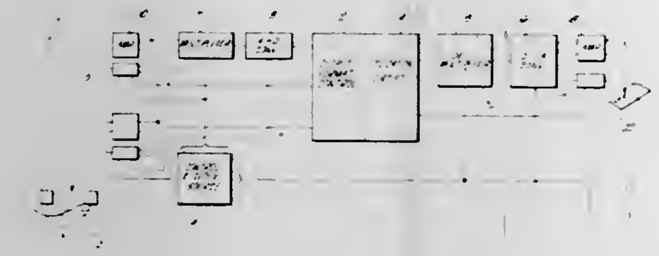
3,376,557

DIGITAL DATA ACQUISITION SYSTEM WITH AMPLIFIERS HAVING AUTOMATIC BINARY GAIN CONTROL CIRCUITS

Peter A. Godinez, West Covina, Calif., assignor to Leach Corporation, San Marino, Calif., a corporation of Delaware

Filed May 10, 1965, Ser. No. 454,558

15 Claims. (Cl. 340—172.5)



An amplifier has a plurality of gain determining circuits connected in parallel. The amplifier gain values established by the gain determining circuits are binary weighted. Under the control of a counter, the gain determining circuits are individually actuated so the amplifier gain decreases in value in binary weighted steps until the amplifier output level drops below a predetermined value, which indicates that it is within the most sensitive range of an analog-to-digital converter. A digital signal representing the state of the binary counter is combined as a scale factor with the converted digital signal representing the amplifier output. In a multichannel system, the described amplifier is provided for each channel. Under the control of a clock source, the amplifier outputs are multiplexed before application to the analog-to-digital converter and the gain of each amplifier is set in the interval between samples. For the purpose of monitoring the operation, apparatus is also provided for converting the combined signal back to an analog signal which is applied to a visual display device.

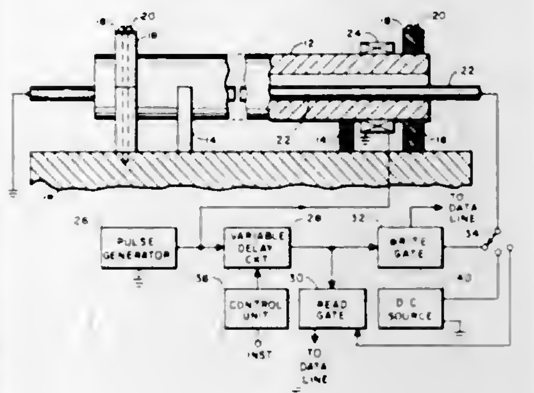
3,376,558

FERROACOUSTIC MEMORY APPARATUS

Richard W. Freytag, Fairport, N.Y., assignor to General Dynamics Corporation, a corporation of Delaware

Filed Aug. 31, 1964, Ser. No. 393,182

8 Claims. (Cl. 340—173)



A ferroacoustic memory apparatus is described wherein the coincident application of stress in a first field causes the storing of information at a precise increment and then the application of a field in a reverse direction to the first field minimizes remanent induction in those increments of the apparatus wherein information is not stored thereby reducing noise during read out.

3,376,559

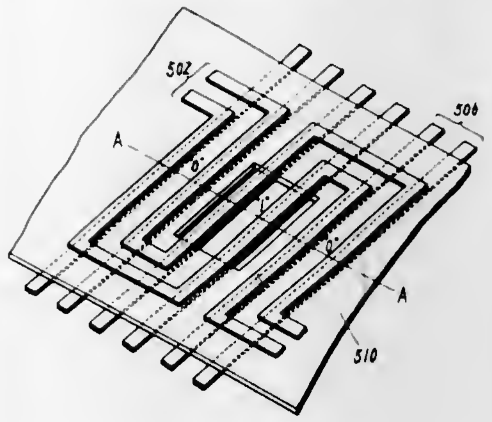
CAPACITATIVE READ-ONLY MEMORY DEVICE EMPLOYING PARALLEL BALANCED DRIVE AND SENSE LINES

Junji Yamato, Tamio Shimizu, and Jiro Iimura, Tokyo, Japan, assignors to Nippon Telegraph and Telephone Public Corporation, Tokyo, Japan, a public corporation of Japan

Filed Jan. 25, 1965, Ser. No. 427,670

Claims priority, application Japan, Jan. 27, 1964, 39/3,733

5 Claims. (Cl. 340—173)



A semi-permanent memory device composed of a plurality of sensing and driving elements each comprising lines consisting of two parallel conductors electrically balanced with respect to a ground reference. The sensing and driving lines are electrically coupled with each other at cross-over portions by means of apertures positioned in a removable information storage card which is positioned between the sensing and driving elements. The sensing and driving elements may be combined in modular form to provide a memory device having increased storage capacity.

3,376,560

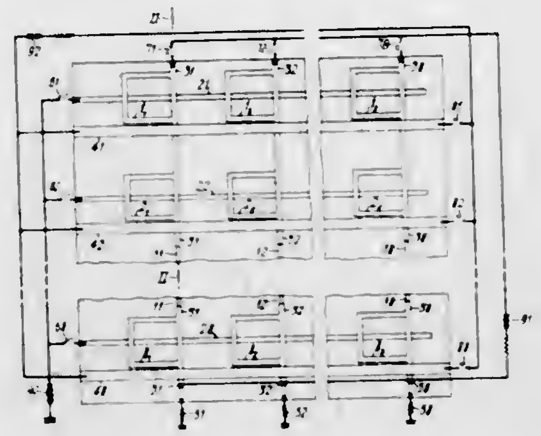
FAST TEMPORARY CRYOGENIC MEMORIES

Albert Zylbersztejn, La Celle-Saint-Cloud, and Maurice J. Menoret, Chatillon-sous-Bagneux, France, assignors to Centre National d'Etudes des Telecommunications, Issy-les-Moulineaux, France, a corporation of France

Filed July 27, 1964, Ser. No. 385,160

Claims priority, application France, Aug. 3, 1963, 943,700

4 Claims. (Cl. 340—173.1)



A cryogenic memory comprising in combination a cryotron type write-in matrix and a cryosar type read-out matrix is disclosed. The storage elements of the write-in matrix are superconductive loops and the crosspoints of the read-out matrix are cryosars individually disposed in the region where the magnetic field produced by a current flowing through each of said loops is substantially at a maximum.

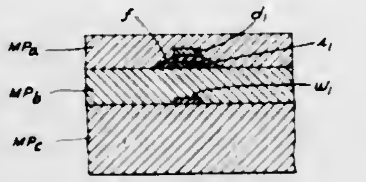
3,376,561

MAGNETIC MEMORY SHEET

Irynej Danylchuk, Morristown, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Apr. 20, 1964, Ser. No. 360,848

3 Claims. (Cl. 340—174)



Interaction effects between neighboring bit locations in a magnetic sheet are avoided by forming the sheet in a plurality of layers which separate conductor planes in a manner to define bit locations each oriented generally normal to the plane of the sheet. The layers are chosen of flux limiting thickness so that flux switched in one layer at a selected bit location finds closure only through other layers in the same bit location.

3,376,562

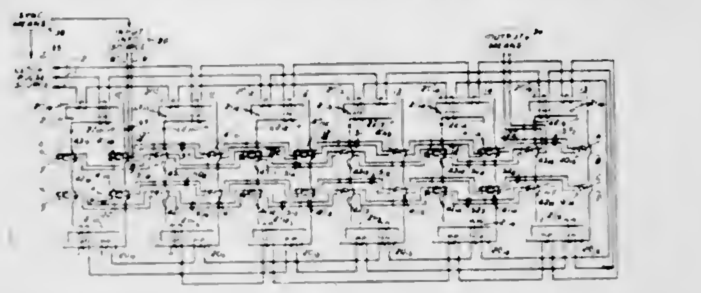
MAGNETIC CORE SHIFT REGISTER

Edmunde E. Newhall, Brookside, and James R. Perucca, Sayreville, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 30, 1962, Ser. No. 241,339

15 Claims. (Cl. 340—174)

12. In combination in a magnetic core circuit, a plurality of ferromagnetic cores each including a plurality of driving legs, a like plurality of cross legs and a like plurality of shunt legs, each of said driving legs and each of said cross legs being serially interconnected to form a closed magnetic path, each of said shunt legs being connected in parallel with a different one of said driving legs, said cross legs including a plurality of apertures centrally located thereon, and a plurality of short-circuited coupling windings, each of said windings being coupled to one aperture included on each of a plurality of cores, said windings being coupled to the ferromagnetic material on each side of each aperture to which they are coupled in an opposite polarity.



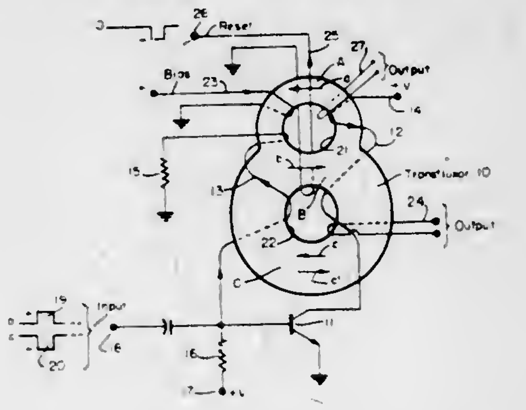
3,376,563

DISCRIMINATION, LOGIC AND MEMORY DEVICES EMPLOYING A TRANSFLUXOR CORE

Vincent J. Korkowski, Minneapolis, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Apr. 1, 1964, Ser. No. 356,478

14 Claims. (Cl. 340—174)



A triggerable blocking oscillator incorporating a transfluxor as the saturable feedback transformer core, which core is adapted to achieve first and second different magnetic stable states, different from a quiescent stable state, upon the application of a first one of a positive-going or of a negative-going input signal, respectively.

3,376,564

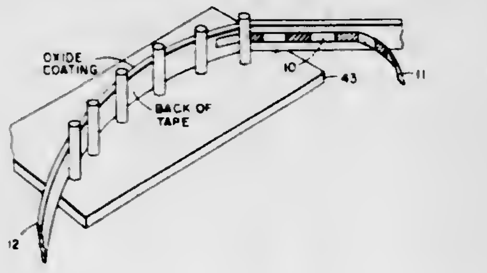
MEANS TO UTILIZE A CONDUCTIVE STRIP ON A MAGNETIC TAPE AS AN INDEXING DEVICE

Thomas W. Holland, Redstone Arsenal, Ala.

(322 Robin Hill Drive, Altamonte Springs, Fla. 32701)

Filed Apr. 13, 1964, Ser. No. 359,161

10 Claims. (Cl. 340—174.1)



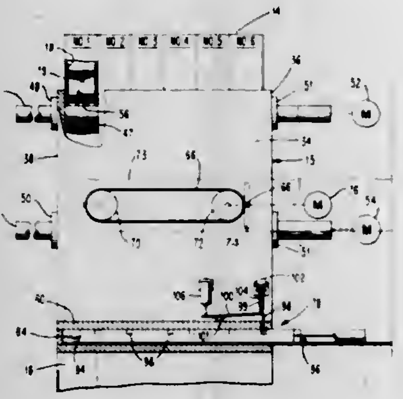
A system to be used with a tape recording and playback machine for automatically and precisely locating any previously marked portion of a tape and causing replay of that portion of the tape and for automatically locating and playing any number of previously selected locations in any order desired. Coded metallic strips, one representative of each number, are placed on the back side of a tape. These are applied in numerical order from the beginning of the tape. The strips are detected by a device consisting of conductive posts positioned to contact certain portions of the coded strips. Comparison circuitry converts the detected coded patterns to decimal form, each comparison means representing one number and therefore one portion of the tape. Switching means cause each detected number to be classed into one of three groups with respect to the desired number to be located: numbers smaller in value than the desired number, numbers larger in value than the desired number, and the correct number. Detection of a number in the first two groups causes the tape machine to respond in the direction of the correct number. Detection of the correct number causes a sequence of operations designed to precisely reproduce the desired portion. A sequencing or stepping switch allows preselecting on a number of selector switches any sequence of numbers to be located. After initiation each selection will be located and played automatically in the preset sequence without further attention.

3,376,565
RANDOM ACCESS POSITIONING APPARATUS FOR ARTICLE SELECTION

Solomon H. Pitt, Norristown, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed June 22, 1965, Ser. No. 465,983

6 Claims. (Cl. 340—174.1)



A container or magazine is provided which contains a plurality of articles arranged in sequential order. The container may be slidably moved between advanced and retracted terminal positions whereby the articles contained therein may be sequentially positioned over a utilization point located along the path of container movement. A detent mechanism carried by the container slides over a set of slotted binary coded selector bars. The selector bars can be positioned to arrest the container motion so that any selected article carried by the container will be located at the point of utilization.

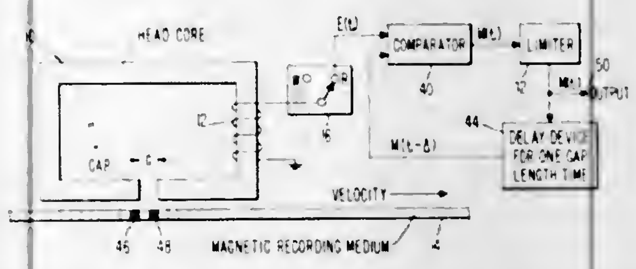
3,376,566
EXTENDED BANDWIDTH MAGNETIC RECORDING SYSTEM WITH INCREASED STORAGE DENSITY

Edmund G. Coccagna, Villanova, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed July 15, 1965, Ser. No. 472,225

14 Claims. (Cl. 340—174.1)

1. An improved magnetic recording-reproducing system whose shortest wavelength of reproducible magnetization is not limited by the gap length of its magnetic head comprising in combination, a magnetic recording-reproducing system including a magnetic head with a signal coil wound thereon, a comparator circuit having a first and a second input means and output means, said first input means connected to the head coil and a delay device connected from the output means to the second input means of said comparator circuit enabling said delay device to receive and store each output signal and later reapply a previous output signal from said comparator for comparison with a present output signal from said signal coil to thereby provide a present output signal from said comparator which identifies the present output signal from the signal coil.

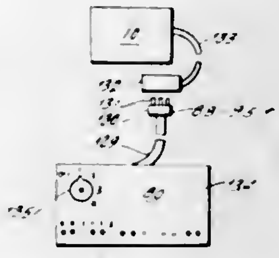


3,376,567
PORTABLE METER-READING DEVICE

Abraham Brothman, Dumont, N.J., Stephen J. Halpern, New York, N.Y., and Alan J. Bruckner, Bloomfield, N.J., assignors, by mesne assignments, to Sangamo Electric Company, Springfield, Ill., a corporation of Delaware

Filed June 24, 1965, Ser. No. 466,780

10 Claims. (Cl. 340—188)



1. A portable device for reading meters having a register; a plurality of shaft angle encoders for converting the decimal reading of the register into binary coded data and diode logic means for coupling the encoder to an output receptacle; said portable device being comprised of first means for electrically coupling the portable device to the meter receptacle; a power source; manually operable switch means for applying power to each encoder in a sequential manner; second means coupled to said first means for receiving the data bits representing an encoder reading and forming the first and second outputs representing state of each bit and its complement, respectively; a first plurality of gates having their inputs selectively coupled to said second means for generating an output at only one gate at any given instant; a first plurality of lamp means each being coupled to an associated gate output and being energizable to indicate the decimal state of the shaft angle encoder being examined.

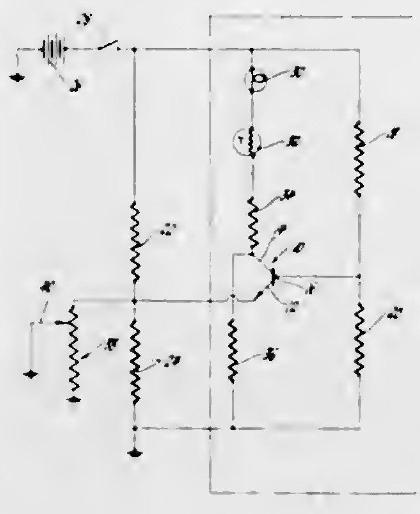
3,376,568
TRANSISTOR SWITCHING CIRCUIT

John A. Stewart and John R. Ziegler, Flint, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Sept. 29, 1964, Ser. No. 400,041

8 Claims. (Cl. 340—244)

A transistor switching circuit for indicating the occurrence of a condition such as low fuel level in an automobile. In order to prevent excessive power dissipation in the transistor during the switching cycle a thermistor and a bleed resistor are connected in circuit with the transistor. The thermistor provides protection during the initial portion of the switching cycle and the bleed resistor removes a portion of the indicator lamp load from the transistor and also preheats the lamp filament to eliminate high inrush currents when the transistor switches.

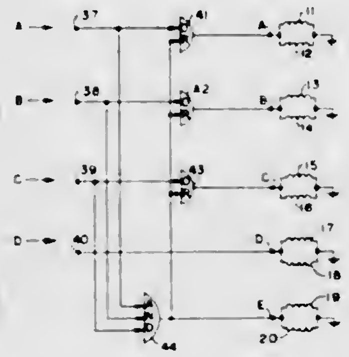


3,376,569
BINARY SIGNAL RESPONSIVE ELECTROMAGNETIC INDICATOR

John A. Watkins, Cheshire, Conn., assignor to Patwin, Inc., a corporation of Connecticut

Filed Sept. 27, 1965, Ser. No. 490,385

3 Claims. (Cl. 340—3)



1. In an electromagnetic indicator of the type utilizing

a stator having electrically energizable windings mounted upon an annular ferromagnetic core for selectively establishing a plurality of discretely oriented magnetic fields, and

a rotor having a salient pole magnet mounted to pivot within the annular core whereby the magnet rotates into alignment with the magnetic field established by the stator,

the improvement whereby the indicator responds to a set of simultaneous electrical signals coded in accordance with a binary system so that each signal in the set represents one bit in the binary code, the improvement residing in

the stator having main and auxiliary windings connected in pairs to cause both windings of the pair to be simultaneously energized by an electrical signal,

means for coupling each signal in the set to a different one of the main winding pairs, and

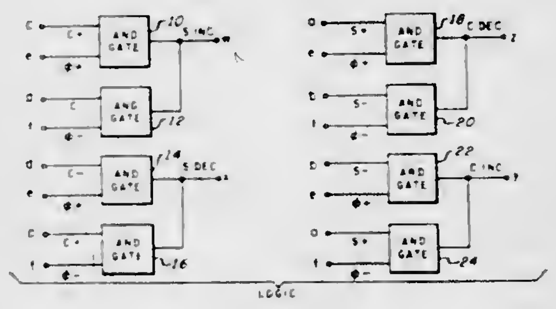
switching means for causing an auxiliary pair of windings to be energized when the electrical signals in the set normally would energize more than two main winding pairs, the switching means preventing energization of the main windings.

3,376,570
CONTROL APPARATUS

Arnold D. Lawson, Phoenix, Ariz., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware

Filed Sept. 17, 1964, Ser. No. 397,114

21 Claims. (Cl. 340—347)



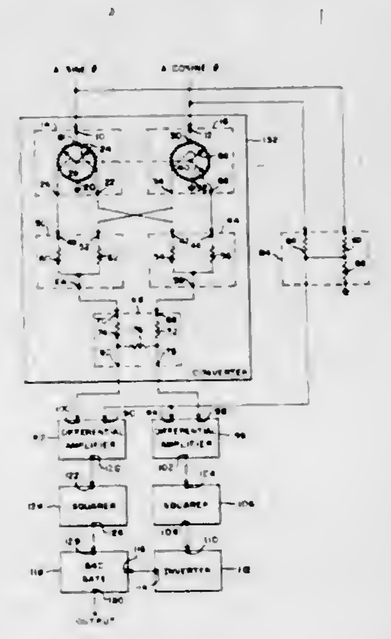
An analog signal representing a changing angle is applied to an analog-to-pulse converter. The resulting pulses are counted in a pair of counters so that one counter counts up as the other counts down. A phasing circuit reverses the mode of operation of each counter when the stored count represents an angle passing between quadrants. The outputs of the counters are applied to digital-to-analog converters and combined with reference signals. The combined signal may be used directly or fed back into the input of the device.

3,376,571
RADAR SECTOR GATE APPARATUS

Alfred E. Diebold, Huntington, N.Y., assignor to Hazeltine Research, Inc., a corporation of Illinois

Filed Jan. 23, 1967, Ser. No. 610,964

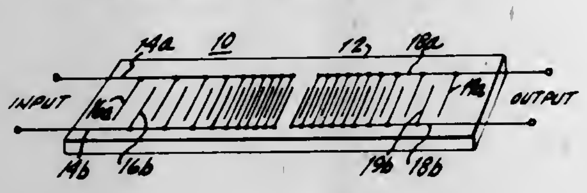
16 Claims. (Cl. 343—16)

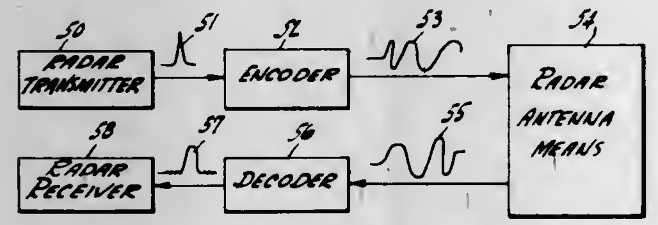


Apparatus usable in radar systems for indicating a predetermined range of azimuths about a selected azimuth angle independently of the radar scanning rate. The apparatus has sine-cosine potentiometers for generating signals containing sinusoidal terms related to the selected azimuth angle and resistive networks corresponding to the desired range of azimuth angles for combining and mixing the generated signals to develop two sinusoidal terms, the time displacement between zero values of these terms indicating the desired range of azimuths.

3,376,572
ELECTROACOUSTIC WAVE SHAPING DEVICE

Ralph Frank Mayo, New Brunswick, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Sept. 15, 1966, Ser. No. 579,713
8 Claims. (Cl. 343—17.2)

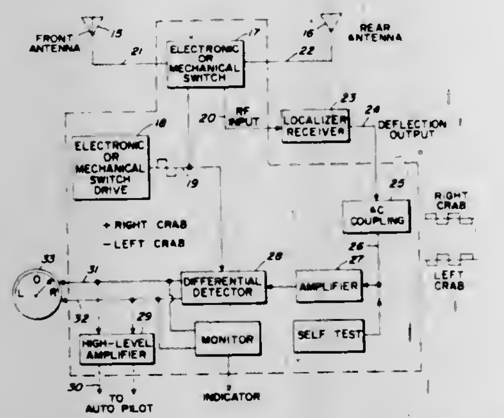




A wave shaping device is disclosed which comprises an input pair and an output pair of electrodes each having digital portions arranged in interdigital relationship with each other and deposited on the surface of a piezoelectric substrate. The spacing between adjacent pairs of interdigitized digital portions varies in accordance with an arbitrary code.

3,376,573
CRAB ANGLE SENSING SYSTEM FOR ALL-WEATHER LANDING SYSTEM

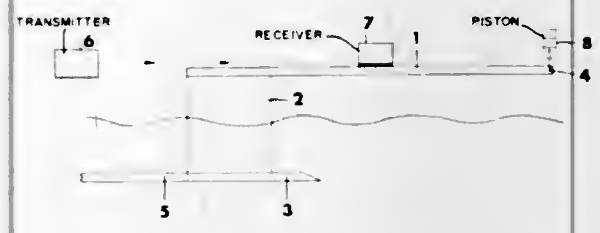
Emanuel F. Read, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed June 30, 1967, Ser. No. 650,273
7 Claims. (Cl. 343—107)



A detection system for determining the angle and direction of crab between the longitudinal axis of a vehicle and a reference course line established by a plane of equal field intensities between a pair of overlapping field patterns such as the VHF localizer beam. The system employs a pair of space-separated receiving antennas gated alternately into a conventional proportional in polarity and magnitude to the extent and direction of deviation from the localizer beam and is applied through AC coupling means to recover an AC signal proportional to the difference in depth of th tone modulations of signals received by the respective antennas. A detection means operating synchronously with the antenna gating sequence recovers a signal proportional to vehicle crab angle with respect to the radio defined course line.

3,376,574
GUIDANCE SYSTEM FOR PLOUGHS

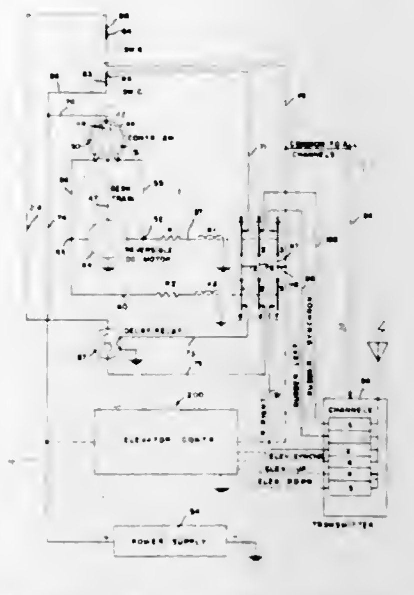
William Robert Frederic Gosling, Chalfont St. Peter, Buckinghamshire, England, assignor to The Rank Organisation Limited, London, England
Filed Jan. 24, 1967, Ser. No. 611,382
3 Claims. (Cl. 343—107)



The disclosure describes an automatic control system for mole ploughs and trench diggers. A remote source transmits a reference beam of light which is received by a receiver. The receiver is mounted on the beam of a mole plough at a point intermediate the pivot end and the mole. The receiver emits signals which indicate the relative position of the receiver with respect to the reference beam and these signals are used to adjust the position of the pivot end of the mole beam. Disposition of the receiver intermediate the pivot end and the mole permits control of the degree of damping of the system.

3,376,575
PLURAL CHANNEL RADIO REMOTE CONTROL SYSTEM RESPONSIVE TO A PIVOTED MEMBER CONTROL AND INCLUDING A CHANNEL FOR TRANSMITTING A SIGNAL WHICH COMPENSATES FOR LAG OF THE CONTROLLED DEVICE BEHIND THE CONTROL

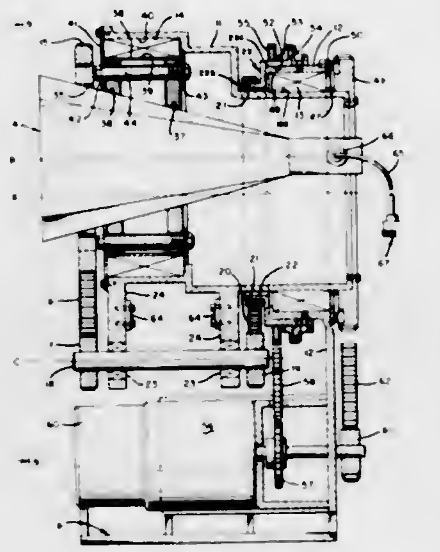
Nicholas Peters, 15 Lorelei Drive, Yorktown Heights, N.Y. 10598
Filed Aug. 22, 1963, Ser. No. 303,758
7 Claims. (Cl. 343—225)



A plural channel radio remote control system wherein movement of a control stick means from a neutral position operates to cause a transmission of signals representative of the desired direction over one or more channels to a remote vehicle operator means. A follow up motor is also energized to return the control stick means to a neutral position. Upon return to the neutral position, an additional channel is energized to maintain the operation of the remote vehicle operator means for a predetermined period of time to compensate for lag in the remote vehicle means.

3,376,576
ANTENNA DRIVE MECHANISM

William D. Rosser, Palo Alto, Calif., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Oct. 30, 1964, Ser. No. 407,810
4 Claims. (Cl. 343—761)

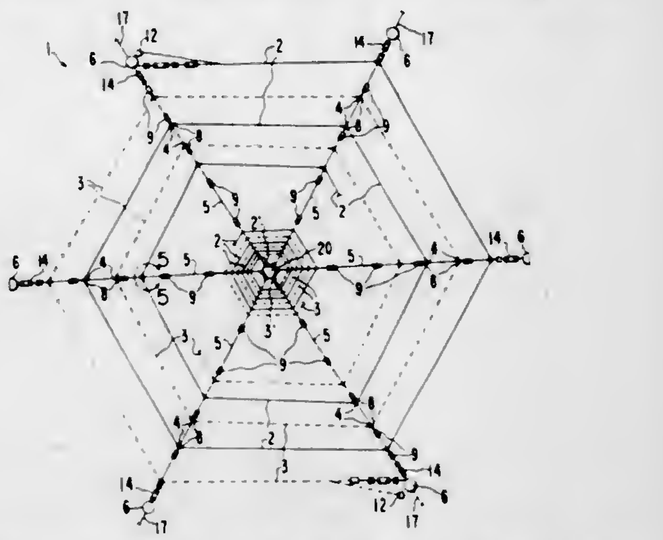


A linearly polarized horn antenna is rotatably mounted in an inner housing which, in turn, is rotatably mounted in a stationary outer housing. The longitudinal axes of the horn and inner housing are parallel. Rotation of the inner housing causes movement of the horn in a curved path about the inner housing axis, and, through a direction reversal mechanism, induces rotation of the horn about its axis in a opposite direction from that of the inner housing. The polarization of the horn is thus maintained constant.

3,376,577
VERTICAL RADIATION SPIRAL ANTENNA

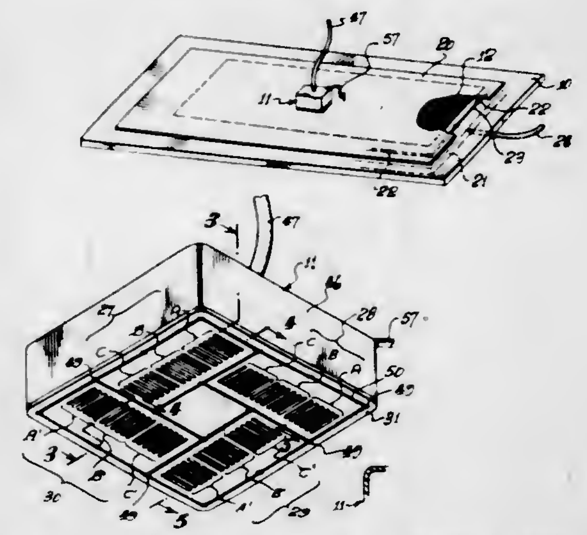
Peter Dean Kennedy, Mountain View, Calif., assignor to Granger Associates, Palo Alto, Calif., a corporation of California
Filed Nov. 15, 1965, Ser. No. 507,791
3 Claims. (Cl. 343—886)

1. A broadband antenna having a frequency range of the order of 2 to15 megacycles for producing an upwardly directed radiation lobe suitable for communications and ionosphere sounding comprising, two mutually spaced spirally-wound antenna wires, said wires laying in the surface of an imaginary inverted shallow cone, the apex of the cone serving as the input to said antenna wires and being elevated above ground substantially one-quarter wavelength of the highest operating frequency of said antenna, the apex ends of said antenna wires being angularly rotated 180° with respect to each other and the outer ends of said wires being higher above ground than said apex.



3,376,578
MAGNETIC POSITIONING DEVICE

Bruce A. Sawyer, Tarzana, Calif. (20120 Allentown Drive, Woodland Hills, Calif. 91364)
Filed May 31, 1966, Ser. No. 554,181
20 Claims. (Cl. 346—29)

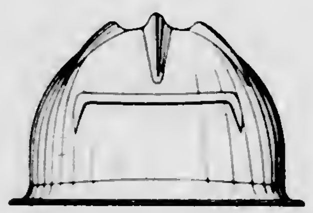


A two-axis magnetic system for driving chart plotters and other devices. A marker carrying head floated on an air bearing over a platen with no mechanical interconnections. A plurality of electromagnets in the head and means for selectively energizing the electromagnets to move the head across the magnetic platen, and along both axes simultaneously if desired.

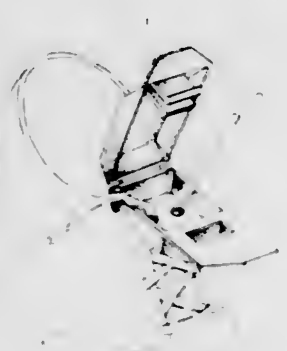
DESIGNS

APRIL 2, 1968

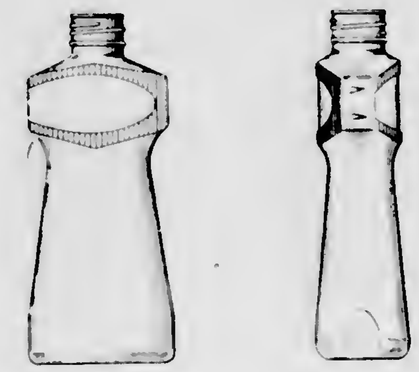
210,648
SAFETY HAT
Engelbert J. Peham, 1302 Eleanor Ave., St. Paul, Minn. 55116
Filed Apr. 6, 1967, Ser. No. 6,549
Term of patent 14 years
(Cl. D2—231)



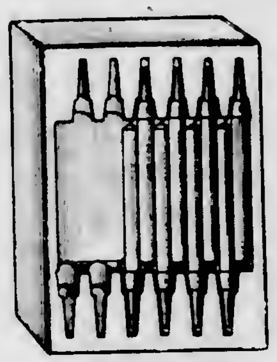
210,649
SHOESTRING KNOT RETAINER
William F. Getgey, Cincinnati, Ohio, assignor to Price-Getgey Company, Cincinnati, Ohio, a corporation of Ohio
Filed Nov. 14, 1966, Ser. No. 4,659
Term of patent 14 years
(Cl. D2—314)



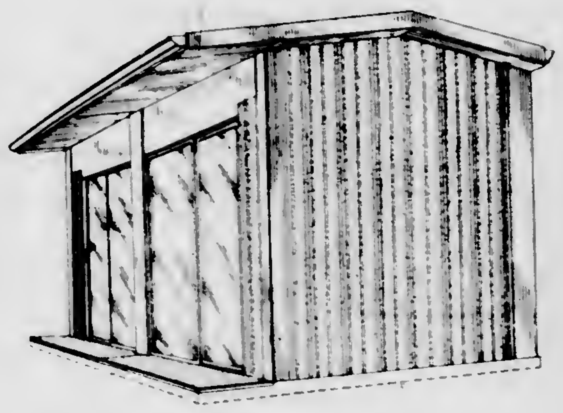
210,650
BOTTLE OR SIMILAR ARTICLE
Livingston C. Douglas, Leonia, N.J., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Filed Sept. 26, 1966, Ser. No. 4,015
Term of patent 14 years
(Cl. D9—90)



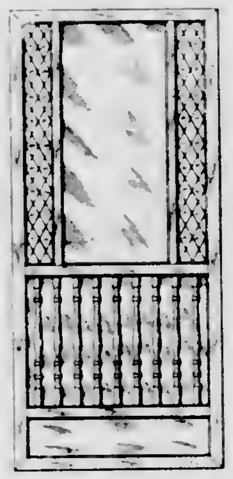
210,651
PACKAGE OF CANDLES AND HOLDERS
Goichi Matsui, 1089-1 Nagasawa, Reiho Village, Mie Prefecture, Japan
Filed July 28, 1966, Ser. No. 3,245
Term of patent 14 years
(Cl. D9—188)



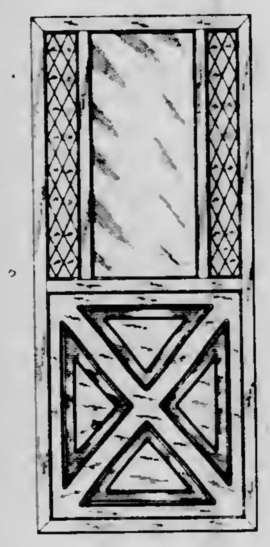
210,652
PORTABLE BUILDING
Eugene Kurash, Kansas City, Mo., assignor to Electric Utilities Corporation, Kansas City, Mo., a corporation of Missouri
Filed Mar. 16, 1966, Ser. No. 1,488
Term of patent 14 years
(Cl. D13—1)



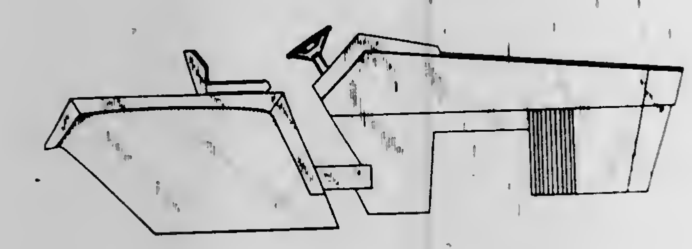
210,653
STORM DOOR
Abraham Jesse Ivanhoe, Tenafly, N.J., assignor to Win-Chek Industries, Inc., Moonachie, N.J., a corporation of New Jersey
Filed July 19, 1967, Ser. No. 7,882
Term of patent 14 years
(Cl. D13—1)



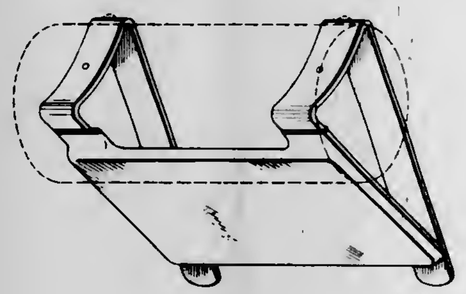
210,654
STORM DOOR
Abraham Jesse Ivanhoe, Tenafly, N.J., assignor to Win-Chek Industries, Inc., Moonachie, N.J., a corporation of New Jersey
Filed July 19, 1967, Ser. No. 7,886
Term of patent 14 years
(Cl. D13—1)



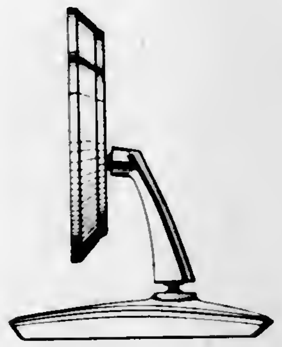
210,655
TRACTOR BODY
Edward J. Lazzeroni, Racine, Wis., assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed June 29, 1967, Ser. No. 7,636
Term of patent 14 years
(Cl. D14—3)



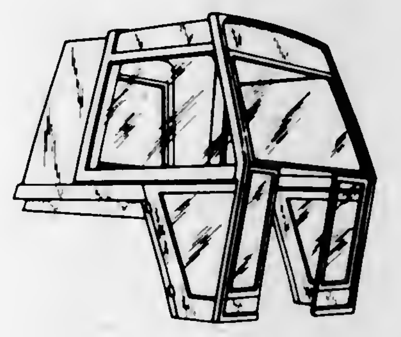
210,656
AUTOMOBILE HEADREST BRACKET
Paul P. Longo and Allen Parmet, both of E. State St. and High St., Camden, N.J. 08105
Filed Sept. 14, 1966, Ser. No. 3,952
Term of patent 14 years
(Cl. D14—6)



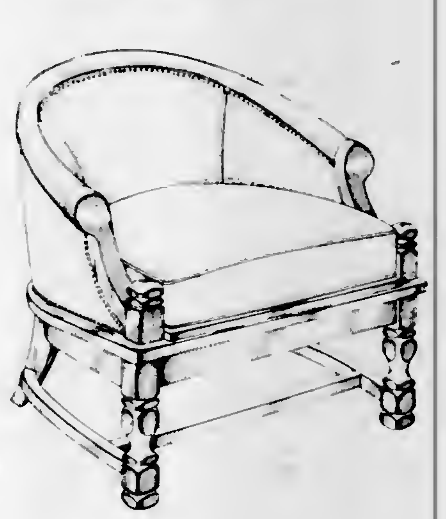
210,657
REARVIEW MIRROR
Earl Bullis, Jr., Fairfield, Conn., assignor to The Roberk Company, Shelton, Mass., a corporation of Connecticut
Filed Mar. 10, 1967, Ser. No. 6,162
Term of patent 3½ years
(Cl. D14—6)



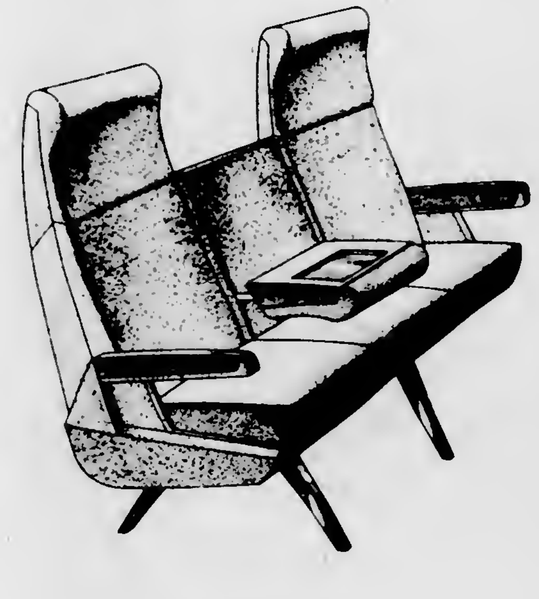
210,658
TRACTOR CAB
Edward J. Lazzeroni, Racine, Wis., assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed June 29, 1967, Ser. No. 7,637
Term of patent 14 years
(Cl. D14—27)



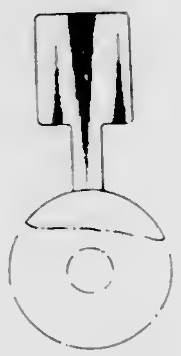
210,659
CHAIR
David D. Granger, Conover, N.C., assignor to Maxwell Royal Chair Co., Hickory, N.C., a corporation of North Carolina
Filed May 15, 1967, Ser. No. 7,115
Term of patent 14 years
(Cl. D15—1)



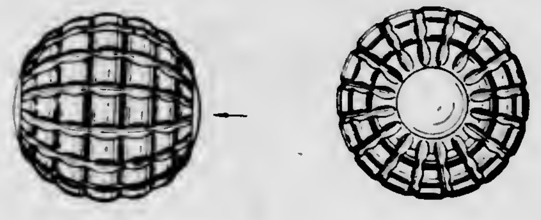
210,660
AIRCRAFT SEAT
Frank J. Del Giudice, Seattle, Wash., assignor to Hardman Tool and Engineering Company, Los Angeles, Calif., a corporation of California
Filed Feb. 13, 1967, Ser. No. 5,793
Term of patent 14 years
(Cl. D15—8)



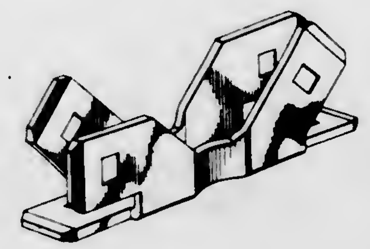
210,661
COMBINED HANDLE AND FLUID FLOW METERING ORIFICE PLATE
Arthur A. Hejduk, Cleveland, Ohio, assignor to The Meriam Instrument Company, Cleveland, Ohio, a corporation of Ohio
Continuation of design application Ser. No. 568, Jan. 11, 1966. This application Mar. 24, 1967, Ser. No. 6,370
Term of patent 14 years
(Cl. D23—27)



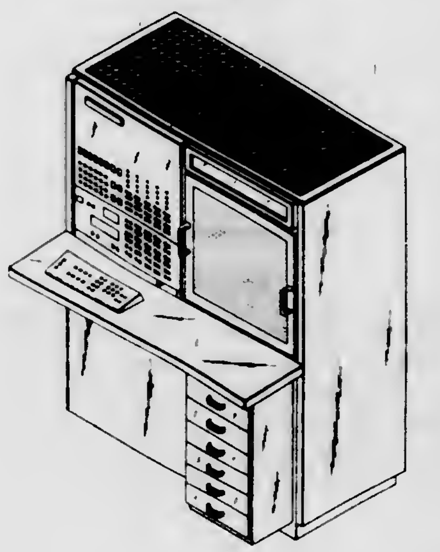
210,662
METAL BALL ANODE
Gerard Thomas Hodge, London, England, assignor to Mining & Chemical Products Limited, London, England, a British company
Filed Feb. 25, 1966, Ser. No. 1,178
Claims priority, application Great Britain Jan. 19, 1966
Term of patent 14 years
(Cl. D26—1)



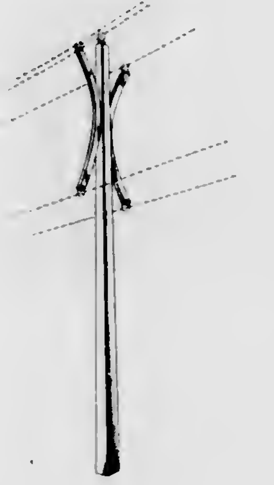
210,663
MALE CONNECTOR BAR FOR MODULAR TERMINAL BLOCKS
Raymond F. Piasecki, Hazlet, N.J., assignor to The Thomas & Betts Co., Elizabeth, N.J., a corporation of New Jersey
Filed Feb. 21, 1966, Ser. No. 1,196
Term of patent 14 years
(Cl. D26—1)



210,664
CABINET FOR ELECTRONIC EQUIPMENT
James R. Patmore, Neptune, N.J., and John Bruce, Wilton, Conn., assignors to Electronic Associates Inc., West Long Branch, N.J., a corporation of New Jersey
Filed Feb. 18, 1966, Ser. No. 1,119
Term of patent 14 years
(Cl. D26—5)

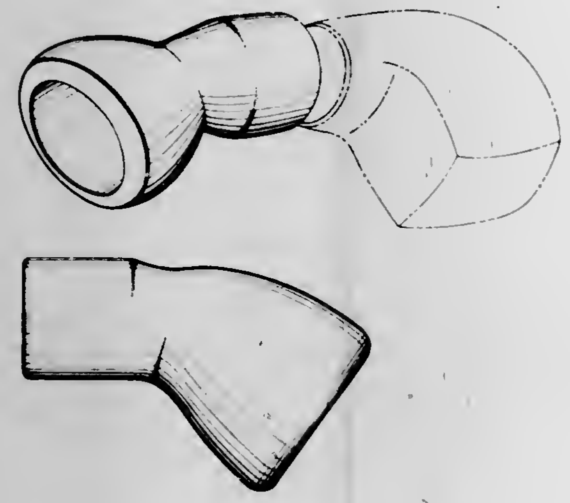


210,665
POLE
Maurice J. Rhude, Marinette, Wis., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Aug. 1, 1967, Ser. No. 8,084
Term of patent 14 years
(Cl. D26—12)



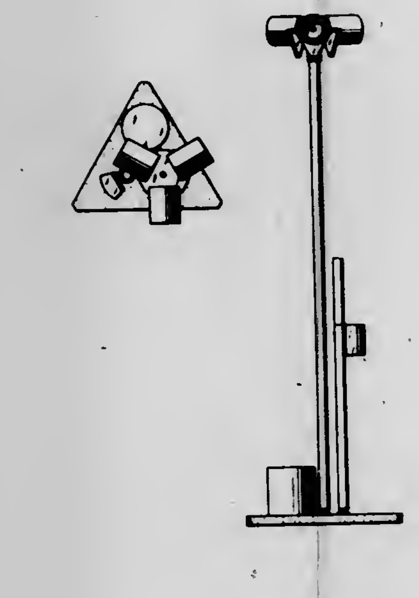
210,666
HEARING AID CANAL TIP

John R. Beaudry, Minneapolis, Minn., assignor of one-half to John B. Beaudry, Minneapolis, Minn.
Filed June 27, 1966, Ser. No. 2,811
Term of patent 14 years
(Cl. D26—14)



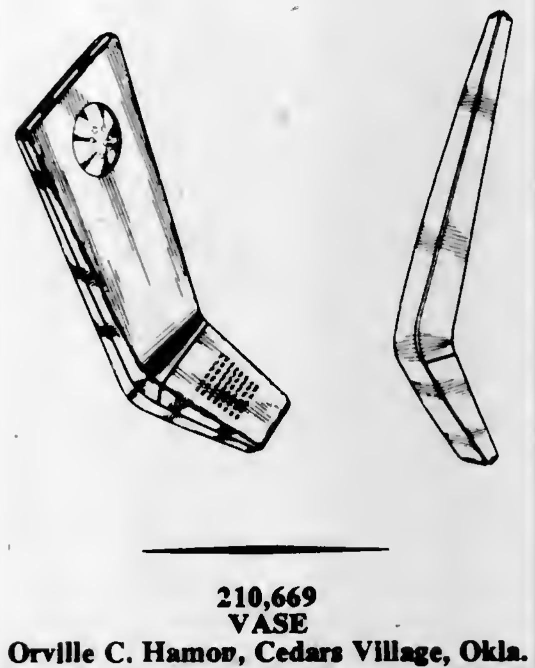
210,667
COMBINED PUBLIC ADDRESS LOUDSPEAKER AND EMERGENCY TELEPHONE

Luis F. Villa, 1727 Moravian St.,
Philadelphia, Pa. 19103
Filed Mar. 10, 1967, Ser. No. 6,169
Term of patent 14 years
(Cl. D26—14)



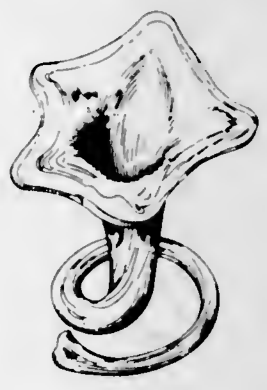
210,668
TELEPHONE HANDSET

George M. Janda, Westchester, Ill., assignor to Automatic Electric Laboratories, Inc., a corporation of Delaware
Filed Apr. 4, 1967, Ser. No. 6,516
Term of patent 14 years
(Cl. D26—14)



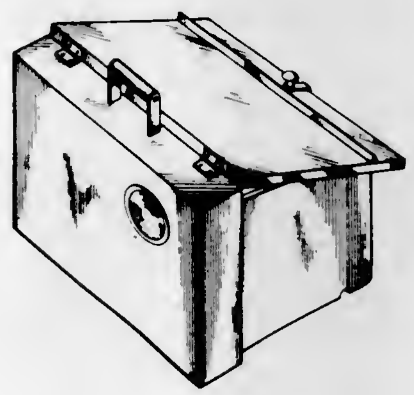
210,669
VASE

Orville C. Hamon, Cedars Village, Okla.
(P.O. Box 152, Fort Smith, Ark. 72901)
Original design application Aug. 30, 1965, Ser. No. 86,757, now Patent No. 206,445, dated Dec. 13, 1966. Divided and this application Nov. 10, 1966, Ser. No. 6,139
Term of patent 14 years
(Cl. D29—28)



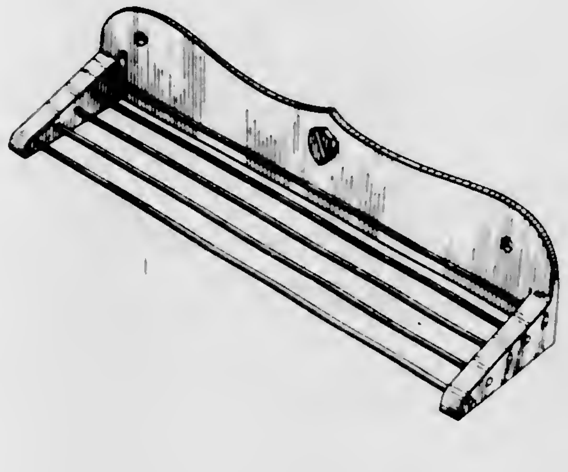
210,670
PORTABLE LECTERN

Charles J. Eddy, 485 Vern Drive,
Clearfield, Utah 84015
Filed May 26, 1966, Ser. No. 2,437
Term of patent 14 years
(Cl. D33—7)



210,671
NECKTIE RACK OR SIMILAR ARTICLE

Raymond C. Jablonski, % Marine Corps. Air Facility,
50 Longstaff St., Jacksonville, N.C. 28540
Filed Mar. 24, 1967, Ser. No. 6,367
Term of patent 14 years
(Cl. D33—8)

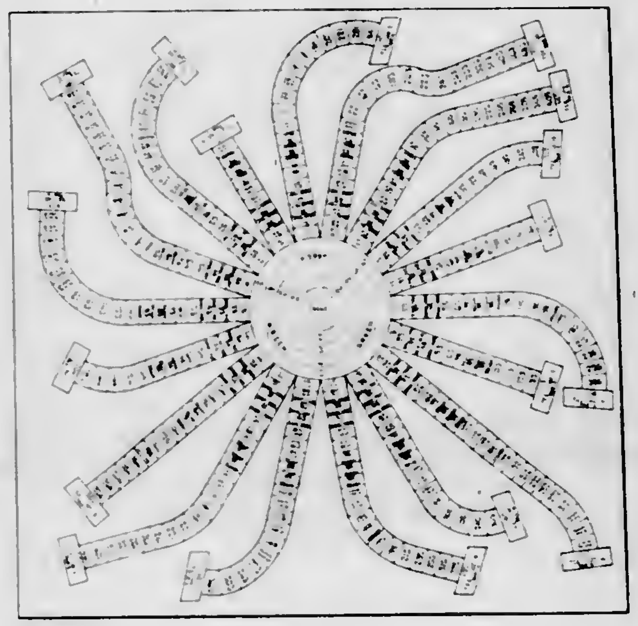


210,672
DOLL

Reuben B. Klamer, 245 S. Barrington,
Los Angeles, Calif. 90049
Filed Apr. 14, 1967, Ser. No. 6,685
Term of patent 14 years
(Cl. D34—4)

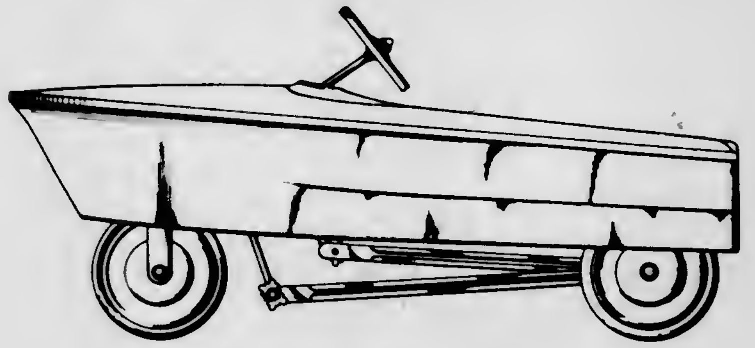
210,673
PLAYING BOARD FOR GOLF GAME

Earl D. Sullivan, 5210 Vale Drive,
Carmichael, Calif. 95608
Filed Sept. 6, 1966, Ser. No. 3,737
Term of patent 14 years
(Cl. D34—5)



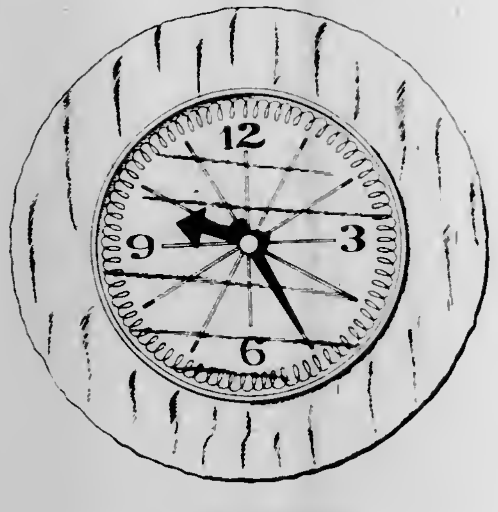
210,674
VELOCIPEDE HAVING A BOAT-LIKE CONFIGURATION

Viktor Schreckengost, Cleveland Heights, Ohio, assignor to The Murray Ohio Manufacturing Co., Nashville, Tenn., a corporation of Ohio
Continuation of design application Ser. No. 2,779, Ser. No. 2,780, and Ser. No. 2,781, June 22, 1966. This application Oct. 4, 1967, Ser. No. 9,064
Term of patent 14 years
(Cl. D34—15)



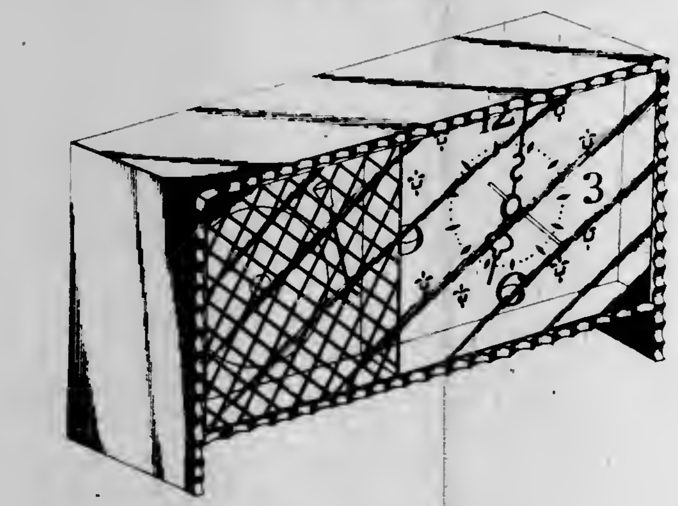
210,675
CLOCK

David W. Miley, Peru, and Ellworth Danz, La Salle, Ill., assignors to General Time Corporation, Stamford, Conn., a corporation of Delaware
Filed Feb. 20, 1967, Ser. No. 5,880
Term of patent 14 years
(Cl. D42—7)



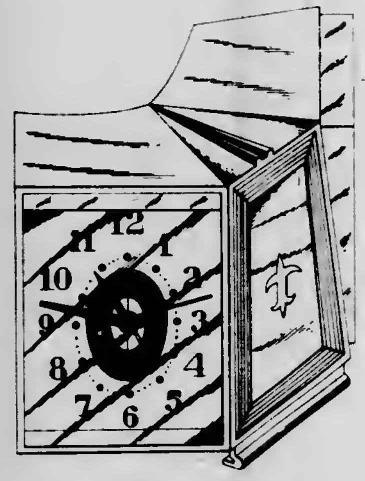
210,676
CLOCK

David W. Miley, Peru, Ill., assignor to General Time Corporation, Stamford, Conn., a corporation of Delaware
Filed Feb. 20, 1967, Ser. No. 5,881
Term of patent 14 years
(Cl. D42—7)



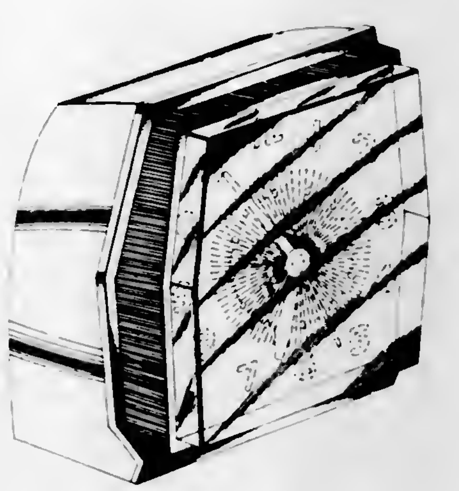
210,677
CLOCK

Ellworth R. Danz and Roman J. Szalek, La Salle, Ill., assignors to General Time Corporation, Stamford, Conn., a corporation of Delaware
Filed Feb. 20, 1967, Ser. No. 5,882
Term of patent 14 years
(Cl. D42—7)



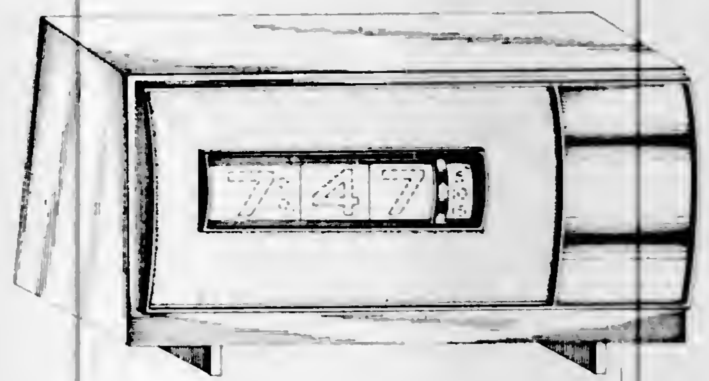
210,678
CLOCK CASING

Roman Szalek, La Salle, Ill., assignor to General Time Corporation, Stamford, Conn., a corporation of Delaware
Filed July 18, 1967, Ser. No. 7,860
Term of patent 14 years
(Cl. D42—7)



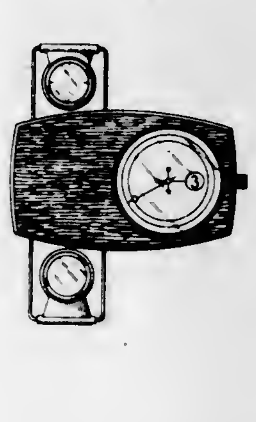
210,679
CLOCK CASING

Monte L. Levin, New York, N.Y., assignor to General Time Corporation, Stamford, Conn., a corporation of Delaware
Filed Sept. 6, 1967, Ser. No. 8,507
Term of patent 14 years
(Cl. D42—7)



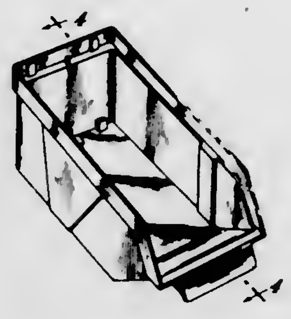
210,680
WRIST WATCH

Gordon A. Barlow, Evanston, and Marvin I. Glass, Chicago, Ill., assignors to Marvin Glass & Associates, Chicago, Ill., a partnership
Filed Mar. 21, 1967, Ser. No. 6,324
Term of patent 14 years
(Cl. D42—8)



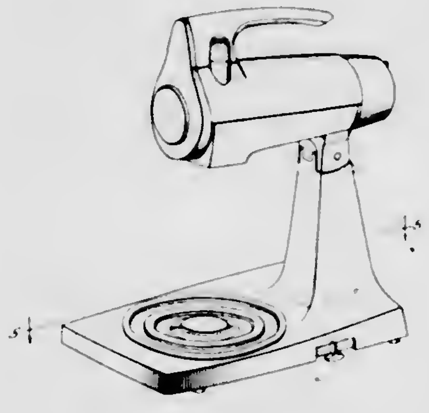
210,681
STORAGE BIN

George J. Gould, 791 Meacham Ave.,
Elmont, N.Y. 11003
Filed Feb. 21, 1967, Ser. No. 5,892
Term of patent 14 years
(Cl. D44—1)



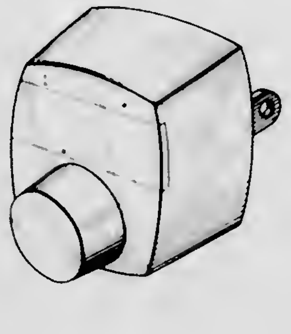
210,682
COMBINED MIXER AND STAND

Dominic J. De Fano, Palatine, Robert O. Ernest, Oak Park, and Robert I. Kallman, Elburn, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed May 8, 1967, Ser. No. 7,020
Term of patent 14 years
(Cl. D44—1)



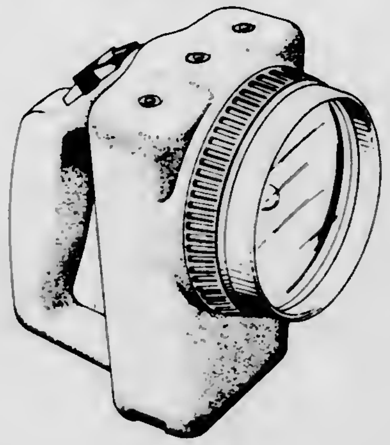
210,683
NIGHT LIGHT

Richard K. Tyler, 14858 Round Valley Drive,
Sherman Oaks, Calif. 91403
Filed May 3, 1967, Ser. No. 6,936
Term of patent 14 years
(Cl. D48—20)



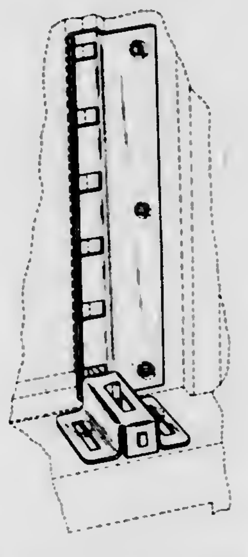
210,684
MOLDED LANTERN

Nolan K. Rhoades, Stoughton, and Ralph T. Jacobsen, Beloit, Wis., assignors to ESB Incorporated, Philadelphia, Pa., a corporation of Delaware
Filed Sept. 22, 1967, Ser. No. 8,690
Term of patent 14 years
(Cl. D48—24)



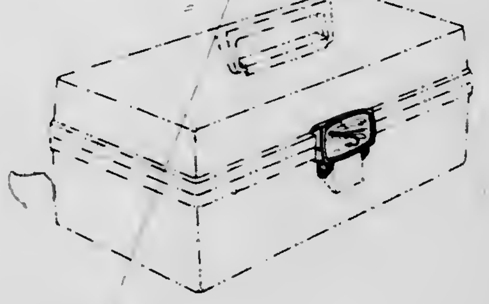
210,685
WINDOW SAFETY LOCK UNIT

Frederick J. Johanson, 23 Lanham Lane,
East Hartford, Conn. 06118
Filed Dec. 28, 1966, Ser. No. 5,210
Term of patent 14 years
(Cl. D50—5)



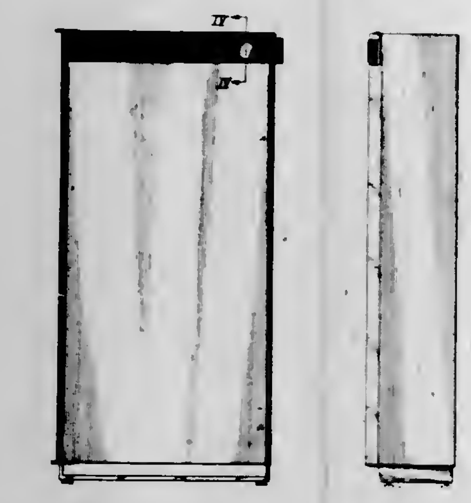
210,686
LATCH COVER FOR A FISHING TACKLE BOX OR SIMILAR ARTICLE

Richard G. Woolworth, Lancaster, Pa., assignor to Woodstream Corporation, Lititz, Pa., a corporation of Pennsylvania
Filed Apr. 18, 1967, Ser. No. 6,748
Term of patent 14 years
(Cl. D50—7)



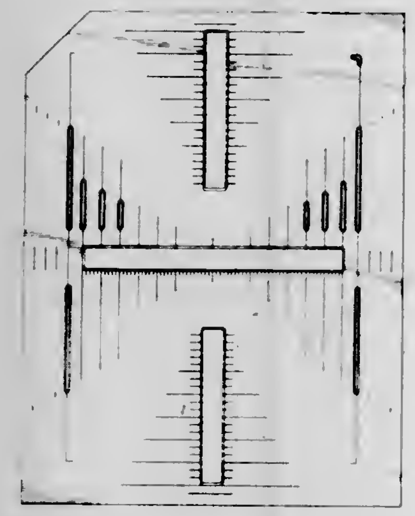
210,687
BOTTLE VENDING MACHINE OR SIMILAR ARTICLE

James R. Reichow, Edina, Minn., assignor to The Cornelius Company, Anoka, Minn., a corporation of Minnesota
Filed Jan. 23, 1967, Ser. No. 5,523
Term of patent 14 years
(Cl. D52—3)



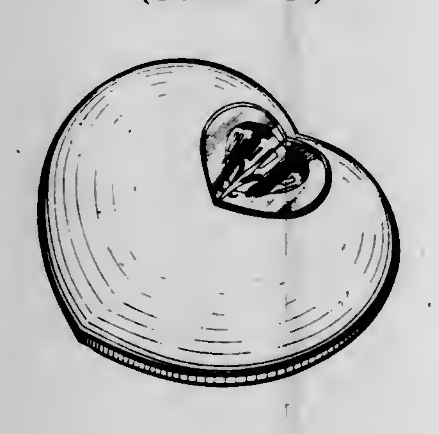
210,688
GUIDE FOR CORRECTING TYPEWRITTEN COPY

Ronald D. Schoesler, P.O. Box 111,
Pullman, Wash. 99163
Filed Jan. 30, 1967, Ser. No. 5,611
Term of patent 14 years
(Cl. D52—6)



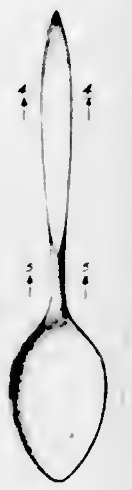
210,689
BATHROOM SCALE

Nolan K. Rhoades, Beloit, Wis., assignor to The Brearley Company, Rockford, Ill., a corporation of Illinois
Filed Apr. 6, 1967, Ser. No. 6,555
Term of patent 14 years
(Cl. D52—10)



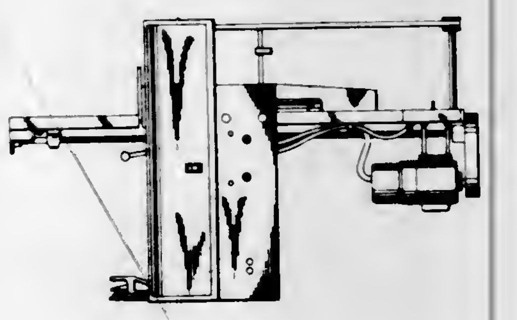
210,690
SPOON OR SIMILAR ARTICLE

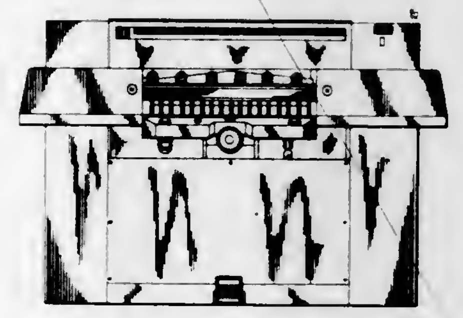
Frank R. Perry, Oneida, N.Y., assignor to Oneida Ltd., Oneida, N.Y., a corporation of New York
Filed Mar. 16, 1966, Ser. No. 1,496
Term of patent 14 years
(Cl. D54—12)



210,691
PAPER CUTTER

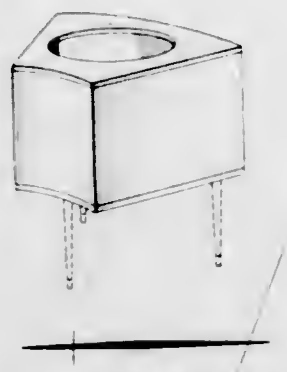
David O. Chase, Camillus, Philip H. Stevens, Syracuse, and Alan W. Brownlie, Skaneateles, N.Y., and John A. Malm, Rocky River, Ohio, assignors to The Chandler & Price Company, Cleveland, Ohio, a corporation of Ohio
Filed Nov. 3, 1966, Ser. No. 4,542
Term of patent 14 years
(Cl. D55—1)





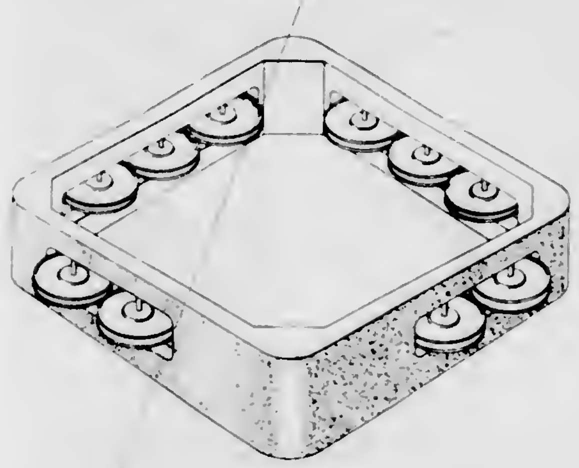
210,692
TOM-TOM DRUM CASE OR THE LIKE

Alfonso D. Samperi, 6853 Suva St.,
Bell Gardens, Calif. 90201
Filed Sept. 7, 1966, Ser. No. 3,763
Term of patent 14 years
(Cl. D56—1)



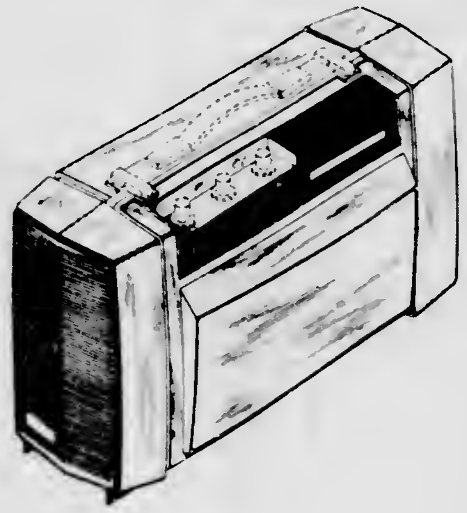
210,693
HEADLESS TAMBOURINE

Henry J. Coito, 1325 Sycamore Ave.,
Modesto, Calif. 95350
Filed Nov. 14, 1966, Ser. No. 4,632
Term of patent 14 years
(Cl. D56—1)



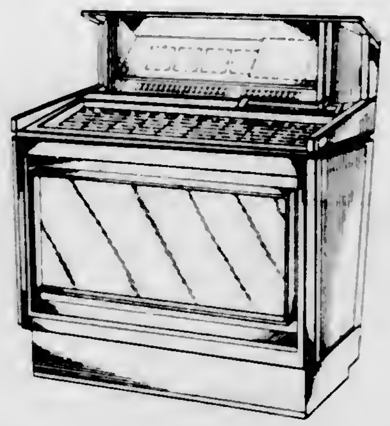
210,694
STEREOPHONIC PHONOGRAPH OR SIMILAR ARTICLE

George M. Buckler, Baldwinsville, N.Y., assignor to General Electric Company, a corporation of New York
Filed Jan. 7, 1966, Ser. No. 523
Term of patent 14 years
(Cl. D56—4)



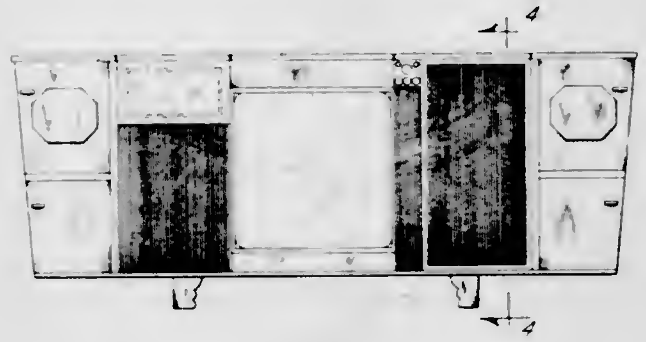
210,695
PHONOGRAPH CABINET

Melvin H. Boldt, Glenview, Ill., assignor to Canteen Corporation, Chicago, Ill., a corporation of Delaware
Filed Sept. 6, 1966, Ser. No. 3,729
Term of patent 14 years
(Cl. D56—4)



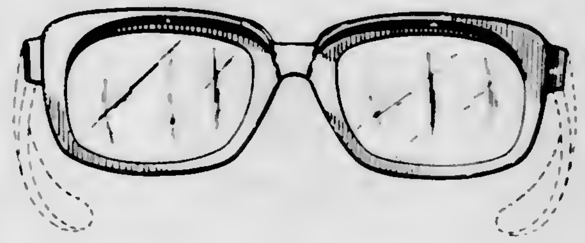
210,696
COMBINED TELEVISION AND STEREO CABINET OR SIMILAR ARTICLE

Frank Propps, 1355 E. 14th, Des Moines, Iowa 50316
Filed Mar. 27, 1967, Ser. No. 6,394
Term of patent 3½ years
(Cl. D56—4)



210,697
PAIR OF SPECTACLES

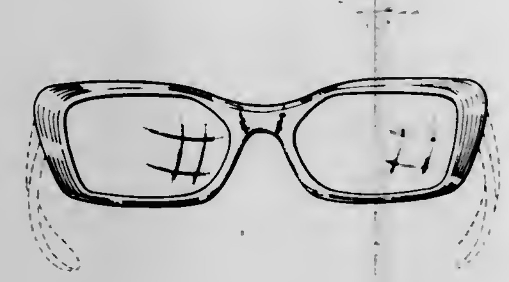
Robert H. Ramp, Pittsford, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed May 10, 1967, Ser. No. 7,058
Term of patent 14 years
(Cl. D57—1)



210,698
PAIR OF SPECTACLES

Jean R. Simon, Brighton, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York

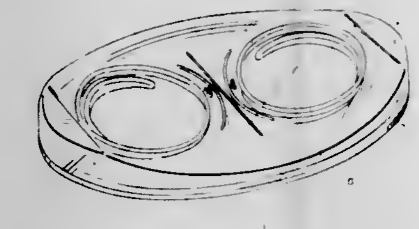
Filed Oct. 2, 1967, Ser. No. 8,836
Term of patent 14 years
(Cl. D57—1)



210,699
COIN DISPLAY CASE

John Miziolek, Toronto, Ontario, Canada, assignor to Aurora Plastics of Canada Ltd., Rexdale, Ontario, Canada, a corporation

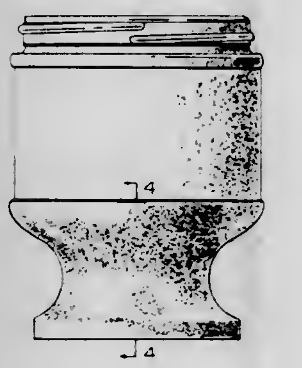
Filed Oct. 3, 1966, Ser. No. 4,130
Claims priority, application Canada May 12, 1966
Term of patent 14 years
(Cl. D58—13)



210,700
JAR

Harold J. Vanderhyde, North Merrick, N.Y., assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

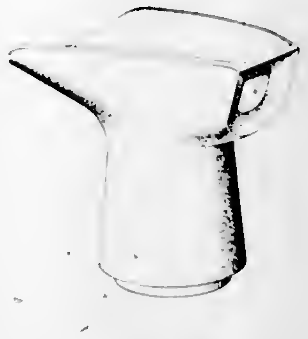
Filed Aug. 18, 1966, Ser. No. 3,528
Term of patent 14 years
(Cl. D58—25)



210,701
COMBINED ACTUATOR AND DISPENSING HEAD FOR A LIQUID PUMP

John C. Coons, Covington, Ky., assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

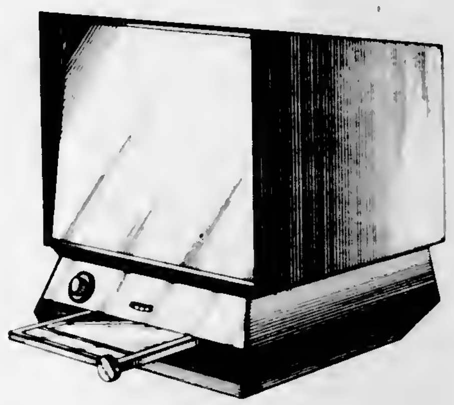
Filed July 12, 1967, Ser. No. 7,782
Term of patent 14 years
(Cl. D58—26)



210,702
OPTICAL READER

William E. Karow, 255 W. 234th St., Wilmington, Calif. 90744, and Lewis E. Simpson, 7367 W. 93rd Place, Los Angeles, Calif. 90045

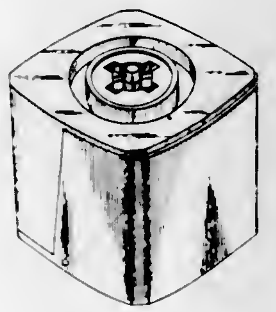
Filed Feb. 2, 1966, Ser. No. 1,101
Term of patent 14 years
(Cl. D61—1)



210,703
FLASHCUBE ADAPTER FOR CAMERAS OR SIMILAR ARTICLE

Kurt Steisslinger, Stuttgart-Wangen, Germany, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

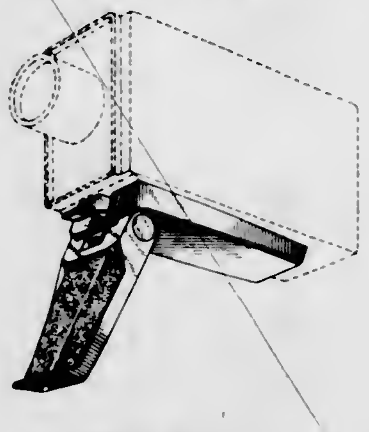
Filed Nov. 4, 1965, Ser. No. 2,131
Term of patent 14 years
(Cl. D61—1)



210,704
HAND GRIP FOR A MOTION PICTURE CAMERA OR SIMILAR ARTICLE

Grant D. Ross, Jr., Lincolnwood, and Simon D. Rydstedt, Deerfield, Ill., assignors to Bell & Howell Company, Chicago, Ill., a corporation of Illinois

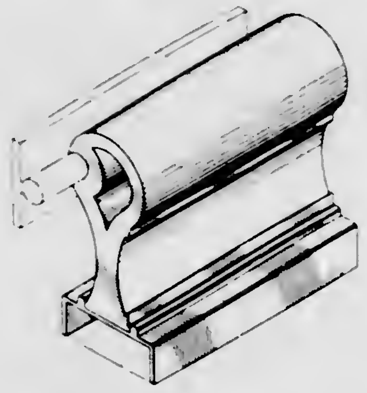
Filed July 21, 1966, Ser. No. 3,169
Term of patent 14 years
(Cl. D61—1)



210,705
RUBBER STAMP OR THE LIKE

Frank R. Anderson and Albert J. Castro, Santa Maria, Calif., assignors to Westates Space-Era Products, Inc., Santa Maria, Calif., a corporation of California

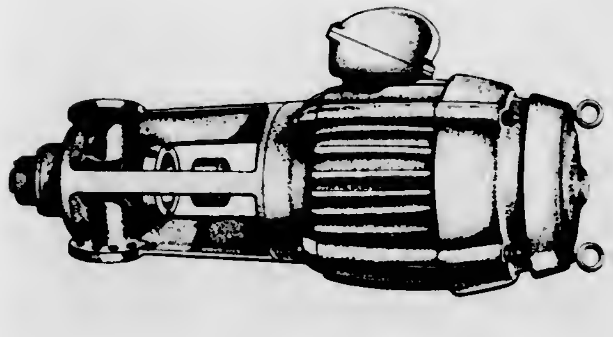
Filed Aug. 4, 1966, Ser. No. 3,338
Term of patent 14 years
(Cl. D64—10)



210,706
PUMP

Albert A. Zalis, Warren, Mass., assignor to Warren Pumps, Inc., Warren, Mass., a corporation of Massachusetts

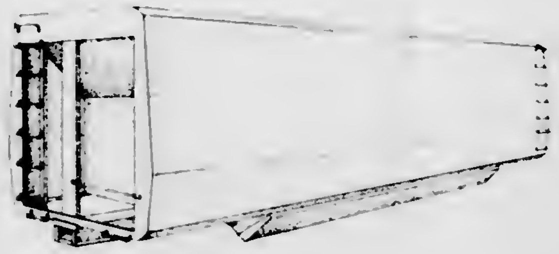
Filed Apr. 27, 1967, Ser. No. 6,858
Term of patent 14 years
(Cl. D65—1)



210,707
RAILWAY HOPPER CAR BODY

Donald L. Munoz, Detroit, Mich., and James J. Schuller, Hammond, Ind., assignors to Pullman Incorporated, Chicago, Ill., a corporation of Delaware

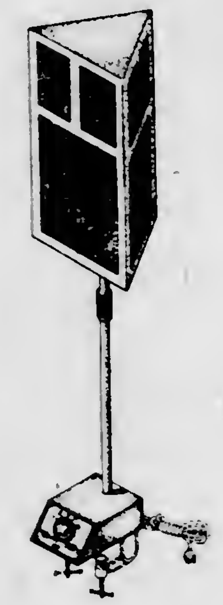
Filed Dec. 19, 1966, Ser. No. 5,103
Term of patent 14 years
(Cl. D66—1)



210,708
FOUL INDICATOR FOR ATHLETIC CONTEST OR THE LIKE

Eugene M. Sorensen, 865 Highview Terrace, Lake Forest, Ill. 60045

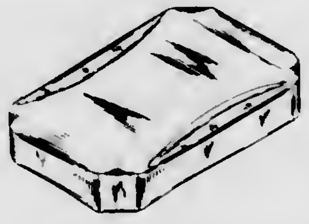
Filed Feb. 23, 1967, Ser. No. 5,927
Term of patent 14 years
(Cl. D72—1)



210,709
BAR OF SOAP OR SIMILAR ARTICLE

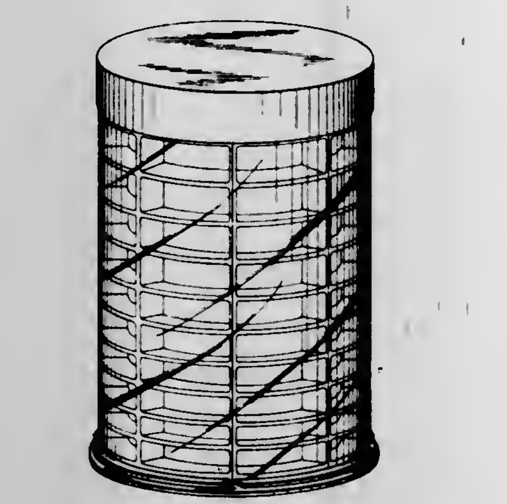
Livingston C. Douglas, Leonia, N.J., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

Filed Sept. 26, 1966, Ser. No. 4,014
Term of patent 14 years
(Cl. D73—1)



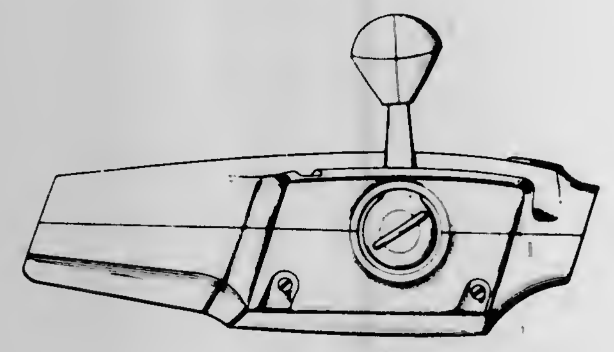
210,710
DISPLAY CABINET FOR TOYS OR THE LIKE

Leslie Charles Smith, London, England, assignor to Lesney Products & Co., Limited, London, England, a British company
Filed May 13, 1966, Ser. No. 2,296
Claims priority, application Great Britain Dec. 13, 1965
Term of patent 3½ years
(Cl. D80—11)



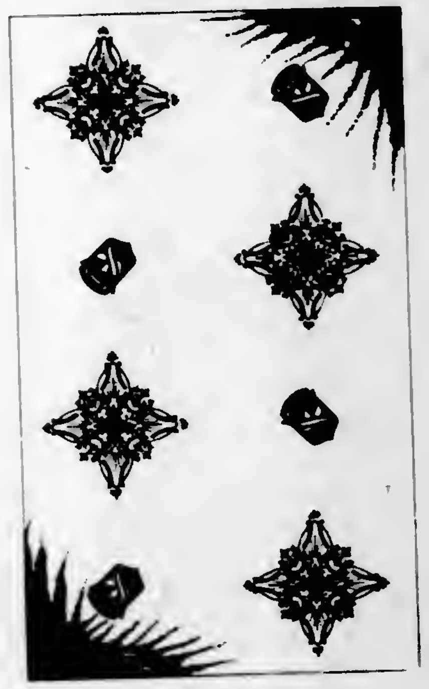
210,711
GEAR SHIFTING CONSOLE FOR A BICYCLE

Viktor Schreckengost, Cleveland Heights, Ohio, assignor to The Murray Ohio Manufacturing Co., Nashville, Tenn., a corporation of Ohio
Filed Mar. 1, 1967, Ser. No. 6,002
Term of patent 14 years
(Cl. D90—1)



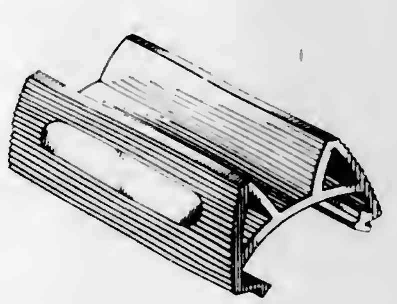
210,712
MATTRESS TICKING

Harry B. Olson, Maple Plain, Minn., assignor to The Land of Nod Company, Minneapolis, Minn.
Filed Nov. 21, 1966, Ser. No. 4,748
Term of patent 14 years
(Cl. D92—1)



210,713
SAFETY RAZOR HEAD GUARD

James P. Hamill, 4111 Connecticut Ave., Washington, D.C. 20008
Filed May 11, 1967, Ser. No. 7,076
Term of patent 14 years
(Cl. D95—3)



LIST OF DESIGN PATENTEES
TO WHOM
PATENTS WERE ISSUED ON THE 2ND DAY OF APRIL, 1968

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Anderson, Frank R., and A. J. Castro, to Westates Space-Era Products, Inc. Rubber stamp or the like. 210,705, 4–2–68, Cl. D64—10.
Aurora Plastics of Canada Ltd.: *See*—
  Miziolek, John. 210,699.
Automatic Electric Laboratories, Inc.: *See*—
  Janda, George M. 210,668.
Barlow, Gordon A., and M. I. Glass, to Marvin Glass & Associates. Wrist watch. 210,680, 4–2–68, Cl. D42—8.
Bausch & Lomb Inc.: *See*—
  Ramp, Robert H. 210,697.
  Simon, Jean R. 210,698.
Beaudry, John B.: *See*—
  Beaudry, John R. 210,666.
Beaudry, John R., ½ to J. B. Beaudry. Hearing aid canal tip. 210,666, 4–2–68, Cl. D26—14.
Bell & Howell Co.: *See*—
  Ross, Grant D., Jr., and Rydstedt. 210,704.
Boldt, Melvin H., to Canteen Corp. Phonograph cabinet. 210,695, 4–2–68, Cl. D56—4.
Brearley Co., The: *See*—
  Rhoades, Nolan K. 210,689.
Brownlie, Alan W.: *See*—
  Chase, David O., Stevens, Brownlie, and Malm. 210,691.
Bruce, John: *See*—
  Patmore, James R., and Bruce. 210,664.
Buckler, George M., to General Electric Co. Stereophonic phonograph or similar article. 210,694, 4–2–68, Cl. D56—4.
Bullis, Earl, Jr., to The Roberk Co. Rearview mirror. 210,637, 4–2–68, Cl. D14—6.
Canteen Corp.: *See*—
  Boldt, Melvin H. 210,695.
Case, J. I., Co.: *See*—
  Lazzeroni, Edward J. 210,655.
  Lazzeroni, Edward J. 210,658.
Castro, Albert J.: *See*—
  Anderson, Frank R., and Castro. 210,705.
Chandler & Price Co., The: *See*—
  Chase, David O., Stevens, Brownlie, and Malm. 210,691.
Chase, David O., P. H. Stevens, A. W. Brownlie, and J. A. Malm, to The Chandler & Price Co. Paper cutter. 210,691, 4–2–68, Cl. D55—1.
Coito, Henry J. Headless tambourine. 210,693, 4–2–68, Cl. D56—1.
Colgate-Palmolive Co.: *See*—
  Douglas, Livingston C. 210,650.
  Douglas, Livingston C. 210,709.
Coons, John C., to The Procter & Gamble Co. Combined actuator and dispensing head for a liquid pump. 210,701, 4–2–68, Cl. D58—26.
Cornelius Co., The: *See*—
  Reichow, James R. 210,687.
Danz, Ellworth: *See*—
  Miley, David W., and Danz. 210,675.
Danz, Ellworth R., and R. J. Szalek, to General Time Corp. Clock. 210,677, 4–2–68, Cl. D42—7.
De Fano, Dominic J., R. O. Ernest, and R. I. Kallman, to Sunbeam Corp. Combined mixer and stand. 210,682, 4–2–68, Cl. D44—1.
Del Giudice, Frank J., to Hardman Tool and Engineering Co. Aircraft seat. 210,660, 4–2–68, Cl. D15—8.
Douglas, Livingston C., to Colgate-Palmolive Co. Bottle or similar article. 210,650, 4–2–68, Cl. D9—90.
Douglas, Livingston C., to Colgate-Palmolive Co. Bar of soap or similar article. 210,709, 4–2–68, Cl. D73—1.
ESB Inc.: *See*—
  Rhoades, Nolan K., and Jacobsen. 210,684.
Eastman Kodak Co.: *See*—
  Steisslinger, Kurt. 210,703.
Eddy, Charles J. Portable lectern. 210,670, 4–2–68, Cl. D33—7.
Electric Associates Inc.: *See*—
  Patmore, James R., and Bruce. 210,664.
Electric Utilities Corp.: *See*—
  Kurash, Eugene. 210,652.
Ernest, Robert O.: *See*—
  De Fano, Dominic J., Ernest, and Kallman. 210,682.
General Electric Co.: *See*—
  Buckler, George M. 210,694.
General Time Corp.: *See*—
  Danz, Ellworth R., and Szalek. 210,677.
  Levin, Monte L. 210,679.
  Miley, David W., and Danz. 210,675.
  Miley, David W. 210,676.
  Szalek, Roman. 210,678.
Getgey, William F., to Price-Getgey Co. Shoestring knot retainer. 210,649, 4–2–68, Cl. D2—314.
Glass, Marvin I.: *See*—
  Barlow, Gordon A., and Glass. 210,680.
Gould, George J. Storage bin. 210,681, 4–2–68, Cl. D44—1.
Granger, David D., to Maxwell Royal Chair Co. Chair. 210,659, 4–2–68, Cl. D15—1.
Hamill, James P. Safety razor head guard. 210,713, 4–2–68, Cl. D95—3.
Hamon, Orville C. Vase. 210,669, 4–2–68, Cl. D29—28.
Hardman Tool and Engineering Co.: *See*—
  Del Giudice, Frank J. 210,660.
Hejduk, Arthur A., to The Meriam Instrument Co. Combined handle and fluid flow metering orifice plate. 210,661, 4–2–68, Cl. D23—27.
Hodge, Gerard T., to Mining & Chemical Products Ltd. Metal ball anode. 210,662, 4–2–68, Cl. D26—1.
Ivanhoe, Abraham J., to Win-Chek Industries, Inc. Storm door. 210,653, 4–2–68, Cl. D13—1.
Ivanhoe, Abraham J., to Win-Chek Industries, Inc. Storm door. 210,654, 4–2–68, Cl. D13—1.
Jablonski, Raymond C. Necktie rack or similar article. 210,671, 4–2–68, Cl. D33—8.
Jacobsen, Ralph T.: *See*—
  Rhoades, Nolan K. 210,684.
Janda, George M., to Automatic Electric Laboratories, Inc. Telephone handset. 210,668, 4–2–68, Cl. D26—14.
Johanson, Frederick J. Window safety lock unit. 210,685, 4–2–68, Cl. D50—5.
Kallman, Robert I.: *See*—
  De Fano, Dominic J., Ernest, and Kallman. 210,682.
Karow, William E., and L. E. Simpson. Optical reader. 210,702, 4–2–68, Cl. D61—1.
Klamer, Reuben B. Doll. 210,672, 4–2–68, Cl. D34—4.
Koppers Co., Inc.: *See*—
  Rhude, Maurice J. 210,665.
Kurash, Eugene, to Electric Utilities Corp. Portable building. 210,652, 4–2–68, Cl. D13—1.
Land of Nod Co., The: *See*—
  Olson, Harry B. 210,712.
Lasseroni, Edward J., to J. I. Case Co. Tractor body. 210,655, 4–2–68, Cl. D14—3.
Lasseroni, Edward J., to J. I. Case Co. Tractor cab. 210,658, 4–2–68, Cl. D14—27.
Lesney Products & Co., Ltd.: *See*—
  Smith, Leslie C. 210,710.
Levin, Monte L., to General Time Corp. Clock casing. 210,679, 4–2–68, Cl. D42—7.
Longo, Paul P., and A. Parmet. Automobile headrest bracket. 210,656, 4–2–68, Cl. D14—6.
Malm, John A.: *See*—
  Chase, David O., Stevens, Brownlie, and Malm. 210,691.
Marvin Glass & Associates: *See*—
  Barlow, Gordon A., and Glass. 210,680.
Matsui, Goichi. Package of candles and holders therefor. 210,651, 4–2–68, Cl. D9—188.
Maxwell Royal Chair Co.: *See*—
  Granger, David D. 210,659.
Meriam Instrument Co., The: *See*—
  Hejduk, Arthur A. 210,661.
Miley, David W., and E. Danz, to General Time Corp. Clock. 210,675, 4–2–68, Cl. D42—7.
Miley, David W., to General Time Corp. Clock. 210,676, 4–2–68, Cl. D42—7.
Mining & Chemical Products Ltd.: *See*—
  Hodge, Gerard T. 210,662.
Misiolek, John, to Aurora Plastics of Canada Ltd. Coin display case. 210,699, 4–2–68, Cl. D58—13.
Munoz, Donald L., and J. J. Schuller, to Pullman Inc. Railway hopper car body. 210,707, 4–2–68, Cl. D66—1.
Murray Ohio Mfg. Co., The: *See*—
  Schreckengost, Viktor. 210,674.
  Schreckengost, Viktor. 210,711.
Oneida Ltd.: *See*—
  Perry, Frank R. 210,690.
Olson, Harry B., to The Land of Nod Co. Mattress ticking. 210,712, 4–2–68, Cl. D92—1.
Parmet, Allen: *See*—
  Longo, Paul P., and Parmet. 210,656.
Patmore, James R., and J. Bruce, to Electric Associates Inc. Cabinet for electronic equipment. 210,664, 4–2–68, Cl. D26—5.
Peham, Engelbert J. Safety hat. 210,648, 4–2–68, Cl. D2—231.
Perry, Frank R., to Oneida Ltd. Spoon or similar article. 210,690, 4–2–68, Cl. D54—12.
Piasecki, Raymond F., to The Thomas & Betts Co. Male connector bar for modular terminal blocks. 210,663, 4–2–68, Cl. D26—1.
Price-Getgey Co.: *See*—
  Getgey, William F. 210,649.
Procter & Gamble Co., The: *See*—
  Coons, John C. 210,701.
  Vanderhyde, Harold J. 210,700.
Proppa, Frank. Combined television and stereo cabinet or similar article. 210,696, 4–2–68, Cl. D56—4.
Pullman Inc.: *See*—
  Munoz, Donald L., and Schuller. 210,707.
Ramp, Robert H., to Bausch & Lomb Inc. Pair of spectacles. 210,697, 4–2–68, Cl. D57—1.
Reichow, James R., to The Cornelius Co. Bottle vending machine or similar article. 210,687, 4–2–68, Cl. D52—3.

Rhoades, Nolan K., and R. T. Jacobsen, to ESB Inc. Molded lantern. 210,684, 4-2-68, Cl. D48—24.
Rhoades, Nolan K., to The Brearley Co. Bathroom scale. 210,689, 4-2-68, Cl. D52—10.
Rhude, Maurice J., to Koppers Co., Inc. Pole. 210,665, 4-2-68, Cl. D26—12.
Roberk Co., The: *See*—
Bullis, Earl, Jr. 210,657.
Ross, Grant D., Jr., and S. D. Rydstedt, to Bell & Howell Co. Hand grip for a motion picture camera or similar article. 210,704. 4-2-68, Cl. D61—1.
Rydstedt, Simon D.: *See*—
Ross, Grant D., Jr., and Rydstedt. 210,704.
Samperi, Alfonso D. Tom-tom drum case or the like. 210,692, 4-2-68, Cl. D56—1.
Schoesler, Ronald D. Guide for correcting typewriter copy. 210,688, 4-2-68, Cl. D52—6.
Schreckengost, Viktor, to The Murray Ohio Mfg. Co. Velocipede having a boat-like configuration. 210,674, 4-2-68, Cl. D34—15.
Schreckengost, Viktor, to The Murray Ohio Mfg. Co. Gear shifting console for a bicycle. 210,711, 4-2-68, Cl. D90—1.
Schuller, James J.: *See*—
Munoz, Donald L., and Schuller. 210,707.
Simon, Jean R., to Bausch & Lomb Inc. Pair of spectacles. 210,698, 4-2-68, Cl. D57—1.
Simpson, Lewis E.: *See*—
Karow, William E., and Simpson. 210,702.
Smith, Leslie C., to Lesney Products & Co., Ltd. Display cabinet for toys or the like. 210,710, 4-2-68, Cl. D80—11.
Sorensen, Eugene M. Foul indicator for athletic contest or the like. 210,708, 4-2-68, Cl. D72—1.
Steisslinger, Kurt, to Eastman Kodak Co. Flashcube adapter for cameras or similar article. 210,703, 4-2-68, Cl. D61—1.
Stevens, Philip H.: *See*—
Chase, David O., Stevens, Brownlie, and Malm. 210,691.
Sullivan, Earl D. Playing board for golf game. 210,673, 4-2-68, Cl. D34—5.
Sunbeam Corp.: *See*—
De Fano, Dominic J., Ernest, and Kallman. 210,682.
Szalek, Roman J.: *See*—
Danz, Ellworth R., and Szalek. 210,677.
Szalek, Roman, to General Time Corp. Clock casing. 210,678, 4-2-68, Cl. D42—7.
Thomas & Betts Co., The: *See*—
Piasecki, Raymond F. 210,663.
Tyler, Richard K. Night light. 210,683, 4-2-68, Cl. D48—20.
Vanderhyde, Harold J., to The Procter & Gamble Co. Jar. 210,700, 4-2-68, Cl. D58—25.
Villa, Luis F. Combined public address loudspeaker and emergency telephone. 210,667, 4-2-68, Cl. D26—14.
Warren Pumps, Inc.: *See*—
Zalis, Albert A. 210,706.
Westates Space-Era Products, Inc.: *See*—
Anderson, Frank R., and Castro. 210,705.
Win-Chek Industries, Inc.: *See*—
Ivanhoe, Abraham J. 210,653.
Ivanhoe, Abraham J. 210,654.
Woodstream Corp.: *See*—
Woolworth, Richard G. 210,686.
Woolworth, Richard G., to Woodstream Corp. Latch cover for a fishing tackle box or similar article. 210,868, 4-2-68, Cl. D50—7.
Zalis, Albert A., to Warren Pumps, Inc. Pump. 210,706, 4-2-68, Cl. D65—1.

LIST OF PATENTEES

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PATENTS WERE ISSUED ON THE 2ND DAY OF APRIL, 1968

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

ACF Industries, Inc.: *See*—
Boram, Thomas D. 3,375,942.
AMP, Inc.: *See*—
Coldren, Daniel R., and Lau. 3,375,749.
Hammell, Kemper M. 3,376,543.
AWB Mfg., Inc.: *See*—
Mitchell, Arlan E. 3,376,075.
Whitlock, Beauford I. 3,376,074.
Aaron, Phillip L. Teaching device for musical notation. 3,375,748, 4-2-68, Cl. 84—471.
Abbot, Charles G. Apparatus for converting solar energy to electricity. 3,376,165, 4-2-68, Cl. 136—89.
Abbott, John R., and I. F. Salminen, to Eastman Kodak Co. Substituted 1-phenyl-5-mercaptotetrazoles. 3,376,310, 4-2-68, Cl. 260—308.
Abbott Laboratories: *See*—
Cole, John W. 3,376,321.
Eberle, Byron T. 3,376,114.
Tadanier, John S. 3,376,325.
Abrahamsohn, Ilse, to Itek Corp. Photosensitive cell. 3,376,163. 4-2-68, Cl. 136—89.
Achramowicz, William J., to United States of America, Air Force. Receiver to teletypewriter converter. 3,376,384, 4-2-68, Cl. 178—26.
Adams, John W., to Ingersoll-Rand Co. Mounting for tapping conduit plug drill. 3,376,030, 4-2-68, Cl. 266—42.
Aerojet-General Corp.: *See*—
Chaput, Dale T., and Haskell. 3,375,908.
Aerosol Research Co.: *See*—
Kuffer, Clarence O. 3,375,957.
Agfa-Gevaert AG: *See*—
Kiper, Gerd. 3,375,769.
Agnello, Eugene J., G. D. Laubach, and W. T. Moreland, to Chas. Pfizer & Co., Inc. 6-fluoro-16-methylene steroid compounds and process. 3,376,294, 4-2-68, Cl. 260—239.55.
Aguirre, James J. Variable inductance. 3,376,534, 4-2-68, Cl. 336—136.
Ajax Mfg. Co., The: *See*—
Ware, Ben F. 3 375,692.
Akashi, Tsuneo, M. Takahashi, F. Yamauchi, N. Tsubouchi, and T. Ohno, to Nippon Electric Co. Ltd. Piezoelectric lead zirconate titanate ceramic with chromium and thorium additives. 3,376,226, 4-2-68. Cl. 252—62.9.
Albertson, Orris E., and W. M. H. Kilmer, to Dorr-Oliver Inc. Waste burning system with internal screen deliquefiers. 3,375 794, 4-2-68. Cl. 110—8.
Albright, Charles D.: *See*—
Pyles, Harley G., and Albright. 3,375,880.
Alkon Products Corp.: *See*—
Aslan, Wilfred. 3,375 850.
All American Engineering Co.: *See*—
Walsh, Robert R. 3,376,488.
All-Steel Equipment, Inc.: *See*—
Swanquist, Wesley W. 3 376,005.
Allais, Andre, and P. Girault, to Roussel-Uclaf. Method for relieving pain and inflammation with 4-(phenyl-amino) quinolene. 3,376.195, 4-2-68, Cl. 167—65.
Allan, Donald: *See*—
Ritchey, Jack L., Brownlee, and Steed. 3,376,184.
Allen, Archelaius D., to Gullick Ltd. Mine roof supports. 3,375,668, 4-2-68, Cl. 61—45.
Allied Chemical Corp.: *See*—
Barton, Oliver A., and Hetterly. 3,376,259.
Allingham, Robert P.: *See*—
Stephens, Charles R., Jr., and Allingham. 3,376,317.
Allis-Chalmers Mfg. Co.: *See*—
Loeb, Ernest. 3 375,728.
Ryskamp, Neil J. 3,376,079.
Alonso, Jose. Figure toy with magnetically retained parts. 3,375,604, 4-2-68, Cl. 46—22.
Altice, David R.: *See*—
Kelly, Timothy A., and Altice. 3,375,772.
Alto Co.: *See*—
Irving, Frank M., Jr. 3,375,917.
Alvarez-Calderon, Alberto. Leading edge flap and apparatus thereof. 3,375,998, 4-2-68, Cl. 244—42.
Amedjian, Garabed, N. Crenne, and J. E. G. Morel, to Rhone-Poulenc S.A. Process for producing methoxyphenol or ethoxyphenol. 3,376,351, 4-2-68, Cl. 260—613.
American Can Co.: *See*—
Honkanen, Arvid, and Haney. 3,375,954.
American Cyanamid Co.: *See*—
Kissman, Henry M., and Weiss. 3,376,293.
American Home Products Corp.: *See*—
Wendt, Gerhard R., and Ledig. 3,376,284.
American Machine & Foundry Co.: *See*—
Chambers, Jerome B., and Kruger. 3,376,077.
Germino, Felix J., and Moshy. 3,376,286.
Mahoney, William J. 3,376,427.
McPherson, Patrick F. 3,376,085.
American Olean Tile Co., Inc.: *See*—
Watson, Wayne C. 3,375,567.
American Optical Co.: *See*—
Snitzer, Elias. 3,376,421.
American Standard Inc.: *See*—
Mallett, Lawrence G. 3,376,013.
American Technical Machinery Corp.: *See*—
Marks, Theodore, and Gelardi. 3,376,073.
Amerline Corp.: *See*—
Hultgren, Arnold P. 3,375,990.
Ampex Corp.: *See*—
Felix, Michael O. 3,376,383.
Wang, Ben C., and Chai. 3,375,963.
Anaconda American Brass Co.: *See*—
Atkin, Oliver B., and Cuvin. 3,375,863.
Anaconda Wire and Cable Co.: *See*—
Bullock, Kenneth R. 3,376.378.
Anchor Hocking Glass Corp.: *See*—
Fouse, Frederick Z. 3,375,915.
Anderson, Donald J., to Chevron Research Co. Lubricating oil containing trithione-S-oxides as antioxidants. 3,376,225, 4-2-68, Cl. 252—48.2.
Anderson, Donald J.: *See*—
Anderson, Robert G. and D. J. 3.376,220.
Anderson, Donald J., to Chevron Research Co. Sulfoximinea. 3.376,338 4-2-68. Cl. 260—551.
Anderson, Francis P. Battle game apparatus wherein the targets are randomly positionable electric bulbs. 3,376,041, 4-2-68, Cl. 273—130.
Anderson, Robert G. and D. J., to Chevron Research Co. Polycyano lubricating oil detergents. 3,376,220, 4-2-68, Cl. 252—32.7.
Andersson, Bert O. T: *See*—
Kilander, Sven G. I., and Andersson. 3,376,394.
Andrews, Donald E., and R. C. Carmean, to Cambridge Wire Cloth Co. Connecting bar. 3,376,002, 4-2-68, Cl. 245—6.
Angus, George, & Co. Ltd.: *See*—
Jagger, Ernest T. 3,376,045.
Antonenko, Fedor A. Crank mechanism with adjustable eccentricity. 3,375,730, 4-2-68, Cl. 74—571.
Anzini, Renato. Mechanical wire joint. 3,376,545, 4-2-68, Cl. 339—273.
Aoki, Toshikazu: *See*—
Yokouchi, Rei, Ichikawa, Hosoi, Aoki, and Takagishi. 3,376,265.
Apitz, Peter F.: *See*—
Cress, Vernor B., Jr., Hoyt, Metz, Pollock, Keber, Cabe, and Apitz. 8,376,546.
Applebaum, Samuel B., to Crane Co. Hot process softeners. 3,375,930, 4-2-68, Cl. 210—207.
Arksey, Graydon W., to Chemcell (1963) Ltd. Methods and apparatus for interpreting overlapping signals. 3,375,701, 4-2-68, Cl. 73—23.1.
Armbruster, Heinz: *See*—
Wolber, Robert, Hettich, Fehrenbach, Armbruster, and Assmus. 3,375,653.
Armbruster, John W., to International Business Machines Corp. Magnetic writing devices. 3,376,551, 4-2-68, Cl. 340—172.5.
Armstrong Cork Co.: *See*—
Herweh, John E., and Poshkus. 3,376,234.
McKee, Allan W., Jr., and Zentmyer. 3,876,187.
Arnold, Douglas, to Sargent & Co. Crimping or indenting tool. 3,375,697, 4-2-68, Cl. 72—402.
Arrow Mfg. Co.: *See*—
Dorn, Russell J. 3,375,878.
Artman, Neil R., R. M. Cartier, and D. D. Whyte, to The Procter & Gamble Co. Interesterification of glycerides. 3,376,326, 4-2-68, Cl. 260—410.7.
Asahi Kasei Kogyo Kabushiki Kaisha: *See*—
Ishida, Shinichi, Sato, and Fujita. 3,376,263.
Asakawa, Kazuo: *See*—
Eguchi, Takashi, Yamamoto, Yamauxhi, Kuraishi, and Asakawa. 3,376,332.
Aslan, Wilfred, to Alkon Products Corp. Fluid valve construction. 3,375,850, 4-2-68, Cl. 137—382.
Assmus, Friedrich: *See*—
Wolber, Robert, Hettich, Fehrenbach, Armbruster, and Assmus. 8,375,653.
Associated Electrical Industries Ltd.: *See*—
Waterton, Frank. 3,375,572.
Atkin, Oliver B., and H. Cuvin, to Anaconda American Brass Co. Apparatus for continuous casting metal tubes. 3,375,863, 4-2-68, Cl. 164—281.
Atkins, Carl E., and R. L. Ziolkowski, to Wagner Electric Corp. Time delay circuit. 3,376,429, 4-2-68, Cl. 307—141.
Atlanta Stove Works, Inc.: *See*—
Wilkinson, Judkins E. 8,375,817.

Atlantic Richfield Co.: *See*—
Woods, John P., Dransfield, and Barta. 3,375,574.
Atlas Chemical Industries, Inc.: *See*—
Gehrig, Neil E. 3,376,176.
Atomic Energy of Canada Ltd.: *See*—
Bain, Alastair S. 3,376,201.
Ward, Arthur G. 3,376,200.
Auer, John H., Jr., to General Signal Corp. Parking area scanning system. 3,376,547, 4–2–68, Cl. 340—51.
Automated Building Components, Inc.: *See*—
Newman, Robert W. 3,375,778.
Automatic Electric Laboratories, Inc.: *See*—
Sikorski, Frank B., and Vande Wege. 3,376,399.
Vande Wege, John R. 3,376,398.
Vlaminck, Leopold G. 3,376,542.
Avco Corp.: *See*—
Rose, Frank L. 3,375,822.
Babcock & Wilcox Co., The: *See*—
Chesnut, George R., Jr. 3,375,816.
Bacher, Ludwig. Trailer hitch. 3,376,051, 4–2–68, Cl. 280—512.
Bachwansky, Peter, to Globe-Union Inc. Photovoltaic power assembly. 3,376,164, 4–2–68, Cl. 136—89.
Bacquie, Guy O. Earthmoving apparatus. 3,375,596, 4–2–68, Cl. 37—118.
Badger Meter Mfg. Co.: *See*—
Shepard, J. B. 3,375,724.
Badische Anilin- & Soda-Fabrik Aktiengesellschaft: *See*—
Bayerlein, Friedrich, Keller, Mahling, Becker, Gajek, and Wilhelm. 3,376,275.
Braun, Willy, and Mecke. 3,376,298.
Reicheneder, Franz, Dury, and Fischer. 3,376,128.
Baginski, Albert R., to Bell & Howell Co. Camera drive control. 3,376,094, 4–2–68, Cl. 352—137.
Bailey, Eame J.: *See*—
Elks, Joseph, and Bailey. 3,376,193.
Bain, Alastair S., to Atomic Energy of Canada Ltd. Cladded ceramic nuclear reactor fuel element having axial void. 3,376,201, 4–2–68, Cl. 176—67.
Baker, Allister L.: *See*—
Ellis, Charles R., and Baker. 3,375,750.
Baker, Don R., G. E. Lukes, and M. B. McClellan, to Stauffer Chemical Co. Halodithioledioxide and its production. 3,376,314, 4–2–68, Cl. 260—327.
Balamuth, Lewis: *See*—
Kuris, Arthur, and Balamuth. 3,375,820.
Balamuth, Lewis, to Cavitron Ultrasonics, Inc. Method and apparatus for high frequency joining or sealing of thermosoftening materials. 3,376,179, 4–2–68, Cl. 156—73.
Balcom, Orville R., Jr., to The Garrett Corp. Cabin pressurization actuator control system. 3,375,771, 4–2–68, Cl. 98—1.5.
Baldwin-Lima-Hamilton Corp.: *See*—
Tidball, Robert A. 3,376,2
Ball Bros. Co., Inc.: *See*—
Ruzicka, John. 3,376,228.
Balsa Development Corp.: *See*—
Shook, Gerald D., and Levine. 3,376,185.
Bange, Donald A., and R. M. Sternberg, to National Cash Register Co. Record media handling apparatus. 3,375,962, 4–2–68, Cl. 226—176.
Barden Corp., The: *See*—
McKee, Lewis W. 3,376,084.
Barkman, Erik F., to Reynolds Metals Co. Corrosion inhibiting and sealing composition. 3,376,143, 4–2–68, Cl. 106—14.
Barley, Leo D., to Harris-Intertype Corp. Paper cutter. 3,375,939, 4–2–68, Cl. 214—1.6.
Barnes Engineering Co.: *See*—
Engborg, Nelson E., and Beltz. 3,375,751.
Barnes Mfg. Co.: *See*—
Donald, Forrest A. 3,375,951.
Baron, Robert R.: *See*—
Van Essen, Harold E., Jr., and Baron. 3,376,296.
Barsukov, Arkadij: *See*—
Bures, Ladislav, Doudlebsky, and Barsukov. 3,375,649.
Barta, Henry R.: *See*—
Woods, John P, Dransfield, and Barta. 3,375,574.
Barthel, Roy W., to Taylor Instrument Co. Rebalancing system using multiple force range motor and power source. 3,376,482, 4–2–68, Cl. 318—32.
Barton, Oliver A., and R. M. Hetterly, to Allied Chemical Corp. Novel epoxide resins prepared from a,a′,a′′-tris(hydroxyphenyl) - 1,3,5 - triisopropylbenzene and 2,2 - bis(p-hydroxyphenyl) propane. 3,376,259, 4–2–68, Cl. 260—47.
Basic Products Corp.: *See*—
Carlson, Donald A. 3,376,493.
Bastian, Donald G., to Friden, Inc. Power driven type bar actuating mechanism and cam therefor. 3,375,914, 4–2–68, Cl. 197—17.
Bate, Geoffrey, and J. R. Morrison, to International Business Machines Corp. Electromagnetic transducer manufacture. 3,376,035, 4–2–68, Cl. 29—603.
Bates, Edward A., to Smith Kline & French Laboratories. Disposable test tube rack. 3,375 934, 4–2–68, Cl. 211—72.
Batt, Thomas N., and H. A. Duvall, to Square D Co. Handle locking attachment for electrical control devices. 3,376,400, 4–2–68, Cl. 200—42.
Bauer, Carl R., to E. I. du Pont de Nemours & Co. Preparation of N,N-dimethylcyclohexylamine. 3,376,341, 4–2–68, Cl. 260—563.
Baumann, Horst: *See*—
Stein, Werner, and Baumann. 3,376,336.

Bausch & Lomb Inc.: *See*—
Hudson, Lena M. 3,376,090.
Kugler, Kenneth G. 3,375,754.
Letter, Eugene C. 3,376,089.
Letter, Eugene C. 3,376,418.
Baxmann, Fritz: *See*—
Seifert, Friedrich, Baxmann, and Carla. 3,376,277.
Baxter, Don, Inc.: *See*—
Jellies, David A. 3,375,858.
Baxter Laboratories, Inc.: *See*—
Berger, Arthur, and Borgaes. 3,376,194.
Bay-Wood, Industries, Inc.: *See*—
Wagner, Hampton R. 3,375,793.
Bayerlein, Friedrich, R. Keller, D. Mahling, P. Becker, C. Gajek, and H. Wilhelm, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Urethanes in films to improve sliding properties. 3,376,275, 4–2–68, Cl. 260—80.8.
Bazi, Jules, and L. J. Fechant to La Telemecanique Electrique. Arc blow-out devices in current-breaking apparatus. 3 376,401, 4–2–68, Cl. 200—147.
Beall, Richard O., and H. M. Bernard, Jr., to United States Steel Corp. Combined doctor means. 3,375,805, 4–2–68, Cl. 118—63.
Bean, James J.: *See*—
Corbett, Burton, and Bean. 3,375,924.
Beard, Colin C., and A. D. Cross, to Syntex Corp. 16a,17a-dihalomethylene [3,2 - C] pyrazole derivatives of the pregnane series. 3 376,292, 4–2–68, Cl. 260—239.5.
Bearden, Roby, Jr., and L. A. Pine, to Esso Research and Engineering Co. Carboxylation of hydrocarbon resins. 3,376,362, 4–2–68, Cl. 260—888.
Beasley, Thomas J., Jr., and R. P. Rodenbaugh, to Southern Metal Products Corp. Sash jamb and balance means. 3,375,610, 4–2–68, Cl. 49—445.
Beazley, William E.: *See*—
Campbell, John, Beazley, Benn, and Grandin. 3,376,154.
Beck, Harold R. to Rexall Drug and Chemical Co. Apparatus for forming plastic units. 3,375,552, 4–2–68, Cl. 18—30.
Becker, Peter: *See*—
Bayerlein, Friedrich, Keller, Mahling, Becker, Gajek, and Wilhelm. 3,376,275.
Becker, Rudolf, to Linde A. G. Prepurification of gas mixtures before separation thereof by low temperature rectification. 3,375,674, 0–2–68, Cl. 62—13.
Becton, Dickinson and Co.: *See*—
Keller, George H. 3,375,825.
Beddo, Dearal W., to Pan American Petroleum Corp. Low-frequency vibratory seismic surveying. 3,375,896, 4–2–68, Cl. 181—.5.
Bedford, Burnice D.: *See*—
Morgan, Raymond E., and Bedford. 3,376,492.
Bednarski, Thaddeus E., to The Black and Decker Mfg. Co. Reversible electric switch with laterally-extending reversing member for use in portable electric tool or appliance. 3 376,402, 4–2–68, Cl. 200—157.
Beechler, Frank L., and W. M. A. Kuypers. Dissolver blade. 3,376,024, 4–2–68, Cl. 259—134.
Begley, Richard T.: *See*—
Eichinger, Robert L., and Begley. 3,375,569.
Behm, William F., to Houdaille Industries, Inc. Fluid flow device. 3,375,845, 4–2–68, Cl. 137—110.
Beltz, Richard C.: *See*—
Engborg, Nelson E., and Beltz. 3,375,751.
Bell, Chester G.: *See*—
Kotok, Alan, and Bell. 3,376,554.
Bell, Clifford J.: *See*—
Fischer, Heinz G., and Bell. 3,376,531.
Bell, Donald W.: *See*—
Meyerand, Russell G., Jr., Bell, and Bullis. 3,376,437.
Bell & Howell Co.: *See*—
Baginski, Albert R. 3,376,094.
Bradt, Gordon E., and Lancor. 3,376,396.
Bell Telephone Laboratories, Inc.: *See*—
Crane Bently A., and Githens. 3,376,555.
Danylchuk, Irynej. 3,376,561.
Kierer, Julius. 3,376,481.
Newhall, Ermunde E., and Perucca. 3,376,562.
Bell, William A., Jr., K. A. Spainhour and A. M. Veach, to United States of America, Atomic Energy Commission. Calutron with means to direct calcium gettering vapor into the ion beam to reduce tank pressure. 3,376,414, 4–2–68, Cl. 150—41.9.
Beltrami, Oshmano. Single bucket excavator. 3,375,595, 4–2–68, Cl. 37—117.5.
Bemberg, J. P. Aktiengesellschaft: *See*—
Garske, Friedrich. 3,375,992.
Bengtsson, Erik A.: *See*—
Kootz, Theodor, Maas, and Bengtsson. 3,376,180.
Benn, Donald R.: *See*—
Campbell, John, Beazley, Benn, and Grandin. 3,376,154.
Bennett, James G., Jr.: *See*—
Dubusker, William, Robertson, Oliver, Bennett, and Schmidt. 3,375,570.
Benz, Donald E.: *See*—
Janssen John E., and Benz. 3,376,512.
Berardinelli, Frank M.: *See*—
Halek, George W., Berardinelli, and Hendry. 3,376,361.
Berg, Richard D., to Western Electric Co., Inc. Apparatus for feeding and forming articles. 3,375,857, 4–2–68, Cl. 140—71.
Berger, Arthur, and E. E. Borgaes, to Baxter Laboratories, Inc. Method of treating hypertension employing selected thioureas. 3,376,194, 4–2–68, Cl. 167—65.
Bernard, Harry M., Jr.: *See*—
Beall, Richard O., and Bernard. 3,375,805.

Bertolacini, Ralph J., and H. M. Brennan, to Standard Oil Co. Hydroforming process with mordenite, alumina and platinum catalyst. 3,376,214, 4–2–68, Cl. 208—89.
Bertolacini, Ralph J., and H. M. Brennan, to Standard Oil Co. Hydrocarbon conversion process and catalyst. 3,376,215, 4–2–68, Cl. 208—138.
Best, Howard S., and R. E. Bowser, to Corning Glass Works. Article handling and cleaning apparatus. 3,375,834, 4–2–68, Cl. 134—94.
Beta Aluminum Products Ltd.: *See*—
Thompson, Norman. 3,375,608.
Beucherie, Pierre, and J. G. Wurm, to European Atomic Energy Community (Euratom). Process for the preparation of mixed carbides. 3,376,231, 4–2–68, Cl. 252—301.1.
Beurtheret, Charles A. E., to Compagnie Francaise Thomson Houston-Hotchkiss Brandt. Vaporization system having improved feed liquid recirculating means. 3,375,868, 4–2–68, Cl. 165—105.
Bexten, Eugen, to International Harvester Co. Control device for bogie suspension of loaders. 3,375,944, 4–2–68, Cl. 214—140.
Biber, Albert, and B. R. Walsh, to Gulf Research & Development Co. Oil burning process. 3,376,097, 4–2–68, Cl. 431—9.
Bieber, Herman, H. M. Taylor, and L. Spenadel, to Esso Research and Engineering Co. Process for separation of high-energy propellant oxidizers. 3,376,318, 4–2–68, Cl. 260—347.7.
Bienaime, Daniel L. C. M., to Hydraulica. Multiple- or variable-speed motors notably hydraulic motors with monitoring system and its applications. 3,375,756, 4–2–68, Cl. 91—175.
Biles, James R.: *See*—
Brennan, Wendell E., and Biles. 3,375,829.
Birman, Joseph H., to Geothermal Surveys, Inc. Leak detection method. 3,375,702, 4–2–68, Cl. 73—40.
Bishop and Babcock Corp., The: *See*—
Munse, Robert A. 3,376,612.
Bishop, Leonard J., to Mechanical Handling Systems, Inc. Articulated carrier for power and free conveyor systems. 3,375,790, 4–2–68, Cl. 104—172.
Bixby, William H., to North Electric Co. Control circuit for gradually applying power to a load. 3,376,487, 4–2–68, Cl. 320—32.
Bjornson, Geir, to Phillips Petroleum Co. Method and apparatus for performing chemical reactions by means of an electric arc. 3,376,211, 4–2–68, Cl. 204—311.
Black and Decker Mfg. Co., The: *See*—
Bednarski, Thaddeus E. 3,376,402.
Black, James F., to United States of America, Atomic Energy Commission. Purification and reclamation of moderator-coolants. 3,376,357, 4–2–68, Cl. 260—674.
Blake, Alan F.: *See*—
Spencer, Alexander, and Blake. 3,376,162.
Blank, Robert J., and B. Richman, to C & B, Inc. Ultrasonic dental tool. 3,375,583, 4–2–68, Cl. 32—26.
Blase, Ernest F.: *See*—
Rutland, David F., Palmer, and Blase. 3,376,416.
Bletzinger, John C., E. H. Condon, and R. C. Simons, to Kimberly-Clark Corp. Sanitary napkin with flow control element. 3,375,827, 4–2–68, Cl. 128—290.
Bliss, E. W., Co.: *See*—
Hiegel, Joseph J. 3,376,120.
Levy, Murray N. 3,375,743.
Bloom, Otto N. Electric coils having serpentine leads. 3,376,536, 4–2–68, Cl. 336—192.
Blough, Ronald S., to Fairfield Engineering and Mfg. Co. Swine tether. 3,375,809, 4–2–68, Cl. 119—118.
Blumer, Armin. Injection mould for plastic injection moulding machines for the production of axially symmetrical hollow bodies. 3,375.554. 4–2–68, Cl. 18—42.
Bobo, Powell O., to Westinghouse Electric Corp. Polyphase arc furnace with control system to raise one electrode prior to all electrodes striking an arc. 3,376,374, 4–2–68, Cl. 13—13.
Bodine, Albert G., Jr. Sonic method and apparatus for driving casings through earthen formations. 3,375,884, 4–2–68, Cl. 175—22.
Boehringer, Ingelheim, G.m.b.H.: *See*—
Schmidt, Gunther. 3,376,289.
Boeing Co., The: *See*—
Krogstad, Reuben S., and Moss. 3,376,415.
Boettcher, Stephen A., and J. N. Farley, to Speedfam Corp. Lapping machine truing ring and fixture. 3,375,614, 4–2–68, Cl. 51—129.
Boichenko, Mikhail S., D. P. Evteev, A. S. Kaushansky, V. A. Karpeka, L. K. Orlova, V. S. Pravdin, A. P. Savchenko, A. K. Fisjun, V. V. Fulmakht, and A. N. Shabanov, to Tsentralny Nauchno-Issledovatelsky Institute Chernoi Metallurgii IM. I. P. Bardina and Gosudarstvenny Sojuzny Institute Proektiro-Vanija Metallurgicheskikh Zavodov. Mould for a continuous casting machine. 3,375,865, 4–2–68, Cl. 164—283.
Boitchenko, Mikhail S., V. V. Foulmakht, V. S. Routese, V. S. Pravdine, G. R. Korotkov, A. S. Kaouchansky, A. N. Chabanov, and V. A. Karpeka, to Centralny Naoutchno-Issledovatelsky Institut Tchornov Metal'aurgiy I. P. Bardine and Sojuzny Proektny Institut Stalpraekt. Machine for the continuous pouring of steel. 3,375,862, 4–2–68, Cl. 164—155.
Bol, William, and R. G. Johnson; said Johnson assor. to said Bol. Cabinet drawer and door opener. 3,376,088, 4–2–68, Cl. 312—319.
Bolesworth, Roy: *See*—
Rizk, Waheeb, Bolesworth, Keer, and Waldron. 3,376,017.
Bombrini-Parodi-Delfino S.p.A: *See*—
Marchiaro, Ettore. 3,375,786.

Bomicone, Joseph J., and H. L. Bittler, to Corning Glass Works. Method of protecting the surface of glass molding equipment. 3,376,122, 4–2–68, Cl. 65—27.
Boomer, James K.: *See*—
Womack, Charles P., and Boomer. 3,376,514.
Boram, Thomas D., to ACF Industries, Inc. Apparatus for unloading railroad cars and the like. 3,375,942, 4–2–68, Cl. 214—83.28.
Borden Co., The: *See*—
Columbus, Peter S., and Mason. 3,376,148.
Hollingsworth, Clinton A. 3,376,124.
Borg-Warner Corp.: *See*—
Cook, Leo W. 3,375.910.
McColl, John W. 3,376,443.
Smirl, Richard L. 3,375,911.
Borgaes, Edeltraut E.: *See*—
Berger, Arthur, and Borgaes. 3,376,194.
Borell, Marvin C., and L. J. Hanson, Jr. Method and device for transferring and retaining printed matter. 3,376,182, 4–2–68, Cl. 156—235.
Borisov, Igor S.: *See*—
Vinogradov, Alexandr S., Kapustin, Maxjutenko, Kiselnikov, Borisov, and Mazalov. 3,375,555.
Bosch, Robert, G.m.b.H.: *See*—
Hedermann, Dieter. 3,375,660.
Botney, Allen E.: *See*—
Snaper, Alvin A. 3,376,135.
Bottasso, Franco, to Pirelli S.p.A. Apparatus for detecting, measuring and recording irregularities of behavior in loaded pneumatic tires. 3,375,714, 4–2–68, Cl. 73—146.
Bottoms, Paul H.: *See*—
Opel, Charles J., and Bottoms. 3,376,371.
Bottum, Robert O., to Outboard Marine Corp. Reverse mechanism and throttle control. 3,375,740, 4–2–68, Cl. 74—872.
Boucher, Pierre. Machine for grinding parts according to a jig contour. 3,375,613, 4–2–68, Cl. 51—101.
Boucher, Robert J., to United States of America, Air Force. Nonlinear lighting control. 3,376,471, 4–2–68, Cl. 315—178.
Boudreaux, Joseph R.: *See*—
Callihan, Clayton D., and Boudreaux. 3,376,285.
Bourns, Inc.: *See*—
Smith, James V. 3,375,759.
Boutry, Georges-Albert: *See*—
Loty, Charles. 3,376,464.
Bowen Tools, Inc.: *See*—
Burns, Albert L., Jr. 3,375,580.
Bowser, Robert E.: *See*—
Best, Howard S., and Bowser. 3,375,834.
Bowser, Robert S., and T. J. Sentementes, to Sylvania Electric Products Inc. Process for the manufacture of electroluminescent lamps. 3,376,177, 4–2–68, Cl. 156—67.
Boyer, Nicodemus E., and R. R. Hindersinn, to Hooker Chemical Corp. Phosphonated polymers. 3,376,274, 4–2–68, Cl. 260—78.4.
Brace, Robert S., and H. D. Sullivan, to International Harvester Co. Balanced brake system. 3,376,078, 4–2–68, Cl. 303—6.
Bradshaw, William K., to Newport News Shipbuilding and Dry Dock Co. Cargo handling apparatus. 3,375,937, 4–2–68, Cl. 212—3.
Bradt, Gordon E., and J. H. Lancor, to Bell & Howell Co. Bidirectional magnetic recorder with movable head assembly. 3,376,396, 4–2–68, Cl. 179—100.2.
Braslau, Norman, and W. A. Hardy, to International Business Machines Corp. Optical positioning device in combination with multiple reflecting plural spherical mirrors. 3,376,424. 4–2–68, Cl. 250—216.
Braun, Willy, and R. Mecke, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Pigment dyes. 3,376,298, 4–2–68, Cl. 260—244.
Brazier, Anthony D.: *See*—
Elliott, John S., Edwards, and Brazier. 3,376,224.
Brennan, Harry M.: *See*—
Bertolacini, Ralph J., and Brennan. 3,376,214.
Bertolacini, Ralph J., and Brennan. 3,376,215.
Brennan, Wendell E., and J. R. Biles, to Monsanto Co. Reinforced girdle. 3,375,829, 4–2–68, Cl. 128—539.
Brenschede, Wilhelm: *See*—
Wieden, Horst, Brenschede, Lenz, Rellensmann, and Nischk. 3,376,264.
Bright, James A., and J. J. O'Connell, to General Motors Corp. Method and apparatus for maintaining high humidity in a frost-free domestic refrigerator. 3,375,677, 4–2–68, Cl. 62—89.
Brokaw, Adrian P.: *See*—
Engle, Allen W., Casey, and Brokaw. 3,375,897.
Brossard, Bernard P., to Rhone-Poulenc S.A. Preparation of dicarboxylic acid monoamides. 3,376,337, 4–2–68, Cl. 260—534.
Brothman, Abraham, S. J. Halpern, R. D. Reiser, A. A. Miller, S. F. Finkey, and W. Chen, to Sangamo Electric Co. Phase-shift keying receiver utilizing the phase shift carrier for synchronization. 3,376,511. 4–2–68, Cl. 325—320.
Brothman, Abraham, S. J. Halpern, and A. J. Bruckner, to Sangamo Electric Co. Portable meter-reading device. 3,376,567. 4–2–68, Cl. 340—188.
Brown, Alexander, and H. J. Wellard, to Murex Welding Processes Ltd. Lubricants. 3,375,729, 4–2–68, Cl. 74—467.
Brown, Norman F., to Otis Engineering Corp. Gas lift valves. 3,375,847, 4–2–68, Cl. 137—155.
Browning, Edgar P., to Deere & Co. Combined variable speed and planetary drive. 3,375,733, 4–2–68, Cl. 74—689.
Brownlee, Winston E.: *See*—
Ritchey, Jack L., Brownlee, and Steed. 3,376,184.

- Bruckner, Alan J.: *See—*
  - Brothman, Abraham, Halpern, and Bruckner. 3,376,567.
- Bruns, Ludwig, and G. Schnuchel, to Erdolchemie Gesellschaft mit beschrankter Haftung. Porous metals. 3,376,119, 4–2–68, Cl. 29—192.
- Brunswick Corp.: *See—*
  - Sheridan, David S. 3,375,828.
- Bruson, Herman A., and H. L. Plant, to Olin Mathieson Chemical Corp. Production of dichlorocarbene adducts. 3,376,-349, 4–2–68, Cl. 260—611.
- Bryan, Morris M., Jr., to The Jefferson Mills, Inc. Handling and blending slivers. 3,375,556, 4–2–68, Cl. 19—157.
- Buck, Ollie G., and G. R. Kahle, to Phillips Petroleum Co. Prevention of cold flow in polybutadienes by the addition of a halogenated alkene to the polymerization mixture at the completion of the polymerization. 3,376,279, 4–2–68, Cl. 260—94.3.
- Buckbee-Mears Co.: *See—*
  - Mears, Norman B .3,376,451.
- Buckley, Frederick H., and J. D. Langyel, to Garlock Inc. Replaceable substantially rigid fluorocarbon resin valve unit for use in butterfly valves. 3,376,014, 4–2–68, Cl. 251—306.
- Bucyrus-Erie Co.: *See—*
  - Kraschnewski, Melvin W., and Learmont. 3,375,892.
  - Learmont, Tom, and Willgrubs. 3,375,943.
- Budts, Lucien, to Thomson Automatismes. Transistorized switching amplifier with protective circuit. 3,376,516, 4–2–68, Cl. 330—26.
- Buhler, Karl. Channel shaped insert for embedement in concrete. 3,375,623, 4–2–68, Cl. 52—97.
- Buller, Paul L.: *See—*
  - Cole, Jimmy R., and Buller. 3,375,800.
- Bullis, Robert H.: *See—*
  - Meyerand, Russell G., Jr., Bell, and Bullis. 3,376,437.
- Bullock, Kenneth R., to Anaconda Wire and Cable Co. Communication cable. 3,376,378, 4–2–68, Cl. 174—107.
- Buratti, Alessandro, to Pignone Sud S.p.A. Pneumatic circuit. 3,375,843, 4–2–68, Cl. 137—85.
- Burdick, Donald L.: *See—*
  - Francis, William C., and Burdick. 3,376,301.
- Burés, Ladislav, C. Doudlebský, and A. Barsukov, to Vyzkumny Ustav Bavlnarsky. Servicing arrangement for spinning machines. 3,375,649, 4–2–68, Cl. 57—58.91.
- Burger, Joanne D., and W. L. Howard, to The Dow Chemical Co. Unsaturated ethers of dioxanes and dioxolanes. 3,376,-315, 4–2–68, Cl. 260—340.9.
- Burian, Paul D.: *See—*
  - Impellizzeri, Julius S., Hahn, and Burian. 3,375,717.
- Burndept Ltd.: *See—*
  - Hughes, Herbert D., Lewis, and Partridge. 3,376,167.
- Burns, Albert L., Jr., to Bowen Tools, Inc. Shear and seal valve unit. 3,375,580, 4–2–68, Cl. 30—228.
- Burnthall, Edward V., and J. J. Hirshfeld, to Monsanto Co. Flame retarding acrylonitrile polymer compositions. 3,376,-253, 4–2–68, Cl. 260—45.7.
- Burrell, Lower: *See—*
  - George, Edward. 3,375,899.
- Burroughs Corp.: *See—*
  - Coccagna, Edmund G. 3,376,566.
- Burroughs Wellcome & Co. (U.S.A.) Inc.: *See—*
  - Phillips, Arthur P., and Burrows. 3,376,297.
- Burrows, Robert B.: *See—*
  - Phillips, Arthur P., and Burrows. 3,376,297.
- Bursiek, Bill, and E. L. Martin. Method of anchoring a frame in an opening. 3,375,627, 4–2–68, Cl. 52—213.
- Buser, Kenneth R., to E. I. du Pont de Nemours, and Co. Process for producing microporous polymeric structures by freeze-coagulation of latices. 3,376,158, 4–2–68, Cl. 117—119.2.
- Buske, Alfred: *See—*
  - Kiefer, Bernhard, and Buske. 3,376,210.
- Busker, Wilbur H., and D. W. Parker, to L. R. Nelson Mfg. Co. Clip-on attachment for the impulse arm of step-by-step rotary sprinklers. 3,375,979, 4–2–68, Cl. 239—230.
- Busuttil, Joseph M. Deck plate and locking mechanism. 3,375,-612, 4–2–68, Cl. 49—465.
- Butkevich, Vladimir A., D. P. Evteev, A. S. Kaushansky, V. A. Karpeka, G. R. Korotkov, V. S. Pravdin, V. S. Rutes, V. V. Fulmakht, and A. K. Fisjun, to Tsentralny Nauchno-Issledovatelsky Institute Chernoi Metallurgii IM. I. P. Bardina. Device for secondary cooling of the ingot of the continuous casting machine. 3,375,864, 4–2–68, Cl. 164—282.
- Butler, Kenneth, to Chas. Pfizer & Co., Inc. 1-lower alkylsulfonylalkyl-2-lower alkyl-5 nitroimidazoles. 3,376,311, 4–2–68, Cl. 260—309.
- Butler, Thomas A., to The Lubrizol Corp. Metal salts of mixed phosphorothioic and phosphinothioic acids. 3,376,-221, 4–2–68, Cl. 252—32.7.
- Butterworth, Harold M., and E. A. Neppiras, to North American Philips, Co., Inc. Ultrasonic atomiser. 3,375,977, 4–2–68, Cl. 239—102.
- Byczkowski, Mieczyslaw W., to Globe-Union Inc. Method of forming a semiconductor device with a depletion area. 3,376,172, 4–2–68, Cl. 148—191.
- Bytrex, Inc.: *See—*
  - Pugnaire, Jean-Pierre A. 3,376,537.
- C & B, Inc.: *See—*
  - Blank, Robert J., and Richman. 3,375,583.
- CRS Industries, Inc.: *See—*
  - Pelosi, Michael H., Jr. 3,375,640.
- Cabe, Ray W.: *See—*
  - Cresa, Vernor B., Jr., Hoyt, Metz, Pollock, Keber, Cabe, and Apitz. 3,376,546.
- Cade, Phillip J.: *See—*
  - Giuffrida, Philip, and Cade. 3,376,099.
- Caldwell, John R.: *See—*
  - Jackson, Winston J., Jr., and Caldwell. 3,376,261.
- Call, Joseph V., to Wenton Shoe Mfg. Co. Shoes with moulded soles. 3,375,537, 4–2–68, Cl. 12—145.
- California Institute Research Foundation: *See—*
  - Scott, Ronald F., Howard, and Hotz. 3,375,885.
- Callihan, Clayton D., and J. R. Boudreaux, to The Dow Chemical Co. Dissolution of cellulose ethers. 3,376,285, 4–2–68, Cl. 260—232.
- Calor Appareils Electro-Domestiques: *See—*
  - Trouilhet, Maurice M. A. 3,375,599.
- Cambridge Wire Cloth Co.: *See—*
  - Andrews, Donald E., and Carmean. 3,376,002.
- Campagna, Edward R.: *See—*
  - Miale, Gollardo, and Campagna. 3,376,462.
- Campbell, Berry: *See—*
  - Petersen, William E., and Campbell. 3,376,198.
- Campbell, John, W. E. Beazley, D. R. Benn, and M. J. Grandin, to Moore Business Forms, Inc. Carbon paper and method for the manufacture thereof. 3,376,154, 4–2–68, Cl. 117—36.4.
- Canadian Industries Ltd.: *See—*
  - Wood, Herbert H. 3,376,208.
- Canadian Patents and Development Ltd.: *See—*
  - Stedman, Donald F. 3,376,109.
- Canalizo, Carlos R. Gas lift valve. 3,375,846, 4–2–68, Cl. 137—155.
- Cannizzaro, Matthew: *See—*
  - Wines, Warren R., Sturdevant, and Cannizzaro. 3,376,-479.
- Canti, Gustavo: *See—*
  - Domenicali, Benito, and Canti. 3,376,352.
- Caputo, William R., to Westinghouse Electric Corp. Speed-controlled servo-positioner. 3,376,486, 4–2–68, Cl. 318—257.
- Carbone Corp., and Consolidated Spring Corp.: *See—*
  - Eaton, Edgar P., Jr., and Elow. 3,376,444.
- Carla, Dieter: *See—*
  - Seifert, Friedrich, Baxmann, and Carla. 3,376,277.
- Carley, David R., and J. H. Dunn, to Ethyl Corp. Encapsulation of light metal hydrides as rocket propellants. 3,376,-173, 4–2–68, Cl. 149—5.
- Carlos, Donald D., and J. M. Divljak, Jr., to Sinclair Research, Inc. Reclamation of used lubricating oils by sulfuric acid treatment. 3,376,216, 4–2–68, Cl. 208—179.
- Carlson, Donald A., to Basic Products Corp. Inverter circuit having improved control frequency compensating means for producing a regulated A.C. output. 3,376,493, 4–2–68, Cl. 321—45.
- Carlton, Lewis M.: *See—*
  - Robinson, Ivor R., and Carlton. 3,375,718.
- Carmean, Richard C.: *See—*
  - Andrews, Donald E., and Carmean. 3,376,002.
- Carpco Research & Engineering, Inc.: *See—*
  - Carpenter, James H. 3,375,925.
- Carpenter, James H., to Carpco Research & Engineering, Inc. Magnetic separator. 3,375,925, 4–2–68, Cl. 209—214.
- Cartier, Raymond M.: *See—*
  - Artman, Neil R., Cartier, and Whyte. 3,376,326.
- Case, J. I., Co.: *See—*
  - Engelmann, Roger F. 3,376,876.
- Casey, John L.: *See—*
  - Engle, Allen W., Casey, and Brokaw. 3,375,897.
- Cason, Louis F., to Tuskegee Institute. Substituted carboxanilides. 3,376,340, 4–2–68, Cl. 260—562.
- Cassano, James R.: *See—*
  - Mallory, Donald G., Turner, and Cassano. 3,375,779.
- Cassano, James R.: *See—*
  - Turner, Lyman H., and Cassano. 3,375,780.
- Cassel, Lawrence E., to Philco-Ford Corp. Fundamental frequency extractor for voice signals. 3,376,387, 4–2–68, Cl. 179—1.
- Castrol Ltd.: *See—*
  - Elliott, John S., Edwards, and Brazier. 3,376,224.
- Caterpiller Tractor Co.: *See—*
  - Crayton, John W. 3,376,489.
- Cava, Michael P., to Smith Kline & French Laboratories. Synthetic hernandia alkaloid. 3,376,305, 4–2–68, Cl. 260—289.
- Cavanaugh, Ronald C., and D. C. Holmes, to Instron Corp. Materials testing grip. 3,375,710, 4–2–68, Cl. 73—103.
- Cavitron Ultrasonics, Inc.: *See—*
  - Balamuth, Lewis. 3,376,179.
- Cavitron Corp.: *See—*
  - Kuris, Arthur, and Balamuth. 3,375,820.
- Celanese Coatings Co.: *See—*
  - Masters, John E., and Hicks. 3,376,271.
  - Masters, John E., and Hicks. 3,376,272.
  - Masters, John E., and Hicks. 3,376,273.
- Celanese Corp.: *See—*
  - Halek, George W., Berardinelli, and Hendry. 3,376,361.
  - Kirkland, Earl V. 3,376,248.
  - League, James M. 3,375,989.
- Central Electricity Generating Board: *See—*
  - Leason, Dennis B., and Gwalter. 3,376,028.
- Centralny Naoutchno-Issledovatelsky Institut: *See—*
  - Boitchenko, Mikhail S., Foulmakht, Routese, Pravdine, Korotkov, Kaouchansky, Chabanov, and Karpeka. 3,375,862.
- Centre Electronique: *See—*
  - Hetzel, Max. 3,375,652.
- Centre National d'Etudes des Telecommunications: *See—*
  - Zylbersztejn, Albert, and Menoret. 3,376,560.

- Chabanov, Alexandre N.: *See—*
  - Boitchenko, Mikhail S., Foulmakht, Routese, Pravdine, Korotkov, Kaouchansky, Chabanov, and Karpeka. 3,375,862.
- Chadbourn Gotham, Inc.: *See—*
  - Matthews, Robert M., and Kaylor. 3,375,530.
- Chai, Stephen T.: *See—*
  - Wang, Ben C., and Chai. 3,375,963.
- Chambers, Jerome B., and N. Kruger, to American Machine & Foundry Co. Pneumatic conveyor. 3,376,077, 4–2–68, Cl. 302—59.
- Chapman Chemical Co.: *See—*
  - Stutz, Robert E. 3,376,144.
- Chaput, Dale T., and R. A. Haskell, to Aerojet-General Corp. Retarder including a porous wall fluid restricting means. 3,375,908, 4–2–68, Cl. 188—94.
- Charniga, Joseph, Jr. Pipe cleaning cup. 3,375,618, 4–2–68, Cl. 51—391.
- Chase, Paul W., to United States Steel Corp. Method and apparatus for controlling the level of an interface. 3,375,928, 4–2–68, Cl. 210—83.
- Chass, Jacob, to Pickering & Co., Inc. Differential transformers. 3,376,533, 4–2–68, Cl. 336—136.
- Cheek, Forrest R., and R. W. Stapleton, to General Motors Corp. Vacuum modulator. 3,375,838, 4–2–68, Cl. 137—81.
- Chemcel (1963) Ltd.: *See—*
  - Arksey, Graydon W. 3,375,701.
- Chemische Werke Huls Aktiengeselschaft: *See—*
  - Seifert, Friedrich, Baxmann, and Carla. 3,376,277.
- Chen, Alen Y.: *See—*
  - Sheng, Alfredo S., and Chen. 3,376,478.
- Chen, William: *See—*
  - Brothman, Abraham, Halpern, Reiser, Miler, Finkey, and Chen. 3,376,511.
- Cherry, Voner P. R., and R. O. Cox, to Otis Engineering Corp. Subsurface well control apparatus. 3,375,874, 4–2–68, Cl. 166—114.
- Chestnut, George R., Jr., to The Babcock & Wilcox Co. Cooking apparatus with refractory liner. 3,375,816, 4–2–68, Cl. 126—25.
- Chesterley, James I., to Sanders Associates, Inc. Holding device, 3 376 07, 4–2–68, Cl. 248—282.
- Chevron Research Co.: *See—*
  - Anderson, Donald J. 3,376,225.
  - Anderson, Donald J. 3,376,338.
  - Anderson, Robert G., and Donald J. 3,376,220.
  - Criddle, Dean W. 3,376,223.
  - Pasky, Joseph Z. 3,376,262.
  - Rundle, Victor A. 3,376,244.
- Chick, Bruce B. Digital coarse and analog fine time interval measurement. 3,376,504, 4–2–68, Cl. 324—68.
- Chieger, George, to Fruehauf Corp. Roof construction. 3,375,950, 4–2–68, Cl. 220—1.5.
- Childers, Robert W., and R. K. Snow, to Raymond International Inc. Mold bond release coating of PVA and lignitic sulphite waste. 3,376,240, 4–2–68, Cl. 260—17.5.
- Chinoin Cyogyszer-es Vegeszeti Termekek Cyara RT.: *See—*
  - Feher, Odon, Koczka, and Vargha. 3,376,288.
- Chosy, Eugene, and A. Heinrichs, to Fruehauf Corp. Hinged coil well cover. 3,376,062, 4–2–68, Cl. 296—28.
- Cimler, Emil, and E. H. Van Baush, to Hydrocarbon Research, Inc. Air separation process employing work expansion of high and low pressure nitrogen. 3,375,673, 4–2–68, Cl. 62—13.
- Clark, Henry T.: *See—*
  - Creevy, Charles, and Clark. 3,375,948.
- Clark, Jim M., and O. H. Stanbrough. Bait or lure retrieving device. 3,375,602, 4–2–68, Cl. 43—17.2.
- Clark, John M. Process for producing organic polymeric flexible cellular foamed particles. 3,376,366, 4–2–68, Cl. 264—51.
- Clark, Samuel S.: *See—*
  - Forsman, Earl R., and Clark. 3,376,015.
- Clay, Benton, Co.: *See—*
  - Wallace, William K. 3,376,145.
- Clayton, Robert E., and B. M. Vanderbilt, to Esso Research and Engineering Co. Terpolymer compositions and process of producing same. 3,376,188, 4–2–68, Cl. 161—193.
- Clayton, William: *See—*
  - Woodcock, George S., H. E., Simpson, and Clayton. 3,375,-680.
- Clemens, David H., to Rohm & Haas Co. Polyesters derived from adipic acid-isophthalic acid mixtures as plasticizers for vinyl halide polymers. 3,376,242, 4–2–68, Cl. 260—22.
- Clevite Corp.: *See—*
  - Kingsbury, George R., Junge, Weinkamer, and Slater. 3,375,563.
- Coccagna, Edmund G., to Burroughs Corp. Extended bandwidth magnetic recording system with increased storage density. 3,376,566, 4–2–68, Cl. 340—174.1.
- Cocherell, Richard B.: *See—*
  - Pamplin, James B., and Cocherell. 3,375,823.
- Cogar, George R., to Sperry Rand Corp. Hole count checker. 3,376,408, 4–2–68, Cl. 235—61.7.
- Cohen, Murray S.: *See—*
  - Fein, Marvin M., and Cohen. 3,376,347.
- Cohn, Charles C., to Samuel L. and Charles C. Cohn, dba Colonial Alloys Co. 3,376,205, 4–2–68, Cl. 204—35.
- Colbert, John R., to Magnaflux Corp. Piezoelectric ultrasonic transducer. 3,376,438, 4–2–68, Cl. 310—8.2.
- Coldren, Daniel R., and R. R. Lau, to AMP, Inc. Fastener. 3,375,749, 4–2–68, Cl. 85—80.
- Cole, Jimmy R., and P. L. Buller. Seismic cable depth control apparatus. 3,375,800, 4–2–68, Cl. 114—235.
- Cole, John W., to Abbott Laboratories. 3,17-Disubstituted 5,6-dichloro androstanes. 3,376,321, 4–2–68, Cl. 260—397.1.
- Coles, Clarence L. J., and D. J. Trigger, to Glaxo Laboratories Ltd. Soft capsulate aqueous medicament in water-in-oil emulsion form. 3,376,199, 4–2–68, Cl. 167—83.
- Collins Products, Inc.: *See—*
  - Petersen, William E., and Campbell. 3,376,198.
- Collins Radio Co.: *See—*
  - Read, Emanuel F. 3,376,573.
  - Womack, Charles P., and Boomer. 3,376,514.
- Collins, William E., and K. A. Maas, to E. I. du Pont de Nemours and Co. Imide and polyimide solutions. 3,376,150, 4–2–68, Cl. 106—287.
- Colonial Alloys Co.: *See—*
  - Cohn, Charles C. 3,376,205.
- Columbus, Peter S., and R. T. Mason, to The Borden Co. Labeling adhesive. 3,376,148, 4–2–68, Cl. 106—139.
- Comar, Majda: *See—*
  - Ernst, Robert, and Comar. 3,376,333.
- Combustion Engineering, Inc.: *See—*
  - Pandelis, Charles R., Dearing, and Misner. 3,375,706.
- Commissariat A l'Energie Atomique: *See—*
  - Consoli, Terenzio, and Geller. 3,376,469.
- Communication Patents Ltd.: *See—*
  - Thorner, Michael R. L. 3,375,594.
- Compagnie Francaise Thomson Houston-Hotchkiss Brandt: *See—*
  - Beurtheret, Charles A. E. 3,375,868.
- Condon, Eugene H.: *See—*
  - Bletzinger, John C., Condon, and Simons. 3,375,827.
- Conforti, Arthur R., and E. Conforti. Multiple spool wind-up device. 3,375,991, 4–2–68, Cl. 242—66.
- Conforti, Edward: *See—*
  - Conforti, Arthur R, and E. 3,375,991.
- Congy, Marcel. Reinforcement element for beams and poles made from reinforced concrete. 3,375,632, 4–2–68, Cl. 52—648.
- Conley, Albert M.: *See—*
  - Conley, George R. and A. M. 3,375,900.
- Conley, George R. and A. M. Worker support device. 3,375,-900, 4–2–68, Cl. 182—150.
- Conmaco, Inc.: *See—*
  - Myers, Ralph E., and Smith. 3,375,881.
- Connell, John M., and R. C. Johnson, to Foster Wheeler Corp. Insulated wall construction for heated surfaces. 3,375,628, 4–2–68, Cl. 52—309.
- Consoli, Terenzio, and R. Geller, to Commissariat A l'Energie Atomique. Positive ion-source having electron returning means. 3,376,469, 4–2–68, Cl. 315—111.
- Consolidated Papers, Inc.: *See—*
  - Robinson, Roderick. 3,375,967.
- Container Corp. of America: *See—*
  - Freeman, Claude C. 3,375,808.
- Continental Can Co., Inc.: *See—*
  - Duharte-Francia, Carlos A. 3,376,161.
  - Larson, Ralph A., Millar, and Maier. 3,376,180.
  - Larson, Ralph A., Millar, and Maier. 3,376,181.
  - Obidowski, Edmond J. 3,375,798.
  - Sherlock, John G. 3,375,551.
  - Vahle, Raymond. 3,375,955.
  - Weiss, Arthur J. 3,375,968.
- Cook, Leo W., to Borg-Warner Corp. Actuating assembly for friction device. 3,375,910, 4–2–68, Cl. 192—99.
- Cook, Reginald M.: *See—*
  - Shaw, Stuart W. K., and Cook. 3,376,132.
- Cooper, Henry N. Adapter for wrist watch. 3,375,958, 4–2–68, Cl. 224—4.
- Coover, Harry W., Jr., and R. L. McConnell, to Eastman Kodak Co. Purification of stabilizers. 3,376,232, 4–2–68, Cl. 252—400.
- Corbett, Burton, and J. J. Bean, to Miami Copper Co. Differential froth flotation of molybdnite and copper sulfides utilizing "nokes" reagent. 3,375,924, 4–2–68, Cl. 209—167.
- Corl, Donald L., to Exterior Products, Inc. Convertible trailer and supporting post therefor. 3,376,059, 4–2–68, Cl. 287—99.
- Corning Glass Works: *See—*
  - Best, Howard S., and Bowser. 3,375,834.
  - Bomicone, Joseph J., and Rittler. 3,376,122.
  - Smith, William C. 3,376,376.
- Corpew, Charles R., to Stromberg-Carlson Corp. Color character display. 3,376,465, 4–2–68, Cl. 315—10.
- Cowan, Morris. Instrument for providing parallel pin denture anchorage. 3,375,584, 4–2–68, Cl. 32—67.
- Cox, Eugene F., and R. J. Knopf, to Union Carbide Corp. Chlorinated hydroxyl-containing compositions and urethane polymers prepared therefrom. 3,376,281, 4–2–68, Cl. 260—209.
- Cox, Roland O.: *See—*
  - Cherry, Vonner P. R., and Cox. 3,375,874.
- Crabtree, Kenneth L., to Keyes Fibre Co. Full depth carton for large eggs. 3,375,966, 4–2–68, Cl. 229—2.5.
- Craig, Forrest F., Jr.: *See—*
  - Satter, Abdus, Craig, and Geffen. 3,375,870.
- Cramer Industries, Inc.: *See—*
  - Walkinshaw, Thomas G. 3,376,068.
- Crane, Bently A., and J. A. Githens, to Bell Telephone Laboratories, Inc. Two-dimensional associative memory system. 3,376,555, 4–2–68, Cl. 340—172.5.
- Crane Co.: *See—*
  - Applebaum, Samuel B. 3,375,930.
  - Easton, Frank B. 3,375,789.
- Crayton, John W., to Caterpiller Tractor Co. Regulated power supply. 3,376,489, 4–2–68, Cl. 321—2.

- Creevy, Charles, and H. T. Clark, to Glaxo Laboratories Ltd. Vented enclosed glass ampoule and method of making it. 3,375,948, 4-2-68, Cl. 215—32.
- Crenne, Noel: *See—*
  - Amedjian, Garabed, Crenne, and Morel. 3,376,351.
- Crenshaw, William F. Breathing oxygen mask inhalation and exhalation diaphragm valve unit. 3,375,839, 4-2-68, Cl. 137—81.
- Cress, Vernor B., Jr., E. P. Hoyt, R. B. Metz, R. D. Pollock, S. M. Kerber, R. W. Cabe, and P. F. Apitz, to Tamar Electronics Industries, Inc. Traffic control system. 3,376,546, 4-2-68, Cl. 340—37.
- Criddle, Dean W., to Chevron Research Co. Urea containing grease compositions. 3,376,223, 4-2-68, Cl. 252—40.7.
- Criss, Donald H., to Owens-Illinois, Inc. Valve device for plastic extruder. 3,375,553, 4-2-68, Cl. 18—30.
- Crittenden, Geoffrey H., and A. E. Mills, to Pacific Coast Engineering Co. Anti-sway device. 3,375,938, 4-2-68, Cl. 212—13.
- Cross, Alexander D.: *See—*
  - Beard, Colin C., and Cross. 3,376,292.
- Crown Zellerbach Corp.: *See—*
  - Lackey, Homer B. 3,376,203.
- Crowther, Robert H.: *See—*
  - Menzl, Roland L., Marks, and Crowther. 3,376,218.
- Cunningham, Richard A.: *See—*
  - Douillard, Paul A., Jones, Cunningham, and Lucek. 3,376,186.
- Curtis, Frank W., and M. H. Nickerson, to Lexsuco, Inc. Prefabricated foam expansion joints. 3,375,621, 4-2-68, Cl. 52—58.
- Cuvin, Howard: *See—*
  - Atkin, Oliver B., and Cuvin. 3,375,863.
- Dail, Paul D., to Hackett Ceiling Dynamics. Supports for acoustic tile. 3,375,630, 4-2-68, Cl. 52—475.
- Dale, Richard T.: *See—*
  - Kern, Joseph F., Dale, Kern, and Robinson. 3,375,848.
- Danylchuk, Iryne, to Bell Telephone Laboratories, Inc. Magnetic memory sheet. 3,376,561, 4-2-68, Cl. 340—174.
- Data Resolved Tools Pty. Ltd.: *See—*
  - Kelsey, Christopher G. 3,375,568.
- Date, Kazuo H., to McGraw-Edison Co. Repeating circuit interrupter. 3,376,525, 4-2-68, Cl. 335—26.
- Daunt, John G., to Malaker Corp. Matrix system for low temperature engine regenerators. 3,375,867, 4-2-68, Cl. 165—10.
- David, Vernon J. Alternating current electric motor. 3,376,442, 4-2-68, Cl. 310—156.
- Davis, Bayard C., and A. Singer. Thermocouple assembly having a deformable ferrule housing. 3,376,169, 4-2-68, Cl. 136—230.
- Davis, Francis A., Jr., to Paramount Packaging Corp. Side weld bag. 3,375,969, 4-2-68, Cl. 229—53.
- Davis, James E., to Whirlpool Corp. Surface unit. 3,375,819, 4-2-68, Cl. 126—211.
- Davies, Alwyn G., to M & T Chemicals Inc. Triorgano(hydroxyalkylenoxy) tin compounds their trihydrocarbyltin (IV) alcoholate and hydrocarbylether derivatives and the preparation thereof. 3,376,328, 4-2-68, Cl. 260—429.7.
- Deal, Carl H., Jr.: *See—*
  - Freitas, Ernest R., Deal, and Griep. 3,376,356.
- Dean, Robert M., to National Gypsum Co. Fire resistant wallboard. 3,376,147, 4-2-68, Cl. 106—109.
- Dearing, William L., Jr.: *See—*
  - Pandelis, Charles R., Dearing, and Misner. 3,375,706.
- Deeks, Douglas B. Steam boiler blow-down valve. 3,375,855, 4-2-68, Cl. 138—42.
- Deere & Co.: *See—*
  - Browning, Edgar P. 3,375,733.
  - Lemons, David F. 3 375,734.
  - Lohrman, William V. 3,376,050.
  - Love, Mahlon L. 3,375,738.
- Defensor: *See—*
  - Flury, Karl. 3,376,025.
- Degener, Eberhart: *See—*
  - Logemann, Heino, Degener, and Rachwalsky. 3,376,254.
- De Grange, Charles J., and S. F. Gobla, to United States Steel Corp. Method for removing thiophenes from light oil with sulfuric acid. 3,376,217, 4-2-68, Cl. 208—224.
- De Haan, Edward F., and J. Haantjes, to North American Philips Co., Inc. Television camera tube employing a photosensitive target with a transparent member for absorbing reflected light from the target. 3,376,446, 4-2-68, Cl. 313—65.
- Dehydag Deutsche Hydrierwerke G.m.b.H.: *See—*
  - Gundel, Wolfgang. 3,376,308.
- De Leeuw, Gerrit, to N.V. Vereenigde Glasfabrieken (United Glassworks). Glass molding device. 3,376,123, 4-2-68, Cl. 65—308.
- Delgado, Carmen: *See—*
  - Delgado, Salvador V. and C. 3,376,141.
- Delgado, Salvador V. and C. Process for preserving bananas. 3,376,141, 4-2-68, Cl. 99—154.
- Dell, Jack M., and P. F. Plomb, to International Harvester Co. Dual sealed track joint. 3,376,081, 4-2-68, Cl. 305—11.
- Demo, Max J. Turbine driven drill bit. 3,375,889, 4-2-68, Cl. 175—106.
- Dermer, Otis C.: *See—*
  - Lane, Robert E., Frazier, and Dermer. 3,376,344.
- Deatech Labs, Inc.: *See—*
  - Lee, Patrick P. 3,376,031.
- Detrick, M. H., Co.: *See—*
  - Merkle, Frank P., Jr. 3,375,795.
- Diassi, Patrick A., to E. R. Squibb & Sons, Inc. 4α,8,14-trimethyl-18-nor-12,5α,8α,9β,14β-androstene-Δ3α-ol-one and derivatives thereof. 3,376,324, 4-2-68, Cl. 260—397.3.
- Diebold, Alfred E., to Hazeltine Research, Inc. Radar sector gate apparatus. 3,376,571, 4-2-68, Cl. 343—16.
- Diery, Helmut: *See—*
  - Kuhne, Rudolf, Diery, and Grossmann. 3,376,299.
- Digital Equipment Corp.: *See—*
  - Kotok, Alan, and Bell. 3,376,554.
- Dilley, William G. Single-ended, push-pull transistor audio amplifier. 3,376,515, 4-2-68, Cl. 330—15.
- Dion Freres Inc.: *See—*
  - Dion, Narcisse. 3,375,646.
- Dion, Narcisse, to Dion Freres Inc. Corn harvester. 3,375,646, 4-2-68, Cl. 56—98.
- Divijak, Joseph M., Jr.: *See—*
  - Carlos, Donald D. and Divijak. 3,376,216.
- Dixon, Allen L., and C. R. Fitz Gerald, to Master-Craft Corp. Tray with tiltable ends for record cards. 3,375,830, 4-2-68, Cl. 129—16.
- Dodgen Industries, Inc.: *See—*
  - Dodgen, Joe W., Johnson, and Snapp. 3,375,986.
  - Dodgen, Joe W., Johnson, and Snapp. 3,375,987.
  - Dodgen, John N., and Johnson. 3,375,985.
- Dodgen, Joe W., K. R. Johnson, and M. D. Snapp, to Dodgen Industries, Inc. Roller mill. 3,375,986, 4-2-68, Cl. 241—222.
- Dodgen, Joe W., K. R. Johnson, and M. D. Snapp, to Dodgen Industries, Inc. Roller mill. 3,375,987, 4-2-68, Cl. 241—232.
- Dodgen, John N., and K. R. Johnson, to Dodgen Industries, Inc. Feed grinding, mixing and dispensing machine. 3,375,985, 4-2-68, Cl. 241—98.
- Doggart, John, to V & E Friedland Ltd. Electrical signalling devices. 3,375,803, 4-2-68, Cl. 116—169.
- Dolgorukov, Gregory S. Drafting instrument. 3,375,589, 4-2-68, Cl. 33—104.
- Domeneghetti, Lara. Folding and automobile-transportable camping tent. 3,375,836, 4-2-68, Cl. 135—1.
- Domenicali, Benito, and G. Canti, to Montecatini Edison S.p.A. Process for producing hydroquinone from p-dialkyl-benzene-bis-hydroperoxides. 3,376,352, 4-2-68, Cl. 260—621.
- Domino, John A. Reading stand. 3,376,009, 4-2-68, Cl. 248—456.
- Domtar Ltd.: *See—*
  - Mains, Frank, and Hardman. 3,375 538.
- Donald, Forrest A., to Barnes Mfg. Co. Tank wafer. 3,375,951, 4-2-68, Cl. 220—26.
- Donroe, William E., to Garlock Inc. Coupling for beadless-end pipes. 3,376,055, 4-2-68, Cl. 285—236.
- Dorn, Russell J., to Arrow Mfg. Co. Tractor auger-type backfiller. 3,375,878, 4-2-68, Cl. 172—71.
- Dorr-Oliver Inc.: *See—*
  - Albertson, Orris E., and Kilmer. 3,375,794.
- Doudlebsky, Ctibor: *See—*
  - Bures, Ladislav, Doudlebsky, and Barsukov. 3,375,649.
- Douglas, Hunter, International, Ltd.: *See—*
  - Flick, Antonius A. 3,375,961.
- Douglass, Paul W., and J. E. Koehler, to The Gillette Co. Safety razor magazine. 3,375,577, 4-2-68, Cl. 30—40.1
- Douillard, Paul A., R. W. Jones, R. A. Cunningham, and J. R. Lucek, to General Electric Co. Centrifugally cast hollow glass body. 3 376,186, 4-2-68, Cl. 161—42.
- Dow Chemical Co., The: *See—*
  - Burger, Joanne D., and Howard. 3,376,315.
  - Callihan, Clayton D., and Boudreaux. 3,376,285.
  - Frevel, Ludo K., and Kressley. 3,376,113.
  - Hennes, John H. 3,376,251.
  - Lane, Robert E., Frazier, and Dermer. 3,376,344.
  - Le Blanc, Robert B. 3,376,160.
  - Peiser, Donald L., and Parrish. 3,376,252.
  - Wen, Richard Y. 3,376,350.
- Drake, Robert B. Retractable hitch for tilting bed truck. 3,375,946, 4-2-68, Cl. 214—505.
- Dransfield, Clifford D.: *See—*
  - Woods, John P., Dransfield, and Barta. 3,375,574.
- Drennen, Thomas J., and L. E. Kelley, to Rohm & Haas Co. Treatment of siliceous fibers with aqueous mixtures of various unsaturated poly-imidazoline anchoring agents and resulting article. 3,376,159, 4-2-68, Cl. 117—126.
- Dresser Industries, Inc.: *See—*
  - Engle, Allen W., Casey, and Brokaw. 3,375,897.
  - Porter, Forrest V. 3,376,375.
- Driver, James E., Sr.: *See—*
  - Klein, Robert E., and Driver. 3,375,576.
- Dubied, Edouard et Cie (Societe Anonyme): *See—*
  - Joseph, Pierre. 3,375,683.
- Dubusker, William, P. R. Robertson, A. A. Oliver, Jr., J. G. Bennett, Jr., and M. E. Schmidt, to McDonnell Aircraft Corp. Fluxless brazing of aluminum heat exchangers. 3,375,570, 4-2-68, Cl. 29—472.3.
- Duharte-Francia, Carlos A., to Continental Can Co., Inc. Composition for imparting anti-scuff properties to a fibrous article and the resulting article. 3,376,161, 4-2-68, Cl. 117—161.
- Dungler, Julien, to K. E. Merckle. Apparatus for purification of gases. 3,375,638, 4-2-68, Cl. 55—116.
- Dunlap, Elizabeth H.: *See—*
  - Dunlap, Ralph E. and E. H. 3,376,042.
- Dunlap, Ralph E. and E. H. Game piece and spanner connector game apparatus. 3,376,042, 4-2-68, Cl. 273—130.
- Dunn, George L., to Smith Kline & French Laboratories. Method of ameliorating the effects of and preventing influenza infections. 3,376,196, 4-2-68, Cl. 167—65.

- Dunn, James H.: *See—*
  - Carley, David R., and Dunn. 3,376,173.
- Dunn, Wendell E., Jr., and J. F. Maurer, to E. I. du Pont de Nemours and Co. Production of chlorine through oxidation of film of ferric chloride salt complex. 3,376,112, 4-2-68, Cl. 23—219.
- Du Pont de Nemours, E. I., and Co.: *See—*
  - Bauer, Carl R. 3,376,341.
  - Buser, Kenneth R. 3,376,158.
  - Collins, William E., and Maas. 3,376,150.
  - Dunn, Wendell E., Jr., and Maurer. 3,376,112.
  - Fisher, Charles F. 3,376,369.
  - Fritz, Charles G. 3,376,260.
  - Fuller, Mack F. 3,376,237.
  - Gall, Walter G. 3,376,233.
  - Hoegger, Erhard F., and Werntz. 3,376,266.
  - Hude, Karl V., and Powers. 3,375,988.
  - Knoth, Walter H., Jr. 3,376,348.
  - Kuespert, Don R. 3,376,372.
  - McShane, Herbert F., Jr. 3,376,230.
  - Meelheim, Richard Y. 3,376,249.
  - Pruckmayr, Gerfried. 3,376,267.
  - Roland, John R. 3,376,306.
  - Sausen, George N. 3,376,117.
  - Seide, Sigrid. 3,376,136.
- Dura Corp.: *See—*
  - Swick, George E., Jr. 3,375,905.
- Durrenmatt, Fred. Wheel structure with reversible rims. 3,376,076, 4-2-68, Cl. 301—13.
- Dury, Karl: *See—*
  - Reicheneder, Franz, Dury, and Fischer. 3,376,128.
- Duvall, Harold A.: *See—*
  - Batt, Thomas N., and Duvall. 3,376,400.
- Dye, Robert E.: *See—*
  - McEven, Albert H., Whiteborn, Dye, and Murphy. 3,376,507.
- Dynamic Instrument Corp.: *See—*
  - Mas, Joseph A. 3,376,491.
- Dyson, Howard W. Disintegrating material in a liquid carrier and separating the same. 3,375,776, 4-2-68, Cl. 100—72.
- E.F.L., Inc.: *See—*
  - Peters, William J. 3,376,413.
- EG & G, Inc.: *See—*
  - Rutland, David F., Palmer, and Blase. 3,376,416.
- Eastman Kodak Co.: *See—*
  - Abbott, John R., and Salminen. 3,376,310.
  - Coover, Harry W., Jr., and McConnell. 3,376,232.
  - Gandy, Gerald C., and Salo. 3,376,149.
  - Jackson, Winston J., Jr., and Caldwell. 3,376,261.
  - Jeffreys, Roy A., and E. A. and R. B. Morris. 3,375,929.
  - Newland, Gordon C., and Tamblyn. 3,376,250.
  - Roman, Robert J. 3,375,995.
  - Schleven, Stanley R. 3,375,744.
  - Stahly, Frederick A., and Goehring. 3,376,134.
  - Valentine, David L., and Finney. 3,376,246.
- Easton, Frank B., to Crane Co. Split case submersible pump. 3,375,789, 4-2-68, Cl. 103—102.
- Eaton, Edgar P., Jr., and D. Elow, to Carbone Corp., and Consolidated Spring Corp. Carbon brush assembly. 3,376,444, 4-2-68, Cl. 310—249.
- Eaton Stamping Co.: *See—*
  - Hamman, Lyle J. 3,375,813.
  - Hamman, Lyle J. 3,375,814.
- Ebauches S.A.: *See—*
  - Soder, Robert. 3,376,082.
- Eberle, Byron T., to Abbott Laboratories. Method for measuring the binding capacity of serum proteins. 3,376,114, 4-2-68, Cl. 23—230.
- Edkins, John E., A. C. Krueger, and P. A. Rieder, to Medallist Industries, Inc. Door seal. 3,375,625, 4-2-68, Cl. 52—173.
- Edwards, Eric D.: *See—*
  - Elliott, John S., Edwards, and Brazier. 3,376,224.
- Egland, Lawrence H.: *See—*
  - Ritchey, Jack L., Brownlee, and Steed. 3,376,184.
- Eguchi, Takashi, T. Yamamoto, S. Yamauchi, M. Kuraishi, and K. Asakawa, to Japan Gas-Chemical Co., Inc. Process for the catalytic synthesis of methoval. 3,376,332, 4-2-68, Cl. 260—449.5.
- Eichinger, Robert L., and R. T. Begley, to Westinghouse Electric Corp. Method of manufacture of structures having controlled porosity. 3,375,569, 4-2-68, Cl. 29—419.
- Eichorn, Roger H., to Xerox Corp. Xerographic developer. 3,375,807, 4-2-68, Cl. 118—637.
- Electronics Corp. of America: *See—*
  - Giuffrida, Philip, and Cade. 3,376,099.
- Electro-Optical System, Inc.: *See—*
  - Osugi, Fred S. 3,376,490.
- Elks, Joseph, and E. J. Bailey, to Glaxo Laboratories Ltd. 17-Acylates of 9α-fluoro-11β,17α-dihydroxy-16-methyl-1,4-pregnadiene-3,20-dione and corresponding-11-keto steroids and pharmaceutical compositions thereof. 3,376,193, 4-2-68, Cl. 167—65.
- Elliott, John S., E. D. Edwards, and A. D. Brazier, to Castrol Ltd. Lubricating compositions and antioxidants therefor. 3,376,224, 4-2-68, Cl. 252—47.5.
- Ellis, Charles R., and A. L. Baker, to Keuffel & Esser Co. Three axis optical alignment device. 3,375,750, 4-2-68, Cl. 88—14.
- Elow, David: *See—*
  - Eaton Edgar P., Jr., and Elow. 3,376,444.
- Emmer, Thomas L., to Radiation Instrument Development Laboratory. Low frequency oscillator circuit. 3,376,518, 4-2-68, Cl. 331—111.
- Enenkel, Hans-Joachim: *See—*
  - Unger, Richard, Sommer, Schorscher, and Enenkel. 3,376,312.
- Energy Conversion Devices, Inc.: *See—*
  - Robbins, Lionel. 3,376,433.
- Engborg, Nelson E., and R. C. Beltz, to Barnes Engineering Co. Negative and print densitometer. 3,375,751, 4-2-68, Cl. 88—14.
- Engelman, Roger F., to J. I. Case Co. Draft sensing method and apparatus. 3,376,876, 4-2-68, Cl. 172—1.
- Engle, Allen W., J. L. Casey, and A. P. Brokaw, to Dresser Industries, Inc. Waveform converter for acoustic well logging tools. 3,375,897, 4-2-68, Cl. 181—.5.
- English Electric Co. Ltd., The: *See—*
  - Rizk, Waheeb, Bolesworth, Keer, and Waldron. 3,376,017.
- Erdolchemie Gesellschaft mit beschrankter Haftung: *See—*
  - Bruns, Ludwig, and Schnuchel. 3,376,119.
- Ergenc Sahabettin: *See—*
  - Trepp, Christian, and Ergenc. 3,375,675.
- Ericson, Harry A. H., to Patent-Serm AG. Electro-deposition of nickel and electrolytes therefor. 3,376,207, 4-2-68, Cl. 204—49.
- Erner, William E., to The Upjohn Co. Vinyl alkanoate-alkyl maleamate copolymers as surfactants for polyurethanes. 3,376,236, 4-2-68, Cl. 260—2.5.
- Ernst, Robert, and M. Comar, to Textilana Corp. Sulfuric acid esters of linear secondary alcohol ethoxylates and salts thereof and method of producing same. 3,376,333, 4-2-68, Cl. 260—458.
- Eschweiler Bergwerks-Verein: *See—*
  - Klein, Heinrich. 3,375,550.
- Esso Research and Engineering Co.: *See—*
  - Bearden, Roby, Jr., and Pine. 3,376,362.
  - Bieber, Herman, Taylor, and Spenadel. 3,376,318.
  - Clayton, Robert E., and Vanderbilt. 3,376,188.
  - Kroll, Wolfram R. 3,376,331.
  - Kroll, Wolfram R., and Long. 3,376,354.
  - Lovett, John R., and Rosenblatt. 3,376,108.
  - Wallace, Thomas J. 3,376,313.
- Estkowski, Michael H., and J. L. D. Morrison; said Estkowski, assor. to V-M Corp. Record changer spindle. 3,376,043, 4-2-68, Cl. 274—10.
- Esveldt, Cornelis J.: *See—*
  - Van Driel, Gerrit A. H., Esveldt, and Joosten. 3,376,227.
- Etat Francais represente par le Ministre des Armees Delegation Ministrerielle Pour l'Armement: *See—*
  - Napoly, Claude, Humbert, and Lamboley. 3,376,174.
- Ethyl Corp.: *See—*
  - Carley, David R., and Dunn. 3,376,173.
  - Kobetz, Paul, and Shapiro. 3,376,329.
- European Atomic Energy Community (Euratom): *See—*
  - Beucherie, Pierre, and Wurm. 3,376,231.
- Evteev, Dmitry P.: *See—*
  - Bolchenko, Mikhail S., Evteev, Kaushansky, Karpeka, Orlova, Pravdin, Savchenko, Fisjun, Fulmakht, and Shabanov. 3,375,865.
  - Butkevich, Vladimir A., Evteev, Kaushansky, Karpeka, Korotkov, Pravdin, Rutes, Fulmakht, and Fisjun. 3,375,864.
- Executone, Inc.: *See—*
  - Sontag, Howard M. 3,376,506.
- Exercycle Corp.: *See—*
  - Impellizzeri, Julius S., Hahn, and Burian. 3,375,717.
- Exterior Products, Inc.: *See—*
  - Corl, Donald L. 3,376,059.
- FMC Corp.: *See—*
  - Weil, Theodor, and Stange. 3,376,319.
- Fabri-Tek Inc.: *See—*
  - Rausch, William V. 3,375,804.
  - Walstrom, Leslie R. 3,375,564.
- Fabrique d'horlogerie Chs. Tissot et fils S.A.: *See—*
  - Jeanmonod, Maurice. 3,375,654.
- Fair, Donald G. Interrogatory telemetering system and apparatus. 3,376,389, 4-2-68, Cl. 179—2.
- Fairbanks, Henry N., and T. M. Madigan, Jr., to Itek Corp. Copyboard lighting system. 3,375,752, 4-2-68, Cl. 88—24.
- Fairfield Engineering and Mfg. Co.: *See—*
  - Blough, Ronald S. 3,375,809.
- Fant, Gunnar. Circuit arrangement for varying the band width of a filter in dependence of the voice fundamental frequency. 3,376,386, 4-2-68, Cl. 179—1.
- Farbenfabriken Bayer Aktiengesellschaft: *See—*
  - Gollasch, Karl, Pelster, Muhlbauer, Heiss, and Scheinpflug. 3,376,335.
  - Gottschlich, Alois, and Freytag. 3,376,280.
  - Logemann, Heino, Degener, and Rachwalsky. 3,376,254.
  - Wagner, Kuno, Scheurlen, and Kritzler. 3 376,255.
  - Wieden, Horst, Brenschede, Lenz, Rellensmann, and Nischk. 3,376,264.
- Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning: *See—*
  - Fuchs, Otto, and Troster. 3,376,303.
  - Kuhne, Rudolf, Diery, and Grossmann. 3,376,299.
- Farley, James N.: *See—*
  - Boettcher, Stephen A., and Farley. 3 375,614.
- Farney, Leonard C., to Polaroid Corp. Color diffusion transfer elements and processes. 3,376 137, 4-2-68, Cl. 96—29.
- Farrell, Richard R., to Universal Lubrication Systems, Inc. Lubricated rotatable device. 3,375,901, 4-2-68, Cl. 184—1.
- Fastener Corp.: *See—*
  - Novak, Raymond F., and Ramspeck. 3,375,758.
- Fechant, Louis J.: *See—*
  - Bazi, Jules, and Fechant. 3,376,401.

Federal-Mogul Corp.: *See*—
  Flynn, Joseph M., and Le Brasse. 3,376,183.
Fee, Glenn R. Amphibious device. 3,375,801, 4-2-68, Cl. 115—2.
Feezel, James M., to Standard Oil Co. Process employing centrifugal separation of a catalyst complex from polymerized hydrocarbons. 3,376,360, 4-2-68, Cl. 260—683.15.
Feher, Odon, I. Koczka, and L. Vargha, to Chinoin Gyogyszeres Vegyeszeti Termekek Gyara RT. Phenyl pyrazole carbonyl substitute 6-amino penicillanic acids. 3,376,288, 4-2-68, Cl. 260—239.1.
Fehr, Joseph A., Jr., to General Electric Co. Electric power busway with phase collection and branch take-off means. 3,376,377, 4-2-68, Cl. 174—72.
Fehrenbach, Horst: *See*—
  Wolber, Robert, Hettich, Fehrenbach, Armbruster, and Assmus. 3,375,653.
Fein, Marvin M.: *See*—
  Schwartz, Nelson N., and Fein. 3,376,346.
Fein, Marvin M., and M. S. Cohen, to Thiokol Chemical Corp. Mono- and di-c-halogenated meta- and paracarborane. 3,376,347, 4-2-68, Cl. 260—606.5.
Feinstein, Joseph, to S-F-D Laboratories, Inc. Crossed field microwave tube having toroidal helical slow wave structure formed by a plurality of spaced slots. 3,376,463, 4-2-68, Cl. 315—3.5.
Felix, Michael O., to Ampex Corp. Recorder having offset heads to record sync pulses in line for crosstalk reduction. 3,376,383, 4-2-68, Cl. 178—6.6.
Fenton, Russell S. Photocell target with indexed target disk. 3,376,039, 4-2-68, Cl. 273—101.1.
Ferro Corp.: *See*—
  Ricker, Richard W. 3,375,615.
Fiber Industries, Inc.: *See*—
  Turnbull, John. 3,375,560.
Field, Ruth C. Sanitary napkin structure and/or support means therefor. 3,375,826, 4-2-68, Cl. 128—289.
Fielding, Harold C., to Imperial Chemical Industries Ltd. Process for preparing poly fluoro and phenol anilines. 3,376,345, 4-2-68, Cl. 260—577.
Fink, Lester S., to General Extrusions, Inc. Method and apparatus for making spiral fluted tubing. 3,375,690, 4-2-68, Cl. 72—64.
Finkey, Stephen F.: *See*—
  Brothman, Abraham, Halpern, Reiser, Miller, Finkey, and Chen. 3,376,511.
Finkhauser, Dieter, and G. Massow, to Siemens Aktiengesellschaft. Connection layout for a telephone installation with keys. 3,376,391, 4-2-68, Cl. 179—16.
Finney, Dean C.: *See*—
  Valentine, David L., and Finney. 3,376,246.
Fiore, Joseph P., to The Rauland Corp. Method of coating cathode-ray tubes. 3,376,153, 4-2-68, Cl. 117—33.5.
Fire Boss, Inc.: *See*—
  Wesson, Harold R. 3,375,875.
Fischer, Heinz G., to Westinghouse Electric Corp. Axially spaced transformer pancake coils having static plate. 3,376,530, 4-2-68, Cl. 336—70.
Fischer, Heinz G., and C. J. Bell, to Westinghouse Electric Corp. Electrical inductive apparatus with wire cloth shielding means. 3,376,531, 4-2-68, Cl. 336—70.
Fischer, Josef, H. Krautwald, and W. Hubner, to Siemens Aktiengesellschaft. Electrical relay and contact arrangement therefor. 3,376,526, 4-2-68, Cl. 335—197.
Fisher, Charles F., to E. I. du Pont de Nemours and Co. Process for making molecular oriented fibers of polymerized lactams. 3,376,369, 4-2-68, Cl. 264—176.
Fisher, James L., to General Motors Corp. Carburetor fuel bowl float. 3,376,026, 4-2-68, Cl. 261—70.
Fisher, John L., to The McGraw-Edison Co. Housing for electrical apparatus. 3,376,086, 4-2-68, Cl. 312—100.
Fisjun, Alexandr K.: *See*—
  Butkevich, Vladimir A., Evteev, Kaushansky, Karpeka, Korotkev, Pravdin, Rutes, Fulmakht, and Fisjun. 3,375,864.
  Boichenko, Mikhail S., Evteev, Kaushansky, Karpeka, Orlova, Pravdin, Savchenko, Fisjun, Fulmakht, and Shabanov. 3,375,865.
Fitton, David L., to United Aircraft Corp. Attachment means for turbofan low compressor assembly. 3,375,971, 4-2-68, Cl. 230—133.
Fitz Gerald, Charles R.: *See*—
  Dixon, Allen L., and Fitz Gerald. 3,375,830.
Fitzhenry, Glenn, and D. R. Schif, to Schif Enterprises, Inc. Swingdown drain trough. 3,375,851, 4-2-68, Cl. 137—396.
Flannery, William E., to Sperry Rand Corp. Thin magnetic film impedance transformer. 3,376,520, 4-2-68, Cl. 333—34
Fleisher, Marvin B., and P. E. Hixon, to Itek Corp. Film processing apparatus. 3,375,593, 4-2-68, Cl. 34—155.
Flick, Antonius A., to Douglas, Hunter, International, Ltd. Control for feeding device. 3,375,961, 4-2-68, Cl. 226—32.
Florjancic, Peter. Actuator, particularly for a mold in an injection-molding machine. 3,375,757, 4-2-68, Cl. 91—189.
Flury, Karl, to Defensor. Equipment for humidifying air. 3,376,025, 4-2-68, Cl. 261—29.
Flynn, Joseph M., and G. J. Le Brasse, to Federal-Mogul Corp. Method of making a composite bearing material. 3,376,183, 4-2-68, Cl. 156—244.
Folmar, Earl T. Electric barbecue machine. 3,375,775, 4-2-68, Cl. 99—446.
Fontaine, Michel A., to Vibratechniques S.A. Pneumatic vibrators without bearings. 3,376,021, 4-2-68, Cl. 259—1.
Ford, John P., to North American Rockwell Corp. Magnetic tape signal quantizer. 3,376,549, 4-2-68, Cl. 340—172.5.
Ford, John. Manufacture of needled and non-woven felts for use in the papermaking and analogous trades. 3,375,561, 4-2-68, Cl. 28—72.2.
Foremost Dairies, Inc.: *See*—
  Norris, Asam B., Jr. 3,375,913.
Forslund Pump and Machinery Co., Inc.: *See*—
  Solas, John L., and Gadd. 3,375,788.
Forsman, Earl R., and S. S. Clark, to Keystone Valve Corp. High pressure disc valve. 3,376,015, 4-2-68, Cl. 251—306.
Forster, Klaus W.: *See*—
  McCready, Ross B., and Forster. 3,375,945.
Fortuna-Werke Spezialmaschinfabrik Aktiengesellschaft: *See*—
  Voeller, Rolf. 3,375,732.
Foster, Harold M., and J. R. Kilsheimer, to Mobil Oil Corp. Certain substituted pyridylamides and pyridylureas. 3,376,309, 4-2-68, Cl. 260—295.
Foster, John R., to Von Duprin, Inc. Key-actuated knob detent device. 3,375,687, 4-2-68, Cl. 70—150.
Foster Wheeler Corp.: *See*—
  Connell, John M., and Johnson. 3,375,628.
Foulmakht, Veniamine V.: *See*—
  Boltchenko, Mikhail S., Foulmakht, Routese, Pravdine, Korotkov, Kaouchansky, Chabanov, and Karpeka. 3,375,862.
Fouse, Frederick Z., to Anchor Hocking Glass Corp. Dead plate conveyor for glass machines. 3,375,915, 4-2-68, Cl. 198—24.
Fox, Harold L., and F. R. Goldschmied, to Sperry Rand Corp. Multi-mode fluid device. 3,375,840, 4-2-68, Cl. 137—81.5.
Frakes, James H.: *See*—
  Sonnenberg, Charles F., and Frakes. 3,376,379.
Fram Corp.: *See*—
  Rodman, Clarke A. 3,375,933.
Francis, Charles B. Foldable aerial toy composed of two blades hinged end to end. 3,375,606, 4-2-68, Cl. 46—86.
Francis, William C., and D. L. Burdick, to Gulf Oil Corp. Method of producing triallylic isocyanurates. 3,376,301, 4-2-68, Cl. 260—248.
Frank, Donald H., to Nuclear-Chicago Corp. Neutron activation spectrometry system. 3,376,420, 4-2-68, Cl. 250—83.3.
Franklin, Chester A., to International Telephone and Telegraph Corp. Permanent magnet assembly means for correction of pincushion distortion in cathode ray tubes. 3,376,450, 4-2-68, Cl. 313—84.
Franklin, Robert F., and J. J. McArtney, to Wagner Electric Corp. Mounting means for electron discharge electrodes. 3,376,445, 4-2-68, Cl. 313—39.
Franzen, Gustav, to Palitex Project-Co. G.m.b.H. Unwinding aid for double twist spindles. 3,375,648, 4-2-68, Cl. 57—58.83.
Frazier, William P.: *See*—
  Lane, Robert E., Frazier, and Dermer. 3,376,344.
Freeland, John W. Process of forming alkaline earth soap compositions. 3,376,327, 4-2-68, Cl. 260—413.
Freeman, Claude C., to Container Corp. of America. Carton for insects. 3,375,808, 4-2-68, Cl. 119—19.
Freeman, Raymond, to Varian Associates. Signal processing apparatus for facilitating the display of fine structure in gyromagnetic resonance signals. 3,376,499, 4-2-68, Cl. 324—.5.
Freier, Gerald H., to V-M Corp. Record changer spindle. 3,376,044, 4-2-68, Cl. 274—10.
Freitas, Ernest R., C. H. Deal, Jr., and R. K. Griep, to Shell Oil Co. Sorption process. 3,376,356, 4-2-68, Cl. 260—674.
Freudenschuss, Otto, to K. Vockenhuber and R. Hauser. Sound recording apparatus. 3,376,093, 4-2-68, Cl. 352—25.
Frevel, Ludo K., and L. J. Kressley, to The Dow Chemical Co. Catalytic hydrolysis of phosgene. 3,376,113, 4-2-68, Cl. 23—219.
Freytag, Karl-Heinz: *See*—
  Gottschlich, Alois, and Freytag. 3,376,280.
Freytag, Richard W., to General Dynamics Corp. Ferroacoustic memory apparatus. 3,376,558, 4-2-68, Cl. 340—173.
Fridenberg, Anna E.: *See*—
  Syrkin, Vitaly G., and Tolmassky. 3,376,129.
Fried, John H., to Syntex Corp. 17a-dihalopregneno[3,2-c] pyrazoles and process for their preparation. 3,376,291, 4-2-68, Cl. 260—239.5.
Fried, John H., to Syntex Corp. 17a-dihalomethyl steroids and process for their preparation. 3,376,323, 4-2-68, Cl. 260—397.3.
Frind, Gerhard: *See*—
  Narbus, Joseph J., and Frind. 3,376,459.
Fritz, Charles G., to E. I. du Pont de Nemours and Co. Process for preparing polyimides from diamines and dianhydrides in the presence of a basic catalyst. 3,376,260, 4-2-68, Cl. 260—47.
Fritzmeier, Georg, KG.: *See*—
  Tschursch, Arnold. 3,376,008.
Fromknecht, Charles T., to The Singer Co. Vacuum cleaners with combined hose connectors and housing latches. 3,875,541, 4-2-68, Cl. 15—327.
Frommer, Joseph C., and W. L. Rhodes, to Hurletron Inc. Color detection apparatus for multiple color printing. 3,376,426, 4-2-68, Cl. 250—226.
Fruehauf Corp.: *See*—
  Chieger, George. 3,375,950.
  Chosy, Eugene, and Heinrichs. 3,376,062.
  Hulverson, Adrian F. 3,376,063.
Fryer, Rodney I., and L. H. Sternbach, to Hoffmann-La Roche Inc. Process for preparing benzodiazepines. 3,376,290, 4-2-68, Cl. 260—239.3.

Fuchs, Otto, and H. Troster, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Benzothioxanthene dyestuffs and process for preparing them. 3,376,303, 4-2-68, Cl. 260—288.
Fujimura, Masanori, Y. Kasahara, T. Iguchi, Y. Matsuo, H. Sasaki, K. Nagase, S. Nayakawa, and Y. Iida, to Matsushita Electric Industrial Co., Ltd. Fully automatic electric coffee pot. 3,375,774, 4-2-68, Cl. 99—281.
Fujita, Norimasa: *See*—
  Ishida, Shinichi, Sato, and Fujita. 3,376,263.
Fuller, Mack F., to E. I. du Pont de Nemours and Co. Foamed polylactam containing surfactant. 3,376,237, 4-2-68, Cl. 260—2.5.
Fulmakht, Veniamin V.: *See*—
  Butkevich, Vladimir A., Evteev, Kaushansky, Karpeka, Korotkev, Pravdin, Rutes, Fulmakht, and Fisjun. 3,375,864.
  Blochenko, Mikhail S., Evteev, Kaushansky, Karpeka, Orlova, Pravdin, Savchenko, Fisjun, Fulmakht, and Shabanov. 3,375,865.
Fulton, Bertram A., to Metal Edge Industries. Apparatus for forming boxes. 3,375,761, 4-2-68, Cl. 93—41.1.
GREFCO, Inc.: *See*—
  Martin, Carl C., Goodhue, and Rengel. 3,375,922.
Gadd, Harold A.: *See*—
  Solas, John L., and Gadd. 3,375,788.
Gagnon, Robert. Portable electric welding device. 3,376,538, 4-2-68, Cl. 338—231.
Gaines, William M., to The Singer Co. Pattern attachment for tufting machines. 3,375,797, 4-2-68, Cl. 112—79.
Gajek, Conrad: *See*—
  Bayerlein, Friedrich, Keller, Mahling, Becker, Gajek, and Wilhelm. 3,376,275.
Gal, George, and M. Sletzinger, to Merck & Co., Inc. Lower alkyl gamma Keto acid 2-pyranyl esters. 3,376,316, 4-2-68, Cl. 260—345.8.
Galls Mfg. Co.: *See*—
  Pyles, Harley G., and Albright. 3,375,880.
Gall, Walter G., to E. I. du Pont de Nemours and Co. Benzobis-triazole polymers. 3,376,233, 4-2-68, Cl. 260—2.
Gallagher, Francis J. Model plane flight control device. 3,375,605, 4-2-68, Cl. 46—77.
Gallen, Thomas J.: *See*—
  Whitaker, Douglas C., and Gallen. 3,376,156.
Gandy, Gerald C., and M. Salo, to Eastman Kodak Co. Preparation of carbon black dispersion for producing a high optical density of cellulose acetate film base. 3,376,149, 4-2-68, Cl. 106—193.
Garcia, Emilio C. Offshore marine structures. 3,375,669, 4-2-68, Cl. 61—46.5.
Garcia, Geronimo. Finger holder for cigarettes and the like. 3,375,833, 4-2-68, Cl. 131—258.
Garlock Inc.: *See*—
  Buckley, Frederick H., and Langyel. 3,376,014.
  Donroe, William E. 3,376,055.
Garrett Corporation, The: *See*—
  Balcom, Orville R., Jr. 3,375,771.
  Ludwig, Walter F. 3,375,663.
Garske, Friedrich, to J. P. Bemberg, Aktiengesellschaft. Apparatus for the beaming and winding of thread bolts and material webs. 3,375,992, 4-2-68, Cl. 242—75.51.
Gaudry, Leon A., to Salem Equipment, Inc. Wood chipping apparatus. 3,375,859, 4-2-68, Cl. 144—172.
Gavasso, Louis J.: *See*—
  Pasinski, Ralph R., Pasinski, R. A., and Gavasso. 3,375,877.
Gebrüder, Junghans Aktiengesellschaft: *See*—
  Wolber, Robert, Hettich, Fehrenbach, Armbruster, and Assmus. 3,375,653.
Geffen, Theodore M.: *See*—
  Satter, Abdus, Craig, and Geffen. 3,375,870.
Gehrig, Neil E., to Atlas Chemical Industries, Inc. Aqueous inorganic nitrate salt slurry containing nitric acid and entrapped air. 3,376,176, 4-2-68, Cl. 149—46.
Geigy Chemical Corp.: *See*—
  Greengard, Paul. 3,376,192.
  Klemchuk, Peter P. 3,376,256.
Geigy, J. R., A.G.: *See*—
  Grauer, Theodor. 3,376,302.
  Gysling, Hermann, and Peterli. 3,376,258.
  Schwander, Hans R., Jung, and Hindermann. 3,376,320.
Gelardi, Joseph T.: *See*—
  Marks, Theodore, and Gelardi. 3,376,073.
Geller, Richard: *See*—
  Consoli, Terenzio, and Geller. 3,376,469.
Gellmann, Daniel. Flexible shower line unit. 3,375,532, 4-2-68, Cl. 4—145.
General Aniline & Film Corp.: *See*—
  Shiraeff, Dimitry A. 3,376,110.
General Cable Corp.: *See*—
  Robinson, Daniel E., and Holm. 3,376,539.
  Slonksnes, John E. 3,375,579.
General Dynamics Corp.: *See*—
  Freytag, Richard W. 3,376,558.
  Pratt, Wilson N. 3,375,694.
General Electric Co.: *See*—
  Douillard, Paul A., Jones, Cunningham, and Lucek. 3,376,186.
  Fehr, Joseph A., Jr. 3,376,377.
  Gist, William Bruce, Jr. 3,375,997.
  Hardy, Albert L. 3,376,087.
  Jacobus, Dwight W., Sterling, and McDowell. 3,375,678.
  Lawrence, Jackson. 3,376,121.
  Liao, Tseng W. 3,376,458.
  Morgan, Raymond E., and Bedford. 3,376,492.
  Narbus, Joseph J., and Frind. 3,376,459.
General Electric Co. Ltd., The: *See*—
  Reynolds, John S. 3,376,517.
General Extrusions, Inc.: *See*—
  Fink, Lester S. 3,375,690.
General Laboratory Associates, Inc.: *See*—
  Glover, Norman I., Knudson, and Shoemaker. 3,376,474.
General Motors Corp.: *See*—
  Bright, James A., and O'Connell. 3,375,677.
  Cheek, Forrest R., and Stapleton. 3,375,838.
  Fisher, James L. 3,376,026.
  Hayden, John P. 3,375,866.
  Leguen de Lacroix, George R. J. E. 3,375,731.
  Lund, Johan, and Mitchell. 3,376,496.
  Lund, Johan. 3,376,497.
  Mackie, Harry A. 3,375,893.
  Moyer, Elton S. 3,375,907.
  Schweller, Robert J. 3,376,404.
  Sherwood, Frank A. 3,376,033.
  Stewart, John A., and Ziegler. 3,376,568.
  Subramanya, Bettadapur S., Riddel, and Schwartzwalder. 3,376,367.
General Precision, Inc.: *See*—
  Riordan, Hugh E., and Samet. 3,375,722.
General Signal Corp.: *See*—
  Auer, John H., Jr. 3,376,547.
General Time Corp.: *See*—
  Lundin, Robert S. 3,376,410.
General Tire & Rubber Co., The: *See*—
  Welch, John A. 3,375,763.
George, Edward, 50% to L. E. George, 50% to J. J. Miller. Ladder step. 3,375,899, 4-2-68, Cl. 182—122.
George, Lawrence E.: *See*—
  George, Edward. 3,375,899.
Geothermal Surveys, Inc.: *See*—
  Birman, Joseph H. 3,375,702.
Gerard, William A., to Westinghouse Electric Corp. Coaxial magnetron having magnetic return path through the cylindrical anode. 3,376,466, 4-2-68, Cl. 315—39.71.
Germino, Felix J., and R. J. Moshy, to American Machine and Foundry Co. Preparation of amylose esters from activated amylose. 3,376,286, 4-2-68, Cl. 260—233.5.
Gesipa Gesellschaft fur Internationale Patent-Verwertung mbH. 3,375,883.
Gestetner Ltd.: *See*—
  Spencer, Alexander, and Blake. 3,376,162.
Geyer, Paul, to Uniroyal, Inc. Method and apparatus for refining and separating plastic materials. 3,375,549, 4-2-68, Cl. 18—12.
Giannone, Charles, and D. Marsh, to Interchemical Corp. Method of bonding shoe uppers to rubber soles. 3,376,368, 4-2-68, Cl. 264—135.
Gibson, Howard B.: *See*—
  Logan, Maurus C., and Gibson. 3,376,170.
Giliano, Michael N., and I. W. Martenson. Photosensitive prepolymer composition and method. 3,376,138, 4-2-68, Cl. 96—35.1.
Giliano, Michael N., I. W. Martenson, and L. H. Ott. Photosensitive prepolymer composition and method. 3,376,139, 4-2-68, Cl. 96—35.1.
Gillette Co., The: *See*—
  Douglass, Paul W., and Koehler. 3,375,577.
  Nissen, Warren I. 3,375,578.
Girault, Pierre: *See*—
  Allais, Andre, and Girault. 3,376,195.
Gist, William B., Jr., to General Electric Co. Compound aircraft and propulsion system. 3,375,997, 4-2-68, Cl. 244—17.11.
Githens, John A.: *See*—
  Crane, Bently A., and Githens. 3,376,555.
Giuffrida, Philip, and P. J. Cade, to Electronics Corp. of America. Electrical control circuitry for burners. 3,376,099, 4-2-68, Cl. 431—26.
Glass, Emmett F.: *See*—
  McCarty, Horace G., and Glass. 3,375,643.
Glaxo Laboratories Ltd.: *See*—
  Coles, Clarence L. J., and Trigger. 3,376,199.
  Creevy, Charles, and Clark. 3,375,948.
  Elks, Joseph, and Bailey. 3,376,193.
Gleockler, Frederick M. Mixing and dispensing apparatus for poison spray. 3,376,022, 4-2-68, Cl. 259—2.
Globe-Union Inc.: *See*—
  Bachwansky, Peter. 3,376,164.
  Byczkowski, Mieczyslaw W. 3,376,172.
Glover, Norman I., L. I. Knudson, and H. G. Shoemaker, to General Laboratory Associates, Inc. Arc suppression circuit and compound impedance element for use therein. 3,376,474, 4-2-68, Cl. 317—11.
Gobla, Steven F.: *See*—
  De Grange, Charles J., and Gobla. 3,376,217.
Godinez, Peter A., to Leach Corp. Digital data acquisition system with amplifiers having automatic binary gain control circuits. 3,376,557, 4-2-68, Cl. 340—172.5.
Goehring, Westlake L.: *See*—
  Stahly, Frederick A., and Goehring. 3,376,134.
Goldman, Israel, to McDonnell Douglas Corp. Snap clamp. 3,376,004, 4-2-68, Cl. 248—74.
Goldschmied, Fabio R.: *See*—
  Fox, Harold L., and Goldschmied. 3,375,840.
Gollasch, Karl, H. Pelster, E. Muhlbauer, R. Heiss, and H. Scheinpflug to Farbenfabriken Bayer Aktiengesellschaft. Carbamic acid esters. 3,376,335, 4-2-68, Cl. 260—479.
Goodhue, Don T.: *See*—
  Martin, Carl C., Goodhue, and Rengel. 3,375,922.

- Goodrich, B. F., Co., The : *See—*
  - Kuts, Mathew. 3,375,745.
  - Schneider, Wolfgang. 3,376,358.
  - Schneider, Wolfgang. 3,376,359.
  - Tillson, Charles H. 3,375,629.
- Goodwin, Robert J., E. A. Mori, J. L. Pekarek, P. W. Schaub, and R. E. Zinkham, to Gulf Research & Development Co. Method of treating abrasive-laden drilling liquid. 3,375,886, 4-2-68, Cl. 175—66.
- Goodwin, Robert J., E. A. Mori, J. L. Pekarek, P. W. Schaub, and R. E. Zinkham, to Gulf Research & Development Co. Method of drilling in hard formations. 3,375,887, 4-2-68, Cl. 175—67.
- Goonewardene, Hilary F., to Smith Kline & French Laboratories. Method for controlling apple scald. 3,376,142, 4-2-68, Cl. 99—154.
- Gordon, John M., to Raleigh Industries Ltd. Bicycle and like prop-stand. 3,376,049, 4-2-68, Cl. 280—301.
- Gosling, William R. F., to The Rank Organisation Ltd. Guidance system for ploughs. 3,376,574, 4-2-68, Cl. 343—107.
- Gottschlich, Alois, and K.-H. Freytag, to Farbenfabriken Bayer Aktiengesellschaft. Disazo dyestuffs containing a 1,3-benzodioxane group. 3,376,280, 4-2-68, Cl. 260—152.
- Gout, Paul. Devices of moving connections between two fixed electric windings. 3,376,535, 4-2-68, Cl. 336—138.
- Gover, Marcius N. Internal combustion engine ignition system distributor make and break analyzing apparatus. 3,375,713, 4-2-68, Cl. 73—118.
- Gower, Francis B., III, to Michael Reese Research Foundation. Incubating apparatus. 3,376,405, 4-2-68, Cl. 219—385.
- Grammer, Hal L. Form for burial crypts. 3,376,012, 4-2-68, Cl. 249—146.
- Grandin, Milton J. : *See—*
  - Campbell, John, Beazley, Benn, and Grandin. 3,376,154.
- Granger Associates : *See—*
  - Kennedy, Peter D. 3,376,577.
- Grauer, Theodor, to J. R. Geigy, A.G. Process for the production of chloramino-5-triazines. 3,376,302, 4-2-68, Cl. 260—249.5.
- Gray, Raymond K., and E. M. Spencer, to Lock Inc. Door closer. 3,375,542, 4-2-68, Cl. 16—52.
- Greber, Henry. Circuit breaker with auxiliary resonance circuit. 3,376 475, 4-2-68, Cl. 317—11.
- Greenberg, Bertram M., M. Troast, Jr., and T. Troast, to I. C. Herman & Co., Inc. Blank-forming apparatus. 3,375,796, 4-2-68, Cl. 112—2.
- Greengard, Paul, to Geigy Chemical Corp. 10,11-dihydro-5H-dibenzo[a,d]cycloheptenes as local anesthetics. 3,376,192, 4-2-68, Cl. 167—52.
- Greeson, Louis B., Jr., to Monsanto Co. Varicolored textile articles. 3,375,651, 4-2-68, Cl. 57—153.
- Greifenhagen, Karl H., and D. Sohnlein. Guide device in an apparatus for magnetic recording and reproducing of high-frequency signals. 3,375,964, 4-2-68, Cl. 226—197.
- Gregorian, Razmic S., and C. C. Kirk. Process for forming crosslinked oriented, microporous polyolefin film. 3,376,238, 4-2-68, Cl. 260—2.5.
- Greiner, Rolf. Method and apparatus for positioning articles on a conveyer for packing the same. 3,375,916, 4-2-68, Cl. 198—33.
- Griep, Richard K. : *See—*
  - Freitas, Ernest R., Deal, and Griep. 3,376,356.
- Grimm, James J., and H. E. Trumbull, to Xerox Corp. Registration mechanism for a reproduction machine. 3,375,781, 4-2-68, Cl. 101—132.
- Grimm, James J., and H. E. Trumbull, to Xerox Corp. Programming mechanism for a reproduction machine. 3 375,782, 4-2-68, Cl. 101—132.
- Grimm, James J., and H. E. Trumbull, to Xerox Corp. Copy indicating mechanism for a reproduction machine. 3,375,783, 4-2-68, Cl. 101—132.
- Gring, John L., and J. Mooi, to Sinclair Refining Co. Boehmite alumina products. 3,376,106, 4-2-68, Cl. 23—141.
- Grinnell Corp. : *See—*
  - Loepsinger, Albert J. 3,375,539.
- Grossmann, Max : *See—*
  - Kuhne, Rudolf, Diery, and Grossmann. 3,376,299.
- Grotefeld, Augustus W., deceased (H. Grotefeld, executrix), and B. Heath, to Triplex Safety Glass Co. Ltd. Glazings for vehicles. 3,375,626, 4-2-68, Cl. 52—208.
- Gro[illegible]edwig : *See—*
  - [illegible]rotefeld, Augustus W., and Heath. 3,375,626.
- Gr[illegible]Carl A. : *See—*
  - [illegible]dy, Richard L., Montgomery, and Grulke. 3,376,247.
- Gue[illegible] Carl F., and M. W. Shafer, to International Business Machines Corp. Method of preparing transparent ferromagnetic single crystals. 3,376,157, 4-2-68, Cl. 117—106.
- Guglielmetti, Pietro. Toolholder, particularly for lathe-machining of deep holes. 3,375,741, 4-2-68, Cl. 77—58.
- Guillaume, Andre E. : *See—*
  - Loty, Charles, and Guilloaume. 3,376,464.
- Gulf Oil Corp. : *See—*
  - Francis, William C., and Burdick. 3,376,301.
- Gulf Research & Development Co. : *See—*
  - Biber, Albert, and Walsh. 3,376,097.
  - Goodwin, Robert J., Mori, Pekarek, Schaub, and Zinkham. 3,375,886.
  - Goodwin, Robert J., Mori, Pekarek, Schaub, and Zinkham. 3,375,887.
  - Hartle, Robert J. 3,376,235.
- Gullick Ltd. : *See—*
  - Allen, Archelaius D. 3,375,668.
- Gundel, Wolfgang, to Dehydag Deutsche Hydrierwerke G.m.b.H. Certain pyridinium, quinolinium and isoquinolinium sulfobetaine derivatives and a method for their preparation. 3,376,308, 4-2-68, Cl. 260—294.8.
- Gwalter, Stanley H. : *See—*
  - Leason, Dennis B., and Gwalter. 3,376,028.
- Gyarmathy, Georg. Method and arrangement for utilizing steam power in steam power plants. 3,375,665, 4-2-68, Cl. 60—105.
- Gysling, Hermann, and H. J. Peterli, to J. R. Geigy, A.G. Polyesters and polyamides of improved stability. 3,376,258, 4-2-68, Cl. 260—47.
- Haantjes, Johan : *See—*
  - De Haan, Edward F., and Haantjes. 3,376,446.
- Haass, Robert A., and V. Lamberti, to Lever Bros. Co. Synthetic detergent bar. 3,376,229, 4-2-68, Cl. 252—117.
- Hackett Ceiling Dynamics : *See—*
  - Dail, Paul D. 3,375,630.
- Haes, Donald L., to Minnesota Mining and Mfg. Co. Radioactive source comprising a sheet article containing a layer of small discrete radioactive beads. 3,376,422, 4-2-68, Cl. 250—106.
- Hager, C., & Sons Hinge Mfg. Co. : *See—*
  - Peterson, Francis C. 3,375,546.
- Hahn, Steven : *See—*
  - Impellizzeri, Julius S., Hahn, and Burian. 3,375,717.
- Halek, George W., F. M. Berardinelli, and C. M. Hendry, to Celanese Corp. Formaldehyde block copolymers. 3,376,361, 4-2-68, Cl. 260—823.
- Hall, David W. : *See—*
  - Kahan, George J., and Hall. 3,376,206.
- Halliburton Co. : *See—*
  - McLaughlin, Homer C., Ramos, and Koch. 3,375,872.
- Halpern, Stephen J. : *See—*
  - Brothrman, Abraham, Halpern, Reiser, Miller, Finkey, and Chen. 3,376,511.
  - Brothman, Abraham, Halpern, and Bruckner. 3,376,567.
- Hamilton, Everett E. Convertible and detachable luggage rack for station wagons. 3,375,959, 4-2-68, Cl. 224—42.01.
- Hamilton Float & Trowel Ltd. : *See—*
  - Zochil, Francesco F. 3,375,766.
- Hammon, Lyle J., to Eaton Stamping Co. Side-mounted internal combustion engine starter. 3,375,813, 4-2-68, Cl. 123—185.
- Hamman, Lyle J., to Eaton Stamping Co. Pulley construction for recoil starter. 3,375,814, 4-2-68, Cl. 123—185.
- Hammell, Kemper M., to AMP Inc. Alignment of connector blocks in a panel. 3,376,543, 4-2-68, Cl. 339—132.
- Hammerle A.G. Maschinenfabrik : *See—*
  - Lichtsteiner, Johann. 3,375,691.
- Handley, John. Information storage devices. 3,376,409, 4-2-68, Cl. 235—61.11.
- Haney, James K. : *See—*
  - Honkanen, Arvid, and Haney. 3,375,954.
- Hanlon, Albert J., to Polaroid Corp. Camera bellows and method of construction. 3,375,767, 4-2-68, Cl. 95—39.
- Hanlon & Wilson Co. : *See—*
  - Von Hoevel, Edmund H. 3,375,898.
- Hanson, Leonard J., Jr. : *See—*
  - Borell, Marvin C., and Hanson. 3,376,182.
- Hanson, Raymond A. Highway surfacing trimmer and spreader. 3,375,765, 4-2-68, Cl. 94—44.
- Hard, Carl G. Revetment structure and units therefor. 3,375,667, 4-2-68, Cl. 61—37.
- Hardman, Eric S. : *See—*
  - Mains, Frank, and Hardman. 3,375,538.
- Hardwicke-Etter Co. : *See—*
  - Slover, Eugene L. 3,375,658.
- Hardy, Albert L., to General Electric Co. Combined supporting rack and counterbalance for dishwasher. 3,376,087, 4-2-68, Cl. 312—269.
- Hardy, Derek J., and A. R. Pearson, to Westland Aircraft Ltd. Air cushion vehicles provided with buoyant landing and supporting structure. 3,375,895, 4-2-68, Cl. 180—128.
- Hardy, Wilton A. : *See—*
  - Braslau, Norman, and Hardy. 3,376,424.
- Harper, Kenneth A., to Phillips Petroleum Co. Catalytic cracking reactor and method of preventing the formation of coke on the conduits. 3,376,213, 4-2-68, Cl. 208—48.
- Harper, Robert L. Fertilizer attachment for rotary lawn mowers. 3,375,644, 4-2-68, Cl. 56—25.4.
- Harris, Donald A., and J. E. Olson, to Hyster Co. Suction load-handling apparatus. 3,376,061, 4-2-68, Cl. 294—6.4.
- Harris-Intertype Corp. : *See—*
  - Barley, Leo D. 3,375,939.
  - Sarka, Albert J. 3,375,762.
- Harrison, Stanley, to Ion Physics Corp. Electrostatic quadrapole lens assembly with transverse intermediate termination elements of resistive material joining together the quadrapole, electrodes for preventing beam aberration. 3,376,449, 4-2-68, Cl. 313—83.
- Hartle, Robert J., to Gulf Research & Development Co. Sulfonated p-polyphenyl. 3,376,235, 4-2-68, Cl. 260—2.2.
- Hasbrouck, Leo J., C. R. Holleran, L. E. King, and W. P. Wissick, to International Business Machines Corp. Storage reference priority in a data processing system. 3,376,556, 4-2-68, Cl. 340—172.5.
- Hashimoto, Kazuo. Telephone answering device. 3,376,390, 4-2-68, Cl. 179—6.
- Haskell, Robert A. : *See—*
  - Chaput, Dale T., and Haskell. 3,375,908.
- Haskett, Lester E. : *See—*
  - Smith, Robert P., and Haskett. 3,375,975.
- Hauser, Raimund : *See—*
  - Freudenschuss, Otto. 3,376,093.

- Hawkins, Oscar M., to Thiokol Chemical Corp. Gas generator cartridge. 3,375,656, 4-2-68, Cl. 60—39.47.
- Hayden, John P. R., to General Motors Corp. Regenerator matrix. 3,375,866, 4-2-68, Cl. 165—10.
- Hayes, Edward J., to Kelsey-Hayes Co. Support means for a caliper-type disk brake. 3,375,906, 4-2-68, Cl. 188—73.
- Hayes, Maurice S. Adjustable crank mechanism for fishing reels. 3,375,993, 4-2-68, Cl. 242—84.1.
- Hazeltine Research, Inc. : *See—*
  - Diebold, Alfred E. 3,376,571.
- Headliners International, Inc., The : *See—*
  - Torres, Ruben H. 3,374,734.
- Heath, Barrie : *See—*
  - Grotefeld, Augustus W., Heath, and Grotefeld. 3,375,626.
- Hedermann, Dieter, to Robert Bosch, G.m.b.H. Hydraulic steering control unit for automotive vehicles. 3,375,660, 4-2-68, Cl. 60—52.
- Heinicke Instruments Co. : *See—*
  - Heinicke, Kurt J., and Shafer. 3,375,592.
- Heinicke, Kurt J., and P. K. Shafer, to Heinicke Instruments Co. 3,375,592, 4-2-68, Cl. 34—87.
- Heinrichs, Anton : *See—*
  - Chosy, Eugene, and Heinrichs. 3,376,062.
- Hellyer, J. T., Inc. : *See—*
  - Hellyer, John T. 3,375,770.
- Hellyer, John T., to J. T. Hellyer, Inc. Photographic processing machine. 3,375,770, 4-2-68, Cl. 95—94.
- Helsel, Wayne F., to Ranney Refrigerator Co. Refrigerator-freezer construction. 3,375,679, 4-2-68, Cl. 62—441.
- Henderson, William F. : *See—*
  - Schlager, Wilfred C., and Henderson. 3,375,919.
- Hendry, Charles M. : *See—*
  - Halek, George W., Berardinelli, and Hendry. 3,376,361.
- Henkel & Cie. G.m.b.H. : *See—*
  - Stein, Werner, and Baumann. 3,376,336.
- Hennes, John H., to The Dow Chemical Co. Metal containing olefin polymers having improved color. 3,376,251, 4-2-68, Cl. 260—41.
- Henningsen, Erik, to Vald. Henriksen A/S. Vat with lid. 3,375,952, 4-2-68, Cl. 220—40.
- Henrickson, Angus V., J. A. Hermann, and A. E. Meyer, to Kerr-McGee Corp. Process for roasting vanadium ores. 3,376,103, 4-2-68, Cl. 23—15.
- Henry, John R. Golf club putter with grip locator. 3,376,038, 4-2-68, Cl. 273—81.
- Herbenar, Edward J., to TRW Inc. Joint with contoured plug closure. 3,376,058, 4-2-68, Cl. 287—90.
- Herman, I. C. & Co., Inc. : *See—*
  - Greenberg, Bertram M., M. Troast, Jr., and T. Troast. 3,375,796.
- Hermann, John A. : *See—*
  - Henrickson, Angus V., Hermann, and Meyer. 3,376,103.
- Hersch, Walter, to Precision Products, Inc. Fluid quantity measuring device. 3,375,716, 4-2-68, Cl. 73—304.
- Herweh, John E., and A. C. Poshkus, to Armstrong Cork Co. Process for controlling reaction of sodium azide with phenylhalophosphine. 3,376,234, 4-2-68, Cl. 260—2.
- Hetterly, Ralph M. : *See—*
  - Barton, Oliver A., and Hetterly. 3,376,259.
- Hettich, Otto : *See—*
  - Wolber, Robert, Hettich, Fehrenbach, Armbruster, and Assmus. 3,375,653.
- Hetzel, Max, to Centre Electronique. Electro-mechanical watch. 3,375,652, 4-2-68, Cl. 58—23.
- Hicks, Darrell D. : *See—*
  - Masters, John E., and Hicks. 3,376,271.
  - Masters, John E., and Hicks. 3,376,272.
  - Masters, John E., and Hicks. 3,376,273.
- Hidding, Walter E. Carrier handle. 3,375,949, 4-2-68, Cl. 220—94.
- Hiegel, Joseph J., to E. W. Bliss Co. Coiled strip. 3,376,120, 4-2-68, Cl. 29—193.
- Hindermann, Peter : *See—*
  - Schwander, Hans R., Jung, and Hindermann. 8,376,320.
- Hindersinn, Raymond R. : *See—*
  - Boyer, Nicodemus E., and Hindersinn. 3,376,274.
- Hines, Herbert W., and A. R. Johnson, to International Business Machines Corp. Precision digital delay circuit. 3,376,436, 4-2-68, Cl. 307—293.
- Hinrichs, Jack F., to Hydro-Services, Inc. Water blast control system. 3,375,980, 4-2-68, Cl. 239—411.
- Hirayama, Atsuo : *See—*
  - Okamoto, Tatsumi, Hirayama, Kawanami, and Nishikawa. 3,376,151.
  - Okamoto, Tatsumi, Hirayama, Kawanami, and Nishikawa. 3,376,152.
- Hirshfeld, Julian J. : *See—*
  - Sample, Byron A., Jr., Reuben, and Hirshfeld. 3,376,245.
- Hirshfeld, Julian J. : *See—*
  - Burnthall, Edward V., and Hirshfeld. 3,376,253.
- Hirt, Thomas J., and C. W. Marynowski. Method and apparatus for heating gases to high temperatures. 3,376,468, 4-2-68, Cl. 315—111.
- Hixon, Philip E. : *See—*
  - Fleisher, Marvin B., and Hixon. 3,375,593.
- Hodges, Frank P., and J. W. Luce, to Westinghouse Electric Corp. Sea direction indicator. 3,375,715, 4-2-68, Cl. 73—170.
- Hoegger, Erhard F., and J. H. Wernts, to E. I. du Pont de Nemours and Co. Polyurethanes produced from 1,2-divinyl ethylene glycol. 3,376,266, 4-2-68, Cl. 260—77.5.
- Hoeh, Frederick W., to Westinghouse Electric Corp. Electric discharge lamp with space charge relieving means. 3,376,457, 4-2-68, Cl. 313—205.
- Hoffman-La Roche Inc. : *See—*
  - Fryer, Rodney I., and Sternbach. 3,376,290.
- Hoge, Henri H., to Summit Electronics Inc. Magnetic amplifier regulated voltage supply system. 3,376,498, 4-2-68, Cl. 323—89.
- Hohman, Frank : *See—*
  - Ritchey, Jack L., Brownlee, and Steed. 3,376,184.
- Holbrook, Orrin C. : *See—*
  - Miller, Loren N., Holbrook, and Woertz. 3,375,639.
- Holland, Thomas W. Means to utilize a conductive strip on a magnetic tape as an indexing device. 3,376,564, 4-2-68, Cl. 340—174.1.
- Holleran, Charles R. : *See—*
  - Hasbrouck, Leo J., Holeran, King, and Wissick. 3,376,556.
- Hollingsworth, Clinton A., to The Borden Co. Fluidized bed acidulation and agglomeration of phosphate materials. 3,376,124, 4-2-68, Cl. 71—39.
- Holm, Harry A. : *See—*
  - Robinson, Daniel E., and Holm. 3,376,539.
- Holmes, Donald C., to Instron Corp. Materials testing machine. 3,375,709, 4-2-68, Cl. 73—93.
- Holmes, Donald C. : *See—*
  - Cavanaugh, Ronald C., and Holmes. 3,375,710.
- Holtan, Maurice O. Transaxle. 3,375,737, 4-2-68, Cl. 74—720.5.
- Honeywell, Inc. : *See—*
  - Janssen, John E., and Benz. 3,376,512.
  - Joesting, Frederick D. 3,375,721.
  - Prager, Melvin. 3,376,412.
- Honkanen, Arvid, and J. K. Haney, to American Can Co. Nestable container. 3,375,954, 4-2-68, Cl. 220—97.
- Hooker Chemical Corp. : *See—*
  - Boyer, Nicodemus E., and Hindersinn. 3,376,274.
  - O'Donnell, Lawrence E. 3,376,155.
  - Stratton, George B. 3,376,348.
- Horowitz, Carl, to Yardney International Corp. Metal-containing graft-polymerized product and method of making same. 3,376,168, 4-2-68, Cl. 136—146.
- Hosoi, Etsuro : *See—*
  - Yokouchi, Rei, Ichikawa, Hosoi, Aoki, and Takagishi. 3,376,265.
- Hotz, George M. : *See—*
  - Scott, Ronald F., Howard, and Hotz. 3,375,885.
- Houdaille Industries, Inc. : *See—*
  - Behm, William F. 3,375,845.
- Hougen, Everett D. Apparatus for cleaning sheet metal preparatory to spot welding. 3,375,693, 4-2-68, Cl. 72—353.
- Howard, Earle A. : *See—*
  - Scott, Ronald F., Howard, and Hotz. 3,375,885.
- Howard, George C., and R. P. Vincent, to Pan American Petroleum Corp. Pipeline assembly for underwater. 3,375,856, 4-2-68, Cl. 138—106.
- Howard, William L. : *See—*
  - Burger, Joanne D., and Howard. 3,376,315.
- Howmet Corp. : *See—*
  - Kernes, Harmon E. 3,376,065.
  - Kernes, Harmon E. 3,376,066.
  - Kernes, Harmon E. 3,376,067.
- Hoyt, Eugene P. : *See—*
  - Cress, Vernor B., Jr., Hoyt, Metz, Pollock, Kerber, Cabe, and Apitz. 3,376,546.
- Hruden Industries, Inc. : *See—*
  - Hruden, Wayne R. 3,376,166.
- Hruden, Wayne R., to Hruden Industries, Inc. Deferred action dry cell battery structure. 3,376,166, 4-2-68, Cl. 136—90.
- Hubbell, Harvey, Inc. : *See—*
  - Weinger, Ralph. 3,376,477.
- Hübner, Rolf. Portable gas analyzer for testing subterranean ambient air samples. 3,375,700, 4-2-68, Cl. 73—23.
- Hubner, Wolfgang : *See—*
  - Fisher, Josef, Krautwald and Hubner. 3,376,526.
- Hude, Karl V., and W. J. Powers, Jr., to E. I. du Pont de Nemours and Co. Figure 8 coil winder. 3,375,988, 4-2-68, Cl. 242—1.
- Hudson, Lena M., to Bausch & Lomb Inc. Modified 4-member Gaussian projection objective. 3,376,090, 4-2-68, Cl. 350—209.
- Hughes, Herbert D., R. W. Lewis, and A. H. Partridge, to Burndept Ltd. Electrical primary cells having indium coating on anode. 3,376,167, 4-2-68, Cl. 136—100.
- Hultgren, Arnold P., to Amerline Corp. Reel cover and apparatus for mounting on a reel. 3,375,990, 4-2-68, Cl. 242—55.13.
- Hulverson, Adrian F., to Fruehauf Corp. Trailer construction. 3,376,063, 4-2-68, Cl. 296—28.
- Humbert, Jean-Jacques : *See—*
  - Napoly, Claude, Humbert, and Lamboley. 3,376,174.
- Humpherys, Bernarr H. Pulse chopper. 3,376,432, 4-2-68, Cl. 307—240.
- Hunt, James A., and H. C. Reinhardt. Control device for automating sequential machine operation. 3,375,755, 4-2-68, Cl. 91—1.
- Hunter, James H., to The Upjohn Co. 1-arabinofuranosyl-3-hydrocarbylcytosine and process. 3,376,283, 4-2-68, Cl. 260—211.5.
- Hurkamp, Charles H. Pneumatic apparatus for erecting structural building components. 3,375,619, 4-2-68, Cl. 52—2.
- Hurletron Inc. : *See—*
  - Frommer, Joseph C., and Rhodes. 3,376,426.
- Hyde, Elmer A. Attachment for floor cleaning machine. 3,375,540, 4-2-68, Cl. 15—320.
- Hyden, Seymour, and G. Wilbert, to Nepera Chemical Co., Inc. Amino esters of (2,3 or 4) pyridyl carbamic acid. 3,376,307, 4-2-68, Cl. 260—294.3.

- Hydraulica : *See*—
  - Bienaime, Daniel L. C. M. 3,375,756.
- Hydrocarbon Research, Inc. : *See*—
  - Cimler, Emil, and Van Baush. 3,375,673.
- Hydro-Services, Inc. : *See*—
  - Hinrichs, Jack F. 3,375,980.
- Hyster Co. : *See*—
  - Harris, Donald A., and Olson. 3,376,061.
- Ichikawa, Yoshimitsu : *See*—
  - Yokouchi, Rei, Ichikawa, Hosoi, Aoki, and Takagishi. 3,376,265.
- Iguchi, Takashi : *See*—
  - Fujimura, Masanori, Kasahara, Iguchi, Matsuo, Sasaki, Nagase, Nayakawa, and Tida. 3,375,774.
- Iimura, Jiro : *See*—
  - Yamato, Junji, Shimizu, and Iimura. 3,376,559.
- Illinois Tool Works, Inc. : *See*—
  - Saari, Oliver E. 3,375,735.
  - Saari, Oliver E. 3,375,736.
- Impellizzeri, Julius S., S. Hahn, and P. D. Burian, to Exercycle Corp. Exercising measuring system. 3,375,717, 4-2-68, Cl. 73—379.
- Imperial Chemical Industries Ltd. : *See*—
  - Fielding, Harold C. 3,376,345.
- Ince, Harsch C., Jr., to The Procter & Gamble Co. Process for removing flavor precursors from peanuts. 3,376,140, 4-2-68, Cl. 99—126.
- Industriaktiebolaget Skomab : *See*—
  - Sjöberg, Sten O. E. 3,375,698.
- Industriewerk Schaeffler OHG : *See*—
  - Jacob, Werner O., and May. 3,375,562.
- Ingersoll-Rand Co. : *See*—
  - Adams, John W. 3,376,030.
- Inject-O-Meter Mfg. Co., Inc. : *See*—
  - Stamps, Otis C., and Neikirk. 3,375,976.
- Instron Corp. : *See*—
  - Cavanaugh, Ronald C., and Holmes. 3,375,710.
  - Holmes, Donald C. 3,375,709.
  - Preston, John L. 3,375,708.
- Interchemical Corp. : *See*—
  - Giannone, Charles, and Marsh. 3,376,368.
  - Roteman, Jerome. 3,376,133.
- International Agri-Systems, Inc. : *See*—
  - Shadley, George R. 3,376,600.
- International Business Machines Corp. : *See*—
  - Armbruster, John W. 3,376,551.
  - Bate, Geoffrey, and Morrison. 3,376,035.
  - Braslau, Norman, and Hardy. 3,376,424.
  - Guerci, Carl F., and Shafer. 3,376,157.
  - Hasbrouck, Leo J., Holleran, King, and Wissick. 3,376,556.
  - Hines, Herbert W., and Johnson. 3,376,436.
  - Kahan, George J., and Hall. 3,376,206.
  - Smith, Roy, J., and Tate. 3,376,385.
  - Walton, Charles A. 3,376,480.
- International Harvester Co. : *See*—
  - Bexten, Eugen. 3,375,944.
  - Brace, Robert S., and Sullivan. 3,376,078.
  - Deli, Jack M., and Plomb. 3,376,081.
- International Nickel Co., Inc., The : *See*—
  - Shaw, Stuart W. K., and Cook. 3,376,132.
- International Standard Electric Corp. : *See*—
  - Verhille, Henri A. J. 3,376,392.
- International Telephone and Telegraph Corp. : *See*—
  - Franklin, Chester A. 3,376,450.
  - Klein, Robert E., and Driver. 3,375,576.
  - Ray, William A. 3,375,659.
- Ion Physics Corp. : *See*—
  - Harrison, Stanley. 3,376,449.
- Iowa State University Research Foundation, Inc. : *See*—
  - Muir, Robert M. 3,376,505.
- Irving, Frank M., Jr., to Alto Co. Bakery product suction transfer apparatus. 3,375,917, 4-2-68, Cl. 198—179.
- Ishida, Shinichi, K. Sato, N. Fujita, to Asahi Kasei Kogyo Kabushiki Kaisha. Method for producing high molecular weight polyoxymethylene. 3,376,263, 4-2-68, Cl. 260—67.
- Ishigaki, Eiichi, to Ishigaki Kiko Co., Ltd. Continuous filtration device of the pressure type. 3,375,932, 4-2-68, Cl. 210—390.
- Ishigaki Kiko Co., Ltd. : *See*—
  - Ishigaki, Eiichi. 3,375,932.
- Itek Corp. : *See*—
  - Abrahamsohn, Ilse. 3,376,163.
  - Fairbanks, Henery N., and Madigan. 3,375,752.
  - Fleisher, Marvin B., and Hixon. 3,375,593.
- Ives, David C., and J. Lovkay, to United Aircraft Corp. Engine performance indicator and collector. 3,375,711, 4-2-68, Cl. 73—117.2.
- Jabbar, Kamil Y., and R. T. Race, to Motorola, Inc. Warning system for indicating operation of vehicular electrical system. 3,376,548, 4-2-68 Cl. 340—52.
- Jackson, Mary R. Head and neck protector. 3,376,064, 4-2-68, Cl. 297—391.
- Jackson, Winston J., Jr., and J. R. Caldwell, to Eastman Kodak Co. Process for preparing polycarbonates. 3,376,261, 4-2-68, Cl. 260—47.
- Jacob, Werner O., and D. F. May, to Industriewerk Schaeffler OHG. Upper roller for spinning machine drawing mechanisms. 3,375,562, 4-2-68, Cl. 29—116.
- Jacobus, Dwight W., J. E. Sterling, and D. G. McDowell, to General Electric Co. Hydraulic icemaker. 3,375,678, 4-2-68, Cl. 62—353.
- Jagger, Ernest T., to George Angus & Co. Ltd. Shaft seals. 3,376,045, 4-2-68, Cl. 277—134.
- Jakob, Fritz, to Linde Aktiengesellschaft. Process for heat exchange and cleansing of gases in periodically reversible regenerators. 3,375,672, 4-2-68, Cl. 62—13.
- James, Emrys C., to Radio Corp. of America. Light responsive circuit which prevents photosensitive device saturation. 3,376,423, 4-2-68, Cl. 250—206.
- Jameson, Keith O., to Sylvania Electric Products Inc. Conical shaped filament support. 3,376,460, 4-2-68, Cl. 313—274.
- Janssen, John E., and D. E. Benz, to Honeywell Inc. Semiconductor apparatus. 3,376,512, 4-2-68, Cl. 328—3.
- Japan Gas-Chemical Co., Inc. : *See*—
  - Eguchi, Takashi, Yamamoto, Yamauchi, Kuraishi, and Asakawa 3,376,332.
- Jarowenko, Wadym, and M. W. Rutenberg, to National Starch and Chemical Corp. Novel inhibited granular starch products prepared by the reaction of starch with phosgene. 3,376,287, 4-2-68, Cl. 260—233.5.
- Jarund, Harry S. V. Method for attaching information bearing labels to bags having material packaged therein. 3,375,634, 4-2-68, Cl. 53—14.
- Jeanmonod, Maurice, to Fabrique d'horlogerie Chs. Tissot et fils S.A. Watch movement with simplified assembly arrangement. 3,375,654, 4-2-68, Cl. 58—59.
- Jefferson Mills, Inc., The : *See*—
  - Bryan, Morris M., Jr. 3,375.556.
- Jeffreys, Roy A., and E. A. and R. B. Morris, to Eastman Kodak Co. Chromatographic device. 3,375,929, 4-2-68, Cl. 210—198.
- Jellies, David A., to Don Baxter Inc. Variable dose medicament vial. 3,375,858, 4-2-68, Cl. 141—363.
- Jepsen, Robert L., to Varian Associates. Ionic vacuum pump having multiple externally mounted magnetic circuits. 3,376,455, 4-2-68, Cl. 313—161.
- Jetru Inc. : *See*—
  - Ratliff, Harvey L., Jr. 3.376.381.
- Joesting, Frederick D., to Honeywell, Inc. System for fast fluid pressure scanning. 3,375,721, 4-2-68, Cl. 73—420.
- Johnson, Andrew R : *See*—
  - Hines, Herbert W., and Johnson. 3,376,436.
- Johnson, Kenneth R. : *See*—
  - Dodgen, John N., and Johnson. 3,375,985.
  - Dodgen, Joe W., Johnson, and Snapp. 3,375,986.
  - Dodgen, Joe W., Johnson, and Snapp. 3,375.987.
- Johnson, Merle E. Contoured seat cushion. 3,376,070, 4-2-68, Cl. 297—459.
- Johnson, Richard C. : *See*—
  - Connell, John M., and Johnson. 3,375,628.
- Johnson, Robert G. : *See*—
  - Boi, William, and Johnson. 3,376,088.
- Johnson William D. : *See*—
  - Modla, John J. 3,376,095.
- Jones, Charles W. and J. C. Belting. 3,375,726, 4-2-68, Cl. 74—233.
- Jones, James D., to Pye Ltd. U.H.F. and V.H.F. tuner for receivers 3,376,508, 4-2-68, Cl. 325—459.
- Jones, Jeffery C. : *See*—
  - Jones, Charles W and J. C. 3.375,726.
- Jones, Raymond W. : *See*—
  - Douillard, Paul A., Jones, Cunningham, and Lucek. 3,376,186.
- Joosten, Johannes E. : *See*—
  - Van Driel, Gerrit A. H., Esveldt, and Joosten. 3,376,227.
- Jordan, Paul W. : *See*—
  - Keck, Charles R., and Jordan. 3,376.417.
- Joseph, Pierre, to Edouard Dubied et Cie (Societe Anonyme). Fabric drawing-off device for flat knitting machines. 3,375,683. 4-2-68. Cl. 66—149.
- Jung, Jean-Pierre : *See*—
  - Schwander, Hans R., Jung, and Hindermann. 3,376,320.
- Junge, Charles H. : *See*—
  - Kingsbury, George R., Junge, Weinkamer, and Slater. 3,375,563.
- Kaess, Franz, and O. Kick, to Suddeutsche Kalkstickstoff-Werke Aktiengesellschaft. Hot gas purification. 3,375,637, 4-2-68, Cl. 55—90.
- Kahan, George J., and D. W. Hall, to International Business Machines Corp. Electrolyte for the electrodeposition of palladium. 3,376,206, 4-2-68, Cl. 204—47.
- Kahle, Gerald R. : *See*—
  - Buck, Ollie G., and Kahle. 3,376,279.
- Kahn, Elliott H. : *See*—
  - Kushner, David S., and Kahn. 3,376,092.
- Kaouchansky, Alexandre S. : *See*—
  - Boitchenko, Mikhail S., Foulmakht, Routese, Pravdine, Korotkov, Kaouchansky, Chabanov, and Karpeka. 3,375.862.
- Kaplan, Ruth. Spring motor for toys or the like. 3,375,904, 4-2-68, Cl. 185—39.
- Kapustin, Jury M. : *See*—
  - Vinogradov, Alexandr S., Kapustin, Maxjutenko, Kiselnikov, Borisov, and Mazalov. 3,375,555.
- Karbin, Arnold : *See*—
  - Karbin, Menard N. and A. 3,375,535.
- Karbin, Menard N. and A. Ventilated cushion. 3,375,535, 4-2-68, Cl. 5—347.
- Karlovsky, Jerry, Jr., to National Mine Service Co. Boring type mining machine having mechanically driven horizontal rotary trimmer bars. 3,376,072, 4-2-68, Cl. 299—59.
- Karpeka, Victor A. : *See*—
  - Boitchenko, Mikhail S., Foulmakht, Routese, Pravdine, Korotkov, Kaouchansky, Chabanov, and Karpeka. 3,375,862.

- Karpeka, Viktor A. : *See*—
  - Butkevich, Vladimir A., Evteev, Kaushansky, Karpeka, Korotkov, Pravdin, Rutes, Fulmakht, and Fisjun. 3,375,864.
  - Bolchenko, Mikhail S., Evteev, Kaushansky, Karpeka, Orlova, Pravdin, Savchenko, Fisjun, Fulmakht, and Shabanov. 3,375,865.
- Kasahara, Yukio : *See*—
  - Fujimura, Masanori, Kasahara, Iguchi, Matsuo, Sasaki, Nagase, Nayakawa, and Iida. 3,375,774.
- Katz, Jacob M. Devices for dispensing paper towels, handbills, stationery and the like. 3,375,956, 4-2-68, Cl. 221—259.
- Katz, Marvin : *See*—
  - Kivett, Jerome S., and Katz. 3,376,046.
- Kaufman, Albert and L. Bracket support for rotary disk sander. 3,375,617, 4-2-68, Cl. 51—170.
- Kaufman, Louis : *See*—
  - Kaufman, Albert and L. 3,375,617.
- Kaushansky, Alexandr S. : *See*—
  - Butkevich, Vladimir A., Evteev, Kaushansky, Karpeka, Korotkov, Pravdin, Rutes, Fulmakht, and Fisjun. 3,375,864.
  - Bolchenko, Mikhail S., Evteev, Kaushansky, Karpeka, Orlova, Pravdin, Savchenko, Fisjun, Fulmakht, and Shabanov. 3,375,865.
- Kawanami, Shumpei : *See*—
  - Okamoto, Tatsumi, Hirayama, Kawanami, and Nishikawa. 3,376,151.
  - Okamoto, Tatsumi, Hirayama, Kawanami, and Nishikawa. 3,376,152.
- Kawashima, Nobuo : *See*—
  - Shibata, Iwao, Kawashima, and Yamaguchi. 3,376,485.
- Kaylor, Jule W. : *See*—
  - Matthews, Robert M., and Kaylor. 3,375,530.
- Keck, Charles R., and P. W. Jordan. Whole body scintillation detector for animal use comprising a plurality of plastic phosphor rectangular logs. 3,376,417, 4-2-68, Cl. 250—71.5.
- Keck, Julian W. Apparatus for cleaning and inhibiting corrosion in air preheaters and the like. 3,375,981, 4-2-68, Cl. 239—553.3.
- Keer, Clifford A. : *See*—
  - Rizk, Waheeb, Bolesworth, Keer, and Waldron. 3,376,017.
- Kelco Co. : *See*—
  - Schweiger, Richard G. 3 376,282.
- Keller, George H., to Becton, Dickinson and Co. Prefilled syringe. 3.375.825, 4-2-68, Cl. 128—221.
- Keller, Rudolf : *See*—
  - Bayerlein, Friedrich, Keller, Mahling, Becker, Gajek, and Wilhelm. 3.376.275.
- Kelley, Louis E. : *See*—
  - Drennen, Thomas J., and Kelley. 3,376,159.
- Kelly, John H. Method and apparatus for cementing shoe soles to extended welt shoes. 3,375,536, 4-2-68, Cl. 12—142.
- Kelly, Timothy A., and D. R. Altice. One-way hingeless ventilator. 3 375,772, 4-2-68, Cl. 98—2.
- Kelsey, Christopher G., to Data Resolved Tools, Pty., Ltd. Means and method for the construction of tools. 3,375,568, 4-2-68, Cl. 29—407.
- Kelsey-Hayes Co. : *See*—
  - Hayes, Edward J. 3,375,906.
- Kelvin-Thompson Co. Ltd., The : *See*—
  - Thompson, Geoffrey B. and R. D. 3,375,940.
- Kennecott Copper Corp. : *See*—
  - Messner, Martin E., and Zimmerley. 3,376,104.
- Kennedy, Peter D., to Granger Associates. Vertical radiation spiral antenna. 3,376,577, 4-2-68, Cl. 343—886.
- Kennedy, Thomas B. Ski boot level indicator. 3,375,586, 4-2-68, Cl. 33—3.
- Kerber, Stanley M. : *See*—
  - Cress, Vernor B., Jr., Hoyt, Metz, Pollock, Kerber, Cabe, and Apitz. 3,376,546.
- Kerma Corp. : *See*—
  - McCready, Ross B., and Forster. 3,375,945.
- Kern, Joseph F., R. T. Dale, W. C. Kern, and P. M. Robinson, to Puregas Equipment Corp. Automatic liquid discharge system for gas storage tanks. 3,375,848, 4-2-68, Cl. 137—195.
- Kern, William C. : *See*—
  - Kern, Joseph F., Dale, W. C. Kern, and Robinson. 3,375,848.
- Kernes, Harmon E., to Howmet Corp. Removable armrest assembly for invalid wheelchairs. 3,376,065, 4-2-68, Cl. 297—414.
- Kernes, Harmon E., to Howmet Corp. Horizontally adjustable armrest for invalid wheelchairs. 3,376,066, 4-2-68, Cl. 297—417.
- Kernes, Harmon E., to Howmet Corp. Adjustable legrest assembly for an invalid wheelchair. 3,376,067, 4-2-68, Cl. 297—427.
- Kerns, Quentin A., to The Regents of The University of California. Transient-suppressing magnetic transmission line. 3,376,523, 4-2-68, Cl. 333—78.
- Kerr, Gerrald E. : *See*—
  - Robertson, Wilbert J., and Kerr. 3,376,116.
- Kerr-McGee Corp. : *See*—
  - Henrickson, Angus V., Hermann, and Meyer. 3,376,103.
- Kessler, Michael H., to Westinghouse Electric Corp. Shelf and shelf support structure. 3,375,936, 4-2-68, Cl. 211—176.
- Kettering, James H., and F. R. Racki, to Westinghouse Air Brake Co. Empty and load brake control apparatus for railway cars. 3,376,080, 4-2-68, Cl. 303—22.
- Keuffel & Esser Co. : *See*—
  - Ellis, Charles R., and Baker. 3,375,750.
- Keyes Fibre Co. : *See*—
  - Crabtree, Kenneth L. 3,375,966.
- Keystone Valve Corp. : *See*—
  - Forsman, Earl R., and Clark. 3,376,015.
- Kholopov, Jury V. : *See*—
  - Zaitsev, Mikhail P., and Kholopov. 3,375,965.
- Kick, Otto : *See*—
  - Kaess, Franz, and Kick. 3,375,637.
- Kido, Yutaka, and H. Maekawa, to Mitsubishi Rayon Co., Ltd. Apparatus for producing conjugated filaments. 3,375,548, 4-2-68, Cl. 18—8.
- Kiefer, Bernhard, and A. Buske, to Firma Karl Schmidt G.m.b.H. Process and apparatus for electroplating annular bodies. 3,376,210, 4-2-68, Cl. 204—297.
- Kilander, Sven G. I., and B. O. T. Andersson, to Telefonaktiebolaget L M Ericsson. PBX having multi-wire signal channel means between operator and trunk equipment. 3,376,394, 4-2-68, Cl. 179—27.
- Kilmer, William M. H. : *See*—
  - Albertson, Orris E., and Kilmer. 3,375,794.
- Kilsheimer, John R. : *See*—
  - Foster, Harold M., and Kilsheimer. 3,376,309.
- Kim, Ki T., to The Sherwin-Williams Co. Viscosimeter. 3,375,705, 4-2-68, Cl. 73—57.
- Kimberly-Clark Corp. : *See*—
  - Bletzinger, John C., Condon, and Simons. 3,375,827.
- King, Lewis E. : *See*—
  - Hasbrouck, Leo J., Holleran, and King. 3,376,556.
- Kingsbury, George R., C. H. Junge, W. A. Weinkamer, and R. L. Slater, to Clevite Corp. Method of making dual-material flange bearings. 3,375,563, 4-2-68, Cl. 29—149.5.
- Kiper, Gerd, to Agfa-Gevaert AG. Combined shutter and diaphragm for photographic cameras. 3,375,769, 4-2-68, Cl. 95—63.
- Kirk, Charles C. : *See*—
  - Gregorian, Razmic S., and Kirk. 3,376,238.
- Kirkland, Earl V., to Celanese Corp. Copolymers of alpha-olefins and olefin-substituted cycloalkenes and fibers therefrom. 3,376,248, 4-2-68, Cl. 260—33.6.
- Kiselnikov, Vladimir N. : *See*—
  - Vinogradov, Alexandr S., Kapustin, Maxjutenko, Kiselnikov, Borisov, and Mazalov. 3,375,555.
- Kissilov, Shlomo. Hoisting apparatus. 3,375,947, 4-2-68, Cl. 214—674.
- Kissman, Henry M., and M. J. Weiss, to American Cyanamid Co. Fluoro steroids and methods of preparing the same. 3,376,293, 4-2-68, Cl. 260—239.55.
- Kivet, Jerome S., and M. Katz. Material handling system. 3,376,046, 4-2-68, Cl. 280—33.99.
- Klemchuk, Peter P., to Geigy Chemical Corp. Polyvinyl chloride stabilized with metal salts of acyclic polycarboxylic acids. 3,376,256, 4-2-68, Cl. 260—45.75.
- Klein, Heinrich, to Eschweiler Bergwerks-Verein. Process and apparatus for manufacuring reinforced plastic tubing. 3,375,550, 4-2-68, Cl. 18—13.
- Klein, Robert E., and J. E. Driver, Sr., to International Telephone and Telegraph Corp. Method of and tools for making printed circuit boards. 3,375,576, 4-2-68, Cl. 29—626.
- Klein, Robert J. : *See*—
  - Mohelman, Vernon C., and Klein. 3,376,040.
- Kleinwefers, Joh., Sohne : *See*—
  - Wagner, Fritz W. 3,376,407.
- Klerer, Julius, to Bell Telephone Laboratories, Inc. Thin film capacitor. 3,376.481, 4-2-68, Cl. 317—258.
- Klinke, Bernard R., to Smith-Berger Mfg. Corp. Mechanical interlock system for hoisting machinery. 3,376,020, 4-2-68, Cl. 254—185.
- Klupsch, Paul, to Veb Carl Zeiss. Photographic lens mounts including an automatic diaphragm. 3,375,768, 4-2-68, Cl. 95—45.
- Knapp, George A., to Reactive Metals, Inc. Method of cold rolling. 3,375,695, 4-2-68, Cl. 72—365.
- Knight, Erwin C., to McGraw-Edison Co. Grass shears. 3,375,581, 4-2-68, Cl. 30—248.
- Knopf, Robert J. : *See*—
  - Cox, Eugene F., and Knopf. 3,376,281.
- Knoth, Walter H., Jr., to E. I. du Pont de Nemours and Co. Salts and acids containing the $B_{10}H_{11}CH^-$ or $B_{10}H_{10}CH^-$ anion. 3,376,343, 4-2-68, Cl. 260—567.6.
- Knudson, Louis I. : *See*—
  - Glover, Norman I., and Knudson, and Shoemaker. 3,376,474.
- Kobayashi, Kanjiro, and M. Mastumoto, to Nikko Chemical Kabushiki Kaisha. Carbonic acid esters of pantothenic acid. 3,376,334, 4-2-68, Cl. 260—463.
- Kobetz, Paul, and H. Shapiro, to Ethyl Corp. Preparation of dialkyltin oxides. 3,376,329, 4-2-68, Cl. 260—429.7.
- Koblitz, Francis F., and R. G. Petrella, to Pennsalt Chemicals Corp. Vinylidene fluoride yarns and process for producing them. 3,376,370, 4-2-68, Cl. 264—184.
- Koch, Ronney R. : *See*—
  - McLaughlin, Homer C., Ramos, and Koch. 3,375,872.
- Koczka, Istvan : *See*—
  - Feher, Odon, Koczka, and Vargha. 3,376,288.
- Koda, Keiji, to Mitsubishi Denki Kabushiki Kaisha. Ignition device for internal combustion engine. 3-375,812, 4-2-68, Cl. 123—148.
- Koehler, Joseph E. : *See*—
  - Douglass, Paul W., and Koehler. 3,375,577.
- Kollsman Instrument Corp. : *See*—
  - Kushner, David S., and Kahn. 3,376,092.
- Kolster, Wilhelm K., to Swiss Controls & Research, Inc. Data apparatus. 3,375,973, 4-2-68, Cl. 234—59.

- Koninklijk Verkode Fabrieken N.V.: *See—*
  - Seeder, Wilhelm A. 3,375,792.
- Koopman, Harmannus, and A. Tempel, to North American Philips Co., Inc. Agent for the combatment of moulds. 3,376,190, 4-2-68, Cl. 167—33.
- Koots, Theodor, H. Maas, and E. A. Bengtsson, to Stora Kopparbergs Bergslags Aktiebolag. Process for dephosphorization of pig iron particularly pig iron rich in phosphorus. 3,376,130, 4-2-68, Cl. 75—52.
- Kopa, Richard D., to The Regents of The University of California. Fuel atomising carburetors. 3,376,027, 4-2-68, Cl. 261—145.
- Körber, Willi, to L & C Steinmuller G.m.b.H. Fire-box partition. 3,375,810, 4-2-68, Cl. 122—240.
- Kordik, Kenneth S.: *See—*
  - Stilley, Herschel H., and Kordik. 3,376,483.
- Korkowski, Vincent J., to Sperry Rand Corp. Discrimination logic and memory devices employing a transfluxor core. 3,376,563, 4-2-68, Cl. 340—174.
- Korotkov, Georgy R.: *See—*
  - Butkevich, Vladimir A., Evteev, Kaushansky, Karpeka, Korotkov, Pravdin, Rutes, Fulmakht, and Fisjun. 3,375,864.
  - Boitchenko, Mikhail S., Poulmakht, Routese, Pravdine, Korotkov, Kaouchansky, Chabanov, and Karpeka. 3,375,862.
- Kotok, Alan, and C. G. Bell, to Digital Equipment Corp. Digital computing system. 3,376,554, 4-2-68, Cl. 340—172.5.
- Kradolfer, Pieter J. B.: *See—*
  - Verdonk, Anthonius C. W., and Kradolfer. 3,376,171.
- Kraft, Wheaton W., and J. J. Schorsch, to The Lummus Co. Regenerative mass. 3,376,115, 4-2-68, Cl. 23—277.
- Krakauer, Hans A., and H. H. Malvin, to United States of America, Air Force. Self-contained plasma administration pack. 3,375,824, 4-2-68, Cl. 128—214.
- Kraschnewski, Melvin W., and T. Learmont, to Bucyrus-Erie Co. Stepping-type propulsion means for excavators. 3,375,892, 4-2-68, Cl. 180—8.
- Kraus, Howard E., and W. A. Smith, to Robert H. Wager Co., Inc. Smoke density and color indicating means. 3,376,425, 4-2-68, Cl. 250—218.
- Krautwald, Herbert: *See—*
  - Fischer, Josef, Krautwald, and Hubner. 3,376,526.
- Kressley, Leonard J.: *See—*
  - Frevel, Ludo K., and Kressley. 3,376,113.
- Kritzler, Helmuth: *See—*
  - Wagner, Kuno, Scheurlen, and Kritzler. 3,376,255.
- Krogstad, Reuben S., and R. W. Moss, to The Boeing Co. X-ray spectrometer with means to vary the spacing of the atomic planes in the analyzing piezoelectric crystal. 3,376,415, 4-2-68, Cl. 250—51.5.
- Kroll, Wolfram R., to Esso Research and Engineering Co. Preparation of aluminum cyclopentadienyl compounds. 3,376,331, 4-2-68, Cl. 260—448.
- Kroll, Wolfram R., and R. B. Long, to Esso Research and Engineering Co. Separation process for cyclic olefins. 3,376,354, 4-2-68, Cl. 260—666.
- Krueger, Arlyn C.: *See—*
  - Edkins, John E., Krueger, and Rieder. 3,375,625.
- Kruger, Nicholas: *See—*
  - Chambers, Jerome B., and Kruger. 3,376,077.
- Kubota, Takashi: *See—*
  - Nakanishi, Ryoji, and Kubota. 3,376,257.
- Kuespert, Don R., to E. I. du Pont de Nemours and Co. Process of forming closure seals. 3,376,372, 4-2-68, Cl. 264—268.
- Kuffer, Clarence O., to Aerosol Research Co. Pressure fillable aerosol valve assembly. 3,375,957, 4-2-68, Cl. 222—402.16.
- Kuhne, Rudolf, H. Diery, and M. Grossmann, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Alkenyl sulfonamides and method of making the same. 3,376,299, 4-2-68, Cl. 260—247.1.
- Kuhnen, Fred: *See—*
  - Thomann, Gustav, and Kuhnen. 3,376,330.
- Kugler, Kenneth G., to Bausch & Lomb Inc. Lens testing autocollimator. 3,375,754, 4-2-68, Cl. 88—56.
- Kuraishi, Michio: *See—*
  - Eguchi, Takashi, Yamamoto, Yamauchi, Kuraishi, and Asakawa. 3,376,332.
- Kuris, Arthur, and L. Balamuth, to Cavitron Corp. Method and apparatus for ultrasonic cleaning of teeth. 3,375,820, 4-2-68, Cl. 128—62.
- Kushner, David S., and E. H. Kahn, to Kollsman Instrument Corp. Solid state display composed of an array of discrete elements having movable surfaces. 3,376,092, 4-2-68, Cl. 350—285.
- Kuts, Mathew, to The B. F. Goodrich Co. Band cutting apparatus. 3,375,745, 4-2-68, Cl. 83—176.
- Kuypers, William M. A.: *See—*
  - Beechler, Frank L., and Kuypers. 3,376,024.
- Labbe, Armand L., to Research-Cottrell, Inc. Filter bag cleaning device. 3.375,641, 4-2-68, Cl. 55—293.
- Laboratoires d'Electronique et de Physique Appliquees L.E.P.: *See—*
  - Loty, Charles, and Guillaume. 3,376,464.
- Labrecque, Jean P., to United Aircraft Corp. Automatically releasable and reengageable aircraft wheel anti-swivelling lock mechanism. 3,375,999, 4-2-68, Cl. 244—50.
- Lackey, Homer B., to Crown Zellerbach Corp. Purification of dialkyl sulfoxides by treatment with adsorptive carbon. 3,376,203, 4-2-68, Cl. 203—4.
- Lage, James R. Mixing process. 3,376,023, 4-2-68, Cl. 259—4.
- Lake-Dermer, Inc.: *See—*
  - Lake, Kenneth E. 3,375,531.
- Lake, Kenneth E., to Lake-Dermer, Inc. Flush valve. 3,375,531, 4-2-68, Cl. 4—57.
- Lally, Kenneth P., to Mid-Continent Mfg. Co. Circular electroluminescent display device. 3,376,452, 4-2-68, Cl. 313—108.
- Lamberti, Vincent: *See—*
  - Haass, Robert A., and Lamberti. 3,376,229.
- Lamboley, Alain: *See—*
  - Napoly, Claude, Humbert, and Lamboley. 3,376,174.
- Lancor, Joseph H., Jr.: *See—*
  - Bradt, Gordon E., and Lancor. 3,376,396.
- Lane, Robert E., W. P. Frazier, and O. C. Dermer, to The Dow Chemical Co. N,N'-bis-(2-aminoethyl)-1,3-bis (2-aminoalkyl) benzenes. 3,376,344, 4-2-68, Cl. 260—570.5.
- Langyel, Joseph D.: *See—*
  - Buckley, Frederick H., and Langyel. 8,876,014.
- Larrison, Millard S., to Weston Chemical Corp. Polyphosphite stabilizers for polymeric materials. 3,376,364, 4-2-68, Cl. 260—899.
- Larson, Ralph A., R. L. Millar, and C. E. Maier, to Continental Can Co., Inc. Method and apparatus for forming a spiral wound tube having an extruded plastic liner. 3,376,180, 4-2-68, Cl. 156—195.
- Larson, Ralph A., R. L. Millar, and C. E. Maier, to Continental Can Co., Inc. Method and apparatus for blowing plastic liner in continuously formed tubes having longitudinal seam. 3,376,181, 4-2-68, Cl. 156—203.
- La Telemecanique Electrique: *See—*
  - Bazi, Jules, and Fechant. 3,376,401.
- Lau, Ralph R.: *See—*
  - Coluren, Daniel R., and Lau. 3,375,749.
- Laubach, Gerald D.: *See—*
  - Agnello, Eugene J., Laubach, and Moreland. 3,376,294.
- Lawrence, Jackson, to General Electric Co. Composite body and method of making. 3,376,121, 4-2-68, Cl. 29—195.
- Lawson, Arnold D., to Sperry Rand Corp. Control apparatus. 3,376,570, 4-2-68, Cl. 340—347.
- Lazarre, Flavien, to Societe anonyme dite: Societe Nationale des Petroles D'Aquitaine. Windowed cell for high-pressure measurements. 3,375,802, 4-2-68, Cl. 116—117.
- Leach Corp.: *See—*
  - Godinez, Peter A. 3,376,557.
- Leach, Sam L. Electroluminescent devices with light emission generally perpendicular to the ionic current flow. 3,376,453, 4-2-68, Cl. 313—108.
- League, James M., to Celanese Corp. Winding device. 3,375,989, 4-2-68, Cl. 242—18.
- Learmont, Tom: *See—*
  - Kraschnewski, Melvin W., and Learmont. 3,375,892.
- Learmont, Tom, and T. M. Willgrubs, to Bucyrus-Erie Co. Hydraulic crowd for shovel. 3,375,943, 4-2-68, Cl. 214—135.
- Lear Siegler, Inc.: *See—*
  - Wong, Mei-Goon, and Maure. 3,376,550.
- Lease, Richard S. Method and system for reducing coal losses at pyrite traps of a coal pulverizer. 3,375,982, 4-2-68, Cl. 241—19.
- Leason, Dennis B., and S. H. Gwalter, to Central Electricity Generating Board. Tubular recuperative heat exchangers with socket members joining tube sections end to end. 3,376,028, 4-2-68, Cl. 263—20.
- Leath, McCarthy & Maynard, Inc.: *See—*
  - Page, Howard M. 3,375,684.
- Lebon, Evan L. Combination article storage and sorting device. 3,375,923, 4-2-68, Cl. 209—97.
- Le Barre, Stuart D. Voice recording systems with plural input stations. 3,376,552, 4-2-68, Cl. 340—172.5.
- Le Blanc, Robert B., to The Dow Chemical Co. Treatment of cellulosic material with APO-thiourea flame resistance and the resulting material. 3,376,160, 4-2-68, Cl. 117—136.
- Le Brasse, Gordon J.: *See—*
  - Flynn, Joseph M., and Le Brasse. 3,376,183.
- Le Clerc de Bussy, Jacques M. Y., to Verreries Pocket et du Courval. Electric glassmaking furnace. 3,376,373, 4-2-68, Cl. 13—6.
- Ledig, Kurt W.: *See—*
  - Wendt, Gerhard R., and Ledig. 3,376,284.
- Lee, Patrick P., to Destech Labs, Inc. Shock absorber. 3,376,031, 4-2-68, Cl. 267—1.
- Leguen de Lactoix, George R. J. E., to General Motors Corp. Variable-ratio lever mechanisms. 3,375,731, 4-2-68, Cl. 74—516.
- Lemons, David F., to Deere & Co. Transmission and control therefor. 3,375,734, 4-2-68, Cl. 74—689.
- Lenz, Hans: *See—*
  - Wieden, Horst, Brenschede, Lenz, Rellensmann, and Nischk. 3,376,264.
- Leonard, Thomas C., to Varian Associates. Adjustable bias network for microwave frequency diode multipliers. 3,376,495, 4-2-68, Cl. 321—69.
- Lepelletier, Pierre A. G., to Societe Anonyme Francaise du Ferodo. Braking system for automobile vehicles. 3,375,909, 4-2-68, Cl. 188—195.
- Lepselter, Irving. Bat and tethered ball combination. 3,376,037, 4-2-68, Cl. 273—26.
- Letter, Eugene C., to Bausch & Lomb Inc. High speed optical shutter. 3,376,089, 4-2-68, Cl. 350—160.
- Letter, Eugene C., to Bausch & Lomb Inc. Measuring laser output energy comprising a lead fluosilicate glass dosimeter element. 3,376,418, 4-2-68, Cl. 250—83.
- Lever Brothers Co.: *See—*
  - Haass, Robert A., and Lamberti. 8,376,229.
- Levine, Robert S.: *See—*
  - Shook, Gerald D., and Levine. 3,376,185.
- Levitt, Harold: *See—*
  - Willcox, Frederick P., Smith, and Levitt. 3,376,509.

- Levy, Murray N., to E. W. Bliss Co. Method and apparatus for perforating or cutting a rapidly moving strip. 3,375,743, 4-2-68, Cl. 83—27.
- Lewis, Richard W.: *See—*
  - Hughes, Herbert D., Lewis, and Partridge. 3,376,167.
- Lewus, Alexander J. Semiconductor control circuit with moving iron core. 3,376,484, 4-2-68, Cl. 318—221.
- Lexsuco, Inc.: *See—*
  - Curtis, Frank W., and Nickerson. 3,375,621.
- Liao, Tseng W., to General Electric Co. Spark gap device. 3,376,458, 4-2-68, Cl. 313—217.
- Lichtsteiner, Johann, to Hammerle A.G. Maschinenfabrik. Arrangement for the flanging, cutting, bending, turning over or shaping of drawn workpieces of sheet metal. 3,375,691, 4-2-68, Cl. 72—82.
- Liebscher, Roland, and E. Mayerhofer, to Siemens Aktiengesellschaft. Delay line for traveling wave tubes. 3,376,519, 4-2-68, Cl. 333—31.
- Ligon, Robert J. Article display package and method and blanks for making same. 3,375,921, 4-2-68, Cl. 206—80.
- Linde A.G.: *See—*
  - Becker Rudolf. 3,375,674.
- Linde Aktiengesellschaft: *See—*
  - Jakob, Fritz. 3,375,672.
- Lindeman, Myrl A., to Sun Oil Co. Grease testing machine. 3,375,699, 4-2-68, Cl. 73—10.
- Lindsay, James E. Pressure gauge. 3,375,719, 4-2-68, Cl. 73—411.
- Link, Edwin, to RTE Corp. Safe break terminator. 3,376,541, 4-2-68, Cl. 339—61.
- Linstead, Robert S. Hose clamp. 3,376,056, 4-2-68, Cl. 285—243.
- Lipking, Henry P. Hinge construction for swinging overhead door. 3,375,545 4-2-68, Cl. 16—163.
- Lloyd, Clayton T. Facility for maintaining life under sea. 3.375,671, 4-2-68, Cl. 61—69.
- Lock Inc.: *See—*
  - Gray, Raymond K., and Spencer. 3,375.542.
- Locke, Donald M., to United States of America. Atomic Energy Commission. Electrical connector. 3,376,544, 4-2-68, Cl. 339—149.
- Locke Mfg. Co., Inc.: *See—*
  - Miller, Clyde E. 3,375.645.
- Lockheed Aircraft Corp.: *See—*
  - McCala, Eugene D. 3,376,382.
  - Walter John F. 3,376,532.
- Loeb, Ernest, to Allis-Chalmers Mfg. Co. Gang type control rod drive. 3,375,728, 4-2-68, Cl. 74—422.
- Loepsinger, Albert J., to Grinnell Corp. Traveling overhead textile machine cleaner. 3,375,539, 4-2-68, Cl. 15—312.
- Loev, Bernard to Smith, Kline & French Laboratories. Process for the preparation of oxime carbamates. 3,376,342, 4-2-68, Cl. 260—566.
- Logan, Maurus C., and H. B. Gibson, to The Thomas & Betts Co. Thermocouple junctions. 3,376,170, 4-2-68, Cl. 136—233.
- Logemann, Heino, E. Degener, and H. Rachwalsky, to Farbenfabriken Bayer Aktiengesellschaft. Stabilized solutions of copolymers from acrylonitrile and vinylidene chloride. 3 376,254, 4-2-68, Cl. 260—45.75.
- Loghry, Herbert A.: *See—*
  - Loghry, John R. 3,375,603.
- Loghry, John R., 50% to H. A. Loghry. Slip float with line locking means. 3.375 603, 4-2-68, Cl. 43—43.11.
- Lohrman, William V., to Deere & Co. Integral drawbar with foldable sections. 3,376,050, 4-2-68, Cl. 280—411.
- Long, Robert B.: *See—*
  - Kroll, Wolfram R., and Long. 3,376,354.
- Loof, Nils O. T. Method of manufacturing printing member. 3 375,784, 4-2-68, Cl. 101—327.
- Lopker, Edwin B. Method of increasing the capacity of horizontal rotary vacuum filters. 3,375,927, 4-2-68, Cl. 210—67.
- Lopp, Charles R., W. G. Peyer, and J. G. Ruspino, to Whirlpool Corp. Article washing apparatus. 3,375,835, 4-2-68, Cl. 134—176.
- Loty, Charles, A. E. Guillaume; deceased (by G.-A. Boutry, representative), to Laboratoires d'Electronique et de Physique Appliquees L.E.P. Beam deflection system comprising a flattened helix. 3,376,464, 4-2-68, Cl. 315—3.
- Love, Mahlon L. to Deere & Co. Variable speed drive. 3,375,738, 4-2-68, Cl. 74—740.
- Lovett, John R., and T. M. Rosenblatt, to Esso Research and Engineering Co. Oxygen catalyzed production of tetrafluorohydrazine. 3,376,108, 4-2-68, Cl. 23—205.
- Lovkay, John: *See—*
  - Ives, David C., and Lovkay. 3,375,711.
- Lowdermilk, Elbert W. Portable footrests for card players. 3,376,069, 4-2-68, Cl. 297—439.
- Lubrizol Corp., The: *See—*
  - Butler, Thomas A. 3,376 221.
  - McMillen, Richard L. 3,376,222.
- Luce, John W.: *See—*
  - Hodges, Frank P., and Luce. 3,375,715.
- Lucek, John R.: *See—*
  - 3 376,186.
- Lucian, Arsene N. Shower apparatus. 3,375,583, 4-2-68, Cl. 4—145.
- Ludwig, Walter F., to The Garrett Corp. Fluid coupling. 3,375,663, 4-2-68, Cl. 60—54.
- Lukes George E.: *See—*
  - Baker, Don R., Lukes, and McClellan. 3,376,314.
- Lummus Co., The: *See—*
  - Kraft, Wheaton W., and Schorsch. 3,376,115.
- Lummus, James L., and B. V. Randall, to Pan American Petroleum Corp. Lost circulation material. 3,375,888, 4-2-68, Cl. 175—72.
- Lund, Johan, and R. R. Mitchell, to General Motors Corp. Voltage regulator. 3,376,496, 4-2-68, Cl. 322—28.
- Lund, Johan, to General Motors Corp. Input filter for transistor voltage regulators. 3,376,497, 4-2-68, Cl. 322—28.
- Lundin, Robert S., to General Times Corp. Voltage-controlled adjustable counter. 3,376,410, 4-2-68, Cl. 235—92.
- Lundstrom, John W., to Moisture Register Co. Roller electrode probe with capacitor shroud for electrical moisture testing instrument. 3,376,503, 4-2-68, Cl. 324—61.
- Lussier, Antoine N. A., to Northern Electric Co. Ltd. Tool for adjusting contact springs. 3,375,696, 4-2-68, Cl. 72—400.
- Luther, Walter C. Control means for a fireplace. 3,375,818, 4-2-68, Cl. 126—135.
- M & T Chemicals Inc.: *See—*
  - Davies, Alwyn G. 3,376,328.
- Maas, Heinz: *See—*
  - Kootz, Theodor, Maas, and Bengtsson. 3,376,130.
- Maas, Keith A.: *See—*
  - Collins, William E., and Maas. 3,376,150.
- Macher, Karl H.: *See—*
  - Wagner, Werner, and Macher. 3,376,091.
- Mackie, Harry A., to General Motors Corp. Self-modulating flexible choke air bearing. 3 375,893, 4-2-68, Cl. 180—124.
- Macy, James C., to Thrust, Inc. Electromagnetic actuating device. 3,376,528, 4-2-68, Cl. 335—296.
- Madigan, Thomas M., Jr.: *See—*
  - Fairbanks, Henry N., and Madigan. 3,375,752.
- Maekawa, Hiroshi: *See—*
  - Kido, Yutaka, and Maekawa. 3,375,548.
- Magnaflux Corp.: *See—*
  - Colbert, John R. 3,376,438.
- Mahling, Dieter: *See—*
  - Bayerlein, Friedrich, Keller, Mahling, Becker, Gajek, and Wilhelm. 3,376,275.
- Mahoney, William J., to American Machine & Foundry Co. Transfluxor magnetic switch. 3,376,427, 4-2-68, Cl. 307—88.
- Maier Curtis E.: *See—*
  - Larson, Ralph A., Millar, and Maier. 3,376,181.
- Mains, Frank, and E. S. Hardman, to Domtar Ltd. Overcap assemblies. 3,375,538, 4-2-68, Cl. 15—118.
- Malaker Corp.: *See—*
  - Daunt, John G. 3,375,867.
- Mallett, Lawrence G., to American Standard Inc. Mechanism for delivering predetermined fluid quantities. 3,376,013, 4-2-68, Cl. 251—38.
- Mallory, Donald G., L. H. Turner, and J. R. Cassano, to Xerox Corp. Programming control for reproduction machines. 3,375,779, 4-2-68, Cl. 101—132.
- Malvin, Harry H.: *See—*
  - Krakauer, Hans A., and Malvin. 3,375,824.
- Mannesmann Aktiegesellschaft: *See—*
  - Odenthal, Peter. 3,376,118.
- Marchiaro, Ettore, to Bombrini-Parodi-Delfino S.p.A. Mechanical percussion fuze for rockets. 3,375,766, 4-2-68, Cl. 102—78.
- Markle, Albert L.: *See—*
  - Taylor, Douglas W., Wechsler, and Markle. 3,376,472.
- Marks, Madison E.: *See—*
  - Menzl, Roland L., Marks, and Crowther. 3,376,218.
- Marks, Theodore, and J. T. Gelardi, to American Technical Machinery Corp. Bristle feeding mechanism. 3,376,073, 4-2-68, Cl. 300—2.
- Marlow, Douglas C., to Pirelli Ltd. Support members. 8,875,861, 4-2-68, Cl. 160—371.
- Marsh, Dale: *See—*
  - Giannone, Charles, and Marsh. 3,376,368.
- Martenson, Irvin W.: *See—*
  - Gilano, Michael N., and Martenson. 3,376,138.
  - Gilano, Michael N., Martenson, and Ott. 3,376,139.
- Martin, Carl C., D. T. Goodhue, and D. M. Rengel, to Grefco, Inc. Process for beneficiating diatomaceous earth ores. 3,375,922, 4-2-68, Cl. 209—5.
- Martin, Eldon L.: *See—*
  - Bursiek, Bill, and Martin. 3,375,627.
- Martin, Robert H., and F. N. Wroble, to Skinner Precision Industries, Inc. Linear induction motor actuator with electromagnetic detent. 3,376,441, 4-2-68, Cl. 310—13.
- Marynowski, Chester W.: *See—*
  - Hirt, Thomas J., and Marynowski. 3,376,468.
- Mas, Joseph A., to Dynamic Instrument Corp. Direct current inverter for operating alternating current devices. 3,376,491, 4-2-68, Cl. 321—25.
- Masciantonio, Philip X., and M. H. Wilt, to United States Steel Corp. Method of preventing crystals from forming in creosote and the resulting product. 8,376,212, 4-2-68, Cl. 208—2.
- Mason, Ronald T.: *See—*
  - Columbus, Peter S., and Mason. 3,376,148.
- Massow, Guenther: *See—*
  - Finkhauser, Dieter, and Massow. 3,376,391.
- Master-Craft Corp.: *See—*
  - Dixon, Allen L., and Fitz Gerald. 3,375,830.
- Masters, John E., and D. D. Hicks, to Celanese Coatings Co. Polyester resins and method of making same. 3,376,271, 4-2-68, Cl. 260—78.4.
- Masters, John E., and D. D. Hicks, to Celanese Coatings Co. Polyester resins. 3,376,272, 4-2-68, Cl. 260—78.4.
- Masters, John E., and D. D. Hicks, to Celanese Coatings Co. Polyester resin compositions and methods. 8,376,273, 4-2-68, Cl. 260—78.4.

Mastumoto, Mitsuo : *See—*
Kobayashi, Kanjiro, and Mastumoto. 3,376,334.
Mathison, Robert V. Rotatable cylinder and pulley devices. 3,375,725, 4–2–68, Cl. 74—229.
Matsuo, Yoshihiro : *See—*
Fujimura, Masanori, Kasahara, Iguchi, Matsuo, Sasaki, Nagase, Nayakawa, and Tida. 3,375,774.
Matsushita Electric Industrial Co., Ltd. : *See—*
Fujimura, Masanori, Kasahara, Iguchi, Matsuo, Sasaki, Nagase, Nayakawa and Tida. 3,375,774.
Oku, Takeshi. 3,376,473.
Matthews, Edward E. Fishing gaff. 3,375,601, 4–2–68, Cl. 43—5.
Matthews, Robert M., and J. W. Kaylor, to Chadbourn Gotham, Inc. Briefs and method of making. 3,375,530, 4–2–68, Cl. 2—224.
Maure, Douglas R. : *See—*
Wong, Mei-Goon, and Maure. 3,376,550.
Maurer, John F. : *See—*
Dunn, Wendell E., Jr., and Maurer. 3,376,112.
May, Diethelm F. : *See—*
Jacob, Werner O., and May. 3,375,562.
Mayden, Frank E., ½ to T. E. Mayden. Pressurized paint supply assembly with extension applicator. 3,376,096, 4–2–68, Cl. 401—270.
Mayden, Theresa E. : *See—*
Mayden, Frank E. 3,376,096.
Mayerhofer, Erich : *See—*
Liebscher, Roland, and Mayerhofer. 3,376,519.
Mayo, Marion L. : *See—*
Powell, John L., Jr., and Mayo. 3,375,635.
Maxjutenko, Ilya N. : *See—*
Vinogradov, Alexandr S., Kapustin, Maxjutenko, Kiselnikov, Borisov, and Mazalov. 3,375,555.
Mayo, Ralph F., to Radio Corp. of America. Electroacoustic wave shaping device. 3,376,572, 4–2–68, Cl. 343—17.2.
Mazalov, Ivan M. : *See—*
Vinogradov, Alexandr S., Kapustin, Maxjutenko, Kiselnikov, Borisov, and Mazalov. 3,375,555.
McAlpine, William D. Carpetmaking method and apparatus. 3,376,178, 4–2–68, Cl. 156—72.
McArtney, John J. : *See—*
Franklin, Robert F., and McArtney. 3,376,445.
McCalla, Eugene D., to Lockheed Aircraft Corp. Direct viewing image enhancement method and apparatus. 3,376,382, 4–2–68, Cl. 178—6.8.
McCarty, Horace G., and E. F. Glass, to Sperry Rand Corp. Harvesting device. 3,375,643, 4–2–68, Cl. 56—23.
McClellan, Malcolm B. : *See—*
Baker, Don R., Lukes, and McClellan. 3,376,314.
McColl, John W., to Borg-Warner Corp. Commutator and method of making. 3,376,443, 4–2–68, Cl. 310—235.
McConnell, Richard L. : *See—*
Coover, Harry W., Jr., and McConnell. 3,376,232.
McConnell, William C., and H. W. Rahn, to Pittsburgh Plate Glass Co. Method for regulating plant growth. 3,376,125, 4–2–68, Cl. 71—65.
McConnell, William C., and H. W. Rahn, to Pittsburgh Plate Glass Co. Method for regulating plant growth. 3,376,126, 4–2–68, Cl. 71—65.
McConnell, William C., and H. W. Rahn, to Pittsburgh Plate Glass Co. Aquatic herbicidal methods. 3,376,127, 4–2–68, Cl. 71—66.
McCready, Ross B., and K. W. Forster, to Kerma Corp. Furnace charger crane. 3,375,945, 4–2–68, Cl. 214—316.
McDonnell Aircraft Corp. : *See—*
Dubusker, William, Robertson, Oliver, Bennett, and Schmidt. 3,375,570.
McDonnell Douglas Corp. : *See—*
Goldman, Israel. 3,376,004.
McDowell, Donald G. : *See—*
Jacobus, Dwight W., Sterling, and McDowell. 3,375,678.
McEuen, Albert H., R. M. Whitehorn, R. E. Dye, and E. J. Murphy, to Varian Associates. Balanced microwave hybrid function mixer assembly. 3,376,507, 4–2–68, Cl. 325—446.
McGraw-Edison Co. : *See—*
Date, Kazuo H. 3,376,525.
Fisher, John L. 3,376,086.
Knight, Erwin C. 3,375,581.
Phillips, Davis M. 3,375,620.
McKee, Allan W., Jr., and D. T. Zentmyer, to Armstrong Cork Co. Method of forming a decorative surface covering and article formed thereby. 3,376,187, 4–2–68, Cl. 161—164.
McKee, Lewis W., to The Barden Corp. Dental handpiece. 3,376,084, 4–2–68, Cl. 308—184.
McLaughlin, Homer C., J. Ramos, and R. R. Koch, to Halliburton Co. Method of plugging or sealing formations with acidic silicic acid solution. 3 375,872, 4–2–68, Cl. 166—29.
McLeod, Norman F., to Texas-U.S. Chemical Co. Process for crumb slurry blending after recovery in polybutadiene production. 3,376,363, 4–2–68, Cl. 260—894.
McMichael, Lawrence E. Cigarette snuffer. 3,375,832, 4–2–68, Cl. 131—235.
McMillen, Richard L., to The Lubrizol Corp. Process for preparing lubricating grease. 3,376,222, 4–2–68, Cl. 252—33.
McNeil Laboratories, Inc. : *See—*
Mohrbacher, Richard J., and Poos. 3,376,304.
McPherson, Patrick F., to American Machine & Foundry Co. Adjustable dish dispenser. 3,376,085, 4–2–68, Cl. 312—71.
McShane, Herbert F., Jr., to E. I. du Pont de Nemours and Co. Stabilized solutions of ferric chloride in toluene diisocyanate. 3,376,230, 4–2–68, Cl. 252—188.3.

Mears, Norman B., to Buckbee-Mears Co. Shadow mask and magnetic shield unitary construction for color TV picture tubes. 3,376,451, 4–2–68, Cl. 313—92.
Mechanical Handling Systems, Inc. : *See—*
Bishop, Leonard J. 3,375,790.
Mecke, Rolf : *See—*
Braun, Willy, and Mecke. 3,376,298.
Medalist Industries, Inc. : *See—*
Edkins, John E., Krueger, and Rieder. 3,375,625.
Meek, Cicero P. Knee pad. 3,375,821, 4–2–68, Cl. 128—80.
Meelheim, Richard Y., to E. I. du Pont de Nemours and Co. Process incorporating sodium pyrophosphate treated kaolinite within polyester. 3,376,249, 4–2–68, Cl. 260—40.
Meier, Curtis E. : *See—*
Larson, Ralph A., Miller, and Meier. 3,376,180.
Me-Kox Industri : *See—*
Melvold, Odd. 3,375,607.
Melton, Thomas M., to Mobil Oil Corp. Phosphinothioate ester. 3,376,365, 4–2–68, Cl. 260—941.
Melvold, Odd, to Me-Kox Industri. Briquette for growing of plants. 3,375,607, 4–2–68, Cl. 47—37.
Menu, Edouard, to Societe Fives Lille-Cail. Converter having ball and socket trunnion bearings. 3,376,029, 4–2–68, Cl. 266—36.
Menzi, Roland L., M. E. Marks, and R. H. Crowther, to Standard Oil Co. Refining of lubricating oil and reactivation of the catalyst. 3,376,218, 4–2–68, Cl. 208—264.
Mercier, Bernard : *See—*
Mercier, Jean, and Bernard. 3,375,844.
Mercier, Jean, and Bernard. Unloader valve. 3,375,844, 4–2–68, Cl. 137—108.
Merck, E., A.G. : *See—*
Unger, Richard, Sommer, Schorscher, and Enenkel. 3,376,312.
Merck & Co., Inc. : *See—*
Gal, George, and Sletzinger. 3,376,316.
Shen, Tsung-Ying. 3,376,300.
Merckle, K. E. : *See—*
Dungler, Julien. 3,375,638.
Merkle, Frank P., Jr., to M. H. Detrick Co. Panelized furnace roof. 3,375,795, 4–2–68, Cl. 110—99.
Merrell, Kenneth C., to Robertshaw Controls Co. Continuous acting current integrator having selective zero base and providing variable repetition rate output pulses of predetermined width and amplitude. 3,376,431, 4–2–68, Cl. 307—229.
Mescher, Harold E., to Pacific Scientific Co. Waste converter. 3,376,202, 4–2–68, Cl. 202—90.
Meshulam, Avram M. Piston valve slide. 3,375,853, 4–2–68, Cl. 137—494.
Messenger, Joseph U., to Mobil Oil Corp. Method of cementing casing in a well. 3,375,869, 4–2–68, Cl. 166—3.
Messner, Martin E., and S. R. Zimmerley, to Kennecott Copper Corp. Extraction of rhenium and production of molybdic oxide from sulfide ore materials. 3,376,104, 4–2–68, Cl. 23—15.
Metal Edge Industries : *See—*
Fulton, Bertram A. 3,375,761.
Metz, Ramey B. : *See—*
Cress, Vernor B., Jr., Hoyt, Metz, Pollock, Kerber, Cabe, and Apitz. 3,376,546.
Meyer, Adolph E. : *See—*
Henrickson, Angus V., Hermann, and Meyer. 3,376,103.
Meyerand, Russell G., Jr., D. W. Bell, and R. H. Bullis, to United Aircraft Corp. Thermionic conversion means. 3,376,437, 4–2–68, Cl. 310—4.
Miale, Goliardo, and E. R. Campagna, to Westinghouse Electric Corp. Electron discharge device grid having parallel cross straps connected at the center thereof. 3,376,462, 4–2–68, Cl. 313—350.
Miami Copper Co. : *See—*
Corbett, Burton, and Bean. 3,375,924.
Michael, Frank R. Volumetric measuring device. 3,375,597, 4–2–68, Cl 37—141.
Michigan-Dynamics, Inc. : *See—*
Whiting, James C. 3,375,720.
Mid-Continent Mfg. Co. : *See—*
Lally, Kenneth P. 3,376,452.
Mikulin, Tom T., to Kenneth Millhiser. Structural member. 3,375,624, 4–2–68, Cl. 52—109.
Millar, John H. Manufacture of corrugated metal tubes or bellows. 3,375,689, 4–2–68, Cl. 72—59.
Millar, Ronald L. : *See—*
Larson, Ralph A., Milar, and Maier. 3,376,180.
Millar, Ronald L. : *See—*
Larson, Ralph A., Millar, and Maier. 3,376,181.
Miller, Allen A. : *See—*
Brothman, Abraham, Halpern, Reiser, Miller, Finkey, and Chen. 3,376,511.
Miller, August W., Jr., to Portage Plastics Co., Inc. Receptacles. 3,375,953, 4–2–68, Cl. 220—97.
Miller, Clyde E., to Locke Mfg. Companies, Inc. Lawn mower. 3,375,645, 4–2–68, Cl. 56—25.4.
Miller, Jacob J. Liquid pressure accommodation means. 3,375,799, 4–2–68, Cl. 114—16.6.
Miller, Jane J. : *See—*
George, Edward. 3,375,899.
Miller, Loren N., O. C. Holbrook, and B. B. Woertz, to Union Oil Co. Extraction of acidic constituents from gas mixtures with gamma butyrolactone. 3,375,639, 4–2–68, Cl. 55—195.
Millhiser, Kenneth : *See—*
Mikulin, Tom T. 3,375,624.
Mills, Arthur E. : *See—*
Crittenden, Geoffrey H., and Mills. 3,375,938.

Millward, Samuel J., to Varian Associates. Thermionic cathodes and high frequency electron discharge devices. 3,376,461, 4–2–68, Cl. 313—337.
Milster, Arthur N. Wagner Electric Corp. Control valve. 3,375,852, 4–2–68, Cl. 137—493.3.
Mine Safety Appliances Co. : *See—*
Timm, Walter, and Sebest. 3,375,529.
Ministerul Petrolului : *See—*
Mircea, Driga. 3,376,403.
Minnesota Mining and Mfg. Co. : *See—*
Haes, Donald L. 3,376,422.
Morgan, Albert W., and Swenson. 3,376,278.
Mircea, Driga, to Ministerulu Petrolului. Bottom-hole electric heater. 3,375,403, 4–2–68, Cl. 219—10.49.
Misner, Franklin E. : *See—*
Pandelis, Charles R., Dearing, and Misner. 3,375,706.
Mitchell, Arlan E., to AWB Mfg., Inc. Dynamic wheel balancer. 3,376,075, 4–2–68, Cl. 301—5.
Mitchell, Farris, to Mobil Oil Corp. Cement composition for high temperature wells. 3,375,873, 4–2–68, Cl. 166—31.
Mitchell, Farris, to Mobil Oil Corp. Low density cement composition. 3,376,146, 4–2–68, Cl. 106—97.
Mitchell, Ronald R. : *See—*
Lund, Johan, and Mitchell. 3,376,496.
Mitsubishi Denki Kabushiki Kaisha : *See—*
Koda, Keiji. 3,375,812.
Mitsubishi Rayon Co., Ltd. : *See—*
Kido, Yutaka, and Maekawa. 3,375,548.
Miyata, Saburo. Magnet assembly for filtering. 3,376,529, 4–2–68, Cl. 335—305.
Mobil Oil Corp. : *See—*
Foster, Harold M., and Kilsheimer. 3,376,309.
Melton, Thomas M. 3,376,365.
Messenger, Joseph U. 3,375,869.
Mitchell, Farris. 3,375,873.
Mitchell, Farris. 3,376,146.
Modla, John J., now by change of name William D. Johnson. Pressurized shaving lather brush. 3,376,095, 4–2–68, Cl. 401—190.
Moehlman, Vernon C., and R. J. Klein, to Olin Mathieson Chemical Corp. Compacted frangible target of agglomerated particulate material. 3,376,040, 4–2–68, Cl. 273—105.4.
Mohrbacher, Richard J., and G. I. Poos, to McNeil Laboratories, Inc. 2-(R-R_1-R_2-methyl)-6-R_3-6-R_4-fulvenes. 3,376,304, 4–2–68, Cl. 260—288.
Moisture Register Co. : *See—*
Lundstrom, John W. 3,376,503.
Monarch Machine Tool Co., The : *See—*
Sturm, Walter V. 3,375,742.
Monk, Brian A., to S. A. Monk (Sutton-in-Ashfield), Ltd. Flat bed knitting machines and method of knitting. 3,375,681, 4–2–68, Cl. 66—70.
Monk, S. A. (Sutton-in-Ashfield), Ltd. : *See—*
Monk, Brian A. 3,375,681.
Monsanto Co. : *See—*
Brennan, Wendell E., and Biles. 3,375,829.
Burnthall, Edward V., and Hirshfeld. 3,376,253.
Greeson, Louis B., Jr. 3,375,651.
Preston, Jack. 3,376,268.
Preston, Jack. 3,376,269.
Ridgway, James S. 3,376,270.
Sample, Byron A., Jr., Reuben, and Hirshfeld. 3,376,245.
Smith, George E. 3,376,430.
Stroh, Ernest F. 3,376,276.
Tate, John E. 3 376,353.
Thompson, Byrd T., Jr., and Woodbery. 3,375,704.
Thompson, Quentin E. 3,376,322.
Montani, Angelo, J. H. Witt, and G. Ritsi, to Philco-Ford Corp. Automatic rangefinder. 3,376,411, 4–2–68, Cl. 235—151.32.
Montecatini Edison S.p.A. : *See—*
Domenicali, Benito, and Canti. 3,376,352.
Montgomery, Lionel C. : *See—*
Reddy, Montgomery, and Grulke. 3,376,247.
Mo Och Domsjo Aktiebolag : *See—*
Venemark, Emil T. 3,376,102.
Mool, John : *See—*
Gring, John L., and Mool. 3,376,106.
Moore Business Forms, Inc. : *See—*
Campbell, John, Beazley, Benn, and Grandin. 3,376,154.
Moore, Lawrence K. Wire-line actuated time-delay detonator apparatus. 3,375,785, 4–2–68, Cl. 102—20.
Moran, Clifford M. : *See—*
Vail, Sidney L., and Moran. 3,376,101.
Morel, Jacques E. G. : *See—*
Amedjian, Garabed, Crenne, and Morel. 3,376,351.
Moreland, Walter T. : *See—*
Agnello, Eugene J., Laubach, and Moreland. 3,376,294.
Morgan, Albert W., and J. S. Swenson, to Minnesota Mining and Mfg. Co. Process for the chemical modification of the solid surface of a polymer. 3,376,278, 4–2–68, Cl. 260—93.7.
Morgan, Raymond E., and B. D. Bedford, to General Electric Co. Solid state power circuits employing new autoimpulse commutation. 3,376,492, 4–2–68, Cl. 321—43.
Mori, Ernest A. : *See—*
Goodwin, Robert J., Mori, Pekarek, Schaub, and Zinkham. 3,375,886.
Mori, Ernest A. : *See—*
Goodwin, Robert J., Mori, Pekarek, Schaub, and Zinkham. 3,375,887.
Morris, Elizabeth A. : *See—*
Jeffreys, Roy A., E. A. and R. B. Morris. 3,375,929.
Morris, Frank A Fuel injection system for internal combustion engines. 3,375,811, 4–2–68, Cl. 123—139.
Morris, Reginald B. : *See—*
Jeffreys, Roy A., and R. B. Morris. 3,375,929.

Morrison, James L. D. : *See—*
Estkowski, Michael H., and Morrison. 3,376,043.
Morrison, John R. : *See—*
Bate, Geoffrey, and Morrison. 3,376,035.
Moshy, Raymond J. : *See—*
Germino, Felix J., and Moshy. 3,376,286.
Moss, Robert W. : *See—*
Krogstad, Reuben S., and Moss. 3,376,415.
Motorola, Inc. : *See—*
Jabbar, Kamil Y., and Race. 3,376,548.
Taylor, Douglas W., Wechsler, and Markle. 3,376,472.
Mott, Carl W., Jr., to Mott Corp. Blade construction for a mower. 3,375,647, 4–2–68, Cl. 56—294.
Mott Corp. : *See—*
Mott, Carl W., Jr. 3,375,647.
Moyer, Elton S., to General Motors Corp. Brake assembly. 3,375,907, 4–2–68, Cl. 188—76.
Moyer, James D., and L. A. Pittman, Jr., to Textile Machine Works. Mechanism for processing multifilament crimped yarn. 3,375,559, 4–2–68, Cl. 28—1.
Mueller, Hans, F. Neumann, and R. Wiechert, to Schering Aktiengesellschaft. Anabolic composition-comprising 1,2-β-methylene-5-α-androstane derivatives. 3,376,197, 4–2–68, Cl. 167—74.
Muhlbauer, Ernst : *See—*
Goliasch, Karl, Pelster, Muhlbauer, Heiss, and Scheinpflug. 3,376,335.
Muijderman, Everhardus A., to North American Philips Co., Inc. Axial bearing. 3,376,083, 4–2–68, Cl. 308—9.
Muir, Robert M., to Iowa State University Research Foundation, Inc. FM recording system for display of transienta. 3,376,505, 4–2–68, Cl. 324—112.
Multi-Contact A.G. : *See—*
Turban, Karl-Albert. 3,376,540.
Munse, Robert A., to The Bishop and Babcock Corp. Device for separating arms of C-clip. 3,376,612, 4–2–68, Cl. 24—73.
Murati, Efrahim. Damage-proof soil sampler. 3,375,891, 4–2–68, Cl. 175—403.
Murex Welding Processes Ltd. : *See—*
Brown, Alexander, and Wellard. 3,375,729.
Murphy, Edward J. : *See—*
McEven, Albert H., Whiteborn, Dye, and Murphy. 3,376,507.
Murphy, Frank W., Mfg., Inc. : *See—*
Robinson, Ivor R., and Carlton. 3,375,718.
Murphy, William D., to Sylvania Electric Products Inc. Synchronous demodulator with stabilized amplifers and blanking. 3,376,380, 4–2–68, Cl. 178—5.4.
Murray, Wakefield M., to Overly Mfg. Co. Metal roof. 3,375,622, 4–2–68, Cl. 52—90.
Myer, Wilbur V. Forming apparatus. 3,376,010, 4–2–68, Cl. 249—13.
Myers, Ralph E., and D. C. Smith, to Conmaco, Inc. Pile driver. 3,375,881, 4–2–68, Cl. 173—139.
Myerson, Richard L., to Myerson Tooth Corp. Prefabricated veneer and matching destructible backing pattern for dental restorations. 3,375,582, 4–2–68, Cl. 32—12.
Myerson Tooth Corp. : *See—*
Myerson, Richard L. 3,375,582.
N.V. Chemische Industrie Synres : *See—*
Que, Adolf A. 3,376,241.
N.V. Cirex : *See—*
Verdonk, Anthonius C. W., and Kradolfer. 3,376,171.
N.V. Vereenigde Glasfabrieken (United Glassworks) : *See—*
De Leeuw, Gerrit. 3,376,123.
Naber, Albert J. and P. L. Aircraft computer. 3,375,974, 4–2–68, Cl. 235—61.
Naber, Phyllis L. : *See—*
Naber, Albert J. and P. L. 3,375,974.
Nagase, Kancomi : *See—*
Fujimura, Masanori, Kasahara, Iguchi, Matsuo, Sasaki, Nagase, Nayakawa, and Tida. 3,375,774.
Nakanishi, Ryoji, and T. Kubota, to Toyo Rayon Kabushiki Kaisha. Fully aromatic polybenzoxazoles and process for their preparation. 3,376,257, 4–2–68, Cl. 260—47.
Napoly, Claude, J.-J. Humbert, and A. Lamboley, to Etat Francais represente par le Ministre des Armees Delegation Ministrerielle Pour l'Armement. Powder containing nitrocelulose, metal or metal hydride and a superficial layer of moderating agent. 3,376,174, 4–2–68, Cl. 149—13.
Narbus, Joseph J., and G. Frind, to General Electric Co. Arc plasma generator having a vaporizable containment chamber. 3,376,459, 4–2–68, Cl. 313—231.
Nasvytis, Algirdas L., and P. L. Rountree, to TRW, Inc. Transversely oriented reduction drive. 3,375,727, 4–2–68, Cl. 74—417.
Nasvytis, Algirdas L., to TRW, Inc. Conical planetary friction gear drive. 3,375,739, 4–2–68, Cl. 74—798.
National Cash Register Co. : *See—*
Bange, Donald A., and Sternberg. 3,375,962.
National Gypsum Co. : *See—*
Dean, Robert M. 3,376,147.
National Mine Service Co. : *See—*
Karlovsky, Jerry, Jr. 3,376,072.
National Starch and Chemical Corp. : *See—*
Jarowenko, Wadym, and Rutenberg. 3,376,287.
National Video Corp. : *See—*
Schwartz, James W. 3,376,448.
Naumann, Alfred W., to Union Carbide Corp. Ion exchange extraction of vanadium. 3,376,105, 4–2–68, Cl. 23—22.
Nayakawa, Shigeru : *See—*
Fujimura, Masanori, Kasahara, Iguchi, Matsuo, Sasaki, Nagase, Nayakawa, and Tida. 3,375,774.

- Neikirk, David W.: *See—*
  - Stamps, Otis C., and Neikirk. 3,375,976.
- Neitz, Paul D. Transducer driver. 3,375,707, 4–2–68, Cl. 73—71.4.
- Nelson, R., Mfg. Co.: *See—*
  - Busker, Wilbur H., and Parker. 3,375,979.
- Nepera Chemical Co., Inc.: *See—*
  - Hyden, Seymour, and Wilbert. 3,376,307.
- Neppiras, Ernest A.: *See—*
  - Butterworth, Harold M., and Neppiras. 3,375,977.
- Neumann, Friedmund: *See—*
  - Mueller, Hans, Neumann, and Wiechert. 3,376,197.
- Newhall, Edmunde E., and J. R. Perucca, to Bell Telephone Laboratories, Inc. Magnetic core shift register. 3,376,562, 4–2–68, Cl. 340—174.
- Newland, Gordon C., and J. W. Tamblyn, to Eastman Kodak Co. Ultraviolet light stabilized, zinc oxide pigmented, 1-olefin resin composition. 3,376,250, 4–2–68, Cl. 260—41.
- Newman, Robert W., to Automated Building Components, Inc. Apparatus for unloading completed wooden structural elements. 3,375,778, 4–2–68, Cl. 100—215.
- Newport News Shipbuilding and Dry Dock Co.: *See—*
  - Bradshaw, William K. 3,375,937.
- Nickerson, Malcolm H.: *See—*
  - Curtis, Frank W., and Nickerson. 3,375,621.
- Nieder-Westerman, Winfried: *See—*
  - Wotowiec. Joseph P., Rackley, and Nieder-Westermann. 3,375,773.
- Nikko Chemical Kabushiki Kaisha: *See—*
  - Kobayashi, Kanjiro, and Mastumoto. 3,376,334.
- Nippon Electric Co. Ltd.: *See—*
  - Akashi, Tsuneo, Takahashi, Yamauchi, Tsubouchi, and Ohno. 3,376,226.
- Nippon Telegraph and Telephone Public Corp.: *See—*
  - Yamato, Junji, Shimizu, and Iimura. 3,376,559.
- Nischk, Gunther: *See—*
  - Wieden, Horst, Brenschede, Lenz, Rellensmann, and Nischk. 3,376,264.
- Nishikawa, Yoshihiro: *See—*
  - Okamoto, Tatsumi, Hirayama, Kawanami, and Nishikawa. 3,376,151.
  - Okamoto, Tatsumi, Hirayama, Kawanami, and Nishikawa. 3,376,152.
- Nissen, Warren I., to The Gillette Co. Safety razors. 3,375,578, 4–2–68, Cl. 30—40.1.
- Nixdorff-Krein Mfg. Co.: *See—*
  - Platky, Adolph L. 3,375,918.
- Noorlander, Willem, and J. B. Thijssen, to North American Philips Co., Inc. Pole piece for magnetic recording head. 3,376,397, 4–2–68, Cl. 179—100.2.
- Nora International: *See—*
  - Schmidt, Walther. 3,376,131.
- Norris, Asam B., Jr., to Foremost Dairies, Inc. Balanced drinking water vendors. 3,375,913, 4–2–68, Cl. 194—13.
- North American Philips Co., Inc.: *See—*
  - Butterworth, Harold M., and Neppiras. 3,375,977.
  - De Haan, Edward F., and Haantjes. 3,376,446.
  - Koopman, Harmannus, and Tempel. 3,376,190.
  - Muijderman, Everhardus A. 3,376,083.
  - Noorlander, Willem, and Thijssen. 3,376,397.
  - Petit, Roger A. 3,376,447.
  - Van Driel, Gerrit A. H., Esveldt, and Joosten. 3,376,227.
  - Visser, Jan E., and Vrolijks. 3,375,575.
- North American Rockwell Corp.: *See—*
  - Ford, John P. 3,376,549.
  - Postma, Robert W. 3,375,712.
  - Sheeline, Randall D. 3,376,175.
- North Electric Co.: *See—*
  - Bixby, William H. 3,376,487.
  - Sternung, Sven Y. 3,376,393.
- Northern Electric Co. Ltd.: *See—*
  - Lussier, Antoine N. A. 3,375,696.
- Northrop Corp.: *See—*
  - Swanson, Donald L. 3,375,787.
- Nost, Louis N., to Xerox Corp. Xerographic donor development apparatus. 3,375,806, 4–2–68, Cl. 118—637.
- Novak, Stanley J. Bow with inflexible tubular nocking member. 3,375,815, 4–2–68, Cl. 124—23.
- Novak, Raymond F., and H. B. Ramspeck, to Fastener Corp. Fastener driving tool. 3,375,758, 4–2–68, Cl. 91—356.
- Novakovich, Milan, and R. D. Weber, to Rosan Engineering Corp. Rotatable high pressure fluid fitting. 3,376,053, 4–2–68, Cl. 285—92.
- Novo Terapeutisk Laboratorium A/S: *See—*
  - Svanholm, Gert. 3,376,339.
- Nuclear-Chicago Corp.: *See—*
  - Frank, Donald H. 3,376,420.
- Nugent, William R. Dry-switching relay binary logic apparatus. 3,376,428, 4–2–68, Cl. 307—136.
- Nystrom, Ernst H. B. Method for the production of a fire-resistant mineral fiberboard with starch binder. 3,376,189, 4–2–68, Cl. 162—152.
- Obidowski, Edmond J., to Continental Can Co., Inc. Apparatus for flanging can bodies having prestretched circumferential edges. 3,375,798, 4–2–68, Cl. 113—1.
- O'Connell, John J.: *See—*
  - Bright, James A., and O'Connell. 3,375,677.
- O'Donnell, Lawrence E., to Hooker Chemical Corp. Alpha-beta unsaturated carboxylic acid primer for polyester concrete coating. 3,376,155, 4–2–68, Cl. 117—72.
- Odenthal, Peter, to Mannesmann Aktiegesellschaft. Metallic composite article. 3,376,118, 4–2–68, Cl. 29—183.5.
- Ohno, Tomeji: *See—*
  - Akashi, Tsuneo, Takahashi, Yamauchi, Tsbouchi, and Ohno. 3,376,226.
- Oka, Akira. Stoichiometric transition metal hydrides. 3,376,107, 4–2–68, Cl. 23—204.
- Okamoto, Tatsumi, A. Hirayama, S. Kawanami, and Y. Nishikawa. Method of forming resin lining inside a metal pipe. 3,376,151, 4–2–68, Cl. 117—18.
- Okamoto, Tatsumi, A. Hirayama, S. Kawanami, and Y. Nishikawa. Method for forming a resin lining inside a metal pipe. 3,376,152, 4–2–68, Cl. 117—18.
- Oku, Takeshi, to Matsushita Electric Industrial Co., Ltd. Automatic arc welders. 3,376,473, 4–2–68, Cl. 315—291.
- Olin Mathieson Chemical Corp.: *See—*
  - Bruson, Herman A., and Plant. 3,376,349.
  - Moehlman, Vernon C., and Klein. 3,376,040.
- Oliver, Albert A., Jr.: *See—*
  - Dubusker, William, Robertson, Oliver, Bennett, and Schmidt. 3,375,570.
- Oliver, Wayne H. Bin panel construction. 3,375,631, 4–2–68, Cl. 52—584.
- Olp, Robert H.: *See—*
  - Stone, Cecil C., Olp, and Pokorny. 3,376,470.
- Olson, John E.: *See—*
  - Harris, Donald A., and Olson. 3,376,061.
- Ondrejka, Albert A. Guy wire shock absorber. 3,376,034, 4–2–68, Cl. 267—71.
- Ontario Research Foundation: *See—*
  - Schumacher, Wilhelm W. B. 3,376,419.
- Opel, Charles J., and P. H. Bottoms, to Swedlow, Inc. Continuous casting process. 3,376,371, 4–2–68, Cl. 264—216.
- Orlova, Lidia K.: *See—*
  - Boichenko, Mikhail S., Evteev, Kaushansky, Karpeka, Orlova, Pravdin, Savchenko, Fisjun, Fulmakht, and Shabanov. 3,375,865.
- Osten, Fred C., Sr. Self-locking removable sash window installation. 3,375,611, 4–2–68, Cl. 49—446.
- Osugi, Fred S., to Electro-Optical System, Inc. Synthesized wave static inverters. 3,376,490, 4–2–68, Cl. 321—5.
- Otis Engineering Corp.: *See—*
  - Brown, Norman F. 3,375,847.
  - Cherry, Vonner P. R., and Cox. 3,375,874.
- Ott, Lawrence H.: *See—*
  - Gilano, Michael N., Martenson, and Ott. 3,376,139.
- Outboard Marine Corp.: *See—*
  - Bottum, Robert O. 3,375,740.
- Overly Mfg. Co.: *See—*
  - Murray, Wakefield M. 3,375,622.
- Owens-Illinois, Inc.: *See—*
  - Criss, Donald H. 3,375,553.
- Pacific Coast Engineering Co.: *See—*
  - Crittenden, Geoffrey H., and Mills. 3,375,938.
- Pacific Scientific Co.: *See—*
  - Mescher, Harold E. 3,376,202.
- Page, Howard M., to Leath, McCarthy & Maynard, Inc. Polypropylene stretch stocking and method. 3,375,684, 4–2–68, Cl. 66—178.
- Pakula, Bernard B. Miniature tart shell moulding machine. 3,375,791, 4–2–68, Cl. 107—15.
- Palitex Project Co. G.m.b.H.: *See—*
  - Franzen, Gustav. 3,375,648.
- Palmer, James P., to United States of America, Atomic Energy Commission. Liquid metal piston MHD generator. 3,376,440, 4–2–68, Cl. 310—11.
- Palmer, Landon L., and E. W. Weaver, Sr., to A. E. Rhoden. Combustion apparatus. 3,376,100, 4–2–68, Cl. 431—36.
- Palmer, Reed A., to Robertshaw Controls Co. Control system for an apparatus or the like. 3,375,686, 4–2–68, Cl. 68—12.
- Palmer, Richard C.: *See—*
  - Rutland, David F., Palmer, and Blase. 3,376,416.
- Pamplin, James B., and R. B. Cocherell. Dental syringe for selectively discharging dry air, water or spray. 3,375,823, 4–2–68, Cl. 128—173.1.
- Pan American Petroleum Corp.: *See—*
  - Beddo, Dearal W. 3,375,896.
  - Howard, George C., and Vincent. 3,375,856.
  - Lummus, James L., and Randall. 3 375,888.
  - Satter, Abdus, Craig, and Geffen. 3,375,870.
- Pandelis, Charles R., W. L. Dearing, Jr., and F. E. Misner, to Combustion Engineering, Inc. Ultrasonic flaw detecting system. 3,375,706, 4–2–68, Cl. 73—67.9.
- Paramount Packaging Corp.: *See—*
  - Davis, Francis A., Jr. 3,375,969.
- Parker, Donald W.: *See—*
  - Busker, Wilbur H., and Parker. 3,375,979.
- Parker, Harry W., to Phillips Petroleum Co. Establishing an inverse burning front without spontaneous ignition. 3,375,871, 4–2–68, Cl. 166—11.
- Park-Ohio Industries, Inc.: *See—*
  - Porterfield, Cecil P., and Welt. 3,376,476.
- Parr, Edward L. Anchor for a chain. 3,375,557, 4–2–68, Cl. 24—116.
- Parrish, Donald B.: *See—*
  - Peiser, Donald L., and Parrish. 3,376,252.
- Parsons, S. A., and Co., Ltd.: *See—*
  - Watson, William G. 3,375,837.
- Patridge, Alan H.: *See—*
  - Hughes, Herbert D., Lewis, and Partridge. 3,376,167.
- Pasinski, Ralph R. and R. A., and L. J. Gavasso; said Gravasso, assor. to said R. R. and R. A. Pasinski. Sod roll forming means. 3,375,877, 4–2–68, Cl. 172—19.
- Pasinski, Richard A.: *See—*
  - Pasinski, Ralph R. and R. A., and Gavasso. 3,375 877.
- Pasky, Joseph Z., to Chevron Research Co. Phenol-formaldehyde resin modified with tetralin hydroperoxide and tetralone. 3,376,262, 4–2–68, Cl. 260—59.
- Patent-Serm AG: *See—*
  - Ericson, Harry A. H. 3,376,207.

- Patwin, Inc.: *See—*
  - Watkins, John A. 3,376,569.
- Pearson, Alfred R.: *See—*
  - Hardy, Derek J., and Pearson. 3,375,895.
- Pelser, Donald L., and D. B. Parrish, to The Dow Chemical Co. Urethane coating compositions. 3,376,252, 4–2–68, Cl. 260—45.7.
- Pekarek, Joseph L.: *See—*
  - Goodwin, Robert J., Mori, Pekarek, Schaub, and Zinkham. 3,375,886.
  - Goodwin, Robert J., Mori, Pekarek, Schaub, and Zinkham. 3,375,887.
- Pelham, George M. Drafting machine attachment. 3,375,588, 4–2–68, Cl. 33—79.
- Pelosi, Michael H., Jr., to CRS Industries, Inc. Air filter apparatus. 3,375,640, 4–2–68, Cl. 55—276.
- Pelster, Heinrich: *See—*
  - Gollasch, Karl, Pelster, Muhlbauer, Heiss, and Scheinpflug. 3,376,335.
- Pennsalt Chemicals Corp.: *See—*
  - Koblitz, Francis F., and Petrella. 3,376,370.
- Peranio, Anthony, to Varian Associates. Cell for determining the conductivity of liquids entrained in porous media. 3,376,501, 4–2–68, Cl. 324—30.
- Perry, Stephen C. Automatic journal box oiler. 3,375,902, 4–2–68, Cl. 184—2.
- Perucca, James R.: *See—*
  - Newhall, Edmund E., and Perucca. 3,376,562.
- Petchuk, Joseph. Concrete shoring apparatus. 3,376,011, 4–2–68, Cl. 249—28.
- Peterli, Hans J.: *See—*
  - Gysling, Hermann, and Peterli. 3,376,258.
- Petersen, Anita E.: *See—*
  - Petersen, Gerald A. 3,375,764.
- Peters, Nicholas. Plural channel remote control radio system responsive to a pivoted stick control and including a channel for transmitting a signal which compensates for lag of the controlled device behind the control. 3,376,575, 4–2–68, Cl. 343—225.
- Peters, William J., to E.F.L., Inc. Memorial light. 3,376,413, 4–2–68, Cl. 240—6.4.
- Petersen, Anita E.: *See—*
  - Petersen, Gerald A. 3,375,890.
- Petersen, Gerald A., ½ to A. E. Petersen. Removable tooth pavement mixer wheel construction. 3,375,764, 4–2–68, Cl. 94—40.
- Petersen, Gerald A., ½ to A. E. Petersen. Earth auger construction. 3 375,890, 4–2–68, Cl. 175—385.
- Petersen, William E., and B. Campbell, to Collins Products, Inc. Method of producing antibodies in milk. 3,376,198, 4–2–68, Cl. 167—78.
- Peterson, Francis C., to C. Hager & Sons Hinge Mfg. Co. Hinge. 3,375,546, 4–2–68, Cl. 16—171.
- Petit, Roger A., to North American Philips Co., Inc. Cathode-ray image scanning tube using low-velocity electron beam with electrostatic deflection and anamorphotic lens for improved focussing. 3,376,447, 4–2–68, Cl. 313—80.
- Petrella, Robert G.: *See—*
  - Koblitz, Francis F., and Petrella. 3,376,370.
- Peyer, Wilbur G.: *See—*
  - Lopp, Charles R., Peyer, and Ruspino. 3,375,835.
- Pfeiffer, Gerhard F. Process of manufacturing aminoplast molding powder. 3,376,239, 4–2–68, Cl. 260—17.3.
- Pfizer, Chas., & Co., Inc.: *See—*
  - Agnello, Eugene J., Laubach, and Moreland. 3,376,294.
  - Butler, Kenneth. 3,376,311.
  - Stephens, Charles R., Jr., and Allingham. 3,376,317.
- Phelps, Herbert B. Freezer belt defroster unit. 3,376,406, 4–2–68, Cl. 219—388.
- Philco-Ford Corp.: *See—*
  - Cassel, Lawrence E. 3,376,387.
  - Montani, Angelo, Witt, and Ritsi. 3,376,411.
- Phillips, Arthur P., and R. B. Burrows, to Burroughs Wellcome & Co. (U.S.A.) Inc. Bis-pyrrylvinylpyridinium salts. 3,376,297, 4–2–68, Cl. 260—240.1.
- Phillips, Clayton L., and D. R. Switzer. Tubing testing apparatus. 3,375,703, 4–2–68, Cl. 73—40.5.
- Phillips, Davis M., to McGraw-Edison Co. Terminal pedestal for underground wiring systems. 3,375,620, 4–2–68, Cl. 52—28.
- Phillips Petroleum Co.: *See—*
  - Bjornson, Geir. 3,376,211.
  - Buck, Ollie G., and Kahle. 3,376,279.
  - Harper, Kenneth A. 3,376 213.
  - Parker, Harry W. 3,375,871.
  - Poux, Charles A. 3,376,054.
  - Pryor, Robert C. 3,376,098.
  - Stegelman, Albert F. 3,376,111.
- Pickering & Co., Inc.: *See—*
  - Chass, Jacob. 3,376,533.
- Pignone Sud S.p.A.: *See—*
  - Buratti, Alessandro. 3,375,843.
- Pine, Lloyd A.: *See—*
  - Bearden, Roby, Jr., and Pine. 3,376,362.
- Pirelli S.p.A.: *See—*
  - Bottasso, Franco. 3,375,714.
- Pirelli Ltd.: *See—*
  - Marlow, Douglas C. 3,375,861.
- Pitt, Solomon H., to Sperry Rand Corp. Random access positioning apparatus for article selection. 3,376,565, 4–2–68, Cl. 340—174.1.
- Pittman, Leon A., Jr.: *See—*
  - Moyer, James D., and Pittman. 3,375,559.

- Pittsburgh Plate Glass Co.: *See—*
  - McConnell, William C., and Rahn. 3,376,125.
  - McConnell, William C., and Rahn. 3,376,126.
  - McConnell, William C., and Rahn. 3,376,127.
- Plant, Howard L.: *See—*
  - Bruson, Herman A., and Plant. 3,376,349.
- Platky, Adolph L., to Nixdorff-Krein Mfg. Co. Chain dispenser. 3,375,918, 4–2–68, Cl. 206—56.
- Plomb, Paul F.: *See—*
  - Dell, Jack M., and Plomb. 3,376,081.
- Pohl, Arthur E.: *See—*
  - Techtmann, Wilbur H. A., and Pohl. 3,375,777.
- Pokorny, George J.: *See—*
  - Stone, Cecil C., Olp, and Pokorny. 3,376,470.
- Polaroid Corp.: *See—*
  - Farney, Leonard C. 3,376,137.
  - Hanlon, Albert J. 3,375,767.
- Polock, Robert D.: *See—*
  - Cress, Vernor B., Jr., Hoyt, Metz, Pollock, Kerber, Cabe, and Apitz. 3,376,546.
- Poos, George I.: *See—*
  - Mohrbacher, Richard J., and Poos. 3,376,304.
- Portable Electric Tools, Inc.: *See—*
  - Scott, William H., and Smith. 3,375,616.
- Portage Plastics Co., Inc.: *See—*
  - Miller, August W., Jr. 3,375,953.
- Porter, Forrest V., to Dresser Industries, Inc. Combined propellant charge and bullet unit for well. 3,376,375, 4–2–68, Cl. 175—4.58.
- Porterfield, Cecil P., and J. G. Welt, to Park-Ohio Industries, Inc. Ground detector for an induction heating installation. 3,376,476, 4–2–68, Cl. 317—18.
- Posey, Thomas W. Rhythm beating attachment for guitars. 3,375,747, 4–2–68, Cl. 84—453.
- Poshkus, Algirdas C.: *See—*
  - Herweh, John E., and Poshkus. 3,376,234.
- Postma, Robert W., to North American Rockwell Corp. Thrust measurement. 3,375,712, 4–2–68, Cl. 73—117.4.
- Poulos, George. Display constructions with variable motions. 3,375,600, 4–2–68, Cl. 40—139.
- Pourtau, Jean-Jacques. Mechanical device for laying tiles or mosaic flooring. 3,375,633, 4–2–68, Cl. 52—749.
- Poux, Charles A., to Phillips Petroleum Co. Conduit fittings having band clamping means. 3,376,054, 4–2–68, Cl. 285—174.
- Powell, John L., Jr., and M. L. Mayo. Newspaper ejecting machine. 3,375,635, 4–2–68, Cl. 53—119.
- Power Conversion, Inc.: *See—*
  - Wilkinson, Bruce L. 3,376,494.
- Powers, William J., Jr.: *See—*
  - Hude, Karl V., and Powers. 3,375,988.
- Pozdnjakov, Petr G.: *See—*
  - Vasin, Ivan G., and Pozdnjakov. 3,376,439.
- Prager, Melvin, to Honeywell Inc. Digital frequency filter and function generator. 3,376,412, 4–2–68, Cl. 235—165.
- Pratt, Wilson N., to General Dynamics Corp. Magnetic high energy rate forming apparatus. 3,375,694, 4–2–68, Cl. 72—361.
- Pravdine, Victor S.: *See—*
  - Boitchenko, Mikhail S., Poulmakht, Routese, Pravdine, Korotkov, Kaouchansky, Chabanov, and Karpeka. 3,375,862.
- Pravdin, Viktor S.: *See—*
  - Butkevich, Vladimir A., Evteev, Kaushansky, Karpeka, Korotkov, Pravdin, Rutes, Fulmakht, and Fisjun. 3,375,864.
  - Boichenko, Mikhail S., Evteev, Kaushansky, Karpeka, Orlova, Pravdin, Savchenko, Fisjun, Fulmakht, and Shavanov. 3,375,865.
- Precision Instrument Co.: *See—*
  - Rumple, Wilburn L. 3,376,395.
- Precision Products, Inc.: *See—*
  - Hersch, Walter. 3,375,716.
- Preston, Jack, to Monsanto Co. Amide-heterocyclic polymers. 3,376,268, 4–2–68, Cl. 260—78.
- Preston, Jack, to Monsanto Co. Polyamides containing adjacent heterocycle linkages. 3,376,269, 4–2–68, Cl. 260—78.
- Preston, John L., to Instron Corp. Materials testing control circuitry. 3,375,708, 4–2–68, Cl. 73—90.
- Procter & Gamble Co., The: *See—*
  - Artman, Neil R., Cartier, and Whyte. 3,376,326.
  - Ince, Harsch C., Jr. 3,376,140.
- Proll, Peter S., to Proll Products Co. Keys for musical wind instruments. 3,375,746, 4–2–68, Cl. 84—380.
- Proll Products Co.: *See—*
  - Proll, Peter S. 3,375,746.
- Pruckmayr, Gerfried, to E. I. du Pont de Nemours and Co. Meltable 1,3,4-polyoxodiozoles and their preparation. 3,376,267, 4–2–68, Cl. 260—78.
- Pryor, Robert C., to Phillips Petroleum Co. Two-chamber burner and process. 3,376,098, 4–2–68, Cl. 431—10.
- Pugnaire, Jean-Pierre A., to Bytrex, Inc. Shear strain load cell. 3,376,537, 4–2–68, Cl. 338—5.
- Puregas Equipment Corp.: *See—*
  - Kern, Joseph F., Dale, W. C. Kern, and Robinson. 3,375,848.
- Pye Ltd.: *See—*
  - Jones, James D. 3,376,508.
- Pyles, Harley G., and C. D. Albright, to Galis Mfg. Co. Dual boom drill. 3,375,880, 4–2–68, Cl. 173—37.
- Que, Adolf A., to N.V. Chemische Industrie Synres. Process of preparing water-soluble alkyd resins. 3,376,241, 4–2–68, Cl. 260—20.
- Quenot, Andre. Tape measure. 3,375,590, 4–2–68, Cl. 33—138.

- RTE Corp. : *See*—
  - Link, Edwin A. 3,376,541.
- Race, Richard T. : *See*—
  - Jabbar, Kamil Y., and Race. 3,376,548.
- Rachwalsky, Heinz : *See*—
  - Logemann, Heino, Degener, and Rachwalsky. 3,376,254.
- Racki, Francis R. : *See*—
  - Kettering, James H., and Racki. 3,376,080.
- Rackley, Carle E. : *See*—
  - Wotowiec, Joseph P., and Rackley, and Nieder-Westermann. 3,375,773.
- Radiation Instrument Development Laboratory : *See*—
  - Emmer, Thomas L. 3,376,518.
- Radio Corp. of America : *See*—
  - James, Emrys C. 3,376,423.
  - Mayo, Ralph F. 3,376,572.
  - Sheng, Alfredo S., and Chen. 3,376,478.
  - Weinstock, Sol. 3,376,434.
  - Wine, Charles M. 3,376,435.
- Rahn, Henry W. : *See*—
  - McConnell, William C., and Rahn. 3,376,125.
  - McConnell, William C., and Rahn. 3,376,126.
  - McConnell, William C., and Rahn. 3,376,127.
- Raleigh Industries Ltd. : *See*—
  - Gordon, John M. 3,376,049.
- Ramos, Joseph : *See*—
  - McLaughlin, Homer C., Ramos, and Koch. 3,375,872.
- Ramsell, William H. Segmented beam projection system and method for bending beams. 3,375,753, 4-2-68, Cl. 88—24.
- Ramspeck, Howard B. : *See*—
  - Novak, Raymond F., and Ramspeck. 3,375,758.
- Rand Mines Ltd. : *See*—
  - Rennie, Lawrence C. 3,375,978.
- Randall, Billy V. : *See*—
  - Lummus, James L., and Randall. 3,375,888.
- Rank Organisation Ltd., The : *See*—
  - Gosling, William R. F. 3,376,574.
- Rankin, Clarence A. Means for rotating oil well pipe. 3,375,882, 4-2-68, Cl. 173—163.
- Ranney Refrigerator Co. : *See*—
  - Helsel, Wayne F. 3,375,679.
- Ratliff, Harvey L., Jr., 100% to Jetru Inc. Wide-angle stereoscopic recording and viewing apparatus utilizing fish-eye-type distortion and diverging lens axes. 3,376,381, 4-2-68, Cl. 178—6.5.
- Rauland Corp., The : *See*—
  - Fiore, Joseph P. 3,376,153.
- Ray, William A., to International Telephone and Telegraph Corp. Hydraulic actuator control system. 3,375,659, 4-2-68, Cl. 60—52.
- Raymond International Inc. : *See*—
  - Childers, Robert W., and Snow. 3 376,240.
- Raufeisen, Joseph, to Zefex Inc. Pump for a gaseous medium. 3,375,972, 4-2-68, Cl. 230—172.
- Rausch, William V., to Fabri-Tek Inc. Film deposition apparatus. 3.375,804, 4-2-68, Cl. 118—8.
- Reactive Metals, Inc. : *See*—
  - Knapp, George A. 3,375,695.
- Read, Emanuel F., to Collins Radio Co. Crab angle sensing system for all weather landing system. 3,376,573, 4-2-68, Cl. 343—107.
- Reader, Trevor D., to Sperry Rand Corp. Fluid diode. 3,375,842, 4-2-68, Cl. 137—81.5.
- Redmond, Sanford. Plastic material former and wrapper. 3,375,636, 4-2-68, Cl. 53—122.
- Reddy, Richard L., L. C. Montgomery, and C. A. Grulke, to Union Carbide Corp. Slip casting composition with cyclopentadiene as a deplocculant. 3,376,247, 4-2-68, Cl. 260—32.8.
- Ree, Harry A. Automobile headlamp circuit with a self-holding and extinguishing circuit controlled by the ignition switch. 3,376,467, 4-2-68, Cl. 315—82.
- Reese, Michael, Research Foundation : *See*—
  - Gower, Francis B., III. 3,376,405.
- Reeves, William P., to Southeastern Reduction Co., Inc. Methods of producing pesticidal compositions containing pecan shell flour as a carrier and a product therefrom. 3,376,191, 4-2-68, Cl. 167—42.
- Regents of the University of California, The : *See*—
  - Kerns, Quentin A. 3,376 523.
  - Kopa, Richard D. 3,376,027.
- Reicheneder, Franz, K. Dury, deceased ; (J. M. Dury, heir-at-law), and A. Fischer, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. 4,5-dimercaptopyridazones. 3,376,128, 4-2-68, Cl. 71—90.
- Reiffin, Martin G. Direct-current-coupled transistor power amplifiers. 3,376,388, 4-2-68, Cl. 179—1.
- Reilly, James J., Jr., and R. H. Wiswall, Jr., to United States of America, Atomic Energy Commission. Method of storing hydrogen. 3,375,676, 4-2-68, Cl. 62—48.
- Reinhardt, Harold C. : *See*—
  - Hunt, James A., and Reinhardt.A 3,375,755.
- Reinke, Theodore S. Apparatus for separating seafood components. 3,375,547, 4-2-68, Cl. 17—2.
- Reinstein, Victor, Jr. Blast furnace charger construction. 3,376,243, 4-2-68, Cl. 266—27.
- Reiser, Richard D. : *See*—
  - Brothman, Abraham, Halpern, Reiser, Miller, Finkey, and Chen. 3,376,511.
- Rellensmann, Wolfgang : *See*—
  - Wieden, Horst, Brenschede, Lenz, Rellensmann, and Nischk. 3,376,264.
- Rengel, Dorothy M. : *See*—
  - Martin, Carl C., Goodhue, and Rengel. 3,375,922.
- Rennie, Lawrence C., to Rand Mines Ltd. Spray gum with self-purging nozzle. 3,375,978, 4-2-68, Cl. 239—113.
- Renniks Corp. : *See*—
  - Skinner, Ralph L., Sr. 3,375,571.
- Repper, Theodore, Jr. Article transfer mechanism. 3,375,941, 4-2-68, Cl. 214—26.
- Research-Cottrell, Inc. : *See*—
  - Labbe, Armand L. 3,375,641.
- Reuben, Bertie J. : *See*—
  - Sample, Byron A., Jr., Reuben, and Hirshfield. 3,376,245.
- Rexall Drug and Chemical Co. : *See*—
  - Beck, Harold R. 3,375,552.
- Reynolds, John S., to The General Electric Co. Ltd. Automatic frequency control using voltage transitions of an input reference signal. 3,376,517, 4-2-68, Cl. 331—18.
- Reynolds Metals Co. : *See*—
  - Barkman, Erik F. 3,376,143.
- Reynolds Metals Co. : *See*—
  - Schmidt, Walther. 3,376,131.
- Rhoden, Alfred E. : *See*—
  - Palmer, Landon L., and Weaver. 3,376,100.
- Rhodes, Warren L. : *See*—
  - Frommer, Joseph C., and Rhodes. 3,376,426.
- Rhone-Poulenc S.A. : *See*—
  - Amedjian, Garabed, Crenne, and Morel. 3,376,351.
  - Brossard, Bernard P. 3,376,337.
- Richman, Bruce : *See*—
  - Blank, Robert J., and Richman. 3,375,583.
- Richman, Peter L., to Weston Instruments, Inc. High precision comparator device. 3,376,513, 4-2-68, Cl. 328—151.
- Ricker, Richard W., to Ferro Corp. Deburring tumbling media. 3,375,615, 4-2-68, Cl. 51—164.5.
- Riddel, John W. : *See*—
  - Subramanya, Bettadapur S., Riddel, and Schwartzwalder. 3,376,367.
- Riddie, Lavis A., to Westland Aircraft Ltd. Flexible skirt components for air cushion vehicles. 3,375,894, 4-2-68, Cl. 180—128.
- Ridgway, James S., to Monsanto Co. Polyamides from xylylene diamines and phenylindan dicarboxylic acids. 3,376,270, 4-2-68. Cl. 260—78.
- Rieder, Paul A. *See*—
  - Edkins, John E., Krueger, and Rieder. 3,375,625.
- Rink, Frederick J. Apparatus having standard impedance calibration means for testing the impedance of an electrical ground and including polarity reversing switch means. 3,376,502, 4-2-68, Cl. 324—51.
- Riordan, Hugh E., and F. Samet, to General Precision, Inc. Linear and angular velocity and acceleration measuring instrument. 3,375,722, 4-2-68, Cl. 74—5.6.
- Risk, George, to George Risk Industries, Inc. Magnetic slug switch. 3,376,527, 4-2-68, Cl. 335—207.
- Risk, George, Industries, Inc. : *See*—
  - Risk, George. 3,376,527.
- Ritchey, Jack L., W. E. Brownlee, and S. Steed, to L. H. Egland, F. Hohman, and A. Donald. Pressure bonding system for spanwise reinforced airfoil. 3,376,184, 4-2-68, Cl. 156—580.
- Ritsi, George : *See*—
  - Montani, Angelo, Witt, and Ritsi. 3,376,411.
- Rittler, Hermann L. : *See*—
  - Bomicone, Joseph J., and Rittler. 3,376,122.
- Rizk, Waheeb, R. Bolesworth, C. A. Keer, and J. C. Waldron, to The English Electric Co. Ltd. Turbines. 3,376,017, 4-2-68, Cl. 253—39.
- Robbins, Davis B. Lump crusher and feeder. 3,375,984, 4-2-68, Cl. 241—69.
- Robbins, Lionel, to Energy Conversion Devices, Inc. Multi-branch transmission line switching system using threshold switch devices. 3,376,433, 4-2-68, Cl. 307—242.
- Robertshaw Controls Co. : *See*—
  - Merrell, Kenneth C. 3,376,431.
  - Palmer, Reed A. 3,375,686.
  - Scott, Douglas R. 3,375,685.
- Robertson, Philip R. : *See*—
  - Dubusker, William, Robertson, Oliver, Bennett, and Schmidt. 3,375,570.
- Robertson, Wilbert J., and G. E. Kerr, to United States of America, Atomic Energy Commission. Fluid bed denitration of thorium nitrate. 3,376,116, 4-2-68, Cl. 23—345.
- Robinson, Daniel E., and H. A. Holm, to General Cable Corp. Video pair cable terminal. 3,376,539, 4-2-68, Cl. 339—14.
- Robinson, Ivor R., and L. M. Carlton, to F. W. Murphy, Mfg., Inc. Pressure responsive indicator device. 3,375,718, 4-2-68, Cl. 73—406.
- Robinson, Phillip M. : *See*—
  - Kern, Joseph F., Dale, Kern, and Robinson. 3,375,848.
- Robinson, Roderick, to Consolidated Papers, Inc. Container for frozen foods and the like. 3,375,967, 4-2-68, Cl. 229—34.
- Rodenbaugh, Richard P. : *See*—
  - Beasley, Thomas J., Jr., and Rodenbaugh. 3,375,610.
- Rodman, Clarke A., to Fram Corp. Semi-rigid polymer encapsulated filter medium containing an unencapsulated adsorbent material. 3,375,933, 4-2-68, Cl. 210—502.
- Rohm & Haas Co. : *See*—
  - Clemens, David H. 3,376,242.
  - Drennen, Thomas J., and Kelley. 3,376,159.
- Roland, John R., to E. I. du Pont de Nemours, and Co. 1-carboxamido-3-amino-1,2,4-triazoles and a process for their preparation. 3,376,306, 4-2-68, Cl. 260—294.
- Rolls-Royce Ltd. : *See*—
  - Wilde, Geoffrey L. 3,375,996.
  - Williamson, Douglas H. 3,376,018.

- Roman, Robert J., to Eastman Kodak Co. Spindle adapter. 3,375,995, 4-2-68, Cl. 242—68.3.
- Rosan Engineering Corp. : *See*—
  - Novakovich, Milan, and Weber. 3,376,053.
- Rose, Frank L., to Avco Corp. Surgical cast and method of forming and applying to a body member. 3,375,822, 4-2-68, Cl. 128—90.
- Rose, Sigmund P. Directionally stable parachute. 3,376,000, 4-2-68, Cl. 244—152.
- Rosenblatt, Theodore M. : *See*—
  - Lovett, John R., and Rosenblatt. 3,376,108.
- Rosser, William D., to Sylvania Electric Products Inc. Antenna drive mechanism. 3,376,576, 4-2-68, Cl. 343—761.
- Roteman, Jerome, to Interchemical Corp. Multicolor electrostatic printing. 3,376,133, 4-2-68, Cl. 96—1.2.
- Rotron Mfg. Co., Inc. : *See*—
  - Zoehfeld, Gunther. 3,375,970.
- Rountree, Philip L. : *See*—
  - Nasvytis, Algirdas L., and Rountree. 3,375,727.
- Roussel-Uclaf : *See*—
  - Allais, Andre, and Girault. 3,376,195.
- Routese, Victor S. : *See*—
  - Boitchenko, Mikhail S., Poulmakht, Routese, Pravdine, Korotkov, Kaouchansky, Chabanov, and Karpeka. 3,375,862.
- Rummer, Heribert, to Telefunken Patentverwertungs - G.m.b.H. Combined UHF-VHF tuner. 3,376,510, 4-2-68, Cl. 325—459.
- Rumple, Wilburn L., to Precision Instrument Co. Device for adjusting the angular relationship between a rotating head and tape in a helical scan recorder. 3,376,395, 4-2-68, Cl. 179—100.2.
- Rundle, Victor A., to Chevron Research Co. Polypropylene wax film. 3,376,244, 4-2-68, Cl. 260—28.5.
- Ruspino, James G. : *See*—
  - Lopp, Charles R., Peyer, and Ruspino. 3,375,835.
- Rutenberg Morton W. : *See*—
  - Jarowenko, Wadym and Rutenberg. 3,376,287.
- Rutes, Viktor S. : *See*—
  - Butkewich, Vladimir A., Evteev, Kaushansky, Karpeka, Korotkev, Pravdin, Rutes Fulmakht, and Fisjun. 3,375 864.
- Rutland, David F., R. C. Palmer, and E. F. Blase, to EG & G, Inc. Thermoluminescent dosimetry system. 3,376,416, 4-2-68, Cl. 250—71.5.
- Ruzicka, John, to Ball Brs. Co., Inc. Etching compositon and method. 3,376,228, 4-2-68, Cl. 252—79.4.
- Ryskamp, Neil J., to Allis-Chalmers Mfg. Co. Load responsive braking system. 3,376,079, 4-2-68, Cl. 303—22.
- S-F-D Laboratories, Inc. : *See*—
  - Feinstein, Joseph. 3 376,463.
- Saari, Oliver E., to Illinois Tool Works, Inc. Limited slip differential mechanism. 3,375,735, 4-2-68, Cl. 74—711.
- Saari, Oliver E., to Illinois Tool Works, Inc. Differential mechanism. 3,375 736, 4-2-68, Cl. 74——711.
- Sabins, Rolland C. Anode formed of lead base and duriron. 3,376,209, 4-2-68, Cl. 204—196.
- Sagehomme, Georges E. M., deceased, by J. M. M. D.
- Sagehomme, Georges E. M., deceased, by J. M. M. D. Sagehomme, nee Bertrand, administratrix. Textile machine. 3,375 650, 4-2-68, Cl. 57—98.
- Sagehomme, Jeane M. M. D. : *See*—
  - Sagehomme, Georges E. M. 3,375,650.
- Salem Equipment, Inc. : *See*—
  - Gaudry, Leon A. 3,375,859.
- Salminen, Ilami F. : *See*—
  - Abbott, John R., and Salminen. 3,376,310.
- Salo, Martin : *See*—
  - Gandy, Gerald C., and Salo. 3,376,149.
- Salsbury Laboratories : *See*—
  - Van Essen, Harold E., Jr., and Baron. 3,376,296.
- Samet, Frank : *See*—
  - Riordan, Hugh E., and Samet. 3,375,722.
- Sample, Byron A., Jr., B. J. Reuben, and J. J. Hirshfeld, to Monsanto Co. Antistatic composition containing polyepoxide resin. 3,376,245, 4-2-68, Cl. 260—29.2.
- Sanders Associates, Inc. : *See*—
  - Chesterley, James I. 3,376,007.
- Sandoz Ltd. : *See*—
  - Thomann, Gustav, and Kuhnen. 3,376,330.
- Sangamo Electric Co. : *See*—
  - Brothman, Abraham, Halpern, Reiser, Miller, Finkey, and Chen. 3,376 511.
  - Brothman, Abraham, Halpern, and Bruckner. 3,376,567.
- Sargent & Co. : *See*—
  - Arnold, Douglas. 3,375,697.
- Sarka, Albert J., to Harris-Intertype Corp. Cutting and/or creasing apparatus. 3,375,762, 4-2-68, Cl. 93—58.2.
- Sasaki, Hiromu : *See*—
  - Fujimura, Masanori, Kasahara, Iguchi, Matsuo, Sasaki, Nagase, Nayakawa, and Tida. 3,375,774.
- Sato, Kunio : *See*—
  - Ishida, Shinichi, Sato, and Fujita. 3,376,263.
- Satter, Abdus, F. F. Craig, Jr., and T. M. Geffen, to Pan American Petroleum Corp. Recovery of petroleum by thermal methods. 3,375,870, 4-2-68, Cl. 16—11.
- Sausen, George N., to E. I. du Pont de Nemours and Co. Chemical process and products. 3,376,117, 4-2-68, Cl. 23—357.
- Sausik, Albert. Assembling apparatus for hair curler assembly. 3,375,565, 4-2-68, Cl. 29—208.
- Sausik, Albert. Assembling apparatus for hair curler assembly. 3,375,566, 4-2-68, Cl. 29—208.
- Savchenko, Alexandr P. : *See*—
  - Boichenko, Milkhail S., Evteev, Kaushansky, Karpeka, Orlova, Pravdin, Savchenko, Fisjun, Fulmakht, and Shavanov. 3,375,865.
- Sawyer, Bruce A. Magnetic positioning device. 3,376 578.
- Scaggs, Lee L., and B. D. Smith, to Varian Associates. Direct magnetic field intensity indicating apparatus. 3,376,500, 4-2-68, Cl. 324—.5.
- Schadlich, Kurt, to Gesipa Gesellschaft fur International Patent-Verwertung m.b.H. Electric hand riveting device. 3,375 883, 4-2-68, Cl. 173—170.
- Schaub, Paul W. : *See*—
  - Godwin, Robert J., Mori, Pekarek, Schaub, and Zinkham. 3,375,886.
  - Goodwin, Robert J., Mori, Pekarek, Schaub, and Zinkham. 3,375,887.
- Schema Ltd. : *See*—
  - Willey, Sally M., and Tebbutt. 3,375,543.
- Schering Aktiengesellschaft : *See*—
  - Mueller, Hans, Neumann, and Wiechert. 3,376,197.
- Scheurlen, Hans : *See*—
  - Wagner, Kuno, Scheurlen, and Kritzler. 3,376,255.
- Schleven Stanley R., to Eastman Kodak Co. Cutting, counting and classifying apparatus. 3,375,744, 4-2-68, Cl. 83—23.
- Schif, Donald R. : *See*—
  - Fitzhenry, Glenn, and Schif. 3,375,851.
- Schif Enterprises, Inc. : *See*—
  - Fitzhenry, Glenn, and Schif. 3,375,851.
- Schlager, Wilfred C., and W. F. Henderson, to Uniroyal Inc. Yarn shipping container and divider therefor. 3,375,919, 4-2-68, Cl. 206—65.
- Schmid, Leopold F., to Alfred Teves, Machinen- und Armaturenfabrik A.G. Shock absorber for vehicular suspension systems and the like. 3,376,032 4-2-68, Cl. 267—8.
- Schmidt, Gunther, to Boehringer Ingelheim G.m.b.H. Novel 5,6-dihydro-6-oxo-pyrido [2,3-b] [1,4] benzoxazepines and process for their preparation. 3,376,289, 4-2-68, Cl. 260—239.3.
- Schmidt, Karl, G.m.b.H., Firma : *See*—
  - Kiefer, Bernhard, and Buske. 3,376,210.
- Schmidt, Melvin E. : *See*—
  - Dubusker, William, Robertson, Oliver, Bennett, and Schmidt. 3,375,570.
- Schmidt, Walther, ½ to Reynolds Metals Co., and ½ to Nora International. Recovery of aluminum for mercury solution. 3 376,131, 4-2-68, Cl. 75—68.
- Schneider, Jos., & Co. Optische Werke : *See*—
  - Wagner, Werner, and Macher. 3,376,091.
- Schneider, Wolfgang, to The B. F. Goodrich Co. Preparation of aliphatic trienes. 3,376,358, 4-2-68, Cl. 260—677.
- Schneider, Wolfgang, to The B. F. Goodrich Co. Preparation of decatrienes. 3,376,359, 4-2-68, Cl. 260—677.
- Schnuchel, Gunther : *See*—
  - Bruns, Ludwig, and Schnuchel. 3,376,119.
- Schonfeld, Arnold, and J. C. Schulte, to Sperry Rand Corp. Fluid device. 3,375,841, 4-2-68, Cl. 137—81.5.
- Schorsch, John J. : *See*—
  - Kraft, Wheaton W., and Schorsch. 3,376,115.
- Schorscher, Ernst : *See*—
  - Unger, Richard, Sommer, Schorscher, and Enenkel. 3,376,312.
- Schulte, John C. : *See*—
  - Schonfeld, Arnold, and Schulte. 3,375,841.
- Schultz, George. Pressing machine. 3,375,598, 4-2-68, Cl. 38—40.
- Schumacher, Wilhelm W. B., to Ontario Research Foundation. Method and apparatus for determining the thickness of integuments. 3,376,419, 4-2-68, Cl. 250—83.3.
- Schuster, Wilhelm. Collapsible vehicle. 3,376,047, 4-2-68, Cl. 280—37.
- Schutte, Marlin D., to Westinghouse Electric Corp. Start-up control valve for a dishwasher pump. 3,375,854, 4-2-68, Cl. 137—587.
- Schwander, Hans R., J.-P. Jung, and P. Hindermann, to J. R. Geigy, A.G. Anthraquinone dyestuffs. 3,376,320, 4-2-68, Cl. 260—372.
- Schwartz, Nelson N., and M. M. Fein, to Thiokol Chemical Corp. Boron-containing compounds and method for making the same. 3,376,346, 4-2-68, Cl. 260—606.5.
- Schwartz, James W., to National Video Corp. Means for shielding electron guns of cathode ray tubes against spurious charges. 3,376,448, 4-2-68, Cl. 313—82.
- Schwartzwalder, Karl : *See*—
  - Subramanya, Bettadapur S., Riddel, and Schwartzwalder. 3,376,367.
- Schweiger, Richard G., to Kelco Co. Polymeric derivatives of cationic xanthomonas colloid derivatives. 3,376,282, 4-2-68, Cl. 260—209.6.
- Schweller, Robert J., to General Motors Corp. Method of manufacturing shock absorber subassemblies. 3,376,404, 4-2-68, Cl. 219—107.
- Sconzo, Thomas G. Louver construction. 3,375,609, 4-2-68, Cl. 49—403.
- Scott, Douglas R., to Robertshaw Controls Co. Apparatus control system and method. 3,375,685, 4-2-68, Cl. 68—12.
- Scott, Ronald F., E. A. Howard, and G. M. Hotz, to California Institute Research Foundation. Burrowing apparatus. 3,375,885, 4-2-68, Cl. 175—26.
- Scott, William H., and E. F. Smith, Portable Electric Tools, Inc. Dual motion surface-dressing machine. 3,375,616, 4-2-68, Cl. 51—170.
- Sebest, Albert E. : *See*—
  - Timm, Walter, and Sebest. 3,375,529.

Seeder, Wilhelm A., to Koninklijk Verkode Fabrieken N.V. Heating system for tunnel baking oven and like heating chamber. 3,375,792, 4–2–68, Cl. 107—55.

Seeley, Charles C. Leveling rod and target. 3,375,587, 4–2–68, Cl. 33—74.

Seide, Sigrid, to E. I. du Pont de Nemours and Co. Photographic elements and processes. 3,376,136, 4–2–68, Cl. 96—28.

Seifert, Friedrich, F. Baxmann, and D. Carla, to Chemische Werke Huls Aktiengesellschaft. Antistatic molding composition. 3,376,277, 4–2–68, Cl. 260—85.5.

Sentementes, Thomas J.: *See*—
Bowser, Robert S., and Sentementes. 3,376,177.

Serbus, George. Plastic covering structure. 3,375,831, 4–2–68, Cl. 135—1.

Serota, Stanley. Method of piling. 3,375,670, 4–2–68, Cl. 61—53.6.

Shabanov, Alexandr N.: *See*—
Boichenko, Mikhail S., Evteev, Kaushansky, Karpeka, Orlova, Pravdine, Savchenko, Fisjun, Fulmakht, and Shabanov. 3,375,865.

Shachter, Moses. Infinitely variable hydraulic transmission mechanism. 3,375,661, 4–2–68, Cl. 60—53.

Shadley, George R., to International Agri-Systems, Inc. Mechanical discharge shackle for fowls and the like. 3,376,600, 4–9–68, Cl. 17—44.1.

Shafer, Merrill W.: *See*—
Guerci, Carl F., and Shafer. 3,376,157.

Shafer, Paul K.: *See*—
Heinicke, Kurt J., and Shafer. 3,375,592.

Shapiro, Hymin: *See*—
Kobetz, Paul, and Shapiro. 3,376,329.

Shaw, Herman L. Filter material. 3,375,920, 4–2–68, Cl. 206—78.

Shaw, Stuart W. K., and R. M. Cook, to The International Nickel Co., Inc. Impact resistant nickel-chromium alloys. 3,376,132, 4–2–68, Cl. 75—171.

Sheeline, Randall D., to North American Rockwell Corp. Prereaction of binders for quickmix processing of propellants. 3,376,175, 4–2–68, Cl. 149—19.

Shell Oil Co.: *See*—
Freitas, Ernest R., Deal, and Griep. 3,376,356.

Shen, Tsung-Ying, to Merck & Co., Inc. O-(N-hetero carbonyl-indolyl-3)-glycolic acids, amides and esters thereof. 3,376,300, 4–2–68, Cl. 260—247.2.

Sheng, Alfredo S., and A. Y. Chen, to Radio Corp. of America. Voltage regulated power supply including ramp voltage starting means and over-current protective means. 3,376,478, 4–2–68, Cl. 317—31.

Shepard, J., to Badger Meter Mfg. Co. Read-out device and drive therefor. 3,375,724, 4–2–68, Cl. 74—194.

Sheridan, David S., to Brunswick Corp. Suction catheter. 3,375,828, 4–2–68, Cl. 128—351.

Sherlock, John G., to Continental Can Co., Inc. Apparatus for making an open-ended container having a curled rim. 3,375,551, 4–2–68, Cl. 18—19.

Sherwin-Williams Co., The: *See*—
Kim, Ki T. 3,375,705.

Sherwood, Frank A., to General Motors Corp. Unitized composite spring construction. 3,376,033, 4–2–68, Cl. 267—47.

Sherwood, John W. and J. W., III. Rotary gas turbine engine. 3,375,657, 4–2–68, Cl. 60—39.81.

Sherwood, John W., III.: *See*—
Sherwood, John W. and J. W., III. 3,375,657.

Shibata, Iwao, N. Kawashima, and Y. Yamaguchi, to Toyo Denki Seizo Kabushiki Kaisha. Control system for polyphase induction motors. 3,376,485, 4–2–68, Cl. 318—227.

Shimizu, Tamio: *See*—
Yamato, Junji, Shimizu, and Iimura. 3,376,559.

Shinko Wire Co., Ltd.: *See*—
Tomioka, Hiroyuki. 3,376,060.

Shiraeff, Dimitry A., to General Aniline & Film Corp. Solid stabilized hydrogen peroxide compositions. 3,376,110, 4–2–68, Cl. 23—207.5.

Shoemaker, Harry G.: *See*—
Glover, Norman I., Knudson, and Shoemaker. 3,376,474.

Shook, Gerald D., and R. S. Levine, to Balsa Development Corp. Contour core structure. 3,376,185, 4–2–68, Cl. 161—37.

Showalter, Onslow R., Jr. Method and device for setting valves in irrigation pipes. 3,376,016, 4–2–68, Cl. 251—359.

Siddall, John, to Syntex Corp. Preparation of 3-keto-Δ4-19-nor steroids. 3,376,295, 4–2–68, Cl. 260—239.55.

Siemens Aktiengesellschaft: *See*—
Finkhauser, Dieter, and Massow. 3,376,391.
Fischer, Josef, Krautwald, and Hubner. 3,376,526.
Liebscher, Roland, and Mayerhofer. 3,376,519.
Traub, Karl. 3,376,521.
Traub, Karl. 3,376,522.

Sigmatex AG.: *See*—
Wohlert, Guenther, Wolff, and Weman. 3,375,994.

Sikorski, Frank B., J. R. Vande Wege, to Automatic Electric Laboratories, Inc. Automatic line-access arrangement. 3,376,399, 4–2–68, Cl. 179—175.21.

Silvey, Joseph K. G. Removing taste and odor compounds from water. 3,376,219, 4–2–68, Cl. 210—11.

Simon, Warner H. Method and apparatus for welding. 3,375,573, 4–2–68, Cl. 29—583.

Simons, Richard C.: *See*—
Bletzinger, John C., Condon, and Simons. 3,375,827.

Simpson, Francis: *See*—
Woodcock, George S., H. E., Simpson, and Clayton. 3,375,680.

Sinclair Research, Inc.: *See*—
Carlos, Donald D., and Divijak. 3,376,216.

Sinclair Refining Co.: *See*—
Gring, John L., and Mool. 3,376,106.

Singer, Alvin: *See*—
Davis, Bayard C., and Singer. 3,376,169.

Singer Co., The: *See*—
Fromknecht, Charles T. 3,375,541.
Gaines, William M. 3,375,797.

Sjöberg, Sten O. E., to Industriaktiebolaget Skomab. Machine for bending cutting dies. 3,375,698, 4–2–68, Cl. 72—471.

Skinner Precision Industries, Inc.: *See*—
Martin, Robert H., and Wroble. 3,376,441.

Skinner, Ralph L., Sr., to Renniks Corp. Method of making seals. 3,375,571, 4–2–68, Cl. 29—480.

Slater, Raymond L.: *See*—
Kingsbury, George R., Junge, Weinkamer and Slater. 3,375,563.

Sletzinger, Meyer: *See*—
Gal, George, and Sletzinger. 3,376,316.

Slonksnes, John E., to General Cable Corp. Tool for cutting jacket insulation having a retractable knife mounted on a rotatable outer housing. 3,375,579, 4–2–68, Cl. 30—90.8.

Slover, Eugene L., to Hardwicke-Etter Co. Pump control system for cotton press. 3,375,658, 4–2–68, Cl. 60—51.

Smirl, Richard L., to Borg-Warner Corp. Clutch plate employing torsion damper. 3,375,911, 4–2–68, Cl. 192—107.

Smith-Berger Mfg. Corp.: *See*—
Klinke, Bernard R. 3,376,020.

Smith, Bernard D.: *See*—
Scaggs, Lee L., and Smith. 3,376,500.

Smith, Dwayne C.: *See*—
Myers, Ralph E., and Smith. 3,375,881.

Smith, Earl F.: *See*—
Scott, William H., and Smith. 3,375,616.

Smith, George E., to Monsanto Co. High speed tunnel diode counter. 3,376,430, 4–2–68, Cl. 307—225.

Smith, James V., to Bourns, Inc. Rolling-diaphragm pump. 3,375,759, 4–2–68, Cl. 92—98.

Smith Kline & French Laboratories: *See*—
Bates, Edward A. 3,375,934.
Cava, Michael P. 3,376,305.
Dunn, George L. 3,376,196.
Goonewardene, Hilary F. 3,376,142.
Loev, Bernard. 3,376,342.

Smith, Newland F.: *See*—
Willcox, Frederick P., Smith, and Levitt. 3,376,509.

Smith, Robert P., and L. E. Haskett, to Vapor Corp. Pneumatic temperature sensing probe. 3,375,975, 4–2–68, Cl. 236—87.

Smith, Roy J., and L. A. Tate, to International Business Machines Corp. Synchronous transmitter-receiver. 3,376,385, 4–2–68, Cl. 178—69.5.

Smith, Walter A.: *See*—
Kraus, Howard E., and Smith. 3,376,425.

Smith, William C., to Corning Glass Works. Miniature transistor enclosed in a glass disc-shaped housing. 3,376,376, 4–2–68, Cl. 174—52

Snaper, Alvin A., 20% to A. E. Botney. Negative and positive view from a polarized film structure. 3,376,135, 4–2–68, Cl. 96—27.

Snapp, Merton D.: *See*—
Dodgen, Joe W., Johnson, and Snapp. 3,375,986.
Dodgen, Joe W., Johnson, and Snapp. 3,375,987.

Snitzer, Elias, to American Optical Co. Quantum counters. 3,376,421, 4–2–68, Cl. 250—83.3.

Snow, Richard K.: *See*—
Childers, Robert W., and Snow. 3,376,240.

Societe anonyme dite: Societe Nationale des Petroles D'Aquitaine: *See*—
Lazarre, Flavien. 3,375,802.

Societe Anonyme Francaise du Ferodo: *See*—
Lepelletier, Pierre A. G. 3,375,909.

Societe Fives Lille-Cail: *See*—
Menu, Edouard. 3,376,029.

Soder, Robert, to Ebauches S.A. Self-lubricating friction device between two surfaces. 3,376,082, 4–2–68, Cl. 308—3.

Sohnlein, Dieter: *See*—
Greifenhagen, Karl H., and Sohnlein. 3,375,964.

Sojuzny Proektny Institut Stalpraekt: *See*—
Boitchenko, Mikhail S., Foulmakht, Pravdine, Korotkov, Kaouchansky, Chabanov, and Karpeka. 3,375,872.

Solas, John L., and H. A. Gadd, to Forslund Pump and Machinery Co., Inc. Sewage lift station. 3,375,788, 4–2–68, Cl. 103—87.

Sommer, Siegmund: *See*—
Unger, Richard, Sommer, Schorscher, and Enenkel. 3,376,312.

Sonnenberg, Charles F., and J. H. Frakes, to Westinghouse Electric Corp. High voltage bushing for horizontal mounting with sheds having rims protecting a substantial portion of the creep distance along the surface of the bushing from atmospheric fallout. 3,376,379, 4–2–68, Cl. 174—211.

Sontag, Howard M., to Executone, Inc. Combined paging and intercommunication system with separate paging reply line common to all stations. 3,376,506, 4–2–68, Cl. 325—64.

Sorenson, John C. Disposable fluid filter element. 3,375,931, 4–2–68, Cl. 210—350.

Southeastern Reduction Co., Inc.: *See*—
Reeves, William P. 3,376,191.

Southern Metal Products Corp.: *See*—
Beasley, Thomas J., Jr., and Rodenbaugh. 3,375,610.

Spainhour, King A.: *See*—
Bell, William A., Jr., Spainhour, and Veach. 3,376,414.

Speedfam Corp.: *See*—
Boettcher, Stephen A., and Farley. 3,375,614.

Spenadel, Lawrence: *See*—
Bieber, Herman, Taylor, and Spenadel. 3,376,318.

Spencer, Alexander, and A. F. Blake, to Gestetner Ltd. Electrographic transfer sheet. 3,376,162, 4–2–68, Cl. 117—216.

Spencer, Elbert M.: *See*—
Gray, Raymond K., and Spencer. 3,375,542.

Spencer, Ross R. Loader's calculating device. 3,375,585, 4–2–68, Cl. 33—1.

Sperry Rand Corp.: *See*—
Cogar, George R. 3,376,408.
Flannery, William E. 3,376,520.
Fox, Harold L., and Goldschmied. 3,375,840.
Korkowski, Vincent J. 3,376,563.
Lawson, Arnold D. 3,376,570.
McCarty, Horace G., and Glass. 3,375,643.
Pitt, Solomon H. 3,376,565.
Reader, Trevor D. 3,375,842.
Schonfeld, Arnold, and Schulte. 3,375,841.
Wang, Chao C. 3,376,524.
Wines, Warren R., Sturdevant, and Cannizzaro. 3,376,479.

Square D Co.: *See*—
Batt, Thomas N., and Duvall. 3,376,400.

Squibb, E. R., & Sons, Inc.: *See*—
Diassi, Patrick A. 3,376,324.

Stahly, Frederick A., and W. L. Goehring, to Eastman Kodak Co. Photoconductive compositions comprising zinc oxide and methods for using such. 3,376,134, 4–2–68, Cl. 96—1.8.

Stamicarbon N.V.: *See*—
Van den Berg, Cornelis E. P. V. 3,376,355.

Stamps, Otis C., and D. W. Neikirk, to Inject-O-Meter Mfg. Co., Inc. Fertilizer application process. 3,375,976, 4–2–68, Cl. 239—10.

Stanbrough, Orval H.: *See*—
Clark, Jim M., and Stanbrough. 3,375,602.

Standard Oil Co. (Indiana): *See*—
Feezel, James M. 3,376,360.
Menzl, Roland L., Marks, and Crowther. 3,376,218.
Bertolacini, Ralph J., and Brennan. 3,376,215.
Bertolacini, Ralph J., and Brennan. 3,376,214.

Stange, Hugo: *See*—
Weil, Theodor, and Stange. 3,376,319.

Stanley Works, The: *See*—
Suska, Charles R. 3,375,544.

Stapleton, Robert W.: *See*—
Cheek, Forrest R., and Stapleton. 3,375,838.

Stauffer Chemical Co.: *See*—
Baker, Don R., Lukes, and McClellan. 3,376,314.

Stedman, Donald F., to Canadian Patents and Development Ltd. Preparation of silicon chlorides. 3,376,109, 4–2–68, Cl. 23—205.

Steed, Stanley: *See*—
Ritchey, Jack L., Brownlee, and Steed. 3,376,184.

Stegelman, Albert F., to Phillips Petroleum Co. Production of high structure furnace carbon black. 3,376,111, 4–2–68, Cl. 23—209.4.

Stein, Roy H. Floor stripping machine. 3,376,071, 4–2–68, Cl. 299—37.

Stein, Werner, and H. Baumann, to Henkel & Cie. G.m.b.H. Process for the manufacture of surface active olefin sulfonates. 3,376,336, 4–2–68, Cl. 260—513.

Steinmuller, L & C. G.m.b.H.: *See*—
Körber, Willi. 3,375,810.

Stephens, Charles R., Jr., and R. P. Allingham, to Chas. Pfizer & Co., Inc. 2-ethylpyromeconic acid as aroma and flavor component. 3,376,317, 4–2–68, Cl. 260—345.9.

Sterling, John E.: *See*—
Jacobus, Dwight W., Sterling, and McDowell. 3,375,678.

Sternbach, Leo H.: *See*—
Fryer, Rodney I., and Sternbach. 3,376,290.

Sternberg, Robert M.: *See*—
Bange, Donald A., and Sternberg. 3,375,962.

Sternung, Sven Y., to North Electric Co. Method of and apparatus for providing different release signals with detection of search busy or cut-through busy condition in a saturation signalling system. 3,376,393, 4–2–68, Cl. 179—18.

Stevens, Charles M. and L. N. Canoe transporting rack. 3,375,960, 4–2–68, Cl. 224—42.11.

Stevens, Loren N.: *See*—
Stevens, Charles M. and L. N. 3,375,960.

Stewart, John A., and J. R. Ziegler, to General Motors Corp. Transistor switching circuit. 3,376,568, 4–2–68, Cl. 340—244.

Stilley, Herschel H., and K. S. Kordik, ½ to Warner Electric Brake & Clutch Co., and ½ to H. H. Stilley. Brush lifting mechanism for variable speed A-C motor. 3,376,483, 4–2–68, Cl. 318—214.

Stone, Cecil C., R. H. Olp, and G. J. Pokorny, to United States of America, Atomic Energy Commission. Capacitor discharge circuit for starting and sustaining a welding arc. 3,376,470, 4–2–68, Cl. 315—171.

Stone, Elmer O., to Sylvania Electric Products Inc. Numeric electroluminescent display device utilizing stacked digit. 3,376,454, 4–2–68, Cl. 313—109.5.

Stora Kopparbergs Bergslags Aktiebolag: *See*—
Kootz, Theodor, Maas, and Bengtsson. 3,376,130.

Stratton, George B., to Hooker Chemical Corp. Preparation of alkyl sulfides. 3,376,348, 4–2–68, Cl. 260—609.

Stretch Yarns Inc.: *See*—
Swales, Bernard V., Jr. 3,375,655.

Stroh, Ernest F., to Monsanto Co. Low shrinkage modacrylic interpolymer. 3,376,276, 4–2–68, Cl. 260—80.73.

Stromberg-Carlson Corp.: *See*—
Corpew, Charles R. 3,376,465.

Sturdevant, Jay W.: *See*—
Wines, Warren R., Sturdevant, and Cannizzaro. 3,376,479.

Sturm, Walter V., to The Monarch Machine Tool Co. Turret mechanism. 3,375,742, 4–2–68, Cl. 82—36.

Stutz, Robert E., to Chapman Chemical Co. Wood preservative grease composition. 3,376,144, 4–2–68, Cl. 106—15.

Subramanya, Bettadapur S., J. W. Riddel, and K. Schwartzwalder, to General Motors Corp. Method of manufacturing a spark gap semiconductor. 3,376,367, 4–2–68, Cl. 264—57.

Suddeutsche Kalkstickstoff-Werke Aktiengesellschaft: *See*—
Kaess, Franz, and Kick. 3,375,637.

Sullivan, Herbert D.: *See*—
Brace, Robert S., and Sullivan. 3,376,078.

Sulzer Brothers Ltd.: *See*—
Trepp, Christian, and Ergenc. 3,375,675.

Summit Electronics Inc.: *See*—
Hoge, Henri H. 3,376,498.

Sun Oil Co.: *See*—
Lindeman, Myrl A. 3,375,699.

Superior Electric Motor Sales, Inc.: *See*—
Weiss, William W. 3,376,019.

Suska, Charles R., to The Stanley Works. Hinge. 3,375,544, 4–2–68, Cl. 16—128.

Sutton, Scott L. Disposal apparatus. 3,375,666, 4–2–68, Cl. 61—13.

Svanholm, Gert, to Novo Terapeutisk Laboratorium A/S. Purification of amphoteric and basic antibiotics. 3,376,339, 4–2–68, Cl. 260—559.

Swales, Bernard V., Jr., to Stretch Yarns Inc. Elasticized yarn and method of making same. 3,375,655, 4–2–68, Cl. 57—140.

Swanquist, Wesley W., to All-Steel Equipment, Inc. Electrical box mounting clip for use with metal studs. 3,376,005, 4–2–68, Cl. 248—223.

Swanson, Donald L., to Northrop Corp. Fuze initiated by spin rate decrease. 3,375,787, 4–2–68, Cl. 102—79.

Swartz, Clarence. Railroad air hose connection. 3,375,849, 4–2–68, Cl. 137—349.

Swearingen, Judson S. Anticavitational rotational power absorber and bearing lubrication system therefor. 3,375,903, 4–2–68, Cl. 184—6.

Swedlow, Inc.: *See*—
Opel, Charles J., and Bottoms. 3,376,371.

Swenson, Jack S.: *See*—
Morgan, Albert W., and Swenson. 3,376,278.

Swick, George E., Jr., to Dura Corp. Lift frame adapter. 3,375,905, 4–2–68, Cl. 187—8.74.

Swiss Controls & Research, Inc.: *See*—
Kolster, Wilhelm K. 3,375,973.

Switzer, Don R.: *See*—
Phillips, Clayton L., and Switzer. 3,375,703.

Sylvania Electric Products Inc.: *See*—
Bowser, Robert S., and Sentementes. 3,376,177.
Jameson, Keith O. 3,376,460.
Murphy, William D. 3,376,380.
Rosser, William D. 3,376,576.
Stone, Elmer O. 3,376,454.

Syntex Corp.: *See*—
Beard Colin C., and Cross. 3,376,292.
Fried, John H. 3,376,291.
Fried, John H. 3,376,323.
Siddall, John. 3,376,295.

Syrkin, Vitaly G., I. S. Tolmassky, and A. E. Fridenberg, deceased, by S. E. Fridenberg, administrator. Method of manufacture of a high-dispersion carbonyl iron. 3,376,129, 4–2–68, Cl. 75—.5.

TRW, Inc.: *See*—
Herbenar, Edward J. 3,376,058.
Nasvytis, Algirdas L., and Rountree. 3,375,727.
Nasvytis, Algirdas L. 3,375,739.

Tadanier, John S., to Abbott Laboratories. 5β,6β-methanoestranes. 3,376,325, 4–2–68, Cl. 260—397.4.

Takagishi, Kenji: *See*—
Yokouchi, Rei, Ichikawa, Hosoi, Aoki, and Takagishi. 3,376,265.

Takahashi, Masao: *See*—
Akashi, Tsuneo, Takahashi, Yamauchi, Tsubouchi, and Ohno. 3,376,226.

Tamar Electronics Industries, Inc.: *See*—
Cress, Vernor B., Jr., Hoyt, Metz, Pollock, Kerber, Cabe, and Apitz. 3,376,546.

Tamblyn, John W.: *See*—
Newland, Gordon C., and Tamblyn. 3,376,250.

Taplin, John F. Rolling diaphragm device having spring-biased piston and means for precluding transmission of spring-windup to piston. 3,375,760, 4–2–68, Cl. 92—99.

Tate, John E., to Monsanto Co. Recovery of glycols from polyester production. 3,376,353, 4–2–68, Cl. 260—637.

Tate, Lawrence A.: *See*—
Smith, Roy J., and Tate. 3,376,385.

Taylor, Douglas W., R. Wechsler, and A. L. Markle, to Motorola, Inc. Thyristor switching means for flashing electrical lamps. 3,376,472, 4–2–68, Cl. 315—226.

Taylor, Harry M.: *See*—
Bieber, Herman, Taylor, and Spenadel. 3,376,318.

Taylor Instrument Companies: *See*—
Barthel, Roy W. 3,376,482.

Taylor, Louis H., to The Youngstown Research and Development Co. Method and apparatus for rolling metal strip and sheet. 3,375,688, 4–2–68, Cl. 72—21.

Tebbutt, Ronald V.: *See*—
Willey, Sally M., and Tebbutt. 3,375,543.

Techtmann Industries, Inc.: *See*—
Techtmann, Wilbur H. A., and Pohl. 3,375,777.

Techtmann, Wilbur H. A., and A. E. Pohl, to Techtmann Industries, Inc. Bar-type sealer having motor-operated jaw means. 3,375,777, 4–2–68, Cl. 100—93.

- Telefonaktiebolaget L M Ericsson : *See—*
  - Kilander, Sven G. I., and Andersson. 3,376,394.
- Telefunken Patentverwertungs-G.m.b.H. : *See—*
  - Rummer, Heribert. 3,376,510.
- Tempel, Albert : *See—*
  - Koopman, Harmannus, and Tempel. 3,376,190.
- Teves, Alfred, Maschinen- und Armaturenfabrik A.G. : *See—*
  - Schmid, Leopold F. 3,376,032.
- Texas-U.S. Chemical Co. : *See—*
  - McLeod, Norman F. 3,376,363.
- Textilana Corp. : *See—*
  - Ernst, Robert, and Comar. 3,376,333.
- Textile Machine Works : *See—*
  - Moyer, James D., and Pittman. 3,375,559.
  - Wenrich, John D. 3,375,682.
- Thijssen, Jan B. : *See—*
  - Noorlander, Willem, and Thijssen. 3,376,397.
- Thiokol Chemical Corp. : *See—*
  - Fein, Marvin M., and Cohen. 3,376,347.
  - Hawkins, Oscar M. 3,375,656.
  - Schwartz, Nelson N., and Fein. 3,376,346.
- Thomann, Gustav, and F. Kuhnen, to Sandoz Ltd. Alkoxyalkylmercury, alkylmercury citrates. 3,376,330, 4–2–68, Cl. 260—432.
- Thomas & Betts Co., The : *See—*
  - Logan, Maurus C., and Gibson. 3,376,170.
- Thompson, Byrd T., Jr., and H. S. Woodbery, to Monsanto Co. Continuous differential viscometer. 3,375,704, 4–2–68, Cl. 73—55.
- Thompson, Goeffrey B. and R. D., to The Kelvin-Thompson Co. Ltd. Automatic stokers. 3,375,940, 4–2–68, Cl. 214—6.
- Thompson, Norman, to Beta Aluminum Products Ltd. Pivoted window louvres. 3,375,608, 4–2–68, Cl. 49—403.
- Thompson, Quentin E., to Monsanto Co. Diorganooxydisulfide esters. 3,376,322, 4–2–68, Cl. 260—397.2.
- Thompson, Robert D. : *See—*
  - Thompson, Geoffrey B. and R. D. 3,375,940.
- Thomson Automatismes : *See—*
  - Budts, Lucien. 3,376,516.
- Thomson Machinery Co., Inc., The : *See—*
  - Willett, Harold A. 3,375,642.
- Thornton, Marshall B., to United Aircraft Corp. Trailer dolly lift system. 3,376,048, 4–2–68, Cl. 280—43.2.
- Thrust, Inc. : *See—*
  - Macy, James C. 3,376,528.
- Thurner, Michael R. L., to Communication Patents Ltd. Ground-based aircraft flight simulating apparatus. 3,375,594, 4–2–68, Cl. 35—12.
- Tida, Yoshio : *See—*
  - Fujimura, Masanori, Kasahara, Iguchi, Matsuo, Sasaki, Nagase, Nayakawa, and Tida. 3,375,774.
- Tidball, Robert A., to Baldwin-Lima-Hamilton Corp. Non-scaling high temperature sea water distillation unit. 3,376,204, 4–2–68, Cl. 203—7.
- Tillson, Charles H., to The B. F. Goodrich Co. Wall structure. 3,375,629, 4–2–68, Cl. 52—403.
- Timm, Walter, and A. E. Sebest, to Mine Safety Appliances Co. Assembly for mounting face protection devices on headgear. 3,375,529, 4–2–68, Cl. 2—8.
- Tolmassky, Iosif S. : *See—*
  - Syrkin, Vitaly G., Tolmassky, and Fridenberg. 3,376,129.
- Tomioka, Hiroyuki, to Shinko Wire Co., Ltd. Metallic member and joint assembly. 3,376,060, 4–2–68, Cl. 287—108.
- Torres, Ruben H., to The Headliners International, Inc. Reproportioning machine. 3,374,734, 3–26–68, Cl. 95—75.
- Townsend, Charles E., Jr. Lettering template construction. 3,375,591, 4–2–68, Cl. 33—174.
- Toyo Denki Seizo Kabushiki Kaisha : *See—*
  - Shibata, Iwao, Kawashima, and Yamaguchi. 3,376,485.
- Toyo Rayon Kabushiki Kaisha : *See—*
  - Nakanishi, and Kubota. 3,376,257.
  - Yokouchi, Rei, Ichikawa, Hosoi, Aoki, and Takagishi. 3,376,265.
- Traub, Karl, to Siemens Aktiengesellschaft. Mechanical vibrator with electrostrictive excitation. 3,376,521, 4–2–68, Cl. 333—71.
- Traub, Karl, to Siemens Aktiengesellschaft. Electromechanical band filter with reactive bridging means for shifting or adding additional attenuation poles. 3,376,522, 4–2–68, Cl. 333—71.
- Trefileries Leon Bekaert, SPRL : *See—*
  - Wieme, Andre. 3,376,001.
- Trepp, Christian, and S. Ergenc, to Sulzer Bros. Ltd. Low temperature refrigerating apparatus. 3,375,675, 4–2–68, Cl. 62—45.
- Trigger, David J. : *See—*
  - Coles, Clarence L. J., and Trigger. 3,376,199.
- Triplex Safety Glass Co. Ltd. : *See—*
  - Grotefeld, Augustus W., and Heath. 3,375,626.
- Troast, Marinus, Jr. : *See—*
  - Greenberg, Bertram M., M. Troast, Jr., and T. Troast. 3,375,796.
- Troast, Timothy : *See—*
  - Greenberg, Bertram M., M. Troast, Jr., and T. Troast. 3,375,796.
- Troster, Helmut : *See—*
  - Fuchs, Otto, and Troster. 3,376.303.
- Trouilbet, Maurice M. A., to Calor Appareils Electro-Domestiques. Water-atomization irons. 3,375,599, 4–2–68, Cl. 38—78.
- Troyer, John S. and M. G. Soil pulverizing unit. 3,375,879, 4–2–68, Cl. 172—122.
- Troyer, Margarita G. : *See—*
  - Troyer, John S. and M. G. 3,375,879.
- Trumbull, Harold E. : *See—*
  - Grimm, James J., and Trumbull. 3,375,781.
  - Grimm, James J., and Trumbull. 3,375,782.
  - Grumm, James J., and Trumbull. 3,375,783.
- Tschursch, Arnold, to Georg Fritzmeier KG. Movable vehicle seat. 3,376,008, 4–2–63, Cl. 248—376.
- Tsentralny Nauchno-Issledovatelsky Institute Chernoi Metallurgii im. I.P. Bardina : *See—*
  - Boichenko, Mikhail S., Evteev, Kaushansky, Karpeka, Orlova, Pravdin, Savchenko, Fisjun, Fulmakht, and Shabanov. 3,375,865.
  - Butkevich, Vladimir A., Evteev, Kaushansky, Karpeka, Korotkov, Pravdin, Rutes, Fulmakht, and Fisjun. 3,375,864.
- Turban, Karl-Albert, to Multi-Contact A.G. Connector with removable insulating sleeve. 3,376,540, 4–2–68, Cl. 339—59.
- Turnbull, John, to Fiber Industries, Inc. Backwinding a supply beam. 3,375,560, 4–2–68, Cl. 28—72.
- Turner, Lyman H. : *See—*
  - Mallory, Donald G., Turner, and Cassano. 3,375,779.
- Turner, Lyman H., and J. R. Cassano, to Xerox Corp. Sheet counting mechanism for reproduction machines. 3,375,780, 4–2–68, Cl. 101—132.
- Tuskegee Institute : *See—*
  - Cason, Louis F. 3,376,340.
- Unger, Richard, S. Sommer, E. Schorscher, and H.-J. Enenkel, to E. Merck A.G. 4,4-diphenyl-cyclohexylamines and derivatives thereof. 3,376,312, 4–2–68, Cl. 260—326.87.
- Union Carbide Corp. : *See—*
  - Cox, Eugene F., and Knopf. 3,376,281.
  - Naumann, Alfred W. 3,376,105.
  - Reddy, Richard L., Montgomery, and Grulke. 3,376,247.
- Union Oil Co. : *See—*
  - Miller, Loren N., Holbrook, and Woertz. 3,375,639.
- Uniroyal, Inc. : *See—*
  - Geyer, Paul 3 375 549.
  - Schlager, Wilfred C., and Henderson. 3,375,919.
- United Aircraft Corp. : *See—*
  - Fitton, David L. 3,375,971.
  - Ives, David C., and Lovkay. 3,375,711.
  - Labrecque, Jean P. 3,375,999.
  - Meyerand, Russell G., Jr., Bell, and Bullis. 3,376,437.
  - Thornton, Marshall B. 3,376,048.
- United-Carr Inc. : *See—*
  - Van Buren, Harold S., Jr. 3.376,057.
  - Wright, Thomas B. 3,375,558.
- United States of America
  - Agriculture : *See—*
    - Vail, Sidney L., and Moran. 3,376,101.
  - Air Force : *See—*
    - Achramowicz, William J. 3,376,384.
    - Boucher, Robert J. 3,376,471.
    - Krakauer, Hans A., and Malvin. 3,375,824.
  - Atomic Energy Commission : *See—*
    - Bell, William A., Jr., Spainhour, and Veach. 3,376,414.
    - Black, James F. 3,376 357.
    - Locke, Donald M. 3 376,544.
    - Palmer, James P. 3,376,440.
    - Reilly, James J., Jr., and Wiswall. 3 375,676.
    - Robertson, Wilbert J., and Kerr. 3,376,116.
    - Stone, Cecil C., Olp, and Pokorny. 3,376,470.
    - Wells, William M., Jr. 3,375,664.
- United States Steel Corp. : *See—*
  - Beall, Richard O., and Bernard. 3,375,805.
  - Chase, Paul W. 3,375 928.
  - De Grange, Charles J., and Gobla. 3,376,217.
  - Masciantonio, Philip X., and Wilt. 3,376,212.
- Universal Lubrication Systems, Inc. : *See—*
  - Farrell, Richard R. 3,375,901.
- Upjohn Co., The : *See—*
  - Erner, William E. 3,376,236.
  - Hunter, James H. 3 376,283.
- V & E Friedland Ltd. : *See—*
  - Doggart, John. 3,375,803.
- VEB Carl Zeiss : *See—*
  - Klupsch, Paul. 3,375,768.
- V-M Corp. : *See—*
  - Estkowski, Michael H., and Morrison. 3,376,043.
  - Freier, Gerald H. 3,376,044.
- Vahle, Raymond to Continental Can Co., Inc. Feed mechanism. 3,375,955, 4–2–68, Cl. 221—13.
- Vail, Sidney L., and C. M. Moran, to United States of America, Agriculture. Process of modifying cellulosic fertiles with glyoxal-biscarbamate reaction products. 3,376,101, 4–2–68, Cl. 8—116.3.
- Vald. Henriksen A/S : *See—*
  - Henningsen, Erik. 3,375,952.
- Valentine, David L., and D. C. Finney, to Eastman Kodak Co. Polyvinyl chloride plastisols having greatly improved properties. 3 376,246, 4–2–68, Cl. 260—31.6.
- Van Baush, Edward H. : *See—*
  - Cimler, Emil, and Van Baush. 3,375,673.
- Van Buren, Harold S., Jr., to United Carr Inc. One piece synthetic resinous bushing. 3,376,057, 4–2–68, Cl. 287—52.04.
- Vande Wege, John R., to Automatic Electric Laboratories, Inc. Automatic central-office equipment testing arrangement. 3,376,398, 4–2–68, Cl. 179—175.21.
- Vande Wege, John R. : *See—*
  - Sikorski, Frank B., and Vande Wege. 3,376,399.
- Van den Berg, Cornelis E. P. V., to Stamicarbon N.V. Preparation of 1,5,9-cyclododecatriene. 3,376,355, 4–2–68, Cl. 260—666.

- Vanderbilt, Byron M. : *See—*
  - Clayton, Robert E., and Vanderbilt. 3,376,188.
- Van Der Wal, Jurjen. Reversible fluid coupling device. 3,375,662, 4–2–68, Cl. 60—54.
- Van Driel, Gerrit A. H., C. J. Esveldt, and J. E. Joosten, to North American Philips Co., Inc. Lithium nickel ferrite magnetic switching element. 3,376,227, 4–2–68, Cl. 252—62.61.
- Van Essen, Harold E., Jr., and R. R. Baron, to Salsbury Laboratories. Ortho-nitrobenzoid acid, 5-nitrofurfurylidene hydrazide. 3,376,296, 4–2–68, Cl. 260—240.
- Vapor Corp. : *See—*
  - Smith, Robert P., and Haskett. 3,375,975.
- Vargha, Laszlo : *See—*
  - Feher, Odon, Koczka, and Vargha. 3,376,288.
- Varian Associates : *See—*
  - Freeman, Raymond. 3,376,499.
  - Jepsen, Robert L. 3,376,455.
  - Leonard, Thomas C. 3,376,495.
  - McEuen, Albert H., Whitehorn, Dye, and Murphy. 3,376,507.
  - Millward, Samuel J. 3,376,461.
  - Peranio, Anthony. 3,376,501.
  - Scaggs, Lee L., and Smith. 3,376,500.
- Vasin, Ivan G., and P. G. Pozdnjakov. Quartz resonator. 3,376,439, 4–2–68, Cl. 310—9.5.
- Veach, Allen M. : *See—*
  - Bell, William A., Jr., Spainhour, and Veach. 3,376,414.
- Venemark, Emil T., deceased (by R. Venemark, legal representative), to Mo Och Domsjo Aktiebolag. Method of removing volatile acids from vapors in the manufacture of sulphate cellulose. 3,376,102, 4–2–68, Cl. 23—2.
- Venemark, Rut : *See—*
  - Venemark, Emil T. 3,376,102.
- Verdonk, Anthonius C. W., and P. J. B. Kradolfer, to N.V. Cirex. Copper alloy. 3,376,171, 4–2–68, Cl. 148—3.
- Verhille, Henri A. J., to International Standard Electric Corp. Telecommunication switching system. 3,376,392, 4–2–68, Cl. 179—18.
- Verreries Pocket et du Courval : *See—*
  - Le Clerc de Bussy, Jacques M. Y. 3,376,373.
- Vibratechniques S.A. : *See—*
  - Fontaine, Michel A. 3,376,021.
- Vieceli, Angelo. Steam bath apparatus for bathtubs. 3,375,534, 4–2–68, Cl. 4—162.
- Vincent, Renic P. : *See—*
  - Howard, George C., and Vincent. 3,375,856.
- Vinogradov, Alexandr S., J. M. Kapustin, I. N. Maxjutenko, V. N. Kiselnikov, I. S. Borisov, and I. M. Mazalov. Casing for carding machine flats. 3,375,555, 4–2–68, Cl. 19—98.
- Visser, Jan E., and M. H. M. Vrolijks, to North American Philips Co., Inc. Heat and pressure glass bonding of space magnetic head portions by forming and using glass over flow channels. 3,375,575, 4–2–68, Cl. 29—603.
- Vlaminck, Leopold G., to Automatic Electric Laboratories, Inc. Telephone terminal block having snap-on connector strip. 3,376,542, 4–2–68, Cl. 339—125.
- Vockenhuber, Karl : *See—*
  - Freudenschuss, Otto. 3,376,093.
- Voeller, Rolf, to Fortuna-Werke Spezialmaschinfabrik Aktiengesellschaft. Eccentric and means for adjusting the eccentricity thereof. 3,375,732, 4–2–68, Cl. 74—571.
- Von Duprin, Inc. : *See—*
  - Foster, John R. 3,375,687.
- Von Eiff, Ulrich C., and A. L. Ugalde. Rotary pump. 3,375,983, 4–2–68, Cl. 241—46.
- Von Hoevel, Edmund H., to Hanlon & Wilson Co. Muffler with perforate chorded baffles defining fiber-filled chambers. 3,375,898, 4–2–68, Cl. 181—40.
- Vosbikian, James T. and M. Manually held, ratchet driven tools. 3,375,860, 4–2–68, Cl. 145—70.
- Vosbikian, Manuel : *See—*
  - Vosbikian, James T. and M. 3,375,860.
- Vrolijks, Matthijs H. M. : *See—*
  - Visser, Jan E., and Vrolijks. 3,375,575.
- Vsesojuzny-Nauchno-Issledovatelsky Institute : *See—*
  - Zaitsev, Mikhail P., and Kholopov. 3,375,965.
- Vyzkumny Ustav Bavlnarsky : *See—*
  - Bures, Ladislav, Doudlebsky, and Barsukov. 3,375,649.
- Wagner, Robert H., Co., Inc. : *See—*
  - Kraus, Howard E., and Smith. 3,376,425.
- Wagner Electric Corp. : *See—*
  - Atkins, Carl E., and Ziolkowski. 3,376,429.
  - Franklin, Robert F., and McArtney. 3,376,445.
  - Milster, Arthur N. 3,375,852.
- Wagner, Fritz W., to Joh. Kleinwefers Sohne. Electric heating unit for insertion into hollow bodies, especially calender rollers. 3,376,407, 4–2–68, Cl. 219—470.
- Wagner, Hampton R., to Bay-Wood Industries, Inc. Collapsible shipping pallet. 3,375,793, 4–2–68, Cl. 108—56.
- Wagner, Kuno, H. Scheurlen, and H. Kritzler, to Farbenfabriken Bayer Aktiengesellschaft. Stabilization of acylated or alkylated polyoxymethylenes. 3,376,255, 4–2–68, Cl. 260—45.75.
- Wagner, Werner, and K. H. Macher, to Jos. Schneider & Co. Optische Werke. Compact wide-angle camera objective. 3,376,091, 4–2–68, Cl. 350—209.
- Wainio, Albert W., to Westinghouse Electric Corp. Electric discharge lamp having a resiliently-suspended fragile member therein that decreases the diffusion length of the discharge. 3,376,456, 4–2–68, Cl. 313—204.
- Waldron, John C. : *See—*
  - Rizk, Waheeb, Bolesworth, Keer, and Waldron. 3,376,017.
- Walkinshaw, Thomas G., to Cramer Industries, Inc. Footring mounting for chairs. 3,376,068, 4–2–68, Cl. 297—437.
- Wallace, Thomas J., to Esso Research and Engineering Co. Process of preparing organic disulfides from thiols. 3,376,313, 4–2–68, Cl. 260—327.
- Wallace, William K., to Benton Clay Co. Clay products and the like. 3,376,145, 4–2–68, Cl. 106—38.28.
- Walsh, Bruce R. : *See—*
  - Biber, Albert, and Walsh. 3,376,097.
- Walsh, Robert R., to All American Engineering Co. Single-cycle self-regulating battery charger. 3,376,488, 4–2–68, Cl. 320—40.
- Walstrom, Leslie R., to Fabri-Tek Inc. Guide plate apparatus. 3,375,564, 4–2–68, Cl. 29—203.
- Walter, John F., to Lockheed Aircraft Corp. Protective cover for relatively movable conductive measuring scales. 3,376,532, 4–2–68, Cl. 336—115.
- Walton, Charles A., to International Business Machines Corp. Analog storage device. 3,376,480, 4–2–68, Cl. 317—123.
- Wang, Ben C., and S. T. Chai, to Ampex Corp. High performance tape transport. 3,375,963, 4–2–68, Cl. 226—178.
- Wang, Chao C., to Sperry Rand Corp. Double-mode broadband resonant cavity. 3,376,524, 4–2–68, Cl. 333—83.
- Ward, Arthur G., to Atomic Energy of Canada Ltd. Vapour quality measurement by delayed gamma radiation emission. 3,376,200, 4–2–68, Cl. 176—19.
- Ware, Ben F., to The Ajax Mfg. Co. Wire working apparatus. 3,375,692, 4–2–68, Cl. 72—206.
- Warner Electric Brake & Clutch Co. : *See—*
  - Stilley, Herschel H., and Kordik. 3,376,483.
- Waterton, Frank, to Associated Electrical Industries Ltd. Welding method for constructing an envelope. 3,375,572, 4–2–68, Cl. 29—482.
- Watkins, John A., to Patwin, Inc. Binary signal responsive electromagnetic indicator. 3,376,569, 4–2–68, Cl. 340—325.
- Watson, Wayne C., to American Olean Tile Co., Inc. Tile feeding apparatus for depositing tiles on tile boards. 3,375,567, 4–2–68, Cl. 29—211.
- Watson, William G., to S. A. Parsons and Co., Ltd. Speed governing system with converter device between two separate fluid circuits. 3,375,837, 4–2–68, Cl. 137—36.
- Watts, Raymond L., to Wehr Corp. Magnetic apparatus. 3,375,926, 4–2–68, Cl. 209—223.
- Weaver, Ernest W., Sr. : *See—*
  - Palmer, Landon L., and Weaver. 3,376,100.
- Weber, Robert D. : *See—*
  - Novakovich, Milan, and Weber. 3,376,053.
- Wechsler, Rueben : *See—*
  - Taylor, Douglas W., Wechsler, and Markle. 3,376,472.
- Wehr Corp. : *See—*
  - Watts, Raymond L. 3,375,926.
- Weil, Theodor, and H. Stange, to FMC Corp. 2-azidocyclohexanone oxime. 3,376,319, 4–2–68, Cl. 260—349.
- Weinger, Ralph, to Harvey Hubbell Inc. Protective circuit. 3,376,477, 4–2–68, Cl. 317—27.
- Weinkamer, William A. : *See—*
  - Kingsbury, George R., Junge, Weinkamer, and Slater. 3,375,563.
- Weinstock, Sol, to Radio Corp. of America. Pulse distribution amplifier. 3,376,434, 4–2–68, Cl. 307—88.5.
- Weir, Henry J. Laundry feeding machine. 3,376,036, 4–2–68, Cl. 271—54.
- Weiss, Arthur J., to Continental Can Co., Inc. Wraparound carrier. 3,375,968, 4–2–68, Cl. 229—40.
- Weiss, Martin J. : *See—*
  - Kissman, Henry M., and Weiss. 3,376,293.
- Weiss, William W., to Superior Electric Motor Sales, Inc. Lifting device, particularly vehicle jack. 3,376,019, 4–2–68, Cl. 254—103.
- Weit, James G. : *See—*
  - Porterfield, Cecil P., and Weit. 3,376,476.
- Weitzman, Norman G. Random-coin-positioning amusement device cooperable in input relationship with a coin-receiving means. 3,375,912, 4–2–68, Cl. 194—1.
- Welch, John A., to The General Tire & Rubber Co. Elastomeric expansion joint. 3,375,763, 4–2–68, Cl. 94—18.
- Wellard, Harold J. : *See—*
  - Brown, Alexander, and Wellard. 3,375,729.
- Wells, William M., Jr., to United States of America, Atomic Energy Commission. Convection current power generator. 3,375,664, 4–2–68, Cl. 60—92.
- Weman, Per-Olof : *See—*
  - Wohlert, Guenther, Wolff, and Weman. 3,375,994.
- Wen, Richard Y., to The Dow Chemical Co. Chlorinated phenyl ether. 3,376,350, 4–2–68, Cl. 260—612.
- Wendt, Gerhard R., and K. W. Ledig, to American Home Products Corp. N-substituted cyclopentaquinoxalines. 3,376,284, 4–2–68, Cl. 260—211.5.
- Wenrich, John D., to Textile Machine Works. Needle operating means for warp knitting machines. 3,375,682, 4–2–68, Cl. 66—86.
- Wenton Shoe Mfg. Co. : *See—*
  - Call, Joseph V. 3,375,537.
- Werntz, James H. : *See—*
  - Hoegger, Erhard F., and Werntz. 3,376,266.
- Wesson, Harold R., to Fire Boss, Inc. Dry chemical fire extinguishing apparatus. 3,375,875, 4–2–68, Cl. 169—9.
- Western Electric Co., Inc. : *See—*
  - Berg, Richard D. 3,375,857.
- Westinghouse Air Brake Co. : *See—*
  - Kettering, James H., and Rackl. 3,376,080.

Westinghouse Electric Corp.: *See*—
  Bobo, Powell O. 3,376,374.
  Caputo, William R. 3,376,486.
  Eichinger, Robert L., and Begley. 3,375,569.
  Fischer, Heinz G. 3,376,530.
  Fischer, Heinz G., and Bell. 3,376,531.
  Gerard, William A. 3,376,466.
  Hodges, Frank P., and Luce. 3,375,715.
  Hoeh, Frederick W. 3,376,457.
  Kessler, Michael H. 3,375,936.
  Miale, Goliardo, and Campagna. 3,376,462.
  Schutte, Marlin D. 3,375,854.
  Sonnenberg, Charles F., and Frakes. 3,376,379.
  Wainio, Albert W. 3,376,456.
  Wotowiec, Joseph P., Rackley, and Nieder-Westermann. 3,375,773.
Westland Aircraft Ltd.: *See*—
  Hardy, Derek J., and Pearson. 3,375,895.
  Riddle, Lavis A. H. 3,375,894.
Weston Chemical Corp.: *See*—
  Larrison, Millard S. 3,376,364.
Weston Instruments, Inc.: *See*—
  Richman, Peter L. 3,376,513.
Whirlpool Corp.: *See*—
  Davis, James E. 3,375,819.
  Lopp, Charles R., Peyer, and Ruspino. 3,375,835.
Whitaker, Douglas C., and T. J. Gallen. Spray painting employing high voltage charging. 3,376,156, 4-2-68, Cl. 117—93.2.
Whitehorn, Richard M.: *See*—
  McEuen, Albert H., Whitehorn, Dye, and Murphy. 3,376,507.
Whiting, James C., to Michigan-Dynamics, Inc. Differential pressure indicator. 3,375,720, 4-2-68, Cl. 73—419.
Whitlock, Beauford I., to AWB Mfg., Inc. Dynamic wheel balancer unit. 3,376,074, 4-2-68, Cl. 301—5.
Whyte, David D.: *See*—
  Artman, Neil R., Cartier, and Whyte. 3,376,326.
Whyte, Donald F. Mountable and demountable file box assembly. 3,375,935, 4-2-68, Cl. 211—135.
Wiechert, Rudolf: *See*—
  Mueller, Hans, Neumann, and Wiechert. 3,376,197.
Wieden, Horst, W. Brenschede, H. Lenz, W. Rellensmann, and G. Nischk, to Farbenfabriken Bayer Aktiengesellschaft. Process for producing stabilized polyurethane fibers. 3,376,264, 4-2-68, Cl. 260—75.
Wieme, Andre, to Trefileries Leon Bekaert, SPRL. Mesh with variable spaces. 3,376,001, 4-2-68, Cl. 245—3.
Wilbert, Godfrey: *See*—
  Hyden, Seymour, and Wilbert. 3,376,307.
Wilde, Geoffrey L., to Rolls-Royce Ltd. Gas turbine engines. 3,375,996, 4-2-68, Cl. 244—7.
Wilhelm, Hans: *See*—
  Bayerlein, Friedrich, Keller, Mahling, Becker, Gajek, and Wilhelm. 3,376,275.
Wilkinson, Bruce L., to Power Conversion, Inc. High frequency controlled rectifier circuit. 3,376,494, 4-2-68, Cl. 321—45.
Wilkinson, Judkins E., to Atlanta Stove Works, Inc. Cooker with means to vary grill height. 3,375,817, 4-2-68, Cl. 126—25.
Willcox, Frederick P., N. F. Smith, and H. Levitt. Central station for a multiple remote-interrogated information system, with busy signalling. 3,376,509, 4-2-68, Cl. 325—57.
Willett, Harold A., to The Thomson Machinery Co., Inc. Sugar cane harvesters. 3,375,642, 4-2-68, Cl. 56—15.
Willey, Sally M., and R. V. Tebbutt, to Schema Ltd. Coupling device. 3,375,543, 4-2-68, Cl. 16—139.
Willgrubs, Theodore M.: *See*—
  Learmont, Tom, and Willgrubs. 3,375,943.
Williamson, Douglas H., to Rolls-Royce Ltd. Vane operating mechanism. 3,376,018, 4-2-68, Cl. 253—78.
Wilt, Myron H.: *See*—
  Masciantonio, Philip X., and Wilt. 3,376,212.
Wine, Charles M., to Radio Corp. of America. Synchronizing circuit employing plural bistable-elements for producing low frequency output in synchronism with low and high frequency inputs. 3,376,435, 4-2-68, Cl. 307—269.
Wines, Warren R., J. W. Sturdevant, and M. Cannizzaro, to Sperry Rand Corp. Means for operatively connecting printed circuit boards. 3,376,479, 4-2-68, Cl. 317—101.
Wissick, William P.: *See*—
  Hasbrouck, Leo J., Holleran, King, and Wissick. 3,376,556.
Wiswall, Richard H., Jr.: *See*—
  Reilly, James J., Jr., and Wiswall. 3,375,676.
Witt, James H.: *See*—
  Montani, Angelo, Witt, and Ritsi. 3,376,411.
Woertz, Byron B.: *See*—
  Miller, Loren N., Holbrook, and Woertz. 3,375,639.
Wohlert, Guenther, W. Wolff, and P.-O. Weman, to Sigmatex AG. Winding device for safety belts and the like. 3,375,994, 4-2-68, Cl. 242—107.2.
Wolber, Robert, O. Hettich. H. Fehrenbach, H. Armbruster, and F. Assmus, to Gebrüder Junghans Aktiengesellschaft. Electrical clock movement. 3,375,653, 4-2-68, Cl. 58—28.
Wolf, Clement W. Operating mechanism for an electrical switch. 3,375,723, 4-2-68, Cl. 74—100.
Wolff, Wolfgang: *See*—
  Wohlert, Guenther, Wolff, and Weman. 3,375,994.
Womack, Charles P., and J. K. Boomer, to Collins Radio Co. Encoded synchronous demodulator circuit. 3,376,514, 4-2-68, Cl. 329—50.
Wong, Mei-Goon, and D. R. Maure, to Lear Siegler, Inc. Code simulator. 3,376,550, 4-2-68, Cl. 340—172.5.
Wood, Herbert H., to Canadian Industries Ltd. Method of improving the adhesive properties of polyolefin film by passing a diffuse electrical discharge over the film's surface. 3,376,208, 4-2-68, Cl. 204—168.
Woodbery, Hunter S.: *See*—
  Thompson, Byrd T., Jr., and Woodbery. 3,375,704.
Woodcock, George, & Sons, Ltd.: *See*—
  Woodcock, George S. and H. E., Simpson, and Clayton. 3,375,680.
Woodcock, George S. and H. E., F. Simpson, and W. Clayton, to George Woodcock & Sons, Ltd. Straight bar knitting machines. 3,375,680, 4-2-68, Cl. 66—5.
Woodcock, Herbert E.: *See*—
  Wooucock, George S. and H. E., Simpson, and Clayton. 3,375,680.
Woods, John P., C. D. Dransfield, and H. R. Barta, to Atlantic Richfield Co. Magnetic transducer and method of manufacture. 3,375,574, 4-2-68, Cl. 29—603.
Wotowiec, Joseph P., C. E. Rackley, and W. Nieder-Westermann, to Westinghouse Electric Corp. Air handling light fixture. 3,375,773, 4-2-68, Cl. 98—40.
Wright, Thomas B., to United-Carr Inc. Safety belt buckle. 3,375,558, 4-2-68 Cl. 24—230.
Wroble, Francis N.: *See*—
  Martin, Robert H., and Wroble. 3,376,441.
Wurm, Joseph G.: *See*—
  Beucherie, Pierre, and Wurm. 3,376,231.
Xerox Corp.: *See*—
  Grimm, James J., and Trumbull. 3,375,781.
  Eichorn, Roger H. 3,375,807.
  Grimm, James J., and Trumbull. 3,375,782.
  Grimm, James J., and Trumbull. 3,375,783.
  Mallory, Donald G., Turner, and Cassano. 3,375,779.
  Nost, Louis N. 3,375,806.
  Turner, Lyman H., and Cassano. 3,375,780.
Yamaguchi, Yuzo: *See*—
  Shibata, Iwao, Kawashima, and Yamaguchi. 3,376,485.
Yamamoto, Tamecnika: *See*—
  Eguchi, Takashi, Yamamoto, Yamauchi, Kuraishi, and Asakawa. 3,376,332.
Yamato, Junji, T. Shimizu, and J. Iimura, to Nippon Telegraph and Telephone Public Corp. Capacitative read-only memory device employing parallel balanced drive and sense lines. 3,376,559, 4-2-68, Cl. 340—173.
Yamauchi, Fumio: *See*—
  Akashi, Tsuneo, Takahashi, Yamauchi, Tsubouchi, and Ohno. 3,376,226.
Yamauchi, Saburo: *See*—
  Eguchi, Takashi, Yamamoto, Yamauchi, Kuraishi, and Asakawa. 3,376,332.
Yardney International Corp.: *See*—
  Horowitz, Carl. 3,376,168.
Yokouchi, Rei, Y. Ichikawa, E. Hosoi, T. Aoki, and K. Takagishi, to Toyo Rayon Kabushiki Kaisha. Process for producing polyesters. 3,376,265, 4-2-68, Cl. 260—75.
Youngstown Research and Development Co., The: *See*—
  Taylor, Louis H. 3,275,688.
Zaitsev, Mikhail P., and J. V. Kholopov, to Vsesojuzny-Nauchno-Issledovatelsky Institute. Ultrasonic welder. 3,375,965, 4-2-68, Cl. 228—1.
Zefex Inc.: *See*—
  Raufelsen, Joseph. 3,375,972.
Zentmyer, David T.: *See*—
  McKee, Allan W., Jr., and Zentmyer. 3,376,187.
Zezula, Mary. Suspension clamp device. 3,376,006, 4-2-68, Cl. 248—227.
Ziegler, John R.: *See*—
  Stewart, John A., and Ziegler. 3,376,568.
Zimmerer, Arthur L.: *See*—
  Zimmerer, Paul B., B. J., and A. L. 3,376,052.
Zimmerer, Bernard J.: *See*—
  Zimmerer, Paul B., B. J., and A. L. 3,376,052.
Zimmerer, Paul B., B. J., and A. L. Irrigation pipe coupler. 3,376,052, 4-2-68, Cl. 285—5.
Zimmerley, Stuart R.: *See*—
  Messner, Martin E., and Zimmerley. 3,376,104.
Zimmermann, Hans. Pipe clamp. 3,376,003, 4-2-68, Cl. 248—59.
Zinkham, Robert E.: *See*—
  Goodwin, Robert J., Mori, Pekarek, Schaub, and Zinkham. 3,375,886
  Goodwin, Robert J., Mori, Pekarek, Schaub, and Zinkham. 3,375,887.
Ziolkowski, Robert L.: *See*—
  Atkins, Carl E., and Ziolkowski. 3,376,429.
Zochil, Francesco F., to Hamilton Float & Trowel Ltd. Trowelling apparatus for cement surfacing machines. 3,375,766, 4-2-68, Cl. 94—45.
Zoehfeld, Gunther, to Rotron Mfg. Co., Inc. Staged compressors. 3,375,970, 4-2-68, Cl. 230—117.
Zylbersztejn, Albert, and M. J. Menoret, to Centre National d'Etudes des Telecommunications. Fast temporary cryogenic memories. 3,376,560, 4-2-68, Cl. 340—173.1.

CLASSIFICATION OF PATENTS

ISSUED APRIL 2, 1968

NOTE.—First number, class; second number, subclass; third number, patent number

2– 8 : 3,375,529
224 : 3,375,530
4– 57 : 3,375,531
145 : 3,375,532
3,375,533
162 : 3,375,534
5–347 : 3,375,535
8–116.3 : 3,376,101
12–142 : 3,375,536
145 : 3,375,537
13– 6 : 3,376,373
13 : 3,376,374
15–118 : 3,375,538
312 : 3,375,539
320 : 3,375,540
327 : 3,375,541
16– 52 : 3,375,542
128 : 3,375,544
139 : 3,375,543
163 : 3,375,545
171 : 3,375,546
17– 2 : 3,375,547
18– 8 : 3,375,548
12 : 3,375,549
13 : 3,375,550
19 : 3,375,551
30 : 3,375,552
3,375,553
42 : 3,375,554
19– 98 : 3,375,555
157 : 3,375,556
23– 2 : 3,376,102
15 : 3,376,103
3,376,104
22 : 3,376,105
141 : 3,376,106
204 : 3,376,107
205 : 3,376,108
3,376,109
207.5 : 3,376,110
209.4 : 3,376,111
219 : 3,376,112
3,376,113
230 : 3,376,114
277 : 3,376,115
345 : 3,376,116
357 : 3,376,117
24–116 : 3,375,557
230 : 3,375,558
28– 1 : 3,375,559
72 : 3,375,560
.2 : 3,375,561
29–116 : 3,375,562
149.5 : 3,375,563
183.5 : 3,376,118
192 : 3,376,119
193 : 3,376,120
195 : 3,376,121
203 : 3,375,564
208 : 3,375,565
3,375,566
211 : 3,375,567
407 : 3,375,568
419 : 3,375,569
472.3 : 3,375,570
480 : 3,375,571
482 : 3,375,572
593 : 3,375,573
603 : 3,375,574
3,375,575
3,376,035
626 : 3,375,576
30– 40.1 : 3,375,577
3,375,578
90.8 : 3,375,579
228 : 3,375,580
248 : 3,375,581
32– 12 : 3,375,582
26 : 3,375,583
67 : 3,375,584
33– 1 : 3,375,585
3 : 3,375,586
74 : 3,375,587
79 : 3,375,588
104 : 3,375,589
138 : 3,375,590
174 : 3,375,591
34– 87 : 3,375,592
155 : 3,375,593
35– 12 : 3,375,594

37–117.5 : 3,375,595
118 : 3,375,596
141 : 3,375,597
38– 40 : 3,375,598
78 : 3,375,599
40–139 : 3,375,600
43– 5 : 3,375,601
17.2 : 3,375,602
43.11 : 3,375,603
46– 22 : 3,375,604
77 : 3,375,605
86 : 3,375,606
47– 37 : 3,375,607
49–403 : 3,375,608
3,375,609
445 : 3,375,610
446 : 3,375,611
465 : 3,375,612
51–101 : 3,375,613
129 : 3,375,614
164.5 : 3,375,615
170 : 3,375,616
3,375,617
391 : 3,375,618
52– 2 : 3,375,619
28 : 3,375,620
58 : 3,375,621
90 : 3,375,622
97 : 3,375,623
109 : 3,375,624
173 : 3,375,625
208 : 3,375,626
213 : 3,375,627
309 : 3,375,628
403 : 3,375,629
475 : 3,375,630
584 : 3,375,631
648 : 3,375,632
749 : 3,375,633
53– 14 : 3,375,634
119 : 3,375,635
122 : 3,375,636
55– 90 : 3,375,637
116 : 3,375,638
195 : 3,375,639
276 : 3,375,640
293 : 3,375,641
56– 15 : 3,375,642
23 : 3,375,643
25.4 : 3,375,644
3,375,645
98 : 3,375,646
294 : 3,375,647
57– 58.83 : 3,375,648
.91 : 3,375,649
98 : 3,375,650
140 : 3,375,655
153 : 3,375,651
58– 23 : 3,375,652
28 : 3,375,653
59 : 3,375,654
60– 39.47 : 3,375,656
.81 : 3,375,657
51 : 3,375,658
52 : 3,375,659
3,375,660
53 : 3,375,661
54 : 3,375,662
3,375,663
92 : 3,375,664
105 : 3,375,665
61– 13 : 3,375,666
37 : 3,375,667
45 : 3,375,668
46.5 : 3,375,669
53.6 : 3,375,670
69 : 3,375,671
62– 13 : 3,375,672
3,375,673
3,375,674
45 : 3,375,675
48 : 3,375,676
89 : 3,375,677
353 : 3,375,678
441 : 3,375,679
65– 27 : 3,376,122
308 : 3,376,123
66– 5 : 3,375,680
70 : 3,375,681
86 : 3,375,682

66–149 : 3,375,683
178 : 3,375,684
68– 12 : 3,375,685
3,375,686
70–150 : 3,375,687
71– 39 : 3,376,124
65 : 3,376,125
3,376,126
66 : 3,376,127
90 : 3,376,128
72– 21 : 3,375,688
59 : 3,375,689
64 : 3,375,690
82 : 3,375,691
206 : 3,375,692
353 : 3,375,693
361 : 3,375,694
365 : 3,375,695
400 : 3,375,696
402 : 3,375,697
471 : 3,375,698
73– 10 : 3,375,699
23 : 3,375,700
.1 : 3,375,701
40 : 3,375,702
.5 : 3,375,703
55 : 3,375,704
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67.9 : 3,375,706
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117.2 : 3,375,711
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304 : 3,375,716
379 : 3,375,717
406 : 3,375,718
411 : 3,375,719
419 : 3,375,720
420 : 3,375,721
74– 5.6 : 3,375,722
100 : 3,375,723
194 : 3,375,724
229 : 3,375,725
233 : 3,375,726
417 : 3,375,727
422 : 3,375,728
467 : 3,375,729
516 : 3,375,731
571 : 3,375,730
3,375,732
689 : 3,375,733
3,375,734
711 : 3,375,735
3,375,736
720.5 : 3,375,737
740 : 3,375,738
798 : 3,375,739
872 : 3,375,740
75– .5 : 3,376,129
52 : 3,376,130
68 : 3,376,131
171 : 3,376,132
77– 58 : 3,375,741
82– 36 : 3,375,742
83– 23 : 3,375,744
27 : 3,375,743
176 : 3,375,745
84–380 : 3,375,746
453 : 3,375,747
471 : 3,375,748
85– 80 : 3,375,749
88– 14 : 3,375,750
3,375,751
24 : 3,375,752
3,375,753
56 : 3,375,754
91– 1 : 3,375,755
175 : 3,375,756
189 : 3,375,757
356 : 3,375,758
92– 98 : 3,375,759
99 : 3,375,760
93– 41.1 : 3,375,761
58.2 : 3,375,762
94– 18 : 3,375,763

94– 40 : 3,375,764
44 : 3,375,765
45 : 3,375,766
95– 39 : 3,375,767
45 : 3,375,768
63 : 3,375,769
94 : 3,375,770
96– 1.2 : 3,376,133
.8 : 3,376,134
27 : 3,376,135
28 : 3,376,136
29 : 3,376,137
35.1 : 3,376,138
3,376,139
98– 1.5 : 3,375,771
2 : 3,375,772
40 : 3,375,773
99–126 : 3,376,140
154 : 3,376,141
3,376,142
281 : 3,375,774
446 : 3,375,775
100– 72 : 3,375,776
93 : 3,375,777
215 : 3,375,778
101–132 : 3,375,779
3,375,780
3,375,781
3,375,782
3,375,783
327 : 3,375,784
102– 20 : 3,375,785
78 : 3,375,786
79 : 3,375,787
103– 87 : 3,375,788
102 : 3,375,789
104–172 : 3,375,790
106– 14 : 3,376,143
15 : 3,376,144
38.28 : 3,376,145
97 : 3,376,146
109 : 3,376,147
139 : 3,376,148
193 : 3,376,149
287 : 3,376,150
107– 15 : 3,375,791
55 : 3,375,792
108– 56 : 3,375,793
110– 8 : 3,375,794
99 : 3,375,795
112– 2 : 3,375,796
79 : 3,375,797
113– 1 : 3,375,798
114– 16.6 : 3,375,799
235 : 3,375,800
115– 2 : 3,375,801
116–117 : 3,375,802
169 : 3,375,803
117– 18 : 3,376,151
3,376,152
33.5 : 3,376,153
36.4 : 3,376,154
72 : 3,376,155
93.2 : 3,376,156
106 : 3,376,157
119.2 : 3,376,158
126 : 3,376,159
136 : 3,376,160
161 : 3,376,161
216 : 3,376,162
118– 8 : 3,375,804
63 : 3,375,805
637 : 3,375,806
3,375,807
119– 19 : 3,375,808
118 : 3,375,809
122–240 : 3,375,810
123–139 : 3,375,811
148 : 3,375,812
185 : 3,375,813
3,375,814
124– 23 : 3,375,815
126– 25 : 3,375,816
3,375,817
135 : 3,375,818
211 : 3,375,819
128– 62 : 3,375,820
80 : 3,375,821
90 : 3,375,822
173.1 : 3,375,823

128–214 : 3,375,824
221 : 3,375,825
289 : 3,375,826
290 : 3,375,827
351 : 3,375,828
539 : 3,375,829
129– 16 : 3,375,830
131–235 : 3,375,832
258 : 3,375,833
134– 94 : 3,375,834
176 : 3,375,835
135– 1 : 3,375,831
3,375,836
136– 89 : 3,376,163
3,376,164
3,376,165
90 : 3,376,166
100 : 3,376,167
146 : 3,376,168
230 : 3,376,169
233 : 3,376,170
137– 36 : 3,375,837
81 : 3,375,838
3,375,839
.5 : 3,375,840
3,375,841
3,375,842
85 : 3,375,843
108 : 3,375,844
110 : 3,375,845
155 : 3,375,846
3,375,847
195 : 3,375,848
349 : 3,375,849
382 : 3,375,850
396 : 3,375,851
493.3 : 3,375,852
494 : 3,375,853
587 : 3,375,854
138– 42 : 3,375,855
106 : 3,375,856
140– 71 : 3,375,857
141–363 : 3,375,858
144–172 : 3,375,859
145– 70 : 3,375,860
148– 3 : 3,376,171
191 : 3,376,172
149– 5 : 3,376,173
13 : 3,376,174
19 : 3,376,175
46 : 3,376,176
156– 67 : 3,376,177
72 : 3,376,178
73 : 3,376,179
195 : 3,376,180
203 : 3,376,181
235 : 3,376,182
244 : 3,376,183
580 : 3,376,184
160–371 : 3,375,861
161– 37 : 3,376,185
42 : 3,376,186
164 : 3,376,187
193 : 3,376,188
162–152 : 3,376,189
164–155 : 3,375,862
281 : 3,375,863
282 : 3,375,864
283 : 3,375,865
165– 10 : 3,375,866
3,375,867
105 : 3,375,868
166– 3 : 3,375,869
11 : 3,375,870
3,375,871
29 : 3,375,872
31 : 3,375,873
114 : 3,375,874
167– 33 : 3,376,190
42 : 3,376,191
52 : 3,376,192
65 : 3,376,193
3,376,194
3,376,195
3,376,196
74 : 3,376,197
78 : 3,376,198
83 : 3,376,199
169– 9 : 3,375,875
172– 1 : 3,375,876

172– 19 : 3,375,877
71 : 3,375,878
122 : 3,375,879
173– 37 : 3,375,880
139 : 3,375,881
163 : 3,375,882
170 : 3,375,883
174– 52 : 3,376,376
72 : 3,376,377
107 : 3,376,378
211 : 3,376,379
175– 4.58 : 3,376,375
22 : 3,375,884
26 : 3,375,885
66 : 3,375,886
67 : 3,375,887
72 : 3,375,888
106 : 3,375,889
385 : 3,375,890
403 : 3,375,891
176– 19 : 3,376,200
67 : 3,376,201
178– 5.4 : 3,376,380
6.5 : 3,376,381
.6 : 3,376,383
.8 : 3,376,382
26 : 3,376,384
69.5 : 3,376,385
179– 1 : 3,376,386
3,376,387
3,376,388
2 : 3,376,389
6 : 3,376,390
16 : 3,376,391
18 : 3,376,392
3,376,393
27 : 3,376,394
100.2 : 3,376,395
3,376,396
3,376,397
175.21 : 3,376,398
3,376,399
180– 8 : 3,375,892
124 : 3,375,893
128 : 3,375,894
3,375,895
181– .5 : 3,375,896
3,375,897
40 : 3,375,898
182–122 : 3,375,899
150 : 3,375,900
184– 1 : 3,375,901
2 : 3,375,902
6 : 3,375,903
185– 39 : 3,375,904
187– 8.74 : 3,375,905
188– 73 : 3,375,906
76 : 3,375,907
94 : 3,375,908
195 : 3,375,909
192– 99 : 3,375,910
107 : 3,375,911
194– 1 : 3,375,912
13 : 3,375,913
197– 17 : 3,375,914
198– 24 : 3,375,915
33 : 3,375,916
179 : 3,375,917
200– 42 : 3,376,400
147 : 3,376,401
157 : 3,376,402
202– 90 : 3,376,202
203– 4 : 3,376,203
7 : 3,376,204
204– 35 : 3,376,205
47 : 3,376,206
49 : 3,376,207
168 : 3,376,208
196 : 3,376,209
297 : 3,376,210
311 : 3,376,211
206– 56 : 3,375,918
65 : 3,375,919
78 : 3,375,920
80 : 3,375,921
208– 2 : 3,376,212
48 : 3,376,213
89 : 3,376,214
138 : 3,376,215
179 : 3,376,216

208–224 : 3,376,217
264 : 3,376,218
209– 5 : 3,375,922
97 : 3,375,923
167 : 3,375,924
214 : 3,375,925
223 : 3,375,926
210– 11 : 3,376,219
67 : 3,375,927
83 : 3,375,928
198 : 3,375,929
207 : 3,375,930
350 : 3,375,931
390 : 3,375,932
502 : 3,375,933
211– 72 : 3,375,934
135 : 3,375,935
176 : 3,375,936
212– 3 : 3,375,937
13 : 3,375,938
214– 1.6 : 3,375,939
6 : 3,375,940
26 : 3,375,941
83.28: 3,375,942
135 : 3,375,943
140 : 3,375,944
316 : 3,375,945
505 : 3,375,946
674 : 3,375,947
215– 32 : 3,375,948
219– 10.49: 3,376,403
107 : 3,376,404
385 : 3,376,405
388 : 3,376,406
470 : 3,376,407
220– 1.5 : 3,375,950
26 : 3,375,951
40 : 3,375,952
94 : 3,375,949
97 : 3,375,953
3,375,954
221– 13 : 3,375,955
259 : 3,375,956
222–402.16: 3,375,957
224– 4 : 3,375,958
42.01: 3,375,959
.11: 3,375,960
226– 32 : 3,375,961
176 : 3,375,962
178 : 3,375,963
197 : 3,375,964
228– 1 : 3,375,965
229– 2.5 : 3,375,966
34 : 3,375,967
40 : 3,375,968
53 : 3,375,969
230–117 : 3,375,970
133 : 3,375,971
172 : 3,375,972
234– 59 : 3,375,973
235– 61 : 3,375,974
.11: 3,376,409
.7 : 3,376,408
92 : 3,376,410
151.32: 3,376,411
165 : 3,376,412
236– 87 : 3,375,975
239– 10 : 3,375,976
102 : 3,375,977
113 : 3,375,978
230 : 3,375,979
411 : 3,375,980
553.3 : 3,375,981
240– 6.4 : 3,376,413
241– 19 : 3,375,982
46 : 3,375,983
69 : 3,375,984
98 : 3,375,985
222 : 3,375,986
232 : 3,375,987
242– 1 : 3,375,988
18 : 3,375,989
55.13: 3,375,990
66 : 3,375,991
68.3 : 3,375,995

242– 75.51: 3,375,992
84.1 : 3,375,993
107.2 : 3,375,994
244– 7 : 3,375,996
17.11: 3,375,997
42 : 3,375,998
50 : 3,375,999
152 : 3,376,000
245– 3 : 3,376,001
6 : 3,376,002
248– 59 : 3,376,003
74 : 3,376,004
223 : 3,376,005
227 : 3,376,006
282 : 3,376,007
376 : 3,376,008
456 : 3,376,009
249– 13 : 3,376,010
28 : 3,376,011
146 : 3,376,012
250– 41.9 : 3,376,414
51.5 : 3,376,415
71.5 : 3,376,416
3,376,417
83 : 3,376,418
.3 : 3,376,419
3,376,420
3,376,421
106 : 3,376,422
206 : 3,376,423
216 : 3,376,424
218 : 3,376,425
226 : 3,376,426
251– 38 : 3,376,013
306 : 3,376,014
3,376,015
359 : 3,376,016
252– 32.7 : 3,376,220
3,376,221
33 : 3,376,222
40.7 : 3,376,223
47.5 : 3,376,224
48.2 : 3,376,225
62.61: 3,376,227
.9 : 3,376,226
79.4 : 3,376,228
117 : 3,376,229
188.3 : 3,376,230
301.1 : 3,376,231
400 : 3,376,232
253– 39 : 3,376,017
78 : 3,376,018
254–103 : 3,376,019
185 : 3,376,020
259– 1 : 3,376,021
2 : 3,376,022
4 : 3,376,023
134 : 3,376,024
260– 2 : 3,376,233
3,376,234
.2 : 3,376,235
.5 : 3,376,236
3,376,237
3,376,238
17.3 : 3,376,239
.5 : 3,376,240
20 : 3,376,241
22 : 3,376,242
28.5 : 3,376,244
29.2 : 3,376,245
31.6 : 3,376,246
32.8 : 3,376,247
33.6 : 3,376,248
40 : 3,376,249
41 : 3,376,250
3,376,251
45.7 : 3,376,252
3,376,253
.75: 3,376,254
3,376,255
3,376,256
47 : 3,376,257
3,376,258
3,376,259
3,376,260

260– 47 : 3,376,261
59 : 3,376,262
67 : 3,376,263
75 : 3,376,264
3,376,265
77.5 : 3,376,266
78 : 3,376,267
3,376,268
3,376,269
3,376,270
.4 : 3,376,271
3,376,272
3,376,273
3,376,274
80.3 : 3,376,275
.73: 3,376,276
85.5 : 3,376,277
93.7 : 3,376,278
94.3 : 3,376,279
152 : 3,376,280
209 : 3,376,281
.6 : 3,376,282
211.5 : 3,376,283
3,376,284
232 : 3,376,285
233.5 : 3,376,286
3,376,287
239.1 : 3,376,288
.3 : 3,376,289
3,376,290
.5 : 3,376,291
3,376,292
.55: 3,376,293
3,376,294
3,376,295
240 : 3,376,296
.1 : 3,376,297
244 : 3,376,298
247.1 : 3,376,299
.2 : 3,376,300
248 : 3,376,301
249.5 : 3,376,302
288 : 3,376,303
3,376,304
289 : 3,376,305
294 : 3,376,306
.3 : 3,376,307
.8 : 3,376,308
295 : 3,376,309
308 : 3,376,310
309 : 3,376,311
326.87: 3,376,312
327 : 3,376,313
3,376,314
340.9 : 3,376,315
345.8 : 3,376,316
.9 : 3,376,317
347.7 : 3,376,318
349 : 3,376,319
372 : 3,376,320
397.1 : 3,376,321
.2 : 3,376,322
.3 : 3,376,323
3,376,324
.4 : 3,376,325
410.7 : 3,376,326
413 : 3,376,327
429.7 : 3,376,328
3,376,329
432 : 3,376,330
448 : 3,376,331
449.5 : 3,376,332
458 : 3,376,333
463 : 3,376,334
479 : 3,376,335
513 : 3,376,336
534 : 3,376,337
551 : 3,376,338
559 : 3,376,339
562 : 3,376,340
563 : 3,376,341
566 : 3,376,342
567.6 : 3,376,343
570.5 : 3,376,344
577 : 3,376,345

260–606.5 : 3,376,346
3,376,347
609 : 3,376,348
611 : 3,376,349
612 : 3,376,350
613 : 3,376,351
621 : 3,376,352
637 : 3,376,353
666 : 3,376,354
3,376,355
674 : 3,376,356
3,376,357
677 : 3,376,358
3,376,359
683.15: 3,376,360
823 : 3,376,361
888 : 3,376,362
894 : 3,376,363
899 : 3,376,364
941 : 3,376,365
261– 29 : 3,376,025
70 : 3,376,026
145 : 3,376,027
263– 20 : 3,376,028
264– 51 : 3,376,366
57 : 3,376,367
135 : 3,376,368
176 : 3,376,369
184 : 3,376,370
216 : 3,376,371
268 : 3,376,372
266– 27 : 3,376,243
36 : 3,376,029
42 : 3,376,030
267– 1 : 3,376,031
8 : 3,376,032
47 : 3,376,033
71 : 3,376,034
271– 54 : 3,376,036
273– 26 : 3,376,037
81 : 3,376,038
101.1 : 3,376,039
105.4 : 3,376,040
130 : 3,376,041
3,376,042
274– 10 : 3,376,043
3,376,044
277–134 : 3,376,045
280– 33.99: 3,376,046
37 : 3,376,047
43.2 : 3,376,048
301 : 3,376,049
411 : 3,376,050
512 : 3,376,051
285– 5 : 3,376,052
92 : 3,376,053
174 : 3,376,054
236 : 3,376,055
243 : 3,376,056
287– 52.04: 3,376,057
90 : 3,376,058
99 : 3,376,059
108 : 3,376,060
294– 64 : 3,376,061
296– 28 : 3,376,062
3,376,063
297–391 : 3,376,064
414 : 3,376,065
417 : 3,376,066
427 : 3,376,067
437 : 3,376,068
439 : 3,376,069
459 : 3,376,070
299– 37 : 3,376,071
59 : 3,376,072
300– 2 : 3,376,073
301– 5 : 3,376,074
3,376,075
13 : 3,376,076
302– 59 : 3,376,077
303– 6 : 3,376,078
22 : 3,376,079
3,376,080
305– 11 : 3,376,081
307– 88 : 3,376,427

307–136 : 3,376,428
141 : 3,376,429
225 : 3,376,430
229 : 3,376,431
240 : 3,376,432
242 : 3,376,433
268 : 3,376,434
269 : 3,376,435
293 : 3,376,436
308– 3 : 3,376,082
9 : 3,376,083
184 : 3,376,084
310– 4 : 3,376,437
8.2 : 3,376,438
9.5 : 3,376,439
11 : 3,376,440
13 : 3,376,441
156 : 3,376,442
235 : 3,376,443
249 : 3,376,444
312– 71 : 3,376,085
100 : 3,376,086
269 : 3,376,087
319 : 3,376,088
313– 39 : 3,376,445
65 : 3,376,446
80 : 3,376,447
82 : 3,376,448
83 : 3,376,449
84 : 3,376,450
92 : 3,376,451
108 : 3,376,452
3,376,453
109.5 : 3,376,454
161 : 3,376,455
204 : 3,376,456
205 : 3,376,457
217 : 3,376,458
231 : 3,376,459
274 : 3,376,460
337 : 3,376,461
350 : 3,376,462
315– 3 : 3,376,464
.5 : 3,376,463
10 : 3,376,465
39.71: 3,376,466
82 : 3,376,467
111 : 3,376,468
3,376,469
171 : 3,376,470
178 : 3,376,471
226 : 3,376,472
291 : 3,376,473
317– 11 : 3,376,474
3,376,475
18 : 3,376,476
27 : 3,376,477
31 : 3,376,478
101 : 3,376,479
123 : 3,376,480
258 : 3,376,481
318– 32 : 3,376,482
214 : 3,376,483
221 : 3,376,484
227 : 3,376,485
257 : 3,376,486
320– 32 : 3,376,487
40 : 3,376,488
321– 2 : 3,376,489
5 : 3,376,490
25 : 3,376,491
43 : 3,376,492
45 : 3,376,493
3,376,494
69 : 3,376,495
322– 28 : 3,376,496
3,376,497
323– 89 : 3,376,498
324– .5 : 3,376,499
3,376,500
30 : 3,376,501
51 : 3,376,502
61 : 3,376,503
68 : 3,376,504
112 : 3,376,505

325– 57 : 3,376,509
64 : 3,376,506
320 : 3,376,511
446 : 3,376,507
459 : 3,376,508
3,376,510
328– 3 : 3,376,512
151 : 3,376,513
329– 50 : 3,376,514
330– 15 : 3,376,515
26 : 3,376,516
331– 18 : 3,376,517
111 : 3,376,518
333– 31 : 3,376,519
34 : 3,376,520
71 : 3,376,521
3,376,522
78 : 3,376,523
83 : 3,376,524
335– 26 : 3,376,525
197 : 3,376,526
207 : 3,376,527
296 : 3,376,528
305 : 3,376,529
336– 70 : 3,376,530
3,376,531
115 : 3,376,532
136 : 3,376,533
3,376,534
138 : 3,376,535
192 : 3,376,536
338– 5 : 3,376,537
231 : 3,376,538
339– 14 : 3,376,539
59 : 3,376,540
61 : 3,376,541
125 : 3,376,542
132 : 3,376,543
149 : 3,376,544
273 : 3,376,545
340– 3 : 3,376,569
37 : 3,376,546
51 : 3,376,547
52 : 3,376,548
172.5 : 3,376,549
3,376,550
3,376,551
3,376,552
3,376,553
3,376,554
3,376,555
3,376,556
3,376,557
173 : 3,376,558
3,376,559
.1 : 3,376,560
174 : 3,376,561
3,376,562
3,376,563
.1 : 3,376,564
3,376,565
3,376,566
188 : 3,376,567
244 : 3,376,568
347 : 3,376,570
343– 16 : 3,376,571
17.2 : 3,376,572
107 : 3,376,573
3,376,574
225 : 3,376,575
761 : 3,376,576
886 : 3,376,577
346– 29 : 3,376,578
350–160 : 3,376,089
209 : 3,376,090
3,376,091
285 : 3,376,092
352– 25 : 3,376,093
137 : 3,376,094
401–190 : 3,376,095
270 : 3,376,096
431– 9 : 3,376,097
10 : 3,376,098
26 : 3,376,099
36 : 3,376,100

CLASSIFICATION OF DESIGNS

D 2–231 : 210,648
314 : 210,649
D 9– 1 : 210,700
90 : 210,650
188 : 210,651
275 : 210,701
D13– 1 : 210,652
210,653
210,654
D14– 3 : 210,655
6 : 210,656

D14– 6 : 210,657
27 : 210,658
D15– 1 : 210,659
8 : 210,660
D23– 27 : 210,661
D26– 1 : 210,662
210,663
5 : 210,664
12 : 210,665
14 : 210,666
210,667

D26– 14 : 210,668
D29– 28 : 210,669
D33– 7 : 210,670
8 : 210,671
D34– 4 : 210,672
5 : 210,673
15 : 210,674
D42– 7 : 210,675
210,676
210,677
210,678

D42– 7 : 210,679
8 : 210,680
D44– 1 : 210,681
210,682
D48– 20 : 210,683
24 : 210,684
D50– 5 : 210,685
7 : 210,686
D52– 3 : 210,687
6 : 210,688
10 : 210,689

D54– 12 : 210,690
D55– 1 : 210,691
D56– 1 : 210,692
210,693
4 : 210,694
210,695
210,696
D57– 1 : 210,697
210,698
D61– 1 : 210,702
210,703

D61– 1 : 210,704
D64– 10 : 210,705
D65– 1 : 210,706
D66– 1 : 210,707
D72– 1 : 210,708
D73– 1 : 210,709
D80– 11 : 210,710
D87– 1 : 210,699
D90– 1 : 210,711
D92– 1 : 210,712
D95– 3 : 210,713

GEOGRAPHICAL INDEX OF RESIDENCE OF INVENTORS

(U.S. States, Territories and Armed Forces, the Commonwealth of Puerto Rico, and the Canal Zone)

(NOTE.–CODES ARE CHANGED AS OF JANUARY 1, 1967)

Alabama	1	Kentucky	21	Oregon	41
Alaska	2	Louisiana	22	Pennsylvania	42
American Samoa	3	Maine	23	Puerto Rico	43
Arizona	4	Maryland	24	Rhode Island	44
Arkansas	5	Massachusetts	25	South Carolina	45
California	6	Michigan	26	South Dakota	46
Canal Zone	7	Minnesota	27	Tennessee	47
Colorado	8	Mississippi	28	Texas	48
Connecticut	9	Missouri	29	Utah	49
Delaware	10	Montana	30	Vermont	50
District of Columbia	11	Nebraska	31	Virginia	51
Florida	12	Nevada	32	Virgin Islands	52
Georgia	13	New Hampshire	33	Washington	53
Guam	14	New Jersey	34	West Virginia	54
Hawaii	15	New Mexico	35	Wisconsin	55
Idaho	16	New York	36	Wyoming	56
Illinois	17	North Carolina	37	U.S. Air Force	57
Indiana	18	North Dakota	38	U.S. Army	58
Iowa	19	Ohio	39	U.S. Navy	59
Kansas	20	Oklahoma	40		

(First number in listing denotes location according to above key. Refer to patent number in body of the Official Gazette to obtain details as to inventor name, location, etc.)

PATENTS

1 : 3,375,656
3,375,704
3,375,775
3,375,817
3,375,829
3,375,984
3,376,245
3,376,253
3,376,276
3,376,564
4 : 3,375,603
3,375,663
3,375,924
3,376,012
3,376,295
3,376,472
3,376,570
5 : 3,375,602
3,375,874
6 : 3,375,531
3,375,534
3,375,536
3,375,545
3,375,552
3,375,557
3,375,558
3,375,573
3,375,586
3,375,591
3,375,597
3,375,624
3,375,630
3,375,659
3,375,662
3,375,664
3,375,694
3,375,702
3,375,712
3,375,713
3,375,719
3,375,724
3,375,753
3,375,764
3,375,771
3,375,787
3,375,823
3,375,858
3,375,884
3,375,885
3,375,889

6 : 3,375,890
3,375,900
3,375,903
3,375,908
3,375,912
3,375,913
3,375,938
3,375,960
3,375,963
3,375,975
3,375,993
3,375,998
3,376,004
3,376,006
3,376,009
3,376,011
3,376,016
3,376,024
3,376,027
3,376,038
3,376,043
3,376,053
3,376,135
3,376,138
3,376,139
3,376,141
3,376,144
3,376,164
3,376,172
3,376,175
3,376,202
3,376,209
3,376,220
3,376,223
3,376,225
3,376,244
3,376,262
3,376,282
3,376,291
3,376,314
3,376,323
3,376,327
3,376,333
3,376,338
3,376,356
3,376,371
3,376,383
3,376,395
3,376,413
3,376,416

6 : 3,376,431
3,376,432
3,376,450
3,376,453
3,376,455
3,376,461
3,376,465
3,376,467
3,376,468
3,376,471
3,376,480
3,376,490
3,376,494
3,376,499
3,376,500
3,376,503
3,376,507
3,376,523
3,376,536
3,376,546
3,376,549
3,376,550
3,376,557
3,376,576
3,376,577
3,376,578
7 : 3,376,569
8 : 3,375,863
3,375,878
3,375,922
3,376,069
3,376,071
3,376,103
3,376,292
3,376,502
9 : 3,375,544
3,375,697
3,375,711
3,375,794
3,375,799
3,375,971
3,375,999
3,376,019
3,376,042
3,376,048
3,376,084
3,376,085
3,376,236
3,376,294
3,376,311

9 : 3,376,317
3,376,349
3,376,377
3,376,408
3,376,410
3,376,427
3,376,437
3,376,441
3,376,479
3,376,509
10 : 3,375,988
3,376,112
3,376,117
3,376,158
3,376,230
3,376,233
3,376,260
3,376,266
3,376,267
3,376,306
3,376,369
3,376,372
3,376,488
12 : 3,375,583
3,375,592
3,375,645
3,375,651
3,375,778
3,375,920
3,375,925
3,375,927
3,375,981
3,376,124
3,376,412
3,376,423
13 : 3,375,556
3,375,619
3,375,797
3,375,816
3,375,833
3,376,125
3,376,126
3,376,127
3,376,191
3,376,382
3,376,532
14 : 3,375,974
17 : 3,375,535
3,375,542
3,375,600

17 : 3,375,614
3,375,616
3,375,639
3,375,647
3,375,705
3,375,721
3,375,735
3,375,736
3,375,738
3,375,758
3,375,770
3,375,795
3,375,851
3,375,857
3,375,905
3,375,911
3,375,919
3,375,923
3,375,946
3,375,949
3,375,957
3,375,959
3,375,972
3,375,979
3,375,990
3,376,005
3,376,039
3,376,056
3,376,072
3,376,079
3,376,081
3,376,094
3,376,096
3,376,106
3,376,114
3,376,153
3,376,161
3,376,169
3,376,194
3,376,322
3,376,325
3,376,360
3,376,378
3,376,396
3,376,398
3,376,399
3,376,405
3,376,420
3,376,438
3,376,443

17 : 3,376,448
3,376,470
3,376,483
3,376,484
3,376,489
3,376,493
3,376,534
3,376,548
18 : 3,375,576
3,375,687
3,375,826
3,375,832
3,375,973
3,376,059
3,376,180
3,376,181
3,376,214
3,376,215
3,376,216
3,376,217
3,376,218
3,376,496
3,376,497
3,376,530
3,376,531
19 : 3,375,657
3,375,733
3,375,734
3,375,759
3,375,809
3,375,849
3,375,985
3,375,986
3,375,987
3,376,050
3,376,296
3,376,400
3,376,505
3,376,514
3,376,573
20 : 3,375,585
3,375,881
3,376,068
3,376,074
3,376,075
3,376,301
3,376,442
21 : 3,375,678
3,376,087
3,376,271

21 : 3,376,272
3,376,273
22 : 3,375,642
3,375,669
3,376,101
3,376,173
3,376,285
3,376,329
3,376,362
23 : 3,375,966
3,376,460
24 : 3,375,547
3,375,671
3,375,715
3,375,728
3,375,853
3,375,958
3,375,989
3,376,002
3,376,165
3,376,238
3,376,341
3,376,402
3,376,498
25 : 3,375,577
3,375,578
3,375,582
3,375,598
3,375,655
3,375,667
3,375,708
3,375,709
3,375,710
3,375,760
3,375,761
3,375,767
3,375,822
3,375,921
3,375,997
3,376,057
3,376,099
3,376,137
3,376,163
3,376,177
3,376,186
3,376,384
3,376,421
3,376,428
3,376,449
3,376,495
3,376,513
3,376,537
3,376,554
26 : 3,375,549
3,375,571
3,375,587
3,375,589
3,375,611
3,375,661
3,375,679
3,375,693
3,375,720
3,375,723
3,375,790
3,375,793
3,375,813
3,375,814
3,375,830
3,375,838
3,375,877
3,375,893
3,375,906
3,375,910
3,375,950
3,376,013
3,376,033
3,376,044
3,376,058
3,376,062
3,376,063
3,376,113
3,376,160
3,376,183
3,376,184
3,376,283
3,376,305
3,376,350
3,376,366
26 : 3,376,433
3,376,552
3,376,568
27 : 3,375,564
3,375,631
3,375,788
3,375,804
3,375,835
3,375,928
3,375,931
3,376,076
3,376,182
3,376,198
3,376,278
3,376,340
3,376,422
3,376,451
3,376,512
3,376,563
29 : 3,375,546
3,375,570
3,375,751
3,375,918
3,376,040
3,376,046
3,376,116
3,376,430
30 : 3,375,540
3,376,077
31 : 3,375,740
3,376,052
3,376,389
3,376,527
33 : 3,376,007
34 : 3,375,533
3,375,579
3,375,604
3,375,628
3,375,695
3,375,722
3,375,746
3,375,750
3,375,755
3,375,825
3,375,850
3,375,968
3,376,014
3,376,022
3,376,030
3,376,095
3,376,133
3,376,136
3,376,142
3,376,170
3,376,188
3,376,205
3,376,229
3,376,237
3,376,248
3,376,259
3,376,287
3,376,290
3,376,300
3,376,309
3,376,313
3,376,316
3,376,318
3,376,319
3,376,324
3,376,331
3,376,346
3,376,347
3,376,354
3,376,357
3,376,361
3,376,364
3,376,429
3,376,434
3,376,435
3,376,444
3,376,445
3,376,456
3,376,457
3,376,459
3,376,463
3,376,478
3,376,481
34 : 3,376,486
3,376,528
3,376,539
3,376,555
3,376,561
3,376,562
3,376,567
3,376,572
35 : 3,375,976
3,376,544
36 : 3,375,532
3,375,537
3,375,584
3,375,593
3,375,605
3,375,609
3,375,612
3,375,617
3,375,636
3,375,673
3,375,676
3,375,716
3,375,717
3,375,744
3,375,752
3,375,754
3,375,779
3,375,780
3,375,791
3,375,796
3,375,806
3,375,807
3,375,815
3,375,820
3,375,828
3,375,844
3,375,845
3,375,848
3,375,854
3,375,866
3,375,867
3,375,904
3,375,914
3,375,955
3,375,956
3,375,970
3,375,991
3,375,995
3,376,000
3,376,026
3,376,031
3,376,035
3,376,037
3,376,041
3,376,055
3,376,073
3,376,089
3,376,090
3,376,092
3,376,105
3,376,115
3,376,121
3,376,122
3,376,134
3,376,147
3,376,148
3,376,149
3,376,150
3,376,154
3,376,155
3,376,157
3,376,168
3,376,179
3,376,185
3,376,192
3,376,206
3,376,228
3,376,243
3,376,247
3,376,256
3,376,286
3,376,293
3,376,297
3,376,307
3,376,310
3,376,348
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Design Patents

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U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

April 2, 1968 Volume 849 Number 1

TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116 ; Trademark Act of July 5, 1946

Reg. No. 330,932 (BALI), Coty, Inc., Face powder, talcum powders, powder and rouge compacts, bath powder, sachet, rouge, lip sticks, perfumes, toilet waters, liquid nail polishes, cuticle removers, and polish removers, **filed** Nov. 2, 1967, D.C., S.D.N.Y., Doc. 67–C–4302, *The Bali Company, Inc.* v. *Chas. Pfizer & Co., Inc.*

Reg. No. 514,501 (MELMAC), American Cyanamid Company, Tableware, consisting of cups, saucers, plates, platters, bowls, and dishes, molded of plastic or synthetic resins, **filed** Nov. 8, 1967, D.C., N.D. Tex. (Dallas), Doc. CA–3–2302, *American Cyanamid Company* v. *Zale Corporation.*

Reg. No. 570,912 (OK AND DESIGN), General Motors Corporation, Used automobiles and trucks, **filed** Nov. 3, 1967, D.C., Fla. (Tampa), Doc. 67–463–C, *General Motors Corporation* v. *C. L. Leach, also known as Lou Leach, doing business as OK Auto Sales..*

Reg. No. 614,377 (INDUCTOSYN), Farrand Optical Co., Inc., Electrical apparatus for the measurement of angles and of linear displacements, **filed** Nov. 1, 1967, D.C. Mass. (Boston), Doc. 67–817–M, *Inductosyn Corporation* v. *Data Technology, Inc.*

Reg. No. 644,504 (FEATHAIRE), The Barbizon Corporation, Broadwoven fabric made of cotton, nylon and other synthetic fibers, and combinations thereof, **filed** Nov. 8, 1967, D.C., S.D.N.Y., Doc. 67–C–4379, *The Jaunty Fabric Corporation* v. *Monterey Mills Inc.*

Reg. No. 653,359 (SNOOPY), Elka Toy & Novelty Mfg. Corp., Stuffed toys, **filed** Dec. 5, 1967, D.C., S.D.N.Y., Doc. 67–C–4763, *Elka Toy & Mfg. Corp. et ano.* v. *United Feature Syndicate, Inc. et ano.*

Reg. No. 654,963 (ORTHO), California Spray-Chemical Corporation, Chemical compounds and preparations for use in agriculture, horticulture, livestock farming, household and industrial pest control, disinfection, deodorizing and corrosion control, including seed protectants ; insecticides ; fungicides ; germicides ; disinfectants ; sanitizers ; herbicides, animal repellents ; spray adjuvants ; wetting agents ; spreaders ; adhesives for use in insecticidal preparations ; plant auxins ; livestock and poultry sprays ; deodorants and corrosion inhibitors, **filed** June 30, 1967, D.C., M.D. Mo. (Springfield), Doc. 2346, *Chevron Chemical Co.* v. *Leslie W. Potts.* Perpetual injunction on final judgment, Oct. 31, 1967.

Reg. No. 663,849 (HUSH PUPPIES), Wolverine Shoe and Tanning Corporation, Shoes, **filed** Feb. 14, 1961, W.D. Mich. (Grand Rapids), Doc. 4034, *Wolverine World Wide, Inc.* v. *Zayre Corp.* Consent judgment and decree, Nov. 9, 1967.

Reg. No. 680,491 (MILADY), Henry Pollak, Inc., Hat bodies, **filed** Nov. 6, 1967, D.C., S.D.N.Y., Doc. C67–4345, *Henry Pollak, Inc.* v. *Lisa Wigs & Wiglets, Inc.*

CONDITION OF TRADEMARK APPLICATIONS AS OF FEBRUARY 29, 1968

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	17, 790
Date of oldest new application	Apr. 4, 1967
Date of oldest amended application (filing date)	Oct. 11, 1963

C. M. WENDT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	4-10-67	10-20-65
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	4-25-67	10-11-63
(III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 36	4-4-67	6-30-65
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	4-5-67	1-5-65
Renewals (All Classes)	1-29-68	....
Sec. 12(c) Publications (All Classes)	2-5-68	....

Applications filed during the month of February 1968—2,340

Registrations Issued .... 350—No. 846,851 to No. 847,200
Renewals Issued 80

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $12.00 per annum, foreign mailing $4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

Reg. No. 784,934 (JADE EAST), Swank, Inc., Cologne, after-shave lotion and deodorant, **filed** Nov. 8, 1967, D.C., S.D.N.Y., Doc. 67–C–4381, *Swank, Inc.* v. *Global Imports, Inc.*

Reg. No. 801,100 (A TO Z), A to Z Rental, Inc., Service of renting tools, equipment, and vehicles, **filed** Jan. 12, 1966, D.C., W.D. Tex. (El Paso), Doc. C–66–8–EP, *A to Z Rental, Inc. et al.* v. *Leon J. Marcotte et al.* Order dismissing case and granting permanent injunction, Feb. 21, 1966.

Reg. No. 811,389 (QUARTET), Quartet Fashions, Inc., Ladies' and girls' blouses, skirts, pants, shorts, jumpers and suits, **filed** Oct. 31, 1967, D.C., S.D.N.Y., Doc. 67–C–4237, *Quartet Fashions, Inc.* v. *Quartet Fabrics, Inc.*

Reg. No. 824,612 (SAHARA), Sahara-Nevada Corporation, Hotel service, **filed** Nov. 13, 1967, D.C., N.D. Calif. (San Francisco), Doc. 48200, *Sahara-Nevada Corporation* v. *Western Hotels Co. et al.*

Reg. No. 828,694 (PRE-INKED), Bankers & Merchants, Inc., Porous rubber printing stamp which stores ink therein and releases ink therefrom upon applying pressure to stamp, **filed** Nov. 20, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c2018, *Bankers & Merchants, Inc.* v. *Wespac, a division of Westates Space-Era Products Inc.*

Reg. No. 831,747 (MATCHBOX), Lesney Products & Co., Toys—namely, model vehicles, model machines, plastic fire stations, ambulance stations, service stations and cardboard road layouts, **filed** Dec. 13, 1967, D.C., E.D.N.Y. (Brooklyn), Doc. 67C–1167, *Lesney Products & Co., Ltd.* v. *Aurora Plastics Corp.*

Reg. No. 832,507 (CARNABY), Sheffield Watch, Inc., Watches and clocks, **filed** Oct. 31, 1967, D.C., S.D.N.Y., Doc. 67–C–4249, *Sheffield Watch of New York, Inc.* v. *Continental Fifth Avenue, Ltd.*

Reg. No. 836,350 (SI BONNE), Crown Textile Mfg. Corp., Fabrics used as a lining, underlining, interfacing, decorator and other fabric on women's dresses, coats, suits, skirts, slacks, and sportswear; and curtain and drapery fabrics, **filed** Nov. 22 ,1967, D.C., S.D.N.Y., Doc. 67–C–4618, *Crown Textile Mfg. Corp.* v. *Ascot Textile Corp.*

Reg. No. 836,516 (STRIPES OF FASHION), Ventura Travelware, Inc. Luggage, attache cases, and trunks, **filed** Dec. 6, 1967, D.C., S.D.N.Y., Doc. 67–C–4783, *Universal Luggage Co., Inc. and Ventura Travelware, Inc.* v. *Air King Luggage Co., Inc.*

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[**NOTE:** For publication of marks presented in applications for registration in one class, see section 2.]

SN 229,232. Generic Pharmaceutical Corporation, Philadelphia, Pa. Filed Oct. 4, 1965.

VITAL

Class 18—Medicines and Pharmaceutical Preparations

For Vitamin Preparations (Int. Cl. 5).

Class 46—Foods and Ingredients of Foods

For Artificial Sweeteners for Caloric Controlled and Diabetic Diets (Int. Cl. 1).

First use Feb. 9, 1965.

SN 248,614. Globe Rubber Products Corp., d.b.a. Shayne Products Co., Philadelphia, Pa. Filed June 21, 1966.

LAVA WOOD

The word "Wood" is disclaimed apart from the mark as shown.

Class 2—Receptacles

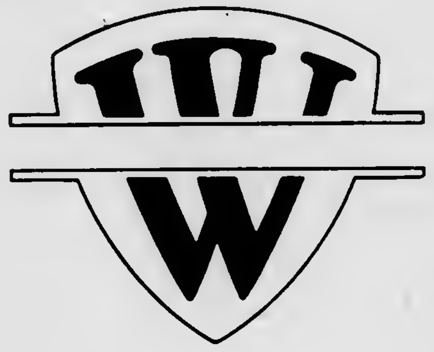
For Plastic Household Accessories—Namely, Planters, Bread Trays, Wastebaskets, Ice Buckets, and Salt and Pepper Shakers (Int. Cl. 21).

Class 32—Furniture and Upholstery

For Ottomans and Umbrella Stands (Int. Cl. 20).

First use Dec. 27, 1965.

SN 253,386. Williams Brothers Company, Tulsa, Okla. Filed Aug. 29, 1966.



Class 100—Miscellaneous

For Surveying, Planning, Designing, and Engineering Services Relating to Pipeline Construction and Operation (Int. Cl. 42).

Class 103—Construction and Repair

For Installation, Construction, and Operation of Pipelines (Int. Cl. 37).

First use at least as early as Oct. 19, 1954; at least as early as Apr. 26, 1951, in a different form.

SN 256,341. Armstrong Paint & Varnish Works, Inc., Chicago, Ill. Filed Oct. 13, 1966.

REPUBLIC

Class 16—Protective and Decorative Coatings

For Interior and Exterior Paints and Enamels—Namely, Interior Wall Paint; Interior Wall Enamel; House Paint; Gutter and Roof Paint; Barn Paint; Aluminum Paint; Paint Sealers; Paint Primer; Wood Stain; Varnish; Paint Thinner; an Oil Additive for Paints, Varnishes and Enamels in the Nature of a Substitute for Linseed Oil; Lacquer Sealer; and Shellac Thinner (Int. Cl. 2).

Class 52—Detergents and Soaps

For Paint and Varnish Remover (Int. Cl. 3).

First use in 1915.

SN 260,491. Arnold J. Weber, New York, N.Y. Filed Dec. 12, 1966.

LAUNDER-NOTS

Class 37—Paper and Stationery

For Paper Towels (Int. Cl. 16).

Class 39—Clothing

For Disposable Non-Woven Wearing Apparel—Namely, Aprons, Smocks, Women's and Children's Dresses; Men's Underwear, Men's Dress Shirts and Sport Shirts, Men's Pajamas; and Women's Shirts and Blouses (Int. Cl. 25).

First use Nov. 22, 1966.

SN 261,254. Clairol Incorporated, New York, N.Y. Filed Dec. 22, 1966.

LE MANS

Owner of Reg. No. 784,939.

Class 51—Cosmetics and Toilet Preparations

For Hair Spray, Hair Tonic, and Body Talcum (Int. Cl. 3).

Class 52—Detergents and Soaps

For Hair Shampoo and Toilet Soap (Int. Cl. 3).

First use Aug. 11, 1966.

SN 261,256. Clairol Incorporated, New York, N.Y. Filed Dec. 22, 1966.

GREAT DAY

Owner of Reg. Nos. 707,289, 792,707, and 816,275.

Class 51—Cosmetics and Toilet Preparations

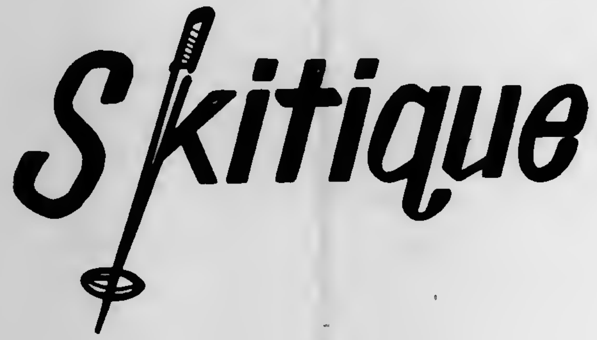
For Hair Spray and Body Talcum (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).

First use Aug. 11, 1966.

SN 263,985. Cook's Sporting Goods, d.b.a. Western Wholesale Sporting Goods Co., Denver, Colo. Filed Feb. 6, 1967.



Class 22—Games, Toys, and Sporting Goods

For Ski Apparatus—Namely, Skis, Ski Boots, Ski Bindings, Poles, and Racks (Int. Cl. 28).

Class 39—Clothing

For Ski Clothing—Namely, Parkas, Pants, Sweaters, Shirts, Gloves, Glove Liners, Caps, and After-Ski Boots (Int. Cl. 25).

First use on or about Oct. 1, 1965.

SN 264,949. Mobelec Société Anonyme Holding, Luxembourg-Ville, Luxembourg. Filed Feb. 17, 1967.

POCKET STAR

Priority claimed under Sec. 44(d) on Luxembourg Reg. Nos. 22,898, dated Sept. 15, 1966, and 23,260, dated Jan. 16, 1967.

Class 21—Electrical Apparatus, Machines, and Supplies

For Apparatus for Transforming and Converting Electric Currents, Safety Transformers, Autotransformers, Isolation Transformers, Rectifiers, Static Inverters, Voltage and Current Regulators, Battery Chargers, Current Sources for Galvanoplastic and Electrolytic Operations and Engine Starters (Int. Cl. 9).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Arc Welding Units (Int. Cl. 9).

SN 267,022. Electro-Therm, Inc., Laurel, Md. Filed Mar. 17, 1967.

THERMALINK

Owner of Reg. No. 537,286.

Class 21—Electrical Apparatus, Machines, and Supplies

For Heating Elements and Controls—Namely, Immersion Heaters, Preheaters and Elements; Replacement Elements for Waterheaters, Clothes Dryers, Dishwashers and Electric Ranges; Infra-Red Heating Units; Switches, Pilot Lights, and Magnetic Contactors (Int. Cls. 9 and 11).

First use Mar. 30, 1948.

Class 26—Measuring and Scientific Appliances

For Thermostats (Int. Cl. 9).

First use 1965.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Welding Preheaters; Circulation Heaters; and Utility Heaters (Int. Cl. 11).

First use July 1962.

SN 267,375. John Wood Company, East Orange, N.J. Filed Mar. 23, 1967.

BENNETT

Owner of Reg. Nos. 430,680, 721,915, and others.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Hand-Operated Gasoline, Kerosene, Alcohol, Grease, and Oil Pumps; Hand-Operated Grease and Oil Dispensing Pumps for Use in Service Stations and the Like (Int. Cl. 7).

Class 26—Measuring and Scientific Appliances

For Self-Measuring Gasoline Dispensing Pumps, Power-Operated (Int. Cl. 9).

First use Feb. 20, 1967.

SN 270,260. Monsanto Company, St. Louis, Mo. Filed Apr. 28, 1967.

DUB'L-TUF

Class 1—Raw or Partly Prepared Materials

For Synthetic Resins and Plastic Material in Film or Sheet Form (Int. Cl. 17).

First use Oct. 8, 1965.

Class 50—Merchandise Not Otherwise Classified

For Tarpaulins (Int. Cl. 22).

First use Nov. 7, 1966.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1 — Raw or Partly Prepared Materials

SN 245,574. Eastman Kodak Company, Rochester, N.Y. Filed May 13, 1966.

EASTMAN

Owner of Reg. Nos. 580,301, 619,228, and others.

For Synthetic Resins (Int. Cl. 1).

First use Dec. 2, 1930.

SN 259,476. Societe Anonyme: Plastugil (Plastiques et Elastomeres Ugine-Progil), Paris, France. Filed Nov. 25, 1966.

BUTACLOR

Owner of French Reg. No. 528,658, dated Mar. 4, 1965 (Seine); Natl. Inst. No. 242,051; and U.S. Reg. No. 807,113.

For Synthetic Rubber, Gums, and Latex for Industrial Use (Int. Cl. 17).

SN 266,529. Furane Plastics Incorporated, Los Angeles, Calif. Filed Mar. 13, 1967.

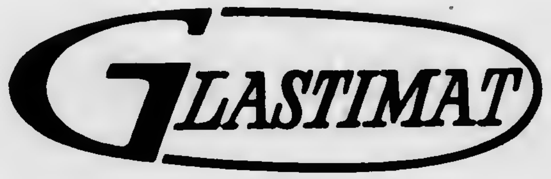
PLASPREG

Owner of Reg. Nos. 430,586 and 431,185.

For Synthetic Resinous Products Used for Impregnation, Coating, and Laminating Purposes (Int. Cl. 1).

First use on or about Jan. 16, 1946.

SN 267,520. The Glastic Corporation, Cleveland, Ohio. Filed Mar. 24, 1967.



Owner of Reg. Nos. 677,958, 694,392, and others.

For Plastic Molding Compounds and Particularly Plastic Molding Compounds Containing Glass Fiber Reinforcements (Int. Cl. 1).

First use Dec. 9, 1966.

SN 267,906. Armour and Company, Chicago, Ill. Filed Mar. 30, 1967.

SANDEL

For Upper Leather (Int. Cl. 18).

First use on or prior to Oct. 20, 1966.

SN 271,155. Alfred Klugmann, Inc., New York, N.Y. Filed May 10, 1967.

SQUIRLETTE

For Bristles and Hair Tufts (Int. Cl. 21).

First use 1962.

SN 271,156. Alfred Klugmann, Inc., New York, N.Y. Filed May 10, 1967.

SABLETTE

For Bristles and Hair Tufts (Int. Cl. 21).

First use 1962.

SN 271,157. Alfred Klugmann, Inc., New York, N.Y. Filed May 10, 1967.

PONETTE

For Bristles and Hair Tufts (Int. Cl. 21).

First use 1962.

SN 277,350. The Duriron Company, Inc., Dayton, Ohio. Filed Aug. 2, 1967.

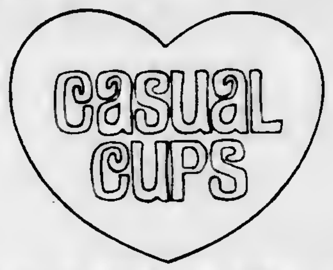
ISOLON

For Specially Processed Fluorocarbon Resins Put Up in Cylinders, Sheets, Slugs, Bars, Plates, Billets, and Tubes (Int. Cl. 17).

First use Nov. 15, 1966.

Class 2 — Receptacles

SN 240,038. Sweetheart Plastics, Inc., Wilmington, Mass. Filed Mar. 2, 1966.

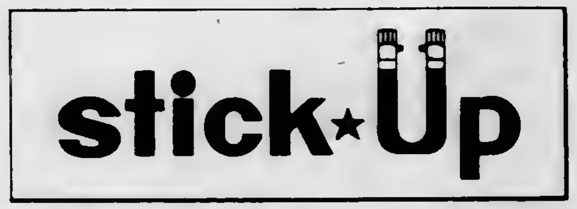


The word "Cups" is disclaimed apart from the mark as shown.

For Plastic Cup Holders and Disposable Thin-Walled Plastic Cups (Int. Cl. 21).

First use Feb. 2, 1966.

SN 247,735. Sweetheart Plastics, Inc., Wilmington, Mass. Filed June 9, 1966.



For Cups for Sherbet and Ice Cream (Int. Cl. 21).

First use May 31, 1966.

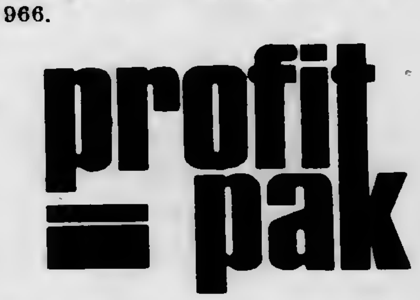
SN 248,255. Sta-Rite Industries, Inc., Delavan, Wis. Filed June 16, 1966.

CON-AIRE

For Pressure Tank for a Water Pumping System (Int. Cl. 11).

First use June 1, 1966.

SN 252,494. Riegel Paper Corporation, New York, N.Y. Filed Aug. 16, 1966.

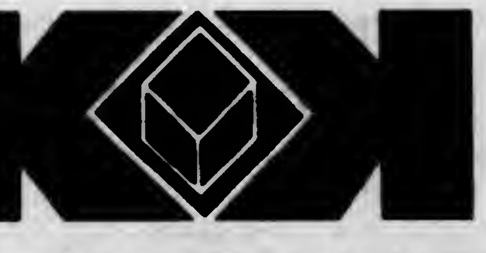


Owner of Reg. No. 759,006.

For Cartons—Namely, Ice Cream Cartons (Int. Cl. 16).

First use Aug. 10, 1966.

SN 256,453. Kraft Corrugated Containers, Inc., Bayonne, N.J. Filed Oct. 14, 1966.



The mark comprises a letter "K" facing another letter "K," and a design of a corrugated container therebetween.

For Corrugated Shipping Containers, and Point of Purchase Displays, Which Comprise Containers Adapted To Be Used on Display Counters for Display and Presentation of the Goods Shipped Therein (Int. Cl. 16).

First use Aug. 1, 1966.

SN 260,741. Georgia-Pacific Corporation, Portland, Oreg. Filed Dec. 14, 1966.

CORR-COLLAR

For Corrugated Paperboard Shipping Containers (Int. Cl. 16).
First use Nov. 11, 1964.

SN 265,905. Lily-Tulip Cup Corporation, New York, N.Y. Filed Mar. 3, 1967.

HOLDRITE

For Cup or the Like Containers—Namely, Insulator Plastic Vending Cups (Int. Cl. 21).
First use Jan. 26, 1967.

SN 269,556. Owens-Illinois, Inc., Toledo, Ohio. Filed Apr. 19, 1967.

Plastainer

Owner of Reg. Nos. 591,826 and 752,716.
For Plastic Tubs, Cups, and Lids (Int. Cl. 21).
First use Mar. 17, 1967.

SN 270,055. Globe Rubber Products Corp., Philadelphia, Pa. Filed Apr. 26, 1967.

BRENTWOOD

For Plastic Household Accessories—Namely, Wastebaskets, Tissue Boxes, Clothing Hampers, and Planters (Int. Cls. 20 and 21).
First use Feb. 17, 1967.

SN 271,823. Nord Aero Products, Inc., Farmingdale, N.Y. Filed May 18, 1967.

NORD-PAK

For Shipping Containers (Int. Cl. 20).
First use at least as early as Apr. 10, 1967.

SN 274,781. Sweetheart Plastics, Inc., Wilmington, Mass. Filed June 26, 1967.

EXECUTIVE PACK

The word "Pack" is disclaimed apart from the mark as shown.
For Disposable Plastic Cups and Containers (Int. Cl. 21).
First use Mar. 29, 1967.

SN 275,694. Scott Paper Company, Delaware County, Pa. Filed July 10, 1967.

PARADE

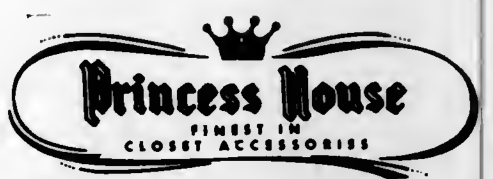
For Drinking Cups Made of Paper (Int. Cl. 21).
First use Apr. 10, 1967.

SN 275,695. Scott Paper Company, Delaware County, Pa. Filed July 10, 1967.

VANTA

For Drinking Cups Made of Paper (Int. Cl. 21).
First use Apr. 4, 1967.

SN 275,870. Phoenix Closet Accessories, Inc., Newark, N.J. Filed July 12, 1967.



The words "Finest in Closet Accessories" are disclaimed apart from the mark as shown. Owner of Reg. No. 395,108.
For Garment Bags, Laundry Bags, and Shoe Bags (Int. Cl. 21).
First use Sept. 15, 1941.

SN 278,217. Heublein, Inc., Hartford, Conn. Filed Aug. 14, 1967.

JOLLY JIGGER

No claim is made to the word "Jigger" apart from the mark as shown.
For Aluminum Containers Used for Mixing Cocktails (Int. Cl. 21).
First use July 26, 1967.

SN 278,482. Griffith-Hope Company, West Allis, Wis. Filed Aug. 17, 1967.

GRIF-HO

For Dispensing Equipment—Namely, Roll Towel Dispensers, Folded Towel Dispensers, Toilet Paper Dispensers, Folded Napkin Dispensers, Cup Dispensers, and Folded Toilet Tissue Dispensers (Int. Cl. 21).
First use January 1936.

SN 285,927. Kwik-Stok Basket Corp., San Mateo, Calif. Filed Nov. 30, 1967.

KWIK-STOK

Owner of Reg. No. 738,830.
For Wire Baskets (Int. Cl. 6).
First use Jan. 16, 1961.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 271,451. Floyd W. Craig, d.b.a. Floyd's Trim and Upholstery Shop, Cordell, Okla. Filed May 15, 1967.

BOOT BOY

For Boot Bags for Storing and Carrying Boots (Int. Cl. 18).
First use Apr. 16, 1965.

Class 4 — Abrasives and Polishing Materials

SN 252,813. C-Z Chemical Company, Inc., Beloit, Wis. Filed Aug. 22, 1966.

SHUR SHINE

Owner of Reg. No. 423,116.
For Furniture Polish (Int. Cl. 3).
First use on or about Feb. 10, 1939.

SN 262,579. Gebrueder Happich GmbH., Wuppertal-Elberfeld, Germany. Filed Jan. 16, 1967.

SIMICHROME

For Polishing Paste for Aluminum, Silver, Brass, Chrome, or Any Metal (Int. Cl. 3).
First use beginning of 1953; in commerce beginning of 1953.

SN 272,561. Advance Abrasives Company, Minneapolis, Minn. Filed May 29, 1967.

SPARKY

For Grinding Wheels (Int. Cl. 7).
First use June 1961.

Class 6 — Chemicals and Chemical Compositions

SN 245,074. Givaudan Corporation, Clifton, N.J. Filed May 6, 1966.

IRONAL

For Aromatic Chemical for Use in the Manufacture of Perfume, Soaps, and Cosmetics (Int. Cl. 1).
First use Apr. 29, 1965.

SN 255,860. Baxter Laboratories, Inc., Morton Grove, Ill. Filed Oct. 6, 1966.

FS-26

Owner of Reg. No. 739,878.
For Foam Stabilizer for Malt Beverages (Int. Cl. 1).
First use Mar. 5, 1963.

SN 261,586. Imperial Chemical Industries Limited, Millbank, London, England. Filed Dec. 28, 1966.

CYPREN

Owner of British Reg. No. 892,062, dated Mar. 18, 1966.
For Substances for Preserving Metal Against Corrosion (Int. Cl. 2).

SN 262,140. Dyno Merchandise Corp., New York, N.Y. Filed Jan. 9, 1967.

WRINK-OUT

For Spray Composition for Eliminating Wrinkles From Fabrics (Int. Cl. 1).
First use Dec. 27, 1966.

SN 262,647. The Upco Company, Cleveland, Ohio. Filed Jan. 16, 1967.

VITROX

For Liquid Fluosilicate Concrete Hardener (Int. Cl. 1).
First use Dec. 27, 1966.

SN 262,985. VWR United Corporation, Seattle, Wash. Filed Jan. 20, 1967.

VANCARE

For Swimming Pool Disinfectants (Int. Cl. 5).
First use Oct. 3, 1966.

SN 262,986. VWR United Corporation, Seattle, Wash. Filed Jan. 20, 1967.

VANWATERS'

For Swimming Pool Disinfectants (Int. Cl. 5).
First use Oct. 3, 1966.

SN 263,540. Compagnie Francaise de Produits Chimiques et Industriels du Sud-Est, Paris, France. Filed Jan. 30, 1967.

HELIANE

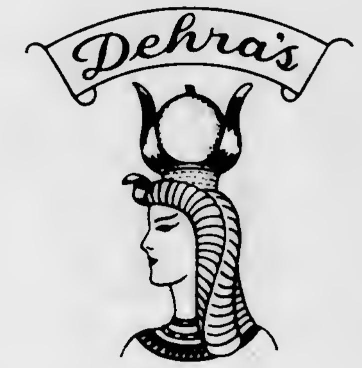
For Vat Dyes Utilized in the Dyeing of Fabrics and Textile Fabrics (Int. Cl. 2).
First use Sept. 12, 1930; in commerce Apr. 12, 1956.

SN 264,651. Compagnie Francaise de Produits Chimiques et Industriels du Sud-Est, Paris, France. Filed Feb. 14, 1967.

LUXIANE

Owner of French Reg. No. 492,779, dated Dec. 22, 1960 (Seine); Natl. Inst. No. 155,835.
For Vat Dyes Utilized in the Dyeing of Fabrics and Textile Fabrics (Int. Cl. 2).

SN 264,727. Dehra's Magi-Pak, Brookings, Oreg. Filed Feb. 15, 1967.



For Incense (Int. Cl. 3).
First use Aug. 2, 1960.

SN 273,693. Sandtner-Valentine Chemical Company, Seattle, Wash. Filed June 12, 1967.

END DRUDGE

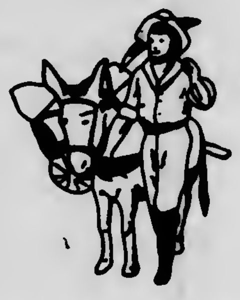
For Chemical for Protecting the Surface of an Oven (Int. Cl. 2).
First use May 17, 1967.

SN 285,378. Tenneco Chemicals, Inc., New York, N.Y. Filed Nov. 22, 1967.

TRI-FENE

For Chemical Ingredient Used in the Manufacture of Herbicides (Int. Cl. 1).
First use Nov. 14, 1967.

SN 286,480. Nugget Distributors' Cooperative of America, Inc., d.b.a. Nugget Distributors, Inc., Stockton, Calif. Filed Dec. 8, 1967.



For Disinfectant-Deodorant; Preparation Used in Sanitizing and Disinfecting Hospitals and Sickrooms, Eating Utensils, Clothing, and for Similar Purposes; Germicidal Disinfectants; Fly Spray; and Antioxidant Preparation (Int. Cls. 1 and 5).
First use Oct. 4, 1965.

Class 7 — Cordage

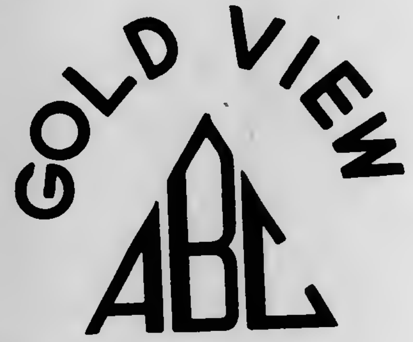
SN 264,965. Milton Ross Metals Co., Inc., Southampton, Pa. Filed Feb. 17, 1967.

GATOR-TY

For Flexible, Plastic, Self-Locking Straps (Int. Cl. 22).
First use Feb. 1, 1967.

Class 8 — Smokers' Articles, Not Including Tobacco Products

SN 286,922. S. M. Frank & Co., Inc., New York, N.Y. Filed Dec. 14, 1967.



For Pyrophoric Lighters (Int. Cl. 34).
First use Nov. 30, 1967.

SN 288,013. The General Fireproofing Company, Youngstown, Ohio. Filed Jan. 3, 1968.

DIS-PO

For Disposable Ashtrays (Int. Cl. 34).
First use Nov. 21, 1967.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 262,726. Weather Engineering Corporation of Canada Ltd., Dorval, Quebec, Canada. Filed Jan. 17, 1967.

DOUSER

For Package Unit Containing Silver Iodide and a Firing System To Be Used for Cloud Seeding (Int. Cl. 13).
First use Nov. 15, 1966.

SN 275,527. Holland & Holland Limited, London, England. Filed July 7, 1967.

THE ROYAL

Owner of British Reg. No. 45,382, dated May 28, 1885.
For Hammerless Guns and Rifles (Int. Cl. 13).
First use May 28, 1885; in commerce Nov. 23, 1921.

Class 10 — Fertilizers

SN 285,421. Jesse C. Haley, Jr., d.b.a. Haley Excelsior Co., Hanover, Va. Filed Nov. 22, 1967.

Applicant disclaims any exclusive rights in and to the word "Mulch" apart from the mark as shown.
For Pine Bark Mulch (Int. Cl. 1).
First use Nov. 29, 1962.

Class 11 — Inks and Inking Materials

SN 266,944. Sun Chemical Corporation, New York, N.Y. Filed Mar. 16, 1967.

PLASTISHEEN

Owner of Reg. No. 830,470.
For Printing Inks (Int. Cl. 2).
First use Feb. 6, 1967.

SN 271,797. Interchemical Corporation, New York, N.Y. Filed May 18, 1967.

PYROTUF

For Printing Inks (Int. Cl. 2).
First use May 4, 1967.

Class 12 — Construction Materials

SN 233,972. Maul Macotta Corporation, Detroit, Mich. Filed Dec. 6, 1965.

PEB-L-PLY

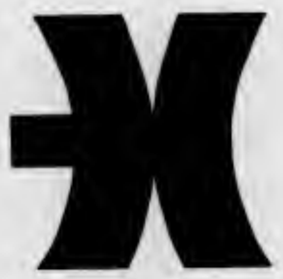
For Aggregate Coated Plywood (Int. Cl. 19).
First use Nov. 22, 1965.

SN 249,662. Pacific Clay Products, Los Angeles, Calif. Filed July 6, 1966.

ISOPRESS

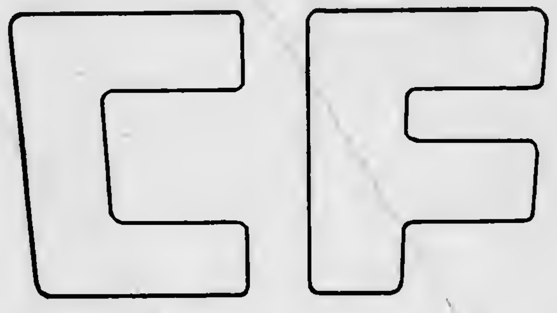
For Vitrified Clay Pipe and Fittings (Int. Cl. 19).
First use Mar. 15, 1966.

SN 255,320. Hooker Chemical Corporation, Niagara Falls, N.Y. Filed Sept. 28, 1966.



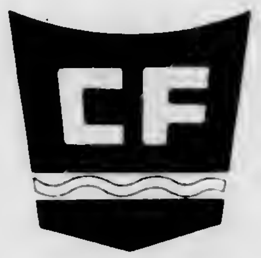
The mark consists of a fanciful "FC" design. Owner of Reg. No. 802,927.
For Asphalt-Based, Fibrated Roof Coating Materials and Roofing Cement (Int. Cl. 19).
First use Dec. 9, 1965.

SN 262,024. The Cleveland Fabricating Company, Cleveland, Ohio. Filed Jan. 6, 1967.



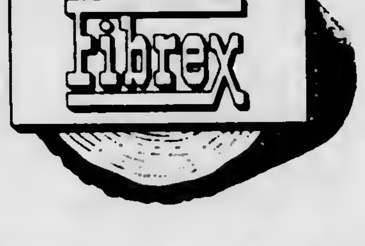
For Heat and Cold Insulation Blankets for Buildings (Int. Cl. 17).
First use February 1962.

SN 262,025. The Cleveland Fabricating Company, Cleveland, Ohio. Filed Jan. 6, 1967.



For Heat and Cold Insulation Blankets for Buildings (Int. Cl. 17).
First use February 1962.

SN 263,223. Midnas Industriaktiebolag, Rengsjo, Sweden. Filed Nov. 29, 1966.



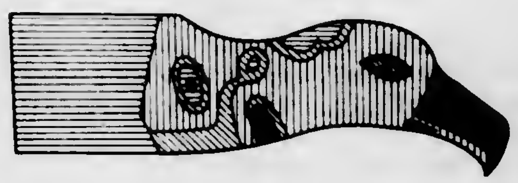
For Hardboard and Perforated Hardboard (Int. Cl. 19).
First use Feb. 8, 1954; in commerce Feb. 8, 1954.

SN 266,510. Cooper Industries, Inc., Mount Vernon, Ohio. Filed Mar. 13, 1967.

UNIPOD

For Offshore Oil and Gas Production Platforms (Int. Cl. 19).
First use Nov. 30, 1966.

SN 267,749. Haida Hide, Incorporated, Edmonds, Wash. Filed Mar. 28, 1967.



The drawing is lined for the colors blue, red, and green.
For Pre-Cut Cabins and Houses, Sold as Kits (Int. Cl. 19).
First use Oct. 26, 1964.

SN 270,805. National Gypsum Company, Buffalo, N.Y. Filed May 5, 1967.

TWO-IN-ONE

For Cementitious Dry Powder Mixture for Water Addition Therewith for Adhering and Topping Drywall Joint Tape and for Texturing Drywall Surfaces (Int. Cl. 19).
First use Dec. 13, 1962.

SN 271,092. York Stone & Supply Company, York, Pa. Filed May 9, 1967.

LIME-LYTE

For Light Weight Concrete Masonry Blocks (Int. Cl. 19).
First use Mar. 13, 1967.

SN 271,134. Daryl Industries, Inc., Miami, Fla. Filed May 10, 1967.

MIRROR-MAGIC

For Sliding Mirror Doors (Int. Cl. 19).
First use on or about Mar. 23, 1967.

SN 272,382. Jackson Ready-Mix Concrete, d.b.a. Delta Pine Plywood Company, Beaumont, Miss. Filed May 25, 1967.

DELPLY

For Plywood (Int. Cl. 19).
First use Jan. 18, 1967.

SN 274,208. Industrial Acoustics Company, Inc., Bronx, N.Y. Filed June 19, 1967.

NOISE-LOCK

For Structural Members for Noise Insulated Rooms—Namely, Panels, Connecting Corners and Joints, Doors, and Windows (Int. Cl. 19).
First use at least as early as Sept. 1, 1958.

SN 274,374. Weyerhaeuser Company, Tacoma, Wash. Filed June 20, 1967.

SHEATHALL

For Plywood Panels (Int. Cl. 19).
First use Apr. 24, 1958.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 258,218. Townsend Company, West Newton, Pa. Filed Nov. 8, 1966.

INSUL-LOK

For Pre-Assembled Expandable Fastener and Sealing Washer for Attaching and Supporting Roofing Sheets in Fixed Spaced Relation to Building Structures To Prevent Crushing of Underlying Insulation (Int. Cl. 6).
First use on or about Aug. 15, 1965.

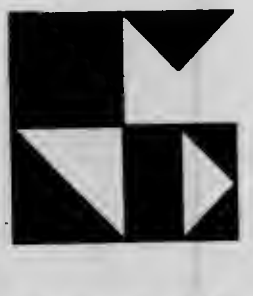
SN 271,696. The Enterprise Aluminum Company, Massillon, Ohio. Filed May 17, 1967.

COLONY HOUSE

For Base Metal Cookware—Namely, Aluminum Cookware and Stainless Steel Cookware (Int. Cl. 21).
First use Apr. 26, 1967.

Class 14—Metals and Metal Castings and Forgings

SN 273,902. Rigidized Metals Corporation, Buffalo, N.Y. Filed June 14, 1967.



For Ferrous and Non-Ferrous Metal Sheets, Strips, and Coils Having Surface Treatment Applied by Embossing, Texturing, Etching, Perforating, or the Like (Int. Cl. 6).
First use Apr. 1, 1967.

SN 273,910. Taiyo Steel Co., Ltd., Chuo-ku, Tokyo, Japan. Filed June 14, 1967.

SUNGRIP

Owner of Japanese Reg. No. 708,168, dated May 23, 1966.
For Metals and Metal Castings and Forgings (Int. Cl. 6).

SN 274,310. Cyclops Corporation, Pittsburgh, Pa. Filed June 20, 1967.

UNISPAN

For Metal Products, Especially Those Made From Metal Alloys Suitable for Controlled Expansion Purposes, Such as Ingots, Blooms, Billets, Bars, Rods, Wire Plates, Sheets, Strip, Forgings, Castings, and Wrought Shapes (Int. Cl. 6).
First use Apr. 28, 1967.

Class 16—Protective and Decorative Coatings

SN 257,217. United States Rust Control Corporation, Miami, Fla. Filed Oct. 25, 1966.

XP400A
acm

For Rust and Corrosion Protective Coating (Int. Cl. 2).
First use July 24, 1966.

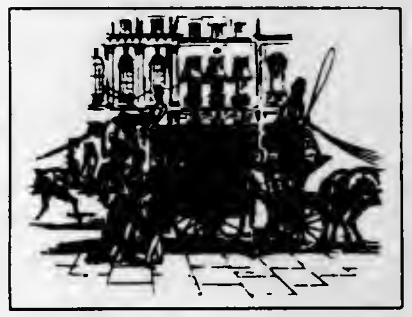
Class 17—Tobacco Products

SN 269,052. Universal Cigar Corporation, New York, N.Y., assignee of The Antonio Company of Tampa, Tampa, Fla. Filed Apr. 13, 1967.

EPOCA

For Cigars (Int. Cl. 34).
First use Jan. 1, 1952.

SN 271,520. Rothmans of Pall Mall Limited, Zurich, Switzerland. Filed May 15, 1967.



The phrase "Makers of Fine Cigarettes" is disclaimed apart from the mark as shown. Owner of Swiss Reg. No. 182,540, dated Sept. 15, 1960; and U.S. Reg. Nos. 578,697 and 763,783.
For Cigarettes (Int. Cl. 34).

SN 287,421. Conwood Corporation, Memphis, Tenn. Filed Dec. 22, 1967.

PEACOCK

For Snuff (Int. Cl. 34).
First use Nov. 13, 1967.

Class 18—Medicines and Pharmaceutical Preparations

SN 269,115. Siegfried Aktiengesellschaft, Zofingen, Switzerland. Filed Apr. 13, 1967.

ISTONIL

Owner of Swiss Reg. No. 154,512, dated Dec. 11, 1954.
For Psychopharmacological Agents (Int. Cl. 5).

SN 270,443. Vita Plus Corporation, Madison, Wis. Filed May 1, 1967.

BEEF-N-RICH

Owner of Reg. Nos. 723,922 and 792,119.
For Livestock Feed Supplement Containing Vitamins and Minerals (Int. Cl. 5).
First use Mar. 15, 1967.

SN 270,692. McNeil Laboratories, Incorporated, Fort Washington, Pa. Filed May 4, 1967.

SUREXIN

For Cardiovascular Agent (Int. Cl. 5).
First use Jan. 30, 1967.

SN 270,699. Ortho Pharmaceutical Corporation, d.b.a. Ortho Diagnostics, Raritan, N.J. Filed May 4, 1967.

SERUMDEX

For Anti Rh Sera (Int. Cl. 5).
First use Feb. 28, 1967.

SN 271,066. Ortho Pharmaceutical Corporation, Raritan, N.J. Filed May 9, 1967.

TROPHINEX

For Anovulatory Preparation (Int. Cl. 5).
First use Feb. 14, 1967.

SN 272,864. E. R. Squibb & Sons, Inc., New York, N.Y. Filed June 1, 1967.

RENOGRAFIN-DIP

Owner of Reg. No. 618,899.
For Urographic Radiopaque Contrast Media (Int. Cl. 5).
First use May 9, 1967.

SN 288,746. Mead Johnson & Company, Evansville, Ind. Filed Jan. 15, 1968.

APPRESSAN

For Appetite Suppressant (Int. Cl. 5).
First use on or prior to Dec. 22, 1967.

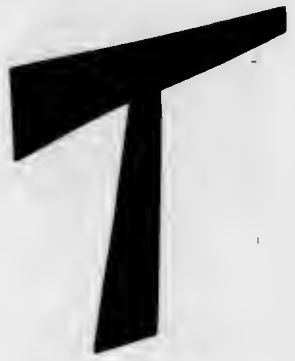
SN 288,748. Mead Johnson & Company, Evansville, Ind. Filed Jan. 15, 1968.

APPETEX

For Appetite Suppressant (Int. Cl. 5).
First use on or prior to Dec. 22, 1967.

Class 19—Vehicles

SN 257,580. David Burdette Blue, Tulsa, Okla. Filed Oct. 31, 1966.



For Sailboats (Int. Cl. 12).
First use on or about May 12, 1965.

SN 257,727. Societe Industrielle et Commerciale des Automobiles Peugeot, Paris, France. Filed Nov. 1, 1966.

PEUGEOT

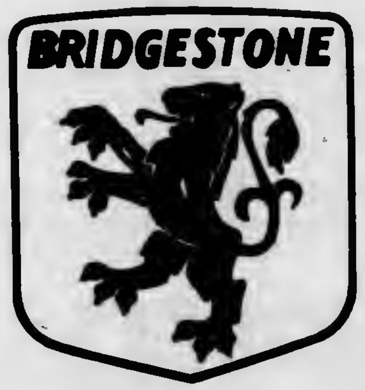
Owner of U.S. Reg. No. 800,600.
For Two-Wheeled Vehicles—Namely, Motorcycles, Motor Bikes, Motor Scooters, Bicycles, and Scooters for Adults (Int. Cl. 12).
First use at least as early as 1895; in commerce at least as early as Dec. 31, 1956.

SN 265,301. Gabb Special Products, Inc., Windsor Locks, Conn. Filed Feb. 23, 1967.

ARC SAFE

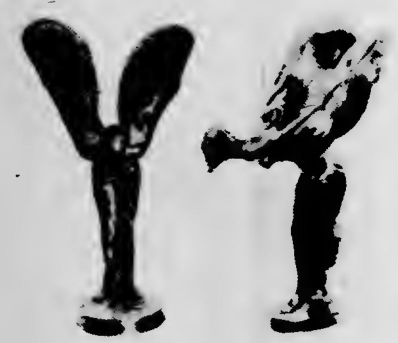
For Vehicle Filler Caps for Use With Flammable Fluids (Int. Cl. 12).
First use on or about Jan. 31, 1967.

SN 266,141. Bridgestone Tire Company Limited, Chuo-ku, Tokyo, Japan. Filed Mar. 7, 1967.



Owner of U.S. Reg. Nos. 705,874, 711,233, and 781,268.
For Motorcycles, Bicycles, and Their Parts (Int. Cl. 12).
First use Apr. 1, 1963; in commerce Apr. 1, 1963.

SN 272,752. Rolls-Royce Limited, Derby, England. Filed May 31, 1967.



The mark comprises the three dimensional configuration of the figurine.
For Automobiles (Int. Cl. 12).
First use 1911; in commerce at least as early as 1930.

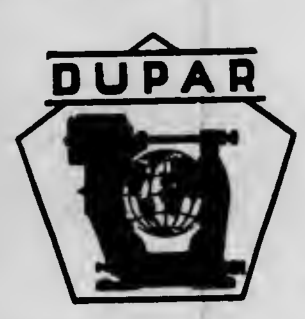
Class 21—Electrical Apparatus, Machines, and Supplies

SN 250,634. Bright Star Industries, Inc., Clifton, N.J. Filed July 20, 1966.

POWER CELL

Applicant disclaims the word "Cell" apart from the mark as shown. Owner of Reg. No. 698,062.
For Photoflash Batteries (Int. Cl. 9).
First use at least as early as Feb. 9, 1965.

SN 255,187. Dewhurst & Partner Limited, Hounslow, Middlesex, England. Filed Sept. 27, 1966.



Owner of British Reg. No. 750,310, dated Jan. 25, 1956.
For Electromagnetic Switches, Contactors, and Relays; Electric Switchgear, Electric Resistances; Apparatus for Controlling the Speed of Electric Motors by Means of Current Control (Int. Cl. 9).

SN 260,241. Crestworth Limited, Poole, Dorset, England. Filed Dec. 7, 1966.

ASTRO

Owner of British Reg. No. 854,242, dated Sept. 18, 1963.
For Electric Lamps (Int. Cl. 11).

SN 260,636. Aiphone Kabushiki Kaisha, d.b.a. Aiphone Co., Ltd., Naka-ku, Nagoya-shi, Aichi-ken, Japan. Filed Dec. 13, 1966.

AIPHONE

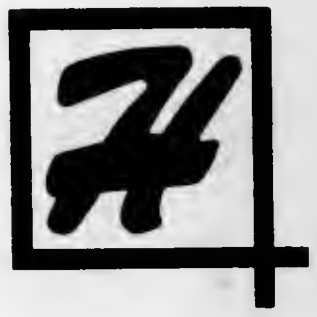
For Intercommunication System; Telephones, and Telephone Amplifiers; Transceivers; Wireless Intercommunication Apparatus; Amplifiers; Switches; Terminals; and Rectifiers (Int. Cl. 9).
First use November 1954; in commerce March 1959.

SN 260,894. Summit International Corp., New York, N.Y. Filed Dec. 15, 1966.

SUMMIT-LITE

Owner of Reg. No. 749,347.
For High Intensity Lamps (Int. Cl. 11).
First use June 20, 1966.

SN 264,534. Federal Cartridge Corporation, d.b.a. Hoffman Engineering Company, Minneapolis, Minn. Filed Feb. 13, 1967.



For Industrial Electrical Enclosures and Weatherproof Electrical Distribution and Lighting Equipment, Specifically, Empty Electrical Enclosure Boxes and Cabinets and Panels Therefor, Empty Sheet Metal Boxes and Cabinets, Empty Wireway and Wire Troughs, Washers for Electrical Box Connections, Light Bulb Holders, Portable Lighting Fixtures, and Weatherproof Power Outlets Consisting of Prewired Electrical Receptacles Mounted in Weatherproof Enclosures (Int. Cls. 9 and 11).
First use Mar. 31, 1960.

SN 265,306. Instrument Systems Corporation, Huntington, N.Y. Filed Feb. 23, 1967.

iSC

For Internal and External Communications Equipment for Airborne, Ground-Based, Marine, and Vehicular Environments—Namely, Headsets, Microphones, Earphones, Transmitters, Handsets, Interconnecting Cables, Headbands, Earphone Cushions, and Microphone Holders; Universal Tactical Display Console; Large Screen Universal Pictorial Projection Display Unit; Universal TV Display Console; Electronic Typesetting Products, Namely, Transfer Units, Variable Escapement Mechanisms, Film Magazines, and Film Transports; Reserve Beacons; Solid State Magnetoresistors; Semi-Conductor Components Utilizing the "Hall Effect" Principle; and Servomechanisms (Int. Cl. 9).
First use February 1962.

SN 270,272. Robertshaw Controls Company, Richmond, Va. Filed Apr. 28, 1967.

STATORSTAT

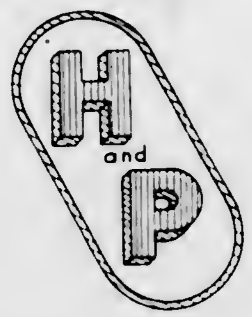
For Electrical Motor Protectors (Int. Cl. 9).
First use Nov. 23, 1966.

SN 270,342. Bantam-Lite, Inc., New York, N.Y. Filed May 1, 1967.

CAPRI

For Pocket Flashlights (Int. Cl. 11).
First use March 1962.

SN 272,725. Holderfield and Pinkerton Wholesale Batteries, Inc., Bowling Green, Ky. Filed May 31, 1967.



The drawing is lined for red and green, and color is claimed as an integral feature of the mark.
For Lead Acid Storage Batteries; Starting, Lighting and Ignition Lead Acid Batteries for Automotive, Truck, Tractor, Aircraft, Motorcycle, Diesel; Standby Emergency Batteries, and Batteries for Industrial Use (Int. Cl. 9).
First use Apr. 1, 1966.

SN 274,482. Aitken Products, Inc., Cleveland, Ohio. Filed June 22, 1967.

Aitken

For Electric Heating Equipment of the Portable or Permanent Type, Including Rail Car Thawing Equipment, Space Heating Equipment, Process Heating Equipment, and Electric Control Assemblies Therefor (Int. Cls. 9 and 11).
First use July 1957 on process heating equipment.

SN 274,546. Tensor Corporation, Brooklyn, N.Y. Filed June 22, 1967.

COUGAR

For Electrical Lamps (Int. Cl. 11).
First use May 12, 1967.

SN 274,558. Charles Messenger, North Hollywood, Calif. Filed June 23, 1967.

FIELDMASTER

Fr Radio Transceivers and Receivers (Int. Cl. 9).
First use January 1967.

SN 277,352. The Duriron Company, Inc., Dayton, Ohio. Filed Aug. 2, 1967.

ISOLON

For Components for Electrical Devices Made of Specially Processed Fluorocarbon Resins—Namely, Insulator Parts, Resistor Cores, and Electrical Motor Bearings (Int. Cl. 9).
First use Nov. 15, 1966.

SN 279,353. American Electronic Laboratories, Inc., Colmar, Pa. Filed Aug. 30, 1967.

DIAT

For Electrical Components—Namely, Diode Attenuators of the Pin Type (Int. Cl. 9).
First use Aug. 4, 1967.

Class 22—Games, Toys, and Sporting Goods

SN 257,378. The Faultless Rubber Company, Ashland, Ohio. Filed Oct. 27, 1966.

RED FLASH

For Golf Balls (Int. Cl. 28).
First use Oct. 3, 1966.

SN 257,379. The Faultless Rubber Company, Ashland, Ohio. Filed Oct. 27, 1966.

Faultless BLUE FLASH

Owner of Reg. Nos. 438,886 and 518,423.
For Golf Balls (Int. Cl. 28).
First use Oct. 3, 1966.

SN 257,700. The Faultless Rubber Company, Ashland, Ohio. Filed Nov. 1, 1966.

Faultless GOLDFLASH

Owner of Reg. Nos. 438,886 and 518,423.
For Golf Balls (Int. Cl. 28).
First use Oct. 3, 1966.

SN 257,965. Lakeside Industries, Inc., Minneapolis, Minn. Filed Nov. 4, 1966.

GIZZ

For Apparatus Comprising Cubes or Dice and a Shake Container Therefor, for Playing an Amusement Game (Int. Cl. 28).
First use on or about Dec. 1, 1965.

SN 258,610. Styraplane Co., Inglewood, Calif. Filed Nov. 14, 1966.

UFO

For Toys—Namely, Kites (Int. Cl. 28).
First use Aug. 17, 1966.

SN 260,769. Lawrence J. Sayegh, d.b.a. L. J. Sayegh & Co., Cumberland, R.I. Filed Dec. 14, 1966.

SAYCO

For Yo-Yo's or Return Tops (Int. Cl. 28).
First use May 10, 1966.

SN 260,901. Wilson Sporting Goods Co., River Grove, Ill., assignee of Wilson Sporting Goods Co., River Grove, Ill. Filed Dec. 15, 1966.

ACTION Web

No claim of exclusive right is made to "Web" for the goods recited.
For Baseball Glove Webbing Which Is Incorporated as a Component Part of Baseball Gloves (Int. Cl. 28).
First use July 26, 1963.

SN 261,546. Wilson Sporting Goods Co., River Grove, Ill., assignee of Wilson Sporting Goods Co., River Grove, Ill. Filed Dec. 27, 1966.

SPEED FLEX

Owner of Reg. No. 750,474.
For Fibre Lamination Which Is Incorporated as a Component Part of Tennis Rackets (Int. Cl. 28).
First use October 1952.

SN 264,163. Rainbow Crafts, Inc., Cincinnati, Ohio. Filed Feb. 7, 1967.

the dippsy doodler

For Play or Toy Paint Set (Int. Cl. 28).
First use Dec. 15, 1966.

SN 269,157. American Toy & Furniture Co., Inc., Chicago, Ill. Filed Apr. 14, 1967.

TAP-A-MATIC

For Metal Tapping Tool for Use as an Educational Toy (Int. Cl. 28).
First use Feb. 14, 1966.

SN 269,887. Hassenfeld Bros. Inc., Pawtucket, R.I. Filed Apr. 24, 1967.

StoryKins

For Toy Kits Comprising Dolls and Records Which Relate to Certain Fairy-Tale Characters and Stories (Int. Cl. 28).
First use on or about Feb. 27, 1967.

SN 270,808. Placo Products Company, Gardena, Calif. Filed May 5, 1967.

PLACO TOYS

No claim of exclusive right is made to the word "Toys" for the goods recited.
For Toy Darts, Dart Guns, Dart Targets, and Dart Sets; Spelling, Reading, and Identification Toys; Sport Games, Car Games, Travel Games, Toy Dart Games, Target Games, Word Games, Dice Games, and Educational Games; and Drag Racing Cars and Racing Sets (Int. Cl. 28).
First use November 1963.

SN 273,774. Hassenfeld Bros. Inc., Pawtucket, R.I. Filed June 13, 1967.

ACTION GIRL

Applicant disclaims the word "Girl" separate and apart from the mark as shown, without prejudice to its common-law rights therein.
For Toy Dolls and Accessories Therefor (Int. Cl. 28).
First use on or about Feb. 28, 1967.

SN 275,245. Effanbee Doll Corporation, Brooklyn, N.Y. Filed July 3, 1967.

HONEY BUN

For Dolls (Int. Cl. 28).
First use Mar. 28, 1967.

SN 275,247. Effanbee Doll Corporation, Brooklyn, N.Y. Filed July 3, 1967.

DYDEE DARLIN'

For Dolls (Int. Cl. 28).
First use Mar. 28, 1967.

SN 275,629. Chemold Corp., Jamaica, N.Y. Filed July 10, 1967.

CHEMPRO

For Golf Balls (Int. Cl. 28).
First use June 26, 1967.

SN 275,687. Rexall Drug and Chemical Company, d.b.a. Seamless Rubber Company, Los Angeles, Calif. Filed July 10, 1967.

HIDE-TONED

For Inflated Athletic Balls (Int. Cl. 28).
First use Apr. 12, 1967.

SN 275,741. Brunswick Corporation, Chicago, Ill. Filed July 11, 1967.

COUNTESS

For Golf Clubs (Int. Cl. 28).
First use Mar. 27, 1967.

SN 281,485. Oggi Products, New York, N.Y. Filed Sept. 29, 1967.

HOS.TIL'.ITY

For Equipment Sold as a Unit for Playing a Dart Game (Int. Cl. 28).
First use Sept. 18, 1967.

SN 283,797. Hassenfeld Bros. Inc., Pawtucket, R.I. Filed Oct. 31, 1967.

MINI-FLEET

For Toy Boat With a Motorized Unit (Int. Cl. 28).
First use on or about Sept. 21, 1967.

SN 285,206. Cosom Corporation, Minneapolis, Minn. Filed Nov. 20, 1967.

The pictorial representation of the goods is disclaimed apart from the mark as shown.
For Roll-Up Type Toboggan (Int. Cl. 28).
First use Oct. 10, 1967.

SN 287,857. Mattel, Inc., Hawthorne, Calif. Filed Jan. 2, 1968.

CAPT. LAZER

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Oct. 29, 1967.

SN 287,858. Mattel, Inc., Hawthorne, Calif. Filed Jan. 2, 1968.

HARRIET HELIDIDDLE

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Oct. 29, 1967.

SN 287,859. Mattel, Inc., Hawthorne, Calif. Filed Jan. 2, 1968.

ANABELLE AUTODIDDLE

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Oct. 29, 1967.

SN 287,860. Mattel, Inc., Hawthorne, Calif. Filed Jan. 2, 1968.

SISTER SMALL-TALK

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Oct. 29, 1967.

SN 288,057. Mattel, Inc., Hawthorne, Calif. Filed Jan. 4, 1968.

ROSCOE

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Oct. 29, 1967.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 238,808. Washington Forge, Incorporated, Englishtown, N.J. Filed Feb. 14, 1966.

FINESSE

For Stainless Steel Flatware—Namely, Knives, Forks, and Spoons (Int. Cl. 8).
First use on or about June 1, 1954.

SN 245,608. Okamura Manufacturing Company, Limited, Chiyoda-ku, Tokyo, Japan. Filed May 13, 1966.

SWICK

For Floor Sweepers, Carpet Sweepers, Floor Polisher, Ground Sweepers, Street Sweepers, and Brooms (Int. Cls. 7 and 21).
First use Sept. 1, 1965; in commerce Sept. 1, 1965.

SN 251,291. Dydee-Tidy Corporation, Little Rock, Ark. Filed July 29, 1966.

DYDEE TIDY

No claim is made to the word "Dydee" apart from the mark as shown.
For Tongs and Squeezing Rack for Rinsing Diapers (Int. Cl. 21).
First use June 24, 1966.

SN 255,387. Wheeler Manufacturing Corp., Ashtabula, Ohio. Filed Sept. 28, 1966.

Wheeler

For Pipe Tools, Such as, Pipe Cutters, Pipe Wrenches, Pipe Pullers, and Pipe Threaders (Int. Cl. 8).
First use on or about Jan. 20, 1960.

SN 263,775. Perma Sharp Manufacturing Corp., New York, N.Y. Filed Feb. 1, 1967.

P.S.

For Stainless Steel Razor Blades (Int. Cl. 8).
First use Jan. 6, 1967.

SN 265,882. Arlan's Dept. Stores, Inc., New York, N.Y. Filed Mar. 3, 1967.

Arlan's

For Double Edge Razor Blades, and Injector Razor Blades (Int. Cl. 8).
First use December 1961 on double edge razor blades.

SN 271,531. Alfred W. Schmidt, Seville, Ohio. Filed May 15, 1967.

FABCO-AIR

For Pneumatic and Hydraulic Cylinders (Int. Cl. 7).
First use Apr. 1, 1967.

SN 272,264. Federal-Mogul Corporation, Southfield, Mich. Filed May 24, 1967.

ALCAD

For Bearings and More Specifically for Sleeve-Type Bearings (Int. Cl. 7).
First use Mar. 17, 1967.

SN 272,298. Oneida Ltd., Oneida, N.Y. Filed May 24, 1967.

ONEIDA

Owner of Reg. Nos. 133,012, 818,253, and others.
For Kitchen Cutlery Including Paring Knives, Fruit Knives, Steak Knives, Utility Knives, Slicers, Carvers, Butcher Knives, French Cooks' Knives, and Chefs' Forks (Int. Cl. 8).
First use May 1, 1967.

SN 272,487. The Grav-I-Flo Corporation, Sturgis, Mich. Filed May 26, 1967.

GYRA-FINISH

For Machine for Mechanically Finishing Workpieces (Int. Cl. 7).
First use on or about Apr. 1, 1966.

SN 272,713. Dayco Corporation, Dayton, Ohio. Filed May 31, 1967.

BLUE RIBBON

For Printing Blankets (Int. Cl. 7).
First use on or about Aug. 20, 1966.

SN 273,196. Houdaille Industries, Inc., Buffalo, N.Y. Filed June 6, 1967.

ROTAPOWR

For Hydraulic Motors (Int. Cl. 7).
First use Jan. 10, 1966.

SN 273,245. Agway, Inc., De Witt, N.Y. Filed June 7, 1967.

WAYMARK

For Fertilizer Spreaders, Lime Spreaders, and Liquid Manure Spreading Equipment (Int. Cl. 7).
First use Apr. 13, 1965.

SN 273,265. Dico Packaging Engineering Limited, Merrow, Guildford, Surrey, England. Filed June 7, 1967.

DICO

Owner of British Reg. No. 778,187, dated May 30, 1958.
For Wrapping Machines, Packaging Machines, Machines for Applying Screw-Caps to Containers, and Parts for All of the Aforesaid Machines (Int. Cl. 7).

SN 274,211. Jaccard Corporation, Buffalo, N.Y. Filed June 19, 1967.

SUPER-TENDERMATIC

For Meat Tenderizing Machine (Int. Cl. 7).
First use Jan. 17, 1964.

SN 274,344. Pratt Manufacturing Corp., Milwaukee, Wis. Filed June 20, 1967.

VUREFLEX

Owner of Reg. No. 762,692.
For Printing Machines (Int. Cl. 7).
First use on or about May 9, 1967.

SN 274,362. The Union Fork and Hoe Company, Columbus, Ohio. Filed June 20, 1967.

GARDEN GLOW

The word "Garden" is disclaimed apart from the mark as shown.
For Hand-Operated Lawn and Garden Tools—Namely, Drags, Forks, Grass Trimmers, Hoes, Hoe-Type Cultivators, Hooks, Lawn Edgers, Lawn Shears, Rakes, Scoops, Scrapers, Shovels, Spades, Weeders, and Weed Cutters (Int. Cl. 8).
First use Feb. 17, 1967.

SN 274,363. The Union Fork and Hoe Company, Columbus, Ohio. Filed June 20, 1967.

LAWN SQUIRE

The word "Lawn" is disclaimed apart from the mark as shown.
For Hand-Operated Lawn and Garden Tools—Namely, Drags, Forks, Grass Trimmers, Hoes, Hoe-Type Cultivators, Hooks, Lawn Edgers, Lawn Shears, Rakes, Scoops, Scrapers, Shovels, Spades, Weeders, and Weed Cutters (Int. Cl. 8).
First use Feb. 17, 1967.

SN 274,364. The Union Fork and Hoe Company, Columbus, Ohio. Filed June 20, 1967.

HOMESTEAD

For Hand-Operated Lawn and Garden Tools—Namely, Drags, Forks, Grass Trimmers, Hoes, Hoe-Type Cultivators, Hooks, Lawn Edgers, Lawn Shears, Rakes, Scoops, Scrapers, Shovels, Spades, Weeders, and Weed Cutters (Int. Cl. 8).
First use Feb. 17, 1967.

SN 274,365. The Union Fork and Hoe Company, Columbus, Ohio. Filed June 20, 1967.

COUNTRY GENTLEMAN

For Hand-Operated Lawn and Garden Tools—Namely, Drags, Forks, Grass Trimmers, Hoes, Hoe-Type Cultivators, Hooks, Lawn Edgers, Lawn Shears, Rakes, Scoops, Scrapers, Shovels, Spades, Weeders, and Weed Cutters (Int. Cl. 8).
First use Feb. 17, 1967.

SN 274,367. The Union Fork and Hoe Company, Columbus, Ohio. Filed June 20, 1967.

YARD GUARD

Owner of Reg. Nos. 425,940 and 684,231.
For Hand-Operated Lawn and Garden Tools—Namely, Drags, Forks, Grass Trimmers, Hoes, Hoe-Type Cultivators, Hooks, Lawn Edgers, Lawn Shears, Rakes, Scoops, Scrapers, Shovels, Spades, Weeders, and Weed Cutters (Int. Cl. 8).
First use Feb. 17, 1967.

SN 274,368. The Union Fork and Hoe Company, Columbus, Ohio. Filed June 20, 1967.

GREEN GLEN

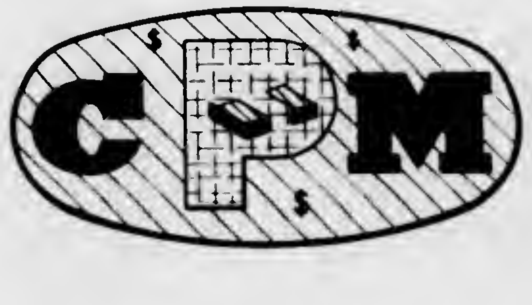
Owner of Reg. Nos. 544,013, 581,301, and 594,834.
For Hand-Operated Lawn and Garden Tools—Namely, Drags, Forks, Grass Trimmers, Hoes, Hoe-Type Cultivators, Hooks, Lawn Edgers, Lawn Shears, Rakes, Scoops, Scrapers, Shovels, Spades, Weeders, and Weed Cutters (Int. Cl. 8).
First use Feb. 17, 1967.

SN 274,370. The Union Fork and Hoe Company, Columbus, Ohio. Filed June 20, 1967.

GREEN GARDEN

The word "Garden" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 544,013, 581,301, and 594,834.
For Hand-Operated Lawn and Garden Tools—Namely, Drags, Forks, Grass Trimmers, Hoes, Hoe-Type Cultivators, Hooks, Lawn Edgers, Lawn Shears, Rakes, Scoops, Scrapers, Shovels, Spades, Weeders, and Weed Cutters (Int. Cl. 8).
First use Feb. 17, 1967.

SN 285,617. Deering Milliken, Inc., New York, N.Y. Filed Nov. 27, 1967.



The drawing is lined for green and gold, but no claim is made to color.
For Machinery for the Automatic Packaging of Currency (Int. Cl. 7).
First use July 14, 1960.

SN 287,996. U.S.A.P.—Utensileria Speciale Alta Precisione Societa per Azioni, Fino Mornasco, Como, Italy. Filed Jan. 3, 1968.

VIPER

Owner of Italian Reg. No. 206,856, dated Apr. 27, 1967.
For Milling Cutters With Indexable Inserts (Int. Cl. 7).

SN 288,064. Ostby & Barton Co., Warwick, R.I. Filed Jan. 4, 1968.

HANDY-WRAP

For Tool Handles for Accepting Wire Wrapping and Unwrapping Bits (Int. Cl. 8).
First use Nov. 27, 1967.

SN 288,996. Turf Cutters, Inc., Youngstown, Ohio. Filed Jan. 17, 1968.

MICROSTEEL

For Turf Cutters (Int. Cl. 8).
First use Jan. 9, 1967.

Class 24 — Laundry Appliances and Machines

SN 259,954. McGraw-Edison Company, Elgin, Ill. Filed Dec. 2, 1966.

PERMACOTE

For Zinc Coated Steel Drums, Sold Oonly as a Component of Washing Machines and Dryers (Int. Cl. 7).
First use July 13, 1966.

Class 26—Measuring and Scientific Appliances

SN 236,521. Scientific Advances, Inc., Columbus, Ohio. Filed Jan. 14, 1966.

SENSOTEC

For Electronic Transducers for Converting Pressure Into Electrical Impulses, and Readout Devices Therefor (Int. Cl. 9).
First use Dec. 17, 1965.

SN 236,566. Consolidated Electrodynamics Corporation, Pasadena, Calif. Filed Jan. 17, 1966.

DATALOCK

For Tape Speed Control Servos for Use in Magnetic Tape Recorders/Reproducers Used in Association With Data Processing Equipment (Int. Cl. 9).
First use Aug. 23, 1965.

SN 256,162. Wavetek, San Diego, Calif. Filed Oct. 10, 1966.

DIALAMATIC

For Voltmeters (Int. Cl. 9).
First use June 1, 1966.

SN 258,363. American Hospital Supply Corporation, Evanston, Ill., assignee of Dade Reagents, Inc., Miami, Fla. Filed Nov. 10, 1966.

DUOPETTE

For Glass Pipettes (Int. Cl. 9).
First use in or before May 1961.

SN 259,257. Lee D. Miller, New York, N.Y. Filed Nov. 22, 1966.

PONDEROSA

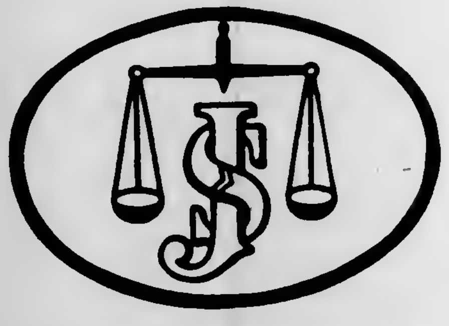
For Optical Frames for Sunglasses and Eyeglasses (Int. Cl. 9).
First use Sept. 8, 1964.

SN 259,719. Edwards Company, Inc., Norwalk, Conn. Filed Nov. 30, 1966.

EDWARDSLAB

Owner of Reg. No. 737,072.
For Electrical and Electro-Mechanical Testing, Measuring and Scientific Teaching Equipment, Comprising, Motors, Generators, Dynamometers, Dynamotors, Meters, Switches, Prony Brakes and Scales, Switch Boards, Electrical Test Benches, Synchronous Motors, Synchronous Motor Generator Sets, Resistive Load Panels, Transformers, Transformer Test Panels, Power Supplies, Bells, Buzzers, Pushbutton Switches, Characteristic Curve Demonstrator Panels, Hazards Demonstrator Panels, and Other Similar Associated Equipment (Int. Cls. 7 and 9).
First use on or about Feb. 14, 1966.

SN 261,661. Johnsons of Hendon Limited, Hendon, London, England. Filed Dec. 29, 1966.



The mark is comprised of a scales design and the letters "JS."

For Photographic Apparatus—Namely, Enlargers, Projection Apparatus, Developing Apparatus, Drying Machinery, Printing Machinery Used in Connection With the Finishing of Photographs for Amateurs and Accessory Equipment for Similar Purposes; Apparatus, Namely, Splicing and Joining Machines, Rewinders, Editors, Spools, Carriers and the Like; and Cinematograph Projectors and Equipment Therefor, Namely, Spare Lenses, Spools, Carrying Cases, Stands, Including Projectors for "Still" Lantern Slides and Film Strips (Int. Cl. 9).

First use in or before December 1941; in commerce December 1941.

SN 267,852. San Marino Electronic Corporation, El Segundo, Calif. Filed Mar. 29, 1967.

Slimlite

For Empty Bottle Inspection Machines—Namely, Electro-Optical Machines for Automatically Inspecting Empty Bottles for the Presence of Foreign Particles Therein (Int. Cl. 9).

First use May 24, 1966.

SN 277,009. Associated Electrical Industries Limited, London, England. Filed July 28, 1967.

SIGNACON

Priority claimed under Sec. 44(d) on British Reg. No. 908,522, dated Apr. 24, 1967.

For Electric Signal Square Law Converters Giving an Output Proportional to the Root Mean Square Value of the Input for Instrumentation Purposes (Int. Cl. 9).

SN 277,285. Hudson Photographic Industries, Inc., Irvington-on-Hudson, N.Y. Filed Aug. 1, 1967.

ORBIT

Owner of Reg. No. 730,767.

For Photographic Apparatus and Accessories—Namely, Movie Film and Magnetic Recording Tape Splicers, Editors, Viewers, Slide Sorters, Splicing Tape and Strips, and Magnetic Picture Frames and Holders (Int. Cl. 9).

First use Mar. 29, 1966.

SN 277,287. Kewanee Oil Company, d.b.a. Harshaw Chemical Company, Cleveland, Ohio. Filed Aug. 1, 1967.

SATELLITE

For Portable Gamma Ray Detection Device (Int. Cl. 9).

First use July 19, 1967.

SN 277,389. Vega Precision Laboratories Inc., Vienna, Va. Filed Aug. 2, 1967.

BESPONDER

For Beacon Transponder (Int. Cl. 9).

First use on or about Mar. 25, 1966.

SN 277,390. Vega Precision Laboratories Inc., Vienna, Va. Filed Aug. 2, 1967.

INTERROSPONDER

For Radar Checking Device for Transponder (Int. Cl. 9).

First use on or about Mar. 22, 1966.

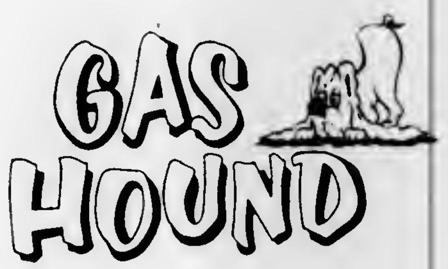
SN 277,391. Vega Precision Laboratories Inc., Vienna, Va. Filed Aug. 2, 1967.

TELESPONDER

For Telemetry System Including an Airborne Transponder, an Encoder, and a Ground Station Demodulator (Int. Cl. 9).

First use on or about Sept. 29, 1965.

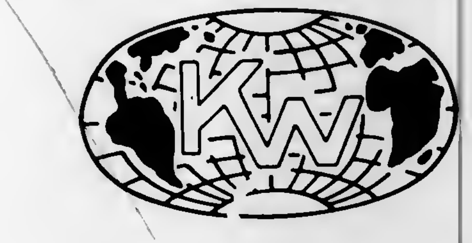
SN 278,094. The Detecto Company, Clarion, Iowa. Filed Aug. 11, 1967.



For Self-Propelled Vehicle for Detecting Underground Gas Leaks (Int. Cl. 9).

First use on or about June 10, 1959.

SN 278,113. Kingmann-White, Inc., Placentia, Calif. Filed Aug. 11, 1967.



For Accumulated Fluid Flow Integrators, Fluid Flow Meters, Fluid Flow Recording Integrators, and Parts Thereof (Int. Cl. 9).

First use May 31, 1967.

SN 287,548. Hanimex Pty. Limited, Brookvale, New South Wales, Australia. Filed Dec. 26, 1967.

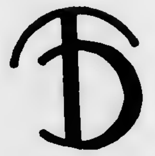
LA RONDE

For Slide Projectors and Magazines Used Therein (Int. Cl. 9).

First use Nov. 8, 1967; in commerce Nov. 8, 1967.

Class 27 — Horological Instruments

SN 254,331. Tressa Watches Co., Ltd., Bienne, Switzerland. Filed Feb. 6, 1968.



DESTA

For Watches, Clocks, Watch Movements, and Parts Thereof (Int. Cl. 14).

First use October 1961; in commerce February 1962.

SN 260,668. Lip Societe Anonyme d'Horlogerie, Besancon-Palente (Doubs), France. Filed Dec. 13, 1966.

LIP

Owner of French Reg. No. 2,566, dated June 22, 1960 (Besancon); Natl. Inst. No. 148,424.

For Horological Instruments—Namely, Watches, Chronometers, and Parts Thereof (Int. Cl. 14).

First use Aug. 28, 1902; in commerce July 6, 1946.

SN 272,223. Sheffield Watch of New York, Inc., New York, N.Y., by change of name from Sheffield Watch, Inc., New York, N.Y. Filed May 23, 1967.

The non-stop Sheffield

Applicant disclaims the word "Non-Stop" apart from the mark as shown.

For Watches and Clocks (Int. Cl. 14).

First use Mar. 28, 1967.

SN 280,156. General Time Corporation, Stamford, Conn. Filed Sept. 12, 1967.

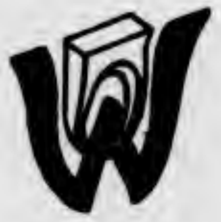
MEDI-CHRON

For Clocks and Watches (Int. Cl. 14).

First use Apr. 12, 1967.

Class 28 — Jewelry and Precious-Metal Ware

SN 247,868. Alex Wellendorff and Hans Peter Wellendorff, d.b.a. Dr. Alex Wellendorff, Pforzheim, Germany. Filed June 13, 1966.

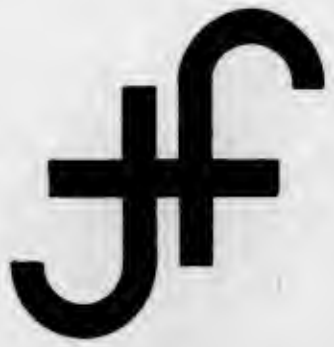


Applicant disclaims the representation of the ring apart from the mark as shown. Owner of German Reg. No. 692,126, dated June 26, 1956.

For Jewelry (Int. Cl. 14).

First use June 13, 1966; in commerce June 13, 1966.

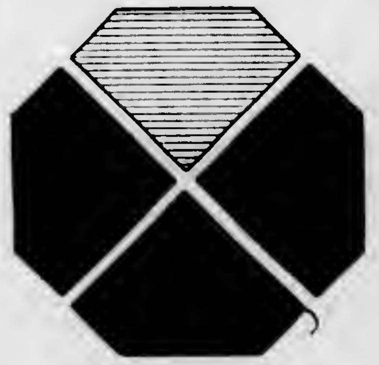
SN 264,669. Jack J. Felsenfeld, Inc., New York, N.Y. Filed Feb. 14, 1967.



For Cultured Pearls and Jewelry Made with Cultured Pearls (Int. Cl. 14).

First use Dec. 14, 1966.

SN 273,796. Sender Ehrman Company, Inc., New York, N.Y. Filed June 13, 1967.



The drawing is lined for the color blue.

For Diamonds (Int. Cl. 14).

First use in or before July 1966.

SN 274,355. Textron Inc., Providence, R.I. Filed June 20, 1967.

ROMANIQUE

Owner of Reg. No. 731,529.

For Expansion Bracelets, Including Watch Bracelets (Int. Cl. 14).

First use May 23, 1967.

SN 276,631. Ave Maria, Inc., Pittsburgh, Pa. Filed July 24, 1967.

THE AVE DUET

For Finger Rings (Int. Cl. 14).

First use May 2, 1967.

SN 279,121. Union Carbide Corporation, New York, N.Y. Filed Aug. 25, 1967.

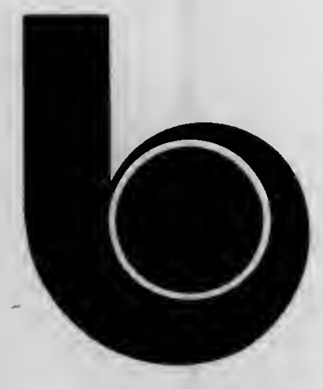
The Quintessa Collection

Applicant disclaims the word "Collection" apart from the mark as shown.

For Jewelry (Int. Cl. 14).

First use on or about July 18, 1967.

SN 280,010. Brite Industries, Inc., Providence, R.I. Filed Sept. 11, 1967.



The mark consists of a fanciful letter "b."

For Watch Bracelets, Identification Bracelets, and Neck Chains (Int. Cl. 14).

First use on or about June 30, 1967.

SN 280,086. Nomo Products, Inc., Johnston, R.I. Filed Sept. 11, 1967.

Swingies

For Earrings (Int. Cl. 14).

First use on or about Aug. 16, 1967.

SN 280,610. Locking Devices, Inc., Pontiac, Mich. Filed Sept. 18, 1967.

LD

For Jewelry Clasps (Int. Cl. 14).

First use Sept. 11, 1965.

SN 280,861. Coro, Inc., New York, N.Y. Filed Sept. 21, 1967.

EARPORT

For Earrings (Int. Cl. 14).

First use Aug. 28, 1967.

SN 286,484. D. Schenker & Son, Inc., New York, N.Y. Filed Dec. 8, 1967.

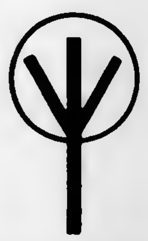
DASS

For Precious Metal Jewelry—Namely, Finger Rings and Pendants (Int. Cl. 14).

First use June 15, 1962.

Class 29—Brooms, Brushes, and Dusters

SN 250,907. Joseph Lieberman and Sons, Inc., Philadelphia, Pa. Filed July 25, 1966.



For Paint Brushes, Glue Brushes, Paperhanger Brushes, Stencil Brushes, and Plaster Brushes (Int. Cls. 16 and 21).

First use June 1, 1966.

SN 269,760. H & G Industries, Inc., Belleville, N.J. Filed Apr. 21, 1967.

THE SECRET IS IN THE GROOVE

No rights to registration of the term "Groove" are claimed apart from the mark as shown.

For Paint Brushes for Painting Shingles, Shakes, and Other Rough Surfaces (Int. Cl. 16).

First use Apr. 6, 1967.

SN 288,065. Pittsburgh Plate Glass Company, Pittsburgh, Pa. Filed Jan. 4, 1968.

PPG INDUSTRIES

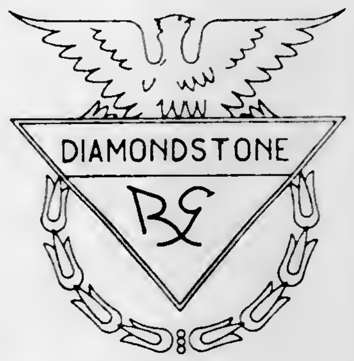
Owner of Reg. No. 518,662.

For Artists' Coating and Maintenance Brushes, Brooms, Dusters, and Rollers (Int. Cls. 16 and 21).

First use at least as early as Mar. 13, 1967.

Class 30—Crockery, Earthenware, and Porcelain

SN 280,339. Societa Ceramica Italiana Richard-Ginori S.p.A., Milan, Italy. Filed Sept. 14, 1967.



Owner of Reg. No. 788,147.

For Crockery—Namely, Dishes, Cups, Pots, Jars, and Dinnerware, All Made of Baked Clay (Int. Cl. 21).

First use November 1966; in commerce December 1966.

SN 283,195. The Earl of Hardwicke, Limited, New York, N.Y. Filed Oct. 24, 1967.

THE EARL OF HARDWICKE

For Drinking and Eating Ware Made of China—Namely, Dinner Plates, Mugs, Butter Plates, Soup Bowls, Tea Cups, Saucers, and Serving Plates (Int. Cl. 21).

First use Sept. 5, 1967.

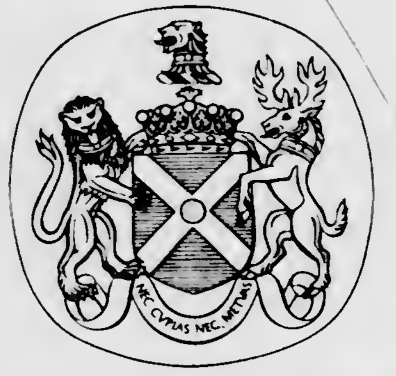
SN 283,197. The Earl of Hardwicke, Limited, New York, N.Y. Filed Oct. 24, 1967.

ROYSTON ARMS

For Drinking and Eating Ware Made of China—Namely, Dinner Plates, Mugs, Butter Plates, Soup Bowls, Tea Cups, Saucers, and Serving Plates (Int. Cl. 21).

First use Sept. 5, 1967.

SN 283,199. The Earl of Hardwicke, Limited, New York, N.Y. Filed Oct. 24, 1967.

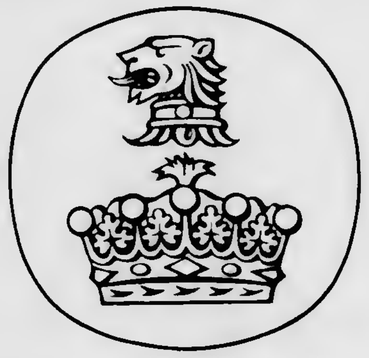


The Latin term "Nec Cvpias Nec Metvas" is translated into English as "neither covet nor fear." The lines displayed on the drawing conform to the actual display of the lines on the specimens and do not indicate color.

For Drinking and Eating Ware Made of China—Namely, Dinner Plates, Mugs, Butter Plates, Soup Bowls, Tea Cups, Saucers, and Serving Plates (Int. Cl. 21).

First use Sept. 5, 1967.

SN 283,201. The Earl of Hardwicke, Limited, New York, N.Y. Filed Oct. 24, 1967.



For Drinking and Eating Ware Made of China—Namely, Dinner Plates, Mugs, Butter Plates, Soup Bowls, Tea Cups, Saucers, and Serving Plates (Int. Cl. 21).

First use Sept. 5, 1967.

Class 31—Filters and Refrigerators

SN 267,352. Osrow Products Company, Inc., Glen Cove, N.Y. Filed Mar. 22, 1967.

Mr. Freez·ee

For Device for Frosting Drinking Glasses (Int. Cl. 11).

First use Aug. 25, 1966.

SN 269,979. Dean Products, Inc., Brooklyn, N.Y. Filed Apr. 25, 1967.

CRYODEAN

Owner of Reg. No. 553,674.

For Cooling Plates, Immersion Coolers, Cooling Cabinets, Cooling Shrouds, Cooling Drums, Refrigerated Filter Presses, Refrigerated Dip Pans, Utensils for Cooling and Refrigerating Food, Chemicals, Gases and Liquids, Cooling Platens, Refrigerated Counter Tops, and Coolers for Sterilizing Laboratory Equipment (Int. Cl. 11).

First use Mar. 20, 1967.

SN 282,651. CVI Corporation, Columbus, Ohio. Filed Oct. 17, 1967.

CVI

Owner of Reg. Nos. 740,008 and 740,009.

For Cryogenic Refrigerators, Cryogenic Gas Liquefiers, Cryogenic Gas Purifiers, Cryogenic Heat Exchangers, Cryogenic Gas Tanks, Cryogenic Valves, Cryogenic Connections, Cryogenic Piping, Cryogenic Liquid Level Controllers, Cryogenic Filters, Cryogenic Pumping Systems, Cryogenic Processing Equipment, and Related Components Such as Cryogenic Fluid Handling Accessories and Panels (Int. Cl. 11).

First use May 1967.

Class 32—Furniture and Upholstery

SN 259,293. American Store Equipment, Muskegon, Mich. Filed Nov. 23, 1966.

AMPLY

For Laminated Hardboard Materials Sold as a Component of Furniture—Namely, Dormitory Furniture, i.e., for Bedrooms, and Study Rooms (Int. Cl. 20).

First use Dec. 7, 1965.

SN 261,089. Lear Siegler, Inc., Detroit, Mich. Filed Dec. 19, 1966.

BULL DOZER

For Beds (Int. Cl. 20).

First use Sept. 28, 1966.

SN 263,599. Nurserytyme Products, Inc., Brooklyn, N.Y. Filed Jan. 30, 1967.

NURSERYFOAM

Owner of Reg. Nos. 417,475 and 679,277.

For Crib Mattresses, Playpen Pads, Baby Carriage Pads, Bassinette Pads, High Chair Pads, Crib Bumper Pads, and Nursery Seat Pads (Int. Cl. 20).

First use Jan. 26, 1967.

SN 265,077. Mackin Corporation, Momence, Ill. Filed Feb. 20, 1967.

SHELF-O-WOOD

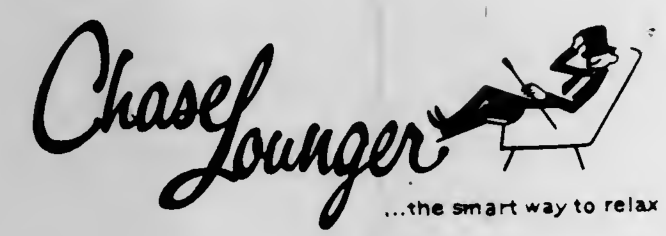
No claim is made to the term "Shelf-O-Wood" apart from the mark as shown.
For Demountable Wood and Metal Shelving (Int. Cl. 20).
First use Nov. 12, 1963.

SN 270,916. Heywood-Wakefield Company, Gardner, Mass. Filed May 8, 1967.

Diamond Jim

For Upholstered Furniture (Int. Cl. 20).
First use Apr. 11, 1967.

SN 274,669. Schnadig Corporation, Chicago, Ill. Filed June 23, 1967.


Chase Lounger
...the smart way to relax

No claim is made to the word "Lounger," the descriptive slogan "The Smart Way To Relax," and the representation of the chair apart from the mark as shown. Owner of Reg. No. 599,675.
For Upholstered Chairs (Int. Cl. 20).
First use on or before June 9, 1967.

SN 278,629. Biler Inc., St. Hubert, Quebec, Canada. Filed Aug. 21, 1967.

VEHO

Owner of Canadian Reg. No. 151,566, dated June 23, 1967.
For Furniture, Particularly Wood Furniture—Namely, Tables, Chairs, Credenzas, Dressers, and Beds (Int. Cl. 20).

SN 278,976. McDonald Products Corporation, Buffalo, N.Y. Filed Aug. 24, 1967.

ARISTOCRAT

For Ash Receptacles—Namely, Wall Mounted Urns (Int. Cl. 34).
First use 1961.

SN 279,164. Baumritter Corporation, New York, N.Y. Filed Aug. 28, 1967.

KLING

Owner of Reg. Nos. 392,977 and 557,889.
For Furniture, Particularly Household Furniture for Use in Living Rooms, Dining Rooms, Kitchens, and Bedrooms—Namely, Chests, Dressers, Mirrors, Tables, Commodes, Beds, Benches, Stools, Canopy Frames, Bookcase Headboards, Bookcases, Bookstacks, Straight Chairs, Upholstered Chairs, Rocking Chairs, Sofas, Love Seats, Ottomans, Dry Sinks, Buffets, Tea Carts, Hutches, Lazy Susans, Glass Tops for Tables and the Like, and Secretaries (Int. Cl. 20).
First use Jan. 28, 1938.

SN 279,627. Iran K. Coatney, Oklahoma City, Okla. Filed Sept. 5, 1967.

NU-LIFE

For Mattresses (Int. Cl. 20).
First use Aug. 7, 1967.

SN 287,618. Hudson Foam Plastics Corporation, Edgewater, N.J. Filed Dec. 27, 1967.

CUSH-N-FOAM

Owner of Reg. Nos. 580,636, 750,924, and others.
For Rubber and Plastic Foam, Which Has Been Cut to Size, for Mattresses, Pillows, Chairs, Furniture Seats, and Upholstery Cushions of All Types (Int. Cl. 17).
First use May 12, 1952.

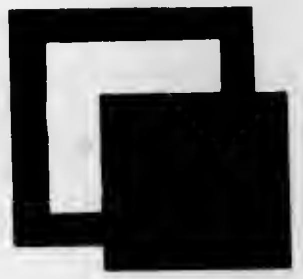
Class 33 — Glassware

SN 273,697. Solomon Glass Corp., Cambridge, Mass. Filed June 12, 1967.

SOLOMON GLASS

The term "Glass" is disclaimed apart from the mark as shown.
For Flat Glass (Int. Cl. 21).
First use June 5, 1967.

SN 274,409. Central Glass Co., Ltd., Ube, Yamaguchi, Japan. Filed June 21, 1967.



For Flat Glass—Namely, Sheet Glass, Decorated Glass, Polished Plate Glass, and Wired Glass (Int. Cl. 21).
First use October 1959; in commerce January 1963.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 261,621. B & H Company, Wapello, Iowa. Filed Dec. 29, 1966.

HOT-MAMA

For Radiant Heating Means Used as a Brooder for Animals, Fowl, and the Like (Int. Cl. 7).
First use on or about Nov. 14, 1966.

SN 264,199. Loren Cook Company, Berea, Ohio. Filed Feb. 8, 1967.

Cook CENTRI-PAC

For Centrifugal Air Blowers (Int. Cl. 7).
First use on or about Feb. 15, 1965.

SN 268,579. The Coleman Company, Inc., Wichita, Kans. Filed Apr. 7, 1967.

WHISPER JET

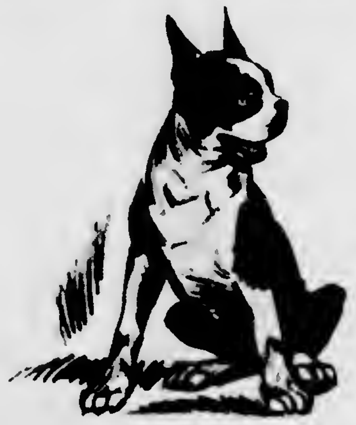
For Oil Burner for Mobile Home Furnace (Int. Cl. 11).
First use on or before Jan. 31, 1967.

SN 268,622. Rotron Manufacturing Company, Inc., Woodstock, N.Y. Filed Apr. 7, 1967.

EXECUTIVE

For Electric Motor Driven Ventilating Fans (Int. Cl. 11).
First use on or about Apr. 6, 1966.

SN 268,943. Carrier Corporation, Syracuse, N.Y. Filed Apr. 12, 1967.



Owner of Reg. No. 549,911.
For Air Conditioners (Int. Cl. 11).
First use Jan. 25, 1967.

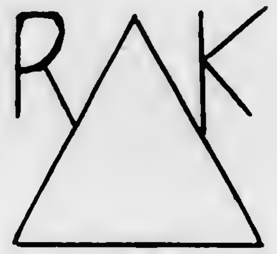
SN 269,200. McQuay, Inc., Minneapolis, Minn. Filed Apr. 14, 1967.

ROOFPAK

For Commercial Air Conditioning Units (Int. Cl. 11).
First use Mar. 13, 1967.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 237,282. Istag AG, Suhr, Aargau, Switzerland. Filed Jan. 26, 1966.



The mark consists of the letters "R" and "K" and a triangle, and the mark appears in a repeated pattern over one surface of the goods.
For Brake Linings and High Pressure Packings in Plates, Rings, and Form Pieces, Consisting of Asbestos, Ligaments, or Metal or Compounds of These Three Materials, for Sealing of Steam, Liquid, and Gases (Int. Cls. 7 and 17).
First use 1930; in commerce March 1944.

SN 257,638. MacGregor-Comarain, Paris, France. Filed Oct. 31, 1966.

ITOMATIC

Owner of French Reg. No. 707,902, dated Apr. 7, 1966.
For Inflatable Sealing Members for Hatch Covers (Int. Cl. 17).

SN 267,031. The General Tire & Rubber Company, Akron, Ohio. Filed Mar. 17, 1967.

TELSTAR
XL-500

For Pneumatic Tires (Int. Cl. 12).
First use Feb. 16, 1967.

SN 274,608. Flexitallic Company, Camden, N.J. Filed June 23, 1967.

TEXITALLIC

For Spiral Wound Gaskets for Packing Pipe Joints or the Like (Int. Cl. 17).
First use May 25, 1967.

SN 274,609. Flexitallic Company, Camden, N.J. Filed June 23, 1967.

GULFITALLIC

For Spiral Wound Gaskets for Packing Pipe Joints or the Like (Int. Cl. 17).
First use May 25, 1967.

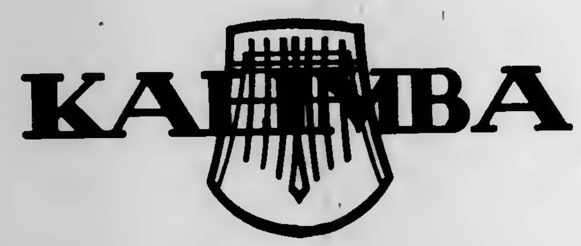
SN 277,353. The Duriron Company, Inc., Dayton, Ohio. Filed Aug. 2, 1967.

ISOLON

For Packing and Sealing Apparatus Made of Specially Processed Fluorocarbon Resins—Namely, Piping Gaskets, Valve Gaskets, Valve Stem Packing, Pump Shaft Packing, Sealing Rings and Wiper Rings for Hydraulic Cylinders, Oil Seals for Pump Housings, and Piston Rings for Internal Combustion Engines (Int. Cls. 7 and 9).
First use Sept. 29, 1966, on piston rings for internal combustion engines.

Class 36 — Musical Instruments and Supplies

SN 266,845. African Musical Instruments (Pty.) Ltd., Roodespoort, Transvaal, Republic of South Africa. Filed Mar. 16, 1967.



For Musical String Instruments (Int. Cl. 15).
First use November 1955; in commerce May 1962.

SN 266,985. Admiral Corporation, Chicago, Ill. Filed Mar. 17, 1967.

ADMIRAL

Owner of Reg. Nos. 273,655, 780,906, and others.
For Tape Recorders and Accessories Therefor (Int. Cl. 9).
First use Mar. 26, 1966.

SN 286,893. Automatic Radio Mfg. Co., Inc., Melrose, Mass. Filed Dec. 14, 1967.

GIDGET

For Adaptor for Tape Cartridges (Int. Cl. 9).
First use at least as early as February 1967.

Class 37 — Paper and Stationery

SN 244,065. Aktiebolaget Billingsfors-Langed, Billingsfors, Sweden. Filed Apr. 22, 1966.

DUNI

Owner of Swedish Reg. No. 69,759, dated Apr. 13, 1951.
For Handkerchiefs, Napkins, Dripmats, and Place Mats, All Made of Paper (Int. Cl. 16).
First use 1951 on handkerchiefs and napkins; in commerce Sept. 17, 1962.

SN 257,448. The American Paper Products Company, Youngstown, Ohio. Filed Oct. 28, 1966.

APPCO

For Packaging Materials—Namely, Envelopes (Int. Cl. 16).
First use July 1938.

SN 258,074. De Soto Chemical Coatings, Inc., Des Plaines, Ill. Filed Nov. 7, 1966.

FLOCKS UNLIMITED

The word "Flocks" is disclaimed apart from the mark, without waiver of common law rights.
For Wallpaper (Int. Cl. 27).
First use on or about Oct. 17, 1966.

SN 258,124. Lindy Pen Company Incorporated, North Hollywood, Calif. Filed Nov. 7, 1966.

PETIT-POINT

For Ball Point Pens (Int. Cl. 16).
First use Sept. 20, 1966.

SN 258,584. Research Products Corporation, Chicago, Ill. Filed Nov. 14, 1966.

BACK-BONE

For Erasers (Int. Cl. 16).
First use Sept. 9, 1966.

SN 259,535. Duro Pen Company, Inc., Brooklyn, N.Y., assignee, by mesne assignment, of Duro Pen Company, Inc., Brooklyn, N.Y. Filed Nov. 28, 1966.

THE ROCKET MINI-MARK

Owner of Reg. No. 763,518.
For Fiber Point Pens (Int. Cl. 16).
First use Nov. 10, 1966.

SN 262,402. Conlker Enterprises, Inc., Chicago, Ill. Filed Jan. 12, 1967.

CONTROLMASTER

For Notebooks, Memo Pads, Writing Pads, Writing Paper, Binders (Looseleaf or Bound), Punch Cards for Receiving Writing or Printing, and Partially Printed Forms and Charts (Int. Cl. 16).
First use on or about Oct. 12, 1966.

SN 265,665. Tuckersharpe Pen Company, Inc., Richmond, Va. Filed Feb. 28, 1967.

TUCKER

Owner of Reg. Nos. 628,269 and 704,972.
For Writing Instruments—Namely, Ball Pens, Fountain Pens, Ink Marking Pens, Mechanical Pencils, and Refill Cartridges for Ball Pens (Int. Cl. 16).
First use at least as early as November 1963.

SN 270,277. Royal Business Forms, Incorporated, Nashua, N.H. Filed Apr. 28, 1967.

CETS

For Partially Printed Business Forms (Int. Cl. 16).
First use Apr. 6, 1967.

SN 271,193. Union Carbide Corporation, New York, N.Y. Filed May 10, 1967.

HYLOX

For Plastic Film and Sheeting for Use as Wrapping and Packaging Material (Int. Cl. 16).
First use on or about Apr. 5, 1967.

SN 274,128. Business Supplies Corporation of America, New York, N.Y. Filed June 16, 1967.

ORGANDIE

For Writing Paper (Int. Cl. 16).
First use 1905.

SN 274,431. N. L. & E. W. Kruysman, Inc., New York, N.Y. Filed June 21, 1967.

REDWELD

For Covers, Envelopes, Expanding Envelopes, Folders, Binders, and File Pockets (Int. Cl. 16).
First use Mar. 10, 1950.

SN 274,709. C-Line Products, Inc., Des Plaines, Ill. Filed June 26, 1967.

C-FILM

For Plastic Sheets for Use as Protective Covers and as Protective Holders for Records (Int. Cl. 16).
First use June 9, 1967.

SN 275,138. Hallmark Graphics, Inc., Westbury, N.Y. Filed June 30, 1967.

For Booklet for Recording Photographic Data (Int. Cl. 16).
First use Apr. 21, 1967.

SN 275,484. Tri-Wall Containers, Inc., Plainview, N.Y. Filed July 6, 1967.

LAMINITE

For Paper Board for Use in Making Paper Board Containers, Packaging, Boxes, and Paper Board Specialties (Int. Cl. 16).
First use June 13, 1967.

SN 275,833. Clopay Corporation, Cincinnati, Ohio. Filed July 12, 1967.

For Film Wrappers for Merchandise (Int. Cl. 16).
First use September 1965.

SN 275,958. Recordplate Company Inc., Pasadena, Calif. Filed July 13, 1967.

RECORDPLATE

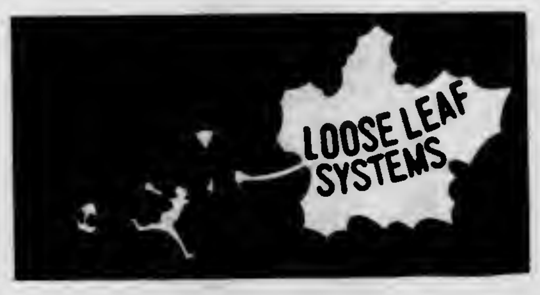
Owner of Reg. No. 431,336.
For Loose Leaf and Visible Binders, Forms, and Indexes (Int. Cl. 16).
First use April 1946.

SN 276,027. Moore Business Forms, Inc., Niagara Falls, N.Y. Filed July 14, 1967.

PADDED-PAK

For Business Forms (Int. Cl. 16).
First use Apr. 10, 1967.

SN 283,390. Loose Leaf Systems, Pasadena, Calif. Filed Oct. 26, 1967.



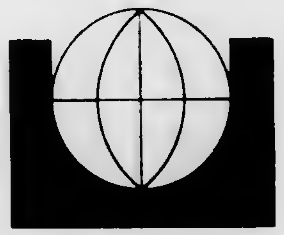
Applicant disclaims any registration rights to the wording "Loose Leaf Systems" apart from the mark as shown.
For Loose Leaf Binders (Int. Cl. 16).
First use Nov. 23, 1962.

Class 38 — Prints and Publications

SN 245,100. Elias H. Porter, d.b.a. Profitmeters Systems, Santa Monica, Calif. Filed May 6, 1966.

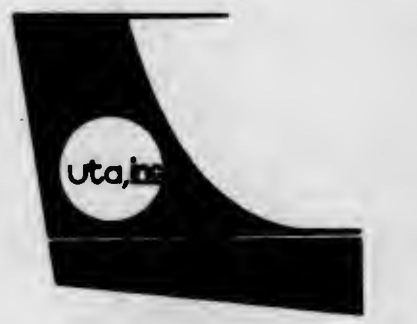
For Booklet Containing Material Which Constitutes a Budget System (Int. Cl. 16).
First use Nov. 12, 1965.

SN 250,849. MCA Inc., Universal City, Calif. Filed July 22, 1966.



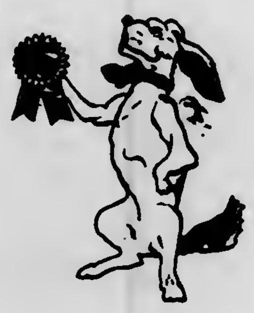
The mark consists of a stylized form of block letter "U" and design. Owner of Reg. Nos. 818,405, 831,877, and others.
For Exposed Motion Picture Film and Exposed Slides, Both of the Type Generally Intended for Home Entertainment Uses (Int. Cl. 9).
First use June 23, 1965.

SN 254,747. UTA, Inc., Wichita, Kans. Filed Sept. 19, 1966.



The word portion "Inc." is disclaimed separate from the mark as shown.
For Instruction Materials—Namely, Manuals and Film Strips Used by Flying Instructors and Students (Int. Cls. 9 and 16).
First use on or about July 5, 1966.

SN 255,725. Alice Scott and Robert Scott, West Los Angeles, Calif. Filed Oct. 4, 1966.



For Magazine (Int. Cl. 16).
First use Sept. 20, 1966.

SN 257,672. United Feature Syndicate, Inc., New York, N.Y. Filed Oct. 31, 1966.

PIXies

For Single Panel Comic Feature for Newspapers and the Like (Int. Cl. 16).
First use May 16, 1966.

SN 260,863. Edward J. Jones, d.b.a. Jones Mapchart Company, La Jolla, Calif. Filed Dec. 15, 1966.

MAPCHART

For Charts Containing Matter Relative to the Solar System (Int. Cl. 16).
First use Dec. 8, 1964.

SN 263,265. Forbes Labeltape Co., Grand Rapids, Mich. Filed Jan. 25, 1967.

SAFTI-TAPE

For Printed Adhesive-Backed Labels for Marking Hazardous Objects and Areas (Int. Cl. 16).
First use Dec. 26, 1961.

SN 266,010. Nicholas A. d'Angelo, d.b.a. Visual Co., Boston, Mass. Filed Mar. 6, 1967.

VISUAL I

Owner of Reg. No. 714,406.
For Sheets Portraying Commemorative Stamps and Descriptions Thereof, and Covered With Transparent Plastic (Int. Cl. 16).
First use on or about Feb. 9, 1967.

SN 266,817. Wausau Paper Mills Company, Brokaw, Wis. Filed Mar. 15, 1967.

For Printed Books and Pamphlets Relating to the Field of Printing (Int. Cl. 16).
First use Mar. 2, 1967.

SN 267,249. Hallmark Cards, Incorporated, Kansas City, Mo. Filed Mar. 21, 1967.

ADORABLES

For Calendars With Tear-Off Postcards Attached (Int. Cl. 16).
First use Feb. 15, 1967.

SN 268,177. Family Fare, Inc., New York, N.Y. Filed Apr. 3, 1967.

family fare

For Magazine Designed To Distribute Gift-Point Coupons (Int. Cl. 16).
First use Feb. 7, 1967.

SN 269,964. Eugene E. Andereck, Trenton, Mo. Filed Apr. 25, 1967.

VIEW FROM THE BACK PEW

For Feature Column in Newspapers, Books, and Magazines (Int. Cl. 16).
First use Jan. 5, 1961.

SN 270,111. Ashland Oil & Refining Company, Ashland, Ky. Filed Apr. 27, 1967.

CARBON BLACKBOARD

For Technical Bulletins Relating to the Carbon Black and Rubber Industries (Int. Cl. 16).
First use Feb. 28, 1963.

SN 270,379. Grafics, Inc., Olympia, Wash. Filed May 1, 1967.

IN A WORD BY JOHN KALBACH

For Custom Humorous and Instructive Panel Syndicated to Newspapers, and for General Publication in Magazines and/or Newspapers, and by Books, Booklets, etc. (Int. Cl. 16).
First use Mar. 31, 1964.

SN 270,513. Simon & Schuster, Inc., New York, N.Y. Filed May 2, 1967.

For Books (Int. Cl. 16).
First use Dec. 19, 1966.

SN 270,670. Jack Gasnik, New York, N.Y. Filed May 4, 1967.

BEATNIKS

For Printed Labels Containing Statements Relating to Safety (Int. Cl. 16).
First use Jan. 15, 1962.

SN 270,930. MD Publications, Inc., New York, N.Y., assignee of MD International, Inc., New York, N.Y. Filed May 8, 1967.

MD PACIFIC

For Periodical Magazine Containing Material of Interest to Doctors (Int. Cl. 16).
First use Feb. 8, 1967.

SN 271,072. Scholastic Magazines, Inc., New York, N.Y. Filed May 9, 1967.

SEE-SAW books

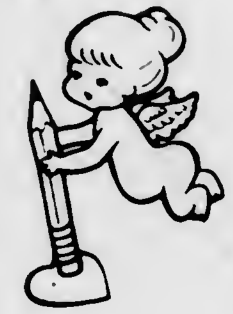
The word "Books" is disclaimed apart from the mark as shown.
For Books (Int. Cl. 16).
First use April 1966.

SN 271,444. The Coin Collector Publishing Co. Inc., Kewanee, Ill. Filed May 15, 1967.

THE COIN COLLECTOR

For Monthly Newspaper (Int. Cl. 16).
First use in 1939.

SN 272,241. Heart-O-Gold Corporation, Philadelphia, Pa. Filed May 24, 1967.



For Greeting Cards for Facilitating the Giving of a Gift (Int. Cl. 16).
First use May 15, 1967.

SN 273,065. Grant-Mann Lithographers Ltd., Vancouver, British Columbia, Canada. Filed June 5, 1967.

TRAVELTIME

Owner of Canadian Reg. No. 146,049, dated July 8, 1966.
For Pictorial Postcards, Accordion Pictorial Postcard-Type Folders, Pictorial Miniature Albums, and Pictorial Souvenir View Books (Int. Cl. 16).

SN 273,665. Norcross, Inc., New York, N.Y. Filed June 12, 1967.

ET CETERA

For Greeting Cards (Int. Cl. 16).
First use Apr. 26, 1967.

SN 274,676. Chester A. Thomas, Albuquerque, N. Mex. Filed June 23, 1967.

POST-DECAL

For Post Card With Attached Decalcomania (Int. Cl. 16).
First use Mar. 7, 1967.

SN 286,790. Bishop Industries Corporation, North Hollywood, Calif. Filed Dec. 13, 1967.

For Adhesive Labels With Indicia Thereon as Aids for Draftsmen and the Like (Int. Cl. 16).
First use February 1966.

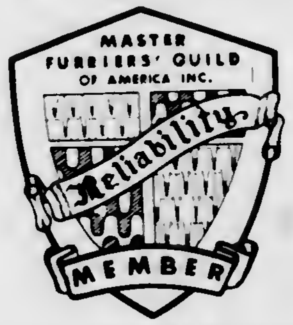
SN 287,402. Noble and Noble Publishers, Inc., New York, N.Y. Filed Dec. 22, 1967.

FALCON BOOKS

No registration rights are claimed in the word "Books" apart from the mark as shown.
For Series of Books (Int. Cl. 16).
First use Nov. 20, 1967.

Class 39 — Clothing

SN 243,332. Master Furriers Guild of America, Inc., New York, N.Y. Filed Apr. 13, 1966. COLLECTIVE MARK.



The lining shown on the drawing is not intended to indicate color.
For Fur Clothing, Especially Coats, Jackets, Hats, Muffs, Stoles, and Scarfs (Int. Cl. 25).
First use before 1940.

SN 254,038. Becton, Dickinson and Company, East Rutherford, N.J., assignee of Edmont Inc., Coshocton, Ohio. Filed Sept. 8, 1966.

EDMONT FOAM-FLEX

Owner of Reg. Nos. 334,815, 732,184, and others.
For Industrial Work Gloves (Int. Cl. 25).
First use July 22, 1966.

SN 256,522. California Look, Los Angeles, Calif. Filed Oct. 17, 1966.

CALIFORNIA LOOK

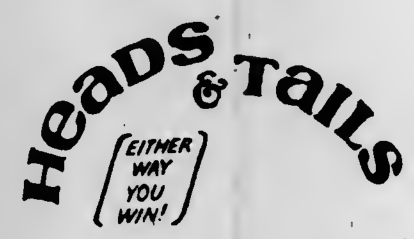
Applicant disclaims the word "California" apart from the mark as shown.
For Women's Coordinated Sportswear—Namely, Dresses, Suits, Shorts, Slacks, Skirts, Blouses, Sweaters, or Combinations Thereof (Int. Cl. 25).
First use May 10, 1966.

SN 258,814. International Playtex Corporation, Dover, Del., by change of name from International Latex Corporation, Dover, Del. Filed Nov. 16, 1966.

FEATHERSPUN

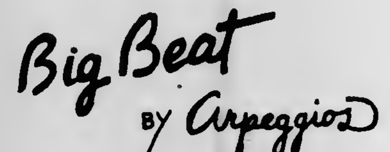
For Bras (Int. Cl. 25).
First use Nov. 7, 1966.

SN 259,245. Highlander, Ltd., New York, N.Y. Filed Nov. 22, 1966.



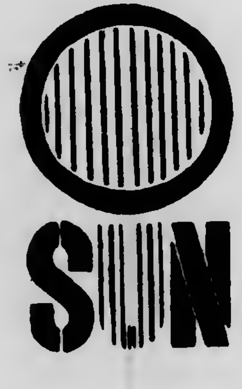
For Men's, Women's, and Children's Sportswear—Namely, Tops, Shirts, Pants, Jackets, Skirts, Shifts, Shorts, Sweaters, and Matching Combinations Thereof (Int. Cl. 25).
First use Nov. 7, 1966.

SN 260,708. Admiral Shoe Corporation, d.b.a. Mutual Shoe Sales Company, Manchester, N.H. Filed Dec. 14, 1966.



Owner of Reg. No. 686,698.
For Women's and Misses' Shoes (Int. Cl. 25).
First use Oct. 5, 1966.

SN 261,940. Nippon Rubber Co., Ltd., Chuo-ku, Tokyo, Japan. Filed Jan. 4, 1967.



The drawing is lined for red, but no claim is made to color.
For Foot Wear (Int. Cl. 25).
First use July 5, 1966; in commerce Oct. 26, 1966.

SN 264,295. Blairmoor Knitwear Corp., Brooklyn, N.Y. Filed Feb. 9, 1967.

KRINKLER

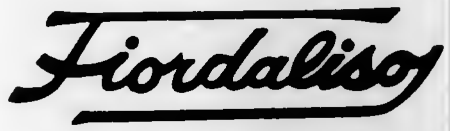
For Knitwear—Namely, Sweaters for Ladies, Misses, and Girls (Int. Cl. 25).
First use Jan. 23, 1967.

SN 265,178. Convertors Incorporated, Newark, N.J. Filed Feb. 21, 1967.

SHIELD

For Paper Garments—Namely, Gowns, Aprons, Coats, Suits, and Dresses (Int. Cl. 25).
First use on or before Mar. 31, 1966.

SN 267,907. Atlas Importing Corp., Cambridge, Mass. Filed Mar. 30, 1967.



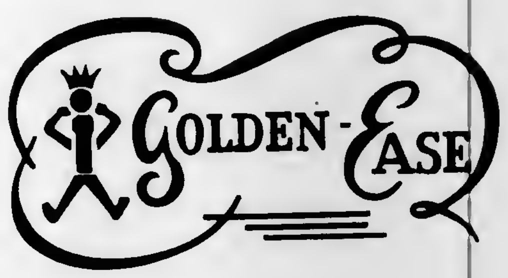
For Women's Shoes (Int. Cl. 25).
First use at least as early as Mar. 23, 1967.

SN 270,417. Rhodia Inc., New York, N.Y. Filed May 1, 1967.

CHAVALOR

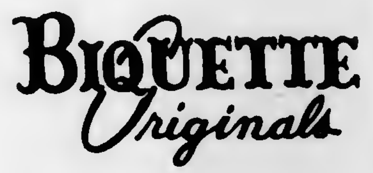
Owner of Reg. No. 798,133.
For Wearing Apparel for Men, Women, and Children Consisting of Dresses, Robes, Coats, Suits, Slacks, Shirts, Blouses, Sweaters, Neckwear, Lingerie, Skirts, Jackets, and Combinations Thereof (Int. Cl. 25).
First use May 15, 1963.

SN 271,419. American Argo Corporation, Schuylkill Haven, Pa. Filed May 15, 1967.



Owner of Reg. No. 696,478.
For Men's Sport Shirts (Int. Cl. 25).
First use Apr. 5, 1960.

SN 284,274. Biquette Originals, Inc., West New York, N.J. Filed Nov. 7, 1967.



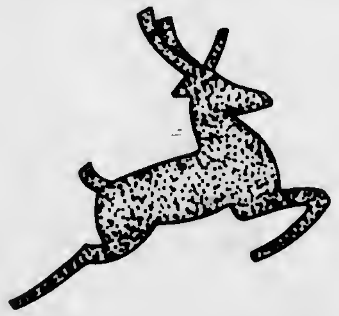
The word "Originals" is disclaimed apart from the mark as shown.
For Children's Knitwear, Particularly Dresses, Jumpers, Blouses, Sweaters, Skirts, Slacks, Suits, Coats, Bonnets, Scarfs, Gloves, and Stockings (Int. Cl. 25).
First use Jan. 9, 1966.

SN 284,278. Maidenform, Inc., New York, N.Y. Filed Nov. 7, 1967.

PEBBLE-PARTNERS

For Foundation Garments and Lingerie (Int. Cl. 25).
First use Oct. 6, 1967.

SN 286,748. White Stag Manufacturing Co., Portland, Oreg. Filed Dec. 12, 1967.



The Stippling on the drawing is for shading purposes only.
Owner of Reg. Nos. 369,881, 838,880, and others.
For Sweaters and Ski Sweaters, Caps and Ski Caps, Scarfs, Mitts and Ski Mitts, Outer Shirts, Parkas, Hooded Jackets, Coats and Hooded Coats, Jackets and Ski Jackets, Vests, Trousers, Slacks, Pants and Ski Pants, Pedal Pushers, Outer Shorts, Skirts, Culottes, Leotards, Tights, Knickers, Bloomers, Coveralls, Shifts, Knitwear Tops, Suits, Jumpsuits, Skimmers, Socks, After Ski Boots, Thermal Stretch Underpants and Undershirts, Dickies, Belts, and Pouches (Int. Cl. 25).
First use Mar. 1, 1925; at least 1912 in a different form.

Class 40—Fancy Goods, Furnishings, and Notions

SN 236,911. Mitchellace, Inc., Portsmouth, Ohio. Filed Jan. 20, 1966.

TRY-ME

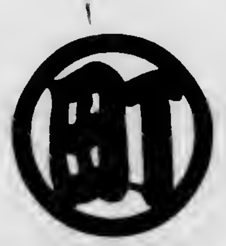
For Shoe Laces (Int. Cl. 26).
First use Jan. 2, 1942.

SN 266,843. Abbott Tresses, Inc., Pittsburgh, Pa. Filed Mar. 16, 1967.

CUORE

The Italian word "Cuore" in English means "heart."
For Wigs (Int. Cl. 26).
First use June 30, 1964.

SN 270,582. Komachiya Honten Co., Ltd., Taito-ku, Tokyo, Japan. Filed May 3, 1967.



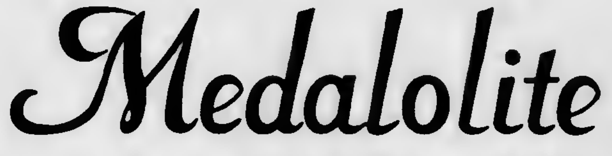
The Japanese Ideograph shown in a circle means "town," "village," or "neighborhood." The circle itself is a border.
For Wigs and Artificial Locks of Hair (Int. Cl. 26).
First use Mar. 1, 1925; in commerce Jan. 10, 1966.

SN 272,753. Scovill Manufacturing Company, Waterbury, Conn. Filed May 31, 1967.

WHIPPER-SNAPS

Owner of Reg. Nos. 347,023 and 379,520.
For Snap Fasteners (Int. Cl. 26).
First use May 1, 1967.

SN 278,000. Gold Medal Hair Products, Inc., Inwood, N.Y. Filed Aug. 10, 1967.



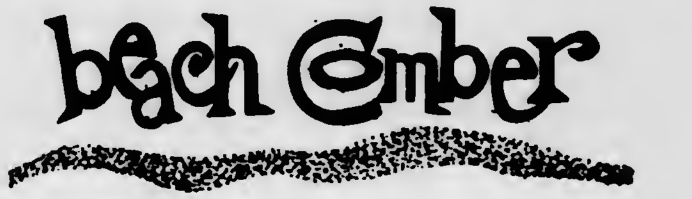
Owner of Reg. Nos. 441,765, 540,538, and 540,884.
For Hair Attachments, Made of Synthetic Fibers Such as Acetate—Namely, Switches, Wigs, and Toupees (Int. Cl. 26).
First use on or about Feb. 12, 1967.

SN 278,442. Foster Grant Co., Inc., Leominster, Mass. Filed Aug. 16, 1967.

BEACHCOMBER

For Combs (Int. Cl. 21).
First use in or about March 1967.

SN 278,443. Foster Grant Co., Inc., Leominster, Mass. Filed Aug. 16, 1967.



For Combs (Int. Cl. 21).
First use in or about March 1967.

SN 288,573. Fashion Tress, Inc., Miami Beach, Fla. Filed Jan. 11, 1968.

SWITCHERINA

For Ladies' Wigs, Wiglets, and Hairpieces (Int. Cl. 26).
First use Nov. 1, 1967.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 260,828. Dan River Mills, Incorporated, Danville, Va. Filed Dec. 15, 1966.

GABRADAN

For Woven Twilled Textile Fabrics in the Piece of Cotton or Synthetic Fibers or Any Combinations Thereof (Int. Cl. 24).
First use Oct. 20, 1960.

SN 263,298. J. P. Stevens & Co., Inc., New York, N.Y. Filed Jan. 25, 1967.

LUXURY-BLEND

For Sheets and Pillow Cases (Int. Cl. 24).
First use Dec. 30, 1966.

SN 270,924. Junior Gallery, Inc., New York, N.Y. Filed May 8, 1967.

JUNOTTO

For Fabrics for Making Into Garments, Such as Slacks, Coats, Suits, Blouses, and the Like (Int. Cl. 24).
First use Apr. 12, 1967.

SN 272,491. Jens Risom Design, Inc., New York, N.Y. Filed May 26, 1967.

LIGHT & SHADOW

For Textile Fabrics for Window Draperies (Int. Cl. 24).
First use Jan. 9, 1967.

SN 275,592. Lanvin-Charles of the Ritz, Inc., New York, N.Y. Filed July 10, 1967.

YVES SAINT LAURENT

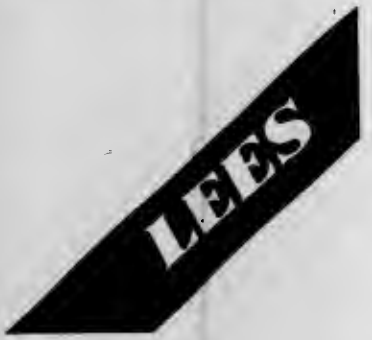
Owner of Reg. Nos. 766,417 and 767,211.
For Textile Fabrics in the Piece Suitable for Use by the Home Sewer for Dresses, Suits, Blouses, and Coats (Women's Wear Only), Such Fabrics Being Composed of Cotton and Synthetics or a Combination Thereof (Int. Cl. 24).
First use on or about Apr. 15, 1966.

SN 276,741. The Dobbie Industries Limited, Galt, Ontario, Canada. Filed July 25, 1967.

TEXAMA

For Carpeting (Int. Cl. 27).
First use July 8, 1955; in commerce Feb. 25, 1960.

SN 277,256. Burlington Industries, Bridgeport, Pa. Filed Aug. 1, 1967.



Owner of Reg. Nos. 574,195, 694,624, and others.
For Textile Carpets and Rugs (Int. Cl. 27).
First use Jan. 9, 1967.

SN 277,884. Burlington Industries, Inc., New York, N.Y. Filed Aug. 9, 1967.

KLONDIKE

Owner of Reg. No. 433,644.
For Textile Fabrics in the Piece Made of Synthetic and Cotton Fibers, or Combination Thereof (Int. Cl. 24).
First use Dec. 3, 1945.

SN 277,892. Dan River Mills, Incorporated, Danville, Va. Filed Aug. 9, 1967.

PRESIDIO

For Textile Fabrics in the Piece of Cotton or Synthetic Fibers, or Any Combinations Thereof (Int. Cl. 24).
First use July 14, 1967.

SN 278,433. J. P. Stevens & Co., Inc., New York, N.Y. Filed Aug. 16, 1967.

WASH EASE

For Piece Goods of One or More Natural Fibers Including Wool and Cotton, or Synthetic Fibers or Cellulosic Fibers, or Blends of the Foregoing (Int. Cl. 24).
First use Aug. 11, 1967.

SN 278,464. Chatham Manufacturing Company, Elkin, N.C. Filed Aug. 17, 1967.

SLUMBERSOFT

For Blankets (Int. Cl. 24).
First use May 27, 1967.

SN 278,465. Chatham Manufacturing Company, Elkin, N.C. Filed Aug. 17, 1967.

FUTURA

For Blankets (Int. Cl. 24).
First use Feb. 10, 1967.

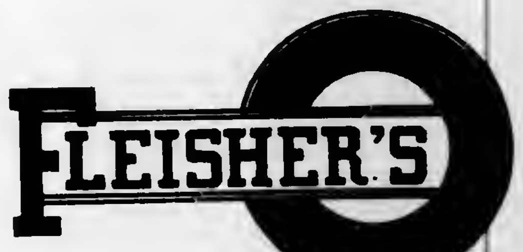
Class 43 — Thread and Yarn

SN 257,891. Roselon Yarns, Inc., Philadelphia, Pa. Filed Nov. 3, 1966.

MARVELON

Owner of Reg. No. 69,118.
For Textured Synthetic Yarns for Industrial Use (Int. Cl. 23).
First use Oct. 12, 1966.

SN 261,494. Indian Head Inc., New York, N.Y. Filed Dec. 27, 1966.



Owner of Reg. Nos. 282,624, 288,251, and 375,674.
For Worsted Yarns (Int. Cl. 23).
First use May 1, 1875.

SN 278,106. Imperial Chemical Industries Limited, Millbank, London, England. Filed Aug. 11, 1967.

TENDRELLE

Owner of British Reg. No. 886,217, dated Oct. 29, 1965.
For Knitting Yarns (Int. Cl. 23).

SN 278,431. Soo Valley Company, Columbia, S.C. Filed Aug. 16, 1967.

WONDERTHREAD

For Industrial Thread (Int. Cl. 23).
First use July 25, 1967.

Class 44 — Dental, Medical, and Surgical Appliances

SN 239,593. Clay-Adams, Inc., New York, N.Y. Filed Feb. 25, 1966.

AYRE CERVI-SCRAPER

The mark is the name of a living individual, Dr. J. Ernest Ayre, whose consent is of record.
For Spatula for Use in Collecting Animal Cellular Material (Int. Cl. 10).
First use on or about Mar. 12, 1963.

SN 265,383. American Cyanamid Company, Wayne, N.J. Filed Feb. 24, 1967.

VAB

For Surgical Binders (Int. Cl. 10).
First use Feb. 8, 1967.

SN 271,536. Simaplast, Inc., Yonkers, N.Y. Filed May 15, 1967.

MAMOPLAST

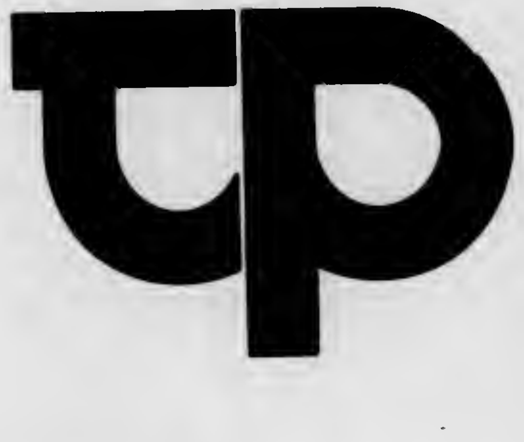
For Mammary Prostheses (Int. Cl. 10).
First use May 10, 1967.

SN 271,545. T. P. Laboratories, Inc., Westville, Ind. Filed May 15, 1967.

POSITRON

For Synthetic Plastic Products Used in the Mouth—Namely, Orthodontic Appliances, Mouth Protectors, Tooth Positioners, and Elastic Bands, Used in Dental and Orthodontic Treatment (Int. Cl. 10).
First use Apr. 20, 1967.

SN 271,735. T. P. Laboratories, Inc., Westville, Ind. Filed May 17, 1967.



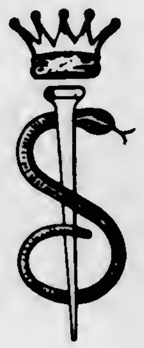
Owner of Reg. No. 712,203.
For Orthodontic Appliances To Be Used in the Mouth To Regulate the Positions of Teeth; and Orthodontic Supplies To Be Used by Orthodontists—Namely, Orthodontic Appliances, Containers for Orthodontic Appliances, Brackets, Lock Pins, Banding Material, Bands, Archwire, Preformed Archwires, Ligature Wire, Separation Maintainers, Buccal Tubes, Uprighting Springs, Separating Springs, Model Base Formers, Wire Forming and Cutting Tools, Plaster Spatulas, Tooth Positioners, Containers for Tooth Positioners, Mouth Protectors, Elastic Bands, and Containers for Elastic Bands (Int. Cl. 10).
First use Jan. 25, 1967.

SN 272,876. Unitek Corporation, Monrovia, Calif. Filed June 1, 1967.

DURESIL

For Wire for Orthodontic Appliances (Int. Cl. 10).
First use at least as early as May 5, 1967.

SN 274,429. KNY-Scheerer Corporation, New York, N.Y. Filed June 21, 1967.



Owner of Reg. No. 65,359.
For Surgical, Chirurgical, Medical, Diagnostic and Treatment Instruments and Apparatus for Use on or in Connection With the Body (Int. Cl. 10).
First use Dec. 1, 1889.

SN 274,725. Edwards Laboratories, Inc., Santa Ana, Calif. Filed June 26, 1967.

HYDRAGRIP

For Surgical Clamps, and Jaw Inserts for Surgical Clamps (Int. Cl. 10).
First use Oct. 31, 1966.

SN 274,726. Edwards Laboratories, Inc., Santa Ana, Calif. Filed June 26, 1967.

FOGARTY HYDRAGRIP

For Surgical Clamps, and Jaw Inserts for Surgical Clamps (Int. Cl. 10).
First use Oct. 31, 1966.

SN 274,749. Johnson & Johnson, New Brunswick, N.J. Filed June 26, 1967.

ORTHOFLEX

Owner of Reg. No. 196,666 and others.
For Elastic Plaster Bandages (Int. Cl. 10).
First use Apr. 28, 1967.

SN 286,974. National Patent Development Corporation, New York, N.Y. Filed Dec. 15, 1967.

SOFDENT 27

Owner of Reg. No. 820,844.
For Resilient Chairside Denture Liner (Int. Cl. 5).
First use Dec. 1, 1967.

Class 45 — Soft Drinks and Carbonated Waters

SN 265,271. Castle Products Company, Irvington, N.J. Filed Feb. 23, 1967.

CASPRO

For Non-Alcoholic Flavored Syrups for Making Cocktails, Grenadine Syrup for Making Alcoholic and Non-Alcoholic Drinks, and Flavored Syrups for Making Soft Drinks (Int. Cl. 32).
First use Jan. 3, 1935.

SN 265,603. B & L Sales Associates, d.b.a. Come on Strong Enterprises, Boston, Mass. Filed Feb. 28, 1967.

COME ON STRONG

For Soft Drinks (Int. Cl. 32).
First use at least as early as January 1966.

SN 278,913. Staff Supermarket Associated, Inc., Jericho, N.Y. Filed Aug. 23, 1967.

MINUET

Owner of Reg. No. 749,860.
For Canned Fruit Juice Drinks Containing Water (Int. Cl. 32).
First use Jan. 18, 1959.

Class 46—Foods and Ingredients of Foods

SN 237,808. Butler Wholesale Products, Inc., Adams, Mass. Filed Feb. 2, 1966.

GOOD CHOICE

For Canned Goods—Namely, Peas and Tomatoes (Int. Cl. 29).
First use 1936 or earlier.

SN 245,909. Ward Foods, Inc., New York, N.Y., assignee of Carnation Company, Los Angeles, Calif. Filed May 18, 1966.

CRÈME NORMANDY

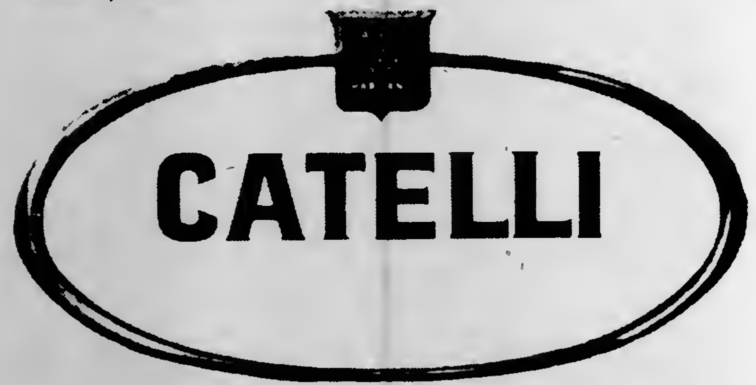
Applicant disclaims the word "Creme" apart from the mark as shown.
For Frozen Fruit Covered Cake (Int. Cl. 30).
First use Apr. 25, 1966.

SN 250,564. Corn Products Company, New York, N.Y. Filed July 19, 1966.

PENOBSCOT

For Fresh and Frozen Poultry, Fresh and Frozen Poultry Parts, and Frozen Processed Poultry Meat (Int. Cl. 29).
First use 1951.

SN 257,828. Catelli-Habitant, Inc., Manchester, N.H. Filed Nov. 3, 1966.



The word "Habitant" means "an inhabitant" in French.
For Soup Mixes, and Alimentary Pastes (Int. Cl. 30).
First use Sept. 2, 1966.

SN 258,075. Di Giorgio Corporation, d.b.a. Di Giorgio Fruit Corporation, San Francisco, Calif. Filed Nov. 7, 1966.

TEST RITE

Owner of Reg. No. 259,104.
For Fresh Potatoes (Int. Cl. 31).
First use June 1955.

SN 260,684. Spartans Industries, Inc., New York, N.Y. Filed Dec. 13, 1966.

KOR-VAL

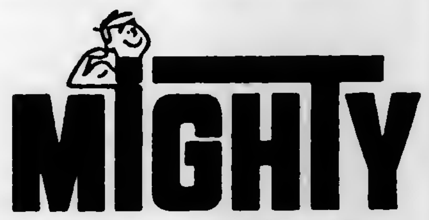
For Saccharin and Sweetener Liquids and Tablets (Int. Cl. 1).
First use 1957.

SN 261,359. Carnation Company, Los Angeles, Calif. Filed Dec. 23, 1966.

SWEET-MATE

Owner of Reg. No. 767,671.
For Sugar and Non-Nutritive Sweeteners (Int. Cls. 30 and 1).
First use Dec. 19, 1966.

SN 261,823. Fairmont Foods Company, d.b.a. Abbotts Dairies, Omaha, Nebr. Filed Jan. 3, 1967.



Owner of Reg. Nos. 809,373 and 822,048.
For Fluid Milk, Cottage Cheese; and Frozen Desserts—Namely, Ice Milk Bars (Int. Cls. 29 and 30).
First use Oct. 17, 1966.

SN 262,805. North Pacific Canners & Packers, Inc., Portland, Oreg. Filed Jan. 18, 1967.

DRIVE IN

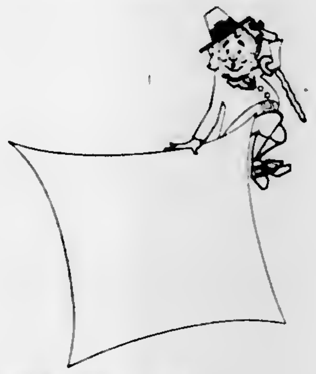
For Frozen French Fried Potatoes (Int. Cl. 29).
First use Aug. 31, 1966.

SN 262,951. Oscar Mayer & Co., Inc., Chicago, Ill. Filed Jan. 20, 1967.

ITALSALUMI

For Sliced Luncheon Meats (Int. Cl. 29).
First use Dec. 27, 1966.

SN 263,284. Ore-Ida Foods, Inc., Ontario, Oreg. Filed Jan. 25, 1967.



For Frozen Potatoes (Int. Cl. 29).
First use Jan. 3, 1967.

SN 263,635. Winn-Dixie Stores, Inc., Jacksonville, Fla. Filed Jan. 30, 1967.

CREOLE

Owner of Reg. No. 308,792.
For Bacon, Cheese, Rice, Macaroni, and Spaghetti (Int. Cls. 29 and 30).
First use September 1951 on bacon.

SN 263,662. Fraering Brokerage Co., Inc., New Orleans, La. Filed Jan. 31, 1967.

DUBON

Owner of Reg. Nos. 295,013 and 382,065.
For Frozen Asparagus, Frozen Beans, Frozen Broccoli, Frozen Brussel Sprouts, Frozen Turnip Greens, Frozen Sweet Potatoes, Frozen Fruit Pies, Frozen Cauliflower, Frozen Corn, Frozen Mustard Greens, Frozen Okra, Frozen Peas, Frozen Potatoes, Frozen Spinach, and Frozen Mixed Vegetables (Int. Cl. 29).
First use Jan. 26, 1967.

SN 264,700. Wessanen's Koninklijke Fabrieken N.V., Wormerveer, Netherlands. Filed Feb. 14, 1967.

WESSANEN

For Cocoa Powder (Int. Cl. 30).
First use January 1963; in commerce January 1963.

SN 265,795. Clover Club Foods Company, Kaysville, Utah. Filed Mar. 2, 1967.

GIDGETS

For Puffed Snack Products—Namely, Puffed Snacks Made From Potatoes (Int. Cl. 30).
First use Feb. 2, 1967.

SN 265,796. Clover Club Foods Company, Kaysville, Utah. Filed Mar. 2, 1967.

HAB-ITS

For Puffed Snack Products—Namely, Puffed Snacks Made From Corn (Int. Cl. 30).
First use Feb. 2, 1967.

SN 269,392. Amtraco Commodity Corporation, New York, N.Y. Filed Apr. 18, 1967.

ISEX

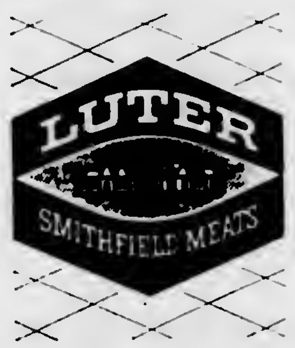
For Mixes for the Manufacture of Ice Cream and Frozen Desserts (Int. Cl. 30).
First use March 1966.

SN 270,570. Gerde Newman & Co., Inc., New Orleans, La. Filed May 3, 1967.

PROVENCE

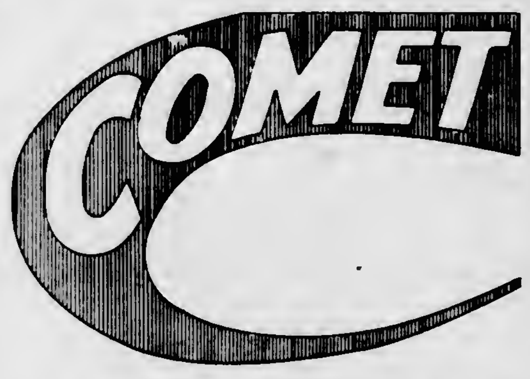
For Canned Fruits, Canned Vegetables, and Canned Fruit Juices (Int. Cls. 29 and 32).
First use Apr. 3, 1967.

SN 270,964. The Smithfield Packing Company, Incorporated, Smithfield, Va. Filed May 8, 1967.



The drawing is lined for yellow and red. Applicant disclaims the words "Smithfield Meats" apart from the mark as shown.
Owner of Reg. Nos. 549,134, 568,899, and others.
For Bacon, Sausage, Cured Ham, Lard, Cooked Ham, Pork Shoulder Butts, Pork Shoulder Picnics, Smoked Pork Backs, Bologna, Salami, Frankfurters, Pork Feet, Pork Hocks, Tankage, Chitterlings, Souse, Barbecue, Luncheon Meats, Knuckles, Bacon Squares, Jowls, Pork Loins, Briskets, Spare Ribs, and Tails (Int. Cl. 29).
First use Mar. 31, 1967.

SN 271,923. Comet Rice Mills, Inc., Dallas, Tex. Filed May 19, 1967.



The drawing is lined for red. Owner of Reg. Nos. 92,589, 806,431, and others.
For Rice (Int. Cl. 30).
First use Dec. 1, 1966.

SN 272,287. Losurdo & P.M.J., Inc., Moonachie, N.J. Filed May 24, 1967.

BEL-CAPRI

Owner of Reg. No. 813,104.
For Various Types of Cheeses; Canned Mushrooms, Tomatoes, and Tomato Puree; Canned Pizza Sauces; Alimentary Paste; Spices; Flour; Frozen Pizza Dough; Macaronis; Canned Ham; Fresh Frozen Meatballs and Prepared Meat Products (Int. Cls. 29 and 30).
First use Nov. 10, 1961.

SN 273,887. General Foods Corporation, White Plains, N.Y. Filed June 14, 1967.

SUGAR TWIST

The word "Sugar" is disclaimed apart from the mark as shown.
For Cereal Breakfast Food (Int. Cl. 30).
First use Apr. 21, 1967.

SN 274,178. Carnation Company, Los Angeles, Calif. Filed June 19, 1967.

1880

For Ice Cream (Int. Cl. 30).
First use at least as early as 1950.

SN 274,297. Anderson, Clayton & Co., Dallas, Tex. Filed June 20, 1967.

FLAVOR FLUFF

Applicant disclaims exclusive right to the word "Flavor" apart from the mark as shown.
For Vegetable Shortening (Int. Cl. 30).
First use Mar. 31, 1967.

SN 274,298. Anderson, Clayton & Co., Dallas, Tex. Filed June 20, 1967.

POTATO FLUFF

For Vegetable Shortening (Int. Cl. 30).
First use Mar. 31, 1967.

SN 276,187. Thomas Candy Corporation, Lufkin, Tex. Filed July 17, 1967.

FRESH-ETTE

For Candy (Int. Cl. 30).
First use November 1966.

SN 278,871. Carnation Company, Los Angeles, Calif. Filed Aug. 23, 1967.

GREAT FORM

For Fortified Milk Powder (Int. Cl. 29).
First use July 27, 1967.

SN 284,540. General Mills, Inc., Minneapolis, Minn. Filed Nov. 13, 1967.

COLA MATES

For Cereal Derived Snack Product (Int. Cl. 30).
First use on or prior to Jan. 9, 1967.

SN 284,543. General Mills, Inc., Minneapolis, Minn. Filed Nov. 13, 1967.

P-NUTSHELLS

For Cereal Derived Snack Product (Int. Cl. 30).
First use on or prior to Jan. 9, 1967.

SN 284,866. General Mills, Inc., Minneapolis, Minn. Filed Nov. 15, 1967.

COLA BUDDIES

For Cereal Derived Snack Product (Int. Cl. 30).
First use on or prior to Jan. 9, 1967.

SN 284,867. General Mills, Inc., Minneapolis, Minn. Filed Nov. 15, 1967.

PARASOLS

For Cereal Derived Snack Product (Int. Cl. 30).
First use on or prior to Jan. 9, 1967.

SN 284,868. General Mills, Inc., Minneapolis, Minn. Filed Nov. 15, 1967.

STEINS

For Cereal Derived Snack Product (Int. Cl. 30).
First use on or prior to Jan. 9, 1967.

SN 284,869. General Mills, Inc., Minneapolis, Minn. Filed Nov. 15, 1967.

POOH SNACKS

The word "Snacks" is disclaimed apart from the mark as shown.
For Cereal Derived Snack Product (Int. Cl. 30).
First use on or prior to Jan. 9, 1967.

SN 284,872. General Mills, Inc., Minneapolis, Minn. Filed Nov. 15, 1967.

SKIFFS

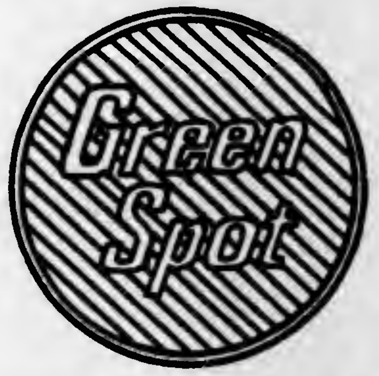
For Cereal Derived Snack Product (Int. Cl. 30).
First use on or prior to Jan. 9, 1967.

SN 284,873. General Mills, Inc., Minneapolis, Minn. Filed Nov. 15, 1967.

DOGS & CATS

For Cereal Derived Snack Product (Int. Cl. 30).
First use on or prior to Jan. 9, 1967.

SN 288,257. Capitol Food Industries, Inc., d.b.a. Green Spot Co., Chicago, Ill. Filed Jan. 8, 1968.



The drawing is lined for green. Owner of Reg. No. 828,263.
For Nutritionally Balanced Food in Powder Form To Be Mixed With Milk and Used as a Breakfast Meal or as a Snack Food (Int. Cl. 30).
First use on or before Sept. 8, 1967.

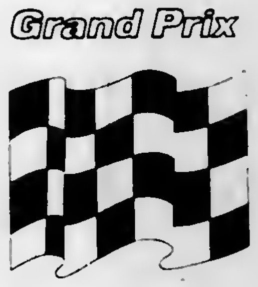
Class 47 — Wines

SN 265,218. Societa per Azioni Chianti Ruffino Esportazione Vinicola Toscana, d.b.a. I. L. Ruffino, Corsica, Brescia, Italy. Filed Feb. 21, 1967.

DEL MAGNIFICO

The English translation of "Del Magnifico" is "the magnificent."
For Wine (Int. Cl. 33).
First use Jan. 17, 1967.

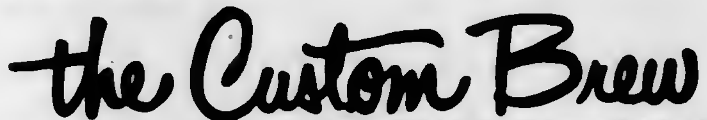
SN 277,582. Michigan Wineries, Inc., Paw Paw, Mich. Filed July 6, 1967.



For Wine (Int. Cl. 33).
First use June 27, 1967.

Class 48 — Malt Beverages and Liquors

SN 236,135. Meister Brau, Inc., Chicago, Ill., by change of name from Peter Hand Brewery Company, Chicago, Ill. Filed Jan. 10, 1966.



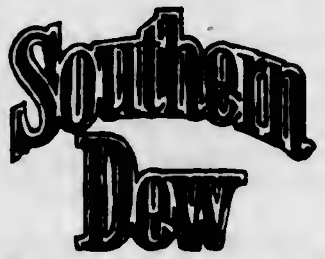
No claim is made to the word "Brew" apart from the mark as a whole.
For Beer (Int. Cl. 32).
First use Jan. 13, 1958.

Class 49 — Distilled Alcoholic Liquors

SN 254,800. Przedsiebiorstwo Handlu Zagranicznego "Argos," Warsaw, Poland. Filed Sept. 20, 1966.

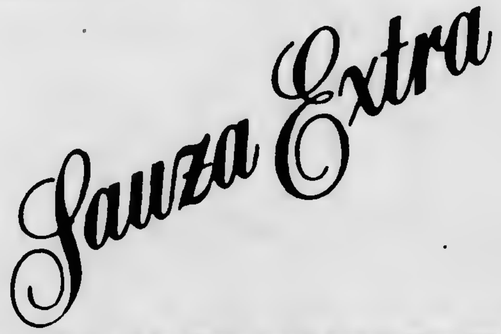
Priority claimed under Sec. 44(d) on Polish Reg. No. 45,610, dated Mar. 24, 1946. The wording appearing on the design sought to be registered herein is translated as follows: The Polish words "Wodka Wyborowa" translated into English mean "selected vodka"; "Pur Grain" mean "pure grain"; "Production Polonaise" mean "Produce of Poland." Applicant disclaims the words "Wodka Wyborowa, Pur Grain, Produce of Poland, and Production Polonaise" when used separately and apart from the mark. Owner of U.S. Reg. Nos. 757,016, 828,311, and others.
For Vodka (Int. Cl. 33).

SN 272,296. Old Boone Distillery Co., Louisville, Ky. Filed May 24, 1967.



Applicant makes no claim to the word "Dew" apart from the mark as shown.
For Corn Whiskey (Int. Cl. 33).
First use Apr. 12, 1967.

SN 272,365. Destileria de Tequila Sauza, S.A., Guadalajara, Jalisco, Mexico. Filed May 25, 1967.



The word "Extra" is disclaimed apart from the mark as shown. Owner of U.S. Reg. No. 314,543.
For Tequila (Int. Cl. 3).
First use Oct. 31, 1934; in commerce June 22, 1943.

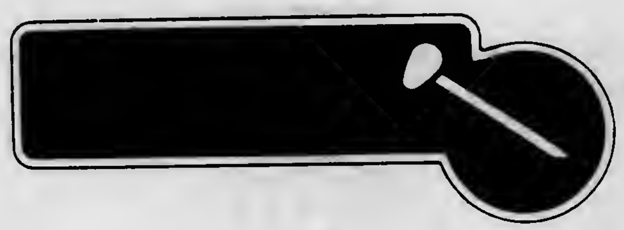
SN 283,300. Jas. Barclay & Co. Limited, Peoria, Ill. Filed Oct. 25, 1967.

WESTWOOD

For Bourbon Whiskey (Int. Cl. 33).
First use July 27, 1967.

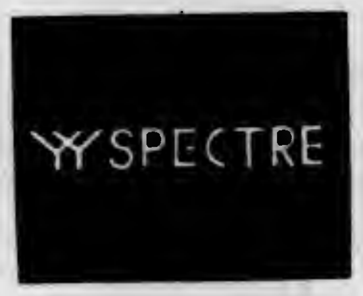
Class 50 — Merchandise Not Otherwise Classified

SN 242,633. The National Golden Spike Society, Corrine, Utah. Filed Apr. 4, 1966.



For Ceramic Figurines and Wall Palques (Int. Cl. 21).
First use on or about May 15, 1961.

SN 265,006. Yamano Sangyo Co., Ltd., Tennoji-ku, Osaka, Japan. Filed Jan. 24, 1968.



For Paper Party Poppers (Int. Cl. 16).
First use Sept. 5, 1963; in commerce Sept. 5, 1963.

SN 271,650. Shrier Enterprises, Inc., Los Angeles, Calif. Filed May 16, 1967.

STYLE-DYLE

For Decorated Plastic Telephone Dials Which Are Affixed to Telephones (Int. Cl. 20).
First use Oct. 15, 1966.

SN 272,597. Educational Equipment Corporation, Kent, Ohio. Filed May 29, 1967.

VIT-COR

For Steel Chalkboard (Int. Cl. 16).
First use on or about Feb. 1, 1967.

SN 279,944. Heider Manufacturing Co., Carroll, Iowa. Filed Sept. 8, 1967.

HEIDER

For Ladders and Ladder Jacks and Including Step Ladders, Straight Ladders, Extension Ladders, Sectional Ladders, and Trestles Without Limitation (Int. Cl. 20).
First use May 1, 1905.

Class 51 — Cosmetics and Toilet Preparations

SN 246,453. Clairol Incorporated, New York, N.Y. Filed May 24, 1966.

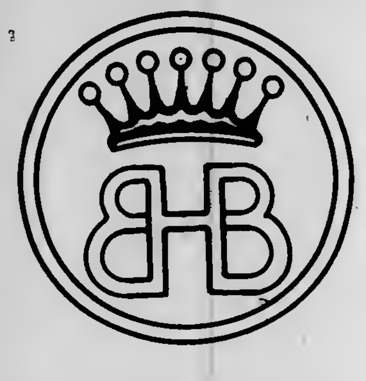
ALL IT TAKES IS A MINUTE FROM YOU. AND A LITTLE KINDNESS FROM CLAIROL

Applicant disclaims the words "All It Takes Is a Minute" apart from the mark as shown. Owner of Reg. No. 819,240.

For Cosmetic and Toilet Preparations—Namely, a Hair Conditioner (Int. Cl. 3).

First use July 2, 1965.

SN 252,807. Beautymasters, Inc., Detroit, Mich. Filed Aug. 22, 1966.



Owner of Reg. No. 509,745.

For Cologne; Foundation, Cleansing, Dry Skin, Complexion, Vanishing, and Hand Creams; Hair Conditioning, Face, Hand, Body, and Eye Lotions; Foundation and Make-Up Liquids; Skin Conditioning and Bath Oils; and Skin Bracer (Int. Cl. 3).

First use July 11, 1951.

SN 254,118. Clairol Incorporated, New York, N.Y. Filed Sept. 9, 1966.

SUNSET LIGHT

Applicant disclaims the word "Light" apart from the mark as shown.

For Hair Lightener (Int. Cl. 3).

First use July 8, 1966.

SN 254,124. Clairol Incorporated, New York, N.Y. Filed Sept. 9, 1966.

SUNSET BLONDE

Applicant disclaims the word "Blonde" apart from the mark as shown.

For Hair Lightener (Int. Cl. 3).

First use July 8, 1966.

SN 258,065. Clairol Incorporated, New York, N.Y. Filed Nov. 7, 1966.

SAND DUNE BEIGE

Applicant disclaims rights in the word "Beige" apart from the mark as shown.

For Hair Tinting, Dyeing, and Coloring Preparation (Int. Cl. 3).

First use Aug. 11, 1966.

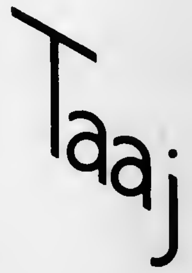
SN 259,040. Yardley of London, Inc., Totowa, N.J. Filed Nov. 18, 1966.

REVERSE ENGLISH

For After Shave Lotion, After Shower Powder, Men's Cologne, Pressed Powder, Lipstick, and Foundation (Int. Cl. 3).

First use Nov. 9, 1966.

SN 260,277. Basil Proll, Jr., d.b.a. Taaj Company, San Francisco, Calif. Filed Dec. 7, 1966.



For Manicure Preparations (Int. Cl. 3).

First use June 20, 1931.

SN 261,309. Robert James Lappe, d.b.a. Nu-Nails, Chicago, Ill. Filed Dec. 22, 1966.

SAV-A-NAIL

For Protective Coating Composition Applied to Nails and Surrounding Tissue (Int. Cl. 3).

First use Dec. 6, 1966.

SN 262,213. Stendhal, Paris, France. Filed Jan. 9, 1967.

The mark is French for "bath of Armance." Owner of French Reg. No. 709,661, dated Feb. 1, 1966.

BAIN D'ARMANCE

For Creams and Lotions for the Skin, Salts and Bubble Bath, and Toothpaste (Int. Cl. 3).

SN 262,214. Stendhal, Paris, France. Filed Jan. 9, 1967. Owner of French Reg. No. 706,849, dated Mar. 31, 1966.

SANSEVERINA

For Creams and Lotions for the Skin, Salts and Bubble Bath, and Toothpaste (Int. Cl. 3).

SN 266,066. Noxell Corporation, Baltimore, Md. Filed Mar. 6, 1967.

COVER GIRL

Owner of Reg. Nos. 420,030, 404,783, and others.

For Facial Cleansing Creams (Int. Cl. 3).

First use Feb. 10, 1967.

SN 270,251. Humphreys Medicine Company, Incorporated, Rutherford, N.J. Filed Apr. 28, 1967.

TANELL

For Sun Tan Lotions and Gels (Int. Cl. 3).

First use Jan. 31, 1967.

SN 270,553. Clairol Incorporated, New York, N.Y. Filed May 3, 1967.

LOVING CARE

Owner of Reg. Nos. 707,290, 837,639, and others.

For Face Powder and Lipstick (Int. Cl. 3).

First use Dec. 19, 1966.

Class 52 — Detergents and Soaps

SN 258,040. Calgon Corporation, Pittsburgh, Pa. Filed Nov. 7, 1966.

LOTION GLO

For General Purpose Detergent in Liquid Form (Int. Cl. 3).

First use Oct. 17, 1966.

SN 272,466. Harry Benet, d.b.a. Ramel Products, Norwood, Ohio. Filed May 26, 1967.

SOFAC

For Soap Externally Used on Skin Blemishes, Including Acne, Pimples, and Blackheads (Int. Cl. 3).

First use on or about Dec. 1, 1953.

SN 277,046. Helene Curtis Industries, Inc., Chicago, Ill. Filed July 28, 1967.

GRAND PRIZE

Owner of Reg. Nos. 648,678 and 834,870.

For Hair Shampoo Concentrate (Int. Cl. 3).

First use on or about Jan. 7, 1966.

SN 277,323. Walter G. Legge Company, Inc., New York, N.Y. Filed July 21, 1967.

LEGPHENE

For Germicidal Cleaner for Use on Floors, Walls, and Furniture (Int. Cl. 3).

First use June 15, 1967.

SN 277,481. The Sinclair Manufacturing Company, Toledo, Ohio. Filed Aug. 3, 1967.

JULIE

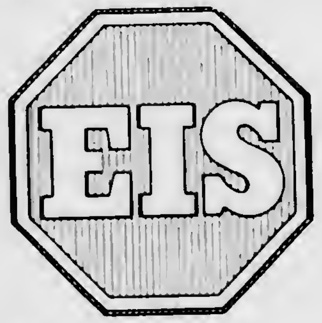
For Liquid Detergent for Household Use (Int. Cl. 3).

First use June 9, 1967.

SERVICE MARKS

Class 100 — Miscellaneous

SN 288,053. Emergency Identification Service, Inc., Long Beach, Calif. Filed Jan. 4, 1968.



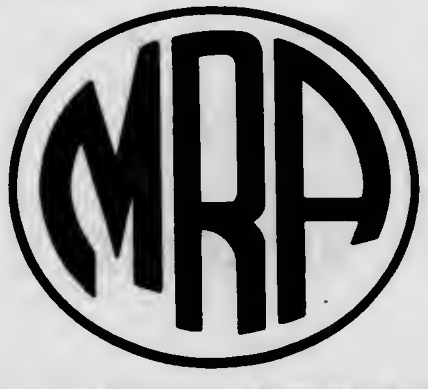
The drawing is lined for the color red.

For Personal Emergency Information Services and Related Activities Including Providing Personal Identification Materials, and Receiving, Recording, Maintaining and Telephonically Supplying Personal Identification and Emergency Data (Int. Cl. 42).

First use at least as early as Jan. 4, 1967.

Class 101 — Advertising and Business

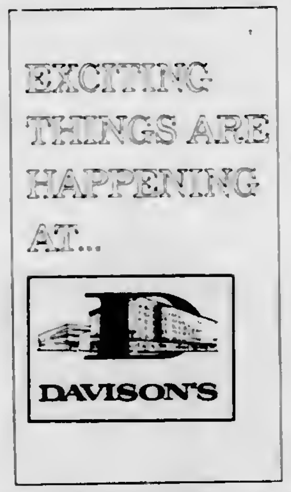
SN 256,758. Marketing-Research Associates, Hopkins, Minn. Filed Oct. 19, 1966.



For Promoting the Business of Newspapers by Means of a Bingo-Type Game Placed in Said Newspapers (Int. Cl. 35).

First use Dec. 15, 1964.

SN 263,397. R. H. Macy & Co., Inc., d.b.a. Davison-Paxon Co., New York, N.Y. Filed Jan. 26, 1967.



For Department Store Services (Int. Cl. 35).

First use Sept. 15, 1966.

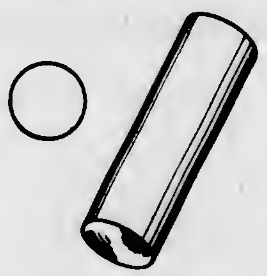
SN 266,767. Industrial Data Processing, Inc., Bloomfield Hills, Mich. Filed Mar. 15, 1967.

JOBFAX

For Data Processing Services (Int. Cl. 35).

First use September 1964.

SN 267,279. John Wrage Employment Service, Inc., Madison, Wis. Filed Mar. 21, 1967.



The mark consists in the representation of a round peg and a circular perforation, the latter being represented on the drawing by the outline of a circle.

For Employment Agency Services (Int. Cl. 35).

First use Oct. 1, 1964.

SN 268,614. Tandy Corporation, Fort Worth, Tex., assignee of Radio Shack Corporation, Boston, Mass. Filed Apr. 7, 1967.

THE SHACK

Owner of Reg. Nos. 679,519, 796,908, and others.

For Retail Department Store Services and Mail Order Retail Services Including Services Specializing in Radio and Sound Reproduction Equipment, Electrical and Electronic Devices and Instruments, Mechanical Devices, Tools, and Other Hardware (Int. Cl. 35).

First use Mar. 20, 1967.

SN 280,678. Weiss Litho Corp., New York, N.Y. Filed Sept. 19, 1967.

MR. LITHO

For Custom Printing Services (Int. Cl. 35).

First use Aug. 14, 1964.

Class 102 — Insurance and Financial

SN 255,666. White System, Inc., Metairie, La. Filed Oct. 3, 1966.

WHITE SYSTEM

The word "System" is disclaimed apart from the mark as shown.

For Personal Loan Services (Int. Cl. 36).

First use Apr. 1, 1931.

Class 103 — Construction and Repair

SN 287,501. Aamco Automatic Transmissions, Inc., King of Prussia, Pa. Filed Dec. 26, 1967.

AAMCO

Owner of Reg. No. 803,605.

For Automobile Repair Services (Int. Cl. 37).

First use at least as early as Dec. 17, 1958.

Class 104 — Communication

SN 271,628. Larus & Brother Company, d.b.a. Radio Station WRVA, Richmond, Va. Filed May 16, 1967.

THE VOICE OF VIRGINIA

For Radio Broadcasting Services (Int. Cl. 38).

First use at least as early as 1950.

Class 105 — Transportation and Storage

SN 233,053. Auto Driveaway Company, Chicago, Ill. Filed Nov. 22, 1965.

AUTO DRIVEAWAY

The words "Auto Driveaway" are disclaimed apart from the mark as shown.

For Supplying Drivers To Drive Automobiles From Location to Location (Int. Cl. 39).

First use Sept. 1, 1965.

SN 233,953. Southern Railway Company, Richmond, Va. Filed Dec. 3, 1965.

BIG BOY

For Railroad Freight Transportation Services (Int. Cl. 39).

First use April 1963.

Class 106 — Material Treatment

SN 263,676. Lubrication Sciences, Inc., Mountain View, Calif. Filed Jan. 31, 1967.

DICRONITE

Owner of Reg. No. 839,865.

For Material Treatment Service Providing a Lubricative Coating on Bearing Surfaces (Int. Cl. 40).

First use Dec. 16, 1964.

Class 107 — Education and Entertainment

SN 245,277. Kepner-Tregoe and Associates, Inc., Princeton, N.J. Filed May 10, 1966.

APEX

For Educational Services—Namely, Conducting Management Training Courses (Int. Cl. 41).

First use in or about June 1958.

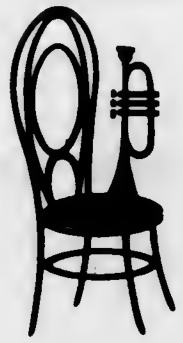
SN 255,639. Ocean World, Inc., Fort Lauderdale, Fla. Filed Oct. 3, 1966.

OCEAN WORLD

For Entertainment in the Form of an Aquarium Show Featuring Such Attractions as Trained Porpoises and Underwater Viewing of Sea Life (Int. Cl. 41).

First use July 3, 1965.

SN 260,563. Monterey Jazz Festival, Inc., Monterey, Calif. Filed Dec. 12, 1966.



For Periodically Organizing and Producing Public Concerts, Music Festivals and Jam Sessions in Which Artists and Subscribers Participate (Int. Cl. 41).

First use May 1958.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

846,851. MISCELLANEOUS DESIGN. Combustion Engineering, Inc., assignee of G. E. Smith, Inc. MULTIPLE CLASS (Classes 1, 5, and 23). SN 223,482. Pub. 1–16–68. Filed 7–16–65.

846,852. ELASTOTHERM. Phillips Petroleum Company, assignee of American Renolit Corporation. SN 227,740. Pub. 1–16–68. Filed 9–14–65.

846,853. GLIDDEN AND DESIGN. SCM Corporation, assignee of The Glidden Company. SN 251,915. Pub. 1–16–68. Filed 8–8–66.

846,854. MELMADE. Pro-phy-lac-tic Brush Company. SN 253,681. Pub. 1–16–68. Filed 9–1–66.

846,855. HOW-VAC. Howmet Corporation. SN 255,206. Pub. 1–16–68. Filed 9–27–66.

846,856. PICCO AND DESIGN. Pennsylvania Industrial Chemical Corporation. SN 261,675. Pub. 1–16–68. Filed 12–29–66.

846,857. BLEND "70." The O. M. Scott & Sons Company. SN 267,771. Pub. 1–16–68. Filed 3–28–67.

846,858. BLEND SEVENTY. The O. M. Scott & Sons Company. SN 267,772. Pub. 1–16–68. Filed 3–28–67.

846,859. RZ–2. Owens-Illinois, Inc. SN 269,206. Pub. 1–16–68. Filed 4–14–67.

846,860. SHIELD DESIGN (WITH LINES). Tenneco Inc. MULTIPLE CLASS (Classes 1, 2, 4, 5, 6, 10, 11, 12, 15, 16, 18, 20, 23, 26, 37, 46, 50, 52, 100, 103, and 105). SN 273,344. Pub. 1–16–68. Filed 6–8–67.

846,861. SHIELD DESIGN (COLOR). Tenneco Inc. MULTIPLE CLASS (Classes 1, 2, 4, 5, 6, 10, 11, 12, 15, 16, 18, 20, 23, 26, 37, 46, 50, 52, 100, 103, and 105). SN 273,349. Pub. 1–16–68. Filed 6–8–67.

846,862. KITTY LAWN. James B. Franksen, d.b.a. Kitty Lawn. SN 280,312. Pub. 1–16–68. Filed 9–14–67.

846,863. BARRETT-TAN. Barrett & Company, Inc. SN 284,421. Pub. 1–16–68. Filed 11–9–67.

Class 2 — Receptacles

846,860. (See Class 1 for this trademark.)

846,861. (See Class 1 for this trademark.)

846,864. MELMADE. Pro-phy-lac-tic Brush Company. SN 250,997. Pub. 1–16–68. Filed 7–25–66.

846,865. CHEM CORE. International Paper Company. SN 253,651. Pub. 1–16–68. Filed 9–1–66.

846,866. POLYMOBILE. Plastics, Inc. SN 266,087. Pub. 1–16–68. Filed 3–6–67.

846,867. HEDTAINER. Hedwin Corporation. SN 270,680. Pub. 1–16–68. Filed 5–4–67.

846,868. TUFGUARD. The Cornelius Company. SN 271,132. Pub. 1–16–68. Filed 5–10–67.

846,869. KEMPRO AND DESIGN. Kemp Products Inc. SN 274,328. Pub. 1–16–68. Filed 6–20–67.

846,870. VIVOSTAT. The British Oxygen Company Limited. SN 274,585. Pub. 1–16–68. Filed 6–23–67.

846,871. JETVAN. Jet Forwarding Inc. SN 274,747. Pub. 1–16–68. Filed 6–26–67.

846,872. REINDEER. Union Camp Corporation. SN 274,790. Pub. 1–16–68. Filed 6–26–67.

846,873. GLAMOUR-PAK. Package Products Company, Inc. SN 274,887. Pub. 1–16–68. Filed 6–27–67.

846,874. DURA-TEK. Stainless Products Corporation. SN 274,995. Pub. 1–16–68. Filed 6–28–67.

846,875. MISCELLANEOUS DESIGN. Overton Container Corporation. SN 283,754. Pub. 1–16–68. Filed 10–31–67.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

846,876. SUN & TOTE. Acme Quilting Company, Inc. SN 269,491. Pub. 1–16–68. Filed 4–19–67.

Class 4 — Abrasives and Polishing Materials

846,860. (See Class 1 for this trademark.)

846,861. (See Class 1 for this trademark.)

846,877. JET-BRASIVE. Gifford-Hill & Company, Inc. SN 244,901. Pub. 1–16–68. Filed 5–4–66.

846,878. WITH LEMON OIL AND DESIGN. The Drackett Company. SN 266,018. Pub. 1–16–68. Filed 3–6–67.

846,879. SMOOTH. Simoniz Company. SN 269,696. Pub. 1–16–68. Filed 4–20–67.

Class 5 — Adhesives

846,851. (See Class 1 for this trademark.)

846,860. (See Class 1 for this trademark.)

846,861. (See Class 1 for this trademark.)

846,880. CERAFIX. Unibond Limited. SN 268,631. Pub. 1–16–68. Filed 4–7–67.

Class 6 — Chemicals and Chemical Compositions

846,860. (See Class 1 for this trademark.)

846,861. (See Class 1 for this trademark.)

846,881. HEALTH CROSS AND DESIGN. White Cross Stores, Inc. SN 249,272. Pub. 1–16–68. Filed 6–29–66.

846,882. CORROSION BATTLER. Clearkin Chemical Corporation, assignee of Alphonsus J. Clearkin, d.b.a. Clearkin Chemical Company. SN 250,548. Pub. 1–16–68. Filed 7–18–66.

846,883. ROTAFOAM. Schramm, Inc. SN 252,765. Pub. 1–16–68. Filed 8–19–66.

846,884. R-M AND DESIGN. Interchemical Corporation. SN 253,881. Pub. 1–16–68. Filed 9–6–66.

846,885. DESICAL. Basic Incorporated. SN 256,193. Pub. 1–16–68. Filed 10–11–66.

846,886. DESIMAG. Basic Incorporated. SN 256,814. Pub. 1–16–68. Filed 10–20–66.

846,887. SERICRON. Chas. Pfizer & Co., Inc. SN 259,958. Pub. 1–16–68. Filed 12–2–66.

846,888. CHEMTIN. Burns & Towne, Inc. SN 262,682. Pub. 1–16–68. Filed 1–17–67.

846,889. BUG A GOGO. Candle-Lite, Inc. SN 263,349. Pub. 1–16–68. Filed 1–26–67.

846,890. SEPTANOL. Ciba Corporation, d.b.a. The Gland-O-Lac Company. SN 265,173. Pub. 1–16–68. Filed 2–21–67.

846,891. S (DESIGN). The Firestone Tire & Rubber Company. SN 266,211. Pub. 1–16–68. Filed 3–8–67.

846,892. EKTASOLVE. Eastman Kodak Company. SN 271,695. Pub. 1–16–68. Filed 5–17–67.

846,893. EMBEDDOL. Hartman-Leddon Company, Inc. SN 271,792. Pub. 1–16–68. Filed 5–18–67.

846,894. OMNIFLUOR. Pilot Chemicals, Inc. SN 271,958. Pub. 1–16–68. Filed 5–19–67.

846,895. MINISTRIP. Shell Oil Company. SN 271,967. Pub. 1–16–68. Filed 5–19–67.

846,896. TIP-TOP. Continental Oil Company. SN 272,023. Pub. 1–16–68. Filed 5–22–67.

846,897. PYROFAX. Pyrofax Gas Corporation. SN 272,090. Pub. 1–16–68. Filed 5–22–67.

846,898. CYQUEST. American Cyanamid Company. SN 272,460. Pub. 1–16–68. Filed 5–26–67.

846,899. PROTASIL. Protasil Limited. SN 274,236. Pub. 1–16–68. Filed 6–19–67.

846,900. EASY-OFF. American Home Products Corporation. SN 278,446. Pub. 1–16–68. Filed 8–17–67.

846,901. HOME SAFE. American Home Products Corporation. SN 279,134. Pub. 1–16–68. Filed 8–28–67.

846,902. DUAL-ACTION. Minnesota Mining and Manufacturing Company. SN 281,013. Pub. 1–16–68. Filed 9–25–67.

846,903. CHARG-A-CAR. Virginia Chemicals Inc. SN 281,664. Pub. 1–16–68. Filed 10–3–67.

846,904. HI-ZINC. Virginia Chemicals Inc. SN 283,180. Pub. 1–16–68. Filed 10–23–67.

846,905. SODYECRON. Martin Marietta Corporation. SN 284,279. Pub. 1–16–68. Filed 11–7–67.

846,906. ECONOZYME. Chas. Pfizer & Co., Inc. SN 284,280. Pub. 1–16–68. Filed 11–7–67.

846,907. LONDAX. E. I. du Pont de Nemours and Company. SN 284,787. Pub. 1–16–68. Filed 11–14–67.

Class 8 — Smokers' Articles, Not Including Tobacco Products

846,908. WEBER. Weber Briars, Inc. SN 276,779. Pub. 1–16–68. Filed 7–25–67.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

846,909. SPEN-C-N. Gulf Oil Corporation. SN 234,897. Pub. 1–16–68. Filed 12–20–65.

846,910. FULTON. The Marlin Firearms Company. SN 255,105. Pub. 1–16–68. Filed 9–26–66.

Class 10 — Fertilizers

846,860. (See Class 1 for this trademark.)

846,861. (See Class 1 for this trademark.)

846,911. APPLE RIVER AND DESIGN. Apple River Chemical Company. SN 281,937. Pub. 1–16–68. Filed 10–6–67.

846,912. AQUA-THIN. Circle Research Laboratories, Inc. SN 282,323. Pub. 1–16–68. Filed 10–12–67.

Class 11 — Inks and Inking Materials

846,860. (See Class 1 for this trademark.)

846,861. (See Class 1 for this trademark.)

846,913. TIGRESS AND DESIGN. American Stencil Mfg. Co. SN 262,112. Pub. 1–16–68. Filed 1–9–67.

Class 12 — Construction Materials

846,860. (See Class 1 for this trademark.)

846,861. (See Class 1 for this trademark.)

846,914. VALLEY. Valmont Industries, Inc., by change of name from Valley Manufacturing Company. MULTIPLE CLASS (Classes 12, 13, and 23). SN 248,384. Pub. 1–16–68. Filed 6–20–66.

846,915. VALMONT. Valmont Industries, Inc., by change of name from Valley Manufacturing Company. MULTIPLE CLASS (Classes 12, 13, and 23). SN 248,561. Pub. 1–16–68. Filed 6–20–66.

846,916. SUPER ATTIC FILL. The Wickes Corporation. SN 251,166. Pub. 1–16–68. Filed 7–27–66.

846,917. PTI AND DESIGN. Protective Treatments, Inc. SN 255,122. Pub. 1–16–68. Filed 9–26–66.

846,918. MORR-AZZO. Morris Paint & Varnish Co. SN 264,079. Pub. 1–16–68. Filed 2–6–67.

846,919. STAIR BUILDER. American Stair Corporation. SN 266,989. Pub. 1–16–68. Filed 3–17–67.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

846,914. (See Class 12 for this trademark.)

846,915. (See Class 12 for this trademark.)

846,920. MISCELLANEOUS DESIGN. Magic Eye Associates, Inc. SN 262,597. Pub. 1–16–68. Filed 1–16–67.

846,921. MAGIC EYE. Magic Eye Associates, Inc. SN 262,598. Pub. 1–16–68. Filed 1–16–67.

846,922. CARDINAL FENCE AND DESIGN. Allied Industries, Inc. SN 264,491. Pub. 1–16–68. Filed 2–13–67.

Class 14 — Metals and Metal Castings and Forgings

846,923. WKE–4. Fagersta Steels, Inc. MULTIPLE CLASS (Classes 14 and 23). SN 247,014. Pub. 1–16–68. Filed 6–1–66.

846,924. GLIDDEN (IN OVAL DESIGN). SCM Corporation, assignee of The Glidden Company. SN 250,475. Pub. 1–16–68. Filed 7–18–66.

846,925. TRIFOIL. Tri-Point Industries, Inc. SN 263,966. Pub. 1–16–68. Filed 2–3–67.

846,926. ARTRA AND DESIGN. Artra Foundry, Inc. SN 268,689. Pub. 1–16–68. Filed 4–10–67.

846,927. VIRDUST. Virginia Chemicals Inc. SN 275,712. Pub. 1–16–68. Filed 7–10–67.

846,928. SEMIDUCT. The Weinman Pump Manufacturing Company. SN 283,496. Pub. 1–16–68. Filed 10–27–67.

Class 15 — Oils and Greases

846,860. (See Class 1 for this trademark.)

846,861. (See Class 1 for this trademark.)

846,929. GRAPHSLICK. J. L. Prescott Company. SN 241,369. Pub. 1–16–68. Filed 3–18–66.

846,930. TI AND DESIGN. Tenaxol, Incorporated. SN 275,398. Pub. 1–16–68. Filed 7–5–67.

Class 16 — Protective and Decorative Coatings

846,860. (See Class 1 for this trademark.)

846,861. (See Class 1 for this trademark.)

846,931. DIMENSION. Dimension Chemical Manufacturing Corp. SN 252,550. Pub. 1–16–68. Filed 8–17–66.

846,932. FLOOR-MOST. Hadco Corporation. SN 252,568. Pub. 1–16–68. Filed 8–17–66.

846,933. PROGRAM. Hadco Corporation. SN 252,569. Pub. 1–16–68. Filed 8–17–66.

846,934. FOTO FINISH. Hadco Corporation. SN 252,571. Pub. 1–16–68. Filed 8–17–66.

846,935. SKYBRITE. The Flintkote Company. SN 253,516. Pub. 1–16–68. Filed 8–31–66.

846,936. REXKOTE-SPECTRA. The Flintkote Company. SN 253,519. Pub. 1–16–68. Filed 8–31–66.

846,937. TEXTURE-TONE. Milton Bradley Company. SN 268,147. Pub. 1–16–68. Filed 4–3–67.

Class 17 — Tobacco Products

846,938. PURO THRESH. Rothmans of Pall Mall Limited. SN 261,232. Pub. 1–16–68. Filed 12–21–66.

846,939. TWEENIES. Rothmans of Pall Mall Limited. SN 266,462. Pub. 1–16–68. Filed 3–10–67.

846,940. HAPPY DAYS. United States Tobacco Company. SN 266,951. Pub. 1–16–68. Filed 3–16–67.

846,941. SKYLINE. Olin Mathieson Chemical Corporation. SN 284,429. Pub. 1–16–68. Filed 11–9–67.

Class 18 — Medicines and Pharmaceutical Preparations

846,860. (See Class 1 for this trademark.)

846,861. (See Class 1 for this trademark.)

846,942. VITA KAHUAMA. Paul Cruz, d.b.a. De La Cruz Products. SN 242,715. Pub. 1–16–68. Filed 4–5–66.

846,943. BIOSOL-M-PUMP. The Upjohn Company. SN 256,987. Pub. 1–16–68. Filed 10–21–66.

846,944. P.E.R.T. Southwestern Drug Corporation, d.b.a. Truett Laboratories. SN 257,417. Pub. 1–16–68. Filed 10–27–66.

846,945. STABISOL. The Upjohn Company. SN 260,290. Pub. 1–16–68. Filed 12–7–66.

846,946. LAX-A-GUM. Rexall Drug and Chemical Company, d.b.a. Rexall Drug Company. SN 262,622. Pub. 1–16–68. Filed 1–16–67.

846,947. ACHIEVE. Bristol-Myers Company. SN 262,671. Pub. 1–16–68. Filed 1–17–67.

846,948. GENERAL NUTRITION GENO-PLEX GNC AND DESIGN. General Nutrition Corporation. SN 264,928. Pub. 1–16–68. Filed 2–17–67.

846,949. NYLORAC. Glynn A. Beard. SN 265,036. Pub. 1–16–68. Filed 2–20–67.

846,950. BED REST. Bristol-Myers Company. SN 267,914. Pub. 1–16–68. Filed 3–30–67.

846,951. SINURIL. The J. B. Williams Company, Inc. SN 269,004. Pub. 1–16–68. Filed 4–12–67.

846,952. VITA-RICH. Savoy Drug & Chemical Co. SN 276,586. Pub. 1–16–68. Filed 7–21–67.

846,953. FRESH-START BY POND'S. Chesebrough-Pond's Inc. SN 279,805. Pub. 1–16–68. Filed 9–7–67.

846,954. ERYTHROMAST. Diamond Laboratories, Inc. SN 282,235. Pub. 1–16–68. Filed 10–11–67.

846,955. RESPACINE "2." Diamond Laboratories, Inc. SN 282,236. Pub. 1–16–68. Filed 10–11–67.

846,956. RESPACINE "3." Diamond Laboratories, Inc. SN 282,237. Pub. 1–16–68. Filed 10–11–67.

Class 19 — Vehicles

846,957. DAF PORTER. Van Doorne's Automobielfabriek N.V. SN 265,857. Pub. 1–16–68. Filed 3–2–67.

846,958. NOURISH-AIDE. United Service Equipment Co., Inc. SN 266,112. Pub. 1–16–68. Filed 3–6–67.

Class 20 — Linoleum and Oiled Cloth

846,860. (See Class 1 for this trademark.)

846,861. (See Class 1 for this trademark.)

Class 21 — Electrical Apparatus, Machines, and Supplies

846,959. POWERSTAT. The Superior Electric Company. SN 245,992. Pub. 1–16–68. Filed 5–18–66.

846,960. PERMA-POWER. Perma-Power Company. SN 248,517. Pub. 1–16–68. Filed 6–20–66.

846,961. VARI PAK. The Gems Company, Inc. SN 250,654. Pub. 1–16–68. Filed 7–20–66.

846,962. FLIP PAK. The Gems Company, Inc. SN 250,656. Pub. 1–16–68. Filed 7–20–66.

846,963. SAFE PAK. The Gems Company, Inc. SN 250,657. Pub. 1–16–68. Filed 7–20–66.

846,964. TIME PAK. The Gems Company, Inc. SN 250,658. Pub. 1–16–68. Filed 7–20–66.

846,965. FLASH PAK. The Gems Company, Inc. SN 250,659. Pub. 1–16–68. Filed 7–20–66.

846,966. ADT. American District Telegraph Company. SN 253,479. Pub. 1–16–68. Filed 8–31–66.

846,967. VA-COMB. Zallo Loston, d.b.a. Loston Company. SN 264,672. Pub. 1–16–68. Filed 2–14–67.

846,968. ESCORT. The General Tire & Rubber Company. MULTIPLE CLASS (Classes 21, 31, and 35). SN 265,235. Pub. 1–16–68. Filed 2–23–67.

846,969. SUNBEAM. Sunbeam Corporation. SN 270,089. Pub. 1–16–68. Filed 4–26–67.

846,970. CLIMAX. The J. B. Williams Company, Inc. SN 270,305. Pub. 1–16–68. Filed 4–28–67.

846,971. DYNA-MATE. General Electric Company. SN 270,565. Pub. 1–16–68. Filed 5–3–67.

846,972. MODERN AND DESIGN. Modern Products, Inc. SN 272,081. Pub. 1–16–68. Filed 5–22–67.

846,973. ASTRO/348. Amphenol Corporation. SN 272,339. Pub. 1–16–68. Filed 5–25–67.

846,974. TASK-MASTER. Thomas Industries Inc. SN 272,760. Pub. 1–16–68. Filed 5–31–67.

846,975. PORTA/COMMAND. The Hallicrafters Co. SN 275,897. Pub. 1–16–68. Filed 7–13–67.

Class 22 — Games, Toys, and Sporting Goods

846,976. DEMON. St. Lawrence Sales, Inc. SN 248,045. Pub. 1–16–68. Filed 6–14–66.

846,977. "MISS OF THE DAY." Mr. Mod Shop, Inc. SN 249,047. Pub. 1–16–68. Filed 6–27–66.

846,978. MOON ROCKS. Link Research Corporation. SN 260,439. Pub. 1–16–68. Filed 12–9–66.

846,979. BROWNING SILAFLEX AND DESIGN. Browning Arms Company. SN 264,017. Pub. 1–16–68. Filed 2–6–67.

846,980. CLOD-HOPPER. Atech Enterprises, Inc. SN 267,309. Pub. 1–16–68. Filed 3–22–67.

846,981. BILL BUCK. Louis Marx & Co., Inc. SN 267,958. Pub. 1–16–68. Filed 3–30–67.

846,982. ZEB ZACHARY. Louis Marx & Co., Inc. SN 267,959. Pub. 1–16–68. Filed 3–30–67.

846,983. BOING BOING. J. Swedlin, Inc., d.b.a. Gund Mfg. Co. SN 268,779. Pub. 1–16–68. Filed 4–10–67.

846,984. RING-DING. J. Swedlin, Inc., d.b.a. Gund Mfg. Co. SN 268,783. Pub. 1–16–68. Filed 4–10–67.

846,985. BONG BONG. J. Swedlin, Inc., d.b.a. Gund Mfg. Co. SN 268,785. Pub. 1–16–68. Filed 4–10–67.

846,986. FACE SAVER. Principle Plastics. SN 270,152. Pub. 1–16–68. Filed 4–27–67.

846,987. KEY-KIT. Schoolhouse Industries, Inc. SN 270,420. Pub. 1–16–68. Filed 5–1–67.

846,988. MISCELLANEOUS DESIGN. Schoolhouse Industries, Inc. SN 270,421. Pub. 1–16–68. Filed 5–1–67.

846,989. BUSY KOO KOO. Kohner Bros., Inc. SN 270,493. Pub. 1–16–68. Filed 5–2–67.

846,990. NYROD. Su-Pr-Line Products. SN 270,718. Pub. 1–16–68. Filed 5–4–67.

846,991. SILVA-BOLT. Atlantic Lures, Inc. SN 271,114. Pub. 1–16–68. Filed 5–10–67.

846,992. ZYKLON. William G. Boutell. SN 271,117. Pub. 1–16–68. Filed 5–10–67.

846,993. FERALITE. Fenwick Products, Inc. SN 271,697. Pub. 1–16–68. Filed 5–17–67.

846,994. DURATEST. Sevenstrand Tackle Manufacturing Co. SN 271,731. Pub. 1–16–68. Filed 5–17–67.

846,995. SLIDE-O-MATIC. Kohner Bros., Inc. SN 271,816. Pub. 1–16–68. Filed 5–18–67.

846,996. MARTI. J. Swedlin, Inc., d.b.a. Gund Manufacturing Company. SN 272,423. Pub. 1–16–68. Filed 5–25–67.

846,997. FINDERS KEEPERS. United Refining Company. SN 281,241. Pub. 1–16–68. Filed 9–26–67.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

846,851. (See Class 1 for this trademark.)

846,860. (See Class 1 for this trademark.)

846,861. (See Class 1 for this trademark.)

846,914. (See Class 12 for this trademark.)

846,915. (See Class 12 for this trademark.)

846,923. (See Class 14 for this trademark.)

846,998. DOOR·U·MATIC. Durmac Manufacturing Company, Inc. SN 223,015. Pub. 1–16–68. Filed 7–9–65.

846,999. HOME-N-SHOP. Sears, Roebuck and Co. SN 239,669. Pub. 1–16–68. Filed 2–25–66.

847,000. GOLD SEAL. J. I. Case Company. SN 244,676. Pub. 1–16–68. Filed 5–2–66.

847,001. HI-LIFT. FMC Corporation. SN 245,070. Pub. 1–16–68. Filed 5–6–66.

847,002. ALUM-A-LINK. Jeffrey Galion Manufacturing Company. SN 252,388. Pub. 1–16–68. Filed 8–15–66.

847,003. FLEETWOOD. Fleetwood Systems, Inc. SN 253,301. Pub. 1–16–68. Filed 8–29–66.

847,004. WITTLER AND DESIGN. H. Wittler & Co. SN 253,938. Pub. 1–16–68. Filed 9–6–66.

847,005. WONDER MAID. Hol'n One Donut & Supply Co., Inc., d.b.a. Wonder Maid Products Co. SN 253,939. Pub. 1–16–68. Filed 9–6–66.

847,006. PRESSMATIC. Power Control Products, Inc. SN 257,080. Pub. 1–16–68. Filed 10–24–66.

847,007. OIL-PLANE. Plane Bearings, Incorporated. SN 264,229. Pub. 1–16–68. Filed 2–8–67.

847,008. ZYLITE. Imperial Knife Associated Companies, Inc. SN 264,828. Pub. 1–16–68. Filed 2–16–67.

847,009. OMCO CONSTANT CONTROL SYSTEM ETC. AND DESIGN. Omco Chemical Corporation. SN 265,245. Pub. 1–16–68. Filed 2–23–67.

847,010. MISCELLANEOUS DESIGN. Murdock, Inc. SN 267,175. Pub. 1–16–68. Filed 3–20–67.

847,011. TDI. Tangen Drives, Inc. SN 279,874. Pub. 1–16–68. Filed 9–7–67.

Class 26 — Measuring and Scientific Appliances

846,860. (See Class 1 for this trademark.)

846,861. (See Class 1 for this trademark.)

847,012. AVL. Hans List, d.b.a. Fa. Anstalt fur Verbrennungsmotoren. SN 210,573. Pub. 1–16–68. Filed 1–25–65.

847,013. DIGITAL DEVICES INC. AND DESIGN. Digital Devices Inc. SN 245,174. Pub. 1–16–68. Filed 5–9–66.

847,014. M·A·N. Maschinenfabrik Augsburg-Nürnberg, A.G. SN 245,652. Pub. 1–16–68. Filed 11–22–65.

847,015. MODI. Racon Equipment Incorporation. SN 246,717. Pub. 1–16–68. Filed 5–26–66.

847,016. PROX-O-LITE. Honeywell Inc. SN 250,273. Pub. 1–16–68. Filed 7–14–66.

847,017. TSM/C. Litton Systems, Inc. SN 250,384. Pub. 1–16–68. Filed 7–15–66.

847,018. ELATRANS. L'Electronique Appliquee. SN 255,332. Pub. 1–16–68. Filed 9–28–66.

847,019. DILUTROL. Greiner Scientific Corp. SN 256,663. Pub. 1–16–68. Filed 10–18–66.

847,020. KV AND DESIGN. Voss Engineering Company. SN 256,690. Pub. 1–16–68. Filed 10–18–66.

847,021. DIGIMITE. Thermo Electric Co., Inc. SN 258,428. Pub. 1–16–68. Filed 11–10–66.

847,022. DUAL-RANGE AND DESIGN. Butler Bin Company. SN 259,052. Pub. 1–16–68. Filed 11–21–66.

847,023. SD–602 LUXOMETER. Electronic Mechanical Products Company. SN 266,150. Pub. 1–16–68. Filed 3–7–67.

847,024. EDISON. McGraw-Edison Company. SN 266,441. Pub. 1–16–68. Filed 3–10–67.

847,025. TRUTEST AND DESIGN. Trutest Laboratories, Inc. SN 272,871. Pub. 1–16–68. Filed 6–1–67.

847,026. THOR. Litton Business Systems, Inc., by merger and change of name from Royal Typewriter Company, Inc. SN 273,689. Pub. 1–16–68. Filed 6–12–67.

847,027. SURVEYOR. Litton Business Systems, Inc., by merger and change of name from Royal Typewriter Company, Inc. SN 273,691. Pub. 1–16–68. Filed 6–12–67.

847,028. PRO TECTA PAC. Power Systems & Controls, Inc. SN 276,061. Pub. 1–16–68. Filed 7–17–67.

Class 27 — Horological Instruments

847,029. YACHT CLUB. The Henri Stern Watch Agency, Inc. SN 249,644. Pub. 1–16–68. Filed 7–6–66.

Class 28 — Jewelry and Precious-Metal Ware

847,030. FRENCH EMPIRE. Buccellati Silver, Ltd. SN 263,334. Pub. 1–16–68. Filed 1–26–67.

Class 30 — Crockery, Earthenware, and Porcelain

847,031. FRONTENAC. Shenango Ceramics, Inc. SN 244,364. Pub. 1–16–68. Filed 4–26–66.

847,032. SPRING FANTASY. Nobility, Inc. SN 278,354. Pub. 1–16–68. Filed 8–16–67.

Class 31 — Filters and Refrigerators

846,968. (See Class 21 for this trademark.)

Class 32 — Furniture and Upholstery

847,033. BRITANNIA. Simmons Company. SN 260,774. Pub. 1–16–68. Filed 12–14–66.

847,034. MR. MUSIC AND DESIGN. ARC Sound Limited. SN 261,785. Pub. 1–16–68. Filed 1–3–67.

847,035. BACK SUPPORTER. The Spring Air Company. SN 269,226. Pub. 1–16–68. Filed 4–14–67.

847,036. THE PASSION PILLOW AND DESIGN. Gilman's Bedding Specialists, Inc. SN 269,881. Pub. 1–16–68. Filed 4–24–67.

Class 34 — Heating, Lighting, and Ventilating Apparatus

847,037. LC. Loren Cook Company. SN 253,893. Pub. 1–16–68. Filed 9–6–66.

847,038. GRINI. Messer Griesheim G.m.b.H. SN 265,081. Pub. 1–16–68. Filed 2–20–67.

847,039. GRICAST. Messer Griesheim G.m.b.H. SN 265,083. Pub. 1–16–68. Filed 2–20–67.

847,040. GRILUMIN. Messer Griesheim G.m.b.H. SN 265,084. Pub. 1–16–68. Filed 2–20–67.

847,041. GRIDUR. Messer Griesheim G.m.b.H. SN 265,086. Pub. 1–16–68. Filed 2–20–67.

847,042. GRIDUCT. Messer Griesheim G.m.b.H. SN 265,087. Pub. 1–16–68. Filed 2–20–67.

847,043. GRICU. Messer Griesheim G.m.b.H. SN 265,088. Pub. 1–16–68. Filed 2–20–67.

847,044. GRICON. Messer Griesheim G.m.b.H. SN 265,089. Pub. 1–16–68. Filed 2–20–67.

847,045. DURALINE. The Vulcan Radiator Company. SN 281,429. Pub. 1–16–68. Filed 9–29–67.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

846,968. (See Class 21 for this trademark.)

847,046. DEW HOSE AND DESIGN. Chapin Watermatics Inc. SN 249,303. Pub. 1–16–68. Filed 6–30–66.

847,047. CHEMPRO. Sealol, Inc. SN 254,729. Pub. 1–16–68. Filed 9–19–66.

847,048. COLGEMS CG AND DESIGN. Colgems Records, Inc. SN 278,449. Pub. 1–16–68. Filed 8–17–67.

Class 36 — Musical Instruments and Supplies

Class 37 — Paper and Stationery

846,860. (See Class 1 for this trademark.)

846,861. (See Class 1 for this trademark.)

847,049. ANGLEBOARD AND DESIGN. Paper Extrusions Co. SN 252,879. Pub. 1–16–68. Filed 8–22–66.

847,050. CODEX. Codex Book Company, Inc. SN 266,143. Pub. 1–16–68. Filed 3–7–67.

847,051. TONOMOUNT. Biotronics, Inc. SN 269,499. Pub. 1–16–68. Filed 4–19–67.

847,052. UNIQUE VALLEY FORGE. Valley Paper Company. SN 269,708. Pub. 1–16–68. Filed 4–20–67.

847,053. BIG-BIZ. The Parker Pen Company. SN 283,308. Pub. 1–16–68. Filed 10–25–67.

847,054. STATUS. B & J Supply, Inc. SN 283,598. Pub. 1–16–68. Filed 10–30–67.

Class 38 — Prints and Publications

847,055. THE DIPLOMATIC PRESS. George Alexander Lensen. SN 236,830. Pub. 1–16–68. Filed 1–19–66.

847,056. PARADE OF HORSES. Hallmark Cards, Incorporated. SN 260,853. Pub. 1–16–68. Filed 12–15–66.

847,057. LES GALS. Antoinette May. SN 262,874. Pub. 1–16–68. Filed 1–19–67.

847,058. PROFESSIONAL PILOT. Queensmith Associates, Inc., d.b.a. Data Publications. SN 281,945. Pub. 1–16–68. Filed 10–6–67.

Class 39 — Clothing

847,059. ANIKA AND DESIGN. Baronet Knitwear, Inc. SN 264,013. Pub. 1–16–68. Filed 2–6–67.

847,060. METTE AND KRISTA AND DESIGN. Wohl Shoe Co. SN 264,168. Pub. 1–16–68. Filed 2–7–67.

847,061. CUSHIES. Smart Products, Inc. SN 265,345. Pub. 1–16–68. Filed 2–23–67.

847,062. SOFTAILORED PERFECTION. Lebow Bros., Inc. SN 267,161. Pub. 1–16–68. Filed 3–20–67.

847,063. WHITE BOND. Melville Shoe Corporation. SN 267,168. Pub. 1–16–68. Filed 3–20–67.

847,064. STJ AND DESIGN. Susan Thomas Incorporated. SN 267,773. Pub. 1–16–68. Filed 3–28–67.

847,065. DUTYFULL SHEER. Burlington Industries, Inc. SN 267,809. Pub. 1–16–68. Filed 3–29–67.

847,066. SCUFFABLES. R. G. Barry Corporation. SN 268,144. Pub. 1–16–68. Filed 4–3–67.

847,067. DESERT CLASSIC. Hart Schaffner & Marx. SN 272,332. Pub. 1–16–68. Filed 5–25–67.

847,068. ALORS. Parke, Davis & Company. SN 281,944. Pub. 1–16–68. Filed 10–6–67.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

847,069. HELLER. William Heller, Inc. SN 266,331. Pub. 1–16–68. Filed 3–9–67.

847,070. AQUA-SAV. Hodgman Rubber Company. SN 269,189. Pub. 1–16–68. Filed 4–14–67.

847,071. BILTMORE. J. J. Newberry Co. SN 270,406. Pub. 1–16–68. Filed 5–1–67.

847,072. TABAGO. Tussah Fabrics, Inc. SN 284,433. Pub. 1–16–68. Filed 11–9–67.

Class 43 — Thread and Yarn

847,073. C CELANESE. Celanese Corporation, by change of name from Celanese Corporation of America. SN 235,163. Pub. 1–16–68. Filed 12–23–65.

847,074. ARLYN. Engineered Yarns, Inc. SN 252,393. Pub. 1–16–68. Filed 8–17–66.

847,075. PATLON. Patchogue Plymouth Company (joint venture). SN 262,280. Pub. 1–16–68. Filed 1–10–67.

847,076. VEESPUN. Premier Thread Company. SN 284,432. Pub. 1–16–68. Filed 11–9–67.

Class 44 — Dental, Medical, and Surgical Appliances

847,077. CHARMAIRE. John Oster Manufacturing Co. SN 246,790. Pub. 1–16–68. Filed 5–27–66.

847,078. OSTER. John Oster Manufacturing Co. SN 246,791. Pub. 1–16–68. Filed 5–27–66.

847,079. LITEPIPE. Electro Surgical Instrument Company. SN 253,291. Pub. 1–16–68. Filed 8–29–66.

847,080. FINISH WHAT THE TOOTHBRUSH LEAVES UNDONE. Stim-U-Dents, Inc. SN 258,424. Pub. 1–16–68. Filed 11–10–66.

847,081. HEAREX. Tonemaster Manufacturing Company. SN 260,203. Pub. 1–16–68. Filed 12–6–66.

847,082. DIAGNOSTIC '10.' Center Laboratories, Inc. SN 261,805. Pub. 1–16–68. Filed 1–3–67.

847,083. CATCH KIT. C. R. Bard, Inc. SN 265,261. Pub. 1–16–68. Filed 2–23–67.

847,084. COOL-AIDE. Sani-Pac Corp. SN 267,186. Pub. 1–16–68. Filed 3–20–67.

847,085. REGALSAUNA. Battle Creek Equipment Co. SN 267,231. Pub. 1–16–68. Filed 3–21–67.

847,086. DAKOR. The Dentists' Supply Company of New York. SN 268,038. Pub. 1–16–68. Filed 3–31–67.

847,087. PASCORD. Pascal Company, Inc. SN 268,221. Pub. 1–16–68. Filed 4–3–67.

847,088. PROVAC. Pascal Company, Inc. SN 268,222. Pub. 1–16–68. Filed 4–3–67.

847,089. EMPCO. Electromagnetic Probe Company. SN 268,391. Pub. 1–16–68. Filed 4–5–67.

847,090. TONOTIP. Biotronics, Inc. SN 269,280. Pub. 1–16–68. Filed 4–17–67.

847,091. ONE-STOP. C. R. Bard, Inc. SN 269,393. Pub. 1–16–68. Filed 4–18–67.

847,092. TROJAN. Youngs Drug Products Corporation. SN 279,256. Pub. 1–16–68. Filed 8–29–67.

Class 46 — Foods and Ingredients of Foods

846,860. (See Class 1 for this trademark.)

846,861. (See Class 1 for this trademark.)

847,093. FRANKWURST. Vienna Sausage Manufacturing Company. SN 212,265. Pub. 1–16–68. Filed 2–17–65.

847,094. BF-12. Carnation Company. SN 236,965. Pub. 1–16–68. Filed 1–21–66.

847,095. TENDER TERRITORY. Mark G. Gehlar, d.b.a. Oregon Fruit Products Co. SN 241,139. Pub. 1–16–68. Filed 3–16–66.

847,096. IGLO AND DESIGN. Iglo N.V. SN 245,926. Pub. 1–16–68. Filed 5–18–66.

847,097. SAUCERS. General Mills, Inc. SN 246,777. Pub. 1–16–68. Filed 5–27–66.

847,098. BANGLES. General Mills, Inc. SN 246,778. Pub. 1–16–68. Filed 5–27–66.

847,099. FASA. Transmundo Company, Inc. SN 247,085. Pub. 1–16–68. Filed 6–1–66.

847,100. NANCY ANN. Dennis, Inc., d.b.a. Nancy Ann Candles SN 247,202. Pub. 1–16–68. Filed 6–3–66.

847,101. C. SENOR. Golden Y Growers, Inc. SN 252,376. Pub. 1–16–68. Filed 8–15–66.

847,102. BAZOOKA TWIN-EE. Topps Chewing Gum, Incorporated. SN 254,001. Pub. 1–16–68. Filed 9–7–66.

847,103. TARTINES. Bunte Candies, Inc. SN 254,112. Pub. 1–16–68. Filed 9–9–66.

847,104. GRANBLU. Universal Foods Corporation. SN 254,411. Pub. 1–16–68. Filed 9–13–66.

847,105. RIVOLI. Atlantic Spice Corp. SN 255,277. Pub. 1–16–68. Filed 9–28–66.

847,106. SWEDISH DUNKERS. Aktiebolaget Svangsta-Skorpor. SN 258,873. Pub. 1–16–68. Filed 11–17–66.

847,107. L (DESIGN). Western Farmers Association, d.b.a. Lynden Farms, Incorporated. SN 262,235. Pub. 1–16–68. Filed 1–9–67.

847,108. MISCELLANEOUS DESIGN. Western Farmers Association, d.b.a. Lynden Farms, Incorporated. SN 262,236. Pub. 1–16–68. Filed 1–9–67.

847,109. QUAKER CITY AND DESIGN. The United Dairy Company. SN 262,825. Pub. 1–16–68. Filed 1–18–67.

847,110. GOURMET AND DESIGN. Gourmet Bakers, Inc. SN 266,880. Pub. 1–16–68. Filed 3–16–67.

847,111. OLD EUROPE. Carver Foods Company, d.b.a. Tasso Plantation Foods. SN 267,314. Pub. 1–16–68. Filed 3–22–67.

847,112. CERTIFIED EMENEL PRODUCTS AND DESIGN. The Emenel Company. SN 267,932. Pub. 1–16–68. Filed 3–30–67.

847,113. C'EST BON. Kane-Miller Corporation. SN 268,417. Pub. 1–16–68. Filed 4–5–67.

847,114. CONE AND DESIGN. S. E. Cone, Jr., d.b.a. Sunshine Farms. SN 268,656. Pub. 1–16–68. Filed 4–10–67.

847,115. LUNCH AT ONCE. The Wander Company, d.b.a. Ovaltine Food Products. SN 270,518. Pub. 1–16–68. Filed 5–2–67.

847,116. VV AND DESIGN. Vivi Macaroni Co. SN 270,726. Pub. 1–16–68. Filed 5–4–67.

847,117. APPL-DIET. Sebastopol Cooperative Cannery. SN 270,958. Pub. 1–16–68. Filed 5–8–67.

847,118. TWIN-LIGHT. Twin Light Fillet, Inc. SN 270,984. Pub. 1–16–68. Filed 5–8–67.

847,119. MOPPETS. Beatrice Foods Co. SN 271,115. Pub. 1–16–68. Filed 5–10–67.

847,120. BELFRY. Friedman & Belack, Inc. SN 272,042. Pub. 1–16–68. Filed 5–22–67.

847,121. BLYTHE MESA. Frank J. Choumas, d.b.a. J.C. Produce Co., and Choumas Enterprises. SN 277,104. Pub. 1–16–68. Filed 7–31–67.

847,122. PONCA'S BEST. International Milling Company Inc. SN 278,765. Pub. 1–16–68. Filed 8–22–67.

847,123. BY-GOLLY! Ralph Samsel, d.b.a. Ralph Samsel Co. SN 280,915. Pub. 1–16–68. Filed 9–22–67.

847,124. CORN CREST. Allied Mills, Inc. SN 283,952. Pub. 1–16–68. Filed 11–2–67.

847,125. COLA-GOS General Mills, Inc. SN 284,539. Pub. 1–16–68. Filed 11–13–67.

Class 47 — Wines

847,126. QUANCARD. Les Fils de Marcel Quancard. SN 255,990. Pub. 1–16–68. Filed 10–7–66.

847,127. DIDO NOIR. Brookside Vineyard Company. SN 268,864. Pub. 1–16–68. Filed 4–11–67.

Class 49 — Distilled Alcoholic Liquors

847,128. I. W. HARPER. Schenley Distillers, Inc., d.b.a. I. W. Harper Distilling Co. SN 270,615. Pub. 1–16–68. Filed 5–3–67.

Class 50 — Merchandise Not Otherwise Classified

846,860. (See Class 1 for this trademark.)

846,861. (See Class 1 for this trademark.)

847,129. INJECT-A-CIDE. J. J. Mauget Co., Inc. SN 251,554. Pub. 1–16–68. Filed 8–2–66.

847,130. HART. H. W. Hart Mfg. Co. SN 251,723. Pub. 1–16–68. Filed 8–4–66.

847,131. "GLAMOUR" SHELF PRICER. Shaw & Slavsky, Inc. SN 257,895. Pub. 1–16–68. Filed 11–3–66.

847,132. EDUKAID OF RIDGEWOOD AND DESIGN. Edukaid of Ridgewood. SN 260,416. Pub. 1–16–68. Filed 12–9–66.

847,133. BUG JUG. C and C Toys, Inc. SN 266,502. Pub. 1–16–68. Filed 3–13–67.

847,134. FIBRELIFT. Union Camp Corporation. SN 269,128. Pub. 1–16–68. Filed 4–13–67.

847,135. PIMAR. Safety Sign Company. SN 273,118. Pub. 1–16–68. Filed 6–5–67.

847,136. TWIST-AWAY. PepsiCo, Inc. SN 281,258. Pub. 1–16–68. Filed 9–27–67.

Class 51 — Cosmetics and Toilet Preparations

847,137. VANDORA. Paul S. Paschal, d.b.a. Vandora Cosmetics. MULTIPLE CLASS (Classes 51 and 52). SN 241,679. Pub. 1–16–68. Filed 3–23–66.

847,138. SUPER LUMINARIES. Clairol Incorporated. SN 242,216. Pub. 1–16–68. Filed 3–30–66.

847,139. SARONG. Sarong, Inc. SN 251,003. Pub. 1–16–68. Filed 7–25–66.

847,140. REPLENISH. Faberge, Inc. SN 254,995. Pub. 1–16–68. Filed 9–23–66.

847,141. FASHION PETITE. Richard Hudnut. SN 255,207. Pub. 1–16–68. Filed 9–27–66.

847,142. LIQUID BRUSH. Leslie Ray Laughlin, d.b.a. Laurel Company. SN 255,904. Pub. 1–16–68. Filed 10–6–66.

847,143. "WHIFF'N RUB." Viviane Woodard Corporation, d.b.a. Woodard for Men. SN 256,249. Pub. 1–16–68. Filed 10–11–66.

847,144. ETRUSCAN. Gino Paoli. MULTIPLE CLASS (Classes 51 and 52). SN 256,790. Pub. 1–16–68. Filed 10–17–66.

847,145. INHIBITOL. M. Opitz & Co. Ltd. SN 262,429. Pub. 1–16–68. Filed 1–12–67.

847,146. KNAVE. Duvidell Sales Corporation. SN 263,036. Pub. 1–16–68. Filed 1–23–67.

847,147. ELBOW MAGIC. All Products Unlimited Inc. SN 264,293. Pub. 1–16–68. Filed 2–9–67.

847,148. S AND DESIGN. William Stevens. SN 266,266. Pub. 1–16–68. Filed 3–8–67.

847,149. SNUG'L. Colgate-Palmolive Company. SN 269,059. Pub. 1–16–68. Filed 4–13–67.

847,150. QUICK MAN. Clairol Incorporated. SN 269,513. Pub. 1–16–68. Filed 4–19–67.

847,151. PERCEPTION. Avon Products, Inc. SN 270,213. Pub. 1–16–68. Filed 4–28–67.

847,152. COMFORDENT. Peter, Strong & Co., Inc. SN 273,352. Pub. 1–16–68. Filed 6–8–67.

847,153. BARELEGS. Chesebrough-Pond's Inc. SN 274,047. Pub. 1–16–68. Filed 6–16–67.

847,154. REVIVE. Helene Curtis Industries, Inc., d.b.a. Helene Curtis. SN 275,265. Pub. 1–16–68. Filed 7–3–67.

847,155. MALLARD AND DESIGN. Tyson & Co., Inc. SN 281,011. Pub. 1–16–68. Filed 9–25–67.

847,156. AIGLON. Barbara Gould, Inc. SN 281,747. Pub. 1–16–68. Filed 10–4–67.

847,157. HEAD SET AND DESIGN. Dep Corporation. SN 282,233. Pub. 1–16–68. Filed 10–11–67.

847,158. MIMIKRI. Ludwig Scherk, Inc. SN 283,066. Pub. 1–16–68. Filed 10–23–67.

847,159. TABAGO. Shulton, Inc. SN 284,068. Pub. 1–16–68. Filed 11–3–67.

Class 52 — Detergents and Soaps

846,860. (See Class 1 for this trademark.)

846,861. (See Class 1 for this trademark.)

847,137. (See Class 51 for this trademark.)

847,144. (See Class 51 for this trademark.)

847,160. NICE N EASY. Alumin-Nu Corporation. SN 256,047. Pub. 1–16–68. Filed 10–10–66.

847,161. CINDER SUDS. The Cramer Chemical Company. SN 264,914. Pub. 1–16–68. Filed 2–17–67.

847,162. BLOW THE WHISTLE ON DIRT. The Drackett Company. SN 264,919. Pub. 1–16–68. Filed 2–17–67.

847,163. LOVLAST AND DESIGN. Foremost Chemicals, Inc. SN 265,621. Pub. 1–16–68. Filed 2–28–67.

847,164. PERCEPTION. Avon Products, Inc. SN 270,214. Pub. 1–16–68. Filed 4–28–67.

847,165. KAL·GARD. James E. Swett, d.b.a. California Coatings Co. SN 271,659. Pub. 1–16–68. Filed 5–16–67.

847,166. DUO-FLOW. Flow Laboratories Incorporated. SN 280,223. Pub. 1–16–68. Filed 9–13–67.

847,167. BIO-SOAK. Circle Research Laboratories, Inc. SN 282,325. Pub. 1–16–68. Filed 10–12–67.

847,168. HAWK. Lever Brothers Company. SN 283,955. Pub. 1–16–68. Filed 11–2–67.

847,169. WYOMING. Lever Brothers Company. SN 283,956. Pub. 1–16–68. Filed 11–2–67.

847,170. BIO-WHITE. Lever Brothers Company. SN 283,957. Pub. 1–16–68. Filed 11–2–67.

847,171. SUNPOWER. Lever Brothers Company. SN 283,958. Pub. 1–16–68. Filed 11–2–67.

847,172. BIO-FRESH. Lever Brothers Company. SN 283,959. Pub. 1–16–68. Filed 11–2–67.

Service Marks

Class 100 — Miscellaneous

846,860. (See Class 1 for this trademark.)

846,861. (See Class 1 for this trademark.)

847,173. NATIONAL CHICKEN COOKING CONTEST. Delmarva Poultry Industry, Inc. SN 227,658. Pub. 1–16–68. Filed 9–13–65.

847,174. TITANITE. Titan Molders Corp. SN 280,952. Pub. 1–16–68. Filed 10–21–65.

847,175. HARCO. Harco Corporation. MULTIPLE CLASS (Classes 100 and 103). SN 259,874. Pub. 1–16–68. Filed 12–2–66.

847,176. STOP GO AND DESIGN. Holmes & Holmes. SN 260,154. Pub. 1–16–68. Filed 12–6–66.

Class 101 — Advertising and Business

847,177. AMERICA'S FAMILY OF THE YEAR AND DESIGN. America's Family Institute, Inc. SN 206,676. Pub. 1–16–68. Filed 11–23–64.

847,178. MAN (DESIGN). Winco Limited. SN 226,813. Pub. 1–16–68. Filed 8–30–65.

847,179. CRATE AND BARREL. Euromarket Designs, Inc. SN 248,604. Pub. 1–16–68. Filed 6–21–66.

847,180. SYSTEMEDICS. Systemedics, Inc. SN 263,788. Pub. 1–16–68. Filed 2–1–67.

847,181. INTERSTATE UNITED. Interstate United Corporation. SN 280,511. Pub. 1–16–68. Filed 9–18–67.

847,182. MEDALLION DESIGN. Interstate United Corporation. SN 280,512. Pub. 1–16–68. Filed 9–18–67.

847,183. PDQ. PDQ Food Stores, Inc. SN 284,064. Pub. 1–16–68. Filed 11–3–67.

847,184. MARDI GRAS. William H. Torgis. SN 284,070. Pub. 1–16–68. Filed 11–3–67.

847,185. MINIBAG. William H. Torgis. SN 284,071. Pub. 1–16–68. Filed 11–3–67.

Class 102 — Insurance and Financial

847,186. PORTFOLIO POLICY. The Fund American Companies, d.b.a. Fireman's Fund American Insurance Companies. SN 258,374. Pub. 1–16–68. Filed 11–10–66.

847,187. PIONEER FUND INC. 1928 AND DESIGN. Pioneer Fund, Inc. SN 263,776. Pub. 1–16–68. Filed 2–1–67.

847,188. MAJORCARE. Bankers Life Company. SN 265,486. Pub. 1–16–68. Filed 2–27–67.

847,189. GRIPLAN AND DESIGN. Lessere-Wertheim, Inc. SN 281,009. Pub. 1–16–68. Filed 9–25–67.

847,190. EXECUTIVE FUND. Executive Fund Life Insurance Company. SN 281,183. Pub. 1–16–68. Filed 9–26–67.

Class 103 — Construction and Repair

846,860. (See Class 1 for this trademark.)

846,861. (See Class 1 for this trademark.)

847,175. (See Class 100 for this trademark.)

847,191. RYAN AND DESIGN. Ryan Oil Company. SN 259,470. Pub. 1–16–68. Filed 11–25–66.

847,192. AC AND DESIGN. AC Electric Company, Inc. SN 265,025. Pub. 1–16–68. Filed 2–20–67.

Class 105 — Transportation and Storage

846,860. (See Class 1 for this trademark.)

846,861. (See Class 1 for this trademark.)

847,193. SL AND DESIGN. Hudson Transit Lines, Inc. SN 260,748. Pub. 1–16–68. Filed 12–14–66.

847,194. SKY HO! Clipper Carloading Company. SN 264,650. Pub. 1–16–68. Filed 2–14–67.

847,195. ADD AND DESIGN. ADD Airfreight Corporation. SN 272,682. Pub. 1–16–68. Filed 5–31–67.

Class 107 — Education and Entertainment

847,196. BEAUTY FOR LIFE. Helena Rubinstein, Inc. SN 233,403. Pub. 1–16–68. Filed 11–26–65.

847,197. THE NATION'S CAPITAL IN THE CLASSROOM. Washington Tapes, Inc. SN 246,971. Pub. 1–16–68. Filed 5–31–66.

847,198. THE FOUR SEASONS. The Four Seasons. SN 262,406. Pub. 1–16–68. Filed 1–12–67.

Collective Membership Marks

Class 200

847,199. WEIGHT WATCHERS. Weight Watchers International, Inc. SN 281,164. Pub. 1–16–68. Filed 9–26–67.

847,200. WW AND DESIGN. Weight Watchers International, Inc. SN 281,165. Pub. 1–16–68. Filed 9–26–67.

TRADEMARK REGISTRATIONS RENEWED

67,044. BUNNY. Cl. 42 (Int. Cl. 24). 1–14–08.
67,746. MANDARIN. Cl. 42 (Int. Cl. 24). 2–18–08.
67,942. "S & H RED BALL BRAND" ETC. AND DESIGN. Cl. 46 (Int. Cl. 30). 2–25–08.
69,342. ANTONIO Y CLEOPATRA. Cl. 17 (Int. Cl. 34). 6–9–08.
233,571. MOXIE. Cl. 22 (Int. Cls. 16 and 28). 10–4–27.
235,002. SNOW FLAKE. Cl. 6 (Int. Cl. 3). 11–8–27.
238,340. ANDALE. Cl. 23 (Int. Cl. 11). 2–7–28.
238,530. SUPRE-MACY. Cl. 3 (Int. Cl. 18). 2–7–28.
239,259. "KAMAKA HAWAII" AND DESIGN. Cl. 36 (Int. Cl. 15). 2–28–28.
239,578. A & F CO. Cl. 39 (Int. Cl. 25). 3–6–28.
239,599. REMEMBRANCE. Cl. 22 (Int. Cl. 16). 3–6–28.
239,606. "HOLLYWOOD HEEL" AND DESIGN. Cl. 39 (Int. Cl. 25). 3–6–28.
239,799. SNEFONN. Cl. 46 (Int. Cl. 30). 3–13–28.
240,188. "HARRIET CLARK'S" AND SILHOUETTE OF A MOTHERLY OLD LADY IN AN OVAL OUTLINE. Cl. 46 (Int. Cl. 30). 3–20–28.
240,417. ASPERGUM. Cl. 18 (Int. Cl. 5). 3–27–28.
240,827. RED HEAD. Cl. 9 (Int. Cl. 13). 4–10–28.
241,234. "MONO-COTE" AND DESIGN. Cl. 16 (Int. Cl. 2). 4–17–28.
241,385. "WAYNE" AND DESIGN. Cl. 46 (Int. Cl. 31). 4–24–28.
241,877. TUNBRIDGE WELLS. Cl. 46 (Int. Cl. 30). 5–8–28.
242,282. LEONARD. Cl. 31 (Int. Cl. 11). 5–22–28.
242,365. NATIONAL CASH REGISTER. Cl. 26 (Int. Cl. 9). 5–22–28.
242,369. BAYHESIVE. Cl. 44 (Int. Cl. 5). 5–22–28.
242,820. ROYSTON. Cl. 39 (Int. Cl. 25). 6–5–28.
243,398. "OAK LEAF BRAND" ETC. AND DESIGN. Cl. 46 (Int. Cl. 31). 6–19–28.
243,656. "MAN-SOTA" AND DIAMOND DESIGN. Cl. 12 (Int. Cl. 19). 6–26–28.
439,683. MIDNITES. Cl. 46 (Int. Cl. 30). 7–13–48.
244,072. "BLUE BRAND H-P" AND BACKGROUND DESIGN. Cl. 46 (Int. Cls. 29 and 31). 7–10–28.
244,241. "ROAD BUILDERS." Cl. 35 (Int. Cl. 17). 7–17–28.
244,612. WILFRED. Cl. 52 (Int. Cls. 3 and 5). 7–24–28.
244,871. SOLV-O-HOL. Cl. 6 (Int. Cls. 3 and 5). 7–31–28.
433,868. GRANDFATHER'S PRIVATE STOCK. Cl. 46 (Int. Cl. 30). 11–4–47.
434,061. BAY BANK AND DESIGN. Cl. 44 (Int. Cl. 10). 11–4–47.
434,770. ABBOTONIQ. Cl. 18 (Int. Cl. 5). 12–2–47.
434,810. MAZE-U AND DESIGN. Cl. 18 (Int. Cl. 5). 12–9–47.
435,043. HUSKYGAS. Cl. 6 (Int. Cl. 4). 12–9–47.
435,409. RPM AND DESIGN. Cl. 38 (Int. Cl. 16). 12–23–47.
435,868. SLEEP FORM. Cl. 32 (Int. Cl. 20). 1–13–48.
436,059. GLANCE. Cl. 52 (Int. Cl. 3). 1–20–48.
436,284. 20–20. Cl. 4 (Int. Cl. 3). 1–27–48.
436,314. HEANIUM. Cl. 23 (Int. Cl. 7). 2–3–48.
436,487. KELGIN. Cl. 46 (Int. Cl. 30). 2–10–48.
436,488. DARILOID. Cl. 46 (Int. Cl. 30). 2–10–48.
436,490. AROSNAP. Cl. 39 (Int. Cl. 25). 2–10–48.
436,730. STANDARD. Cl. 37 (Int. Cl. 16). 2–17–48.
436,793. RCA. Cl. 21 (Int. Cl. 9). 2–24–48.
436,980. SPECIFIDE. Cl. 18 (Int. Cl. 5). 3–2–48.
437,259. MR. Cl. 39 (Int. Cl. 25). 3–9–48.
437,593. RIZ LA +. Cl. 8 (Int. Cl. 34). 3–30–48.
437,716. SUPERTAH. Cl. 18 (Int. Cl. 5). 3–30–48.
437,958. SNAXSICLE. Cl. 46 (Int. Cl. 30). 4–6–48.
438,019. NATCO. Cl. 46 (Int. Cl. 30). 4–6–48.
438,275. CELPRON. Cl. 1 (Int. Cls. 1 and 17). 4–13–48.
438,544. DRICOID. Cl. 46 (Int. Cl. 30). 4–27–48.
438,622. WIREWAY. Cl. 13 (Int. Cl. 6). 5–4–48.
438,763. FEEDEX. Cl. 38 (Int. Cl. 16). 5–11–48.
439,270. REN-O-SAL. Cl. 18 (Int. Cl. 5). 6–15–48.
439,389. SPRAY-O-DOR. Cl. 28 (Int. Cl. 21). 6–22–48.

439,464. SOCAL. Cl. 16 (Int. Cl. 2). 6–29–48.
439,519. ALBUTEST. Cl. 6 (Int. Cl. 1). 7–6–48.
500,078. CAROFAX. Cl. 18 (Int. Cl. 5). 4–13–48.
500,079. STYPVEN. Cl. 18 (Int. Cl. 1). 4–13–48.
500,080. MENTHOFAX. Cl. 18 (Int. Cl. 5). 4–13–48.
500,132. BLACK, GOLD, AND IVORY (DESIGN). Cl. 22 (Int. Cl. 28). 4–27–48.
500,206. PETER PAN AND DESIGN. Cl. 42 (Int. Cl. 24). 5–11–48.
500,281. THE MODERN LIBRARY. Cl. 38 (Int. Cl. 16). 5–11–48.
500,322. MOYGASHEL. Cl. 42 (Int. Cl. 24). 5–11–48.
500,413. GY-PHENE. Cl. 6 (Int. Cl. 5). 5–18–48.
500,700. T. Cl. 13 (Int. Cl. 26). 6–22–48.
500,718. INTEGRA LOCK. Cl. 25 (Int. Cl. 6). 6–22–48.
500,720. HEMATEST. Cl. 6 (Int. Cl. 1). 6–22–48.
500,739. ARMCO. Cl. 38 (Int. 16). 6–29–48.
500,755. DOUBLE TRIANGLE (DESIGN). Cl. 38 (Int. Cl. 16). 6–29–48.
500,820. TALON. Cl. 44 (Int. Cl. 10). 7–6–48.
500,829. OCCY-CRYSTINE. Cl. 18 (Int. Cl. 5). 7–6–48.
501,057. TALON. Cl. 13 (Int. Cl. 6). 7–20–48.
501,077. DEPT. OF ELEGANCE. Cl. 38 (Int. Cl. 16). 7–30–48.
501,110. RANDOM HOUSE. Cl. 38 (Int. Cl. 16). 7–20–48.
501,119. YOSEMITE. Cl. 46 (Int. Cl. 29). 7–20–48.
501,162. TALON. Cl. 32 (Int. Cl. 24). 7–27–48.
501,196. AIROTOR. Cl. 34 (Int. Cl. 7). 7–27–48.

TRADEMARK REGISTRATIONS CANCELED

Section 8

The following registrations issued Feb. 13, 1962

727,352. PROTECTO-PAK. Cl. 1.
727,354. CIP FOAM. Cl. 1.
727,357. MARKETEER. Cl. 2.
727,358. SYNCROPAK. Cl. 2.
727,361. WAYFARER. Cl. 3.
727,366. FREE-TIME. Cl. 6.
727,369. GRO-ALL GREEN AND DESIGN. Cl. 10.
727,370. ONCE OVER. Cl. 10.
727,375. TERRA VITRA. Cl. 12.
727,376. CUCKLER AND DESIGN. Cl. 12.
727,378. THIN-PAK. Cl. 12.
727,379. POLY-SIL. Cl. 12.
727,390. POLY III. Cl. 13.
727,394. CAPRI. Cl. 13.
727,398. FERROPLAST. Cl. 13.
727,400. FENSTIX. Cl. 13.
727,407. G AND DESIGN. Cl. 16.
727,408. CRYSTAL-VU. Cl. 16.
727,413. NORCLIFF. Cl. 18.
727,414. BREVICURARINE. Cl. 18.
727,415. MILURETIC. Cl. 18.
727,419. TRANS-CEL. Cl. 21.
727,426. GLIDELITE. Cl. 21.
727,429. MODIFIED K AND DESIGN. Cl. 21.
727,432. ZD AND DESIGN. Cl. 21.
727,435. LOAF N' FLOAT. Cl. 22.
727,437. KINGSTON 99. Cl. 22.
727,438. ZERVOCHESS. Cl. 22.
727,439. CASEY. Cl. 22.
727,442. LE MANS. Cl. 22.
727,443. WACKY WHEEL. Cl. 22.
727,444. U AND DESIGN. Cl. 23.
727,446. NU-VAT. Cl. 23.
727,453. CARTONEER. Cl. 23.
727,459. SENTRY SAFE-CUT AND DESIGN. Cl. 23.
727,462. SLIDEX. Cl. 23.
727,468. PIP. Cl. 24.
727,485. DF REDI-PAC. Cl. 31.
727,486. DF. Cl. 31.
727,472. REGALENS AND DESIGN. Cl. 26.
727,489. MM MICROMITE AND DESIGN. Cl. 31.
727,491. MICROMITE. Cl. 31.
727,492. BFD AND DESIGN. Cl. 31.
727,494. SLEEP-A-GUEST. Cl. 32.
727,496. DYNAWOOD. Cl. 32.
727,497. KENISAN. Cl. 32.
727,498. VISCOUNT. Cl. 34.
727,499. JURA STERI-VAP AND DESIGN. Cl. 34.
727,500. STERI-VAP. Cl. 34.
727,502. ROPER CHARM AND DESIGN. Cl. 34.
727,503. SILVER JET. Cl. 34.
727,505. PARTY-PATIO. Cl. 34.
727,510. ROADAMATIC PERFORMANCE TESTED. Cl. 35.
727,513. BRAND X. Cl. 35.
727,517. "REDI-FLO." Cl. 37.
727,525. BISCUIT & CRACKER BAKER. Cl. 38.
727,530. THE AMERICAN PORTRAIT. Cl. 39.
727,532. PIX SHOES SAMPLES AND CANCELLATIONS AND DESIGN. Cl. 39.
727,536. DU-BON-ETTE. Cl. 39.
727,553. ESPREE. Cl. 44.
727,555. C-LECT. Cl. 46.
727,557. NORCLIFF. Cl. 46.
727,559. LADY BIRD. Cl. 46.
727,563. DAILY DOUBLE. Cl. 46.
727,566. FOAM-SUGAR. Cl. 46.
727,567. PEARSON FOAM-SUGAR. Cl. 46.
727,569. MERRY-MIRACLES. Cl. 50.
727,575. NORCLIFF. Cl. 51.
727,576. M'SIEU FABERGE. Cl. 51.
727,578. FOLDED FINGERBOWL. Cl. 51.
727,579. R RATH. Cl. 52.
727,582. EOS. Cl. 100.
727,586. CHAMPAGNE WALNUT. Cl. 12.
727,587. ANTIQUE WALNUT. Cl. 12.
727,588. ROSE WALNUT. Cl. 12.
727,589. METALBAC. Cl. 35.
727,590. TRAVERS. Cl. 35.

Section 18

701,397. DOVER. Cl. 37. 7–19–60.
761,308. FINESSE. Cl. 23. 12–10–63.
778,851. KAR-GLO. Cl. 52. 10–20–64.
806,850. SHIELD (DESIGN). Cl. 6. 4–12–66.
829,243. AZURINE. Cl. 51. 5–23–67.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

67,476. LOTUS. Cl. 46. 2–4–08. Geneva Preserving Company. The Borden Company, New York, N.Y. Amended to appear:

LOTUS

67,493. PEONY. Cl. 46. 2–4–08. Geneva Preserving Company. The Borden Company, New York, N.Y. Amended to appear:

PEONY

152,444. AMERICAN CROWN. Cl. 52. 2–28–22. James S. Kirk & Company. The Hewitt Soap Company, Inc., Dayton, Ohio. Amended as follows: In the statement, colume 2, lines 6 through 11 are deleted, and the drawing is amended to appear:

AMERICAN CROWN

228,934. KING COAL AND DESIGN. Cl. 1. 6–14–27. United States Fuel Company, Salt Lake City, Utah. Amended to appear:

238,834. DELTA. Cl. 39. 2–14–28. Rollins Hosiery Mills. Morgantown Hosiery Mills, Inc., Morgantown, N.C. Amended: In the statement, column 1, lines 11 and 12 are deleted, and the drawing is amended to appear:

DELTA

730,821. AICHE JOURNAL. Cl. 38. 5–1–62. American Institute of Chemical Engineers, New York, N.Y. Amended to appear:

AIChE JOURNAL

734,180. BURN-O-MATIC. Cl. 34. 7–10–62. Industrial Blow Pipe Company. Steelcraft Corporation, Memphis, Tenn. Amended: In the statement, column 1, line 1, after "Company", *now by change of name Steelcraft Corporation* is inserted.

792,859. HI-G. Cl. 21. 7–20–65. Hi-G Incorporated. Windsor Locks, Conn. Amended: In the statement, column 2, line 1, before "relays" *high vibration resisting* is inserted.

839,511. WRIGHT SAFEWAY. Cl. 28. 11–28–67. American Chain & Cable Company, Inc., New York, N.Y. Amended: In the statement, Column 2, line 1, "electric" is deleted and *manually operated* is inserted.

840,341. AUTOLUBE. Cl. 19. 12–12–67. Automotive Products Company Limited, Leamington Spa, Warwickshire, England. Corrected: In the statement, column 1, line 4, after "Spa," *Warwickshire,* should be inserted.

841,001. NFL AND DESIGN. Cl. 100. 12–19–67. National Football League, New York, N.Y. Corrected: In the statement, column 1, line 1, "corporation" should be deleted and *association* should be inserted.

842,939. WELCH'S. Cl. 45. 1–23–68. The Welch Grape Juice Company, Inc., Westfield, N.Y. Corrected: In the statement, column 1, line 1, after "Company", *Inc.* should be inserted.

843,847. OASIS. Cl. 101. 2–6–68. D. H. Overmyer Co., Inc., New York, N.Y. Corrected: In the statement, column 2, line 3, "plicants" should be deleted and *plicant* should be inserted.

REGISTRATIONS PUBLISHED UNDER SEC. 12(c)

The following marks registered under the act of 1905, or the act of 1881, are published under the provisions of section 12(c) of the Trademark Act of 1946. These registrations are not subject to opposition but are subject to cancellation under section 14 of the act of 1946.

Class 1 — Raw or Partly Prepared Materials

435,620. Jan. 6, 1948. Warwick Wax Co., Inc., New York, N.Y. Pub. by The Western Petrochemical Corporation, Chanute, Kans.

MEKON

For Crude Waxes Derived From Mineral Sources, etc. (Int. Cl. 4).

437,139. Mar. 9, 1948. West Point Manufacturing Company, d.b.a. West Point Utilization Company, West Point, Ga., and Fairfax, Ala. Pub. by West Point-Pepperell, Inc., d.b.a. West Point Utilization Co., West Point, Ga.

RAY-FIBER

For Blended and Treated Garnetted Rayon, etc. (Int. Cl. 22).

Class 6 — Chemicals and Chemical Compositions

436,208. Jan. 27, 1948. Sun Chemical Corporation, New York, N.Y. Pub. by The Western Petrochemical Corporation, Chanute, Kans.

CARDIS

For Treated Petroleum Microcrystalline Wax for Use as a Textile Treating Material and as a Resin Constituent (Int. Cl. 4).

Class 10 — Fertilizers

436,264. Jan. 27, 1948. The Baugh and Sons Company, Baltimore, Md. Pub. by Kerr-McGee Chemical Corp., Baltimore, Md.

For Commercial Fertilizer (Int. Cl. 1).

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

237,733. Jan. 17, 1928. Line-O-Scribe, Inc., Adrian, Mich. Pub. by The Morgan Sign Machine Co., Chicago, Ill.

Line-O-Scribe

For Printing Machines (Int. Cl. 7).

Class 39 — Clothing

162,836. Dec. 26, 1922. The Munsingwear Corporation, Minneapolis, Minn. Pub. by Munsingwear, Inc., Minneapolis, Minn.

MUNSING WEAR

For Underwear, Knit or Woven, and Hosiery, for Men, Women, and Children (Int. Cl. 25).

376,923. Apr. 9, 1940. William Netzky, d.b.a. Susquehanna Waist Company, Philadelphia, Pa. Pub. by Ship 'n Shore, Inc., Upland, Pa.

BREEZER TOP

For Ladies' Blouses and Shirts (Int. Cl. 25).

413,964. May 22, 1945. The B.V.D. Corporation, Baltimore, Md. Pub. by Ship 'n Shore, Inc., Upland, Pa.

LIMITED EDITION

For Articles of Wearing Apparel for Women as Follows: Sport Shirts and Swim Trunks (Int. Cl. 25).

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

342,711. Jan. 26, 1937. Glendale Fabrics, Inc., New York, N.Y. Pub. by Ship 'n Shore, Inc., Upland, Pa.

SMOOTH SAILING

For Textile Fabrics in the Piece of Cotton, etc. (Int. Cl. 24).

408,765. Aug. 29, 1944. The B.V.D. Corporation, Baltimore, Md. Pub. by Ship 'n Shore, Inc., Upland, Pa.

Limited Edition

For Cotton Piece Goods (Int. Cl. 24).

438,816. May 11, 1948. Dan River Mills, Incorporated, Danville, Va. Pub. by registrant.

OXTONE

For Piece Goods of Cotton, etc. (Int. Cl. 24).

Class 45 — Soft Drinks and Carbonated Waters

234,521. Nov. 1, 1927. John Graf Co., Milwaukee, Wis. Pub. by Graf's Beverages, Inc., Milwaukee, Wis.

Hula

For Non-Alcoholic, Maltless Beverages Sold as Soft Drinks (Int. Cl. 32).

Class 51 — Cosmetics and Toilet Preparations

227,577. May 10, 1927. Ludwig Scherk, d.b.a. Parfumerie Scherk, Berlin, Germany. Pub. by Ludwig Scherk, Inc., New York, N.Y.

Mysticum

For Perfumes, Colognes, and Toilet Waters (Int. Cl. 3).

235,960. Nov. 29, 1927. Mark W. Allen & Co., Detroit, Mich. Pub. by Mark Allen Co., Detroit, Mich.

Prep

For Refreshing Creams, Beauty Creams, Cold Creams, etc. (Int. Cls. 3 and 5).

436,682. Feb. 17, 1948. Fannie Roberts Heyman, New York, N.Y. Pub. by registrant.

LIP-STAE

For Cosmetic Lip Coating (Int. Cl. 3).

Class 52 — Detergents and Soaps

398,520. Nov. 3, 1942. Richmond Oil, Soap & Chemical Co., Inc., Philadelphia, Pa. Pub. by registrant.

RICHINE

For Cleansing Compound for Cleaning Dishes, etc. (Int. Cl. 3).

435,544. Dec. 30, 1947. Julius Goldner, d.b.a. Warwick Laboratories Company, Brooklyn, N.Y. Pub. by Warwick Laboratories Company, Inc., Brooklyn, N.Y.

WARCO

For Hydraulic Brake Fluid, etc. (Int. Cls. 1, 3, and 17).

INDEX OF REGISTRANTS

APRIL 2, 1968

(**Registered ; Renewed ; Canceled ; Amended, Disclaimed, Corrected, etc. ; New Certificates ; 12c Publications.**)

- AC Electric Co., Inc., Washington, D.C. 847,192, pub. 1–16–68. Cl. 103.
- ADD Airfreight Corp., Jamaica, N.Y. 847,195, pub. 1–16–68. Cl. 105.
- Abbott Laboratories, North Chicago, Ill. 434,770, ren. 4–2–68. Cl. 18.
- Abercrombie & Fitch Co., New York, N.Y. 239,578, ren. 4–2–68. Cl. 39.
- Acerola Corp., The : *See—*
  - Cerojel Products, Inc.
- Acme Quilting Co., Inc., New York, N.Y. 846,876, pub. 1–16–68. Cl. 3.
- Adams, Hamilton, Imports Ltd. : *See—*
  - Stevenson's Moygashel Linens, Ltd.
- Aeroplastics Corp., Venice, Calif. 727,435, canc. Cl. 22.
- Aktiebolaget Svangsta-Skorpor, Solvesborg, Sweden. 847,106, pub. 1–16–68. Cl. 46.
- All Products Unlimited Inc., Miami, Fla. 847,147, pub. 1–16–68. Cl. 51.
- Allen, Mark, Co. : *See—*
  - Allen, Mark W., & Co.
- Allen, Mark W., & Co., by Mark Allen Co., Detroit, Mich. 235,960, 12(c) pub. 4–2–68. Cl. 51.
- Allied Industries, Inc., Spokane, Wash. 846,922, pub. 1–16–68. Cl. 13.
- Allied Mills, Inc. : *See—*
  - McMillen Co., The.
- Allied Mills, Inc., Chicago, Ill. 847,124, pub. 1–16–68. Cl. 46.
- Alumin-Nu Corp., Cleveland, Ohio. 847,160, pub. 1–16–68. Cl. 52.
- American Chain & Cable Co., Inc., New York, N.Y. 839,511. Am. 7(d). Cl. 23.
- American Cyanamid Co., Wayne, N.J. 846,898, pub. 1–16–68. Cl. 6.
- American District Telegraph Co., New York, N.Y. 846,966, pub. 1–16–68. Cl. 21.
- American Encaustic Tiling Co., Inc., Lansdale, Pa. 727,375, canc. Cl. 12.
- American Home Products Corp. : *See—*
  - Brach, F. J., & Sons.
- American Home Products Corp., New York, N.Y. 846,900–1, pub. 1–16–68. Cl. 6.
- American Institute of Chemical Engineers, New York, N.Y. 730,821. Am. 7(d). Cl. 38.
- American Motors Corp. : *See—*
  - Electric Refrigeration Corp.
- American Renolit Corp. : *See—*
  - Phillips Petroleum Co.
- American Rolling Mill Co., The, to Armco Steel Corp., Middletown, Ohio. 500,739, ren. 4–2–68. Cl. 38.
- American Rolling Mill Co., The, to Armco Steel Corp., Middletown, Ohio. 500,755, ren. 4–2–68. Cl. 38.
- American Stair Corp., McCook, Ill. 846,919, pub. 1–16–68. Cl. 12.
- American Stencil Mfg. Co., Denver, Colo. 846,913, pub. 1–16–68. Cl. 11.
- American Tobacco Co., The : *See—*
  - Havana-American Co.
- American Trade Publishing Co., New York, N.Y. 727,525, canc. Cl. 38.
- America's Family Institute, Inc., Evanston, Ill. 847,177, pub. 1–16–68. Cl. 101.
- Ames Co., Inc., to Miles Laboratories, Inc., Elkhart, Ind. 439,519, ren. 4–2–68. Cl. 6.
- Ames Co., Inc., to Miles Laboratories, Inc., Elkhart, Ind. 500,720, ren. 4–2–68. Cl. 6.
- Amphenol Corp., Broadview, Ill. 846,973, pub. 1–16–68. Cl. 21.
- Andale Co. : *See—*
  - Andale Engineering Co.
- Andale Engineering Co., Philadelphia, to Andale Co., Lansdale, Pa. 238,340, ren. 4–2–68. Cl. 23.
- Anstalt fur Verbrennungsmotoren, Fa. : *See—*
  - List, Hans.
- Apple River Chemical Co., East Dubuque, Ill. 846,911, pub. 1–16–68. Cl. 10.
- Arc Sound Ltd., Toronto, Ontario, Canada. 847,034, pub. 1–16–68. Cl. 32.
- Armco Steel Corp. : *See—*
  - American Rolling Mill Co., The.
- Artra Foundry, Inc., St. Charles, Mo. 846,926, pub. 1–16–68. Cl. 14.
- Associated Dry Goods Corp. : *See—*
  - Stix, Baer & Fuller Co.
- Atech Enterprises, Inc., North Amityville, N.Y. 846,980, pub. 1–16–68. Cl. 22.
- Atlantic Lures, Inc., Providence, R.I. 846,991, pub. 1–16–68. Cl. 22.
- Atlantic Spice Corp., Brooklyn, N.Y. 847,105, pub. 1–16–68. Cl. 46.
- Automotive Products Co. Ltd., to Leamington Spa, Warwickshire, England. 840,341, cor. Cl. 19.
- Avalon Hill Co., The, Baltimore, Md. 727,442, canc. Cl. 22.
- Avon Products, Inc., New York, N.Y. 847,151, pub. 1–16–68. Cl. 51.
- Avon Products, Inc., New York, N.Y. 847,164, pub. 1–16–68. Cl. 52.
- B & J Supply, Inc., Green Bay, Wis. 847,054, pub. 1–16–68. Cl. 37.
- B.V.D. Corp., The, Baltimore, Md., by Ship 'N Shore, Inc., Upland, Pa. 408,765, 12(c) pub. 4–2–68. Cl. 42.
- B.V.D. Corp., The, Baltimore, Md., by Ship 'N Shore, Inc., Upland, Pa. 413,964, 12(c) pub. 4–2–68. Cl. 39.
- Babcock Co., The : *See—*
  - Breen Stone & Marble Co.
- Bangor Punta Operations, Inc. : *See—*
  - Migel, M. C., & Co.
- Bankers Life Co., Des Moines, Iowa. 847,188, pub. 1–16–68. Cl. 102.
- Bard, C. R., Inc., Murray Hill, N.J. 847,083, pub. 1–16–68. Cl. 44.
- Bard, C. R., Inc., Murray Hill, N.J. 847,091, pub. 1–16–68. Cl. 44.
- Barker, Moore & Mein Co., Lebanon, Pa. 438,763, ren. 4–2–68. Cl. 38.
- Baronet Knitwear, Inc., New York, N.Y. 847,059, pub. 1–16–68. Cl. 39.
- Barrett & Co., Inc., Newark, N.J. 846,863, pub. 1–16–68. Cl. 1.
- Barry, R. G., Corp., Columbus, Ohio. 847,066, pub. 1–16–68. Cl. 39.
- Basic Inc., Cleveland, Ohio. 846,885–6, pub. 1–16–68. Cl. 6.
- Battle Creek Equipment Co., Battle Creek, Mich. 847,085, pub. 1–16–68. Cl. 44.
- Baugh & Sons Co., The, by Kerr-McGee Chemical Corp., Baltimore, Md. 436,264, 12(c) pub. 4–2–68. Cl. 10.
- Bay Co., The, Bridgeport, Conn., to Parke, Davis & Co., Detroit, Mich. 242,369, ren. 4–2–68. Cl. 44.
- Baybank Drug Co., Inc. : *See—*
  - Baybank Pharmaceuticals, Inc.
- Baybank Pharmaceuticals, Inc., New York, to Baybank Drug Co., Inc., Garden City, N.Y. 434,061, ren. 4–2–68. Cl. 44.
- Beard, Glynn A., Denver, Colo. 846,949, pub. 1–16–68. Cl. 18.
- Beatrice Foods Co., Chicago, Ill. 847,119, pub. 1–16–68. Cl. 46.
- Bendix Corp., The, Detroit, Mich. 727,492, canc. Cl. 31.
- Biotronics, Inc., Redding, Calif. 847,051, pub. 1–16–68. Cl. 37.
- Biotronics, Inc., Redding, Calif. 847,090, pub. 1–16–68. Cl. 44.
- Boorum & Pease Co., Brooklyn, N.Y. 436,730, ren. 4–2–68. Cl. 37.
- Borg-Warner Corp., Chicago, Ill. 727,378, canc. Cl. 12.
- Boutell, William G., Seguin, Tex. 846,992, pub. 1–16–68. Cl. 22.
- Brach, F. J., & Sons, d.b.a. Harriet Clark Candies, Chicago, Ill., to American Home Products Corp., New York, N.Y. 240,188, ren. 4–2–68. Cl. 46.
- Bradley, Milton, Co., Springfield, Mass. 846,937, pub. 1–16–68. Cl. 16.
- Breen Stone & Marble Co., to The Babcock Co., Kasota, Minn. 243,656, ren. 4–2–68. Cl. 12.
- Bristol-Myers Co., New York, N.Y. 846,947, pub. 1–16–68. Cl. 18.
- Bristol-Myers Co., New York, N.Y. 846,950, pub. 1–16–68. Cl. 18.
- British Oxygen Co., Ltd., The, London, England. 846,870, pub. 1–16–68. Cl. 2.
- Brockway, Wilhelm W., Van Nuys, Calif. 727,496, canc. Cl. 32.
- Brookside Vineyard Co., Guasti, Calif. 847,127, pub. 1–16–68. Cl. 47.
- Brown & Bigelow, to Standard Packaging Corp., St. Paul, Minn. 239.599, ren. 4–2–68. Cl. 22.
- Browning Arms Co., Morgan, Utah. 846,979, pub. 1–16–68. Cl. 22.
- Buccellati Silver, Ltd., New York, N.Y. 847,030, pub. 1–16–68. Cl. 28.
- Bunte Candies, Inc., Oklahoma City, Okla. 847,103, pub. 1–16–68. Cl. 46.
- Burlington Industries, Inc., New York, N.Y. 847,065, pub. 1–16–68. Cl. 39.
- Burns & Towne, Inc., Malden, Mass. 846,888, pub. 1–16–68. Cl. 6.
- Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, N.Y. 500,078–80, ren. 4–2–68. Cl. 18.
- Butler Bin Co., Waukesha, Wis. 847,022, pub. 1–16–68. Cl. 26.
- C & C Toys, Inc., Seattle, Wash. 847,133, pub. 1–16–68. Cl. 50.
- California Canners & Growers : *See—*
  - Filice & Perrelli Canning Co., Inc.
- California Coatings Co. : *See—*
  - Swett, James E.
- Candle-Lite, Inc., Cincinnati, Ohio. 846,889, pub. 1–16–68. Cl. 6.
- Carnation Co., Los Angeles, Calif. 847,094, pub. 1–16–68. Cl. 46.
- Carrier Corp., Syracuse, N.Y. 727,489, canc. Cl. 31.
- Carrier Corp., Syracuse, N.Y. 727,491, canc. Cl. 31.
- Carter Products, Inc., New York, N.Y. 727,415, canc. Cl. 18.
- Carver Foods Co., d.b.a. Tasso Plantation Foods, Houston, Tex. 847,111, pub. 1–16–68. Cl. 46.

- Case, J. I., Co., Racine, Wis. 847,000, pub. 1–16–68. Cl. 23.
- Casey Games Corp., New York, N.Y. 727,439, canc. Cl. 22.
- Celanese Corp.: *See—*
  - Celanese Corp. of America.
- Celanese Corp., from Celanese Corp. of America, New York, N.Y. 847,073, pub. 1–16–68. Cl. 43.
- Celanese Corp. of America, to Celanese Corp., New York, N.Y. 438,275, ren. 4–2–68. Cl. 1.
- Celanese Corp. of America: *See—*
  - Celanese Corp.
- Cellulose Products Corp., Milltown, N.J. 727,553, canc. Cl. 44.
- Center Laboratories, Inc., Port Washington, N.Y. 847,082, pub. 1–16–68. Cl. 44.
- Central Chemical Corp., Hagerstown, Md. 727,369, canc. Cl. 10.
- Cerojel Products, Inc., Lakeland, Fla., from The Acerola Corp., Sabana Seca, Puerto Rico. 727,555, canc. Cl. 46.
- Chapin Watermatics Inc., Watertown, N.Y. 847,046, pub. 1–16–68. Cl. 35.
- Chatham Mfg. Co.: *See—*
  - Esmond Mills, The.
- Cherry-Burrell Corp., Cedar Rapids, Iowa, from Meyer-Blanke Co., St. Louis, Mo. 727,446, ren. 4–2–68. Cl. 23.
- Chesebrough-Pond's Inc., New York, N.Y. 846,953, pub. 1–16–68. Cl. 18.
- Chesebrough-Pond's Inc., New York, N.Y. 847,153, pub. 1–16–68. Cl. 51.
- Choumas Enterprises: *See—*
  - Choumas, Frank J.
- Choumas, Frank J., d.b.a. J.C. Produce Co., and Choumas Enterprises, Blythe, Calif. 847,121, pub. 1–16–68. Cl. 46.
- Ciba Corp., d.b.a. The Gland-O-Lac Co., New York, N.Y. 846,890, pub. 1–16–68. Cl. 6.
- Circle Research Laboratories, Inc., Glen Ridge, N.J. 846,912, pub. 1–16–68. Cl. 10.
- Circle Research Laboratories, Inc., Glen Ridge, N.J. 847,167, pub. 1–16–68. Cl. 52.
- Clairol Inc., New York, N.Y. 847,138, pub. 1–16–68. Cl. 51.
- Clairol Inc., New York, N.Y. 847,150, pub. 1–16–68. Cl. 51.
- Clark, Harriet, Candies: *See—*
  - Brach, F. J., & Sons.
- Clearkin, Alphonsus J.: *See—*
  - Clearkin Chemical Corp.
- Clearkin Chemical Co.: *See—*
  - Clearkin Chemical Corp.
- Clearkin Chemical Corp., from A. J. Clearkin, d.b.a. Clearkin Chemical Co., Philadelphia, Pa. 846,882, pub. 1–16–68. Cl. 6.
- Clipper Carloading Co., Chicago, Ill. 847,194, pub. 1–16–68. Cl. 105.
- Cluett, Peabody & Co., Inc., Troy, N.Y. 436,490, ren. 4–2–68. Cl. 39.
- Codex Book Co., Inc., Norwood, Mass. 847,050, pub. 1–16–68. Cl. 37.
- Colgate-Palmolive Co.: *See—*
  - Colgate-Palmolive-Peet Co.
- Colgate-Palmolive Co., New York, N.Y. 847,149, pub. 1–16–68. Cl. 51.
- Colgate-Palmolive-Peet Co., Jersey City, N.J., to Colgate-Palmolive Co., New York, N.Y. 436,059, ren. 4–2–68. Cl. 52.
- Colgems Records, Inc., New York, N.Y. 847,048, pub. 1–16–68. Cl. 36.
- Combustion Engineering, Inc., Windsor, Conn., from G. E. Smith, Inc., Pittsburgh, Pa. 846,851, pub. 1–16–68. Multiple Class (Classes 1, 5, and 23).
- Commonwealth Plastics Corp., Leominster, Mass. 727,400, canc. Cl. 13.
- Cone, S. E., Jr., d.b.a. Sunshine Farms, Lubbock, Tex. 847,114, pub. 1–16–68. Cl. 46.
- Consolidated Business Systems, Inc., New Brunswick, N.J. 727,517, canc. Cl. 37.
- Consolidated Foods Corp.: *See—*
  - Lowe, Joe, Corp.
- Con-Tex, Inc., Grand Rapids, Mich. 727,468, canc. Cl. 24.
- Continental Baking Co., Rye, N.Y. 727,563, canc. Cl. 46.
- Continental Oil Co., Ponca City, Okla. 846,896, pub. 1–16–68. Cl. 6.
- Corn Products Co.: *See—*
  - Corn Products Refining Co.
- Corn Products Refining Co., to Corn Products Co., New York, N.Y. 235,002, ren. 4–2–68. Cl. 6.
- Cornelius Co., The, Anoka, Minn. 846,868, pub. 1–16–68. Cl. 2.
- Cramer Chemical Co., The, Gardner, Kans. 847,161, pub. 1–16–68. Cl. 52.
- Crane Co., Chicago, Ill. 727,390, canc. Cl. 13.
- Crown Zellerbach Corp., San Francisco, Calif. 727,357, canc. Cl. 2.
- Cruz, Paul, d.b.a. De La Cruz Products, Los Angeles, Calif. 846,942, pub. 1–16–68. Cl. 18.
- Cuckler Steel Span Co., Monticello, Iowa. 727,376, canc. Cl. 12.
- Curtis, Helene: *See—*
  - Curtis, Helene, Industries, Inc.
- Curtis, Helene, Industries, Inc., d.b.a. Helene Curtis, Chicago, Ill. 847,154, pub. 1–16–68. Cl. 51.
- DEP Corp., Los Angeles, Calif. 847,157, pub. 1–16–68. Cl. 51.
- Dan River Mills, Inc., Danville, Va. 438,816, 12(c) pub. 4–2–68. Cl. 42.
- Data Publications: *See—*
  - Queensmith Associates, Inc.
- De La Cruz Products: *See—*
  - Cruz, Paul.
- Delmarva Poultry Industry, Inc., Georgetown, Del. 847,173, pub. 1–16–68. Cl. 100.
- De Martel, Madeleine, Cosmetics: *See—*
  - Sherman, Robert M.
- Denholm Seed Co., Los Angeles, Calif. 727,352, canc. Cl. 1.
- Dennis, Inc., d.b.a. Nancy Ann Candies, Winston-Salem, N.C. 847,100, pub. 1–16–68. Cl. 46.
- Dentists' Supply Co. of New York, The, York, Pa. 847,086, pub. 1–16–68. Cl. 44.
- Dewike Laboratory: *See—*
  - Haddad, Joseph A.
- Diamond Laboratories, Inc., Des Moines, Iowa. 846,954–6, pub. 1–16–68. Cl. 18.
- Diamond National Corp., New York, N.Y. 727,453, canc. Cl. 23.
- Digital Devices Inc., Syosset, N.Y. 847,013, pub. 1–16–68. Cl. 26.
- Dillard-Nalle Co., Washington, D.C., to White Laboratories, Inc., Kenilworth, N.J. 240,417, ren. 4–2–68. Cl. 18.
- Dimension Chemical Mfg. Corp., Cleveland, Ohio. 846,931, pub. 1–16–68. Cl. 16.
- Dr. Salsbury's Laboratories, to Salsbury Laboratories, Charles City, Iowa. 439,270, ren. 4–2–68. Cl. 18.
- Drackett Co., The, Cincinnati, Ohio. 846,878, pub. 1–16–68. Cl. 4.
- Drackett Co., The, Cincinnati, Ohio. 847,162, pub. 1–16–68. Cl. 52.
- Du Barry of Hollywood, Inc., d.b.a. Du-Bon-Ette of Hollywood, Los Angeles, Calif. 727,536, canc. Cl. 39.
- Du-Bon-Ette of Hollywood: *See—*
  - Du Barry of Hollywood, Inc.
- Duluth Filter Co., Duluth, Minn. 727,485–6, canc. Cl. 31.
- Du Pont de Nemours, E. I., and Co., Wilmington, Del. 846,907, pub. 1–16–68. Cl. 6.
- Durmac Mfg. Co., Inc., Tucson, Ariz. 846,998, pub. 1–16–68. Cl. 23.
- Duvidell Sales Corp., New York, N.Y. 847,146, pub. 1–16–68. Cl. 51.
- Dynamatics, Inc., New Canaan, Conn. 727,366, canc. Cl. 6.
- Eastman Kodak Co., Rochester, N.Y. 846,892, pub. 1–16–68. Cl. 6.
- Edukaid of Ridgewood, Ridgewood, N.J. 847,132, pub. 1–16–68. Cl. 50.
- Electric Refrigeration Corp., to American Motors Corp., Detroit, Mich. 242,282, ren. 4–2–68. Cl. 31.
- Electro Surgical Instrument Co., Rochester, N.Y. 847,079, pub. 1–16–68. Cl. 44.
- Electromagnetic Probe Co., Winston-Salem, N.C. 847,089, pub. 1–16–68. Cl. 44.
- Electronic Mechanical Products Co., Atlantic City, N.J. 847,023, pub. 1–16–68. Cl. 26.
- Electro-Optical Systems, Inc., Pasadena, Calif. 727,582, canc. Cl. 100.
- Emenel Co., The, Loma Linda, Calif. 847,112, pub. 1–16–68. Cl. 46.
- Engineered Yarns, Inc., West Warwick, R.I. 847,074, pub. 1–16–68. Cl. 43.
- Esmond Mills, The, Enfield, R.I., to Chatham Mfg. Co., Elkin, N.C. 67,044, ren. 4–2–68. Cl. 42.
- Essex Wire Corp., Fort Wayne, Ind. 727,354, canc. Cl. 1.
- Euromarket Designs, Inc., Chicago, Ill. 847,179, pub. 1–16–68. Cl. 101.
- Executive Fund Life Insurance Co., Omaha, Nebr. 847,190, pub. 1–16–68. Cl. 102.
- FMC Corp., San Jose, Calif. 847,001, pub. 1–16–68. Cl. 23.
- Faberge: *See—*
  - Faberge, Inc.
- Faberge, Inc., New York, N.Y. 847,140, pub. 1–16–68. Cl. 51.
- Faberge, Inc., d.b.a. Faberge, New York, N.Y. 727,576, canc. Cl. 51.
- Fagersta Steels, Inc., West Caldwell, N.J. 846,923, pub. 1–16–68. Multiple Class (Classes 14 and 23).
- Feinberg, Lester S., Newton Centre, Mass. 727,510, canc. Cl. 35.
- Feinpruf, Feinmess- und Prufgerate Gesellschaft mit beschrankter Haftung, Goettingen, Germany. 727,444, canc. Cl. 23.
- Felton Chemical Co., Inc., Brooklyn, N.Y. 244,871, ren. 4–2–68. Cl. 6.
- Fenco Corp., Ojai, Calif. 806,850, canc. Cl. 6.
- Fenwick Products, Inc., Long Beach, Calif. 846,993, pub. 1–16–68. Cl. 22.
- Filice & Perrelli Canning Co., Inc., Richmond, to California Canners & Growers, San Francisco, Calif. 501,119, ren. 4–2–68. Cl. 46.
- Fireman's Fund American Insurance Companies: *See—*
  - Fund American Companies, The.
- Firestone Tire & Rubber Co., The, Akron, Ohio. 846,891, pub. 1–16–68. Cl. 6.
- Fisher Flouring Mills Co., Seattle, Wash. 239,799, ren. 4–2–68. Cl. 46.
- Fleetwood Systems, Inc., Lagrange, Ill. 847,003, pub. 1–16–68. Cl. 23.
- Flintkote Co., The, New York, N.Y. 846,935–6, pub. 1–16–68. Cl. 16.
- Flow Laboratories Inc., Rockville, Md. 847,166, pub. 1–16–68. Cl. 52.
- Foremost Chemicals, Inc., St. Petersburg, Fla. 847,163, pub. 1–16–68. Cl. 52.
- Four Seasons, The, New York, N.Y. 847,198, pub. 1–16–68. Cl. 107.
- Franksen, James B., d.b.a. Kitty Lawn, Omaha, Nebr. 846,862, pub. 1–16–68. Cl. 1.
- Fraser's, Inc., New York, N.Y. 761,308, canc. Cl. 23.
- Friedman & Belack, Inc., Philadelphia, Pa. 847,120, pub. 1–16–68. Cl. 46.
- Fund American Companies, The, d.b.a. Fireman's Fund American Insurance Companies, San Francisco, Calif. 847,186, pub. 1–16–68. Cl. 102.
- Gehlar, Mark G., d.b.a. Oregon Fruit Products Co., Salem, Oreg. 847,095, pub. 1–16–68. Cl. 46.
- Geigy Chemical Corp.: *See—*
  - Geigy Co., Inc.
- Geigy Co., Inc., New York, to Geigy Chemical Corp., Ardsley, N.Y. 500,413, ren. 4–2–68. Cl. 6.

- Gems Co., Inc., The, Farmington, Conn. 846,961–5, pub. 1–16–68. Cl. 21.
- General Electric Co., Providence, R.I. 846,971, pub. 1–16–68. Cl. 21.
- General Mills, Inc., Minneapolis, Minn. 847,097–98, pub. 1–16–68. Cl. 46.
- General Mills, Inc., Minneapolis, Minn. 847,125, pub. 1–16–68. Cl. 46.
- General Nutrition Corp., Pittsburgh, Pa. 846,948, pub. 1–16–68. Cl. 18.
- General Tire & Rubber Co., The, Akron, Ohio. 846,968, pub. 1–16–68. Multiple Class (Classes 21, 31, and 35).
- Geneva Preserving Co., to The Borden Co., New York, N.Y. 67,476. Am. 7(d). Cl. 46.
- Geneva Preserving Co., to The Borden Co., New York, N.Y. 67,493. Am. 7(d). Cl. 46.
- Gifford-Hill & Co., Inc., Dallas, Tex. 846,877, pub. 1–16–68. Cl. 4.
- Gilman's Bedding Specialists, Inc., Brooklyn, N.Y. 847,036, pub. 1–16–68. Cl. 32.
- Gladding, B. F., & Co. Inc., to Gladding Corp., South Otselic, N.Y. 500,132, ren. 4–2–68. Cl. 22.
- Gladding Corp.: *See—*
  - Gladding, B. F., & Co. Inc.
- Gland-O-Lac Co., The: *See—*
  - Ciba Corp.
- Glass, Henry, & Co., New York, N.Y. 500,206, ren. 4–2–68. Cl. 42.
- Glendale Fabrics, Inc., New York, N.Y., by Ship 'N Shore, Inc., Upland, Pa. 342,711, 12(c) pub. 4–2–68. Cl. 42.
- Glidden Co., The: *See—*
  - SCM Corp.
- Golden Y Growers, Inc., Yuma, Ariz. 847,101, pub. 1–16–68. Cl. 46.
- Goldner, Julius, d.b.a. Warwick Laboratories Co., by Warwick Laboratories Co., Inc., Brooklyn, N.Y. 435,544, 12(c) pub. 4–2–68. Cl. 52.
- Goodall Rubber Co., Philadelphia, Pa., to Goodall Rubber Co., Trenton, N.J. 244,241, ren. 4–2–68. Cl. 35.
- Gould, Barbara, Inc., New York, N.Y. 847,156, pub. 1–16–68. Cl. 51.
- Gourmet Bakers, Inc., Linden, N.J. 847,110, pub. 1–16–68. Cl. 46.
- Graf, John, Co., by Graf's Beverages, Inc., Milwaukee, Wis. 234,521, 12(c) pub. 4–2–68. Cl. 45.
- Graf's Beverages, Inc.: *See—*
  - Graf, John, Co.
- Greiner Scientific Corp., New York, N.Y. 847,019, pub. 1–16–68. Cl. 26.
- Gulf Oil Corp., Pittsburgh, Pa. 846,909, pub. 1–16–68. Cl. 9.
- Gund Mfg. Co.: *See—*
  - Swedlin, J., Inc.
- Hadco Corp., Cleveland, Ohio. 846,932–4, pub. 1–16–68. Cl. 16.
- Haddad, Joseph A., d.b.a. Dewike Laboratory, Toledo, Ohio. 434,810, ren. 4–2–68. Cl. 18.
- Hagan Chemical & Controls, Inc., Pittsburgh, Pa. 727,432, canc. Cl. 21.
- Hallicrafters Co., The, Chicago, Ill. 846,975, pub. 1–16–68. Cl. 21.
- Hallmark Cards, Inc., Kansas City, Mo. 847,056, pub. 1–16–68. Cl. 38.
- Harco Corp., Cleveland, Ohio. 847,175, pub. 1–16–68. Multiple Class (Classes 100 and 103).
- Harper, I. W., Distilling Co.: *See—*
  - Schenley Distillers, Inc.
- Harrington & Waring, to Hollywood Hose Inc., New York, N.Y. 239,606, ren. 4–2–68. Cl. 39.
- Hart, H. W., Mfg. Co., Glendale, Calif. 847,130, pub. 1–16–68. Cl. 50.
- Hart Schaffner & Marx, Chicago, Ill. 847,067, pub. 1–16–68. Cl. 39.
- Hartman-Leddon Co., Inc., Philadelphia, Pa. 846,893, pub. 1–16–68. Cl. 6.
- Hassenfeld Bros., Inc., Central Falls, R.I. 727,443, canc. Cl. 22.
- Havana-American Co., to The American Tobacco Co., New York, N.Y. 69,342, ren. 4–2–68. Cl. 17.
- Heany Industrial Ceramic Corp., Rochester, to Heany Industries, Inc., Scottsville, N.Y. 436,314, ren. 4–2–68. Cl. 23.
- Heany Industries, Inc.: *See—*
  - Heany Industrial Ceramic Corp.
- Hedwin Corp., New York, N.Y. 846,867, pub. 1–16–68. Cl. 2.
- Heller, William, Inc., New York, N.Y. 847,069, pub. 1–16–68. Cl. 42.
- Heyman, Fannie R., New York, N.Y. 436,682, 12(c) pub. 4–2–68. Cl. 51.
- Hi-G Inc., Windsor Locks, Conn. 792,859. Am. 7(d). Cl. 21.
- Hobbs-Parsons Co., Fresno, Calif. 244,072, ren. 4–2–68. Cl. 46.
- Hodgman Rubber Co., Framingham, Mass. 847,070, pub. 1–16–68. Cl. 42.
- Holmes & Holmes, Allentown, Pa. 847,176, pub. 1–16–68. Cl. 100.
- Hollywood Hose Inc.: *See—*
  - Harrington & Waring.
- Hol'n One Donut & Supply Co., Inc., d.b.a. Wonder Maid Products Co., Los Angeles, Calif. 847,005, pub. 1–16–68. Cl. 23.
- Honeywell Inc., Minneapolis, Minn. 847,016, pub. 1–16–68. Cl. 26.
- Howmet Corp., New York, N.Y. 846,855, pub. 1–16–68. Cl. 1.
- Hudnut, Richard, Morris Plains, N.J. 847,141, pub. 1–16–68. Cl. 51.
- Hudson Transit Lines, Inc., Mahwah, N.J. 847,193, pub. 1–16–68. Cl. 105.
- Husky Oil Co.: *See—*
  - Western Oil & Fuel Co.
- Hydraulics Unlimited Mfg. Co., Eaton, Colo. 727,503, canc. Cl. 34.
- Iglo N.V., Utrecht, Netherlands. 847,096, pub. 1–16–68. Cl. 46.
- Imperial Knife Associated Companies, Inc., Providence, R.I. 847,008, pub. 1–16–68. Cl. 23.
- Industrial Blow Pipe Co., to Steelcraft Corp., Memphis, Tenn. 734,180. Am. 7(d). Cl. 34.
- Interchemical Corp., New York, N.Y. 846,884, pub. 1–16–68. Cl. 6.
- International Milling Co. Inc., Minneapolis, Minn. 847,122, pub. 1–16–68. Cl. 46.
- International Paper Co., New York, N.Y. 846,865, pub. 1–16–68. Cl. 2.
- Interstate United Corp., Lincolnwood, Ill. 847,181–2, pub. 1–16–68. Cl. 101.
- J.C. Produce Co.: *See—*
  - Choumas, Frank J.
- Jeffrey Galion Mfg. Co., Columbus, Ohio. 847,002, pub. 1–16–68. Cl. 23.
- Jet Forwarding Inc., Torrance, Calif. 846,871, pub. 1–16–68. Cl. 2.
- Jura Elektroapparate-Fabriken L. Henzirohs A.G., Solothurn, Switzerland. 727,499–500, canc. Cl. 34.
- Kamaka, Samuel K. A., d.b.a. Kamaka Ukulele & Guitar Mfg. Co., to Kamaka & Sons Enterprises, Honolulu, Hawaii. 239,259, ren. 4–2–68. Cl. 36.
- Kamaka & Sons Enterprises: *See—*
  - Kamaka, Samuel K. A.
- Kamaka Ukulele & Guitar Mfg. Co.: *See—*
  - Kamaka, Samuel K. A.
- Kane-Miller Corp., Yonkers, N.Y. 847,113, pub. 1–16–68. Cl. 46.
- Kearfott Semiconductor Corp., West Newton, Mass. 727,429, canc. Cl. 21.
- Kelco Co., San Diego, Calif. 436,487–8, ren. 4–2–68. Cl. 46.
- Kelco Co., San Diego, Calif. 438,544, ren. 4–2–68. Cl. 46.
- Kemp Products Inc., Cleveland, Ohio. 846,869, pub. 1–16–68. Cl. 2.
- Kerr-McGee Chemical Corp.: *See—*
  - Baugh & Sons Co., The.
- Kingston Specialty Mfg. Co.: *See—*
  - Wyrembek, Fred J.
- Kirk, James S., & Co., to The Hewitt Soap Co., Inc., Dayton, Ohio. 152,444. Am. 7(d). Cl. 52.
- Kitty Lawn: *See—*
  - Franksen, James B.
- Knoll, H. G., & Co., Inc.: *See—*
  - Occy-Crystine Corp., The.
- Kohner Bros., Inc., East Paterson, N.J. 846,989, pub. 1–16–68. Cl. 22.
- Kohner Bros., Inc., Paterson, N.J. 846,995, pub. 1–16–68. Cl. 22.
- Lacroix, L., Fils S.A.: *See—*
  - Societe Anonyme d'Exploitation des Papeteries L. Lacroix Fils.
- Laughlin, Leslie R., d.b.a. Laurel Co., Akron, Ohio. 847,142, pub. 1–16–68. Cl. 51.
- Laurel Co.: *See—*
  - Laughlin, Leslie R.
- Lebow Bros., Inc., Baltimore, Md. 847,062, pub. 1–16–68. Cl. 39.
- L'Electronique Appliquee, Paris, France. 847,018, pub. 1–16–68. Cl. 26.
- Lensen, George A., Tallahasse, Fla. 847,055, pub. 1–16–68. Cl. 38.
- Leon Chemical Industries, Inc., Grand Rapids, Mich. 727,408, canc. Cl. 16.
- Les Fils De Marcel Quancard, D'Ambares (Gironde), France. 847,126, pub. 1–16–68. Cl. 47.
- Lessere-Wertheim, Inc., Hartford, Conn. 847,189, pub. 1–16–68. Cl. 102.
- Lever Brothers Co., New York, N.Y. 847,168–72, pub. 1–16–68. Cl. 52.
- Lidco, Inc., Freeport, N.Y. 727,505, canc. Cl. 34.
- Line-O-Scribe, Inc., Adrian Mich., by The Morgan Sign Machine Co., Chicago, Ill. 237,733, 12(c) pub. 4–2–68. Cl. 23.
- Link Research Corp., Beverly Hills, Calif. 846,978, pub. 1–16–68. Cl. 22.
- List, Hans, d.b.a. Fa. Anstalt fur Verbrennungsmotoren, Graz, Austria. 847,012, pub. 1–16–68. Cl. 26.
- Litton Business Systems, Inc., New York, N.Y., from Royal Typewriter Co., Inc., Hartford, Conn. 847,026–27, pub. 1–16–68. Cl. 26.
- Litton Systems, Inc., Minneapolis, Minn. 847,017, pub. 1–16–68. Cl. 26.
- Loren Cook Co., Berea, Ohio. 847,037, pub. 1–16–68. Cl. 34.
- Loston Co.: *See—*
  - Zallon Loston.
- Lowe, Joe, Co.: *See—*
  - Lowe, Joe, Corp.
- Lowe, Joe, Corp., New York, N.Y., to Consolidated Foods Corp., d.b.a. Joe Lowe Co., Englewood, N.J. 437,958, ren. 4–2–68. Cl. 46.
- Lynden Farms, Inc.: *See—*
  - Western Farmers Assn.
- Lyon, Rene D., Co., Inc., New York, N.Y. 727,569, canc. Cl. 50.
- Macy, R. H., & Co., Inc., New York, N.Y. 238,530, ren. 4–2–68. Cl. 3.
- Magic Eye Associates, Inc., New York, N.Y. 846,920–1, pub. 1–16–68. Cl. 13.
- Mainco Trading Co., Kennebunkport, Maine. 701,397, canc. Cl. 37.
- Marietta, Martin, Corp., New York, N.Y. 846,905. pub. 1–16–68. Cl. 6.
- Marlin Firearms Co., The, New Haven, Conn. 846,910, pub. 1–16–68. Cl. 9.

Marx, Louis, & Co., Inc., New York, N.Y. 846,981–2, pub. 1–16–68. Cl. 22.
Maschinenfabrik Augsburg-Nurnberg, A.G., Munich, Germany. 847,014, pub. 1–16–68. Cl. 26.
Masonite Corp., Chicago, Ill. 727,586–8, canc. Cl. 12.
Mauget, J. J., Co., Inc., Burbank, Calif. 847,129, pub. 1–16–68. Cl. 50.
May, Antoinette, Palo Alto, Calif. 847,057, pub. 1–16–68. Cl. 38.
McGraw-Edison Co., West Orange, N.J. 847,024, pub. 1–16–68. Cl. 26.
McKesson Laboratories: *See—*
McKesson & Robbins, Inc.
McKesson & Robbins, Inc., New York, N.Y. 727,575, canc. Cl. 51.
McKesson & Robbins, Inc., d.b.a. McKesson Laboratories, New York, N.Y. 727,413, canc. Cl. 18.
McKesson & Robbins, Inc., d.b.a. McKesson Laboratories, New York, N.Y. 727,557, canc. Cl. 46.
McMillen Co., The, Fort Wayne, Ind., to Allied Mills, Inc., Chicago, Ill. 241,385, ren. 4–2–68. Cl. 46.
McQuade, John, & Co., Inc., Brooklyn, N.Y., to Sapolin Paints Inc., New York, N.Y. 241,234, ren. 4–2–68. Cl. 16.
Melville Shoe Corp., New York, N.Y. 847,063, pub. 1–16–68. Cl. 39.
Merit Mfg. Co., Inc., Central Falls, R.I. 727,472, canc. Cl. 26.
Messer Griesheim G.m.b.H., Landstrasse, Germany. 847,038–44, pub. 1–16–68. Cl. 34.
Meyer-Blanke Co.: *See—*
Cherry-Burrell Corp.
Migel, M. C., & Co., to Bangor Punta Operations, Inc., New York, N.Y. 67,746, ren. 4–2–68. Cl. 42.
Miles Laboratories, Inc.: *See—*
Ames Co., Inc.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 846,902, pub. 1–16–68. Cl. 6.
Mr. Mod Shop, Inc., New Orleans, La. 846,977, pub. 1–16–68. Cl. 22.
Modern Products, Inc., Kansas City, Mo. 846,972, pub. 1–16–68. Cl. 21.
Modern Supply Co., Pittsburgh, Pa., to S.S.S. Co., Atlanta, Ga. 436,284, ren. 4–2–68. Cl. 4.
Montgomery Ward & Co., Inc., Chicago, Ill. 240,827, ren. 4–2–68. Cl. 9.
Moore Mfg. Inc., San Francisco, Calif. 727,513, canc. Cl. 35.
Morgan Sign Machine Co., The: *See—*
Line-O-Scribe, Inc.
Morris Paint & Varnish Co., St. Louis, Mo. 846,918, pub. 1–16–68. Cl. 12.
Moxie Co., The, Boston, Mass., to The Moxie Co., Needham Heights, Mass. 233,571, ren. 4–2–68. Cl. 22.
Mueller, John, Licorice Co., The, Cincinnati, Ohio. 439,683, ren. 4–2–68. Cl. 46.
Munsingwear Corp., The, by Munsingwear, Inc., Minneapolis, Minn. 162,836, 12(c) pub. 4–2–68. Cl. 39.
Munsingwear, Inc.: *See—*
Munsingwear Corp., The.
Murdock, Inc., Compton, Calif. 847,010, pub. 1–16–68. Cl. 23.
Nancy Ann Candies: *See—*
Dennis, Inc.
National Cash Register Co., The, Dayton, Ohio. 242,365, ren. 4–2–68. Cl. 26.
National Football League, New York, N.Y. 841,001, cor. Cl. 100.
National Tea Co., Chicago, Ill. 438,019, ren. 4–2–68. Cl. 46.
Nelson, L. R., Mfg. Co., Inc., Peoria, Ill. 727,394, canc. Cl. 13.
Netzky, William, d.b.a. Susquehanna Waist Co., Philadelphia, by Ship 'N Shore, Inc., Upland, Pa. 376,923, 12(c) pub. 4–2–68. Cl. 39.
New Yorker Magazine, Inc., The, (formerly known as The F-R Publishing Corp.), New York, N.Y. 501,077, ren. 4–2–68. Cl. 38.
Newberry, J. J., Co., New York, N.Y. 847,071, pub. 1–16–68. Cl. 42.
Nice-Pak Products, Inc., New York, N.Y. 727,578, canc. Cl. 51.
Nobility, Inc., Newark, N.Y. 847,032, pub. 1–16–68. Cl. 30.
Nordson Pharmaceutical Laboratories, Inc.: *See—*
Frederick, Purdue, Co., The.
Occy-Crystine Corp., The, Salisbury, Conn., and New York, N.Y., to H. G. Knoll & Co., Inc., Hewlett, N.Y. 500,829, ren. 4–2–68. Cl. 18.
Old Dutch Mustard Co., Inc., Brooklyn, N.Y. 433,868, ren. 4–2–68. Cl. 46.
Olin Mathieson Chemical Corp., East Alton, Ill. 727,358, canc. Cl. 2.
Olin Mathieson Chemical Corp., New York, N.Y. 846,941, pub. 1–16–68. Cl. 17.
Omco Chemical Corp., South Gate, Calif. 847,009, pub. 1–16–68. Cl. 23.
Opitz, M., & Co. Ltd., St. Gall, Switzerland. 847,145, pub. 1–16–68. Cl. 51.
Oregon Fruit Products Co.: *See—*
Gehlar, Mark G.
Osnabrucker Kupfer- und Drahtwerk, Osnabruck, Germany. 727,398, canc. Cl. 13.
Oster, John, Mfg. Co., Milwaukee, Wis. 847,077–8, pub. 1–16–68. Cl. 44.
Ovaltine Food Products: *See—*
Wander Co., The.
Overmyer, D. H., Co., Inc., New York, N.Y. 843,847, cor. Cl. 101.
Overton Container Corp., Mullins, S.C. 846,875, pub. 1–16–68. Cl. 2.
Owens-Illinois, Inc., Toledo, Ohio. 846,859, pub. 1–16–68. Cl. 1.

PDQ Food Stores, Inc., Madison, Wis. 847,183, pub. 1–16–68. Cl. 101.
Package Products Co., Inc., Charlotte, N.C. 846,873, pub. 1–16–68. Cl. 2.
Paoli, Gino, Clifton, N.J. 847,144, pub. 1–16–68. Multiple Class (Classes 51 and 52).
Paper Extrusions Co., Cincinnati, Ohio. 847,049, pub. 1–16–68. Cl. 37.
Parfumerie Scherk: *See—*
Scherk, Ludwig.
Parke, Davis & Co.: *See—*
Bay Co., The.
Parke, Davis & Co., Detroit, Mich. 847,068, pub. 1–16–68. Cl. 39.
Parker Pen Co., The, Janesville, Wis. 847,053, pub. 1–16–68. Cl. 37.
Pascal Co., Inc., Seattle, Wash. 847,087–8, pub. 1–16–68. Cl. 44.
Paschal, Paul S., d.b.a. Vandora Cosmetics, Wake Forest, N.C. 847,137, pub. 1–16–68. Multiple Class (Classes 51 and 52).
Patchogue Plymouth Co., New York, N.Y. 847,075, pub. 1–16–68. Cl. 43.
Pennsalt Chemicals Corp., Philadelphia, Pa. 778,851, canc. Cl. 52.
Pennsylvania Industrial Chemical Corp., Clairton, Pa. 846,856, pub. 1–16–68. Cl. 1.
PepsiCo, Inc., New York, N.Y. 847,136, pub. 1–16–68. Cl. 50.
Perma-Power Co., Chicago, Ill. 846,960, pub. 1–16–68. Cl. 21.
Person Pharmacal Co., Inc., Miami, Fla. 727,566–7, canc. Cl. 46.
Peter, Strong & Co., Inc., New York, N.Y. 847,152, pub. 1–16–68. Cl. 51.
Pfizer, Chas., & Co., Inc., New York, N.Y. 846,887, pub. 1–16–68. Cl. 6.
Pfizer, Chas., & Co., Inc., New York, N.Y. 846,906, pub. 1–16–68. Cl. 6.
Phillips Petroleum Co., Bartlesville, Okla., from American Renolit Corp., New York, N.Y. 846,852, pub. 1–16–68. Cl. 1.
Pilot Chemicals, Inc., Watertown, Mass. 846,894, pub. 1–16–68. Cl. 6.
Pioneer Fund, Inc., Boston, Mass. 847,187, pub. 1–16–68. Cl. 102.
Pix Shoes, Miami, Fla. 727,532, canc. Cl. 39.
Plane Bearings, Inc., Ashtabula, Ohio. 847,007, pub. 1–16–68. Cl. 23.
Plastics, Inc., St. Paul, Minn. 846,866, pub. 1–16–68. Cl. 2.
Poly-Sil, Inc., Pittsburgh, Pa. 727,379, canc. Cl. 12.
Porterville Citrus Association, The, Porterville, Calif. 243,398, ren. 4–2–68. Cl. 46.
Power Control Products, Inc., Palatine, Ill. 847,006, pub. 1–16–68. Cl. 23.
Power Systems & Controls, Inc., Richmond, Va. 847,028, pub. 1–16–68. Cl. 26.
Premier Thread Co., Bristol, R.I. 847,076, pub. 1–16–68. Cl. 43.
Prescott, J. L., Co., Passaic, N.J. 846,929, pub. 1–16–68. Cl. 15.
Principle Plastics, Gardena, Calif. 846,986, pub. 1–16–68. Cl. 22.
Pro-Phy-Lac-Tic Brush Co., Florence, Mass. 846,854, pub. 1–16–68. Cl. 1.
Pro-Phy-Lac-Tic Brush Co., Florence, Mass. 846,864, pub. 1–16–68. Cl. 2.
Protasil Ltd., Tonbridge, Kent, England. 846,899, pub. 1–16–68. Cl. 6.
Protective Treatments, Inc., Dayton, Ohio. 846,917, pub. 1–16–68. Cl. 12.
Purdue Frederick Co., The: *See—*
Tallby-Nason Co.
Purdue Frederick Co., The, from Nordson Pharmaceutical Laboratories, Inc., New York, N.Y. 727,414, canc. Cl. 18.
Pyrofax Gas Corp., Houston, Tex. 846,897, pub. 1–16–68. Cl. 6.
Queensmith Associates, Inc., d.b.a. Data Publications, Washington, D.C. 847,058, pub. 1–16–68. Cl. 38.
Racon Equipment Inc., San Diego, Calif. 847,015, pub. 1–16–68. Cl. 26.
Radio Corp. of America, New York, N.Y. 436,793, ren. 4–2–68. Cl. 21.
Radio Industries, Inc., Des Plaines, Ill. 727,419, canc. Cl. 21.
Random House, Inc., to Random House, Inc., New York, N.Y. 500,281, ren. 4–2–68. Cl. 38.
Random House, Inc., to Random House, Inc., New York, N.Y. 501,110, ren. 4–2–68. Cl. 38.
Rath Packing Co., The, Waterloo, Iowa. 727,579, canc. Cl. 52.
Rexall Drug and Chemical Co., d.b.a. Rexall Drug Co., Los Angeles, Calif. 846,946, pub. 1–16–68. Cl. 18.
Rexall Drug Co.: *See—*
Rexall Drug and Chemical Co.
Richmond Oil, Soap & Chemical Co., Inc., Philadelphia, Pa. 398,520, 12(c) pub. 4–2–68. Cl. 52.
Riley, Beverly O.: *See—*
Wireway Looms Co.
Rollins Hosiery Mills, to Morganton Hosiery Mills, Inc., Morganton, N.C. 238,834. Am. 7(d). Cl. 39.
Romary, A., & Co., Ltd., Tunbridge Wells, England. 241,877, ren. 4–2–68. Cl. 46.
Roper, Geo. D., Corp., Kankakee, Ill. 727,502, canc. Cl. 34.
Rothmans of Pall Mall Ltd., Zurich, Switzerland. 846,938–9, pub. 1–16–68. Cl. 17.
Royal Typewriter Co., Inc.: *See—*
Litton Business Systems, Inc.
Rubinstein, Helena, Inc., New York, N.Y. 847,196, pub. 1–16–68. Cl. 107.
Ryan Oil Co., Blue Island, Ill. 847,191, pub. 1–16–68. Cl. 103.

SCM Corp., New York, N.Y., from The Glidden Co., Cleveland, Ohio. 846,853, pub. 1–16–68. Cl. 1.
SCM Corp., New York, N.Y., from The Glidden Co., Cleveland, Ohio. 846,924, pub. 1–16–68. Cl. 14.
S.S.S. Co.: *See—*
Modern Supply Co.
Safety Sign Co., Cleveland, Ohio. 847,135, pub. 1–16–68. Cl. 50.
St. Lawrence Sales, Inc., Royal Oak, Mich. 846,976, pub. 1–16–68. Cl. 22.
Salsbury Laboratories: *See—*
Dr. Salsbury's Laboratories.
Samsel, Ralph, Co.: *See—*
Samsel, Ralph.
Samsel, Ralph, d.b.a. Ralph Samsel Co., El Centro, Calif. 847,123, pub. 1–16–68. Cl. 46.
Samuel Stamping & Enameling Co., Chattanooga, Tenn. 727,498, canc. Cl. 34.
Sanders, Morris, d.b.a. Superior Instrument Co., Hackensack, N.J. 727,426, canc. Cl. 21.
Sani-Pac Corp., New York, N.Y. 847,084, pub. 1–16–68. Cl. 44.
Sapolin Paints Inc.: *See—*
McQuade, John, & Co., Inc.
Sargent & Co., to Sargent & Co., New Haven, Conn. 500,718, ren. 4–2–68. Cl. 25.
Sarong, Inc., Dover, Del. 847,139, pub. 1–16–68. Cl. 51.
Savoy Drug & Chemical Co., Chicago, Ill. 846,952, pub. 1–16–68. Cl. 18.
Schenley Distillers, Inc., d.b.a. I. W. Harper Distilling Co., New York, N.Y. 847,128, pub. 1–16–68. Cl. 49.
Schenuit, Frank G., Rubber Co., The, Baltimore, Md. 727,590, canc. Cl. 35.
Scherk, Ludwig, d.b.a. Parfumerie Scherk, Berlin, Germany, by Ludwig Scherk, Inc., New York, N.Y. 227,577, 12(c) pub. 4–2–68. Cl. 51.
Scherk, Ludwig, Inc.: *See—*
Scherk, Ludwig.
Scherk, Ludwig, Inc., New York, N.Y. 847,158, pub. 1–16–68. Cl. 51.
Schoolhouse Industries, Inc., Commack, N.Y. 846,987–8, pub. 1–16–68. Cl. 22.
Schramm, Inc., West Chester, Pa. 846,883, pub. 1–16–68. Cl. 6.
Scott, O. M., & Sons Co., The, Marysville, Ohio. 846,857–8, pub. 1–16–68. Cl. 1.
Sealol, Inc., Warwick, R.I. 847,047, pub. 1–16–68. Cl. 35.
Sealy, Inc., Chicago, Ill. 435,868, ren. 4–2–68. Cl. 32.
Sears, Roebuck & Co., Chicago, Ill. 727,361, canc. Cl. 3.
Sears, Roebuck & Co., Chicago, Ill. 727,497, canc. Cl. 32.
Sears, Roebuck and Co., Chicago, Ill. 846,999, pub. 1–16–68. Cl. 23.
Sebastopol Cooperative Cannery, Sebastopol, Calif. 847,117, pub. 1–16–68. Cl. 46.
Sentry Mfg. Co., Kansas City, Mo. 727,459, canc. Cl. 23.
Sevenstrand Tackle Mfg. Co., Long Beach, Calif. 846,994, pub. 1–16–68. Cl. 22.
Shaw & Slavsky, Inc., Detroit, Mich. 847,131, pub. 1–16–68. Cl. 50.
Shawinigan Resins Corp., Springfield, Mass. 727,407, canc. Cl. 16.
Shell Oil Co., New York, N.Y. 846,895, pub. 1–16–68. Cl. 6.
Shenango Ceramics, Inc., New Castle, Pa. 847,031, pub. 1–16–68. Cl. 30.
Sherman, Robert M., d.b.a. Madeleine de Martel Cosmetics, New York, N.Y. 829,243, canc. Cl. 51.
Ship 'N Shore, Inc.: *See—*
B.V.D. Corp., The.
Glendale Fabrics, Inc.
Netzky, William.
Shulton, Inc., Clifton, N.J. 847,159, pub. 1–16–68. Cl. 51.
Silver, A. L., Inc., Dallas, Tex. 727,530, canc. Cl. 39.
Simmons Co., New York, N.Y. 847,033, pub. 1–16–68. Cl. 32.
Simoniz Co., Chicago, Ill. 846,879, pub. 1–16–68. Cl. 4.
Smart Products, Inc., Atlanta, Ga. 847,061, pub. 1–16–68. Cl. 39.
Smith Furniture Mfg. Co., Waco, Tex. 727,494, canc. Cl. 32.
Smith, G. E., Inc.: *See—*
Combustion Engineering, Inc.
Societe Anonyme d'Exploitation des Papeteries L. Lacroix Fils, Angouleme, to L. Lacroix Fils S.A., Paris, France. 437,593, ren. 4–2–68. Cl. 8.
Southwestern Drug Corp., d.b.a. Truett Laboratories, Dallas, Tex. 846,944, pub. 1–16–68. Cl. 18.
Spatz Bros., Inc., New York, N.Y. 437,259, ren. 4–2–68. Cl. 39.
Specifide, Inc., Indianapolis, Ind., to Thompson-Hayward Chemical Co., Kansas City, Kans. 436,980, ren. 4–2–68. Cl. 18.
Spray-O-Dor Co., to Spray-O-Dor Co., Chicago, to Spray-O-Dor Co., Oak Lawn, Ill. 439,389, ren. 4–2–68. Cl. 23.
Spring Air Co., The, Chicago, Ill. 847,035, pub. 1–16–68. Cl. 32.
Stainless Products Corp., Belding, Mich. 846,874, pub. 1–16–68. Cl. 2.
Standard Oil Co. of California, San Francisco, Calif. 435,409, ren. 4–2–68. Cl. 38.
Standard Oil Co. of California, San Francisco, Calif. 439,464, ren. 4–2–68. Cl. 16.
Standard Packaging Corp.: *See—*
Brown & Bigelow.
Stern, Henri, Watch Agency, Inc., The, New York, N.Y. 847,029, pub. 1–16–68. Cl. 27.
Stevens, William, Des Moines, Iowa. 847,148, pub. 1–16–68. Cl. 51.
Stevenson & Howell, Ltd., London, England. 67,942, ren. 4–2–68. Cl. 46.
Stevenson's Moygashel Linens, Ltd., to Hamilton Adams Imports Ltd., New York, N.Y. 500,322, ren. 4–2–68. Cl. 42.

Stim-U-Dents, Inc., Detroit, Mich. 847,080, pub. 1–16–68. Cl. 44.
Stix, Baer & Fuller Co., St. Louis, Mo., to Associated Dry Goods Corp., New York, N.Y. 242,820, ren. 4–2–68. Cl. 39.
Sun Chemical Corp., New York, N.Y., by The Western Petrochemical Corp., Chanute, Kans. 436,208, 12(c) pub. 4–2–68. Cl. 6.
Sunbeam Corp., Chicago, Ill. 846,969, pub. 1–16–68. Cl. 21.
Sunshine Farms: *See—*
Cone, S. E., Jr.
Superior Electric Co., The, Bristol, Conn. 846,959, pub. 1–16–68. Cl. 21.
Superior Instrument Co.: *See—*
Sanders, Morris.
Su-Pr-Line Products, Plainfield, Ill. 846,990, pub. 1–16–68. Cl. 22.
Susquehanna Waist Co.: *See—*
Netzky, William.
Swedlin, J., Inc., d.b.a. Gund Mfg. Co., Brooklyn, N.Y. 846,983–5, pub. 1–16–68. Cl. 22.
Swedlin, J., Inc., d.b.a. Gund Mfg. Co., Brooklyn, N.Y. 846,996, pub. 1–16–68. Cl. 22.
Swett, James E., d.b.a. California Coatings Co., San Francisco, Calif. 847,165, pub. 1–16–68. Cl. 52.
Systemedics, Inc., Princeton, N.J. 847,180, pub. 1–16–68. Cl. 101.
Tallby-Nason Co., Cambridge, Mass., to The Purdue Frederick Co., Yonkers, N.Y. 437,716, ren. 4–2–68. Cl. 18.
Talon, Inc., Meadville, Pa. 500,700, ren. 4–2–68. Cl. 13.
Talon, Inc., Meadville, Pa. 500,820, ren. 4–2–68. Cl. 44.
Talon, Inc., Meadville, Pa. 501,057, ren. 4–2–68. Cl. 13.
Talon, Inc., Meadville, Pa. 501,162, ren. 4–2–68. Cl. 32.
Tangen Drives, Inc., Clearwater, Fla. 847,011, pub. 1–16–68. Cl. 23.
Tasso Plantation Foods: *See—*
Carver Foods Co.
Teleflex Inc., North Wales, Pa. 727,462, canc. Cl. 23.
Tenaxol, Inc., Milwaukee, Wis. 846,930, pub. 1–16–68. Cl. 15.
Tenneco Inc., Houston, Tex. 846,860–1, pub. 1–16–68. Multiple Class (Classes 1, 2, 4, 5, 6, 10, 11, 12, 15, 16, 18, 20, 23, 26, 37, 46, 50, 52, 100, 103, and 105).
Teweles, L., Seed Co., Milwaukee, Wis. 727,370, canc. Cl. 10.
Thermo Electric Co., Inc., Saddle Brook, N.J. 847,021, pub. 1–16–68. Cl. 26.
Thomas Industries Inc., Louisville, Ky. 846,974, pub. 1–16–68. Cl. 21.
Thomas, Susan, Inc., New York, N.Y. 847,064, pub. 1–16–68. Cl. 39.
Thompson-Hayward Chemical Co.: *See—*
Specifide, Inc.
Titan Molders Corp., Grayslake, Ill. 847,174, pub. 1–16–68. Cl. 100.
Tonemaster Mfg. Co., Peoria, Ill. 847,081, pub. 1–16–68. Cl. 44.
Topps Chewing Gum, Inc., Brooklyn, N.Y. 847,102, pub. 1–16–68. Cl. 46.
Torgis, William H., New York, N.Y. 847,184–5, pub. 1–16–68. Cl. 101.
Torrington Mfg. Co., The, Torrington, Conn. 501,196, ren. 4–2–68. Cl. 34.
Transmundo Co., Inc., New York, N.Y. 847,099, pub. 1–16–68. Cl. 46.
Tri-Point Industries, Inc., Commack, N.Y. 846,925, pub. 1–16–68. Cl. 14.
Truett Laboratories: *See—*
Southwestern Drug Corp.
Trutest Laboratories, Inc., Philadelphia, Pa. 847,025, pub. 1–16–68. Cl. 26.
Tussah Fabrics, Inc., New York, N.Y. 847,072, pub. 1–16–68. Cl. 42.
Twin Light Fillet, Inc., Gloucester, Mass. 847,118, pub. 1–16–68. Cl. 46.
Tyson & Co., Inc., Paris, Tenn. 847,155, pub. 1–16–68. Cl. 51.
Unibond Ltd., Camberley, Surrey, England. 846,880, pub. 1–16–68. Cl. 5.
Union Camp Corp., New York, N.Y. 846,872, pub. 1–16–68. Cl. 2.
Union Camp Corp., New York, N.Y. 847,134, pub. 1–16–68. Cl. 50.
United Dairy Co., The, St. Clairsville, Ohio. 847,109, pub. 1–16–68. Cl. 46.
United Refining Co., Warren, Pa. 846,997, pub. 1–16–68. Cl. 22.
United Service Equipment Co., Inc., Palmer, Mass. 846,958, pub. 1–16–68. Cl. 19.
United States Fuel Co., Salt Lake City, Utah. 228,934. Am. 7(d). Cl. 1.
United States Tobacco Co., New York, N.Y. 846,940, pub. 1–16–68. Cl. 17.
Universal Foods Corp., Milwaukee, Wis. 847,104, pub. 1–16–68. Cl. 46.
Upjohn Co., The, Kalamazoo, Mich. 846,943, pub. 1–16–68. Cl. 18.
Upjohn Co., The, Kalamazoo, Mich. 846,945, pub. 1–16–68. Cl. 18.
Valley Mfg. Co.: *See—*
Valmont Industries, Inc.
Valley Paper Co., Holyoke, Mass. 847,052, pub. 1–16–68. Cl. 37.
Valmont Industries, Inc., from Valley Mfg. Co., Valley, Nebr. 846,914–15, pub. 1–16–68. Multiple Class (Classes 12, 13, and 23).
Van Doorne's Automobielfabriek N.V., Dutch Ltd., Liability Co., Eindhoven, Netherlands. 846,957, pub. 1–16–68. Cl. 19.
Vandora Cosmetics: *See—*
Paschal, Paul S.

Victor Mfg. & Gasket Co., Chicago, Ill. 727,589, canc. Cl. 35.
Vienna Sausage Mfg. Co., Chicago, Ill. 847,093, pub. 1–16–68. Cl. 46.
Virginia Chemicals Inc., West Norfolk, Va. 846,903–4, pub. 1–16–68. Cl. 6.
Virginia Chemicals Inc., West Norfolk, Va. 846,927, pub. 1–16–68. Cl. 14.
Virginia Valley Processors, Inc., Hinton, Va. 727,559, canc. Cl. 46.
Vivi Macaroni Co., Tampa, Fla. 847,116, pub. 1–16–68. Cl. 46.
Voss Engineering Co., Callery, Pa. 847,020, pub. 1–16–68. Cl. 26.
Vulcan Radiator Co., The, Hartford, Conn. 847,045, pub. 1–16–68. Cl. 34.
Wander Co., The, d.b.a. Ovaltine Food Products, Chicago, Ill. 847,115, pub. 1–16–68. Cl. 46.
Warwick Laboratories Co.: *See*—
  Goldner, Julius.
Warwick Laboratories Co., Inc.: *See*—
  Goldner, Julius.
Warwick Wax Co., Inc., New York, N.Y., by The Western Petrochemical Corp., Chanute, Kans. 435,620, 12(c) pub. 4–2–68. Cl. 1.
Washington Tapes, Inc., Washington, D.C. 847,197, pub. 1–16–68. Cl. 107.
Weber Briars, Inc., Jersey City, N.J. 846,908, pub. 1–16–68. Cl. 8.
Weight Watchers International, Inc., Forest Hills, N.Y. 847,199–200, pub. 1–16–68. Cl. 200.
Weinman Pump Mfg. Co., The, Columbus, Ohio. 283,496, pub. 1–16–68. Cl. 14.
Welch Grape Juice Co., Inc., The, Westfield, N.Y. 842,939, cor. Cl. 45.
West Point Mfg. Co., d.b.a. West Point Utilization Co., West Point, Ga., and Fairfax, Ala., by West Point-Pepperell, Inc., d.b.a. West Point Utilization Co., West Point, Ga. 437,139, 12(c) pub. 4–2–68. Cl. 1.
West Point-Pepperell, Inc.: *See*—
  West Point Mfg. Co.
West Point Utilization Co.: *See*—
  West Point Mfg. Co.
Western Farmers Assn., d.b.a. Lynden Farms, Inc., Seattle, Wash. 847,107–8, pub. 1–16–68. Cl. 46.
Western Oil & Fuel Co., Minneapolis, Minn., to Husky Oil Co., Cody, Wyo. 435,043, ren. 4–2–68. Cl. 6.
Western Petrochemical Corp., The: *See*—
  Warwick Wax Co., Inc.
  Sun Chemical Corp.
White Cross Stores, Inc., Monroeville, Pa. 846,881, pub. 1–16–68. Cl. 6.
White Laboratories, Inc.: *See*—
  Dillard-Nalle Co.
Wickes Corp., The, Saginaw, Mich. 846,916, pub. 1–16–68. Cl. 12.
Wilfred Laboratories, Inc., New York, N.Y. 244,612, ren. 4–2–68. Cl. 52.
Williams, J. B., Co., Inc., The, New York, N.Y. 846,951, pub. 1–16–68. Cl. 18.
Williams, J. B., Co., Inc., The, Thomaston, Conn. 846,970, pub. 1–16–68. Cl. 21.
Winco Ltd., Toronto, Ontario, Canada. 847,178, pub. 1–16–68. Cl. 101.
Wireway Co.: *See*—
  Wireway Looms Co.
Wireway Looms Co., Charles River, Mass., to Beverly O. Riley, executrix of the estate of Bradford C. Riley, deceased, d.b.a. Wireway Co., Falmouth, Mass. 438,622, ren. 4–2–68. Cl. 13.
Wittler, H., & Co., Brackwede, Germany. 847,004, pub. 1–16–68. Cl. 23.
Wohl Shoe Co., St. Louis, Mo. 847,060, pub. 1–16–68. Cl. 39.
Wonder Maid Products Co.: *See*—
  Hol'n One Donut & Supply Co., Inc.
Woodard for Men: *See*—
  Woodard, Viviane, Corp.
Woodard, Viviane, Corp., d.b.a. Woodard for Men, Panorama City, Calif. 847,143, pub. 1–16–68. Cl. 51.
Wyrembek, Fred J., d.b.a. Kingston Specialty Mfg. Co., Chicago, Ill. 727,437, canc. Cl. 22.
Youngs Drug Products Corp., New York, N.Y. 847,092, pub. 1–16–68. Cl. 44.
Zallon Loston d.b.a. Loston Co., Los Angeles, Calif. 846,967, pub. 1–16–68. Cl. 21.
Zervochess Board Co.: *See*—
  Zervopoulos, George D.
Zervopoulos, George D., d.b.a. Zervochess Board Co., El Paso, Tex. 727,438, canc. Cl. 22.

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PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of February 1968

Examiner affirmed	147
Examiner affirmed in part	20
Examiner reversed	44
Total	211

Notice of Daylight Saving Time

The Patent Office will operate on Daylight Saving Time from April 29, 1968 through October 27, 1968.

Disclaimers

3,179,722.—*Howard E. Shoemaker*, San Diego, Calif. METHOD OF PREPARING SPHERICAL NUCLEAR FUEL PARTICLES. Patent dated Apr. 20, 1965. Disclaimer filed Dec. 19, 1967, by the inventor and the assignee, *United States of America as represented by the United States Atomic Energy Commission*, consenting.

Hereby enter this disclaimer to claims 1 and 8 of said patent.

3,362,622.—*Arthur A. Landfors*, Sharon, Mass. DIFFUSION PUMP. Patent dated Jan. 9, 1968. Disclaimer filed Nov. 8, 1967, by the assignee, *National Research Corporation*.

Hereby disclaims the portion of the term of the patent subsequent to July 25, 1984.

3,365,307.—*David A. Dixon*, San Anselmo, Calif. METHOD FOR MINIMIZING DETERIORATION OF PLANT AND ANIMAL PRODUCTS. Patent dated Jan. 23, 1968. Disclaimer filed Nov. 20, 1967, by the assignee, *Occidental Petroleum Corporation*.

Hereby disclaims the terminal part of the patent subsequent to Mar. 8, 1983.

Dedications

3,210,601.—*Alec H. B. Walker*, Trafford, Pa. SCANNING CIRCUIT USING CONTROLLED RECTIFIERS. Patent dated Oct. 5, 1965. Dedication filed Feb. 15, 1968, by the assignee, *Westinghouse Electric Corporation*.

Hereby dedicates to the people of the United States the entire term of said patent.

3,248,598.—*Alec H. B. Walker*, Trafford, Pa. DEFLECTION CIRCUIT. Patent dated Apr. 26, 1966. Dedication filed Feb. 15, 1968, by the assignee, *Westinghouse Electric Corporation*.

Hereby dedicates to the people of the United States the entire term of said patent.

3,278,826.—*Alec H. B. Walker*, Trafford, Pa. RECTIFIER ASSEMBLY. Patent dated Oct. 11, 1966. Dedication filed Feb. 15, 1968, by the assignee, *Westinghouse Electric Corporation*.

Hereby dedicates to the people of the United States the entire term of said patent.

Removal From Register

Pursuant to the provisions of Rule 347 of the Rules of Practice of the United States Patent Office in Patent Cases, a letter was directed on February 12, 1968 to Mr. Raymond A. Paquin at 1188 Parker Street, Springfield, Mass., 01129, the last post office address furnished by him to the Committee on Enrollment. No reply was received within the period of thirty days therein set. Accordingly, his name is being removed from the Register of Attorneys.

EDWIN L. REYNOLDS,
Chairman, Committee on Enrollment.
Mar. 14, 1968.

Continuations—Res Judicata Rejections

Some confusion exists in the interpretation of the established Office policy regarding the use of *res judicata* rejections. To clarify the Manual on this point the following changes are made—

> The second paragraph of MPEP 201.07 is rewritten to read:
>
> At any time before the patenting or abandonment of or termination of proceedings on his earlier application, an applicant may have recourse to filing a continuation in order to introduce into the case a new set of claims and to establish a right to further examination by the Primary Examiner.
>
> The last two sentences of MPEP 201.11 are deleted. MPEP 706.03(w) is rewritten to read:
>
> A prior adjudication against the inventor on the same or similar claims constitutes a proper ground of rejection as *res judicata*. See *Ex Parte Budde*, 150 USPQ 469; 828 O.G. 409. The rejection should be used only when the earlier decision was a decision of the Board of Appeals or any of the reviewing courts, and when the time for further court review has expired and no such review has been sought, or, if filed, the review action is terminated. The timely filing of a second application copending with an earlier application does not preclude the use of *res judicata* as a ground of rejection for the second application claims.

When making a rejection on *res judicata*, action should ordinarily be made also on the basis of prior art.

RICHARD A. WAHL,
Assistant Commissioner.
Mar. 18, 1968.

New Applications Received During February 1968

Patents	7342
Designs	406
Plant Patents	10
Reissues	20
Total	7778

Issue—April 9, 1968

Patents	1047—No.	3,376,579	to No.	3,377,625, incl.
Designs	47—No.	210,714	to No.	210,760, incl.
Plant Patents	1—No.	2,802		
Reissues	7—No.	26,366	to No.	26,372, incl.
Total	1102			

Disclaimers and Dedications

2,703,053.—*Jacques H. Castel,* Houston, Tex. FIRING CIRCUIT FOR PERFORATING GUNS. Patent dated Mar. 1, 1955. Disclaimer and dedication filed Feb. 9, 1968, by the assignee, *PGAC Development Co.*

Hereby disclaims and deciates to the Public the remaining term of said patent.

3,116,690.—*Ernest L. Gillingham,* Fort Worth, and *Jack O. Grunwald,* Arlington, Tex. FLUID SENSITIVE DETONATOR ASSEMBLY. Patent dated Jan. 7, 1964. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Jet Research Center, Inc.*

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

3,161,958.—*Norman R. Zabel,* Menlo Park, Calif. and *David E. Brink,* deceased, late of Palo Alto, Calif., by *Virginia W. Brink,* executrix, Palo Alto, Calif. METHOD AND APPARATUS FOR STUDYING EXPLOSIONS STEREOSCOPICALLY. Patent dated Dec. 22, 1964. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Jet Research Center, Inc.*

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

3,229,490.—*Richard F. Hatfield,* Stanford, Calif. APPARATUS FOR MAKING LINEAR SHAPED CHARGE EXPLOSIVE DEVICES. Patent dated Jan. 18, 1966. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Jet Research Center, Inc.*

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

Erratum

In the OFFICIAL GAZETTE of March 26, 1968, vol. 848, p. 860, under the heading Disclaimers and Dedications, in the disclaimer for Patent No. 3,013,491, line 7 thereof, for "Dec. 21, 1966" read *Dec. 31, 1966.*

New Appeal Procedure

In the interest of facilitating and expediting the handling of appeals to the Board of Appeals of the Patent Office it has been decided to institute a practice whereby the application file will ordinarily remain with the Examiner until the Examiner's answer to the appeal is filed. It is therefore necessary to modify the appeal procedure, effective immediately, as indicated below.

1. *First Extension of Time To File Appeal Brief*

To avoid delay in receiving notification of the granting of a first extension under Rule 192, appellant should file his request in duplicate. Where granted, the Board will stamp the action taken on both copies, promptly returning one copy to the addressee.

Further extensions must be sought from the Commissioner, as heretofore.

2. *Notice of Appeal*

To expedite the processing of new appeals and to ensure their prompt acknowledgment, additional information will be necessary on the Notice of Appeal. Accordingly, Form 41 suggested in the Rules of U.S. Patent Office Practice in Patent Cases, is revised as shown below.

Copies for duplication may be obtained from the receptionist in Crystal Plaza and from the Correspondence and Mail Branch in the Main Commerce Building. The use of this revised form is solicited.

All papers relating to appeals should include the post office address of the person to whom correspondence is to be directed.

EDWIN L. REYNOLDS,
First Assistant Commissioner.

Revised Form 41

NOTICE OF APPEAL FROM THE PRIMARY EXAMINER TO THE BOARD OF APPEALS

In re application of:
Serial No.:
For:
Filed:
Group Art Unit:
To Commissioner of Patents
Sir:

Applicant hereby appeals to the Board of Appeals from the decision dated ________________ of the Primary Examiner finally rejecting claims ____________________.

The item(s) checked below are appropriate:

1. ☐ An extension of time to respond to the final rejection was granted on _____________ for _____ month(s).
2. ☐ A timely response to the final rejection has been filed, as provided in 841 O.G. 1411.
3. ☐ Fee $50.00:
   - ☐ Enclosed
   - ☐ Not required (Fee paid in prior appeal.)
   - ☐ Charge to Deposit Account No. ____________. (One additional copy of this Notice is enclosed herewith.)

____
Signature (Rule 191(b)).
____
____
____
Post Office Address (to which correspondence is to be sent).

Published in — F.R. —, —

Patents Available for Licensing or Sale

3,952,446. HEATING AND COOLING ALTERNATOR VALVE. Melvin L. Holland, 10929 Dalwood Ave., Downey, Calif., 90241.

3,195,125. TELEVISION AID TO AIRCRAFT INSTRUMENT LANDING. Henry Reitler, P.O. Box 785, Nashville, Tenn., 37209.

3,210,199. FOOD PACKAGE AND METHOD FOR HEATING FOOD THEREIN. Correspondence to: Gravely, Lieder & Woodruff, 705 Olive St., St. Louis, Mo., 63101.

3,226,533. RADIX N ADDITION-SUBTRACTION TEACHING DEVICE. Ransom Beers, 521 N. Broadway, Blythe, Calif., 92225.

3,277,274. ELECTRIC SAUNA BATH HEATING UNIT. Ulo Raabe, 459 Goulet St., St. Boniface 6, Manitoba, Canada.

3,338,402. RECEPTACLE FOR BOTTLES OR THE LIKE. H. Heye Glasfabrik, Obernkirchen, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., N.Y., 10017.

3,343,838. PLASTIC COMBINATION PRESS AND COVER FOR TENNIS RACKETS. Lucille F. Baukney, 1520 NE. 40th Court, Fort Lauderdale, Fla., 33308.

3,350,965. APPARATUS FOR SHAVING ELONGATED WORKPIECES OF CIRCULAR CROSS SECTION. Th. Kieserling & Albrecht, Postfach 745, 5650 Solingen, Germany.

3,357,119. ELECTRIC IRONING DEVICE. R. M. Nimeskern, 310 E. Capitol St., Apt. #11, Washington, D.C., 20003.

3,357,762. COMPARTMENT ALBUM AND FILING SYSTEM. Gordon J. Forsyth, 5938 Wilson Blvd., Arlington, Va., 22205.

3,358,313. DUST MOP HAVING PLASTIC FRAME FOR DUST-ABSORBING PAD. Roland S. Grimes, Sr., 2508 Maynard Drive, Duarte, Calif., 91010.

3,367,618. FORMS FOR CAST-IN-PLACE WINDOW FRAMES. Richard W. Masur, 1480 NE. 108th St., Miami, Fla., 33161.

3,373,445. PROTECTIVE WRIST BAND. D. M. O'Neill, Box 561, Fort Walton Beach, Fla., 32548.

3,375,007. TABLE TOP FOOTBALL GAME. Joseph W. Meyer, HQ Co., Sixth U.S. Army, Special Troops, Presidio, San Francisco, Calif., 94129.

The following two patents are offered by: John J. Donlon, 953 Hastings St., Baldwin, N.Y., 11510.

3,160,246. BUILDING WALL AND PARTITION STRUCTURE.

3,286,423. BUILDING WALL AND PARTITION STRUCTURE.

Sonobond Corporation offers to grant non-exclusive licenses under the following patent on reasonable terms and conditions. Inquiries regarding licenses should be addressed to: Sonobond Corporation, 310 E. Rosedale Ave., West Chester, Pa., 19380.

2,946,119. METHOD AND APPARATUS EMPLOYING VIBRATORY ENERGY FOR BONDING METALS.

Eastman Kodak Company announces that, in accordance with its policy, nonexclusive licenses upon reasonable terms are available to responsible domestic applicants under the following two patents.

Applications for licenses may be addressed to: Manager of Licensing, Tennessee Eastman Company, Kingsport, Tenn., 37662.

2,980,982. FIBROUS ARTICLE.

3,214,899. CORDAGE PRODUCT.

General Electric Company is prepared to grant nonexclusive licenses under the following 7 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following 2 patents may be addressed to: Patent Counsel, Metallurgical Products Department, General Electric Company, Box 237 GPO, Detroit, Mich., 48232.

2,961,360. MAGNETS HAVING ONE EASY DIRECTION OF MAGNETIZATION.

3,219,480. METHOD FOR MAKING THERMISTORS AND ARTICLE.

Applications for license under the following 5 patents may be addressed to: Patent Counsel, Appliance and Television, General Electric Company, Appliance Park, Louisville, Ky., 40225.

3,285,589. TEMPERATURE CONTROL SYSTEM FOR A GAS HEATED CLOTHES DRYING MACHINE.

3,359,578. WASHING CYCLE FOR PERMANENTLY PRESSED FABRICS.

3,359,908. TURBINE PUMP.

3,362,198. WASHING MACHINE BALANCING MEANS.

3,363,648. WASHING MACHINE WITH IMPROVED NOZZLE MEANS.

PROPOSED INTERNATIONAL NON-PROPRIETARY NAMES (PROP. INN) LIST 19[1]

In accordance with article 3 of the Procedure for the Selection of Recommended International Non-Proprietary Names for Pharmaceutical Preparations,[2] notice is hereby given that the following names are under consideration by the World Health Organization as Proposed International Non-Proprietary Names.

Comments on, or formal objections to the proposed names may be forwarded by any person to the Pharmaceuticals Unit of the World Health Organization within four months of the date of their publication in *WHO Chronicle*.

The inclusion of a name in the lists of proposed international non-proprietary names does not imply any recommendation for the use of the substance in medicine or pharmacy.

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA
acidum fepentolicum fepentolic acid	*a*-butyl-*a*-hydroxy-4,3-cresotic acid $C_{12}H_{16}O_4$
alprenololum alprenolol	1-(*o*-allylphenoxy)-3-(isopropylamino)-2-propanol $C_{15}H_{23}NO_2$
ambusidum ambuside	*N*¹-allyl-4-chloro-6-[(3-hydroxy-2-butenylidene)amino]-*m*-benzenedisulfonamide $C_{13}H_{16}ClN_3O_5S_2$
aprotininum aprotinin	Arg-Pro-Asp(tentative)-Phe-HCys-Leu-Glu(tentative)-Pro-Pro-Tyr-Thr-Gly-Pro-HCys-Lys-Ala-Arg-Ileu-Ileu-Arg-Tyr-Phe-Tyr-AspN-Ala-Lys-Ala-Gly-Leu-HCys-GluN-Thr-Phe-Val-Tyr-Gly-Gly-HCys-Arg-Ala-Lys-Arg-AspN-AspN-Phe-Lys-Ser-Ala-Glu-AspN-HCys-Met-Arg-Thr-HCys-Gly-Gly-Ala $C_{284}H_{440}N_{86}O_{77}S_7$(tentative)
atolidum atolide	2-amino-4′-(diethylamino)-*o*-benzotoluidide $C_{18}H_{23}N_3O$
azarbinum azaribine	2-*β*-D-ribofuranosyl-*as*-triazine-3,5(2*H*,4*H*)-dione 2′,3′,5′-triacetate $C_{11}H_{17}N_3O_9$
azidocillinum azidocillin	6-(2-azido-2-phenylacetamido)-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid $C_{16}H_{17}N_5O_4S$
benzoctaminum benzoctamine	*N*-methyl-9,10-ethanoanthracene-9(10*H*)-methylamine $C_{18}H_{19}N$
bepiastinum bepistine	6-[2-(dimethylamino)ethyl]pyrido[2,3-*b*][1,5]benzothiazepin-5(6*H*)-one $C_{10}H_{17}N_3OS$
bevonii metilsulfas bevonium metilsulfate	2-(hydroxymethyl)-1,1-dimethylpiperidinium methyl sulfate benzilate $C_{23}H_{31}NO_7S$
bitoscanatum bitoscanate	*p*-phenylene bis(isothiocyanate) $C_8H_4N_2S_2$
bolenolum bolenol	19-nor-17*a*-pregn-5-en-17-ol $C_{20}H_{32}O$
calcitoninum calcitonin	hormone from the thyroid gland, a polypeptide of molecular weight less than 10,000
carbadoxum carbadox	methyl 3-(2-quinoxalinylmethylene)carbazate *N*¹,*N*⁴-dioxide $C_{11}H_{10}N_4O_4$
ciclonii bromidum ciclonium bromide	diethylmethyl[2-[(*a*-methyl-*a*-5-norbornen-2-ylbenzyl)oxy]ethyl]ammonium bromide $C_{22}H_{34}BrNO$
cinnamedrinum cinnamedrine	*a*-[1-(cinnamylmethylamino)ethyl]benzyl alcohol $C_{19}H_{23}NO$
clioxanidum clioxanide	4′-chloro-2-hydroxy-3,5-diiodobenzanilide acetate $C_{15}H_{10}ClI_2NO_3$
clobutinolum clobutinol	*p*-chloro-*a*-[2-(dimethylamino)-1-methylethyl]-*a*-methylphenethyl alcohol $C_{14}H_{22}ClNO$
clomacranum clomacran	2-chloro-9-[3-(dimethylamino)propyl]acridan $C_{18}H_{21}ClN_2$
decloxizinum decloxizine	2-[2-[4-(diphenylmethyl)-1-piperazinyl]ethoxy]ethanol $C_{21}H_{28}N_2O_2$
diacetamatum diacetamate	4-acetamidophenyl acetate $C_{10}H_{11}NO_3$
diclometidum diclometide	3,5-dichloro-*N*-[2-(diethylamino)ethyl]-o-anisamide $C_{14}H_{20}Cl_2N_2O_2$
dimabefyllinum dimabefylline	7-[p-(dimethylamino)benzyl]theophylline $C_{16}H_{19}N_5O_2$
dimetacrinum dimetacrine	9,9-dimethyl-10[3-(dimethylamino)propyl]acridan $C_{20}H_{26}N_2$
etafenonum etafenone	2′-[2-(diethylamino)ethoxy]-3-phenylpropiophenone $C_{21}H_{27}NO_2$
fenclexonii bromidum fenclexonium bromide	1-(3,3-diphenylpropyl)-1-methylpiperidinium bromide $C_{21}H_{32}BrN$
fludorexum fludorex	*β*-methoxy-*N*-methyl-*m*-(trifluoromethyl)phenethylamine $C_{11}H_{14}F_3NO$
fluprednidenum fluprednidene	9-fluoro-11*β*,17,21-trihydroxy-16-methylenepregna-1,4-diene-3,20-dione $C_{22}H_{27}FO_5$
fructosum ferricum ferric fructose	fructose iron complex, compound with potassium (2 :1) $(C_6H_{10}FeO_7)_nK_{n/2}$ (tentative)
furidaronum furidarone	2,5-dimethyl-3-furyl 4-hydroxy-3,5-diiodophenyl ketone $C_{13}H_{10}I_2O_3$
indrilinum indriline	*N*,*N*-dimethyl-1-phenylindene-1-ethylamine $C_{19}H_{21}N$
kebuzonum kebuzone	4-(3-oxobutyl)-1,2-diphenyl-3,5-pyrazolidinedione $C_{19}H_{18}N_2O_3$

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[1] Other lists of proposed international non-proprietary names can be found in *Chron. Wld Hlth Org.*, 1953, *7*, 299; 1954, *8*, 216, 313; 1956, *10*, 28; 1957, *11*, 231; 1958, *12*, 102; 1959, *13*, 105; *WHO Chronicle*, 1959, *13*, 152; 1960, *14*, 168, 244; 1961, *15*, 314; 1962, *16*, 385; 1963, *17*, 389; 1964, *18*, 433; 1965, *19*, 446; 1966, *20*, 216; 1967, *21*, 70, 478.

Lists of recommended international non-proprietary names were published in *Chron. Wld Hlth Org.*, 1955, *9*, 185; 1959, *13*, 106; *WHO Chronicle*, 1959, *13*, 463; 1962, *16*, 101; 1965, *19*, 165, 206, 249; 1966, *20*, 421; 1967, *21*, 538.

[2] *Off Rec. Wld Hlth Org.*, *60*, 3 and 55 (resolution EB15.R7).

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA
kellofyllinum kellofylline	[2-[(9-methoxy-7-methyl-5-oxo-5*H*-furo[3,2-*g*][1]benzopyran-4-yl)oxy]ethyl]trimethylammonium theophylline derivative $C_{25}H_{29}N_5O_7$
mefenorexum mefenorex	*N*-(3-chloropropyl)-α-methylphenethylamine $C_{12}H_{18}ClN$
menoctonum menoctone	2-(8-cyclohexyloctyl)-3-hydroxy-1,4-naphthoquinone $C_{24}H_{32}O_3$
mequidoxum mequidox	3-methyl-2-quinoxalinemethanol 1,4-dioxide $C_{10}H_{10}N_2O_3$
mitomalcinum mitomalcin	an antibiotic obtained from cultures of *Streptomyces malayensis*, or the same substance obtained by any other means
monometacrinum monometacrine	9,9-dimethyl-10-[3-(methylamino)propyl]acridan $C_{19}H_{24}N_2$
nadidum nadide	3-carbamoyl-1-β-D-ribofuranosylpyridinium hydroxyde, 5′-ester with adenosine 5′-pyrophosphate, inner salt $C_{21}H_{27}N_7O_{14}P_2$
nalmexonum nalmexone	7,7a,8,9-tetrahydro-3,7a-dihydroxy-12-(3-methyl-2-buten-6*H*-8,9c-iminoethanophenanthro[4,5-*bcd*]furan-5(4a*H*)-one *or* 7,8-dihydro-14-hydroxy-N-(3-methyl-2-butenyl)-normorphinone $C_{21}H_{25}NO_4$
nebramycinum nebramycin	an antibiotic obtained from cultures of *Streptomyces tenebrarius*, or the same substance obtained by any other means
nitroxinilum nitroxinil	4-hydroxy-3-iodo-5-nitrobenzonitrile $C_7H_3IN_2O_3$
octodrinum octodrine	1,5-dimethylhexylamine $C_8H_{19}N$
oxogestonum oxogestone	20β-hydroxy-19-norpregn-4-en-3-one $C_{20}H_{30}O_2$
pancuronii bromidum pancuronium bromide	(3α,17β-dihydroxy 5α-androstan-2β,16β-ylene)bis[1-methylpiperidinium]dibromide diacetate $C_{35}H_{60}Br_2N_2O_4$
parbendazolum parbendazole	methyl 5-butyl-2-benzimidazolecarbamate $C_{13}H_{17}N_3O_2$
penoctonii bromidum penoctonium bromide	diethyl(2-hydroxyethyl)octyl ammonium bromide diphenylacetate $C_{26}H_{50}BrNO_2$
piprozolinum piprozolin	ethyl 3-ethyl-4-oxo-5-piperidino-$\Delta^{2,\alpha}$-thiazolidineacetate $C_{14}H_{22}N_2O_3S$
pirralkonii bromidum pirralkonium bromide	bis[3-(2,5-dimethyl-1-pyrrolidinyl)propyl]hexadecylmethylammonium bromide $C_{35}H_{72}BrN_3$
prazitonum prazitone	5-phenyl-5-(2-piperidylmethyl)barbituric acid $C_{16}H_{19}N_3O_3$
propizepinum propizepine	6,11-dihydro-6-[2-(dimethylamino)-2-methylethyl]-5*H*-pyrido[2,3-*b*][1,5]benzodiazepin-5-one $C_{17}H_{20}N_4O$
sulbentinum sulbentine	3,5-dibenzyltetrahydro-2*H*-1,3,5-thiadiazine-2-thione $C_{17}H_{18}N_2S_2$
taloximinum taloximine	4-[2-(dimethylamino)ethoxy]-1(2*H*)phthalazinone oxime $C_{12}H_{16}N_4O_2$
tilidinum tilidine	ethyl 2-(dimethylamino)-1-phenyl-3-cyclohexene-1-carboxylate $C_{17}H_{23}NO_2$
triclofyllinum triclofylline	7-[2-(2,2,2-trichloro-1-hydroxyethoxy)ethyl]theophylline $C_{11}H_{13}Cl_3N_4O_4$
volazocinum volazocine	*cis*-3-(cyclopropylmethyl)-1,2,3,4,5,6-hexahydro-6,11-dimethyl-2,6-methano-3-benzazocine $C_{18}H_{25}N$

ORGANIZATIONAL TELEPHONE LISTING

Notice in the Dec. 19, 1967, OFFICIAL GAZETTE, gave information concerning the new telephone procedure for reaching the Patent Office at Crystal Plaza. It also indicated that an up-to-date listing of all telephone extensions would be published as soon as compiled.

Listed below is the current Patent Office organizational listing of all Patent Office telephone extensions. The telephone codes shown are used only by government employees. For informational purposes, Code 161 identifies all Patent Office employees located at Crystal Plaza; Code 189 identifies all Patent Office employees located in Washington.

To reach Crystal Plaza by direct dialing, dial 557 plus the 4-digit extension number; if the extension number is unknown, the Crystal Plaza switchboard is 557-1221. The area code is 703.

To reach Patent Office employees still located in Washington, dial 967 plus the 4-digit extension number; if the extension is unknown, the Commerce switchboard number is STerling 3-9200. The area code is 202.

Additional copies of the telephone listing may be obtained by purchasing the April 9, 1968 Decisions Leaflet from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402 for 20¢ each.

C. A. KALK,
Mar. 18, 1968. *Director of Administration.*

PATENT OFFICE

Information, rm3600, Main Commerce Bldg., Wash., D.C	967–2466
Information, Lobby, Bldg. 3, Crystal Plaza, Arl., Va	557–3080

OFFICE OF THE COMMISSIONER OF PATENTS

	Code	Ext
Commissioner Edward J Brenner rm11E10 CP–3	161	3071
Special Assistant C F Gareau rm11E08 CP–3	161	3073
Secretary Margaret McCarthy rm11E10 CP–3	161	3071
Administration, Office of		
Research, Development & Analysis, Office of		
First Assistant Commissioner Edwin L Reynolds rm11D27 CP–3	161	3055
Secretary Dorothy M Boyden rm11D27 CP–3	161	3055
Board of Appeals		
Board of Patent Interferences		
Solicitor, Office of		
Trademark Examining Operation		
Trademark Trial & Appeal Board		
Assistant Commissioner Richard A Wahl rm11A13 CP–3	161	3811
Special Assistant William Feldman rm11A13 CP–3	161	3054
Secretary Hazel E Jeffries rm11A13 CP–3	161	3811
Examining & Documentation Control, Office of		
Patent Examining & Documentation Operations		
Patent Services, Office of		
Assistant Commissioner Gerald D O'Brien rm11D23 CP–3	161	3061
Secretary June M O'Conner rm11D23 CP–3	161	3061
Information Services, Office of		
International Patent & Trademark Affairs, Office of		
Legislative Planning, Office of		

OFFICE OF ADMINISTRATION

Director of Administration C A Kalk rm3600	189	3741
Secretary Virginia M Cersley rm3600	189	3741
Administrative Assistant James Merna rm3600	189	3741
Administrative Services Division V F Tobin rm3600	189	3741
Correspondence & Mail Branch J E Clifton Jr rm1600	189	3886
Assistant R T Collins rm1600	189	3886
File Section W Anderson rm1092	189	2487
Incoming Mail Ruby H Stinnett rm1087B	189	3886
Receptionist & Information Lobby CP–3	161	3080

	Code	Ext
Receptionist & Information rm1600	189	2466
Register of Patents rm1600	189	4076
Office Services Branch Robert E Gardiner rmB087	189	2880
Assistant Christine Major rmB087	189	2880
Procurement Section rmB087	189	2583
Model & Receiving Section rmB618	189	5170
Telephone Installations rmB087	189	2583
Travel Services rmB087	189	2880
Printing & Records Management Branch Howard Hood rm3087B	189	5293
Ira Penn rm3087B	189	5293
Nancy Woods rm3087B	189	5293
Budget & Finance Division W F Vier rm6880	189	3871
Secretary Madge W Greenlee rm6880	189	3871
Budget Branch John L Walter (Acting) rm6880	189	3871
Finance Branch Fred E Bear rm1099A	189	4791
Assistant H H Franklin rm1099A	189	4791
Accounting & Cost Analysis Section J S Rossen rm1097	189	4767
Deposit Fund Account Unit Izola Williams rm1096	189	2589
Employee Account Section Lucille Metts rm2097	189	4746
Receipts Control Section Ruby Kesterson rm1099	189	2048
Personnel Division		
Personnel Officer W E Ingram rm3609	189	2896
Secretary Sandra J Sullivan rm3609	189	2896
General Inquiry and Reception rm3622	189	4362
Classification and Wage Branch H N Major (Acting) rm3609	189	2896
Secretary Vicky A Loyd rm3609	189	2896
Employment & Employee Relations Branch R O Rothermel rm3623	189	4654
Promotion Plan Anne E Kavanagh rm3623	189	4654
Management Group Relations Branch rm3622	189	4362
J C Jones rm3622	189	4362
Incentive Awards R M Haresnape rm3616	189	4362
Employee Development Branch W H Hokans rm1D03 CP-3	161	3431
Career Development J Robert Ernst rm1D03 CP-3	161	3431
Clerical Development Section Ellen D McAra CP-3	161	3440
Operations Branch Barbara S Shultz rm3622	189	4362
Personnel Records Information rm3622	189	4362

OFFICE OF PLANNING AND PROGRAMMING

	Code	Ext
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353	Miscellaneous Hardware, Locks, Closure Fasteners, Electrical Connectors M A Champion rm4C17 CP-3	161	3007
354	Earth Engineering, Drilling & Mining C E O'Connel rm4C17 CP-3	161	3011
355	Tents, Safes, Scaffolds & Closures D J Williamowsky rm4C17 CP-3	161	3021
356	Building Structures F L Abbott rm4C17 CP-3	161	3201
357	Furniture B R Gay rm4C17 CP-3	161	3017
360	Textiles, Cleaning & Fluid Handling rm3C17 CP-3	161	3454
	Manager W S Cole rm3C17 CP-3	161	3400
	Clerk Clara Desmukes rm3C17 CP-3	161	3454

		Code	Ext
361	Fluid Handling W F O'Dea rm3C17 CP-3	161	3401
362	Fluid Control & Separation M C Nelson rm3C17 CP-3	161	3404
363	Fluid Conducting, Filling & Personal Use L D Geiger rm3C17 CP-3	161	3407
364	Textiles & Their Manufacture M Stein rm3C17 CP-3	161	3411
365	Apparel & Apparel Apparatus J Franklin rm3C17 CP-3	161	3414
366	Winding, Reeling, Spinning & Braiding F J Cohen rm3C17 CP-3	161	3417
367	Material Surface Treatment C A Willmuth rm3C17 CP-3	161	3421
368	Laundering, Compressing, Mixing & Foods W A Scheel rm3C17 CP-3	161	3451

OFFICE OF INFORMATION SERVICES

Director of Information Services Isaac Fleischmann rm1D01 CP-3	161	3428
Secretary rm1D01 CP-3	161	3428
Information Technician Oscar G Mastin rm1D01 CP-3	161	3428
Publications James E Wheat Jr rm1D01 CP-3	161	3428
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Secretary Opal M Johnson rm10D03 CP-3	161	3957
Patent Affairs		
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J H Merchant rm10D03 CP-3	161	3957
W A Smith III rm10D03 CP-3	161	3957
R D Tegtmeyer rm10D03 CP-3	161	3957
Trademark Affairs		
David Allen rm10D03 CP-3	161	3957

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF MARCH 11, 1968

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
CHEMICAL EXAMINING OPERATION—I. MARCUS, Director.		
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—R. L. CAMPBELL, Manager Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	2-12-65	8-10-62
GENERAL ORGANIC CHEMISTRY, GROUP 120—M. STERMAN, Manager Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	5- 7-65	12-28-62
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Manager Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping and Treating Processes.	4-27-65	3-22-63
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—J. R. LIBERMAN, Manager Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	2-10-65	8-10-62
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Manager Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	1- 8-65	1-29-64
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—J. F. COUCH, Acting Manager Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	6-24-65	12-31-63
SECURITY, GROUP 220—S. BOYD, Manager Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	5-26-65	8-20-64
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—M. L. LEVY, Manager Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	10-20-64	6-18-62
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Manager Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	9-21-64	3-14-62
PHYSICS, GROUP 280—R. L. EVANS, Manager Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	10- 1-65	6-24-63
DESIGNS, GROUP 290—S. BOYD, Manager Industrial Arts; Household, Personal and Fine Arts.	4-12-67	4-20-66

Total number of pending applications (excluding Designs)	174, 257
Total number of Design applications pending	3, 692
Total number of applications awaiting action (excluding Designs)	124, 960
Total number of Design applications awaiting action	1, 718
Date of oldest new application awaiting action	Sept. 21, 1964
Date of oldest amended application awaiting action	March 14, 1962

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during May 1968, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1953*.

Patents	Numbers 2,550,660 to 2,555,299, inclusive
Plant Patents	Number 1,012

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
MECHANICAL EXAMINING OPERATION—F. H. BRONAUGH, Director.		
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Manager Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	10-20-66	1- 4-65
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Manager Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders; Woodworking; Tools; Cutlery; Jacks.	4-11-66	7- 2-63
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Manager Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	10-11-65	5-14-64
HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Manager Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	10- 6-66	8- 4-65
FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures.	9- 2-66	3- 5-64
TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—W. S. COLE, Manager Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.	3-21-66	5-20-63

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

In re Herbert Muth

No. 7762. Decided March 9, 1967

[54 CCPA—; 373 F.2d 744; 152 USPQ 809]

1. Patentability — Combining References — Obviousness — Swallowable Transmitter Art.

"Appellant states the issue here as 'whether it is obvious, within the meaning and spirit of 35 U.S.C. 103, to apply the diversity principle known in the radio art to the swallowable transmitter art.' We agree with the Patent Office tribunal that it is obvious. We think that Bieganski's disclosure of a 'loop antenna' system would cause the ordinarily skilled artisan to resort to the loop antenna art for details as to the design and arrangement of such devices. In that art the Patent Office classifies at least some of the numerous patents describing the diversity principle, which relates to the use of switches and a plurality of antennas with nonparallel axes in order to insure reception of the strongest signals emitted by a radio transmitter."

2. Same—Same—Same—Same.

"* * * the prior art recognition that the essence of the problem is orientation of the transmitter axis in relation to that of a single antenna clearly suggests, we think, that the problem might be solved satisfactorily by redesigning *either* the pill-type transmitter or the antenna reception system. Since both the 1958 MacKay article and the Bieganski patent (application filed May 6 1958) clearly disclose the use of loop antenna systems, we think it would have been obvious to the skilled artisan to resort to the loop antenna art for details as to the design and arrangement of such devices, at the time appellant's invention was made, which we consider to be January 16, 1960, the filing date of appellant's counterpart German application, priority of which is claimed under 35 U.S.C. 119. The secondary references disclose the use of a plurality of such antennas having non-parallel axes in diversity receiver systems such as those disclosed and claimed by appellant."

3. Same—Particular Subject Matter—"Receiver Arrangement."

The refusal of certain claims in an application entitled "Receiver Arrangement," as unpatentable over the prior art, is affirmed.

AFFIRMED.

George H. Spencer, Harvey Kaye for appellant.

Joseph Schimmel (*Fred W. Sherling*, of counsel) for the Commissioner of Patents.

Before Worley, *Chief Judge*, and Rich, Smith, and Almond, *Associate Judges*

Almond, *J.*, delivered the opinion of the court.

This is an appeal from the decision of the Board of Appeals affirming the rejection of claims 1 to 3 of appellant's application Serial No. 80,235, filed January 3, 1961, for "Receiver Arrangement."

The invention relates to a system for receiving the signals emitted by a swallowable pill-type transmitter, or endoradiosonde, which is located in the digestive tract of a patient. The signals picked up by the external receiving coils correspond to measured conditions in the patient's digestive tract, such as the pH factor. Basically, appellant's invention resides in the use of a plurality of receiving coils, preferably two or three, with non-parallel axes. This solves the problem inherent in the fact that the endoradiosonde, while traveling through the digestive tract, may become so oriented that the inductive coupling between the transmitting and receiving coils may at times be zero, when only one coil of each type is used, with the result being that no signal is picked up by the receiver system.

Generic claim 1 is illustrative:

> 1. A receiver arrangement for use with a swallowable pill-type transmitter having a transmitting coil, said receiver arrangement comprising, in combination: a plurality of receiving coils having non-parallel axes; receiver output means; and circuit means interposed between said plurality of receiving coils and said output means for connecting to the latter the particular receiving coil having, at any given instant, the highest coupling with the transmitting coil, and therefore capable of feeding the strongest signal to said output means.

Dependent claims 2 and 3 are directed to specific embodiments having three receiving coils with axes in mutually perpendicular planes, and two coils with non-parallel, non-perpendicular axes, respectively.

The references relied on are as follows:

Martin, 1,719,896, July 9, 1929.
Moore, 1,849,632, March 15, 1932.
Fisher, 1,855,184, April 26, 1932.
Grimes, 2,250,370, July 22, 1941.
McDonald, 2,551,805, May 8, 1951.
Crosby, 2,720,583, October 11, 1955.
Bieganski, 3,051,896, August 28, 1962 (filed May 6, 1958).

Bieganski, the primary reference, describes an external system for use with a "radio pill," or endoradiosonde, located in the gastrointestinal tract. The reference discloses that "[a] loop antenna may be used to provide the inductive coupling between the pill circuit and the resonant circuit of the apparatus."

The secondary references disclose, inter alia, various arrangements of loop antennas and diversity reception systems utilizing a plurality of such antennas and switches connecting the antennas receiving the strongest signals to the output means.

Martin, for example, shows "a receiving circuit which takes advantage of the difference in the space absorption characteristics of two loop antennae * * * placed with their axes perpendicular to each other." The patent further discloses that "the signal from three antennae at one point may be combined, as would be obtained by the use of two crossed loops and a vertical antenna."

Fisher describes a radio receiving system which includes two loop antennas, and states that "[b]est results are secured by maintaining an angular relation between the planes of [the two loop antennas], although this angular relation is generally somewhat less than 90 degrees."

The Examiner's position is that it would be obvious to modify the loop antenna system disclosed by Bieganski in light of the secondary references, particularly Martin and Fisher. The Examiner concisely stated his reasoning in the final rejection as follows:

> In summation, a loop antenna arrangement in connection with a swallowable pill-type transmitter is old in the art [Bieganski]; a loop antenna diversity system is old in the art [Martin, Fisher, and the other secondary references of record]; thus a loop antenna diversity receiver system can find one application in connection with a swallowable pill-type transmitter, and such an application would be obvious to one possessing ordinary skill in the art.

In affirming the Examiner, the Board adopted his position as its own. [1] Appellant states the issue here as "whether it is obvious, within the meaning and spirit of 35 U.S.C. 103, to apply the diversity principle known in the radio art to the swallowable transmitter art." We agree with the Patent Office tribunal that it is obvious. We think that Bieganski's disclosure of a "loop antenna" system would cause the ordinarily skilled artisan to resort to the loop antenna art for details as to the design and arrangement of such devices. In that art the Patent Office classifies at least some of the numerous patents describing the diversity principle, which relates to the use of switches and a plurality of antennas with nonparallel axes in order to insure reception of the strongest signals emitted by a radio transmitter.

Appellant argues that Bieganski's use of the term "loop antenna" is confusing and "technically inaccurate because the arrangement shown in Bieganski involves the use of coils which are inductively or magnetically coupled with each other." In response to this argument, the Examiner pointed out the disclosure in Grimes that "a loop antenna is primarily responsive only to the magnetic component of the desired electromagnetic wave signal," which shows that a loop antenna is, in effect, a magnetically coupled, or inductive, coil. Also, while the inductive coil *shown* by Bieganski may not, in strict terminology, be a loop antenna, we note the reference disclosure that the depicted inductor "may actually be a loop antenna in order to provide inductive coupling * * *." Thus the patent specification clearly discloses a loop antenna system, even if the drawings are not considered to show one.

The MacKay article in the January 3, 1958, engineering edition of "Electronics," entitled "Pill Telemeters From Digestive Tract," is also pertinent here in its disclosure that the "[s]ignal is picked up by antenna loop connected to receiver." It is evident that both Bieganski and MacKay describe the use of loop antenna systems together with endoradiosondes.

Appellant cites the MacKay article and a 1959 German publication entitled "Nachrichtentechnik," vol. 9, p. 452, as evidence that the problem of orientation of the main axis of the pill-type transmitter relative to the receiving antenna is one which was recognized to exist in the prior art. We agree that this is relevant evidence, and that the proposals disclosed by MacKay for modifying the transmitter design are also relevant evidence of the unobviousness of appellant's solution of the problem by modification of the receiver system. See *Graham* v. *John Deere Co.*, 383 U.S. 1, 17–18, 148 USPQ 459, 467.

[2] However, the prior art recognition that the essence of the problem is orientation of the transmitter axis in relation to that of a single antenna clearly suggests, we think that the problem might be solved satisfactorily by redesigning *either* the pill-type transmitter or the antenna reception system. Since both the 1958 MacKay article and the Bieganski patent (application filed May 6, 1958) clearly disclose the use of loop antenna systems, we think it would have been obvious to the skilled artisan to resort to the loop antenna art for details as to the design and arrangement of such devices, at the time appellant's invention was made, which we consider to be January 16, 1960, the filing date of appellant's counterpart German application, priority of which is claimed under 35 U.S.C. 119. The secondary references disclose the use of a plurality of such antennas having nonparallel axes in diversity receiver systems such as those disclosed and claimed by appellant.

[3] Since we find no reversible error in the decision of the Board, that decision is affirmed.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE RICHARD C. BYCE AND JACK K. DALE

No. 7789. Decided June 2, 1967

[54 CCPA—; 378 F.2d 942; 153 USPQ 810]

1. PATENTABILITY—EVIDENCE—OBVIOUSNESS—STATE OF THE ART—OPINION BY PATENTEE.

"The van Loo patent is relied on [by the appellants] for the same purpose as Miller. We do not find it any more convincing than Miller. The factual disclosure in van Loo is that neomycin *is* compatible with certain anionic agents for treating textiles and statements therein that such result is unexpected express no more than an opinion of the patentee."

2. SAME—COMPOSITION—OBVIOUSNESS—PROPERTIES OF COMPOSITION MUST BE CONSIDERED.

"It is true that the properties of a composition, like those of a compound, must be considered in determining the question of obviousness."

3. SAME—COMPOSITION—SYNERGISM—INSUFFICIENT TESTS FOR BROAD CLAIMS.

"Although the application specifies as many as 15 compounds as examples of operable anionic detergents, test results are set forth on only four of them. We do not think that a showing of synergistic effects with but 4 of 15 compounds is convincing that the remainder of the disclosed compounds would provide similar effects, particularly in the absence of disclosure that any of them have such properties. Moreover, the anionic detergents is designated generically in most of the claims, and even the two claims which define the detergent somewhat more specifically (as sodium alkyl aryl sulfonate and a fatty alcohol sulfate, respectively) are not limited to the compounds on which tests are reported."

4. SAME—SAME—SAME—SAME.

"The tests referred to in the third aspect of the affidavit advanced by appellants include a comparison of the effect of one of appellants' anionic detergents, sodium lauryl sulfate, on neomycin with its effect on the tyrothricin employed by Craige. Such test may be considered as a comparison of the tested neomycin product with the prior art of Craige modified by the substitution of sodium lauryl sulfate for soap, in contrast to merely a showing as to the undisclosed property of synergism. So viewed, however, the scope of the test is entirely too limited [considering the breadth of the claims and that only four of fifteen disclosed anionics were tested for synergism] to be of significance on the question of obviousness of the claimed invention."

5. SAME—PARTICULAR SUBJECT MATTER—NEOMYCIN ANIONIC DETERGENT COMPOSITION.

The refusal of certain claims to neomycin anionic detergent compositions, as unpatentable over the prior art, is affirmed.

AFFIRMED.

Joseph K. Andonian (*Eugene O. Retter*, of counsel) *Edward G. Jones* for appellants.

Joseph Schimmel (*Raymond E. Martin*, of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, RICH, SMITH, and ALMOND, *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK [1]

SMITH, *J.*, delivered the opinion of the court.

Appellants appeal from a decision of the Board of Appeals which affirmed the final rejection of claims 1 through 10 of their application.[2] The application relates to "anionic detergent compositions containing neomycin and certain salts thereof."

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[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

[2] Serial No. 257,777, filed February 11, 1963.

The appealed claims stand or fall together. Claim 1 is illustrative and reads:

> 1. A germicidal detergent composition characterized by effective detergency and consisting essentially of a water-soluble, non-soap, synthetic, organic, anionic detergent and a germicidally-effective concentration of neomycin.

The issue is whether the claims were properly rejected under 35 U.S.C. 103 as obvious in view of certain prior art relied on below.

The prior art is:

Craige et al. (Craige), 2,484,784, Oct. 11, 1949.
Mast et al. (Mast), 2,730,483, Jan. 10, 1956.
Parker et al. (Parker), 2,830,011, Apr. 8, 1958.
O'Keeffe et al. (O'Keeffe), 71 J. Am. Chem. Soc. 2452 (1949).
69 Drug and Cosmetic Industry, 87 (1951).
154 J. Am. Med. A., 338 (1954).

In urging that the claimed subject matter is not obvious, appellants rely on an affidavit of a bacteriologist, Dr. Sokolski, submitted to show unexpected results. They also refer to an article[3] by Miller and a patent to van Loo et al. (van Loo).[4]

The Prior Art

Craige discloses a bactericidal "synergistic" mixture of the antibiotic tyrothricin and 2-2′-dihydroxy-5-5′-dichlorodiphenylmethane which may be incorporated with "solid or semi-solid substances; such as soaps, ointments, vanishing creams and similar compositions for topical use." It states that from about 0.0001 to 5% of tyrothricin is preferred in most compositions.

Mast discloses that the combination of neomycin, preferably employed as the sulfate, and gramicidin dispersed in a suitable medium results in "synergistic" bactericidal activity. In an example, the two antibiotics are incorporated in an ointment which includes 2 percent by weight of sodium lauryl sulfate.

Parker teaches that bactericidal properties can be imparted to various textiles by means of neomycin in various forms including the sulfate. It states that such properties "will remain after cleansing operations or manufacturing and finishing processes, even at elevated temperatures."

O'Keeffe teaches separation of streptomycin, which is a cationic antibiotic, from unwanted compounds by adding a carrier to make it preferentially soluble in organic solvents. The publication states that the carrier can be "any of the common anionic detergents," setting forth examples.

Drug and Cosmetic Industry discloses that the effect of penicillin on staphylococci is "potentiated" by the addition of a detergent and that solutions of penicillin with an anionic detergent, such as Tergitol, were effective in the topical treatment of chronic osteomyelitis.

Journal of American Medical Association discloses that neomycin sulfate is an extremely stable broad spectrum antibiotic and is useful for topical applications.

Miller states that incompatibility of surface-active agents has been predicated on the proposition that a mixture of cationic and anionic surface-active agents results in a loss of surface activity and often precipitation. It is suggested that such a system of prediction be extended to include other chemical compounds of high molecular weight. Test results of 100 combinations of one of 10 named cationic compounds with one of 10 named anionic compounds are set forth.

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[3] 13 J. Am. Phar. A. 657–59 (1952).

[4] No. 3,174,905, March 23, 1965.

The van Loo patent states that while the use of cationic germicides with anionic detergents in washing machines generally causes precipitation of the active portion of both materials, neomycin is not only compatible "but [is] beneficial when combined in the presence of other salts with a large class of anionic and nonionic treating agents * * * ."

Examiner's Position

The Examiner rejected all the claims "under 35 U.S.C. 103" as covering an invention he held to be obvious over the combination of Craige, Drug and Cosmetic Industry and O'Keeffe in view of Mast taken with Parker and Journal American Medical Association. He held that the primary references teach that germicidal compositions may comprise an antibiotic and soap or non-soap anionic detergent. He stated:

> No patentable invention can be seen in the substitution of neomycin or its salts for the antibiotics of the primary references in view of the secondary references which teach that neomycin (1) is soluble in water, (2) is effective topically, (3) is stable, (4) is very active in alkaline solutions, (5) is unaffected by normal cleaning operations, (6) possesses wide antibacterial spectra and (7) is superior to other antibiotics, such as tyrothricin.
>
> This substitution is deemed to logically flow from the teachings of the prior art, i.e., the use of a later discovered and more potent antibiotic in place of an older less potent antibiotic in the same relationship (together with anionic detergents). From the very nature of neomycin, it would seem logical to expect better results. * * *

Opinion

Appellants' position is summarized in their brief as follows:

> The combination of the *cationic* antibiotic neomycin with a *non-soap anionic* detergent required nonobvious selection, for the state of the art teaches away from the combination.
>
> Appellants' evidence rebuts any inference of obviousness of their composition, for the said evidence includes unexpected difference in kind of antibacterial activity over the prior art.

With respect to their first point,[5] appellants emphasize the opposite ionic nature of the anionic detergent and the cationic neomycin. They refer to the Miller publication and the van Loo patent as evidence that such substances would be expected to be incompatible. On that basis, it is urged that:

> * * * if Craige suggests neomycin plus anionic detergent compositions, those skilled in the art would expect them to have impaired antibacterial activity due to the anionic detergent.

Also, appellants point out what they consider to be deficiencies in the other references insofar as concerns any suggestion that their two ingredients of opposite ionic nature may be combined.

We are unable to agree with appellants on their first point of argument. In the first place we agree with the Examiner that the prior art as disclosed in the references suggests the combination of neomycin with an anionic detergent to provide an effective germicidal detergent composition. In particular, we think the disclosures of the characteristics of neomycin in the secondary references would clearly suggest the substitution of neomycin for tyrothricin in the soap of Craige, just as was found in *Lulek*, supra fn. 4. Moreover, the disclosure in Craige that an antibiotic be used, not just in soaps, but in similar compositions for topical use, taken with the disclosures as to anionic detergents in the other prior art references gives rise to a suggestion that products carrying such detergents be used in Craige for incorporating the antibiotic. Also, the fact, noted in *Lulek*, that neomycin is known to be a more potent antibiotic than tyrothricin, would suggest that lower concentrations of neomycin would be effective.

The antibiotic and detergent of Craige are cationic and anionic, respectively. Also, other prior art, such as Mast, discloses the use of cationic and anionic compounds together. Although appellants argue "Mast is a random fact in an otherwise whole teaching that substances of opposite anionic [sic] nature are not to be combined," it is undisputed that Mast discloses the combination of sodium lauryl sulfate, which is anionic, and neomycin.

Appellants' argument that Miller's discussion of incompatibility of cationic and anionic compounds would cause a person of ordinary skill to avoid making the substitutions suggested by the prior art references is not convincing. Miller is not directed specifically to combinations of detergents of one polarity and antibiotics of the opposite polarity but to the broader fields of combined surface-active agents and drugs generally. As already pointed out, of 100 combinations resulting from the combination of anionic and cationic compounds only 52 were incompatible on the basis of immediate precipitation, the only test reported. Only one of the 52 involved the combination of an antibiotic, streptomycin sulfate, and a detergent, sodium lauryl sulfate. Moreover, streptomycin sulfate was shown to be incompatible with only 3 of the other 9 anionic compounds with which it was tested. Potassium penicillin G, an anionic substance, was not shown to be incompatible with 6 of the cationic compounds with which it was tested. The impression left by Miller is that the rule he advocates for predicting incompatibility on the basis of unlike ionic properties is open to the possibility of many exceptions.[6]

The affidavit of Sokolski is presented as a factual showing intended to demonstrate that the claimed product possesses unexpected properties and is urged as outweighing the evidence found in the prior art on the question of obviousness. Appellants state that the data therein shows:

> (1) Of the four classes of detergents tested in association with neomycin, namely anionic, nonionic, cationic, and amphoteric, only the anionics unexpectedly potentiated neomycin to the point of synergism against *O. danica*. Those anionics are sodium heptadecylsulfate, sodium dioctylphosphate, sodium laurylsulfate, and sodium laurylsarcocinate, all of which are specifically mentioned in the specification as filed * * *.
>
> (2) Two of the anionic detergents, namely the sodium laurylsulfate and the sodium heptadecylsulfate, unexpectedly potentiated neomycin to the point of synergism against *C. albicans*.
>
> (3) Sublethal concentrations of the anionic detergent sodium laurylsulfate *cnhanced* the germicidal activity of neomycin against *Staphylococcus aureus*, the organism often found on human skin, whereas this sodium laurylsulfate anionic detergent *antagonized* the germicidal activity of the tyrothricin of Craige against *Staphylococcus aureus*. * * *

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[5] Reference is made to the case of *In re Lulek*, 49 CCPA 1323, 305 F.2d 864, 134 USPQ 352, cited by the Examiner and Board and discussed by appellants. The opinion there held that the Craige patent of record here, in combination with other prior art, demonstrated it was obvious to add neomycin to soap to provide a more effective germicidal detergent composition. Although the opinion analyzes Craige thoroughly and is pertinent to the present case, it is obvious that the Patent Office and appellants agree that it does not involve the same issue here or control the outcome.

[1] [6] The van Loo patent is relied on for the same purpose as Miller. We do not find it any more convincing than Miller. The factual disclosure in van Loo is that neomycin *is* compatible with certain anionic agents for treating textiles and statements therein that such result is unexpected express no more than an opinion of the patentee.

[2] It is true that the properties of a composition, like those of a compound, must be considered in determining the question of obviousness. *In re Huellmantel*, 51 CCPA 845, 324 F.2d 998, 139 USPQ 496. However, we do not find the present affidavit persuasive of the patentability of the appealed claims.

[3] Although the application specifies as many as 15 compounds as examples of operable anionic detergents, test results are set forth on only four of them. We do not think that a showing of synergistic effects with but 4 of 15 compounds is convincing that the remainder of the disclosed compounds would provide similar effects, particularly in the absence of disclosure that any of them have such properties. Moreover, the anionic detergent is designated generically in most of the claims, and even the two claims which define the detergent somewhat more specifically (as sodium alkyl aryl sulfonate and a fatty alcohol sulfate, respectively) are not limited to the compounds on which tests are reported.

[4] The tests referred to in the third aspect of the affidavit advanced by appellants include a comparison of the effect of one of appellants' anionic detergents, sodium lauryl sulfate, on neomycin with its effect on the tyrothricin employed by Craige. Such test may be considered as a comparison of the tested neomycin product with the prior art of Craige modified by the substitution of sodium lauryl sulfate for soap, in contrast to merely a showing as to the undisclosed property of synergism. So viewed, however, the scope of the test is entirely too limited to be of significance on the question of obviousness of the claimed invention.

[5] For the foregoing reasons, the decision of the Board is affirmed.

AFFIRMED.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,587,075, R. S. Tice, COCKTAIL GLASS COOLER AND METHOD, **filed** June 17, 1966, D.C., E.D. Mich. (Detroit), Doc. 28544, *The Jet Froster Corporation and Reuben S. Tice* v. *Ikon of America, Inc., and Lionel N. Berck.* Stipulation and order of dismissal with prejudice, Dec. 13, 1967.

2,632,251, W. R. Weaver, TELESCOPE MOUNT, **filed** Nov. 16, 1967, D.C., N.D. Tex. (Dallas), Doc. CA-3-2314, *W. R. Weaver Company* v. *Irv Bentley and Associates et al.*

2,823,133, A. J. Salvador, PARTING AGENT FOR MOLDS, **filed** Nov. 27, 1967, D.C., N.D. Tex. (Dallas), Doc. CA-3-2325, *Miriam T. Salvador, individually and as independent executrix of the estate of Antonio J. Salvador* v. *Furane Plastics, Inc. et al.*

2,885,248, C. S. White, MOLDED BEARING HAVING LOW FRICTION MATING SURFACES; **Re. 24,765,** same, LOW FRICTION FABRIC MATERIAL, **filed** Dec. 29, 1966, D.C. Conn. (New Haven), Doc. 11750, *Charles S. White and Lear Siegler, Inc.* v. *The Heim Universal Corporation.* Dismissed on stipulation, Sept. 7, 1967.

2,938,676, G. H. Magrath, TOP DRIVE SPINNING SPINDLE, **filed** June 29, 1967, D.C. Mass. (Boston), Doc. 6950, *George H. Magrath* v. *Draper Corporation.* Judgment affirmed, Dec. 14, 1967.

2,960,900, C. L. Fender, GUITAR; **D. 186,826,** same, ELECTRIC GUITAR; **D. 192,859,** same, AMPLIFIER AND LOUDSPEAKER UNIT FOR ELECTRICAL MUSICAL INSTRUMENTS, **filed** Nov. 8, 1967, D.C., C.D. Calif. (Los Angeles), Doc. 67-1631-CC, *Columbia Broadcasting System, Inc.* v. *Marco Polo Music Corporation et al.*

3,003,545, R. L. Peacock, TIRE-TRUING MACHINE, **filed** Dec. 11, 1967, D.C., C.D. Calif. (Los Angeles), Doc. 67-1779-PH, *Amermac, Inc., and Roy L. Peacock* v. *Tom Farrington, Inc.*

3,035,294, Stout and Houser, SWEEPER WITH HAND ACTUATED REAR DUMPING DEBRIS RECEPTACLE; **D. 194,051,** same, LAWN SWEEPER, **filed** Nov. 29, 1967, D.C., S.D. Ohio (Columbus), Doc. 67-376, *Parker Sweeper Co.* v. *The E. T. Rugg Co.*

3,191,767, R. P. Glowiak, INDEX TAB CARD CONVERTERS, **filed** Nov. 12, 1965, D.C., N.D. Ill. (Chicago), Doc. 65c1876, *Business Forms Finishing Service, Inc.* v. *Palmer A. Carson and Henry Kovach.* Dismissed with prejudice, Dec. 13, 1967.

3,217,928, H. Burbig, AMUSEMENT DISPENSING DEVICE, **filed** Dec. 14, 1967, D.C., S.D.N.Y., Doc. 67-C-4898, *Henry Burbig* v. *Arnold Freed and A. Freed Novelty, Inc.*

3,278,229, D. L. Bates, CHAIR; **D. 206,118,** same, STOOL, **filed** Sept. 27, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c1661, *Hamilton Cosco, Inc.* v. *Spiller & Spiller, Inc.* Consent judgment, Nov. 16, 1967.

D. 186,826. (See 2,960,900.)

D. 192,859. (See 2,960,900.)

D. 194,051. (See 3,035,294.)

D. 202,878, Burke and Kingdon, BUILDING, **filed** Nov. 24, 1967, D.C., W.D. Ark. (Fort Smith), Doc. 2111, *Pizza Hut, Inc.* v. *Cleve Cotner, doing business as Cleve Cotner Monuments et al.*

D. 203,633, R. M. Neece, AIR CONDITIONER CASING, **filed** Dec. 14, 1967, D.C., N.D. Tex. (Dallas), Doc. CA3-2365, *Dynaplastics, Inc.* v. *Westinghouse Electric Corp.*

D. 205,765, H. Ota, AUTO DEFROSTER, **filed** May 22, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c849, *Fedtro, Inc.* v. *Harben Co. et al.* Judgment order; plaintiff is owner of patent, defendants have infringed; complaint and counterclaim dismissed by agreement, Nov. 8, 1967.

D. 206,118. (See 3,278,229.)

D. 209,467, J. A. King, SHOWER CURTAIN HOOK, **filed** Dec. 13, 1967, D.C., S.D.N.Y., Doc. 67-C-4884, *Ames Shower Curtain Co., Inc.* v. *Heinz Nathanson, Inc.*

Re. 24,765. (See 2,885,248.)

Re. 26,046, M. Gottfried, PRESSURE BANDAGE-SPLINT, **filed** Sept. 22, 1966, D.C., E.D. Mich. (Detroit), Doc. 29011, *Jobst Institute, Inc.* v. *S. H. Camp Company.* Stipulation and order of dismissal without prejudice, Oct. 31, 1967.

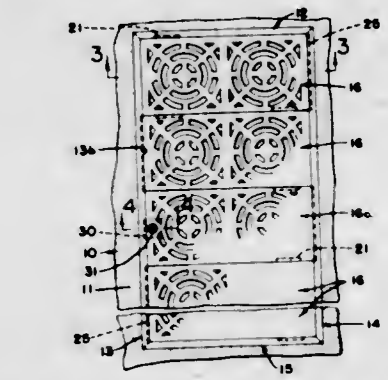
REISSUES

APRIL 9, 1968

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

26,366
INTERLOCKING GRATING AND FRAMING SYSTEM FOR TRENCH DRAINS

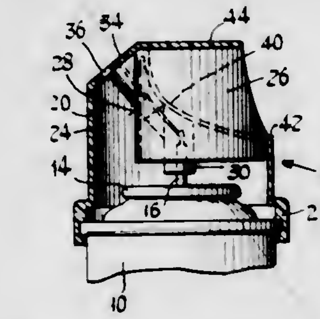
George J. Flegel, Michigan City, Ind., assignor, by mesne assignments, to JOSAM Manufacturing Co., Michigan City, Ind., a corporation of Delaware
Original No. 3,221,616, dated Dec. 7, 1965, Ser. No. 103,310, Apr. 17, 1961. Application for reissue Apr. 7, 1967, Ser. No. 637,019
13 Claims. (Cl. 94—34)



In a poured concrete trench drain, flush framing elements longitudinally rabbeted to receive flush, abutting, metal or plastic trench-covering members upwardly displaying a straight line of abutment, each supported by opposite ends on the rabbet shoulders, including like grate-type members covering the major trench area and having downwardly spaced lateral lugs and lug receiving recesses cooperatively engaged with recesses and lugs of adjacent members and each having on at least one end an integral projection engaged in a frame element rabbet side-wall groove; and locking members having groove engaged-projections on both ends and lateral recesses, disclosed in two types—a narrow filler bar type, and a grate-type with a screw-secured key plate projecting from a recess at the end opposite an integral tongue projection location; rectangular- and sector-shaped grate members being disclosed.

26,367
ACTUATOR CAP FOR SPRAY DISPENSERS

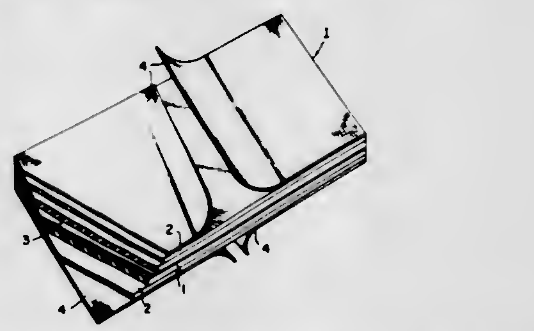
Philip H. Sagarin, Bridgeport, Conn., assignor to Valve Corporation of America, Bridgeport, Conn., a corporation of Delaware
Original No. 3,240,397, dated Mar. 15, 1966, Ser. No. 356,463, Apr. 1, 1964. Application for reissue July 18, 1966, Ser. No. 570,118
10 Claims. (Cl. 222—182)



An actuator cap for a spray dispenser, which comprises a stationary cap body somewhat like an inverted cup, having a side finger opening. Within the body is a depress button which can be reached by the finger tip, inserted in said finger opening, and depressed to effect the discharge. The body has a second opening generally opposite the first, through which the discharge occurs.

26,368
TIRE REPAIR INSERT

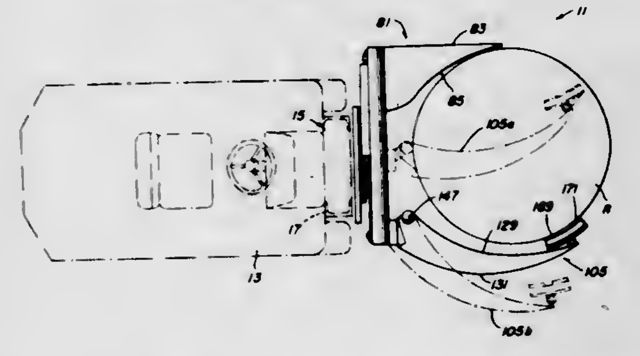
Horace B. Brose, 5013 N. Westshore Blvd., Tampa, Fla. 33614
Original No. 3,174,525, dated Mar. 23, 1965, Ser. No. 325,274, Nov. 21, 1963. Application for reissue Nov. 30, 1966, Ser. No. 607,342
18 Claims. (Cl. 152—370)



A tire repair insert of rubber laminations is doubled lengthwise upon itself, then forced into a tire injury opening where it provides a seal. When installed, its folded end lies beyond the tire inner face where it balloons out into an eye-roll head. A tool used for insertion has a handle at one end spaced from its opposite end where the insert is held. When the handle engages the trailing insert ends at the tread face of the tire, its advance is halted, the insert then being positioned correctly for sealing.

26,369
CLAMP FOR PAPER ROLLS AND THE LIKE

William R. Ellis, 1056 Woodview Drive, Memphis, Tenn. 38117
Original No. 3,252,609, dated May 24, 1966, Ser. No. 294,029, July 10, 1963. Application for reissue Jan. 25, 1967, Ser. No. 617,432
6 Claims. (Cl. 214—652)



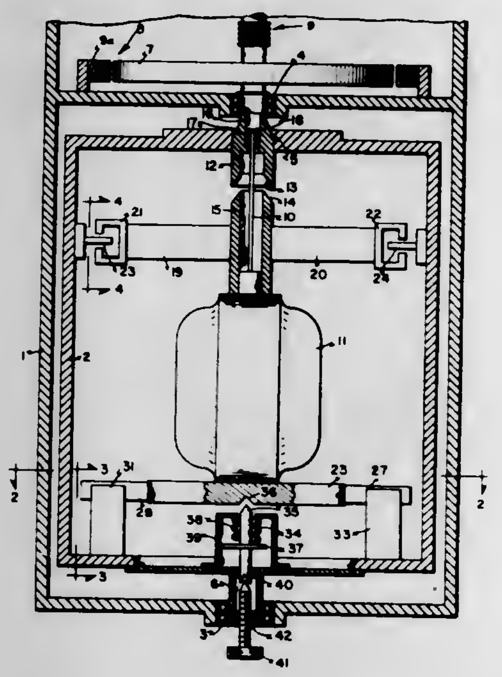
A lift truck with roll handling mechanism for use in handling rolls of paper and the like. The mechanism includes a first plate movably mounted on the mast of the lift truck, a second plate closely spaced in parallel relationship with the first plate, and means rotatably supporting the first plate from the second plate. Roll clamping means including a pair of cooperative clamp arms mounted on the second plate adjacent the front side thereof. The drive means for rotating the second plate is located outside of the space between the first and second *plates to permit a close spacing of the first and second plates for a low load center loss.*

26,370
NORTH SEEKING GYROSCOPE

Harry N. Eklund, Pacific Palisades, Calif., assignor, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware

Original No. 3,172,213, dated Mar. 9, 1965, Ser. No. 10,485, Feb. 23, 1960. Application for reissue Dec. 23, 1966, Ser. No. 607,356

14 Claims. (Cl. 33—226)



The hermetically sealed casing of a horizontal-axis gyroscope rotor is pendulously suspended by a flexible band from a hermetically sealed enclosing container which is filled with hydrogen for heat conduction with low frictional and turbulence-induced torques. A further housing supports the container for follow-up rotation about a vertical axis by servo means controlled by a pick-off between the casing and container. Radial oscillations of the casing are either eddy current damped by magnet and radial blade means or liquid damped by a radially symmetrical damper.

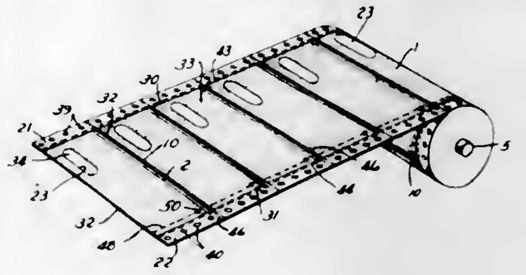
26,371
CONTINUOUS FORM ENVELOPES

Frank L. Schultz, P.O. Box 253,
Alamo, Tex. 78516

Original No. 3,140,816, dated July 14, 1964, Ser. No. 119,176, June 23, 1961. Application for reissue June 6, 1967, Ser. No. 651,060

5 Claims. (Cl. 229—69)

Continuous form mailing envelopes are formed by bringing together two continuous webs of transparent thermoplastic material into contacting relationship after one of the webs is first provided with longitudinally spaced transverse cut-outs whose ends terminate inwardly of the longitudinal edges of the web. At least one of the webs is then coated on the exterior with an ink which is both adherent to the thermoplastic web material and to which printed, typed or stamped indicia will adhere, the coating rendering the coated web translucent or opaque, and also defining a transparent window area if it is on the web which is to be the front of the mailing envelope. Adjacent sides of the webs are then heat-fused together along lines adjacent the longitudinal edges thereof, and also along longitudinally spaced transverse lines so as to form individual envelope compartments. Next the webs are perforated and punched adjacent their longitudinal edges to provide perforations suitable for machine feeding, for facilitating severance of individual envelopes, one from the next, and for facilitating opening of the envelopes.

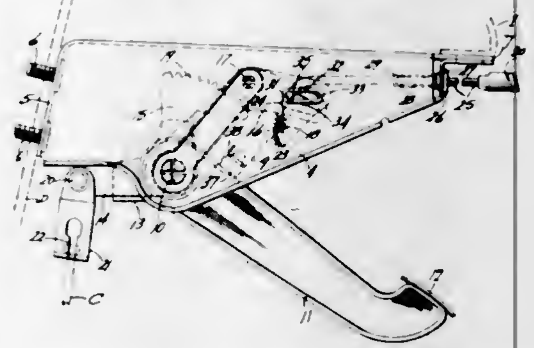


26,372
FOOT-OPERATED, HAND-RELEASED PARKING BRAKE

Joseph R. Kirk, Jackson, Mich., assignor to Atwood Vacuum Machine Company, Rockford, Ill., a corporation of Illinois

Original No. 3,194,085, dated July 13, 1965, Ser. No. 258,352, Feb. 13, 1963. Application for reissue Feb. 23, 1967, Ser. No. 626,644

9 Claims. (Cl. 74—540)



A push and pull rod operable horizontally by a handle conveniently arranged relative to the driver beneath the instrument board has a right angle bent inner end portion slidable in a horizontal slot in a supporting bracket and also slidable in an intersecting cam slot provided in a pawl that is pivoted to the bracket and is arranged to engage teeth in the periphery of a segmental shaped ratchet to hold the parking brake in braking position unless the pawl is moved to a retracted position by an outward pull on the aforesaid handle. The ratchet is pivoted to the same bracket with the pawl and is operable by a foot-pedal. A spring normally holds the rod in its brake release position, and there is another spring that normally holds the pawl in engagement with the teeth of the ratchet except when the rod is pulled to the rear, holding the pawl retracted by cam action. Then the parking brake can be used the same as a regular brake, engaged only so long as the operator keeps the foot-pedal depressed.

PLANT PATENTS

GRANTED APRIL 9, 1968

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,802
CAMELLIA PLANT

Herbert C. Swim, Ontario, Calif., assignor to Armstrong Nurseries, Inc., Ontario, Calif., a corporation of California

Filed Jan. 6, 1967, Ser. No. 607,867

1 Claim. (Cl. Plt.—60)

1. A new and distinct variety of camellia plant of the *Camellia japonica* class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a vigorous, upright-spreading and rather bushy plant habit, with attractive, large and dark green foliage, a moderate to abundant floriferousness, with the flowers borne singly and usually terminally, but sometimes axillary, near the end of the shoots, an attractive, formal-double flower form varying from near perfectly imbricated to a somewhat irregular petal arrangement, with a small cone of petals remaining unopened and no stamens present, but with some flowers being very double rose form and having a few stamens showing at the center, a distinctive, interesting and attractive color between white and very light pink, marked lengthwise on the petals with many small to medium sized irregular streaks, often interspersed with many small specks, all of closely similar but varying shades of Carmine and Crimson, and a long blooming period ranging from February to late April in southern California.

PATENTS

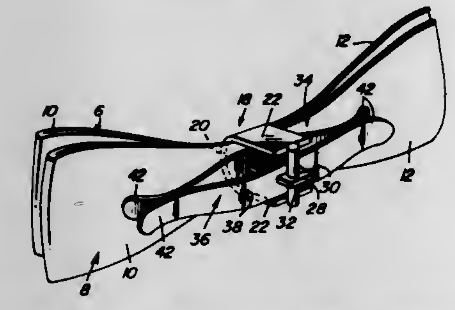
GRANTED APRIL 9, 1968

GENERAL AND MECHANICAL

3,376,579

BOW TIE CONSTRUCTION

Earl M. Kitchen, 1309 Meadowbrook Ave.,
Los Angeles, Calif. 90019
Filed Oct. 13, 1966, Ser. No. 586,425
6 Claims. (Cl. 2—154)

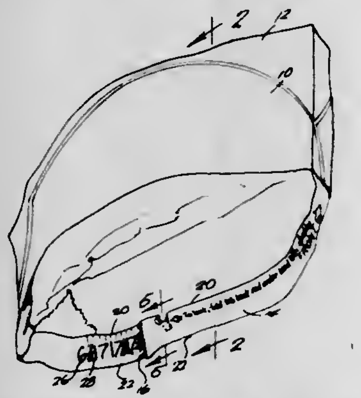


1. A made-up bow tie comprising at least one butterfly-type component having left and right loop-type wings having adjacent inner ends joined by a relatively narrow connecting neck, a readily attachable and detachable tie positioning and retaining clasp embodying a pair of opposed resilient clips having free terminal ends fashioned into and providing yieldable shirt collar gripping jaws, said clips being alike and having median portions opposed to and parallel with an inwardly disposed face of said neck, knot means separate from said tie component and clasp and having portions straddling and cooperating with said neck and said median portions and provided with a tongue piercing said neck and median portions and secured in place and assembling and operatively joining said clasp and tie components in oriented and ready-to-use relationship, said knot means comprises a V-shaped clamp embodying a convexly rounded bight portion spanning the coacting neck portion and spaced parallel limbs bridging and embracing edges of said neck portion and median portions of said clips, said tongue having an outer end joined to said bight portion, said tongue occupying a position between but spaced from said limbs.

3,376,580

PAPER CAPS

Kenneth M. Ashmore, Rte. 4, Freeport, Ill. 61032
Filed Mar. 31, 1966, Ser. No. 539,048
1 Claim. (Cl. 2—197)

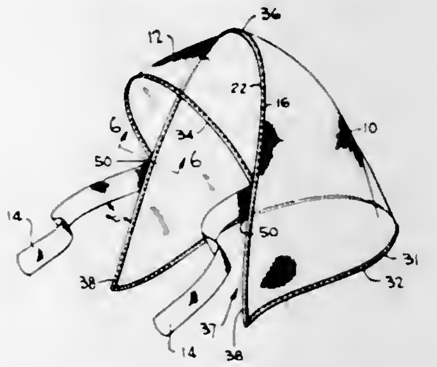


A paper cap having a locking tab on an adjustable headband in which the tab is formed by a pair of transverse cuts in at least one of the bands, an outer band being disposed to carry said transverse cuts, and a series of cuts for incremental sizes being disposed on a portion of an edge of the inner band, including a pair of cuts for cooperating with two of the series of incremental cuts being disposed on the outer band to form locking tabs.

3,376,581

CAPE-TYPE HEAD COVERING

Lillian L. Gettinger, 2509 Shelly Drive,
Baltimore, Md. 21207
Filed Aug. 18, 1967, Ser. No. 661,629
6 Claims. (Cl. 2—209.1)

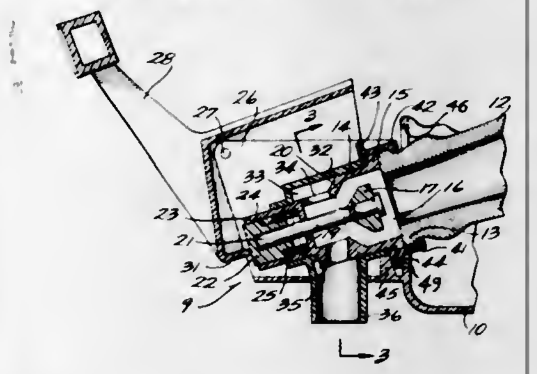


An improved cape-type head covering which serves to protect the wearer's coiffure and shoulder area in the event of inclement weather. The cape-type head covering hereof includes a crown portion and an integral depending skirt portion which together form a cap and cape arrangement. Additionally, a visor portion is incorporated which is extendable to protect the wearer's face and/or front portion of the coiffure against rain, and tie members are included so that the user can secure the device in desired position. Since the arrangement is quite versatile, it is referred to as a reversible head scarf, although it is not necessarily intended to be reversed as such.

3,376,582

DISPENSING NOZZLE FOR LIQUID DISPENSER

Jack S. Samuels, Burlington, Wis., assignor to
Trim Molded Products Co., Inc.
Filed Feb. 23, 1966, Ser. No. 529,525
8 Claims. (Cl. 222—488)

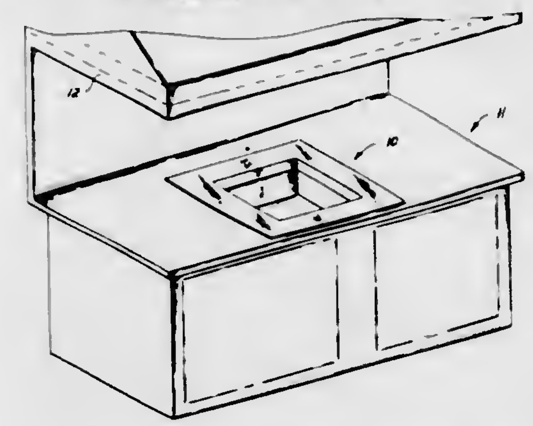


A bottle of carbonated beverage is inclined within the dispenser with its mouth butt joined to a crown seat of the nozzle at a lower leven than the remainder of the bottle. The nozzle includes an inner chamber closed by a valve that is spring biased against a valve seat on the opposite side of the chamber as the mouth of the bottle. An outer foam chamber is located around the inner chamber and communicates therewith through a foam escape port. The inner and outer chambers have coaxial downspouts.

3,376,583

SINK CONSTRUCTION

Louis O. Frey, Wayne, Pa., assignor to Air Control, Inc.,
Norristown, Pa., a corporation of Pennsylvania
Filed May 24, 1965, Ser. No. 458,035
3 Claims. (Cl. 4—187)

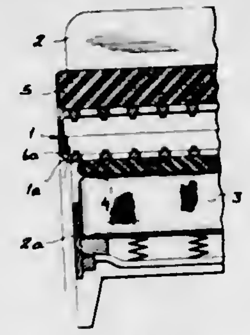


Sink for handling chemical baths. Fume control means including a downwardly directed opening which leads from the sink to a chamber which in turn is connected to an exhaust system. Vapor condenses in the chamber and is collected and drained out through a drain valve.

3,376,584

EQUIPMENT FOR THE VENTILATION OF BEDS

Maximilian Tobolewski, 25/21 Hainholz, 243 Neustadt,
Holstein, Germany
Continuation of application Ser. No. 353,017, Mar. 13, 1964, This application June 13, 1966, Ser. No. 557,320
8 Claims. (Cl. 5—317)

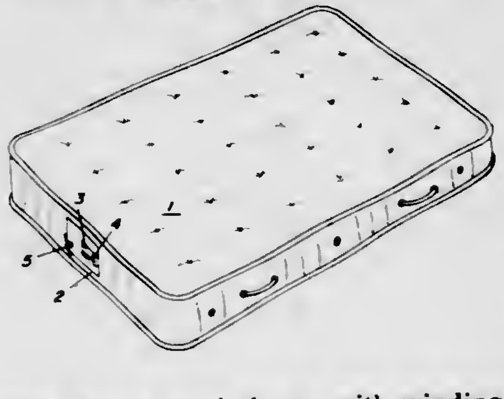


Ventilating device for beds, in the form of a box-shaped insert which laterally overhangs an underlying mattress so as to maintain a space between the mattress and the bed clothes hanging down on both sides of the mattress, the overhanging portion of the insert being slotted or otherwise perforated at the bottom and at the top to facilitate the circulation of air through the insert to an overlying bedsheet.

3,376,585

MUSICAL MATTRESS APPARATUS

Jose Ernesto Muzaurieta, San Juan, Puerto Rico
(Box 9172, Santurce, Puerto Rico 00908)
Filed Dec. 27, 1965, Ser. No. 516,531
1 Claim. (Cl. 5—345)

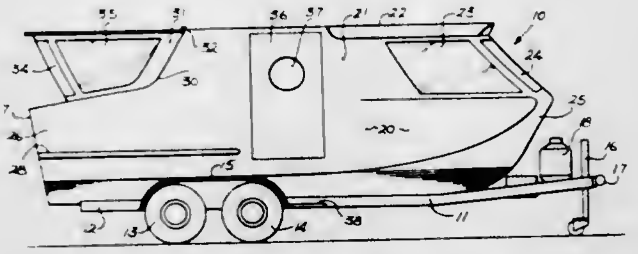


Mattresses having music boxes with winding keys, On-Off switches and sliding loudness knobs are described herein.

3,376,586

CONVERTIBLE HOUSING STRUCTURE

John P. Forsyth and Robert W. Forsyth, both of
1517 N. 3rd Ave., Upland, Calif. 91786
Filed May 12, 1967, Ser. No. 637,980
13 Claims. (Cl. 9—1)

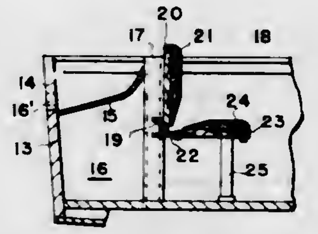


A housing structure is disclosed herein having a hull, a cabin and an open cockpit adapted to be utilized as a boat in normal running operation with the cockpit open, utilized as living quarters with the cockpit enclosed, or utilized as mobile living quarters on land with the cockpit enclosed in combination as an assemblage with a roadable trailer. To achieve the convertible feature to permit changing of the structure to its variety of configurations, a movable flying bridge is provided which is pivotally mounted on the roof of the cabin so as to be readily rotated rearwardly to a first position resting on the hull sides of the boat to enclose the open cockpit or allowed to rest in a second position on the cabin roof to project upwardly so as to serve as a windshield.

3,376,587

FOLDING SEAT AND LOCKER ARRANGEMENT FOR A BOAT HULL

Edward A. Staron, 1713 Homewood Ave.,
Youngstown, Ohio 44502
Filed July 21, 1966, Ser. No. 566,793
3 Claims. (Cl. 9—7)



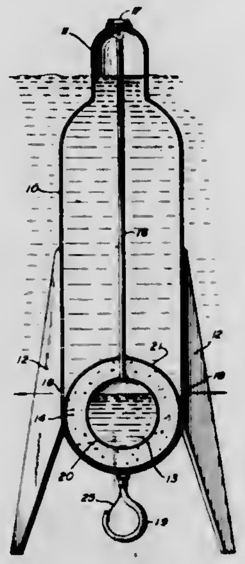
A seat is provided immediately forward of the bailing well of a powerboat and is so mounted that it may be secured in any of three positions: horizontally to provide a seat; vertically downward to provide a cover for the compartment beneath the bailing well of the boat; or substantially vertically upward to provide easy access to the compartment.

3,376,588

BUOY WITH BUOYANCY PRODUCED BY LIQUEFIED GAS VAPORIZATION

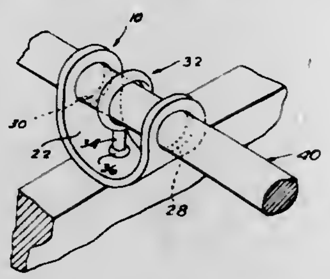
Henri O. Berteaux, Pompano Beach, Fla., and Thomas K. Brown, Chicago, Ill., assignors to Chicago Bridge & Iron Company, Oak Brook, Ill., a corporation of Illinois
Filed Oct. 24, 1965, Ser. No. 504,621
9 Claims. (Cl. 9—8)

Provided is a buoy which can be used to develop buoyancy in water. The buoy comprises a shell which may be either rigid or non-rigid and which is stabilized to maintain an upright position in water. A chamber associated with the shell for holding a liquefied gas, means for delivering vaporized gas from the chamber to the interior of the shell, and port means on the shell through which ballast and water in the shell is expelled to the surrounding body of water as the ballast water is displaced by expanding gas received from the chamber.



3,376,589
OAR GUARD

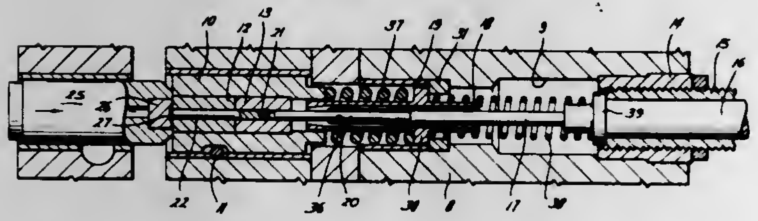
Charles P. Chalcroft, 815 25th Ave. W., Eugene, Oreg. 97405
Filed Sept. 20, 1966, Ser. No. 580,750
2 Claims. (Cl. 9—26)



An oar guard for use in conjunction with an oar and an oarlock, the guard having a flexible body portion with its mid-portion engaged with the oarlock and its extremities engaging the oar on opposite sides of the oar lock to exert a balanced force thereon in the direction of the oarlock.

3,376,590
SOCKETING MACHINE

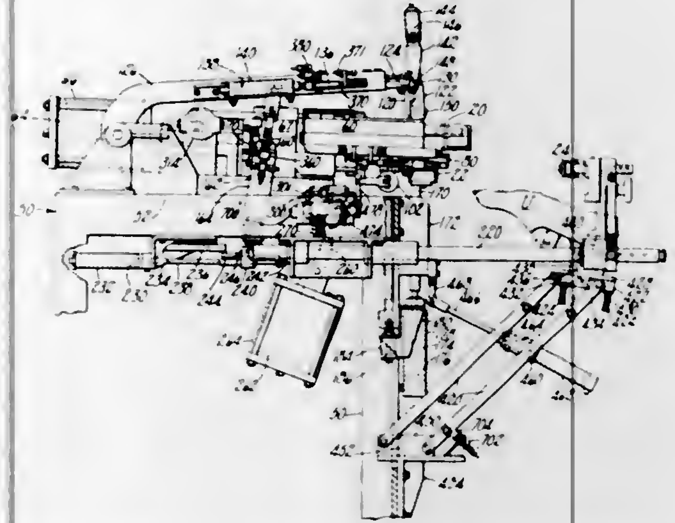
Orville H. Landreth, 7902 Glen Prairie, Houston, Tex. 77017
Filed Mar. 23, 1966, Ser. No. 536,740
8 Claims. (Cl. 10—15)



Apparatus for forming socketed rivets and the like including a plain, cylindrical punch and a collet chuck received thereabout, the punch and collet having engaging wedging surfaces whereby when these parts are advanced to push the formed rivet out of the machine, the punch will be securely gripped by the collet so that the work piece can be disengaged from the punch as by retracting the collet and the gripped punch into the machine.

3,376,591
TOE LASTING MACHINES

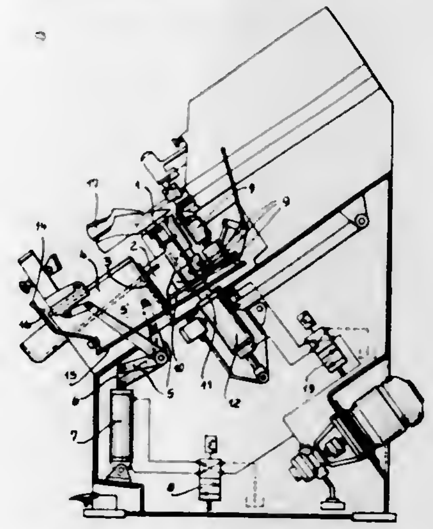
Andrew J. Gilbride, Swampscott, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed Jan. 20, 1966, Ser. No. 521,867
12 Claims. (Cl. 12—8.8)



A machine having a support moving a shoe between a remote position and a position located by gauges where the toe end of the shoe is automatically lasted.

3,376,592
MACHINES FOR TENSIONING SHOE UPPERS ON LASTS

Herbert Schindler, Wagenstr. 38, and Karl Stein, Friedrichstrasse 36, both of Pirmasens, Germany
Filed Aug. 30, 1965, Ser. No. 483,509
Claims priority, application Germany, Aug. 28, 1964, Sch 35,700
2 Claims. (Cl. 12—11.3)

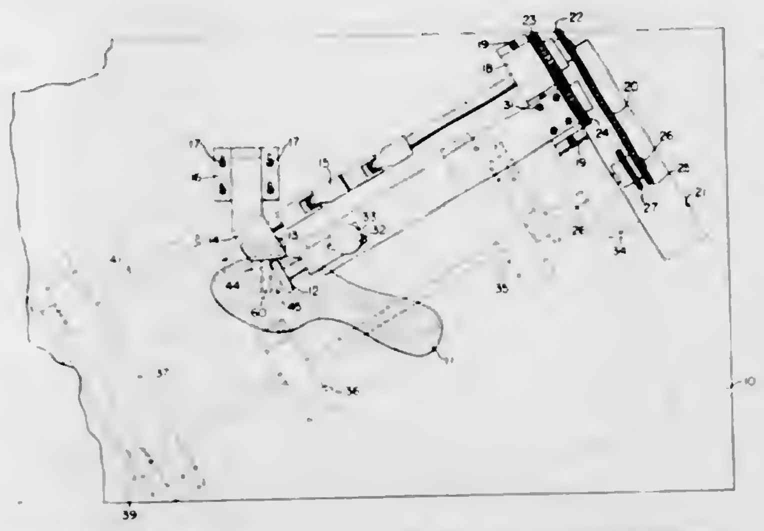


A pulling over machine having a support for a last over which a shoe upper is to be tensioned, grippers carried on a support and engageable with the lasting margin of the upper, means for moving the last support relatively to the gripper support, other means for moving the gripper support relatively to the last support, and means for selectively causing relative movement of either the last support or the gripper support to tension the upper.

3,376,593
SHOE SOLE EDGE WHEELING MACHINE

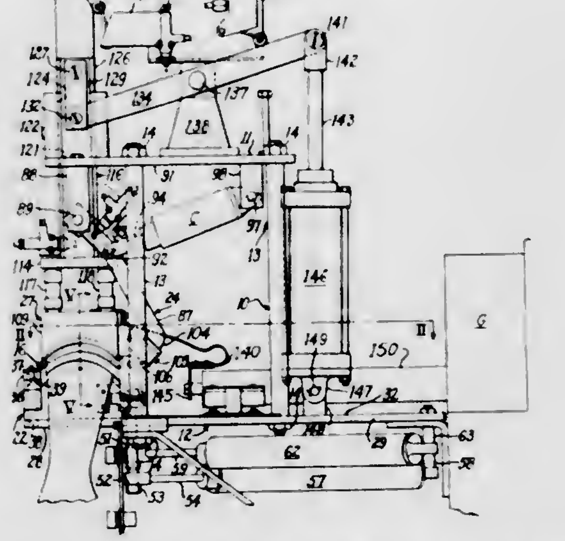
Robert L. Verreault, Lewiston, Maine, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Jan. 28, 1966, Ser. No. 523,761
9 Claims. (Cl. 12—32)

A wheeling machine is diclosed for excising the material from the wheeled edge of a non-leather unitary shoe sole and heel. The cutting is accomplished by a fly cutter located beneath the work platform and cutting through an opening in the work platform as the inverted sole is driven over the opening.



3,376,594
SEAM FORMING APPARATUS

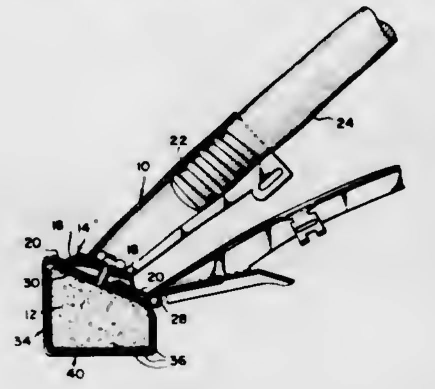
William H. Berrill and Raymond Hanson, Leicester, England, assignors to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed Nov. 4, 1966, Ser. No. 592,072
Claims priority, application Great Britain, Nov. 19, 1965, 49,143/65
10 Claims. (Cl. 12—146)



9. A method of forming a welded seam along adjacent edge portions of two pieces of thermoplastic material which comprises the steps of providing a form member and a pair of work piece supports each movable from a remote position to a predetermined position adjacent opposite sides of the form member, placing a piece of thermoplastic material on each of the work piece supports with a marginal portion projecting beyond the supporting surfaces of the respective supports, accurately locating the projecting edges of the work pieces beyond the supporting surfaces of the respective supports such that the work piece edges will be in adjacent relationship when the supports are moved to said predetermined position adjacent opposite sides of the form member, clamping each work piece to its respective work piece support while in the remote position, moving the work piece supports to said predetermined position adjacent opposite sides of the form member, pressing the marginal portions of the work pieces against the form member, and heating the edge portions of the work pieces to produce a welded seam along the adjacent edges of the work piece.

3,376,595
MOP HAVING A PAD OF DISPOSABLE SHEETS

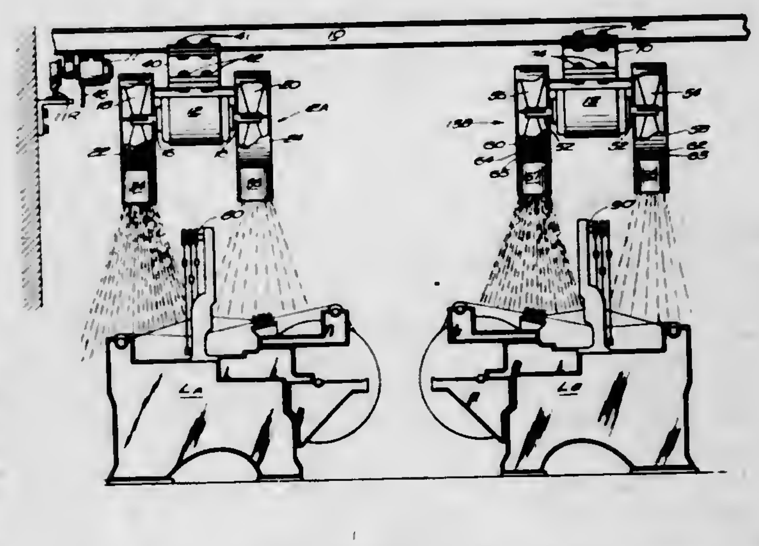
Harry G. Cole, 10515 Metropolitan Ave., Kensington, Md. 20795
Filed Oct. 22, 1965, Ser. No. 501,757
5 Claims. (Cl. 15—228)



The present invention relates to a mop which is provided with a plurality of individual absorbent sheets forming a pad which can be attached to the mop head and the sheets are further provided with waterproofed sections that are secured to the mop head and other sections which can be readily torn from the mop head so that each sheet as it becomes dirty can be discarded and a new fresh and clean sheet presented for the mopping operation.

3,376,596
OVERHEAD LOOM CLEANER

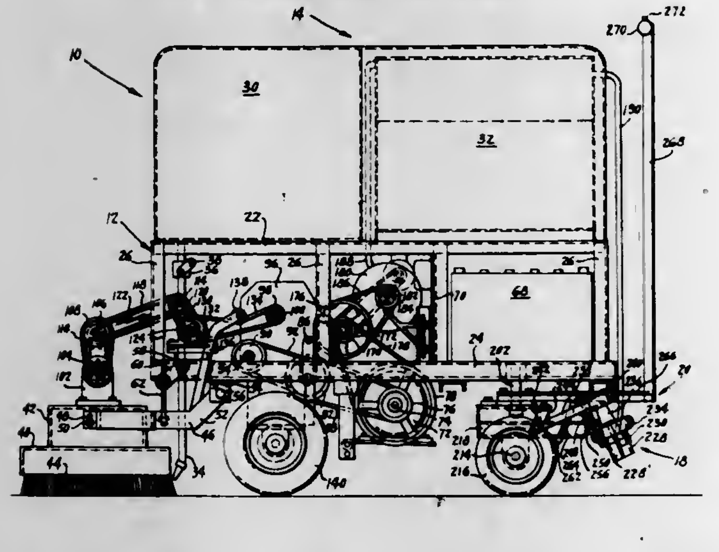
James A. Duncan, Providence, R.I., assignor to Grinnell Corporation, Providence, R.I., a corporation of Delaware
Filed Apr. 12, 1965, Ser. No. 447,307
14 Claims. (Cl. 15—312)



Overhead movable blower apparatus for cleaning a plurality of textile looms in parallel rows, with a cleaner over each row discharging air simultaneously on the looms on one side of the loom harnesses and the other side of the loom harnesses. The air discharge on the one side of the loom harnesses is considerably less than that on the other side during a pass by the apparatus in one direction. When the pass is reversed the air discharges are also changed so that the discharge on the other side of the loom harnesses is considerably less than that on the one side.

3,376,597
FLOOR SCRUBBING MACHINE

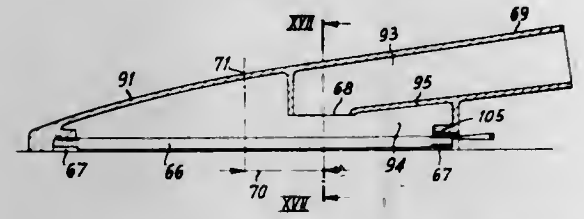
Clarence Boyd, 5325 Belt Road NW.,
Washington, D.C. 20015
Filed Feb. 2, 1966, Ser. No. 524,641
6 Claims. (Cl. 15—320)



A floor scrubbing machine having a carriage means pivotally attached at the rear end thereof. The carriage means includes ground engaging wheel means and squeegee means and the carriage means can be manually steered to enable the same to be selectively pivoted. As the carriage means is pivoted, the machine is steered and the squeegee means is moved to a position where it can collect the scrubbing liquid from the machine.

3,376,598
CLEANING APPLIANCE FOR ATTACHMENT TO A VACUUM CLEANER

Hans Wessel, 5225, Wildbergerhutte, Bezirk,
Cologne, Germany
Filed Mar. 5, 1965, Ser. No. 437,388
Claims priority, application Germany, Oct. 8, 1964,
W 37,703
5 Claims. (Cl. 15—382)

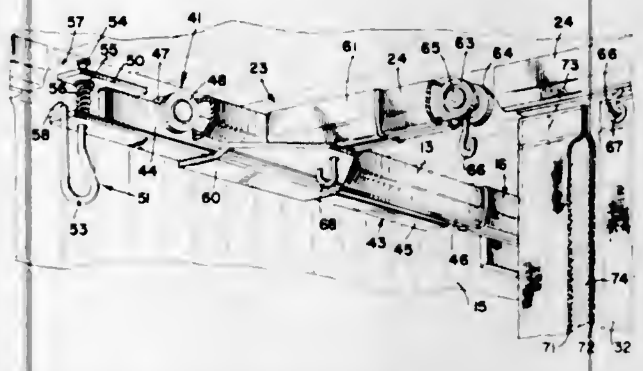


1. In a vacuum-cleaner head for the pickup of loose materials from the surface, said head having a housing provided with an elongated recess open in the direction of said surface, duct means in said housing communicating at an opening with said recess at a location therealong for applying suction to said recess, and a plurality of longitudinally extending laterally continguous independently oscillatable resilient beater bands spanning the mouth of said recess and vibratable in respective planes into and out of said recess upon the induced flow of air inwardly into said recess upon the application of suction thereto, to beat against said surface and loosen said materials thereon, the improvement which comprises:

at least one formation upstanding from the floor of said recess alongside said opening for asymmetric engagement with a respective beater band with respect to a plane perpendicular to said bands and through said location, whereby at least one of said bands is intercepted asymmetrically upon its movement toward the floor of said recess during vibration thereof, thereby imparting an asymmetrical waveform to said one of said bands and an out-of-phase movement to them into and out of said recess; and fastening means at the opposite end of said recess for securing the corresponding extremities of said bands to said housing with said extremities lying substantially in a common plane parallel to said surface, three beater bands being provided within said recess and the mouth of said recess has substantially a width at most equal to the combined widths of said bands, said bands including a pair of outer bands and a central band disposed between said outer bands, said formation being engageable with one of said outer bands, said fastening means being provided with a deflecting member at each extremity of said central band for retaining said central band in a mean position thereof above said outer bands over substantially the entire length of said central band.

3,376,599
MOUNTING ARRANGEMENT FOR INSULATED BULKHEAD OR THE LIKE

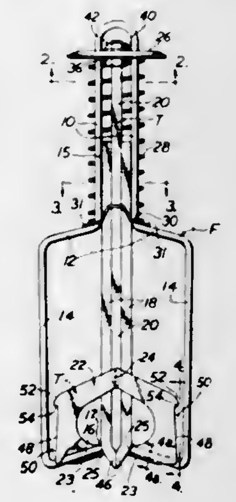
Isadore Singer, Chicago, Ill., assignor to Singer Safety Products, Inc., Chicago, Ill., a corporation of Illinois
Filed Oct. 15, 1965, Ser. No. 496,636
6 Claims. (Cl. 16—87.6)



A movable insulated bulkhead including parallel and longitudinally extending tracks, each having T-shaped trolleys mounted thereon. The trolleys support a transversely extending rail which receives rollers supporting the movable bulkhead consisting of a foldable curtain. Locking means is provided to maintain said trolleys in any selected location along the tracks.

3,376,600
MECHANICAL DISCHARGE SHACKLE FOR FOWLS AND THE LIKE

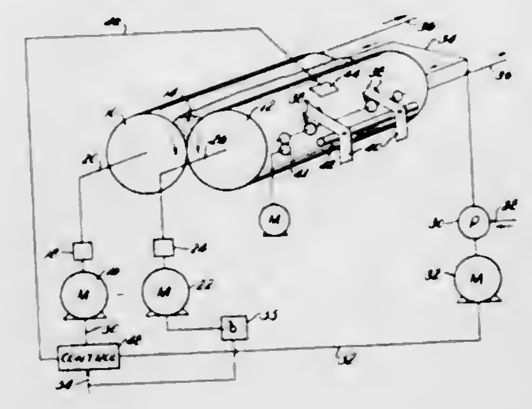
George R. Shadley, Ottumwa, Iowa, assignor to International Agri-Systems, Inc., a corporation of Iowa
Filed Feb. 1, 1966, Ser. No. 524,326
21 Claims. (Cl. 17—44.1)



1. An animal shackle comprising a frame adapted to be supported and conveyed by a shackle conveyor, a traveler carried by said frame and movable vertically relative thereto, said frame and traveler having cooperating leg engaging elements defining receiving slots for the legs of an animal, the leg engaging elements of said frame being movable horizontally away from the leg engaging elements of said traveler, and means biasing said leg engaging elements of said frame toward said leg engaging elements of said traveler including a spring element interposed between said frame and a portion of said traveler to hold the legs of the animal in said slots and to automatically adjust the effective width of the slots to the size of the legs.

3,376,601
MIXING MILL WITH INDEPENDENT DRIVE MEANS FOR EACH COOPERATING MILL ROLL

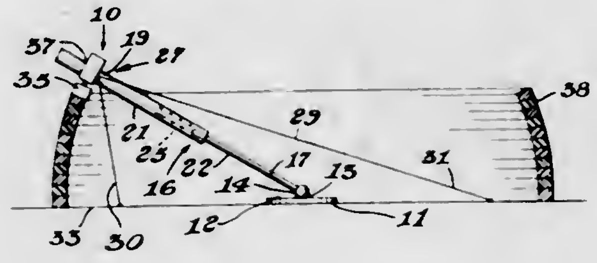
Rex C. Seanor, Akron, Ohio, and S Everett Perlberg, Fairlawn, N.J., assignors to Adamson United Company, Akron, Ohio, a corporation of Ohio
Filed May 12, 1966, Ser. No. 549,645
9 Claims. (Cl. 18—2)



1. Apparatus for continuously supplying a substantially uniform amount of stock at a preselected constant temperature including
- a pair of cooperating mill rolls for mixing the stock,
- independent drive means for each of the mill rolls,
- means for measuring the temperature of the stock, and
- means responsive to the temperature measuring means for selectively changing the speed of one of the mill rolls in relation to the other to maintain the preselected temperature of the stock.

3,376,602
APPARATUS FOR THE PREPARATION OF ELLIPTICAL STRUCTURES

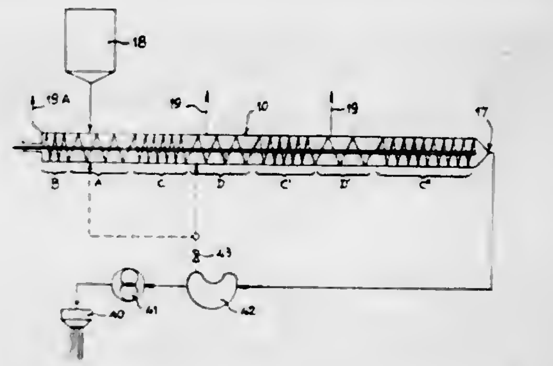
Fred J. Lowes, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed July 14, 1967, Ser. No. 653,485
10 Claims. (Cl. 18—5)



An apparatus is described which is suitable for spiral deposition of building materials to form a generally ellipsoidal structure, the ellipsoidal configuration being generated by a three dimensional variation of the "string and pencil method." A mechanism is provided which present fouling of the string.

3,376,603
APPARATUS FOR MANUFACTURING SYNTHETIC TEXTILE FIBERS

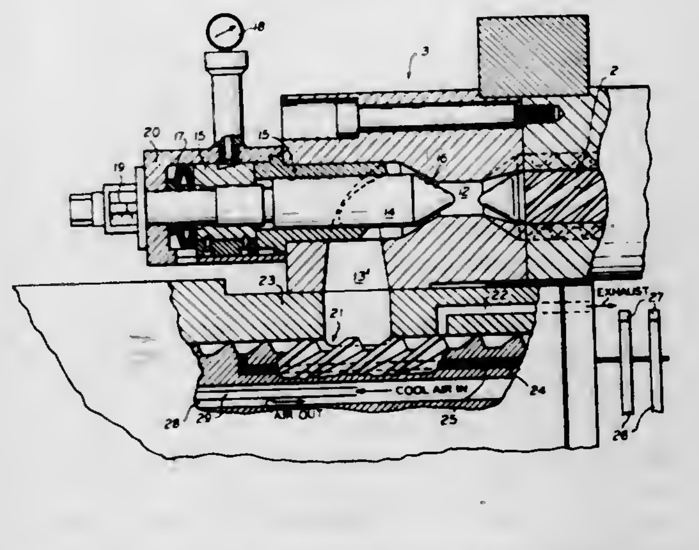
Roberto Colombo, Turin, Italy, assignor to Lavorazione Materie Plastiche L.M.P. S.p.A., Turin, Italy
Filed May 20, 1966, Ser. No. 551,799
1 Claim. (Cl. 18—8)



A screw type extruding apparatus having a feed section and at least one decompression and compression stage intermediate said feed section and the die of said extruder with vacuum exhaust means being connected to each of said feed section and decompression sections. A metering pump is provided for feeding the extruded melt to a spinneret and a volume-compensating chamber is interposed between said metering pump and said die with connecting means for directing excessive melt back to either the feed sections or decompression sections of said extruder.

3,376,604
MULTI-SCREW EXTRUDERS

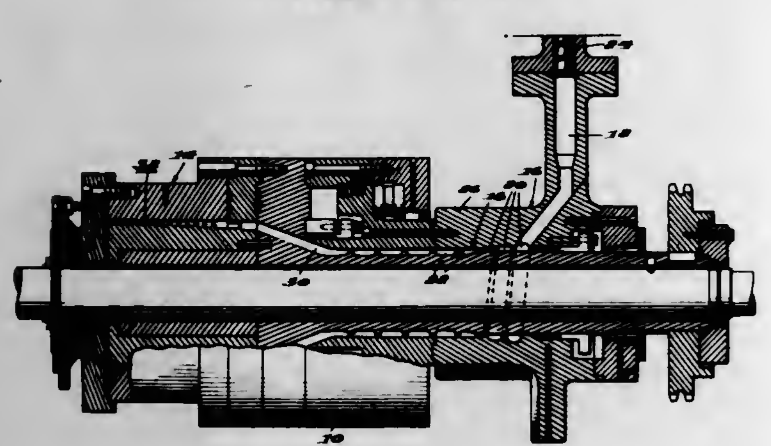
Wilhelm Hanslik, Vienna, Austria, assignor to Wilhelm Anger OHG, Vienna, Austria
Filed Jan. 14, 1966, Ser. No. 520,589
5 Claims. (Cl. 18—12)



A multi-screw extruder has an upper and a lower screw conveyor. The upper conveyor serves to pre-plasticize the material before passing it on towards the lower conveyor for plasticizing an extrusion. An adjustable throttle is arranged in the path of the material between the two conveyors.

3,376,605
EXTRUSION APPARATUS

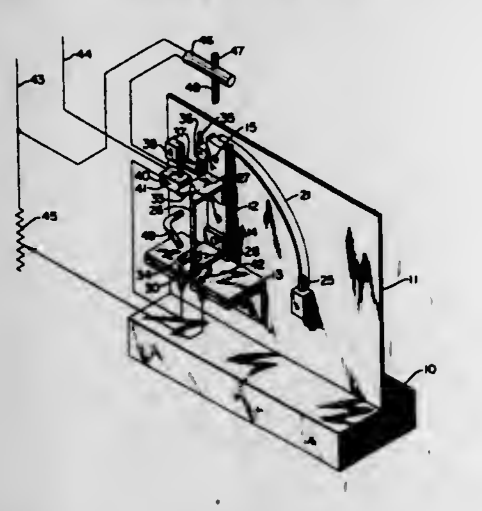
John H. Beattie, Florence, S.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Jan. 27, 1966, Ser. No. 523,378
4 Claims. (Cl. 18—14)



A die adapter for cross-head extrusion wherein uniform polymer flow is achieved by alternate helical and spiral paths advancing the melt first substantially helically and later with a progressively increasing axial flow toward the die.

3,376,606
APPARATUS FOR FORMING AND BENDING THERMOPLASTIC TUBES, RODS, AND THE LIKE

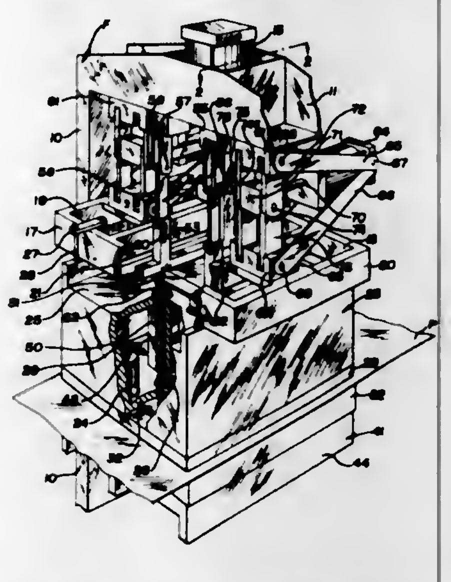
Siegmund Deines, Fort Collins, Colo., assignor, by mesne assignments, to Aqua Tec Corporation, Denver, Colo., a corporation of California
Filed June 3, 1966, Ser. No. 555,059
11 Claims. (Cl. 18—19)



1. An apparatus for forming articles from thermoplastic tubing and the like comprising
  a support,
  means mounted on said support for engaging a length of tubing at spaced positions therealong and for maintaining under tension that part of the tubing between said positions,
  means for heating a predetermined portion of the tubing between said positions to soften the material thereof and allow elongation of the tubing under tension,
  means on said support for limiting the elongation of the tubing to a predetermined amount,
  and control means dependent upon the elongation of the tubing for limiting the effective operation of said heating means to afford cooling and solidification of the elongated portion of the tubing.

3,376,607
STRIPPER ACTUATING MECHANISM FOR DIFFERENTIAL PRESSURE FORMING MACHINES

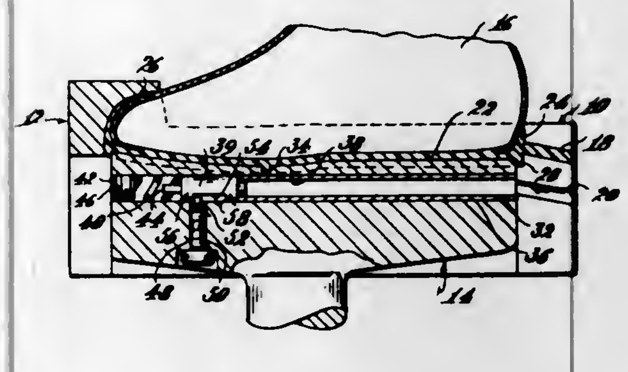
Gaylord W. Brown, Beaverton, Mich., assignor to Brown Machine Company of Michigan, Inc., Beaverton, Mich., a corporation of Michigan
Filed Aug. 22, 1966, Ser. No. 573,916
7 Claims. (Cl. 18—19)



1. In a differential pressure forming machine: frame means; a pair of opposing mold members supported thereby, at least one of which is mounted to be moved relatively toward the other to an extended position adjacent a deformable plastic sheet therebetween; said movable mold member having cavity means to receive the plastic sheet therein; means creating a differential pressure on opposite sides of said plastic sheet to draw the sheet into intimate contact with said cavity means; stripper plate means associated with said movable mold; support means supporting said stripper plate means for movement independently of the movable mold and operable to effect withdrawal of said stripper plate means; and means having a lost motion connection with said support means operated when said movable mold is being withdrawn from the plastic sheet, and only after a predetermined withdrawal thereof, to actuate said means supporting said stripper plate means and withdraw said stripper plate means.

3,376,608
CHECK VALVE FOR INJECTION MOLDING APPARATUS

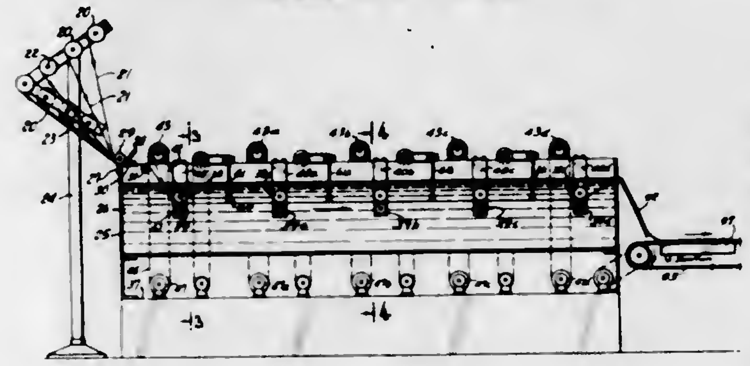
William L. Wilcox, Malden, Mass., assignor to International Vulcanizing Corporation, Waltham, Mass., a corporation of Massachusetts
Filed Mar. 21, 1966, Ser. No. 535,928
8 Claims. (Cl. 18—42)



1. In a mold assembly comprising a side ring and sole plate movable relative to the bottom of the side ring, said sole plate containing a passage providing at least one entrance through its upper surface into the mold cavity through which an elastomer may be injected into the mold cavity, a valve having a part located between the passage and the entrance to the mold cavity movable between a position blocking flow from the passage through the entrance to a position permitting flow from the passage to the entrance, means normally holding the valve in the position blocking flow of elastomer, said valve being a thin-wall tube slidably disposed in the passage, said tube containing a hole in its wall movable relative to said entrance to a position of alignment therewith to permit flow from the interior of the tube to the entrance into the mold cavity, and means operable, by the pressure of the elastomer in the injection passage when injection pressure is applied, to move the valve to the position permitting flow from the passage to the entrance.

3,376,609
METHOD FOR SPREADING TOWS OF CONTINUOUS FILAMENTS INTO SHEETS

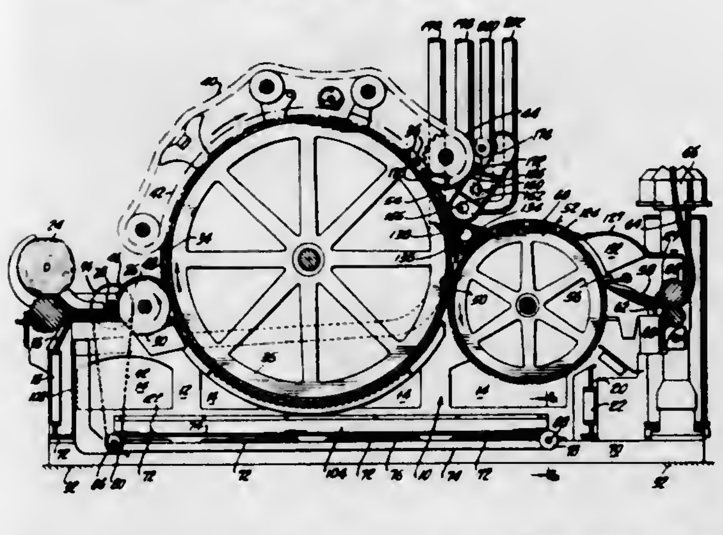
Frank Kalwaites, Somerville, N.J., assignor to Johnson & Johnson, a corporation of New Jersey
Filed July 16, 1965, Ser. No. 472,504
2 Claims. (Cl. 19—66)



A method of spreading a plurality of tows of continuous filaments into sheet form by submerging the plurality of tows in a liquid media and appling a plurality of intermittent forces to the tows while they are submerged whereby the tows are opened and merge together into a uniform sheet. The spread tows are removed from the liquid and diverging hydraulic forces are applied to further spread the tow and open the sheet.

3,376,610
WASTE REMOVAL FOR CARDING MACHINES

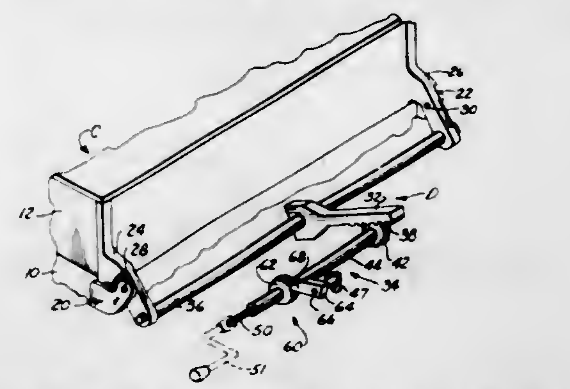
Ernest F. Williams, Pelham, Ga., assignor to Coats & Clark Inc., New York, N.Y., a corporation of Delaware
Original application Aug. 6, 1963, Ser. No. 300,384. Divided and this application Oct. 14, 1965, Ser. No. 509,462
1 Claim. (Cl. 19—107)



An apparatus for cleaning flats at a bight in the chain of flats. A suction dust has a stripping slit extending the width of the flats at the bight and arranged both to vacuum clean the flats and to receive debris removed from the flats by a reciprocable comb and rotatable brush.

3,376,611
TEXTILE APPARATUS

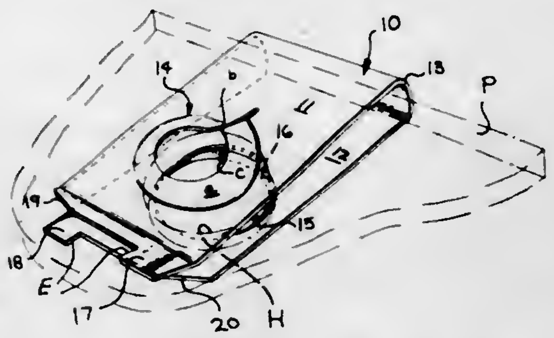
Jack H. Selby, Chagrin Falls, Ohio, assignor to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio
Filed May 17, 1966, Ser. No. 550,707
12 Claims. (Cl. 19—129)



A textile apparatus including a gill box having a lower section, an upper section pivotally connected to the lower section and an actuating mechanism for moving the upper section relative to the lower section between closed and open positions. The actuating mechanism comprises a rack connected with the upper section and which is reciprocated to move the upper section between its closed and open positions by a pinion gear fixed to a rotatable shaft, the rack being guided by a guide means journaled on the shaft. A ratchet mechanism including a ratchet wheel fixed to the shaft and cooperably engageable with a releasable pawl is provided for automatically holding the upper section in the open position to which it is moved.

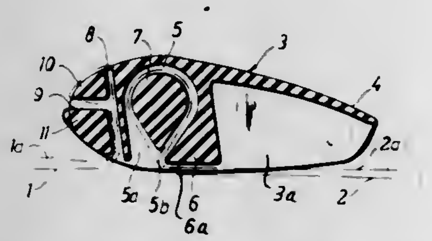
3,376,612
DEVICE FOR SEPARATING ARMS OF C-CLIP

Robert A. Munse, Perrysburg, Ohio, assignor to The Bishop and Babcock Corporation, Toledo, Ohio, a corporation of Ohio
Continuation-in-part of application Ser. No. 598,561, Oct. 12, 1966. This application Dec. 19, 1966, Ser. No. 617,452
3 Claims. (Cl. 24—73)



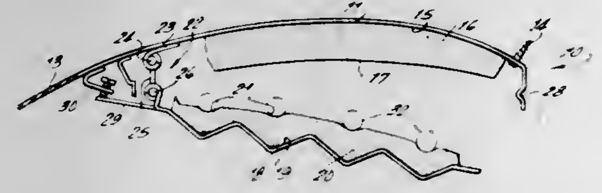
A one-piece C-shaped spring metal clip, the arms of which consist of generally flat plates joined at one end by a bend portion and at least one arm inclining from such bend portion toward the free end portion of the other arm and the free ends of both arms being in close juxtaposition. The intermediate portions of the arms are spaced apart in gradually decreasing fashion from the bend portion to the free end portions to enable the fastener to receive and grippingly engage a panel of appreciable thickness between the plates. On the free end of each plate is a finger-like extension, one extension being at one side and the other extension being at the other side in laterally spaced relation. The spacing of the finger-like extensions enables spreading of the arms by applying the extensions to opposite faces of a panel and then twisting the clip, the inner edge portions of the finger-like extensions being disposed generally parallel to each other for resisting retrograde movement of the clip away from the panel during twisting movement. One plate may have a hole generally aligned with nut means on the other plate.

3,376,613
BUCKLES FOR SAFETY BELTS AND THE LIKE
Oskar L. Lindblad, Vargarda, Sweden
Filed Dec. 3, 1965, Ser. No. 511,700
Claims priority, application Sweden, Dec. 5, 1964, 14,734/64
1 Claim. (Cl. 24—74)



The present buckles have a buckle frame of a handle shaped configuration with an internal cross-bar of ovate cross-section, a bearing member with a bearing surface adjacent the apex of said cross-bar whereby a belt end portion can pass around said cross-bar and be positioned against said bearing surface and a pair of normal passageways in said buckle frame for receiving a second end portion of the belt whereby a pull on said belt end portions will detachably retain the same to said buckle frame.

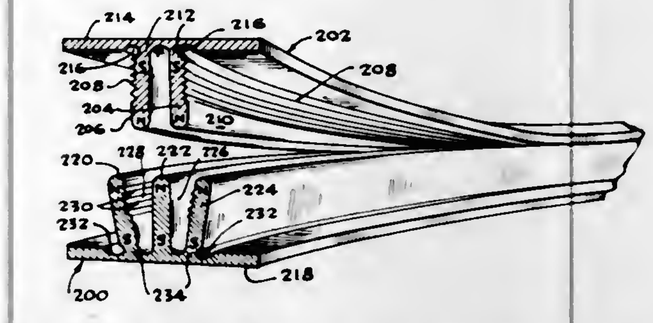
3,376,614
FISHING ROD HOLDER
Otto Stahl, Jr., Chatham, N.J., assignor to National Manufacturing Company, Inc., Chatham, N.J., a corporation of New Jersey
Filed Jan. 27, 1967, Ser. No. 612,155
5 Claims. (Cl. 24—81)



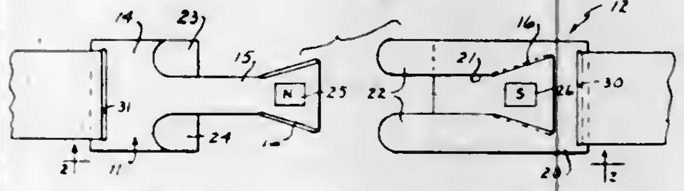
A fishing rod holder for attachment to vehicles having horizontal elongated clamping members swingably secured together at one end for clamping and opening purposes. A pivot linkage to permit the clamping members to be separated for loading or unloading without disturbing the horizontal orientation of the clamping members.

3,376,615
MAGNETIC FASTENER
Thomas P. Heckman, 533 Edgewood Road, Lombard, Ill. 60148
Continuation-in-part of application Ser. No. 367,385, May 14, 1964. This application June 1, 1966, Ser. No. 554,580
14 Claims. (Cl. 24—201)

1. A magnetically actuable device for latching a first body on a second body movable relative thereto along an adjacent path comprising: a first member having at least one protrusion extending outwardly from a surface thereof, a second member having an indentation in a surface thereof adapted to receive each protrusion of the first member, means for mounting the first member on the first body with the protrusion thereof confronting the path, means for mounting the second member on the second body with the indentation thereof confronting the path and aligned with the protrusion in one location of the second body in said path, at least one of said means for mounting a member on a body including a hinge joint adjacent to the body permitting the member to pivot relative to the body about an axis normal to the path, thereby permitting the members to abut each other with the protrusion of the first member disposed in the indentation of the second member, means operatively associated with the first member for maintaining a first magnetic field with vectors disposed parallel to the path, means operatively associated with the second member for maintaining a second magnetic field with vectors disposed parallel to the path and directed oppositely from the vectors of the first field.

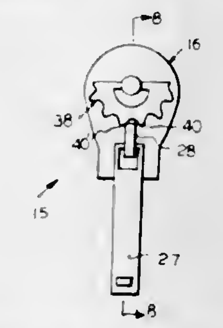


3,376,616
IN-LINE BUCKLE
John Kaczorowski, 460 Main St., Sayreville, N.J. 08872
Filed June 6, 1966, Ser. No. 555,480
2 Claims. (Cl. 24—201)



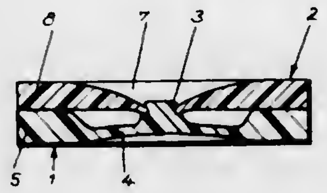
An in-line belt buckle comprised of a pair of easily separable and easily connectable, substantially flat elements in which the elements are non-magnetic and in which one element is provided with one pole of a permanent magnet and the other element is provided with the opposite pole of a permanent magnet positioned to align with each other when the buckle elements are positioned in a closed relationship.

3,376,617
SEPARABLE SLIDER FOR SLIDE FASTENERS
Benjamin L. Snyder, Union, N.J., assignor to Pentapco, Inc., Elizabeth, N.J., a corporation of New Jersey
Filed Apr. 18, 1967, Ser. No. 631,768
3 Claims. (Cl. 24—205.15)



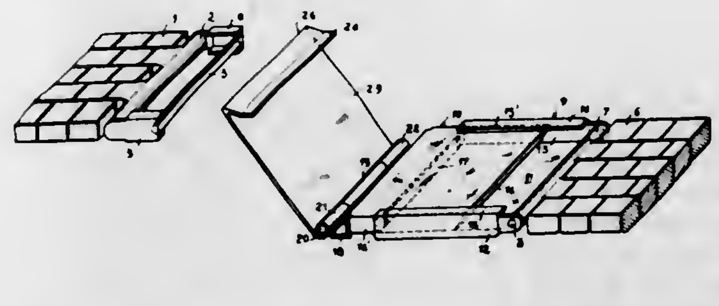
Two plate members with appropriate flanges afford the slider guideway through which the stringers thread from separated position at the top of the slider to an interlocking position at the bottom of the slider. These plates are held together by a screw which clamps them on the stringers. A flat arcuate handle is pivotally mounted on said screw on an axis parallel to the plates. This handle is in the form of a mutilated gear with successive teeth to one side of said axis. A fixed support projecting from the plate on the side where the handle is pivoted, is adapted to enter between two successive teeth of the handle when the handle is swung against the plate; said support having a notch into which the tooth can come when the handle is shifted in its own plane, and when the tooth is so entered, it will be in frictional contact in said notch.

3,376,618
SNAP FASTENER
August Schwarzkopf, Lengerich, Germany, assignor to Windmöller & Hölscher, Lengerich, Germany
Filed Sept. 10, 1965, Ser. No. 486,292
Claims priority, application Germany, Sept. 26, 1964, W 37,623
6 Claims. (Cl. 24—208)



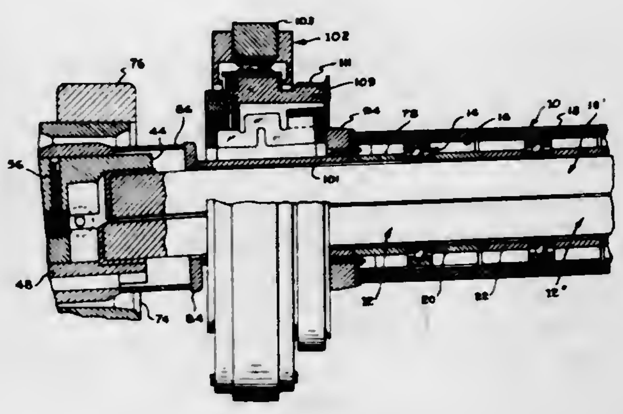
The invention describes a snap fastener comprised of a flexible plastic material useful for a closure for plastic bags and similar articles. The snap fastener is comprised of two parts, a male and a female part, both of which are designed with all parts of the structure residing between a pair of parallel planes defining opposite faces of each part. The male part is constructed with a head portion centrally located, which is connected to the outer portion by means of a reduced section flexible diaphragm so that the head portion can be pushed up out of the plane of the male part. The female part is constructed of flexible material with a reduced central section and an opening corresponding in location to the head of the male part. Both parts lying between opposing planes defining their faces provides a snap fastener that can be loaded into magazines of a machine and processed automatically since they have the capability of being stacked.

3,376,619
LOCKS FOR BRACELETS
Louis Brunet, Annecy-le-Vieux, France, assignor to Societe Zuccolo, Rochet & Cie, Annecy, Haute-Savoie, France, a corporation of France
Filed June 24, 1966, Ser. No. 560,190
Claims priority, application France, June 30, 1965, 22,938
1 Claim. (Cl. 24—241)



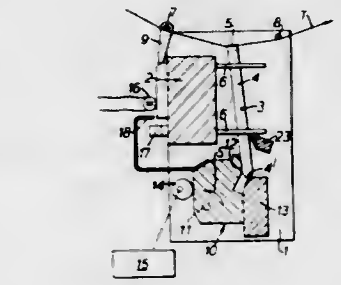
A resiliently extensible coupling for connecting the ends of a bracelet, watch strap or belt by means of a transverse bar carried by one of the ends and a collapsible and resiliently extensible lock connected to the other end, said lock comprising a flat hook pivotally connected to the end of the extensible structure and adapted to receive the bar and draw it into a recess behind the pivotal connection.

3,376,620
DRIVE MECHANISM FOR BOWED ROLLS
Charles E. Miller, Dayton, Ohio, assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Jan. 3, 1966, Ser. No. 518,333
2 Claims. (Cl. 26—63)



Power transmission apparatus for driving a bowed sheet carrying roll which may be adjusted in curvature and including a sleevelike member surrounding the roll and rotatably disposed on a fixed axis and a rubberlike coupling sleeve connecting the sleevelike member and an external part of the roll for driving the roll in any of its adjusted positions.

3,376,621
DEVICES FOR DETECTING BREAKAGE OF A THREAD, MORE PARTICULARLY IN TEXTILE MACHINERY
Leonard Thomas Frank Bryan, Amersham, England, assignor to Detexomat Limited, High Wycombe, England, a British company
Filed Apr. 26, 1966, Ser. No. 545,455
12 Claims. (Cl. 28—51)

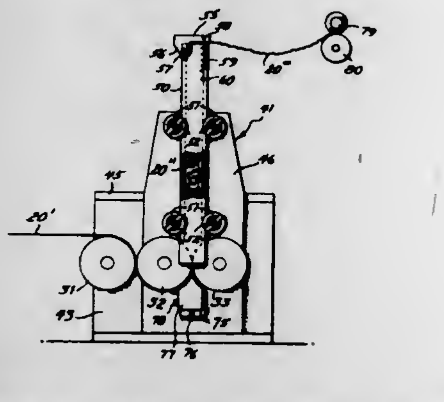


Apparatus for detecting thread breakage in textile or like machinery has a plurality of feelers rockably mounted on pivot means and each frictionally engaging a respective thread so as to be rocked in the direction of thread movement to an advanced position. Rocker means intermittently rocks the feelers in the opposite direction to a retarded position against the frictional action, and any feeler remaining in the retarded position due to a broken thread causes actuation of responder means associated with a control circuit of the machinery to effect a warning and/or stop motion.

3,376,622

STRAND TREATMENT

Robert K. Stanley, Middletown Township, Delaware County, Pa., assignor to Techniservice Corporation, Lester, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 216,524, Aug. 13, 1962. This application July 31, 1963, Ser. No. 302,758
5 Claims. (Cl. 28—72)



1. A process for drawing and bulking yarns of synthetic continuous filaments, comprising the steps of

forwarding an undrawn yarn of synthetic continuous filaments at a predetermined linear rate to the nip of rolls of a stuffer-box crimper;
rotating said nip rolls at a predetermined peripheral rate at least twice as great as said linear rate;
drawing said yarn by the nip of said rolls;
immediately thereafter crimping said drawn yarn within said crimper;
and discharging the crimped yarn from said crimper at a linear rate less than said peripheral rate.

3,376,623

PROCESS FOR SIZING TEXTILES

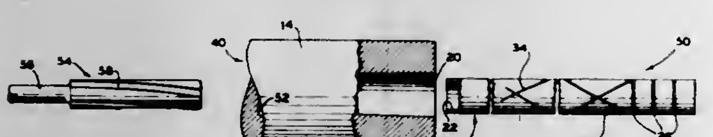
Walter J. Katzbeck, Oak Park, Ill., and Earl G. King, Greenville, S.C., assignors to Corn Products Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed July 23, 1964, Ser. No. 384,783
1 Claim. (Cl. 28—72.6)

Covers a method of warp sizing by coating textile fibers with a paste of a cross-bonded distarch phosphate having a Scott Viscosity within the range of 15 grams/40–80 seconds to about 40 grams/40–80 seconds. The fibers are then woven into a cloth which is desized.

3,376,624

LINED GUN BARREL AND METHOD OF FORMING SAME

Joseph R. Eves, Springfield, Mass., assignor to the United States of America as represented by the Secretary of the Army
Filed Nov. 15, 1961, Ser. No. 153,260
2 Claims. (Cl. 29—1.1)

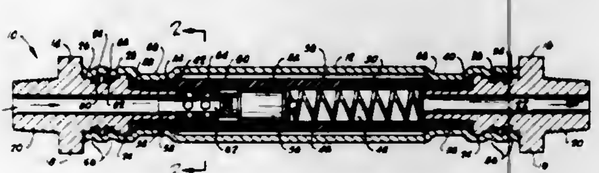


1. The method of fabricating a gun barrel having a liner with a rifled bore and a supporting tube, the method including the steps of forming channels in the outside surface of a tubular blank from which the liner is to be formed so as to be angular to the longitudinal axis of the blank, inserting the blank within an axially bored cylindrical billet from which the tube is to be formed, inserting within the blank a mandrel having an outside diameter similar to that of the design bore of the liner and grooves corresponding to the design configuration and dimensions of the rifling lands, and cold working the billet in the area of the mandrel to flow the metal of the billet into the grooves of the blank and flow the metal thereof into the grooves in the mandrel and work harden the area of the tube around the liner.

3,376,625

METHOD OF MAKING FLUID PULSATION DAMPENERS

Doyle W. McCulloch, Blackwell, Okla., assignor to Mac/Bee Engineering Inc., Garland, Tex., a corporation of Texas
Filed July 19, 1965, Ser. No. 472,842
6 Claims. (Cl. 29—157)



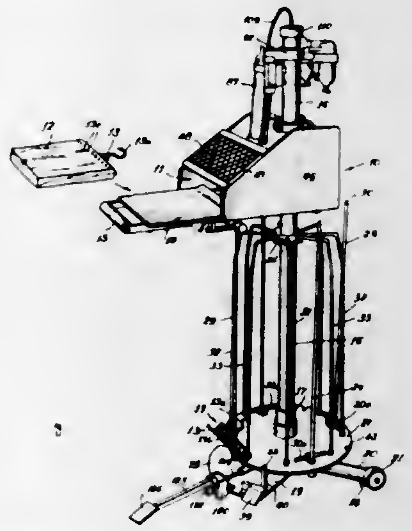
1. A method of manufacturing a pulsation damper comprising the steps of:

placing a hollow fitting in engagement with each end of a pair of telescopically arranged hollow members;
forming a fluid-tight seal between the outer member of said hollow members and said fittings; and
introducing a pressurized fluid into the interior of the inner hollow member of said hollow members and between said inner hollow member and said fittings, whereby said fluid enters the space between said hollow members.

3,376,626

MEAT HANGER EXTRACTOR

Eric W. Anderson, Chicago, Ill., assignor to Dohm & Nelke, Inc., St. Louis, Mo.
Filed Nov. 18, 1964, Ser. No. 412,097
5 Claims. (Cl. 29—200)

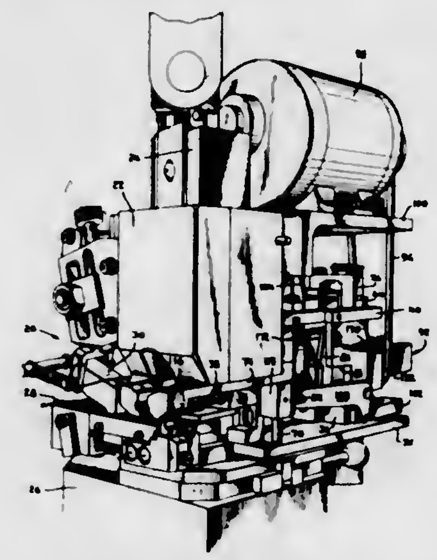


Apparatus is provided for removing the hanger from a bacon slab. The hanger has an open wire grill and teeth which project into the slab. The apparatus comprises a hollow head with an opening at the front and a bacon slab supporting table extending from the front to the opening. A tubular vertical support extends through the head and projects above and below the head. A base is secured at the lower end of the tubular support. The bacon slab is deposited on the table with the hanger inserted in the opening. A toggle mechanism is supported by the tubular support between the support and the table and has a blade on the distal end. There is a rotatable reel mounted on the support below the head and has inserted rods with points just below the head to receive a hanger with the grill engaging said points. Means, including spring-pressed roller means, are secured to the bottom of a head to engage the pointed ends of the rods successively as the reel is rotated to flex the upper end of each rod as it approaches the hanger engaging position to engage the hanger grill as the hanger is removed. Each rod is rotated by the reel to a position back of the head where it is bodily removable from said reel with the hangers thereon. The toggle mechanism is connected to a power cylinder to operate the blade. The power cylinder is operated by a pedal lever.

3,376,627

WIRE STRIPPING APPARATUS

Gilbert Carl Sitz, Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Nov. 26, 1965, Ser. No. 509,833
13 Claims. (Cl. 29—203)

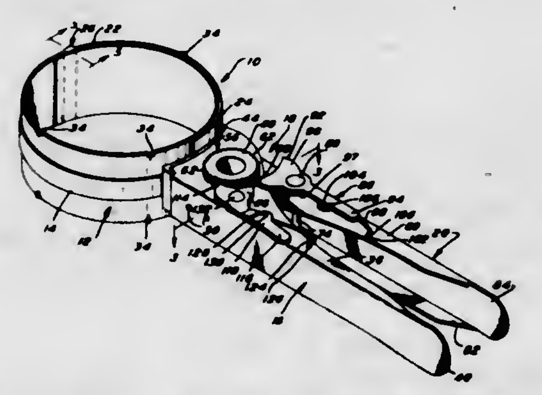


A machine is provided for stripping the end of a wire conductor and for subsequently locating the conductor in position on an applicator for securing the conductor to an electrical terminal. The stripping head is rotatable and axially displaceable to effect the stripping operation. A gripping mechanism is provided for holding the conductor during the stripping operation and for moving the conductor into position for securing to a terminal.

3,376,628

RATCHET ARM PISTON RING COMPRESSOR

Smith Kyser, Ionia County, Mich., assignor to Aircraft Specialties, Inc., Lapeer, Mich., a corporation of Delaware
Filed Sept. 3, 1965, Ser. No. 484,922
7 Claims. (Cl. 29—222)

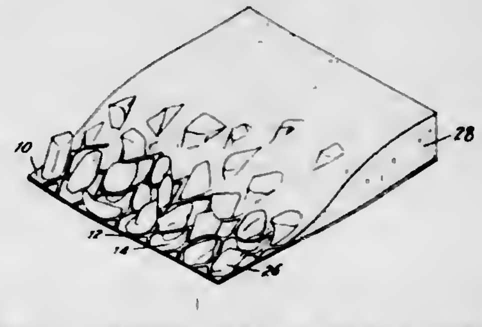


A ratchet arm piston ring compressor which comprises a handle, a spring compression band having overlapping ends movable with respect to each other and a tension band associated with the handle for embracing and limiting the diameter of the compression band in accordance with the tension applied to the tension band. Adjusting means are also provided which are attached to the tension band for adjusting the diameter of the compression band and the tension on the tension band. The adjusting means includes a drum rotatably mounted in the handle for wrapping the tension band. A lever arm is also provided which is operatively connected to the drum so that said drum may be rotated in one of two selectable directions by pivoting the lever arm in said one direction. The lever arm is operatively disconnected from the drum when pivoted in the other of said directions.

3,376,629

METHOD AND MEANS FOR SUPPORT OF CEMENTITIOUS MATERIALS ON SLOPING SURFACES DURING CURE

John A. Baumann, Dunellen, and Alfred R. Tavarozzi, Somerville, N.J., assignors to Union Carbide Corporation, a corporation of New York
Filed Oct. 14, 1963, Ser. No. 316,055
3 Claims. (Cl. 52—309)

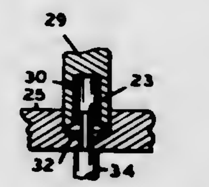


A moisture resistant web attached to plastic underlayment for water conveying channels constructed from aggregate containing cement traps the aggregate applied to the sloping walls of such channels during construction thereby providing an anchor for the cement during cure.

3,376,630

METHOD OF BORING AWAY BEARING MATERIAL INTEGRAL WITH A FRAME CONTAINING A JOURNAL

Paul A. Lempka, 8519 Sleepy Hollow, Kansas City, Mo. 64114
Filed May 5, 1966, Ser. No. 547,986
1 Claim. (Cl. 29—401)



The bearing material is concentrically bored away by a drill-reamer engaging the journal of a gear shaft while the gear thereof is meshed with other gears.

3,376,631

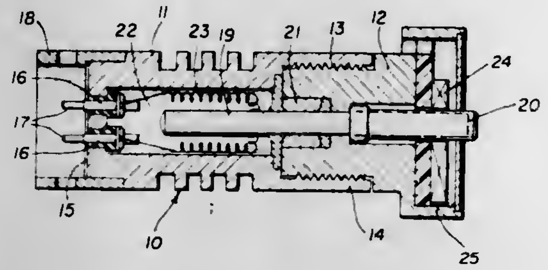
METHOD OF MAKING A THERMALLY RESPONSIVE DEVICE

John F. Sherwood, Wheat Ridge, and Andrew W. Zmuda, Denver, Colo., assignors, by direct and mesne assignments, to Thermal Hydraulics Corporation, a corporation of California
Filed July 12, 1965, Ser. No. 471,119
9 Claims. (Cl. 29—405)

1. In a process of producing a thermal motor having a housing, a high pressure chamber in the housing, degassed expansible and contractible fill material in the

chamber, means for heating the material, and a piston shaft having one end embedded in the material and the other end protruding from the housing, the improvement which comprises

(a) applying a load not less than the work load to be performed by said motor on the protruding piston shaft while the housing and contents are subjected to temperature which makes the fill material pliable and to close all cracks and voids therein,



(b) cooling the housing and contents to room temperature while maintaining the piston shaft under said load,

(c) forming a small hole through the housing communicating with the high pressure chamber,

(d) heating the housing and contents to the ambient temperature at which the motor is designed to operate while the shaft is maintained under said load for a time sufficient to cause complete extrusion of excess compound through the hole, and

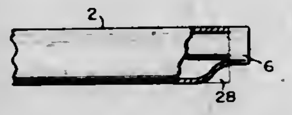
(e) sealing the hole and making the housing pressure tight.

3,376,632
METHOD FOR MAKING UMBRELLA TUBES

Isadore Caplan, Brighton, N.Y., assignor of one-half to Markin Tubing, Inc., Rochester, N.Y., a corporation of New York

Original application Aug. 12, 1963, Ser. No. 301,460, now Patent No. 3,266,120, dated Aug. 16, 1966. Divided and this application Oct. 18, 1965, Ser. No. 496,997

5 Claims. (Cl. 29—417)



3. The method of making an umbrella tube which comprises the steps of providing a length of tubing, forming an inwardly projecting dimple at one end thereof to reduce the internal size of the tube on one diameter, placing in said dimpled end a tip member having a shank portion of such diameter as to have a friction fit between the dimple and the opposite wall of the tubing, and then swaging said tubing inwardly around said shank portion to reduce the inside diameter of the tubing to grip said shank portion tightly.

3,376,633
BALL JOINT FORMING METHODS

Richard H. Wesley, 3709 Echo Trail,
Fort Worth, Tex. 76109

Filed Apr. 20, 1966, Ser. No. 543,985

12 Claims. (Cl. 29—421)

1. A method for making seal-tight ball joints, said method comprising:

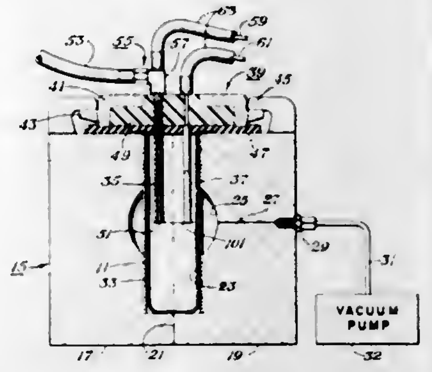
(a) forming a first tubular member with a spherical, enlarged portion thereon;

(b) truncating said spherical portion along a plane substantially perpendicular to the longitudinal axis of said first tubular body to form a larger and a smaller segment;

(c) inserting one extremity of a second tubular member a selected distance inside the mouth of the larger segment;

(d) confining said first and second tubular members within a suitable die means;

(e) discharging within said second tubular member by the capacitor discharge method a quantity of



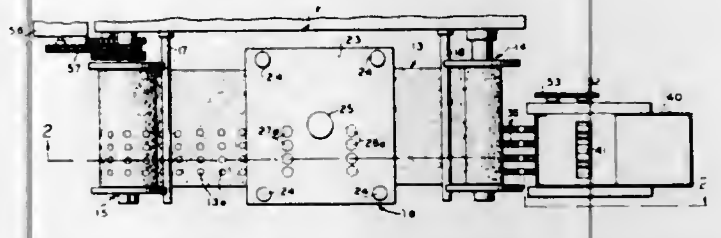
electrical energy amounting to at least 5 kilojoules with said discharge taking place within a peak discharge period of not over 300 microseconds and with the initial discharge current being at least 5,000 amperes to form an outwardly bulging spherical region in said second tubular member that engages the interior of the truncated spherical region of said first tubular member.

3,376,634
METHODS OF AND APPARATUS FOR PUNCH FORMING AND SEPARATING PIECES FROM A STRIP OF MATERIAL

Fritz V. Brosseit, Kansas City, Mo., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 19, 1965, Ser. No. 497,718

5 Claims. (Cl. 29—428)



A flat strip of getter material is intermittently advanced through a punching and inserting apparatus while a series of transistor cans is advanced in a path which is spaced from, parallel to, and in the same direction as the advancing strip of getter material. A reciprocating punch severs successive sections from the strip and returns each severed section to the strip whereafter each subsequent advance of the strip moves each severed section into alignment with an inserting device. The inserting device operates in unison with the punch to remove each severed section from the strip and deposit it in an aligned can.

3,376,635
METHOD OF PREPARING ELECTRODES FOR BONDING TO A SEMICONDUCTIVE BODY

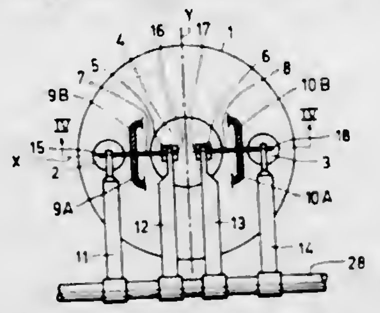
Gerard Moesker, Mollenhutseweg, Nijmegen, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Nov. 8, 1965, Ser. No. 506,739

Claims priority, application Netherlands, Nov. 26, 1964, 64—1,724

5 Claims. (Cl. 29—471.1)

2. In the manufacture of a tiny semiconductor device comprising a semiconductive body having closely-spaced contact zones and electrodes associated with each contact zone all aligned in a row, the method of connecting a thin wire having a thickness of about 5–30 microns to and between each contact zone and its associated electrode, comprising the steps of locating the semiconductor device in a predetermined position, gripping spaced regions of a straight wire in spaced chuck-like members, separating the chuck-like members to stretch the wire, applying energy at a predetermined intermediate spot of the wire between the chuck-like members to weaken said wire and severing the stretched wire at said predetermined spot by further separating said chuck-like members, then separating the chuck-like members a predetermined distance apart, moving the chuck-like members holding the severed wire portions over the semiconductive device to orient the chuck-like members relative to the device such that the severed ends of the wires overlie the contact zones, and thereafter thermocompression bonding the severed wire ends to the contact zones and the opposite wire ends to the associated electrodes before releasing said wires from said chuck-like members.

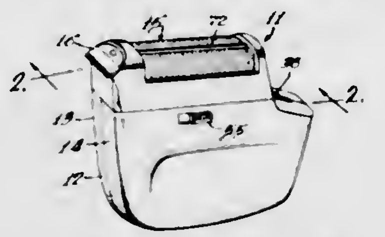


3,376,636
SHAVING HEAD FOR ELECTRIC DRY SHAVER

Francis J. Schuessler, Chicago, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois

Filed Nov. 28, 1966, Ser. No. 597,376

21 Claims. (Cl. 30—34.1)



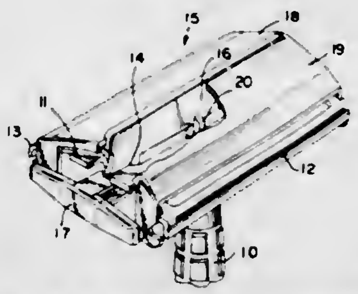
A shaving head for an electric dry shaver having a single flexible shearing comb supported by a head frame with a central bar and including a pair of reciprocating cutters supported in said shaving head by means of a hingeable cutter support.

3,376,637
SAFETY RAZOR SPIDER

Thomas F. Bombero, Shelton, Conn., assignor to Eversharp, Inc., Milford, Conn., a corporation of Delaware

Filed Feb. 27, 1967, Ser. No. 618,789

14 Claims. (Cl. 30—60.5)



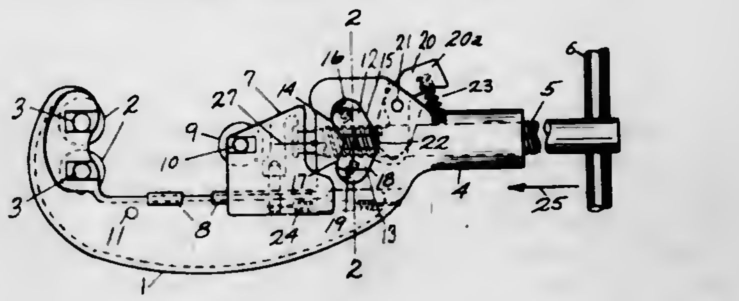
Safety razor of the sectional cap type having single ply cross braces on a center bar. Locating, interlocking tabs on the cross braces co-operate with recesses in the center bar, and either a snap-in lock on one tab or a mechanical deformation of one tab joins the cross brace to the center bar.

3,376,638
PIPE CUTTER HAVING HALF NUT GUIDED FOR MOVEMENT TOWARD AND AWAY FROM THE PRESSURE SCREW

Bengt G. Bjalme and Axel V. Jonasson, Erie, Pa., assignors to Reed Manufacturing Company, Erie, Pa., a corporation of Pennsylvania

Filed Mar. 30, 1966, Ser. No. 538,748

4 Claims. (Cl. 30—102)



The pressure screw of a pipe cutter cooperates with a half nut guided in a way having a surface presented toward the pipe and making an acute angle with the axis of the pressure screw and engaging one side of the nut to hold the nut against the screw under forces tending to move the screw away from the pipe and having another surface spaced from the first surface and presented away from the pipe and making an obtuse angle with the axis of the pressure screw and engaging the other side of the nut for moving the nut away from the pressure screw under forces tending to move the screw toward the pipe. For heavy duty applications, a pair of half nuts may be used on opposite sides of the pressure screw.

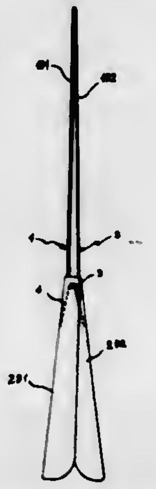
3,376,639
PINCHING KNIFE

Smeraldo Pompini, Fiorenzuola d'Arda, Piacenza, Italy, assignor to Pietro Rosa & Figli S.m.C., Udine, Italy, an unlimited partnership of Italy

Filed July 3, 1967, Ser. No. 650,692

Claims priority, application Italy, July 7, 1966, 15,415/66

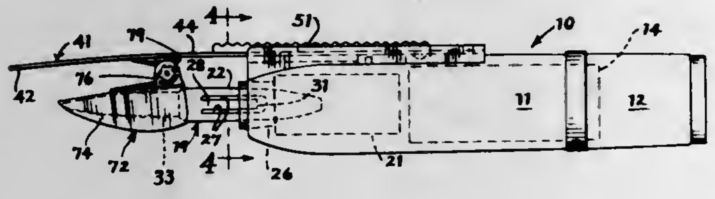
10 Claims. (Cl. 30—124)



A knife for cutting out slices whilst holding same firmly until desired, comprising a slicing blade to the side of which a pinching jaw is hinged and spring-urged against the slicing blade, so as to cooperate with the blade of the knife for pinching a slice which has been previously cut by the same knife blade. The slicing blade and the pinching jaw are each provided with a handle. By pressing the said handles together, the pinching jaw is swung away from the knife blade, thus releasing the pinched slice.

3,376,640
COMBINED KNIFE AND FORK

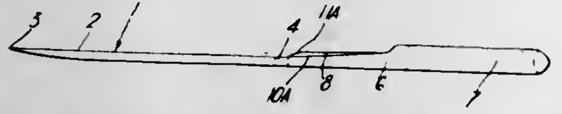
Alfred S. Kramer, 887 Sheridan Road, Glencoe, Ill. 60022, and Milton J. Sondell, 3200 Lake Shore Drive, Chicago, Ill. 60657
Filed July 13, 1966, Ser. No. 564,903
6 Claims. (Cl. 30—148)



A combined knife and fork for use by persons having only a single hand or one which is incapacitated. The handle of the implement carries power means and mechanism to reciprocate the knife. Means are associated with the knife to guard the cutting edge thereof to avoid injury to the person, and such means is arranged for retraction to expose the cutting edge of the knife when the latter is in use. The fork is adapted to hold the food during cutting and to raise the cut piece to the mouth.

3,376,641
SCISSORS AND SHEARS

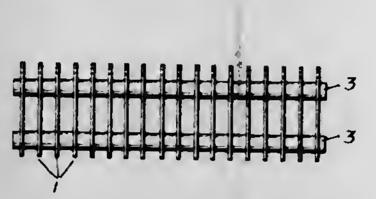
Andrew C. Usborne, 88 Carsick Hill Road, Sheffield 10, England
Filed Jan. 17, 1966, Ser. No. 521,012
3 Claims. (Cl. 30—266)



A pair of scissors or shears comprises a pivoted pair of handled blades having flat opposing faces and cooperating cutting edges, each blade providing, on its inner face on the handle side of the pivot, a shoulder having a surface lying at an inclination to the plane of the inner face and rising in the direction away from the respective cutting edge, and/or in the direction away from the pivot and toward the handle, to ensure proper engagement of the two cutting edges as they move toward parallel positions.

3,376,642
CUTTER HEAD FOR DRY SHAVERS

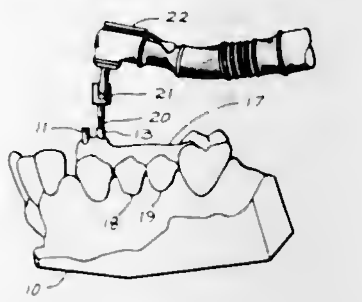
Erich Liska, 81 Reiteregg, Hitzendorf, Styria, Austria
Filed Aug. 24, 1966, Ser. No. 574,714
3 Claims. (Cl. 30—346.51)



This invention relates to a cutter head assembly for use with dry shavers. Specifically, it is concerned with the cutters and the supports therebetween. In the assembly, the cutters are spaced apart and contain aligned openings through which cast support members are received. The latter members are characterized by a major cross-section which exceeds the cross-section of said openings to which the cast members are secured.

3,376,643
METHOD OF RESTORATIVE DENTISTRY

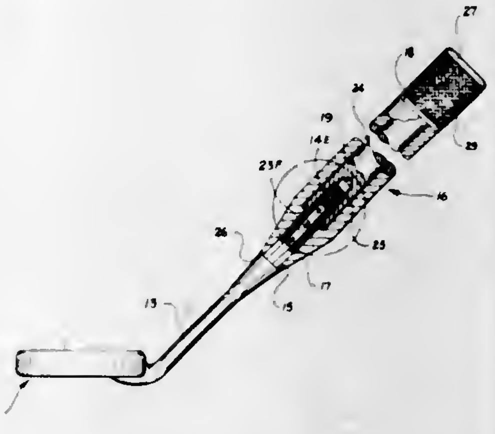
Frank H. Nealon, Cleveland, Ohio, assignor to The J. M. Ney Company, Bloomfield, Conn., a corporation of Connecticut
Filed Jan. 5, 1965, Ser. No. 423,484
4 Claims. (Cl. 32—67)



There is disclosed a method of restorative dentistry wherein the patient's tooth is initially marked with the desired location for parallel pin holes to receive the pins on a restorative device. A negative impression is made of the patient's teeth including the marking for the desired location and a model of the teeth is formed from the negative impression which includes the markings for the parallel pin holes. A tubular bushing is positioned over the marked locations for the parallel pin holes and the bushings are affixed in a common base forming a removable negative impression of the model and thereby the teeth. Parallel pin holes are drilled in the model through the bushings and a fitted restorative device is formed from the model including parallel pins which are spaced and aligned in accordance with the pin holes drilled in the model. The negative impression is then fitted over the patient's teeth and holes are drilled in the patient's teeth through the bushing by use of a drill driven by a flexible coupling. Finally the restorative device is affixed to the patient's teeth by inserting the parallel pins into the parallel holes.

3,376,644
LOCKING HANDLE STRUCTURE FOR A COMBINATION DENTAL MIRROR AND RETRACTOR

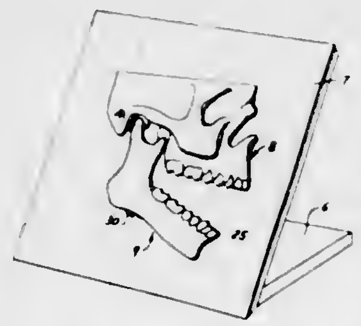
Alexander Clark, 1801 Asheville Highway, Hendersonville, N.C. 28739
Filed May 20, 1965, Ser. No. 457,341
2 Claims. (Cl. 32—69)



A locking handle structure for a combination dental mirror and retractor wherein the dental mirror and retractor are carried on an angulated rod and shank extending therefrom and a longitudinal handle member which are effectively non-rotatively fastened together in a very rigid, structurally strong manner through the use of a non-round effective male keying and spline means carried by said shank and normally mounted within a corresponding non-round female keying and spline means carried by the forward end of the handle member. The arrangement is such that a tension-applying member may tighten the two keying and spline structures just referred to into a rigid and relatively non-rotatable relationship so that the dental mirror may be used in a conventional manner and the head may be used as an oral retractor without any likelihood of it becoming inadvertently disengaged and capable of rotating so as to release retracted tissue during the performance of dental surgery, a tooth-extraction, tooth-filling operation, or the like.

3,376,645
DEMONSTRATION DEVICE

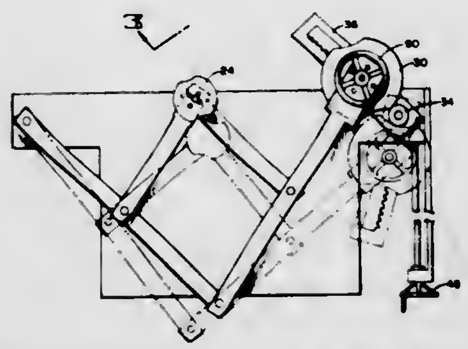
Thomas R. Huff, 60 W. Chester State Road, Paoli, Pa. 19301
Filed July 7, 1965, Ser. No. 470,134
4 Claims. (Cl. 32—71)



A demonstration device comprising bas-relief, planar facsimiles of the human upper and lower jaws and teeth in lateral aspect, with said upper facsimile fixed in position and with said lower facsimile removably mounted adjacent and substantially in the plane of the former for pivotal and fore and aft translative motion relative thereto, and with the facsimiles of the upper and lower teeth having inclined surfaces adapted to inter-engage upon closing of the facsimiles, thereby to simulate and demonstrate proper and improper human dental occlusion and to demonstrate the effects thereof on the temporomandibular joint.

3,376,646
TEMPLATE TRACER

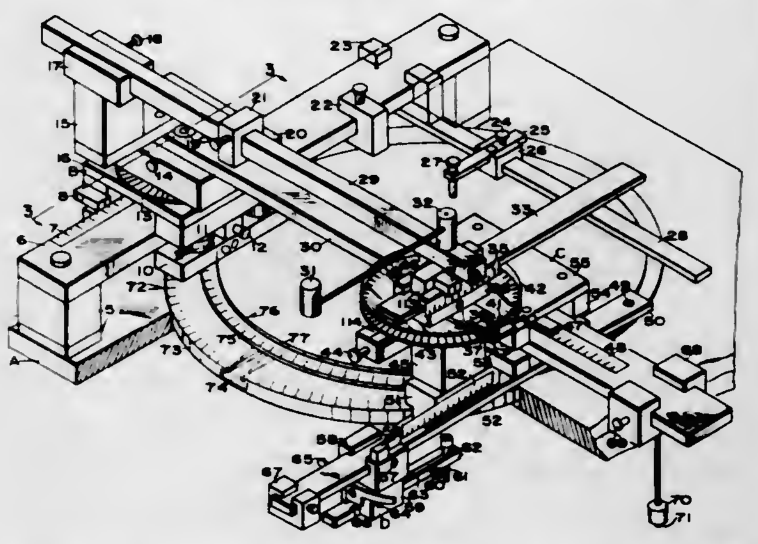
Herman E. Radke, 131 Glendale Ave., Hartford, Conn. 06106
Filed Mar. 30, 1967, Ser. No. 627,154
7 Claims. (Cl. 33—25)



Pantograph apparatus wherein a workpiece is moved about a stationary cutting tool in accordance with the motion of a template about a stylus roll. The stylus rolls may be readily changed and thus the work may be machined to the desired dimensions in a stepwise fashion by means of driving the template around stylus rolls of decreasing diameter. Dual drive means for the template are provided so that the template may be moved about the stylus roll while simultaneously being held against the stylus roll.

3,376,647
DRAFTING MACHINE

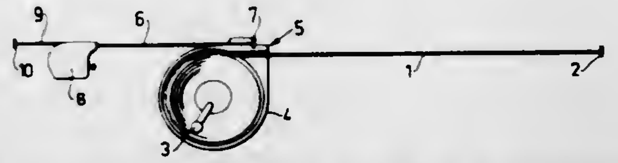
Marl T. Wooley, 6147½ Santa Fe Ave., Huntington Park, Calif. 90255
Continuation of application Ser. No. 397,329, Sept. 17, 1964. This application Apr. 10, 1967, Ser. No. 629,830
6 Claims. (Cl. 33—30)



An ellipsograph for guiding a tool or pen through a circular or non-circular path which includes pivotally mounted pendulum arm and horizontal arm associated at their free ends with a pair of relatively movable pivot pins operating between the free ends of said pendulum and horizontal arms with means for adjusting the relative eccentricity of the pivot pins whereby a carriage mounted on one of said pivot pins will be caused to move through a circular or non-circular path depending upon the relative positions of the pivot pins.

3,376,648
MEASURING DEVICES

Ture Anders Ljungberg, Badstigen 6, Stuvsta, Sweden
Filed Nov. 29, 1965, Ser. No. 530,742
Claims priority, application Sweden, Dec. 9, 1964, 14,856/64
8 Claims. (Cl. 33—138)

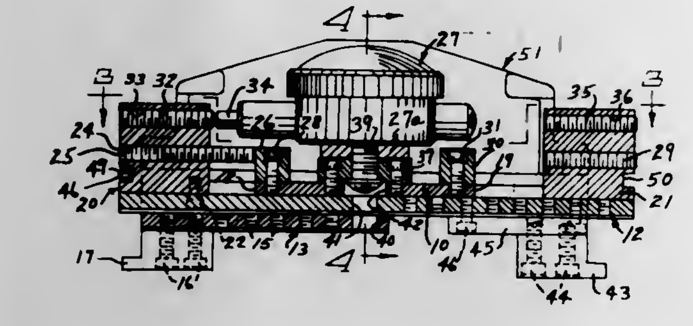


A tape measure especially useful for measurement between confronting surfaces comprises a pair of tapes extensible in opposite directions from a spool. The longer tape has coarse graduations and the shorter tape has fine graduations, so that the longer tape need not be finely graduated. The coarse graduations are discontinuities in the surface of the tape which may be selectively locked to fix the principal increments of measurement, while the other tape is extended to read the fine increments. The shorter tape is secured by an enlargement at one end thereof releasably in a slot in the housing for the longer tape thereby accurately to position the fixed end of the shorter tape.

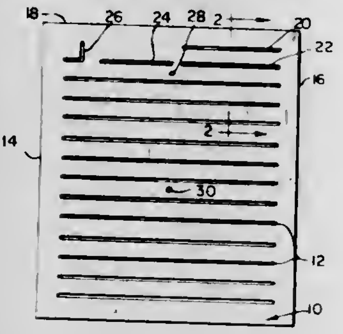
3,376,649
GAGING APPARATUS

James Finley, Livonia, Mich., assignor to Hanlo Gage and Engineering Company, Southfield, Mich., a corporation of Michigan
Filed Dec. 30, 1966, Ser. No. 606,437
5 Claims. (Cl. 33—147)

A gaging apparatus for checking grooves, bores, linear dimensions, inside and outside dimensions, and the like, and which includes a stationary body member, a slide plate movably mounted on said body member, integral means mounted on the stationary body member, a U-shaped spring means for biasing the slide plate against the indicator, a first gaging contact finger releasably fixed on the stationary body member, and a second gaging contact finger mounted on the movable slide plate in a position spaced apart from said first gaging contact finger, and said U-shaped spring means being adapted to be swung from one operative position to another operative position to bias the slide plate in one direction or the other depending on whether the gaging apparatus is being used for gaging an internal dimension or an external dimension.



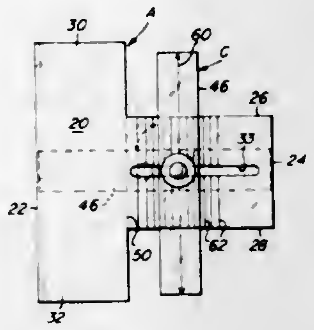
3,376,650
TEMPLATE
George M. Cook, 54 W. Park St., Brockton, Mass. 02401
Filed Feb. 11, 1966, Ser. No. 526,802
7 Claims. (Cl. 33—174)



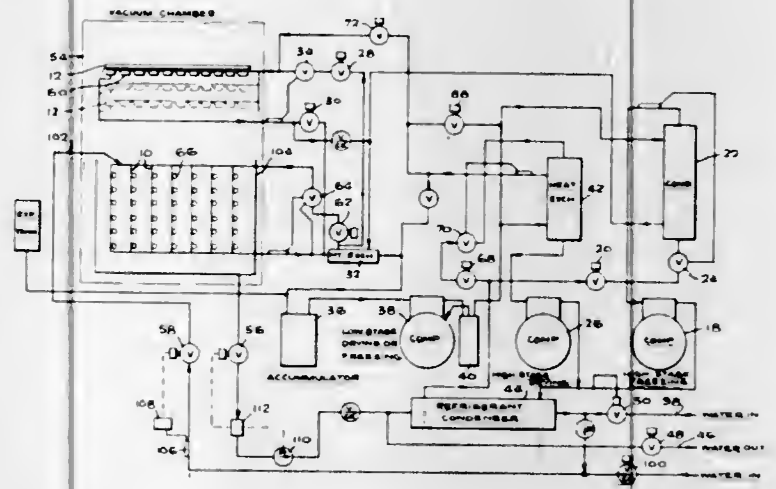
A template having an even number of parallel slots extending thereacross and a pair of framing slots parallel thereto at one end of length equal to the distance between one half of the parallel slots, the upper framing slot spaced from the end of the template a distance equal to the distance between one side of the template and the ends of the parallel slots thereadjacent, the framing slots each also having ends spaced from the other side of the template a distance equal to the distance between the lower framing slot and the adjacent parallel slot.

3,376,651
INSIGNIA POSITIONING DEVICE
Eldon W. Carey, Heidelberg, Germany (℅ Transportation Directorate, Headquarters, USAREUR, APO New York 09403)
Filed Dec. 7, 1965, Ser. No. 512,057
3 Claims. (Cl. 33—180)

An insignia positioning device which has a template whose neckline edge carries a channel-shaped clip for removably securing the device in position on a jacket. The template has upper and lower spacing edges perpendicular to the neckline edge and between which there is provided a parallel slot. A carrier is longitudinally slidable within the slot. A positioning guide projects downwardly from the carrier below the template while a centering arm is mounted on the carrier above the template. The centering arm is pivotally disposed on the carrier for movement into and out of a position parallel to the neckline edge of the template so that upon locating the proper insignia position, the centering arm may be pivoted out of the way to keep from hindering insignia manipulation.

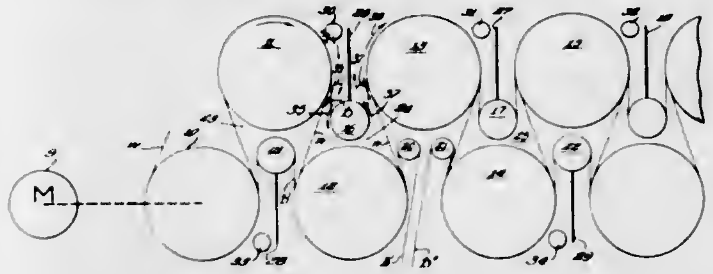


3,376,652
LOW TEMPERATURE FREEZE DRYING PROCESS AND APPARATUS THEREFOR
Luis A. Hernandez, Jr., Los Angeles, Calif. (6227 Laurel Grove Ave., North Hollywood, Calif. 91606)
Filed June 17, 1966, Ser. No. 558,345
7 Claims. (Cl. 34—5)



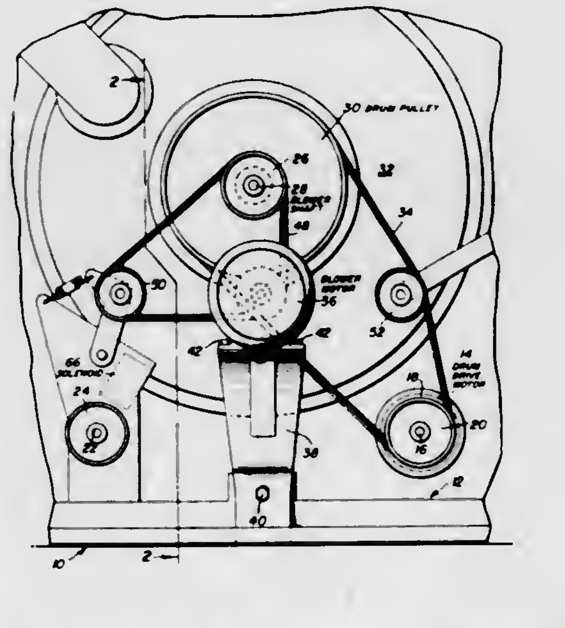
Process for vacuum freeze drying a frozen product in a tray with a heat source conducting heat to the product through the tray. Solid state continuity is maintained between the frozen product bottom surface and the heating tray upper surface, which surfaces constitute a heat transfer interface for maximum heat transfer by the heat conduction mechanism solely, such continuity being obtained by effectively but non-mechanically causing the frozen product to be pressed down on the tray. Subliming is performed under conditions whereby the sum of the subliming vapor pressure at the upper exposed or subliming surface of the frozen product and the pressure at the interface due to the weight of the product, such summed pressures being effectively downward at the interface, always exceeds the magnitude of the subliming vapor pressure which could occur at the interface, which occurrence could cause vapor to exist at the interface and break the solid state continuity at the interface. Relatively low temperatures are employed for both the frozen product and the heat source, but with large temperature differences across the product thickness for maximum heat transfer to the subliming surface, resulting in minimized drying time.

3,376,653
DRYER VENTILATION
Robert A. Daane, Rockford, Ill., assignor to Beloit, Corporation, Beloit, Wis., a corporation of Wisconsin
Filed Dec. 6, 1966, Ser. No. 599,542
10 Claims. (Cl. 34—23)



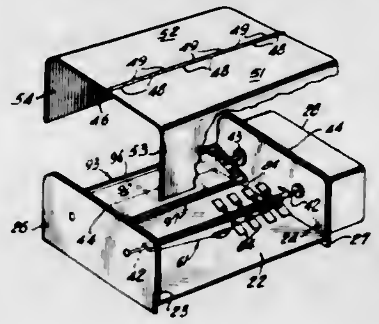
The mechanism or embodiment shown in the drawings has an upper tier of dryer drums such as **11** and a lower tier of drums such as **10** with a web W passing sinuously up and down between the drums and an upper belt B and a lower belt such as B′ passing over the webs on the drums and being guided by belt guide rolls such as **16** and **19** positioned so that pockets such as **24** are formed which are filled with moisture. The drums are driven so that the web moves at a speed in excess of two thousand feet per minute and air is pumped along the surface of the roll **16** into the pocket **24** and moist air is pumped out of the pocket as shown by the arrow **37**. Moist air is separated from the guide roll by a vane **26** and fresh dry air can be supplied at **30** with FIGURE 2 having a second vane **45** also for removing moist air.

3,376,654
DRY CLEANER MACHINE DRIVE ASSEMBLY
Bobby O. Pugh, 5706 La Sierra Ave., Riverside, Calif. 92505
Filed Mar. 21, 1966, Ser. No. 535,971
3 Claims. (Cl. 34—53)



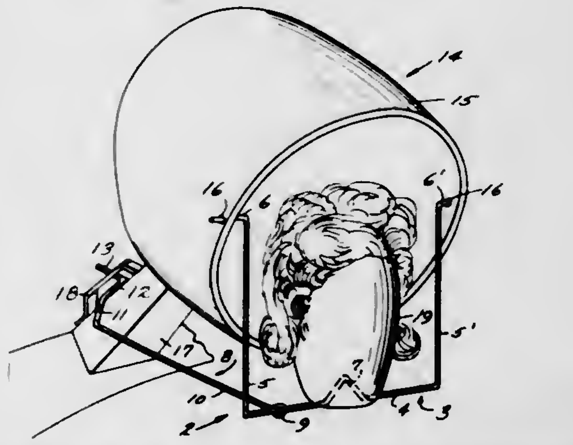
A conversion method for extending the average operating time between repair intervals of a dry cleaner machine which includes a main driving motor operating the rotating cleaner drum during a dry cleaning cycle by means of a pulley drive. During a period of time within the dry cleaning cycle, a timer actuates a solenoid which in turn actuates a clutch for the purpose of engaging two pulleys. The first of these pulleys is linked by means of a belt to the main drive motor and at such time when the clutch is actuated and the first and second pulleys are linked, rotation is imparted to the second pulley. Attached to this second pulley is a belt which is extended over a blower shaft. Therefore, in effect, the main drive motor continually operates the rotating drum and in addition operates the blower during a preselected period within the operation cycle. The conversion method practiced upon the above characterized machine consists of removing the pulley between the main drive motor and the aforementioned first pulley which is clutch linked to the second pulley. In addition, the electrical output from the timer is disconnected from the solenoid thereby completely disconnecting the solenoid, clutch, and associated pulleys from the system. Instead, the timer output lines are connected to a second motor which is mounted on the machine, the shaft of this motor is coupled to a pulley which drives the blower.

3,376,655
FILM DRYER WITH CLAMP FOR MULTIPLE FRAME HOLDER
Seymour M. Hutchinson, 54—19 Myrtle Ave., Ridgewood, N.Y. 11227, and Franz Krause, 1110 Connetquot Ave., Central Islip, N.Y. 11722
Filed June 21, 1966, Ser. No. 559,280
9 Claims. (Cl. 34—58)



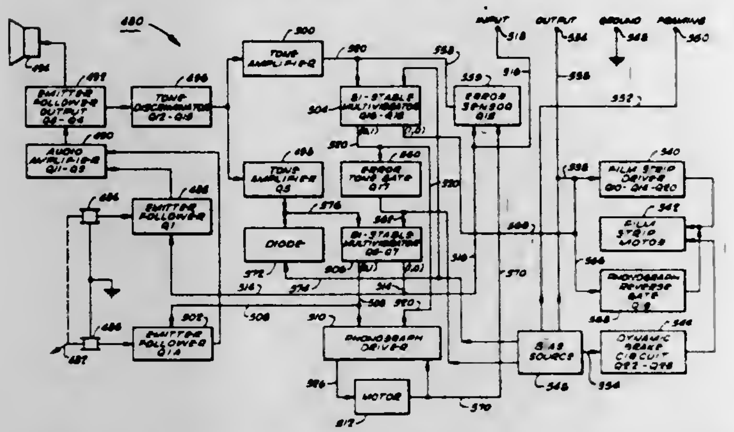
Centrifugal drying apparatus for photographic film, including a releasably secured film holder that is counterbalanced when rotating on the shaft of the apparatus.

3,376,656
WIG JIG
Joseph A. Cavallo, 7434 Atlantic Blvd., Jacksonville, Fla. 32211
Filed Jan. 19, 1967, Ser. No. 610,371
3 Claims. (Cl. 34—90)



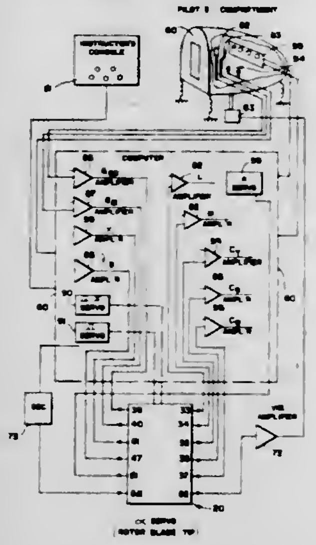
A wig jig for supporting a wig block under the hood of a hair dryer comprising a first resilient support member provided with a means for suporting a wig block and terminal portions which are received in the hood of the dryer, and a second member extending outwardly at right angles from the first member and terminating in a free end portion adapted to be inserted through a handle or loop located on the hood support. This abstract is intended neither to define nor limit the scope of the invention.

3,376,657
AUDIO-VISUAL TEACHING MACHINE
Loyd G. Dorsett, Purcell, Okla., assignor to Dorsett Industries, Inc., Norman, Okla., a corporation of Oklahoma
Filed June 7, 1965, Ser. No. 461,789
15 Claims. (Cl. 35—9)



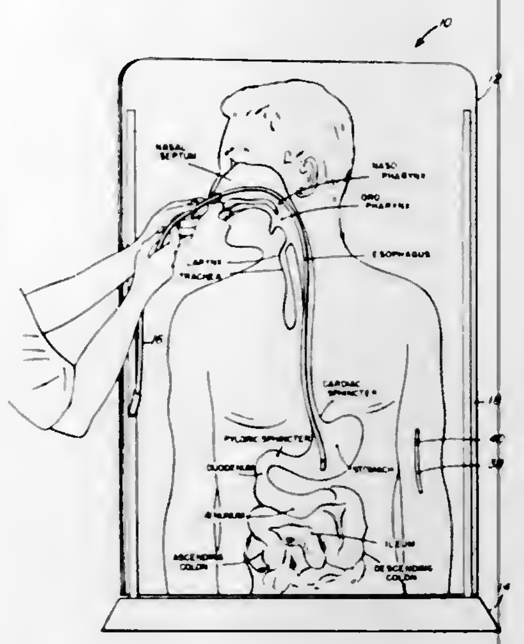
Tutoring apparatus which utilizes a visual picture strip having certain answer code indications carried thereon, and an audio record bearing information as well as control tones. Logic circuitry controls audio playback in accordance with program data conveyed by the control tones, as further controlled by logic analysis of the answer code indications which are generated by a student response mechanism functioning with the picture strip.

3,376,658
GROUND-BASED AIRCRAFT FLIGHT SIMULATING APPARATUS
Michael Richard Louis Thurner, Horsham, Sussex, England, assignor to Communications Patents Limited
Filed Mar. 17, 1966, Ser. No. 535,103
Claims priority, application Great Britain, May 3, 1965, 18,562/65
8 Claims. (Cl. 35—12)



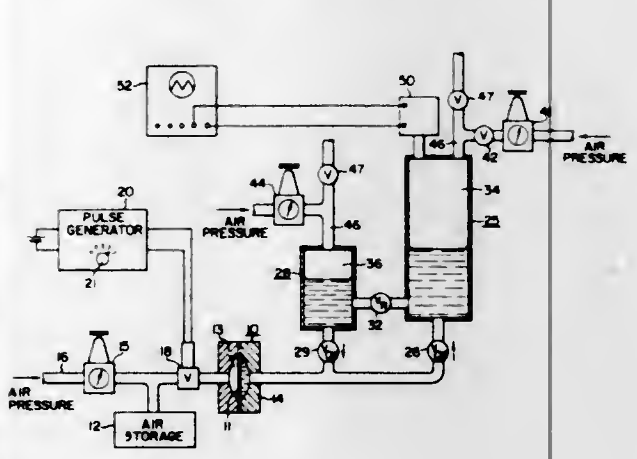
A ground-based flight simulating apparatus for simulating effects due to the stalling of the blades of the main rotor of a helicopter. Blade angle of attack is computed at one azimuth angle of the rotor disc and the effects of blade stall are then introduced as functions of this angle. These effects are provided by signals which are fed to the computer to cause a reduction in the lift produced by the rotor and also to cause the aircraft to roll towards the stalled side of the rotor disc and to pitch nose upwards, with increasing blade angle of attack, when a critical value of angle of attack is exceeded. At the same time a simulated rotor-induced vibration of the fuselage is produced.

3,376,659
DEMONSTRATION DEVICE
Samson Asin, New Brunswick, George T. Maloney, North Plainfield, and Danforth R. Robinson, New Providence, N.J., assignors to C. R. Bard, Inc., Murray Hill, N.J., a corporation of New York
Filed June 9, 1965, Ser. No. 462,608
8 Claims. (Cl. 35—17)



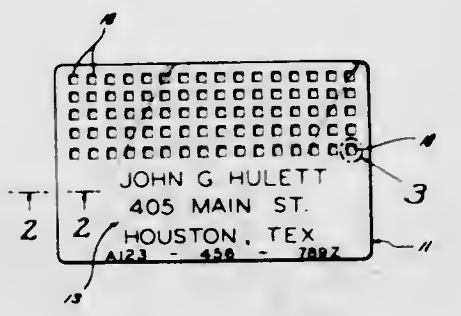
A demonstration device for use in instructing personnel in the use of medical and surgical apparatus of the type in which a tube or the like is passed into internal passages of a living being, so constructed that the introduction of fluids into said internal passages can be demonstrated by actual introduction of fluids into the device; the construction of the device being such that it is basically flat, but modified to three-dimensional form in certain areas to provide internal passages into which apparatus and/or medication (simulated or not) can be introduced, the location of said passages and of the apparatus or medication therein being visually observable.

3,376,660
CIRCULATORY SYSTEM SIMULATOR
Gerald E. McGinnis, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 12, 1965, Ser. No. 471,173
6 Claims. (Cl. 35—17)



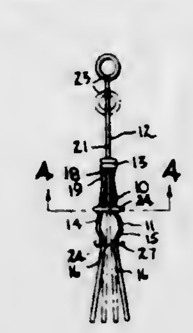
A simplified circulatory system simulator employing a pneumatically-operated pulsating diaphragm pump, for simulated heart pumping action, connected hydraulically via resilient flapper type check valves to cause circulation of blood-representing hydraulic fluid consecutively through two pneumatically-biased restrictedly-interconnected accumulators which represent the volume and resiliency characteristics of arteries and veins. Separate pressure regulating means provide for adjusting the pneumatic bias pressures in the two accumulators to simulate different blood pressures and blood system resiliency characteristics. Controls for pressure and repetition rate of pump operation provide for simulation of different heart beat rates and discharges.

3,376,661
MULTIPLE COMPANY CREDIT CARD
John G. Hulett, Rte. 1, Box 488, Pearland, Tex. 77581
Filed June 28, 1966, Ser. No. 561,170
3 Claims. (Cl. 40—2.2)



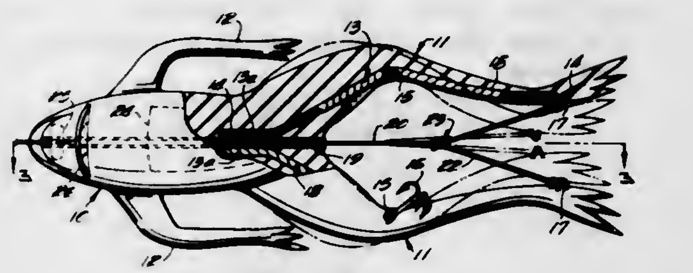
A multiple company credit card and system for use in receiving credit from a plurality of different creditor companies. The cards are provided with the card holder's identity on one portion thereof with another portion having a predetermined pattern of creditor indicia, with each indicia identifying a different creditor and occupying a predetermined position in the pattern. The system also includes read-out means arranged to receive a card and to sense and display a predetermined one of the indicia.

3,376,662
SPREADING FISHHOOK
Albert J. Harris, R.D. 1, Bowerston, Ohio 44695
Filed Aug. 25, 1965, Ser. No. 482,429
4 Claims. (Cl. 43—36)



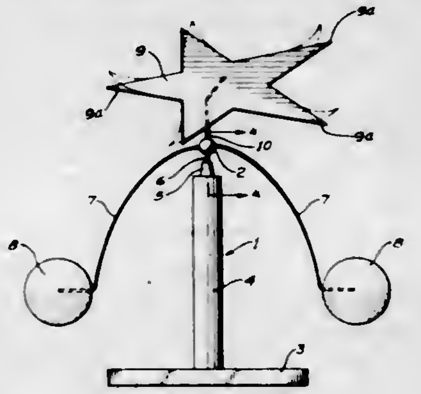
A spreading fishhook having a plurality of spring-biased normally-divergent hook arms which are drawn together and maintained in selected positions by means of a slidable retainer embracing the arms. Detents provided on the arms serve to establish the locking positions of the slidable retainer and the arms are so bent as to provide a fulcruming abutment, at one locking position, to establish a leverage spring tension on the hook arms to augment the initial spring biasing force in the spreading action. When a fish strikes the hook with sufficient force, the hook arms are displaced from retention by the slidable retainer element and the spreading action of the hooks occurs.

3,376,663
FISHING LURE
Robert L. Amrine, Richwood, Ohio
(647 R St., Renton, Wash. 98055)
Filed July 26, 1965, Ser. No. 474,876
2 Claims. (Cl. 43—42.02)



A fishing lure having a main body portion and appendages formed integrally from resiliently flexible material and have a covered spring steel wire frame embedded therein. A guide tube extends longitudinally through the main body and a line extends through the guide and is connected at one end to the frame at points on the appendages spaced from the main body for remotely controlling the flexing of the appendages. A float, weight and scoop are attached to the main body to enhance the action of the lure.

3,376,664
MOBILE
Alfred Sauer, Box 10, Litchfield, Ohio 44253
Filed Oct. 23, 1965, Ser. No. 503,031
8 Claims. (Cl. 46—53)



1. A mobile comprising a supporting member,
a movable member,
one of said members having an open side socket,
a pin carried by the other member and having an end portion loosely accommodated in the socket and with its end bearing against the socket wall and supporting the movable member on the supporting member for rotation of the movable member about an upright axis through the point of contact of the pin end and cavity wall and for concurrent rocking movement transversely of said axis,
a plurality of arms on the movable member and extending outwardly therefrom,
light weight elements on the arms, respectively, in outwardly spaced relation to said supporting member,
a relatively thin air vane,
means connecting the vane fixedly to the movable member in eccentric relation to said axis and so that the vane slopes edgewise both radially of said axis and circumferentially of said axis, and
the center of gravity of the combination of the movable

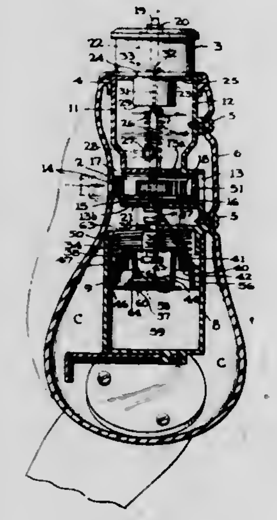
member and all parts of the mobile carried thereby being below the level of said point of contact.

3,376,665
DOLL WITH MOVABLE HEAD AND SOUND-PRODUCING MEANS

Isaac Heller, Scotch Plains, N.J., assignor to Remco Industries, Inc., Harrison, N.J., a corporation of New Jersey

Filed May 6, 1965, Ser. No. 453,623

6 Claims. (Cl. 46—118)



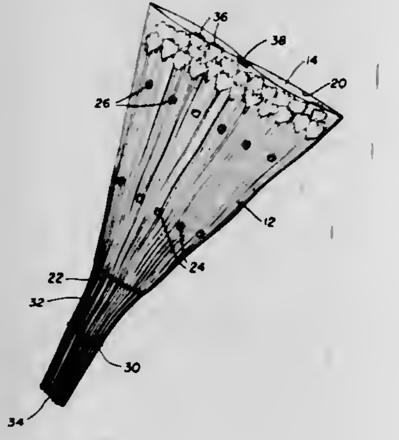
A toy figure includes a housing having a flexible wall portion and in which is an oscillating appendage-supporting element and means including a cylinder containing a piston forming a voice chamber which has a valve and reed to produce non-monotonous polysyllable sound. Means movably mounted in the housing is motivated by application of pressure on said flexible wall portion to oscillate said appendage-supporting element and to actuate said piston and thereby cause said valve and reed to produce sound.

3,376,666
PACKAGES FOR BUNCHES OF FLOWERS

William H. Leonard, 165 Ivy St., Denver, Colo. 80220

Filed Nov. 16, 1966, Ser. No. 594,734

4 Claims. (Cl. 47—41)



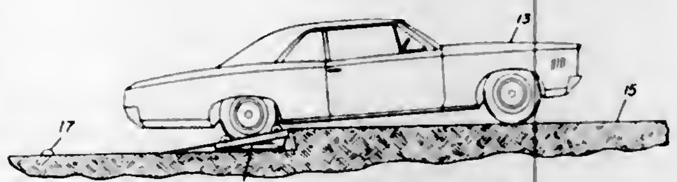
A truncated, conical sleeve of soft, flexible resilient plastic film covering about from three-fourths to two-thirds of the cut flower stems and the blossom of the flowers, forms with a bunch of long stem cut flowers, a flat fan-shaped package, which substantially reduces breakage of flowers in shipment.

3,376,667
ONE-WAY ROLLER BARRIER FOR PARKING LOT

Edward L. Parr, El Cajon, Calif., assignor to Wendell L. Thompson, Burbank, Calif.

Filed Sept. 2, 1966, Ser. No. 577,043

10 Claims. (Cl. 49—49)



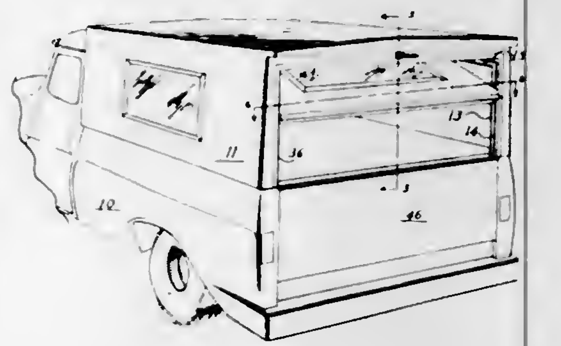
A roller barrier apparatus, in which roller mechanism lies in the normal path of movement of a vehicle traction wheel, which roller mechanism can be rendered effective or ineffective whereby when effective it functions as a barrier for movement of the traction wheel.

3,376,668
ROLL-UP CLOSURES FOR VEHICLES

Kenneth M. Smedstad, 8313 Gordian Way, Orangevale, Calif. 95662

Filed Mar. 29, 1966, Ser. No. 544,345

3 Claims. (Cl. 49—197)



The rear opening in a camper body, or canopy, is covered by a lockable door in vertical attitude. The lateral edges of the door are provided with rollers engaging a track structure mounted on the canopy, the track and rollers being so arranged that as the upper portion of the door is urged forwardly by the operator, the bottom of the door travels directly upwardly, thence directly forwardly as the door reaches horizontal attitude, with but a minimum of rearward projection of the bottom of the door as movement of the door takes place. Additional structure secures the door in open, horizontal attitude.

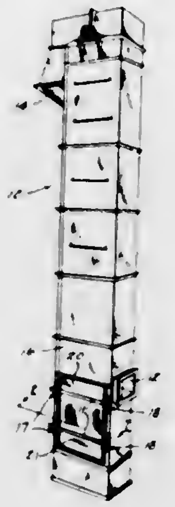
3,376,669
ACCESS DOOR

William F. Johnston, Delafield, Wis., assignor to Rex Chainbelt Inc., Milwaukee, Wis., a corporation of Wisconsin

Filed Dec. 29, 1966, Ser. No. 605,896

6 Claims. (Cl. 49—382)

The door is sealed and held in place by a pair of locking bars, each of which is received edgewise in slots in a pair of plates connected to the door frame adjacent opposite sides of the door. As each bar is forced into the slots, the edges of the door are engaged by the leading edge of the bar, thus forcing the door toward its frame. The door is held in place by virtue of the bar being wedged between the slot boundaries and the door edges. By mounting the slotted plates on hinges, the door may be pivotally opened to either side, depending on which set of hinged plates the door is fastened to.

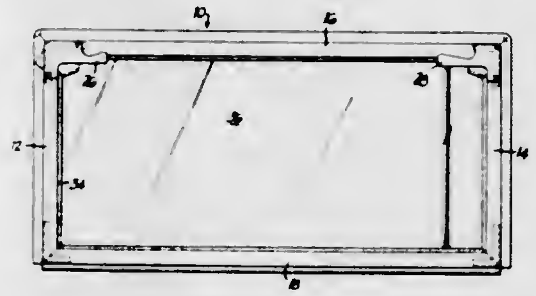


3,376,670
WINDOW SASH AND METHOD FOR MAKING SAME

Leslie V. Jones, Aurora, Ontario, Canada, assignor to Excel Corporation, Elkhart, Ind., a corporation of Indiana

Filed Aug. 31, 1966, Ser. No. 576,360

6 Claims. (Cl. 49—501)



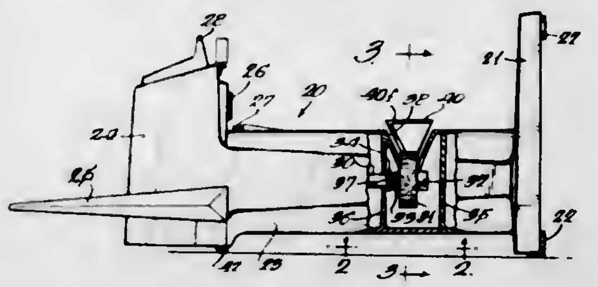
1. A window sash comprising a pair of spaced apart parallel stiles joined together at one end by a first rail which is integral therewith, said stiles and first rail being channel sections comprising spaced apart walls joined together by a web, the juncture of each stile with the first rail defining a corner construction in which the channel web forms the outer corner surface and the channel side walls extend inwardly therefrom, the channel side walls of each corner construction having a slit therein extending from the inner edge thereof towards the web and terminating at a point short of the web, a corner bracket provided at the juncture of each stile with the first rail, said bracket, stiles and first rail having registering opening means, a pair of locks each having structure with opening means in registry with the opening means of one corner bracket, threaded fastening means extending through each lock opening means into threaded engagement with the opening means of one corner bracket to thereby secure each lock to the sash and reinforce the junctures of the stiles and first rail, a separate second rail having a channel section joining the stiles at the other ends thereof, a corner bracket provided at the juncture of each stile with the second rail, threaded fastening means securing said stiles, second rail and corner brackets together, said stiles and rails defining a frame, and a window pane received in said frame.

3,376,671
KNIFE SHARPENER

Gilbert R. Wolter, Elmhurst, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois

Filed Jan. 10, 1966, Ser. No. 519,580

7 Claims. (Cl. 51—5)



1. A combination appliance having can opening and knife sharpening means comprising a housing enclosing a motor drivingly connected to can opening means, said motor having an armature shaft supporting at one end thereof an abrasive wheel within said housing, a V-shaped knife blade guiding slot formed in one wall of said housing, said abrasive wheel extending into said slot through an opening in the bottom thereof, a combined blade guide and cover mounted on said housing for slidable movement in said slot, said cover movable between a first position closing said slot and a second position in which the walls of said cover and the converging walls of said slot define a pair of converging knife blade guiding slots the planes of which intersect opposite faces of said wheel.

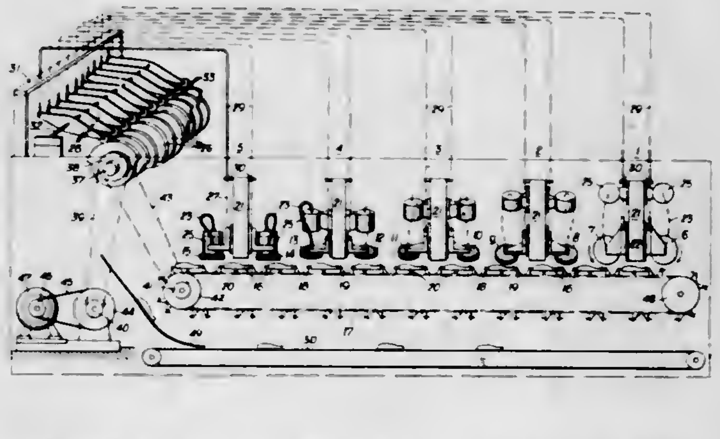
3,376,672
ABRADING MACHINE WITH A PLURALITY OF ABRASIVE WHEELS

Erich Schmidt, Vienna, Austria, assignor to Fa. Maschinenfabrik Zuckermann Kom. Ges. Wien, Vienna, Austria

Filed Feb. 9, 1965, Ser. No. 431,331

Claims priority, application Austria, Feb. 14, 1964, A 1,266/64

14 Claims. (Cl. 51—76)



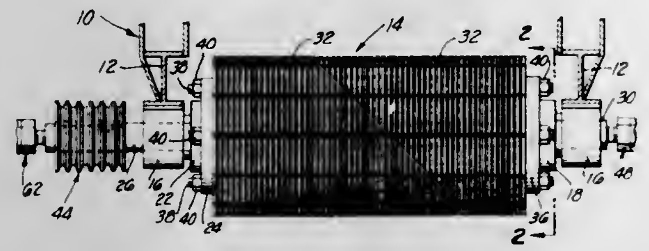
Machine for the abrading of a succession of elongated workpieces displaced along a linear transport path by a conveyor belt in which pairs of abrasive wheels are spaced along this path at different angular orientations to surface predetermined linear stretches of each workpiece, the wheels of each pair being rotated in opposite senses by flexible shafts and respective motors while a cam arrangement includes cams individual to each wheel, respective cam-follower levels and Bowden lines displace the wheels in accordance with a predetermined pattern so that one wheel of each pair engages one end of the respective workpiece but is lifted before it sweeps the second end, and the second wheel engages the second end without contact with the first end to maintain the sharpness of the edges at the end faces of the workpieces.

3,376,673
ROTARY CUTTER ASSEMBLY FOR CONCRETE LEVELER

Leopold H. Metzger, Glencoe, Ill., and Cecil W. Hatcher, West Covina, and Glen E. Simms, Glendora, Calif., assignors, by mesne assignments, to Super-Cut, Inc., a corporation of Illinois

Filed Sept. 8, 1964, Ser. No. 394,797

3 Claims. (Cl. 51—168)



1. A rotary cutter assembly of generally cylindrical configuration and having coaxial trunnions at the ends thereof for reception in supporting bearings, said assembly comprising:

(a) an elongated cylindrical mandrel of relatively large diameter;
(b) a pair of supporting shafts coaxial with the mandrel, projecting axially from the opposite ends thereof, and serving to establish said trunnions;
(c) a relatively thick, circular, disk-like anchor member fixedly secured to one end of said mandrel, coaxial therewith, and of a diameter slightly larger than the diameter of the mandrel whereby the rim region of the anchor member overhangs the outer cylindrical surface of the mandrel and projects radially outwardly beyond the same to thus establish an annular reaction flange;
(d) a series of relatively thin, flat, annular, disk-like cutters encircling said mandrel and axially slidable thereon;
(e) a spacer element interposed between the cutters of each pair of adjacent cutters;
(f) a relatively thick, annular, clamping member encircling said mandrel positioned adjacent to the other ends thereof, likewise axially slidable thereon, and disposed wholly outside the cylindrical confines of the mandrel; and
(g) a series of circumferentially spaced clamping bolts positioned radially outwardly from said mandrel, extending through said relatively thick reaction flange, said annular cutters, said spacer elements, and said relatively thick annular clamping member, and serving to draw the clamping member axially toward the reaction flange and thus compress the cutters and spacer elements collectively together and rigidify the cutters and providing the sole means to key the cutters and spacer elements to said mandrel.

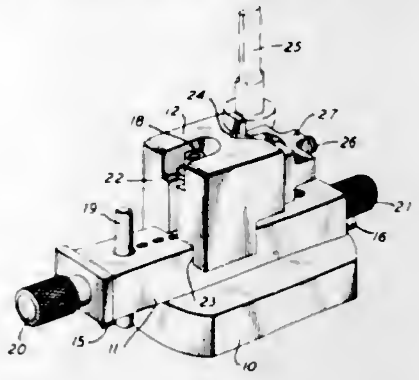
3,376,674
FIXTURE FOR GRINDING TOOLS

Augusto M. Ernesto, 68 Watchung Ave., West Orange, N.J. 07052

Filed June 9, 1965, Ser. No. 462,648

1 Claim. (Cl. 51—217)

This invention relates to fixtures for holding and positioning tools and more particularly to fixtures for holding punches or tool bits for the proper grinding of angles or surfaces thereon to insure their proper relation to each other and to the punch or tool being worked upon. The fixture comprises a flat surfaced metal plate, a smooth-walled bore located centrally of the plate, an elongated mounting bar having a smooth-walled bore intermediate the ends thereof, a series of threaded bores in said bar spaced from each other longitudinally of the bar from the smooth-walled bore toward an end of the bar, a pin member engaging both bores with the bar being rotatably pivoted on the plate by means of the pin, a tool clamping block member mounted on said bar for slidable movement longitudinally of the bar, said clamping block being bifurcated at one end portion thereof and having a tool retaining yoke at the opposite end portion thereof, and clamping block retaining means seated in said bifurcated end portion and engaging one of said threaded bores.

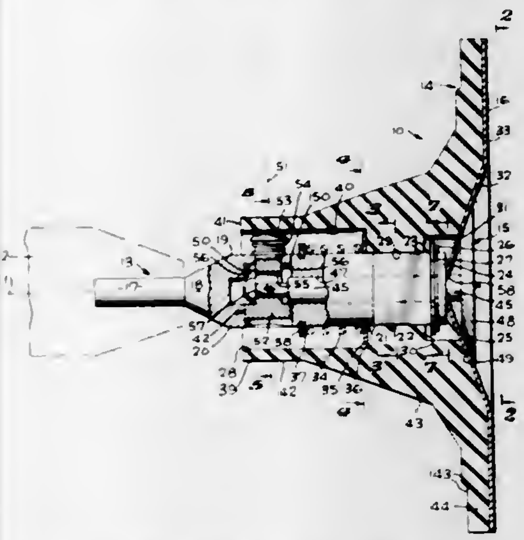


3,376,675
QUICK-CHANGE ROTARY TOOL

Alma A. Hutchins, 3190 Primavera St., Pasadena, Calif. 91107

Filed May 17, 1965, Ser. No. 456,062

4 Claims. (Cl. 51—376)



A quick-change head for a rotary sander, including a rotatable body having an externally square portion and an externally circular portion with a transverse shoulder therebetween, an elastomeric backing element against which a sandpaper disc is received and having an internally square portion received about the square portion of the body, a retaining part detachably connected to the body and acting to retain the sandpaper disc, and a spring disposed about the circular portion of the body and urging the backing element forwardly relative to the body and relative to the retaining unit. The backing element has a rearwardly projecting portion disposed about the body and about a manually actuable member which controls a detent for securing the retaining part to the body.

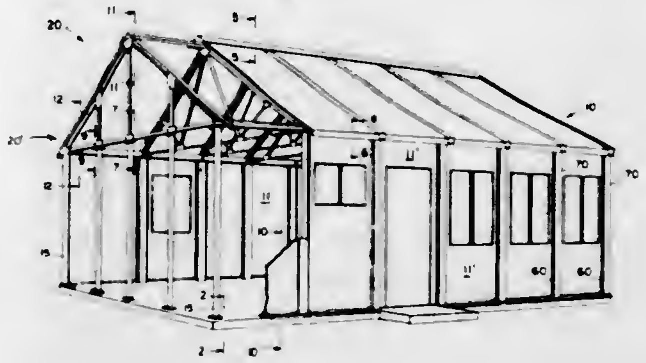
3,376,676
PREFABRICATED ALUMINUM BUILDING

Leon Tatevossian, 69—44 Olcott St., Forest Hills, N.Y. 11375

Substitute for abandoned application Ser. No. 287,879, June 14, 1963. This application May 1, 1967, Ser. No. 657,432

7 Claims. (Cl. 52—90)

Prefabricated building comprising a plurality of vertical post members in spaced apart relationship forming the skeletal wall structure of a building; a plurality of eave frames extending across the top of the vertical post members; a plurality of rafter members extending inwardly from the top of the vertical members upon an oblique plane; means angularly joining the rafter members at the top thereof to form a roof peak; coupling means joining the horizontal members to the vertical members, said coupling means further joining the rafter members at the lower end thereof to the vertical end horizontal members; panel retaining means integrally connected to the vertical posts, the horizontal ceiling members and the rafter members; and a plurality of wall and roof members fixedly interposed between the respective panel retaining means.

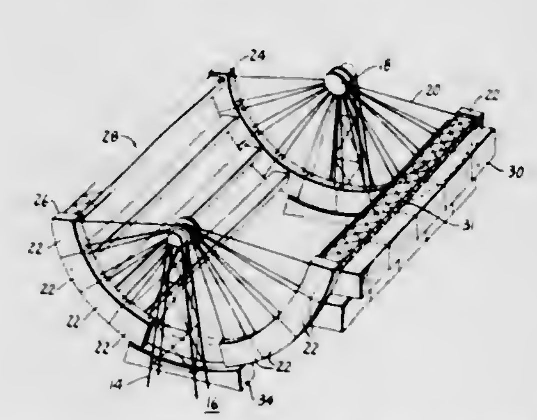


3,376,677
FRAMEWORK FOR SUSPENDED INVERTED ARCH MODULES AND METHOD

Christian Frey, San Francisco, Calif., assignor to Suspended Structures, Inc., San Francisco, Calif., a corporation of California

Filed Apr. 14, 1966, Ser. No. 542,509

4 Claims. (Cl. 52—122)



3. A building framework for use with suspended modules which comprises:

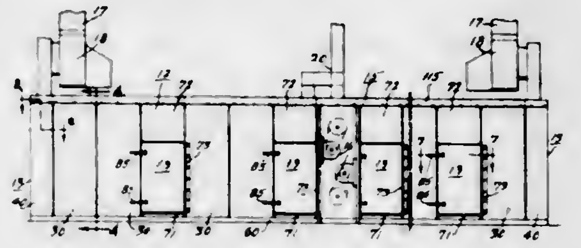
(a) two substantially vertical structures mounted on the ground;
(b) two columns;
  (1) each column composed of articulately shaped parts;
  (2) each column respectively adjacent to one of the structures;
  (3) each column shaped upwardly from the ground; and
  (4) each column substantially parallel to the other column;
(c) a plurality of cables;
  (1) each cable secured at one end of the structure and at the other end to one of the articulately shaped parts of the column adjacent to the structure to which the cable is secured;
  (2) each cable subjected to tensile forces in supporting the respective column.
(d) support beams interconnecting the columns.

3,376,678
INSULATED BUILDING PANEL ASSEMBLY

John R. Thygeson, Sr., Fox Chase Manor, Pa., assignor to Proctor & Schwartz, Inc., Philadelphia, Pa., a corporation of Pennsylvania

Filed Jan. 10, 1966, Ser. No. 519,607

10 Claims. (Cl. 52—204)



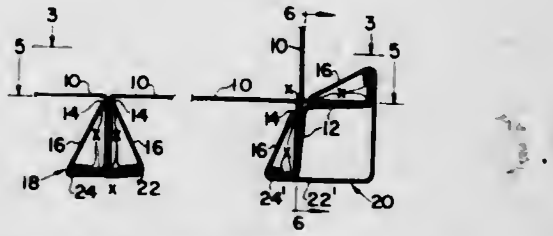
A modular building panel, having insulation material positioned between parallel facing elements, is provided with an inwardly extending edge formation on each facing element which defines an outwardly opening slot therealong. A rigid wall is formed when panels, aligned edge-to-edge, are interconnected by a U-shaped connector. A T-shaped rail, positioned within a slotted edge formation along the top of each panel, supports the roof panels. An insulated door panel, having its hinge anchored within an adjacent panel slot, is peripherally sealed when the door is closed.

3,376,679
SHEET PANEL WALL ASSEMBLY

Resta S. Gregoire, Newport, Pa., assignor to Gregoire Engineering and Development Co., Adelphi, Md.

Filed July 12, 1965, Ser. No. 475,305

4 Claims. (Cl. 52—288)



1. A sheet panel wall comprising

a plurality of panels joined edge-to-edge and having flanges along their adjacent edges.

said flanges extending to the same side of the wall, each flange forming an angle with the corresponding panel at each joint not greater than half the angle between adjacent panels, a triangular-formed channel clip strip of resilient sheet material mounted over said flanges and having the edges of its sides resiliently pressed against said flanges to hold the panels together at the base of the flanges,

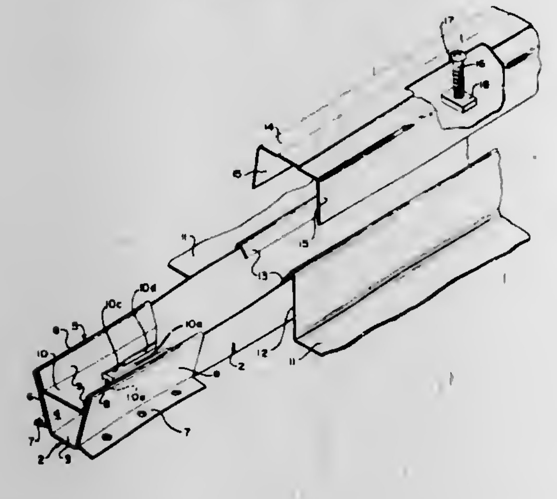
said flanges being formed to extend substantially axially of the corresponding channel strip to its base, said flanges having outer portions extending outwardly from the edge remote from the panel in opposite directions along said triangular clip strip base into the adjacent corners thereof and

a second clip strip of resilient sheet material mounted within said triangular-formed channel strip, having its opposite edges extending from the outer side of said outer edges into the corners at the base of said triangular-formed channel strip and freely around said outer edges and having their extreme edges resiliently pressed against the inside of said outer edges to keep the flanges from slipping out of alignment and to maintain good sealing line contacts at these extreme edges.

ERRATUM

For Class 52—309 see:
Patent No. 3,376,629

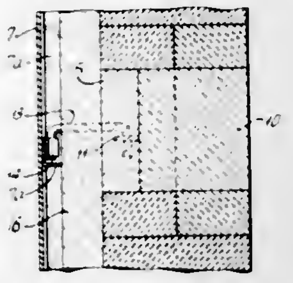
3,376,680
BATTEN ROOF SYSTEM
George G. Gyekis, McCandless Township, Allegheny County, Pa., assignor to Miller-Thomas-Gyekis Incorporated, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 29, 1965, Ser. No. 451,923
5 Claims. (Cl. 52—463)



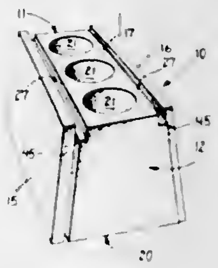
1. A batten roof system comprising an extending concave gutter member, a holddown clip to hold the gutter member down upon a base, the holddown clip having a transverse portion in a plane substantially parallel to the plane of the base, the transverse portion being disposed within the gutter member between the top and bottom thereof and extending across the gutter member, the transverse portion of the holddown clip having a longitudinal slot extending into such portion from one end thereof and terminating intermediate the ends thereof and also extending longitudinally of the gutter, roof sheets on both sides of the gutter member each having an edge extending over the adjacent edge of the gutter member and downwardly into the gutter, a cap atop the assembled gutter member, holddown clip and roof sheet edges and having portions extending downwardly on both sides thereof, a bolt extending downwardly through the top of the cap with the bolt head atop the cap and a nut applied to the bolt below the cap, the nut having a dimension greater than the width of the longitudinal slot in the transverse portion of the holddown clip so that the nut may span the slot upon the lower side of the transverse portion and overlap the transverse portion of the holddown clip on both sides of the slot, the bolt entering the slot upon application of the cap by a longitudinal movement with the nut below the slot whereafter upon turning of the bolt the nut is tightened against the under side of the transverse portion of the holddown clip, whereby upon expansion and contraction of the members by reason of changes in temperature, relative sliding movement may take place between the holddown clips and the gutter and associated bolts.

3,376,681
FURNACE WALL OF BLOCKS WITH EMBEDDED FASTENING ELEMENTS
Raymond J. Demaison, Bronx, N.Y., assignor to Quigley Company, Inc., a corporation of New York
Filed Mar. 8, 1965, Ser. No. 437,708
9 Claims. (Cl. 52—508)

A furnace wall construction having a lining spaced from and sustained independently of the outer furnace supporting structure, which lining comprises a series of laid up refractory fire bricks and a series of lining retaining blocks interspersed therewith, said retaining blocks being composed of light weight refractory insulating material and having embedded therein metallic reinforcing means formed with fastening elements tied to the outer furnace supporting structure.

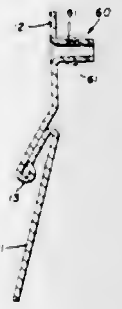


3,376,682
BUILDING BLOCKS WITH SIDES CONVERGING UPWARDLY
James R. Briscoe, Indianapolis, Ind.
(331 E. Alturas St., Tucson, Ariz. 85705)
Filed Aug. 4, 1965, Ser. No. 477,256
4 Claims. (Cl. 52—541)



A building block incorporating recesses and projections at its top, bottom and sides for mating and interlocking blocks in a wall. In one embodiment, the top of the block has a two sided recess which extends along the length of the top at the junction of the top and one side for mating with a projection on the bottom of a contiguous block. In another of the embodiments, the block tapers from a larger, lower portion to a smaller, upper portion.

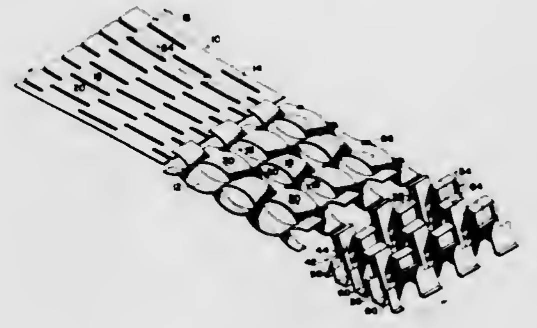
3,376,683
LEVELING MEANS FOR ALUMINUM SIDING PANEL
George Epstein, Akron, Ohio, assignor to Alside, Inc., Akron, Ohio, a corporation of Ohio
Filed Oct. 23, 1965, Ser. No. 502,844
1 Claim. (Cl. 52—553)



1. An aluminum siding panel of the character described, comprising;
(A) a unitary panel having
 (1) a flat body section having front and rear faces,
 (2) a nailing edge defined by the upper edge of said body section,

 (3) a lower edge adapted to interlock with the upper edge of an identical adjacent panel;
(B) and leveling means
 (1) carried by and projecting rearwardly of said nailing edge,
 (2) being adapted to receive a nail therethrough whereby said panel can be secured with respect to a wall surface,
 (3) and means for varying the extent of rearward projection of said leveling means whereby said nailing edge can be secured to said wall in straight line condition notwithstanding unevenness in said wall surface,
 (4) said leveling means being integral with said nailing edge and including an external groove extending circumferentially thereof.

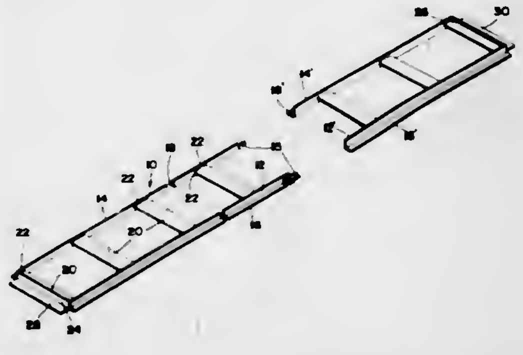
3,376,684
DOUBLE REVERSE CORRUGATED MATERIAL
Donald W. Cole, Weatherford, and Richard K. May, Fort Worth, Tex., assignors to General Dynamics Corporation, Fort Worth, Tex., a corporation of Delaware
Filed Oct. 16, 1963, Ser. No. 316,732
4 Claims. (Cl. 52—635)



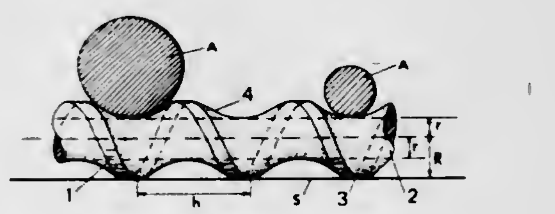
1. An open reticulated structural material comprising:
A. a plurality of upper nodes each having an apex of finite width lying in and and defining a discontinuous planar surface;
B. a plurality of lower nodes of troughlike configuration each having a bottom portion of finite width defining a discontinuous lower planar surface;
 said upper and lower planar surfaces spaced from and lying on each side of a median plane and joined by truss-like members;
C. each said truss-like member extending substantially linearly from an upper node to the lower node next adjacent thereto,
 (1) said truss-like members being joined at their midportion to torsional means lying along a median plane, said means establishing torsional axes along said median plane operative to permit universal deflection of said structural material without permanent deformation,
 (2) said nodes respectively lying in the same plane and being staggered from one another.

3,376,685
BIN CAP
Charles J. Maurer, Bay Village, and Robert S. Montgomery, Parma, Ohio, assignors to American Handling Equipment Company, Cleveland, Ohio, a corporation of Michigan
Filed Mar. 21, 1966, Ser. No. 535,833
5 Claims. (Cl. 52—656)

A frame is disclosed for mounting on top of an elongated rectangular storage bin unit such that another rectangular storage bin unit may be mounted thereon and held in register therewith with a catwalk adjacent the top of the lower bin unit and the bottom of the upper bin unit mounted thereon for access to the upper unit. The frame defines a rectangle slightly longer and slightly wider than the units and includes side members having aligned ends. The side members have coplanar top plane surfaces for receiving one side of catwalk members and intermediate support means which interconnects the side members for engaging the top of the lower bin unit and holding the frame in a stable nested relation with said top. The intermediate support means have coplanar top surface portions and coplanar bottom surface portions within the space defined by the upper and lower extremities of the side members.



3,376,686
SPACER BAR FOR CONCRETE REINFORCING IRONS
Mathias Salm, Schaffhauserstrasse 113, Winterthur, Switzerland
Filed Sept. 3, 1964, Ser. No. 394,138
Claims priority, application Switzerland, Sept. 4, 1963, 10,932/63
10 Claims. (Cl. 52—687)

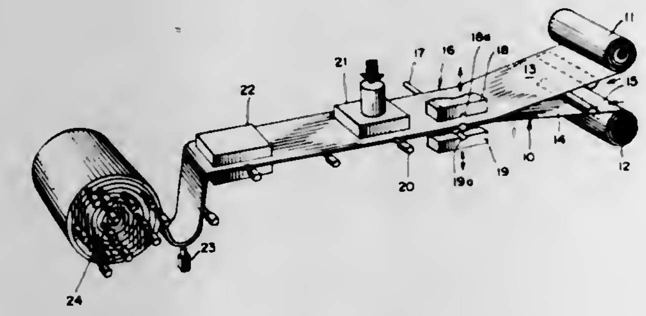


1. A spacer for use in supporting concrete reinforcing rods in a mould in the manufacture of a formed concrete body, said spacer consisting of an elongated spacer bar having an external surface, the radial distance of which from a centre line of the bar in all directions from said centre line varying periodically in the longitudinal direction of the bar between a smallest and a largest value, each bar surface located between successive bar surface portions having the largest radial distance from said centre line and facing radially in the same direction from said centre line being smoothly and continuously curved and constituting a concave reinforcing rod support surface between said successive bar surface portions, the sum of said smallest radius and said largest radius constituting the intended distance between a mould wall and a reinforcing rod supported by the spacer.

3,376,687
METHOD OF PREPARING A PACKAGED PARENTERAL SOLUTION
Theodore H. Gewecke, Milledgeville, Ga. 31061
Filed Jan. 7, 1966, Ser. No. 519,308
3 Claims. (Cl. 53—14)

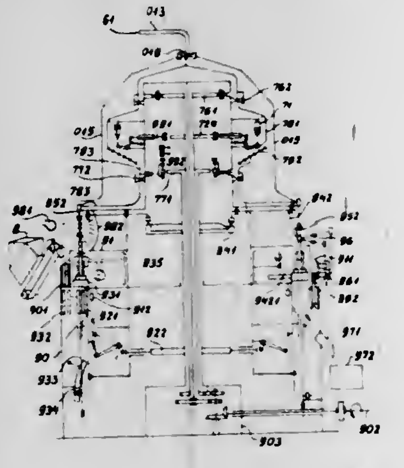
1. A method of preparing a packaged parenteral solution, comprising sequentially installing outlet fittings longitudinally along elongated thermoplastic webbing, reeling

said webbing, installing said reeled webbing in apparatus coupable to a source of [heat] sterilized solution, gas sterilizing said apparatus and reeled webbing, and thereafter introducing heat sterilized solution into said webbing while said webbing is formed into bags and while said apparatus is maintained under sterile conditions.



3,376,688
METHOD AND EQUIPMENT FOR THE AUTOMATIC PREPARATION OF STERILE AND FIBRE-FREE LIQUID PHARMACEUTICAL PRODUCTS OF HIGH STABILITY FILLED IN AMPOULES, IN A PROTECTIVE ATMOSPHERE

Géza Takács, 3 Nyul utca; István Nyitrai, 10 Fo utca; Félix Láng, 23 Marvany utca; Egon Pandula, 27 Abonyi utca; Béla Juhász, 2 Gyori utca; and Ernö Pungor, 1a Bosnyak ter, all of Budapest, Hungary
Filed Mar. 21, 1966, Ser. No. 535,866
Claims priority, application Hungary, Mar. 27, 1965, PU-143
18 Claims. (Cl. 53—21)

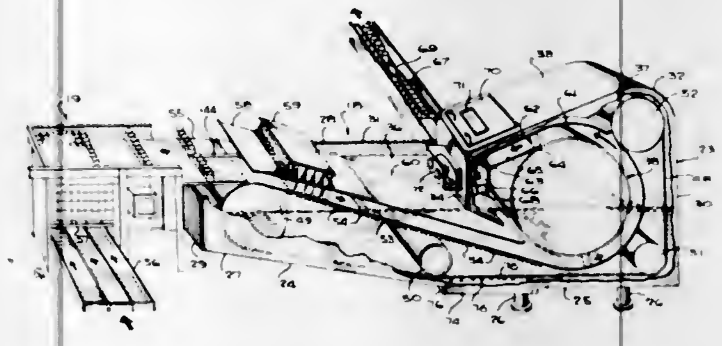


1. A method for the preparation of pure liquid pharmaceutical products in ampoules, comprising introducing an inert gas into an ampoule, passing an inert gas through powdered material, mixing the powdered material and a liquid to form a liquid solution and introducing the solution into the ampoule.

3,376,689
PACKAGING APPARATUS AND METHOD OF UTILIZING THE SAME

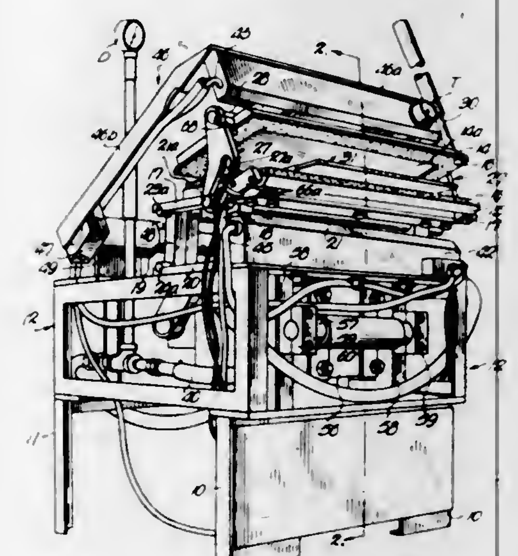
Justin Simpson, Elmhurst, and Bjarne J. Iverson, Oak Park, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Apr. 4, 1962, Ser. No. 185,008
14 Claims. (Cl. 53—38)

This disclosure has to do with a packaging apparatus and method wherein cans are passed through an entrance seal formed of a sterilizing liquid into a filling machine sealed relative to the atmosphere. The sterilized cans are filled and then transferred to a closing machine while remaining sealed relative to the atmosphere whereat sterilized ends are applied to the filled cans. The sterilized ends are supplied through a shield including a sterilizing liquid and are thus sterilized. The filled and closed cans exit from the closing machine through a further liquid seal.



3,376,690
BAG SEALING APPARATUS

Gus G. Jianas, 2533 Southwest Blvd., Kansas City, Mo. 64108
Filed Apr. 9, 1965, Ser. No. 446,848
9 Claims. (Cl. 53—112)

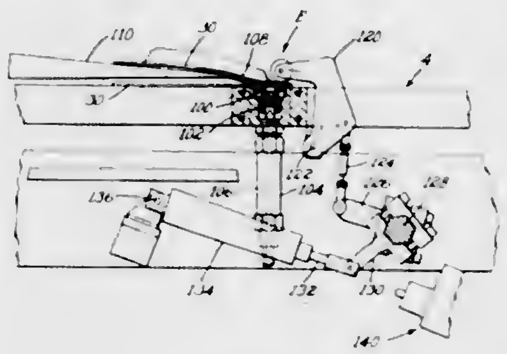


The open end of a heat sealable bag is sleeved over a forming member. The forming member is provided with an end to end passageway, the outer end of which is in communication with a chamber formed between two jaws which have deformable portions clamping the bag tightly to and around the forming member. A vacuum pump is connected with the chamber and as the vacuum is imposed, air is evacuated from the chamber and from the bag, the negative pressure within the chamber assisting the clamping action of the jaws around the forming member. Means are provided for flushing the bag with an inert gas and for hermetically sealing the air evacuated, purged bag.

3,376,691
PACKAGING MACHINES

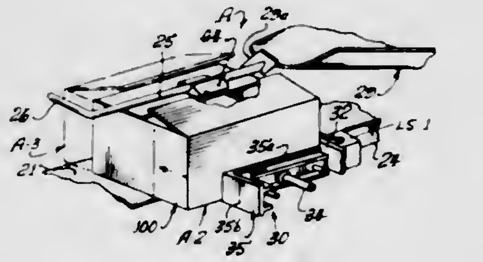
Adolph S. Dorosz, Beverly, and Armand L. Tardiff, Salem, Mass., assignors to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Oct. 29, 1965, Ser. No. 505,710
6 Claims. (Cl. 53—377)

1. In a machine for making packages from foldable blanks moved along a predetermined path, a folding station on said path and having at least one folding arm initially located adjacent said path, means for feeding each blank along said path to a position where one end is engageable by said arm, means for swinging said arm from its initial location through said path for folding said one end over the other end of the blank, a pair of reciprocating feed grippers, means for closing said grippers on the blank held folded by said arm to hold the blank folded while the arm is returned to its initial location, and means for moving said closed grippers for advancing the folded blank from said folding station to a station for fixing the folded blank together.



3,376,692
CARTON FLAP OPENER

Joseph C. Berney, 2437 Bamboo St., Newport Beach, Calif. 92660
Filed Mar. 1, 1965, Ser. No. 435,869
13 Claims. (Cl. 53—382)

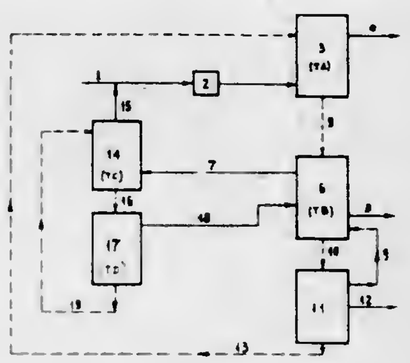


A case flap opener includes a blower which directs a jet of air under one side flap to partially raise that flap. The case is then shifted laterally and the blower directs an air jet under the other side flap to partially open that flap. A plow then engages the vertically opened side flaps and fully opens them as the case is conveyed on. Another blower directs a jet of air under the leading end flap to partially open that flat and a traveling hook completes opening of the leading end flat. A rotatably mounted stationary hook engages the trailing end flap and opens it.

3,376,693
PROCESS FOR THE RECOVERY OF ACETYLENE FROM GASEOUS MIXTURES CONTAINING SAME

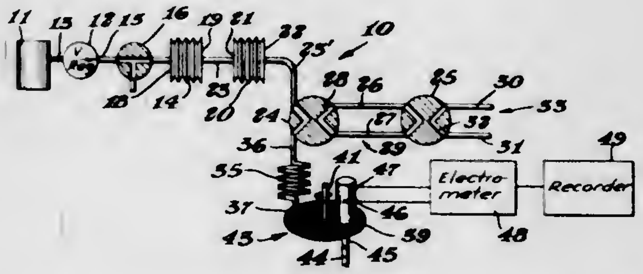
Gianfranco Rinaldi, Eduardo Mariani, and Giancarlo Costaguta, Maino, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy
Filed May 23, 1966, Ser. No. 552,041
Claims priority, application Italy, May 29, 1965, 12,000/65
2 Claims. (Cl. 55—65)

A process for the recovery of acetylene from a petroleum-cracking gas containing ethylene and carbon dioxide in addition to acetylene wherein the gas is initially treated with a primary solvent in which the acetylene is preferentially soluble to dissolve it and some of the ethylene and carbon dioxide; thereafter an acetylene-containing gas recycled from the stripping stage is passed countercurrent to the primary solvent and displaces the ethylene and carbon dioxide which is returned to the degassing tower of the primary solvent at a point therealong at which the molar ratio of acetylene to the carbon dioxide/ethylene component in this tower is the same as that of the returned gas.



3,376,694
METHOD AND APPARATUS FOR GEL PERMEATION CHROMATOGRAPHY

Elbert Guy Owens II, Harold H. Gill, William E. Hatton, and John G. Cobler, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed July 22, 1966, Ser. No. 567,107
18 Claims. (Cl. 55—67)



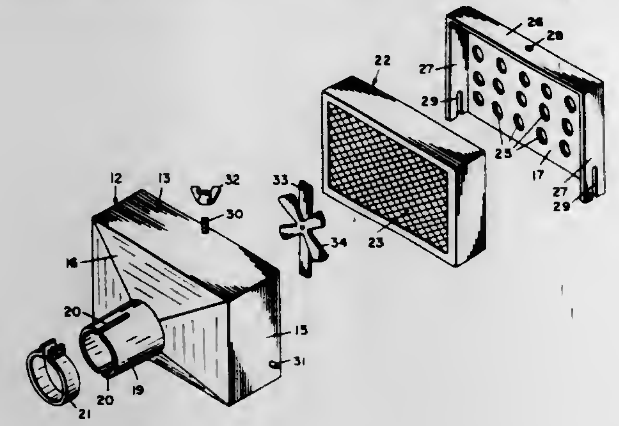
1. In a gel permeation chromatographic method wherein a high molecular weight material to be analyzed is dissolved in a solvent to form a solution, the solution is passed through an elongate body of microporous polymer which is insoluble in the solution, and effluent removed from the elongate body and the quantity of material present within successive portions of the effluent determined, the improvement which comprises employing an elongate body of a microporous polymer having a diameter from about 0.01 to about 0.125 inch, depositing effluent from the body upon a perforate inert metal support capable of retaining effluent, evaporating at least a major portion of solvent in the effluent from the support, moving a portion of the support upon which the effluent is deposited into a flame of a flame ionization detector and recording the response of the detector.

3,376,695
EXHAUST FILTERS

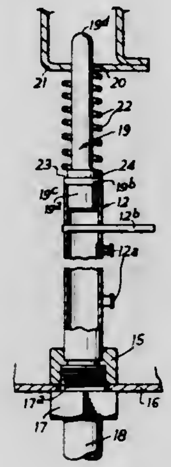
Michael Muckley, % Crawford Industries Ltd., 321 E. 48th St., New York, N.Y. 10017
Filed Jan. 6, 1966, Ser. No. 519,138
2 Claims. (Cl. 55—310)

A box-shaped housing attachable to the exhaust pipe of an internal combustion engine, the housing having an apertured removable cover plate and containing a replaceable filter cartridge of activated charcoal. A diffuser in the housing is rotated by flow of exhaust gases to agitate the same prior to their passage through the cartridge.

The housing has a weakened portion rupturable by excessive exhaust gas pressure to by-pass the gases to the atmosphere when the cartridge becomes impervious to flow of gases therethrough.



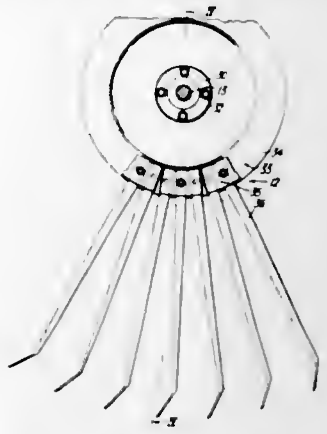
3,376,696
GAS FILTERING APPARATUS
Alfred J. Wells and Richard H. Baxendale, Leicester, England, assignors to Dust Control Equipment Limited, Leicester, England
Filed Aug. 8, 1966, Ser. No. 571,059
Claims priority, application Great Britain, Aug. 17, 1965, 35,109/65
8 Claims. (Cl. 55—302)



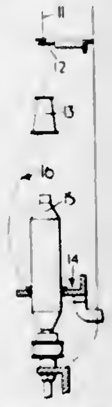
Gas filtering apparatus, employing a plurality of flat-sided filter pads, in which the latter are cleaned by applying bursts of high-pressure cleaning gas therethrough in the opposite direction to the normal filtering direction, these bursts coming from nozzles in jet pipes arranged co-extensively with the pad mouths. The jet pipes are each mounted at one end in gland, and at the other end are each provided with a spigot projecting into a socket, a helical compression spring carried by the spigot serving to bias the relevant end of the tube into the gland, and to make the tubes easily removable.

3,376,697
AGRICULTURAL IMPLEMENTS
Louis Perold, Three Rivers, Vereeniging, Transvaal, Republic of South Africa, assignors to South African Farm Implement Manufacturers Ltd., Peacehaven, Vereeniging, Transvaal, Republic of South Africa
Filed Feb. 2, 1965, Ser. No. 429,732
Claims priority, application Great Britain, Feb. 12, 1964, 5,808/64
1 Claim. (Cl. 56—400)

A rake wheel of the type having rake fingers or tines projecting radially from a central hub, and which is rotated by engagement of the tines with the ground. The tines are in the form of flat strips of resilient steel clamped at their inner ends in the plane of rotation of the rake wheel such that the cross section of the tines offers a high resistance to bending in the plane of rotation and a low resistance to bending normal to the plane of rotation.



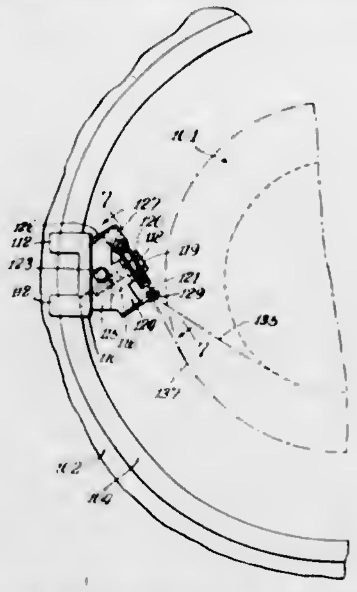
3,376,698
PRODUCTION OF STRETCH OR BULKED TEXTILE YARNS
Harold Whittaker, Alkrington, Middleton, and Anthony James Booth, Helmshore, Rossendale, England, assignors to T. M. M. (Research) Limited, Oldham, Lancashire, England, a British company
Filed Aug. 2, 1965, Ser. No. 476,457
16 Claims. (Cl. 57—34)



The present invention includes a method for producing bulk yarn and includes the steps of continuously forming material into a balloon, causing the balloon to contact a yarn contacting surface and by relative displacement between the ballooning material and the surface to ride across the surface while the material making up the balloon is being advanced, heating the material to bring same in contact with the surface to an elevated temperature and withdrawing the yarn from the balloon.

3,376,699
ROLLER TYPE TRAVELERS AND FLYERS
Albert P. Rogers, Spring Lake, Mich., assignor to Brunswick Corporation, a corporation of Delaware
Filed May 31, 1966, Ser. No. 554,101
3 Claims. (Cl. 57—125)

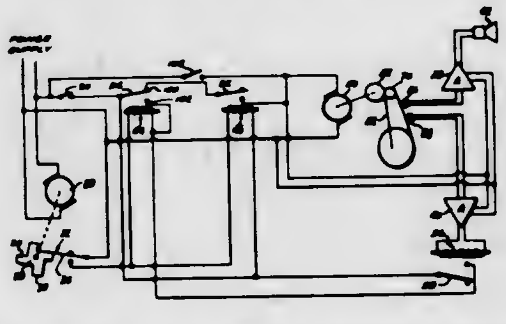
Textile machinery for providing a twist in filaments. The apparatus includes a spindle and a spool carried by the spindle with means for guiding the filaments with respect to the surface of the spool including a roller member, structure for supporting the roller member in spaced relationship to the surface of the spool, filament coacting means on the periphery of the roller member aligned generally along a tangent with respect to the surface of the spool, and means carried by the supporting structure for guiding the filaments to and from the roller member. The guiding means includes a pair of eye means, one of which may be positioned between the spool and the roller for guiding the filaments from the roller member to the spool, and the other of which may be positioned between the roller member and the source of the filament for guiding the filament to the roller member.



ERRATUM

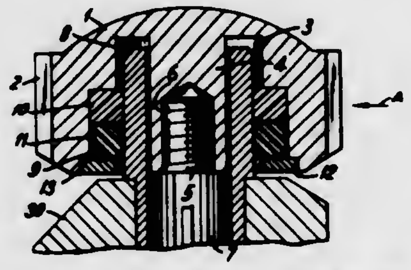
For Class 57—164 see:
Patent No. 3,377,163

3,376,700
TAPE RECORDED CHIME CLOCK
Clement Davis and Donald W. Matteson, Jackson, Mich., assignors, by direct and mesne assignments, to Audio-Chron, Inc., Zeeland, Mich., a corporation of Michigan
Filed Oct. 21, 1965, Ser. No. 499,378
2 Claims. (Cl. 58—14)



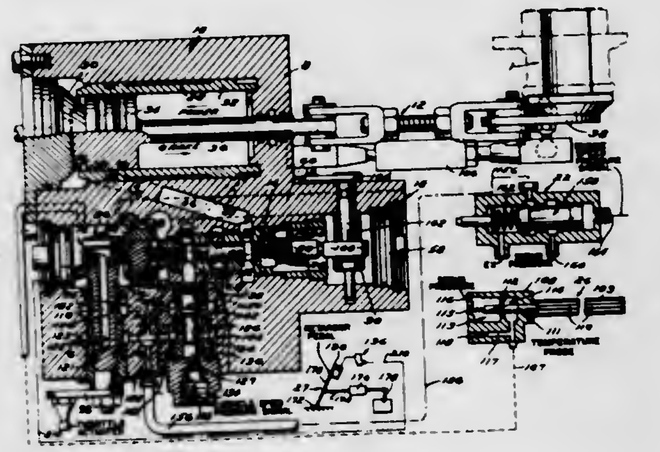
A chiming electric clock wherein chiming is produced from signals upon a two-track magnetic tape. One of the tape tracks includes a pulse signal for controlling the duration of the tape operation, and the circuit includes three relays, one of which includes a holding circuit to permit resetting intermediate operation of the tape.

3,376,701
WATCH CROWN
Raymond J. Groboski and Robert W. Denley, Watertown, Conn., assignors to the United States Time Corporation, Waterbury, Conn., a corporation of Connecticut
Filed July 1, 1966, Ser. No. 562,294
15 Claims. (Cl. 58—90)



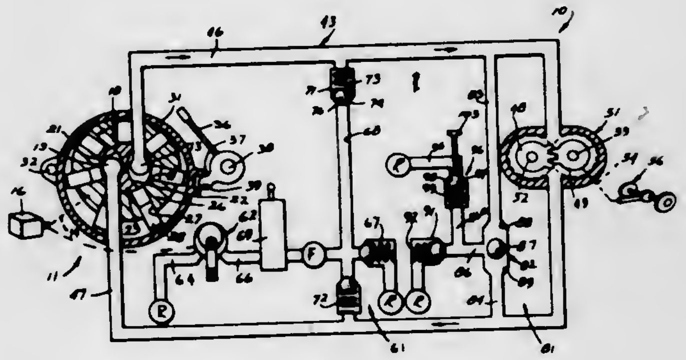
A crown for a watch is adapted to fit over a tubular pendant. The crown prevents leakage of water into the watch. The crown construction includes elastic annular gasket and a hard annular self-lubricating ring, both of which fit around the pendant.

3,376,702
IN A GAS TURBINE ENGINE POWER TURBINE NOZZLE CONTROL FOR PROVIDING VEHICLE BRAKING
Arthur F. McLean, Livonia, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 30, 1966, Ser. No. 606,305
12 Claims. (Cl. 60—39.25)



Depression of an operator movable pedal first causes a valve to be opened to supply fluid to move the power turbine nozzles to positions retarding rotation of the power turbine, and, secondly, essentially concurrently, increases the fuel to the engine to increase the gas flow through the power turbine and thereby increase the braking action.

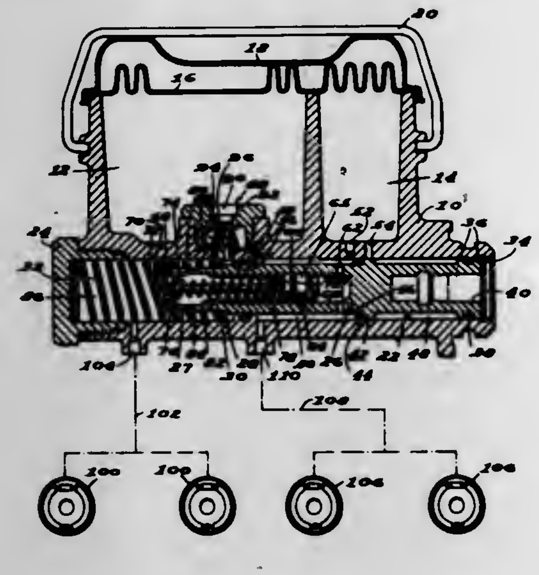
3,376,703
VALVING ARRANGEMENT FOR HYDROSTATIC TRANSMISSION
Mitchell Buczynski, Wayne County, Mich., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed Feb. 14, 1966, Ser. No. 527,375
12 Claims. (Cl. 60—53)



A hydrostatic transmission including a positive displacement pump and a fluid motor are connected in a hydraulic loop. Means are provided to supply fluid to the loop. Means communicating with opposite sides of the loop automatically connect a normally closed valve to the high pressure side of the fluid motor. Manual opening of the valve terminates control of the fluid motor by the pump and allows the fluid motor to be freely externally driven when the pump is de-energized.

3,376,704
DUAL MASTER CYLINDER FOR BRAKE SYSTEM

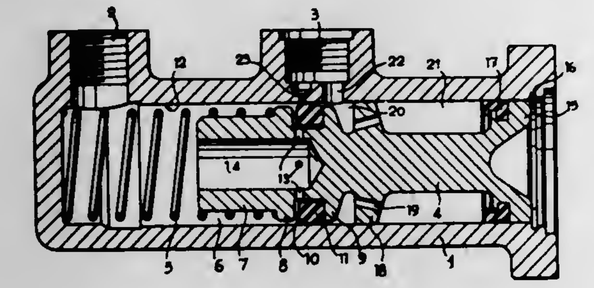
Joseph J. Ihnacik, Jr., Detroit, Mich., assignor to The Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 20, 1965, Ser. No. 514,866
8 Claims. (Cl. 60—54.6)



A dual master cylinder for a brake system having a floating balancing piston that is constructed to become seated in the main piston upon hydraulic failure in one portion of the brake system or to engage the end of the cylinder bore upon a failure in another portion of the brake system.

3,376,705
HYDRAULIC PRESSURE GENERATING CYLINDER

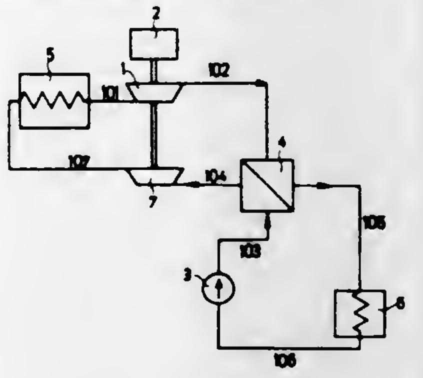
Luigi Valpreda, 200 Corso Giovanni Agnelli, Turin, Italy, assignor to Fiat Società per Azioni, Turin, Italy
Filed Aug. 3, 1966, Ser. No. 569,890
Claims priority, application Italy, Aug. 6, 1965, 18,093/65
2 Claims. (Cl. 60—54.6)



1. An hydraulic pressure generating arrangement of the piston and cylinder type herein referred to, the arrangement comprising:
A. a piston,
B. a cylinder therefor, and
C. valve sealing means such as a ring seal, said piston having a head portion formed with a diameter substantially smaller than the said cylinder bore and carrying the said sealing means to delimit a compression chamber in the cylinder, the said piston carrying a rear annular projection at its end remote from the said piston head portion and an intermediate annular projection located between the said piston head portion and the said rear annular projection, the said intermediate projection substantially equalling in diameter the bore of the said cylinder and being formed with generally axial through channels arranged to interconnect two chambers into which the said intermediate projection divides the annular space existing between the said piston and the inner wall of the said cylinder.

3,376,706
METHOD FOR OBTAINING MECHANICAL ENERGY FROM A THERMAL GAS CYCLE WITH LIQUID PHASE COMPRESSION

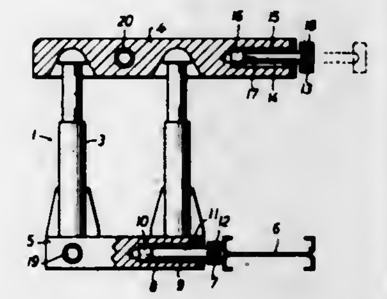
Gianfranco Angelino, Via Cambiasi 8, Milan, Italy
Filed Nov. 26, 1965, Ser. No. 509,896
Claims priority, application Italy, June 28, 1965, 14,429/65, Patent 769,554
2 Claims. (Cl. 60—73)



Fluid is compressed above its critical pressure and then heated above its critical temperature and then expanded as a working gas such that after expansion it is still above its critical temperature. The gas is then used in a heat exchanger to heat further gas and is refrigerated to liquid state and recycled. Additional engines are driven in intermediate phases.

3,376,707
ADVANCEABLE ROOF PROP ARRANGEMENT

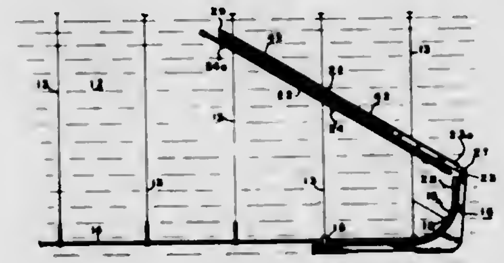
Günther Dommann, Altlunen, Westphalia, Germany, assignor to Gewerkschaft Eisenhutte Westphalia, Wethmar, near Lunen, Westphalia, Germany, a corporation of Germany
Filed Sept. 30, 1966, Ser. No. 583,367
Claims priority, application Germany, Oct. 2, 1965, G 44,839
11 Claims. (Cl. 61—45)



1. Advanceable hydraulic roof prop arrangement which comprises at least three individual laterally adjacent prop means each coupled at the corresponding lower portion thereof by a separate lower advancing means to a common lower beam independently disposed therealong and each coupled at the corresponding upper portion thereof by a separate upper advancing means to a common upper beam independently disposed therealong, each said advancing means being separately operable to displace linearly with respect to each other the particular prop means and the corresponding beam coupled thereby, whereby upon first displacing linearly said beams with respect to all said prop means via said advancing means to advance said beams then at most some of said at least three prop means may be displaced linearly via their corresponding lower and upper advancing means simultaneously so as to advance said at most some of said prop means while the remainder of said advancing means are held from operation and thus prevent linear displacement of the remainder of said at least three prop means with respect to said beams and thereafter said remainder of said at least three prop means may be displaced linearly via said remainder of the corresponding lower and upper advancing means simultaneously so as to advance said remainder of said at least three prop means while the corresponding lower and upper advancing means of the already advanced prop means are held from operation, with the prevention substantially of any tilting of said prop means during the advancement thereof even when said prop means are under load during such advancement.

3,376,708
PIPELINE RISER INSTALLATION

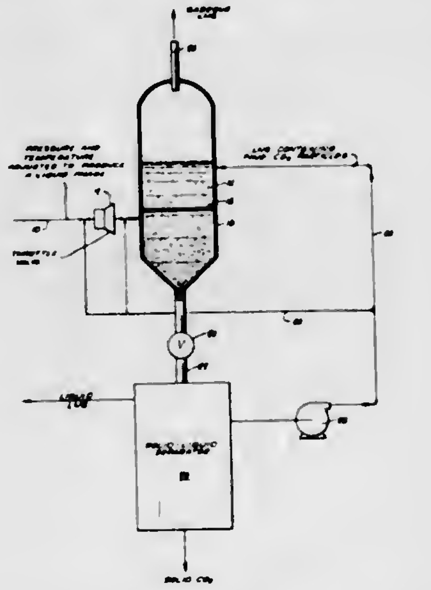
Robert G. Hindman, New Orleans, La., assignor to Esso Production Research Company
Filed Feb. 7, 1966, Ser. No. 525,595
14 Claims. (Cl. 61—72.3)



A pipeline having a curved or lateral free end has a riser arranged adjacent thereto, normal to the lateral end such that on pivoting to the vertical the riser may be connected to the lateral free end and the assembly connected to an offshore structure.

3,376,709
SEPARATION OF ACID GASES FROM NATURAL GAS BY SOLIDIFICATION

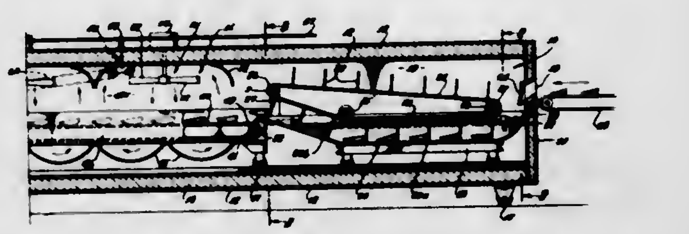
Frank H. Dickey, 135 Main St., Seal Beach, Calif. 90740, and Carl F. Crownover, 209 N. Stephen, Ponca City, Okla. 74601
Filed July 14, 1965, Ser. No. 471,961
4 Claims. (Cl. 62—12)



Acid gas components are removed from natural gas containing same by a process which comprises providing the feed natural gas at conditions of pressure and temperature as to constitute a liquid solution, reducing the pressure on the solution to produce a mixture consisting of solid, liquid, and vapor phases, immediately contacting the mixture with liquid natural gas containing solid acid gas particles, and removing solid acid gas particles therefrom.

3,376,710
FOOD FREEZING APPARATUS

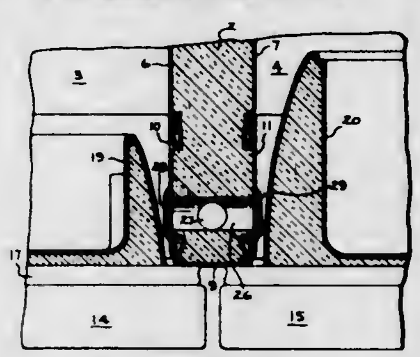
Walter Earl Hirtensteiner, 15051 Eastvale Road, Poway, Calif. 92064
Continuation of application Ser. No. 350,249, Mar. 9, 1964. This application May 16, 1966, Ser. No. 560,358
18 Claims. (Cl. 62—374)



The invention is directed to equipment for low temperature freezing of food products, utilizing e.g. cold nitrogen, wherein the product is conveyed through an elongated chamber wherein cold gaseous coolant being evolved from its liquid state, as in a first product-liquid coolant contacting stage, is repeatedly circulated against the product at successive locations along and transversely of the path of its advancement thus to maintain high rates of product-to-gas heat transfer resulting in desirably rapid freezing of the product and efficient utilization of the heat absorption capacity of the gas.

3,376,711
REFRIGERATOR CABINET CONSTRUCTION

Willem J. Hagendoorn and Cyril M. Kearl, Louisville, Ky., assignors to General Electric Company, a corporation of New York
Filed Sept. 23, 1966, Ser. No. 581,614
5 Claims. (Cl. 62—410)

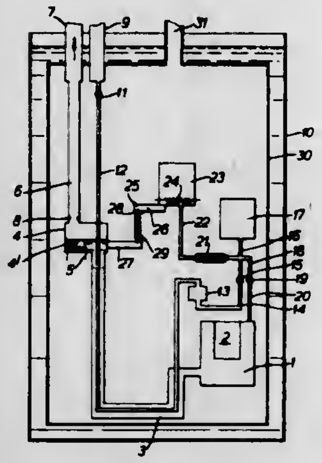


A refrigerator cabinet comprising storage compartments separated from one another by a partition and separate doors for closing the access openings to the compartments includes vent means for relieving a decrease in air pressure in either compartment comprising a first passage interconnecting the compartments through the partition and a second passage connecting the first passage to the exterior of the cabinet.

3,376,712
REFRIGERATORS OPERATING AT VERY LOW TEMPERATURES

Heinz London, Oxford, England, assignor to United Kingdom Atomic Energy Authority, London England
Filed Jan. 26, 1967, Ser. No. 612,037
Claims priority, application Great Britain, Mar. 16, 1966, 11,500/66
10 Claims. (Cl. 62—467)

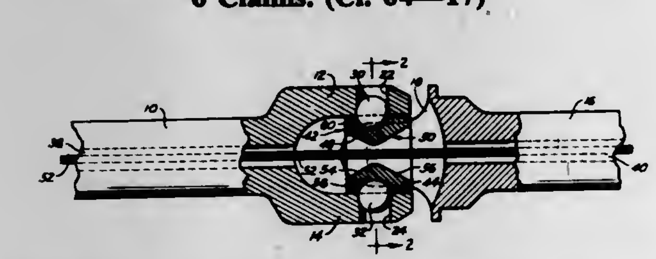
A refrigerator operating at temperatures well below 0.1° K. depends on taking a concentrated superfluid solution of helium-3 in helium-4 (containing about 6% of helium-3) at a temperature of about 0.07° K. and



diluting it reversably by the addition of helium-4 through a superleak, thereby doing external work.

3,376,713
UNIVERSAL JOINT

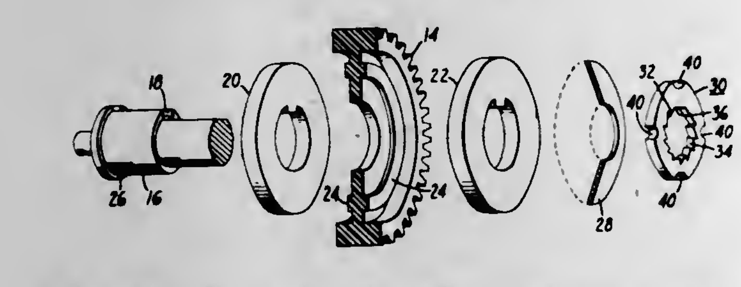
Dean E. Runkle, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Dec. 23, 1965, Ser. No. 515,993
6 Claims. (Cl. 64—17)



The following relates to a universal joint, particularly for use in a steering column, which includes an adjustable coupling mechanism located between the arms of two perpendicularly disposed forked members for eliminating lash between the forked members. The coupling mechanism, which includes an opening through the center thereof for permitting the passage of a control cable therethrough, is formed of a first hollow torque transmitting center retaining member and a second hollow center retaining member which is threaded on to the first retaining member so that rotation thereof will cause the retaining members to move towards each other and thereby preload the arms of the forked members.

3,376,714
CLUTCH ASSEMBLY

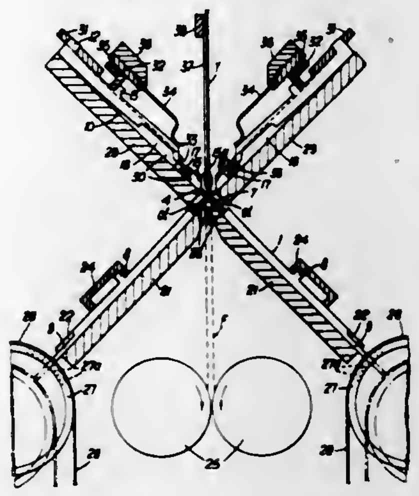
Arthur P. Manoni, Rochester, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 28, 1966, Ser. No. 530,417
4 Claims. (Cl. 64—30)



In a preferred form, the subject invention covers a clutch arrangement for use with an electrically driven gear that will allow use of an electric motor as a servo without the need for limit switches. The present invention includes a novel locking washer arrangement which is pressed against a Belleville type spring to preload the spring a predetermined amount and then is turned on the mounting shaft to lock the spring to complete the clutching arrangement.

3,376,715
KNITTING INSTRUMENTS

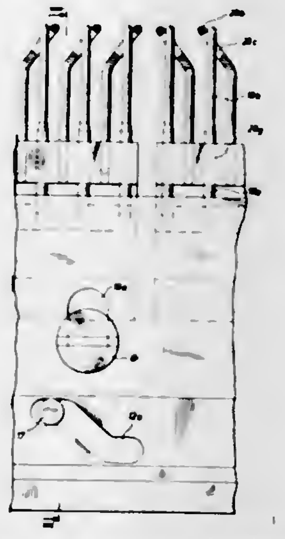
William E. A. Shelton, 61 Launde Road, Leicester, Oadby, England
Filed Aug. 12, 1965, Ser. No. 479,173
Claims priority, application Great Britain, Aug. 19, 1964, 33,794/64
6 Claims. (Cl. 66—64)



Knitting machine with two opposed beds respectively equipped with hooked elements and opposed points and with means advancing and retracting same in opposite directions: each element having a hook and a stem with an eye-like recess and each point having a leading end in which there is a recess to accommodate hook of opposed element, said end providing a point tip which is buried in the eye-like recess of the opposed hooked element upon relative movements taking place between the latter and the point to cause the hook to be accommodated in the recess in the point and thus to be closed.

3,376,716
DRAW-OFF DEVICES FOR FLAT KNITTING MACHINES

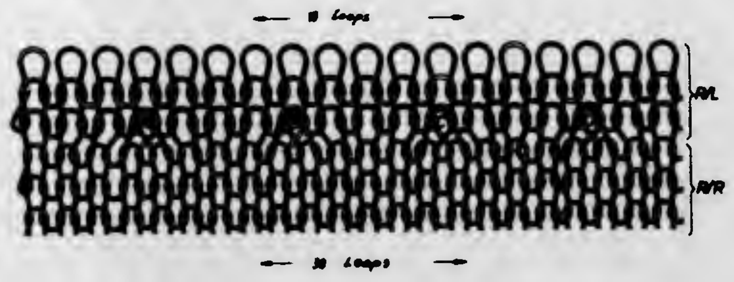
Pierre Joseph, Neuchatel, Switzerland, assignor to Edouard Dubied et Cie (Societe Anonyme), Neuchatel, Switzerland
Continuation-in-part of application Ser. No. 441,981, Mar. 23, 1965. This application Sept. 30, 1966, Ser. No. 583,342
Claims priority, application Switzerland, Oct. 4, 1965, 13,661/65
3 Claims. (Cl. 66—150)



A fabric draw-off capable of effective operation at points of abrupt fabric widening. The yarn as incorporated into the fabric engages with a series of vertical elements and eye needle members. The upper ends of the vertical elements lie in the eyes of the needle members which alternate with the elements. To disengage the draw-off from the fabric the elements are withdrawn from the needle member eyes.

3,376,717
CONNECTION BETWEEN PLAIN AND RIBBED FABRICS

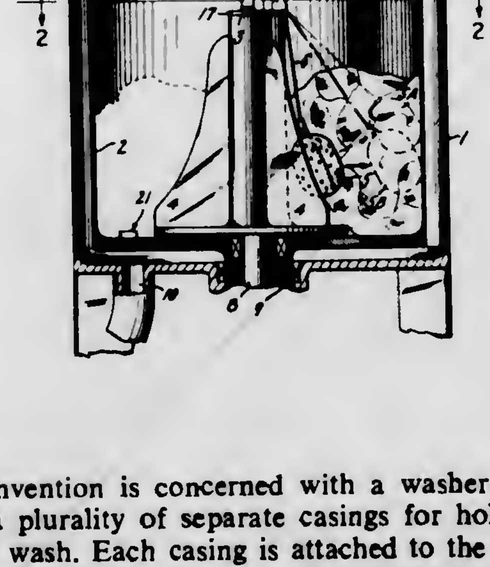
Hans Scheller, Faurndau, Wurttemberg, and Joachim Scheller, Heiningen, Wurttemberg, Germany, assignors to Gebr. Scheller Textilmaschinenfabrik GmbH, Eislingen (Fils), Germany
Filed July 27, 1965, Ser. No. 475,078
Claims priority, application Germany, July 28, 1964, Sch 35,541
10 Claims. (Cl. 66—199)



A ribbed knitted fabric portion is connected with a plain knitted fabric portion by a transition course having a number of equally spaced double loops so that the plain fabric portion has fewer wales than the ribbed fabric portion. The number of double loops is selected in accordance with the used yarn so that the plain and ribbed fabric portions have the same width in the direction of the courses.

3,376,718
VERTICAL WASHER AND DRYER

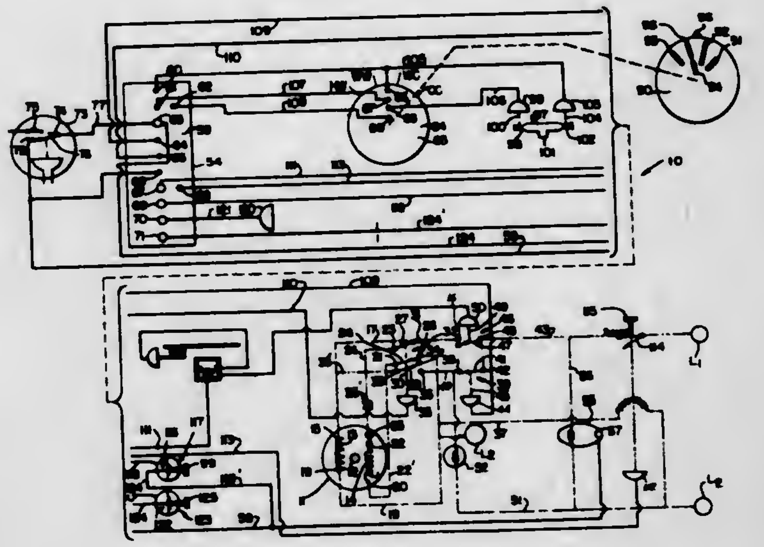
Leo M. Kahn, 536 79th St., Brooklyn, N.Y. 11209
Filed Nov. 25, 1966, Ser. No. 597,129
10 Claims. (Cl. 68—4)



The invention is concerned with a washer and dryer having a plurality of separate casings for holding small loads of wash. Each casing is attached to the center agitator post of the washing machine. Delicate fabrics are placed in the casing and washed separately. A plurality of holes is provided in the casing in order to permit the circulation of water for washing and air for drying of the clothes therein.

3,376,719
WASHING MACHINE SYSTEM OR THE LIKE

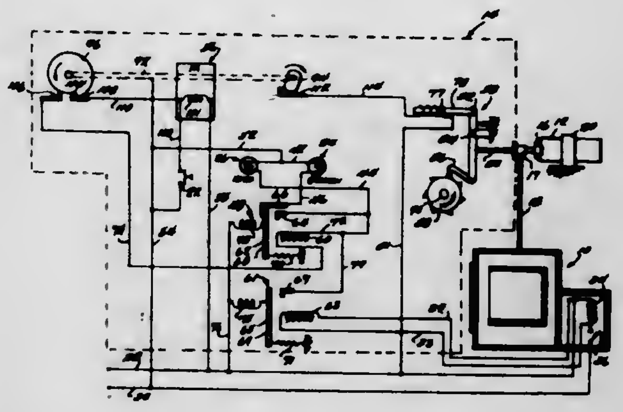
John B. Jaksha, Anaheim, Calif., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed May 28, 1965, Ser. No. 459,729
12 Claims. (Cl. 68—12)



1. In a washing machine having an agitator and a washing compartment to be respectively operated by a motor means having an output shaft, the improvement comprising a first pneumatically operated actuator means for causing the output shaft of said motor means to rotate in one direction to operate said agitator when said first actuator means receives a pneumatic signal, a second pneumatically operated actuator means for causing the output shaft of said motor means to rotate in the opposite direction to spin said washing compartment when said second actuator means receives a pneumatic signal, a bypass pneumatically operated actuator means which prevents operation of said motor when said bypass actuator means receives a pneumatic signal even though said first actuator means is receiving a pneumatic signal, a pneumatic source, and means for selectively interconnecting said source to said actuator means.

3,376,720
WASHING MACHINE STERILIZATION

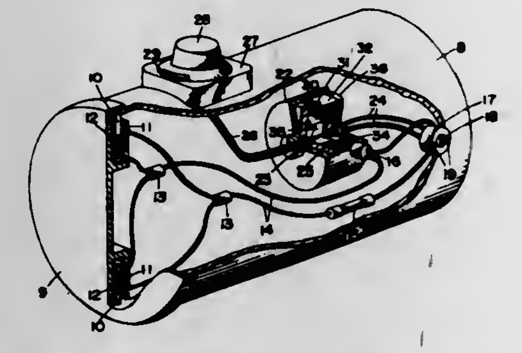
Robert G. Hartshorn, Bradenton, and Ford L. Prescott, Gainsville, Fla., assignors, by mesne assignments, to National Sanitizer, Inc., Oak Brook, Ill., a corporation of Illinois
Filed Sept. 9, 1965, Ser. No. 486,133
19 Claims. (Cl. 68—12)



1. In combination with a clothes washing machine having an automatic wash cycle and a final spin: means associated with said machine for generating a signal at the completion of the wash and spin cycle; and a washing

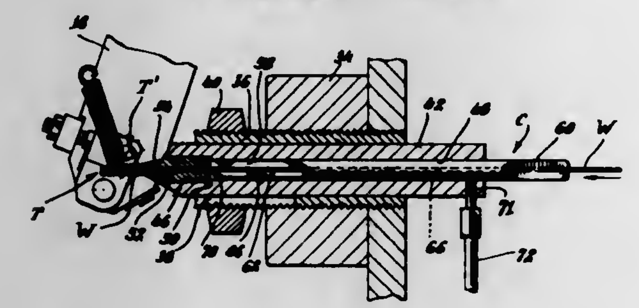
machine sterilizing arrangement adapted to introduce sterilizing agent into the interior of said washing machine between a final spin and the beginning of the next wash cycle, said arrangement including a source of sterilizing agent, valve means and conduit means associated with said source for retaining the sterilizing agent at said source when said valve means is closed and for conducting a portion of the sterilizing agent from said source and introducing the portion into the interior of said washing machine when said valve means is open; electric circuit means for operating valve means, said circuit means including means responsive to the occurrence of said washing machine signal for energizing said circuit means and further including timing means for opening said valve means for a predetermined length of time and then closing said valve means.

3,376,721
ELECTROMECHANICAL COMBINATION LOCK
Seymour Levine, 26 Claredon Terrace,
Dover, N.J. 07801
Filed Jan. 5, 1966, Ser. No. 519,172
4 Claims. (Cl. 70—277)



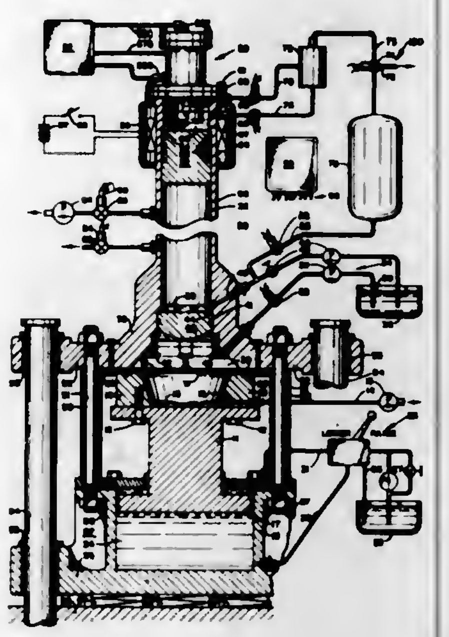
An electromechanical combination lock for storage rooms, safes and the like in which the door lock is electrically unlocked under control of a photo electric cell which receives light through aligned apertures in a series of co-axial disks that are rotated by the unlocking knob or device according to a combination known to the user. Operating current for the lock is applied through a removable key unit having electrical connection prongs for engaging and turning a receptacle type connecting element on the lock. The key box includes a small battery sufficient to energize an interior lamp which provides the light for projection through the disk apertures and for operating the unlocking means. A test lamp and switch are included in the key unit for testing the operating condition of the battery and the circuit continuity through the lock lamp.

3,376,722
WIRE GUIDE HAVING FLUID SUPPLY MEANS
Frank C. Holmes, Trumbull, Conn., assignor to The U.S. Baird Corporation, Stratford, Conn., a corporation of Connecticut
Filed July 28, 1964, Ser. No. 385,712
11 Claims. (Cl. 72—43)



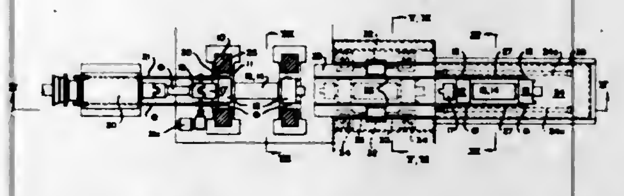
1. A quill for a wire forming machine which comprises: wire guide means defining an elongated, substantially uniform diameter continuous wire passage therethrough and a fluid passage communicating with said wire passage for introducing a fluid therein.

3,376,723
METHODS AND APPARATUS FOR FORMING MATERIAL BY SUDDEN IMPULSES
Stephen V. Chelminski, Redding, Conn., assignor to Bolt Associates, Inc., East Norwalk, Conn., a corporation of Connecticut
Filed Aug. 16, 1965, Ser. No. 479,771
14 Claims. (Cl. 72—56)



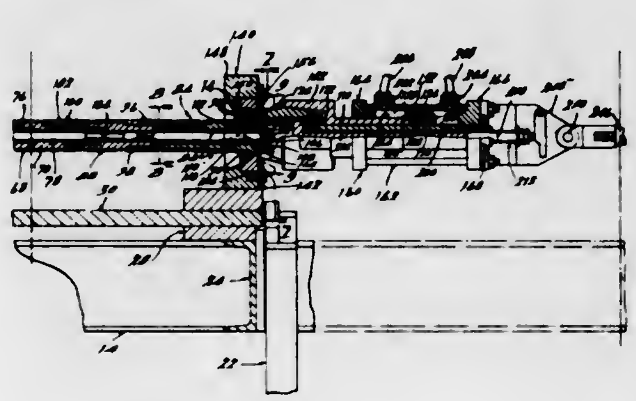
10. Apparatus for forming material by application of sudden high pressure impulses to the material comprising rigid wall means defining a chamber, liquid supply means for introducing liquid into said chamber, holding means for holding the material to be formed adjacent to the liquid in said chamber, said rigid wall means having movable pulse transmitting means, a movable mass positionable at a distance from said pulse transmitting means, said mass being freely movable for high acceleration toward said pulse transmitting means, air compressing means, container means for holding the compressed air, and instantaneous air release means abruptly releasing the compressed air into a region behind said mass for accelerating said mass, said mass impacting at high velocity against said pulse transmitting means for generating an intense impulse in said liquid upon impact of said mass.

3,376,724
AUTOMATIC ROLL CHANGING MEANS AND METHODS OF ROLL CHANGING
Ray A. Wolfendale, Fox Chapel, and William L. Stover, Pittsburgh, Pa., assignors to Mesta Machine Company, a corporation of Pennsylvania
Filed Apr. 5, 1966, Ser. No. 540,245
6 claims. (Cl. 72—239)



1. A rolling mill with automatic work roll changing comprising a rolling mill stand interchangeably receiving paired work rolls, paired work rolls operatively mounted on carrier means adapted to be moved into and out of said rolling mill stand, drive means on one side of said rolling mill stand operatively engaging said work rolls when said rolls are in the mill stand, pusher means on the said one side of said mill stand for moving said work roll carrier means into and out of said stand, a sliding floor member movable from a first position adjacent the other side of said mill stand selectively receiving and discharging said carrier means and rolls into and out of the mill stand to a second position remote from the mill stand, a well on said other side of the mill stand, elevator means in said well, a vertically movable elevating floor member on said elevator means movable from said first position of the sliding floor member when said sliding floor member is in its remote position to a bottom position at the base of the well, said vertically movable floor plate selectively receiving and discharging a work roll carrier means and rolls into the mill stand in said first position and carrying said work roll carrier means and work rolls beneath the floor level and drive means for moving said sliding floor member selectively relatively to the movement of the elevating means.

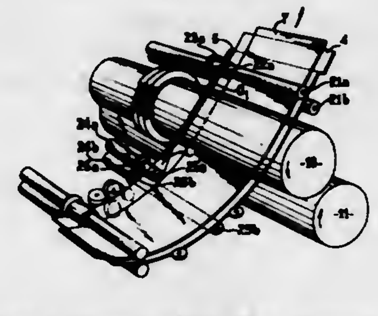
3,376,725
PRODUCTION MACHINE
Peter G. Andrews, Kitchener, Ontario, Canada, assignor to Walker Manufacturing Company, a corporation of Delaware
Filed Nov. 4, 1964, Ser. No. 408,970
13 Claims. (Cl. 72—311)



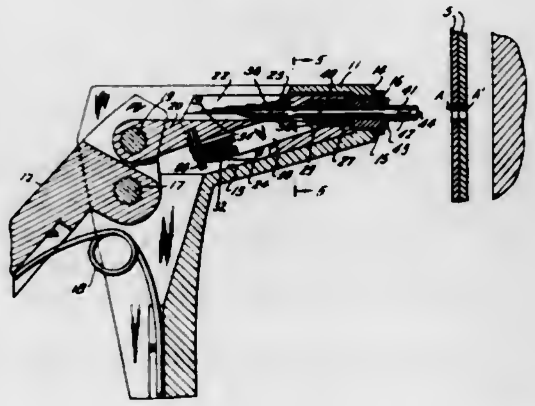
This application discloses a machine for forming a plurality of circumferentially and longitudinally spaced louvered openings in a tubular member. The machine is comprised of a mandrel and associated louver forming device for forming a number of circumferentially spaced louvers in a tube supported around the mandrel. A work holding chuck is associated with a work feed device and is adapted to engage a tube and successively feed the tube to the louver forming device. A conveying device is interposed between the mandrel and the retracted position of the chuck for sequentially delivering a tube to the chuck whereby the tube may be succesively fed to the louver forming device by the work feeding apparatus. After the desired louvers are formed, the tube and chuck are returned to the retracted position and the louvered tube is removed by the conveying apparatus.

3,376,726
SHEET MATERIAL FOLDING METHOD AND MACHINE FOR CARRYING OUT SAID METHOD
Georges Rouyer, Paris, and Charles Molin, Chatenay-Malabry, France, assignors to Nord-Aviation Societe Nationale de Constructions Aeronautiques, Paris, France, a French body corporate
Filed Dec. 29, 1964, Ser. No. 422,087
Claims priority, application France, Jan. 14, 1964, 960,220; Oct. 26. 1964, 992,709
22 Claims. (Cl. 72—379)

A folding method for the formation of folds or corrugations on sheet material, which is preferably folded in the form of a cylindrical sleeve, the corrugations being formed in a single helical path on the sleeve by a pair of fixed forming rollers; while the sleeve is passed between these rollers.



3,376,727
RIVET SETTING DEVICE
Milton Hinden, 15 Bay Link,
Massapequa, N.Y. 11758
Filed Oct. 8, 1965, Ser. No. 494,055
5 Claims. (Cl. 72—391)

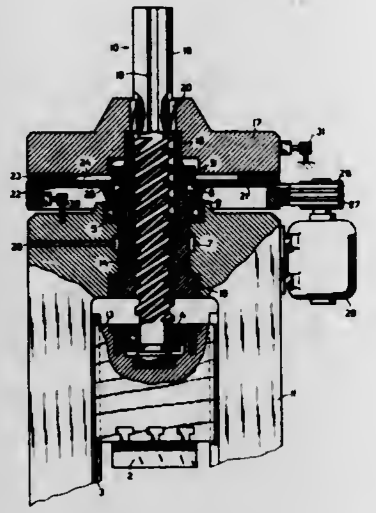


A tool for setting blind rivets and particularly blind rivets having smooth, cylindrical mandrel shanks, comprising moving and fixed handles, a chuck, including a cam surface, mounted on the movable handle, a tooth spaced from and directed toward said cam surface and a pair of side-by-side jaw members having follower surfaces engaging said cam surface, and a spring pressing said jaws against said cam surface, the latter camming the jaws toward said tooth, the device being characterized by said jaws being free to move laterally apart to a canted, spread relation when a gripping force is applied by said jaws against a mandrel.

3,376,728
PERCUSSION PRESS
Ladislav Nemessanyi, Kosice, Czechoslovakia, assignor to Chepos, Zavody Chemickeho a Potravinarskeho Strojirenstvi, Oborovy Podnik, Brno, Czechoslovakia
Filed Mar. 31, 1966, Ser. No. 539,044
Claims priority, application Czechoslovakia, Apr. 5, 1965, 2,223/65
6 Claims. (Cl. 72—454)

1. In a percussion press, in combination:
- (a) a frame including a press bed;
- (b) a ram member slidable on said frame in a vertically extending direction toward and away from said bed;
- (c) sleeve means having an axis extending in said direction and mounted on said frame for rotation about said axis in an axially fixed position;
- (d) a spindle fastened to said ram member for joint movement in said direction, a portion of said spindle being received in said sleeve means in threaded engagement therewith;

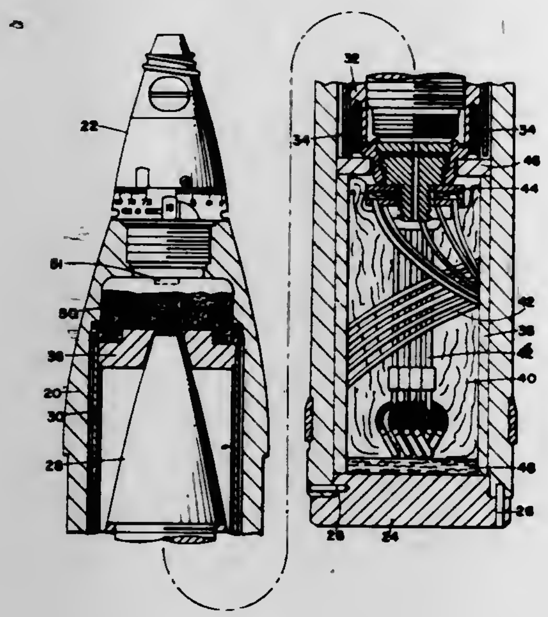
(e) a drive member having an upwardly directed face and secured to said sleeve means for rotation therewith;
(f) a flywheel secured against rotation relative to said spindle, said flywheel being superposed on said drive means and axially movable on said spindle toward and away from a position of weight transmitting frictional engagement with said face of the drive member;



(g) pneumatic means for lifting said flywheel from said position thereof, said face and said flywheel axially defining a normally sealed chamber therebetween, and said pneumatic means including means for admitting a gas under pressure to said chamber; and
(h) motor means for rotating said drive member about said axis.

3,376,729
TIME FUZE TEST APPARATUS

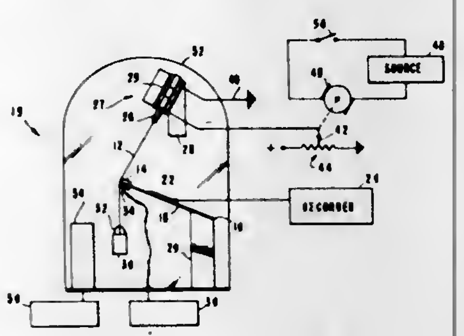
Clement A. Dock, Philadelphia, Pa., assignor to the United States of America as represented by the Secretary of the Army
Filed Dec. 1, 1965, Ser. No. 511,290
4 Claims. (Cl. 73—5)



An apparatus for testing time fuzes including the fuze to be tested attached to a parachute and inclosed inside a hollow artillery shell having a separate time fuze set to initiate a charge at a preselected time for ejecting the incapacitated fuze out of the shell.

3,376,730
FRICTION MEASURING APPARATUS

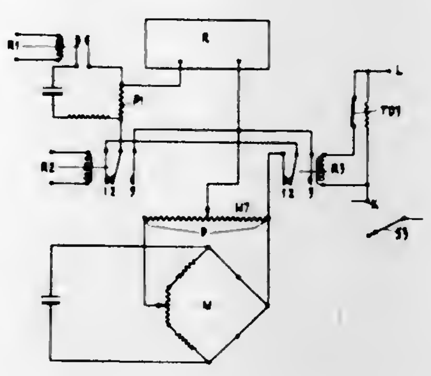
James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Warren G. Clement, Pasadena, Calif., and Pleasant T. Cole, Oxon Hill, Md.
Filed June 29, 1966, Ser. No. 562,444
5 Claims. (Cl. 73—9)



An apparatus for measuring the static friction between the surfaces of a magnetic tape and a magnetic head. The apparatus includes means mounting a magnetic head in a substantially fixed position. Power means are provided for pulling the tape across the head with the tape surface contacting the head surface. A cantilevered leaf spring is provided, whose free end either supports the magnetic head or is secured to one end of the magnetic tape. As the tape is pulled across the head, the leaf spring will flex by an amount related to the friction between the tape and head. The flexure in the leaf spring is determined by a strain gauge.

3,376,731
APPARATUS FOR COLLECTING FRACTIONS SEPARATED BY GAS-CHROMATOGRAPHY

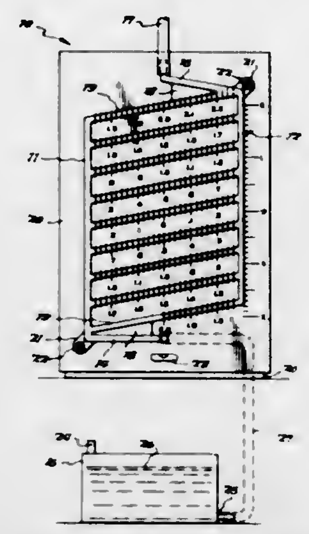
Leonard Herbert Cross and Samuel Inglefield, Winnington, Northwich, and Norman Ward, Davenham, Northwich, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
Filed Jan. 29, 1964, Ser. No. 340,874
Claims priority, application Great Britain, Jan. 29, 1963, 3,627/63
1 Claim. (Cl. 73—23.1)



An improved apparatus for collecting, detecting and recording fractions from a gas chromatography column is provided with two time-delay circuits that prevent the recorder from wrongly actuating valve driving means in response to spurious peaks on a chromatogram which is being delineated by the recorder apparatus.

3,376,732
MANOMETER

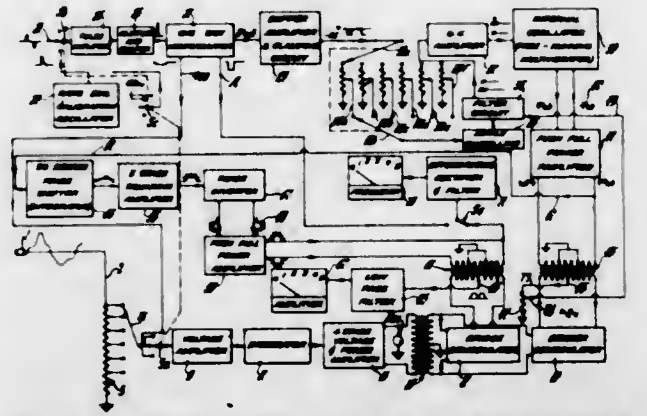
Norman C. Koester, Lancaster, N.Y., assignor to Scott Industries, Inc., a corporation of New York
Filed July 13, 1966, Ser. No. 564,982
7 Claims. (Cl. 73—401)



1. A compact, easily readable manometer adapted to obtain a high degree of accuracy and sensitivity over a limited range of pressures comprising support means, a pair of generally vertical tubes carried by said support means in horizontally spaced apart relation, a plurality of parallel inclined tubes carried by said support means in vertically spaced apart relation, said vertical tubes communicating with said inclined tubes adjacent the opposite ends thereof, and calibrating indicia associated with said inclined tubes, the upper end of each of said inclined tubes communicating with its associated vertical tube substantially at a level no lower than that of the lower end of the inclined tube immediately above where it communicates with the other vertical tube.

3,376,733
VIBRATION ANALYZER

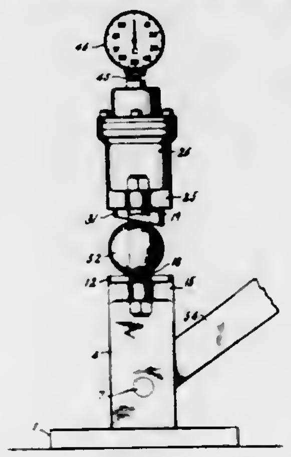
Philip K. Trimble, Rochester, and Edgar D. Walton, Detroit, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Continuation of application Ser. No. 113,341, May 29, 1961. This application May 12, 1966, Ser. No. 549,732
19 Claims. (Cl. 73—71.4)



A vibration analyzer for isolating and evaluating the vibrations from various individual components of a rotating assembly, such as an internal combustion engine having several accessories, each driven at a speed different from engine speed. One pickup senses the vibrations of the assembly and develops a complex wave-shaped signal having the frequency components to be analyzed. Another pickup develops a reference signal of the same frequency as the speed of the assembly. A portion of the reference signal, selected according to the relation of the speed of the component to the assembly speed, drives a variable frequency oscillator. This variable frequency oscillator develops a square wave-shaped output of a frequency approximate that of the selected component and is mixed by synchronous rectification with the complex signal for filtering purposes. The resultant synchronously rectified signal is fed back to the oscillator to alter the phase and the frequency thereof so that the oscillator will lock-in on the frequency of the selected component, at which time the square wave output from the oscillator and the complex signal will be 90° out of phase and the synchronously rectified signal will be nulled. The oscillator output is also phase shifted 90° to again synchronously rectify the complex signal and develop therefrom an output that is utilized for amplitude and frequency readout purposes.

3,376,734
GOLF BALL HARDNESS TESTER

Theodore L. Ether, East Greenwich, R.I., assignor to Uniroyal, Inc., a corporation of New Jersey
Filed Oct. 5, 1964, Ser. No. 401,605
7 Claims. (Cl. 73—78)

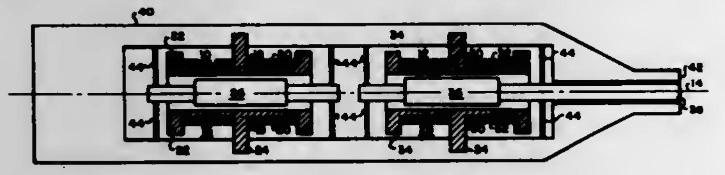


1. In a hardness tester for golf balls comprising a spring member, a handle member, a movable spring-loaded upper anvil member, a movable handle-loaded lower anvil member, display means operatively connected to and reflecting the displacement of said upper anvil member from an initial position, and support means supporting all of said members and said display means, said anvil members having opposing planar end surfaces; the improvement comprising said opposing planar end surfaces being angularly disposed with respect to one another so as to grippingly accommodate golf balls of varying sizes therebetween, whereby movement of said handle member causes an upward displacement of said lower anvil member and a golf ball resting thereon and contacting the opposing planar end surfaces, said golf ball in turn causing a responsive upward displacement of said upper anvil member against said spring member, thereby causing on said display member a responsive display which is independent of the size of said golf ball and a measure of the hardness of said golf ball.

3,376,735
PRESSURE MEASURING APPARATUS

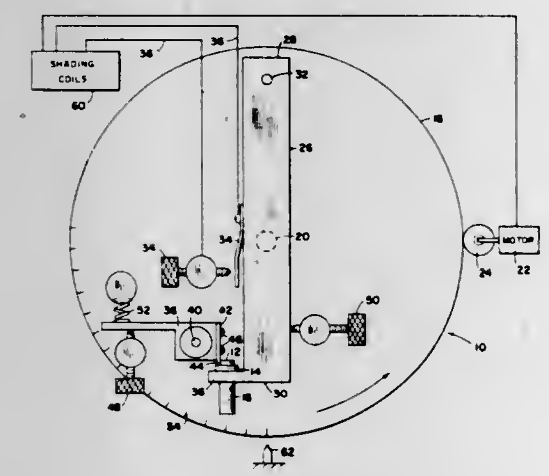
Thomas Garber, Framingham, David E. Kelch, Woburn, and Norman H. MacNeil, Waltham, Mass., assignors to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Sept. 3, 1964, Ser. No. 394,137
9 Claims. (Cl. 73—80)

A tonometer in which a pressure-sensing differential transformer and a gravity-sensing differential transformer are connected in phase opposition to the output of the tonometer for canceling out a gravitational error signal and in which a thermally-sensitive resistive network is connected in series with the secondary winding of the pressure-sensing differential transformer to compensate for thermal zero shift.



3,376,736
BOND STRENGTH TEST APPARATUS

Loring D. Emery, Jr., Hamburg, Pa., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Feb. 14, 1966, Ser. No. 528,016
5 Claims. (Cl. 73—101)

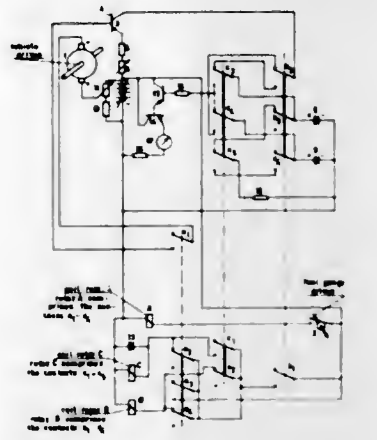


A bond test apparatus including a circular plate mounted for rotation in a vertical plane, a pendulum pivotally suspended by its upper end from the top of one face of the plate and having holder means on its lower end for holding a test specimen, shearing means carried by the plate for engaging the specimen, and drive means for rotating the plate so that the pendulum may swing toward the shearing means into engagement with the test specimen. A bond strength measuring arrangement, including a scale on the plate and a fixed pointer, is provided.

3,376,737
ELECTRONIC FUEL CONSUMPTION INSTRUMENT

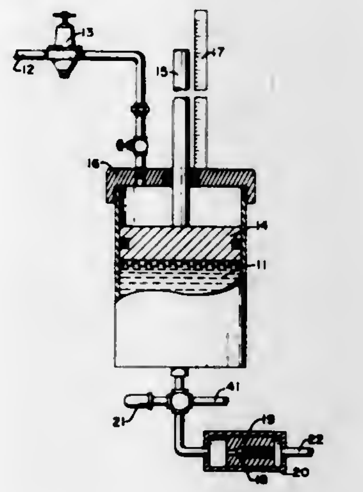
Frederik A. G. Timmermans, Rottekade, Netherlands, assignor, by mesne assignments, to Conoflow Europa N.V., Ede, Netherlands, a company of Netherlands
Filed Oct. 26, 1964, Ser. No. 406,258
Claims priority, application Netherlands, Nov. 11, 1963, 300,350
5 Claims. (Cl. 73—114)

This invention relates to improved instruments for indicating the fuel consumption of vehicles wherein first signal generator means are provided for generating a signal having a magnitude proportional to the velocity of the vehicle. Second signal generator means are included for generating spaced pulse signals, the duration of the pulses and interval between the pulses being inversely proportional to the quantity of fuel per unit time being consumed by the vehicle. Storage means are provided for intergrating and retaining the signal from the first signal generator means, the storage means being controlled by switching means which are responsive to the pulse signals from the second signal generator means. Measuring means periodically sample the signal retained by the storage means to provide an indication of the fuel consumed by the vehicle. The storage means are controlled in a progressive cycle which includes a charging period during which the signal from the first generating means is stored, a discharging period during which the stored signal is removed from the storage means, and a period during which the storage means are connected to the measuring means for indicating the fuel consumption.



3,376,738
AUTOMATIC REFILL AND TEMPERATURE COMPENSATION DEVICE FOR HYDRAULIC SYSTEMS

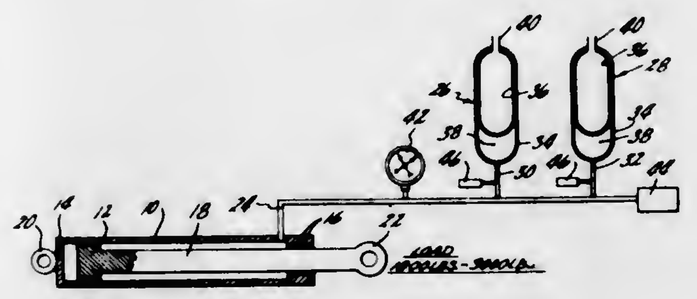
Joe L. Biffle, Tia Juana, Zulia, Venezuela, assignor to Esso Production Research Company, a corporation of Delaware
Filed June 28, 1965, Ser. No. 467,558
3 Claims. (Cl. 73—141)



A combination automatic refill-temperature compensation device for a hydraulic load sensing system. The refill device is a pressurized fluid reservoir and check valve assembly which passes hydraulic fluid into the load sensing system when the volume of hydraulic fluid in the system decreases. The temperature compensating device is a valved conduit which bypasses the check valve and returns hydraulic fluid to the fluid reservoir when increases in temperature cause expansion of the hydraulic fluid in the system. When the temperature in the system drops, the refill device functions as a low temperature compensating device.

3,376,739
HYDRAULIC LOAD LIMITER

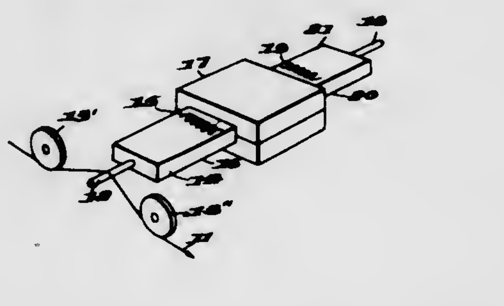
Marshall B. Thornton, Granby, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Oct. 12, 1965, Ser. No. 495,104
10 Claims. (Cl. 73—141)



7. In a load limiter for a cable hoist, a cylinder and piston adapted to be connected in series in the cable between the hoist mechanism and an object to be lifted, means for venting said cylinder at its end adjacent the hoist, an accumulator mounted on said cylinder including a closed chamber having fluid communication with said cylinder adjacent the other end of said cylinder, means for charging said chamber with a hydraulic fluid, a flexible bag in said chamber, means for charging said bag with an expansible gas to provide an initial no-deflection load on the hydraulic fluid acting on said piston, means for giving a visual indication of the pressure acting on said hydraulic fluid including a pressure gage, and means for giving an audible warning as the piston moves relative to said cylinder.

3,376,740
TENSION TRANSDUCER

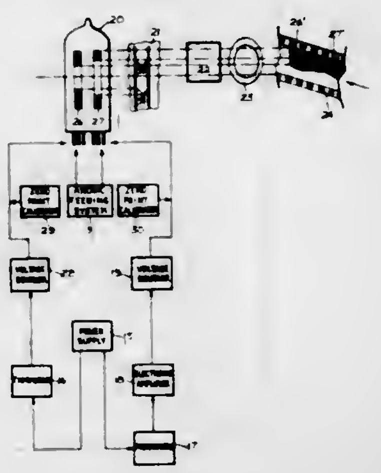
John Vipond Harvey, Kingston, Ontario, Canada, assignor, by mesne assignments, to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Feb. 12, 1965, Ser. No. 432,197
Claims priority, application Canada, June 9, 1964, 904,762
2 Claims. (Cl. 73—144)



Method and apparatus for measuring threadline tensions by passing yarn over a sensing element having an electrical resistance strain gauge attached thereon to give a first electrical output signal proportional to the deflection plus any extraneous vibrations and the like, and combining this signal with a second signal proportional only to such extraneous signals from a second sensing arm having an eletcrical strain gauge attached thereto, whereby such extraneous signals are canceled.

3,376,741
ELECTRO-OPTICAL DEVICE FOR RECORDING VARIABLE PHYSICAL QUANTITIES

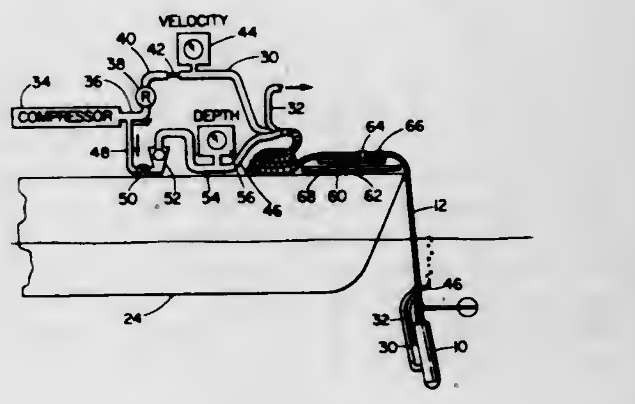
Luciano Moretto, San Donato, Milanese, Italy, assignor to AGIP S.p.A., Rome, Italy, a company of Italy
Continuation-in-part of application Ser. No. 371,538, June 1, 1964. This application Aug. 17, 1966, Ser. No. 572,963
Claims priority, application Italy, June 17, 1963, 698,011
6 Claims. (Cl. 73—152)



For recording temperatures in the bore of an oil well at different depths a probe is used in which are mounted, tube to produce an electron beam. The other two thermistor is connected to one section of an electronic indicator tube to produce an electron beam. The other two thermistors are connected to the other section of the tube to reflect the differential of the measurements of these two other thermistors and produce a corresponding electron beam. The two beams are recorded on film. To indicate the heights at which the measurements are made the probe carries means energized when it passes the joints of the tubing column, for producing an electric signal which produces a light beam recorded on the film.

3,376,742
OCEAN CURRENT MEASURING DEVICE

Renic P. Vincent, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed May 31, 1966, Ser. No. 553,974
8 Claims. (Cl. 73—170)

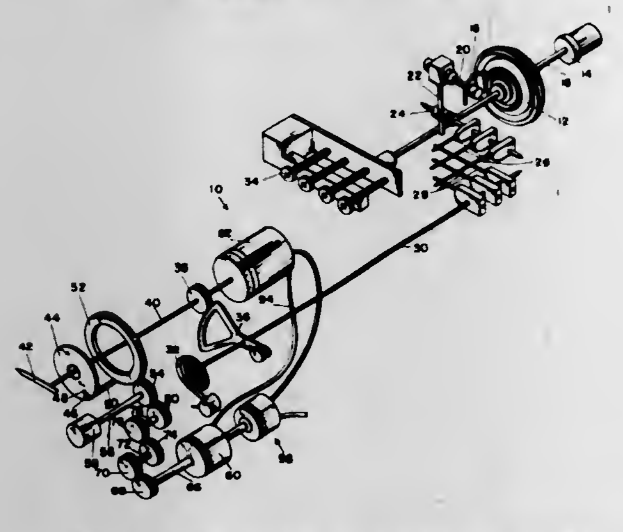


This invention covers an apparatus for measuring the velocity of currents of water, particularly those far below the surface. A container enclosing a pendulum is suspended through a hinge joint to a flexible line which extends to a boat deck at the surface. A rudder is placed on the upper side of the hinge joint for orienting the container in the direction of the current flow. The container has two ports, one positioned in line with the arc of the pendulum. This latter port is connected through a conduit to an air supply at the surface. The other port is connected through a conduit to the atmosphere. Currents of the water move the container off vertical and the first port moves toward the pendulum such that the backpressure in the first conduit varies as a function of the current flow.

3,376,743
LINEARIZED ELECTRICAL OUTPUT FROM PRESSURE ACTUATED AIRSPEED INSTRUMENT

Vincent P. Caggia, River Vale, N.J., assignor, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware

Filed June 15, 1966, Ser. No. 557,734
9 Claims. (Cl. 73—182)



1. An aircraft instrument comprising a pressure actuated means responsive to airspeed, airspeed indicator means, means for connecting said airspeed responsive means to said airspeed indicator means for driving the latter by the former, means for indicating a preselected airspeed, means for adjusting said last mentioned indicating means, a first electrical-position transducing means having a pair of relatively movable parts, means for connecting one of the parts of said first electrical-position transducing means to said adjusting means for positioning said one part in accordance with the adjustment of said adjusting means, a second electrical-position transducing means having a pair of relatively movable parts, means for connecting one of the parts of said second electrical-position transducing means to said airspeed responsive means for positioning said one part in accordance with airspeed, circuit means for connectng the other parts of said two electrical-position transducing means to one another, means for applying a predetermined voltage to said one part of one of said two electrical-position transducing means, voltage linearizing means including a movable member, means for connecting said movable member to the means for positioning said one part of one of said two electrical-position transducing means for moving said movable member in response to movement of said positioning means for said one part, and error signal circuit means including the said one part of the other of said two electrical-position transducing means and said linearizing means and having a pair of output terminals, the voltage across said output terminals being varied in accordance with the movement of said movable member.

3,376,744
FLOW MEASUREMENT SYSTEM

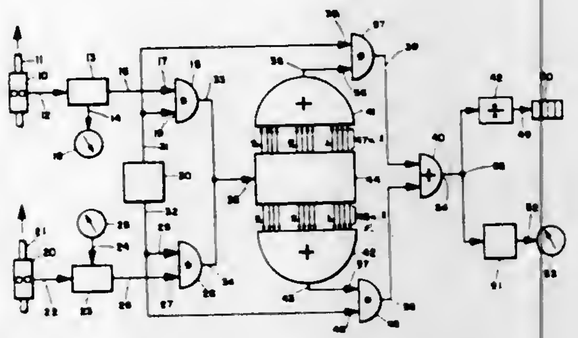
Dale F. Kister, Thousand Oaks, and James E. Moore, Reseda, Calif., assignors to The Foxboro Company, Foxboro, Mass., a corporation of Massachusetts

Filed July 7, 1966, Ser. No. 563,546
9 Claims. (Cl. 73—195)

1. A flow measurement system for monitoring a plurality of flow lines each with a flowmeter having a particular calibration factor comprising:

a plurality of input gating means one for each said flowmeter and each one of said input gating means having an input responsive to a pulse train from its respective said flowmeter said pulse train having a frequency substantially proportional to flow rate through said respective flowmeter and each one of said input gating means having a gated flowmeter output and each one of said input gating means being periodically in turn gated open thereby passing said pulse train to its said gated flowmeter output,

a multiplier having an input responsive to said gated flowmeter output from every one of said plurality of input gating means and said multiplier having a plurality of multiplier outputs,

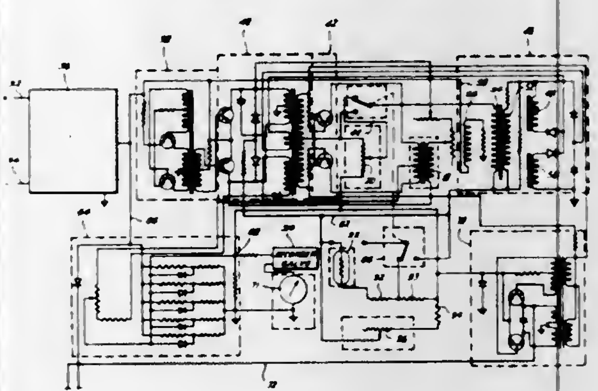


a plurality of multiplier gating means one for each said multiplier output and each one of said multiplier gating means being responsive to its respective said multiplier output and each multiplier gating means having a gated multiplier output and each one of said multiplier gating means being periodically in turn gated open in synchronism with one of said plurality of input gating means thereby passing its respective said multiplier output to its said gated multiplier output thereby restricting said gated multiplier output to a function of said gated flowmeter output, and means for summing each said gated multiplier output.

3,376,745
FLOW METER

Billy E. Davis, Houston, Tex., assignor to Camco, Incorporated, Houston, Tex., a corporation of Texas

Filed May 26, 1965, Ser. No. 458,991
2 Claims. (Cl. 73—205)

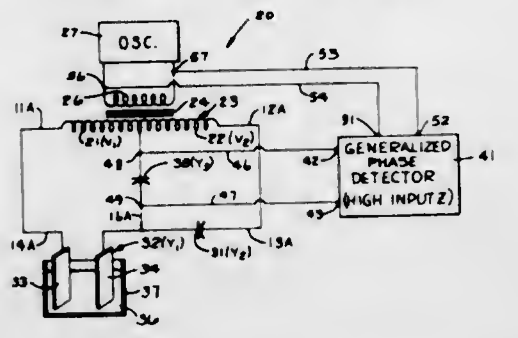


A flow meter for measuring fluid flow through an orifice in a conduit including transducer means for measuring the parameters of flow, a computer connected to the transducer means for solving the flow equation, a square root circuit connected to the computer for providing a signal proportional to the flow rate of the fluid, an integrator integrating the flow rate with a plurality of pulse counting circuits connected in series each of which is actuated by a predetermined signal level from the preceding count circuit, and a selector switch for selectively including any number of said counting circuits for providing the desired counting volume and a counter connected to the counting circuits for measuring the total volume flow. A plurality of counting circuits which include flip flop circuits any number of which may be included for providing the desired counting volume.

3,376,746
ELECTRICAL CIRCUIT FOR CAPACITOR PROBE

Gordon A. Roberts, Ann Arbor, Mich., assignor to Charles F. Warrick Company, Berkley, Mich., a corporation of Michigan

Filed May 14, 1965, Ser. No. 455,892
13 Claims. (Cl. 73—304)



1. A normally unbalanced bridge circuit for producing an output linearly related to an admittance change, comprising in combination:

a first alternating voltage source and a first admittance in series therewith between a pair of points;

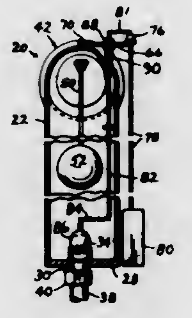
a second alternating voltage source and a second admittance in series therewith between said pair of points, at least one of said admittances being variable to provide an admittance change to be measured;

a phase sensitive, current sensing device having an input impedance of value negligible in comparison to the difference between said first and second admittances and connected as a current shunt between said points, the change in current flow through said shunt being a linear function of said admittance change to the extent that said shunt fails to impede current flow therethrough.

3,376,747
OIL LEVEL INDICATOR

John B. Briscoe, 6803 NW. 59 Terr., Bethany, Okla. 73123, and James E. Briscoe, 3106 NW. 41, Oklahoma City, Okla. 73112

Filed June 25, 1965, Ser. No. 466,966
2 Claims. (Cl. 73—313)

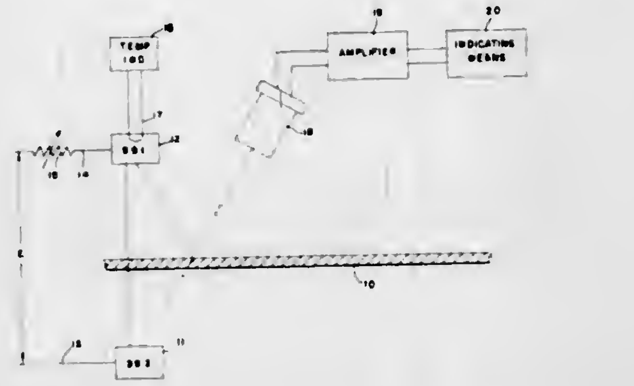


An inverted L-shaped tubular member is mounted at one side of an engine of a moving vehicle and connected with its crank case drain plug for fluid communication between the crank case and the depending end of the L-shaped member. A float in the tubular member is connected by pivoting levers with a fluid level gage mounted on the other end of the tubular member in turn connected, by wiring through a battery, to an oil level indicator. A ball valve operated by a pendulum closes the lower opening to the tubular member when the vehicle is turning.

3,376,748
METHOD AND APPARATUS FOR RADIATION PYROMETRY

John D. Glomb, South Holland, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Oct. 22, 1965, Ser. No. 501,924
4 Claims. (Cl. 73—355)

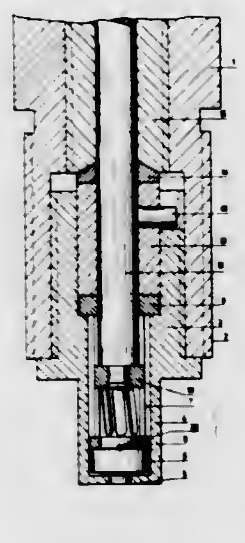


A radiation pyrometer for non-blackbody objects, having 2 standard blackbody sources maintained at the same temperature and placed on either side of the object. A radiation detector is arranged either (1) to receive radiation from the object, radiation from one blackbody reflected by the object, and from the other blackbody transmitted through the object, or (2) to receive radiation only from one of the blackbodies. The temperature of the blackbodies is adjusted until the radiation received in the two instances is the same. The temperature of the object is then given by the temperature of the blackbodies.

3,376,749
PRESSURE GAUGE

Hermann R. K. N. Janeschitz-Kriegl, Delft, and Johannes Schijf, The Hague, Netherlands, assignors to Nederlandse Organisatie Voor Toegepast-Natuurweten-Schappelijk Onderzoek ten Behoeve van Nijverheid, Handel en Verkeer (Organization for Industrial Research T.N.O.), a corporation of Netherlands

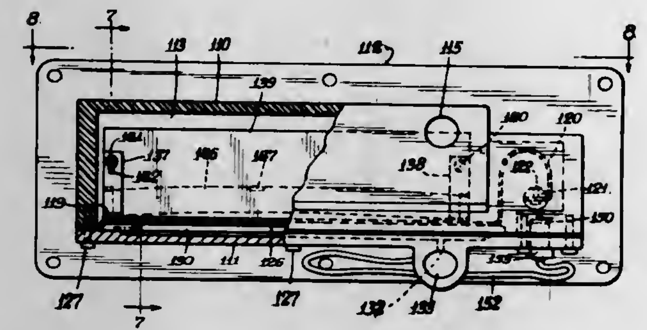
Filed Feb. 16, 1966, Ser. No. 527,987
2 Claims. (Cl. 73—406)



Describes a pressure gauge for extrusion or injection moulding presses having a central pin which is caused to rotate by variations of pressure within the press by means of a hollow, cylindrical torque converter which eliminates the effect of temperature on the gauge.

3,376,750
SLACK DIAPHRAGM FLUID GAUGE

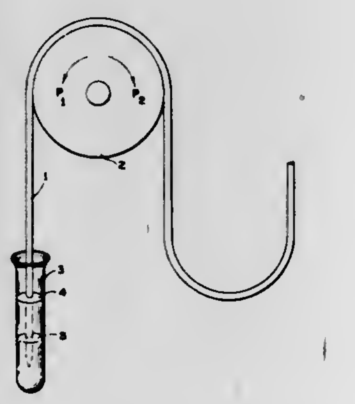
**Regner A. Ekstrom, Jr., % R. A. Ekstrom Co.,
Harvey, Ill. 60427
Filed Sept. 29, 1965, Ser. No. 491,097
9 Claims. (Cl. 73—409)**



A fluid gauge is provided which incorporates a slack diaphragm, which may be in the form of a sac to define a pressure chamber. In other embodiments, the chamber is formed by the case and diaphragm. Some embodiments have pressure chambers both sides of the diaphragm so as to define a differential gauge. An embodiment has a laminar flow passageway between the two chambers. In some embodiments an elongated strip of metal has one end attached to the frame with the other end being biased against the diaphragm. The attachment comprises a cylinder rotatable about an axis and releasably affixable at ny desired position. The elongated strip forms a loop between the ends. In some embodiments a bubble glass is attached to the strip by an adjustable mounting. The strip can be employed to actuate a switch.

3,376,751
SPEED CONTROLLED SUCTION TUBE FOR AUTOMATICALLY REPEATED SUCTIONS

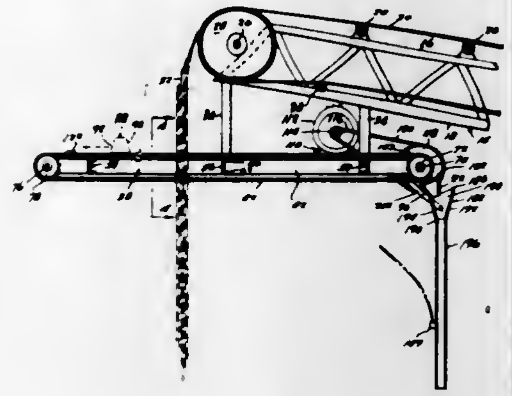
**Olof Gunnar Hugo Jungner, Hovas, Sweden, assignor to Medicinsk-Kemiska Automationslaboratoriet AB-Mekalab, Stockholm, Sweden, a company
Filed July 29, 1965, Ser. No. 475,692
Claims priority, application Sweden, July 31, 1964,
9,336/64
4 Claims. (Cl. 73—423)**



An apparatus consisting of horizontal drum and a flexible plastic suction pipe supported by the upper periphery of the drum is used for removing samples of uniform size from test tubes containing varying amounts of liquid. The drum is moved to-and-fro and the free end portion of the pipe hanging vertically from the drum in axial alignment with the test tube is alternately immersed into and lifted out of the liquid, each time thereby removing a liquid sample.

3,376,752
GRAVEL SAMPLING MACHINE

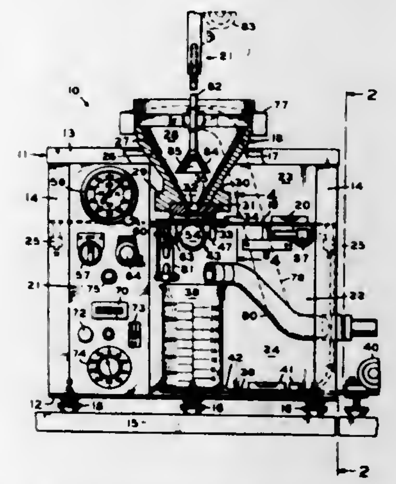
**Eugene E. Malone, 319 Filer Ave. W.,
Twin Falls, Idaho 83301
Filed Aug. 20, 1965, Ser. No. 481,288
10 Claims. (Cl. 73—423)**



An apparatus for taking a sample of an aggregate from the discharge end of a conveyor belt. An open topped receptacle is reciprocally mounted on a frame so that it moves across and beyond the stream of falling aggregate and back again to obtain the sample. The frame is mounted on the conveyor belt support so that the whole is movable as a unitary structure.

3,376,753
PARTICULATE FLOW METER APPARATUS

**Courtney G. Pitkin and Arun K. Mitra, University City, Mo., assignors to Lewis-Howe Company, St. Louis, Mo., a corporation of Delaware
Filed Nov. 26, 1963, Ser. No. 325,952
7 Claims. (Cl. 73—432)**

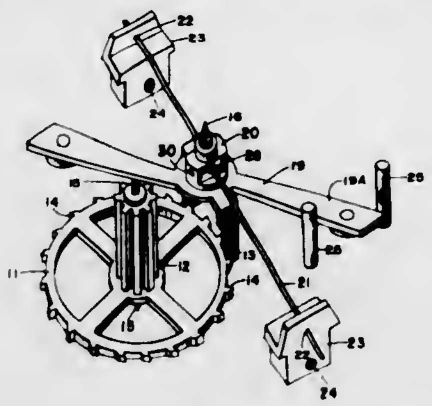


An apparatus for measuring the flowability of particulate materials from a hopper through a preselected orifice device, the hopper and orifice device having contiguous side walls, and the apparatus including a closure normally preventing material flow through the orifice and being actuated to a remote position to permit material flow and to condition a signaling device for operation only in response to the actual flow of material through the orifice device, and a recording device controlled by the signaling device.

3,376,754
ESCAPEMENT MECHANISM

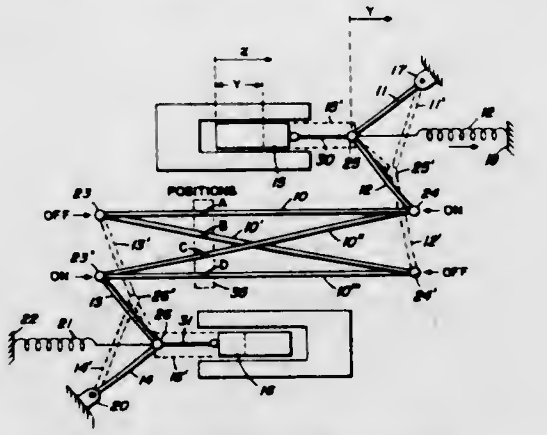
**Clement A. Dock, Philadelphia, Pa., assignor to the United States of America as represented by the Secretary of the Army
Filed Dec. 1, 1965, Ser. No. 511,303
2 Claims. (Cl. 74—1.5)**

An escapement mechanism in a munition timing fuze including an oscillatory escapement lever having a predetermined arc of oscillation. Lever limiting pins, for momentarily preventing an extreme excursion of the lever, are positioned laterally of the lever and in path of the lever arm at points adjacent but outside of and spaced from the oscillatory lever arc. An escapement spring, controlling the beat frequency of the lever, is in the form of a round wire for obtaining minimum spin sensitivity, and the wire end portions are slidably mounted in a circular hole in corresponding support members, by which operative friction loss is minimized.



3,376,755
MECHANICAL MOVEMENT

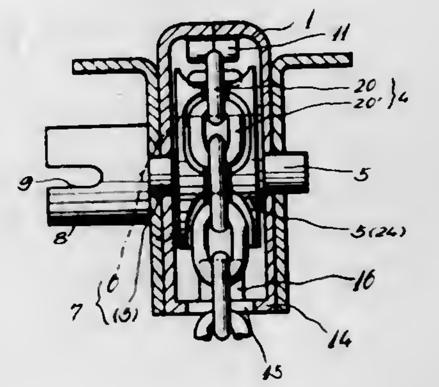
**Hardin Joyce, Jr., Marion, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Aug. 24, 1966, Ser. No. 574,825
6 Claims. (Cl. 74—110)**

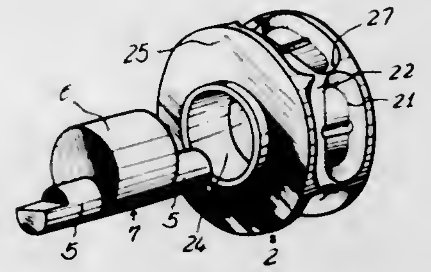


1. A mechanical movement comprising:
fixed reference means;
linkage assembly means comprising first, second, third, fourth, and fifth linkage elements arranged end-to-end in the order recited, and pivotally secured at both extreme ends thereof to points on said fixed reference means;
first, second, third, and fourth pivotal connecting means connecting, respectively, said first linkage element to said second linkage element, said second linkage element to said third linkage element, said third linkage element to said fourth linkage element, and said fourth linkage element to said fifth linkage element, with the movement of said linkage assembly being confined substantially to a given plane;
first positioning means for positioning said first pivotal connecting means in N discrete positions;
second positioning means for positioning said fourth pivotal connecting means in M discrete positions;
said fixed reference means having a longitudinally shaped slot formed therein and positioned parallel to said given plane and with the normal projection thereof intercepting the positions of said third linkage element at points between the midpoint of said third linkage element and a given end thereof;
and pin means mounted on said third linkage element and positioned to ride in said slot to confine the movement of said linkage element to a given pattern.

3,376,756
CHAIN DRIVE AND HOUSING ARRANGEMENT

**Setsuo Yasue, Kani-gun, Japan, assignor to Sanko Kiki Kabushiki Kaisha, Nagoya, Japan
Filed Apr. 7, 1965, Ser. No. 446,159
Claims priority, application Japan, Apr. 13, 1964,
39/20,570
20 Claims. (Cl. 74—116)**



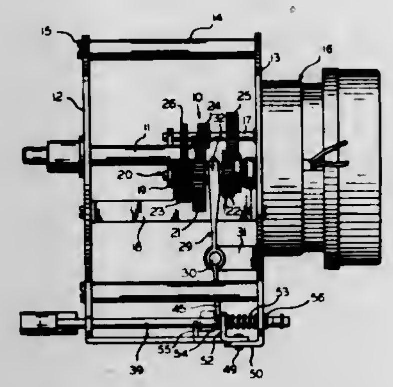


1. Chain drive apparatus for moving a chain having a plurality of links, said apparatus comprising
a housing having chain engaging means therein;
a rotor positioned in said housing, said rotor having a peripheral surface having chain engaging means;
means positioning said chain in said housing between the chain engaging means of said housing and the chain engaging means of said rotor with the chain engaging means of said housing in engagement with selected links of said chain and with the chain engaging means of said rotor in engagement with selected other links of said chain; and
shaft means turnably mounted in said housing and having an eccentric portion extending into said rotor and mounting said rotor for eccentric rotation relative to said housing, said shaft means being rotatable to drive said chain in one of a clockwise and counterclockwise direction by engaging and disengaging said chain from said housing and rotor chain engaging means.

3,376,757
VARIABLE TIME CYCLE DEVICE FOR TIMER

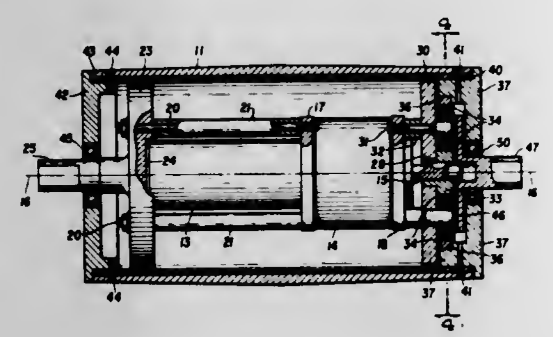
**Frank J. Papa, Jr., Montville, N.J., assignor to Industrial Timer Corporation, Parsippany, N.J., a corporation of Delaware
Filed Aug. 4, 1966, Ser. No. 570,278
6 Claims. (Cl. 74—370)**

Variable time cycle device for a timer including a gearing arrangement between the output shaft and a constant speed input shaft having an idler shaft with first and second input gears idly supported thereon and an output gear fixed thereto, a gear on the output shaft meshing with the output gear, first and second gears on the input shaft meshing with the first and second gears on the idler shaft, a clutch between the first input gear and the output gear on the idler shaft where clutch elements are integral with the first input gear and the output gear and a clutch between the second input gear and the idler shaft.



3,376,758
DRIVE FOR ROTATING DRUM

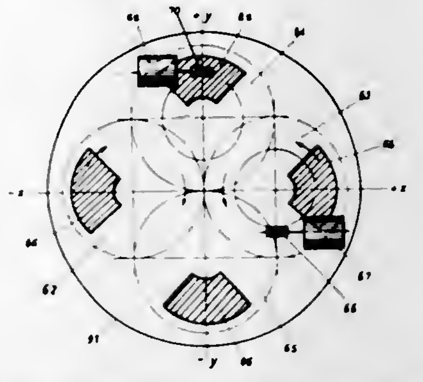
Robert H. MacKay, Fort Wayne, Ind., assignor to Lincoln Manufacturing Company, Inc., Fort Wayne, Ind., a corporation of Indiana
Filed Oct. 24, 1966, Ser. No. 588,793
4 Claims. (Cl. 74—421)



1. A drive arrangement for a conveyor or the like, comprising:
- (a) an elongated electric motor having a drive shaft at one end;
- (b) a plate structure fastened to said one end of said motor, said plate structure having a portion extending beyond the outside of said motor;
- (c) a plurality of elongated support elements each fastened at one end to said plate structure and extending along said outside of said motor toward the other end thereof;
- (d) a first mounting member fastened to the other ends of said support elements, said first mounting member being spaced from said motor and having a mounting shaft adapted to be fastened to a stationary object;
- (e) a second mounting member positioned adjacent said plate structure and having a mounting shaft adapted to be fastened to said stationary object;
- (f) drive gears mounted on said plate structure and being operatively connected to said drive shaft;
- (g) an elongated cylindrical drum surrounding said motor, said plate structure, and said first and second mounting members, said cylindrical drum being mounted for rotation on said mounting shafts of said first and second mounting members;
- (h) and means operatively connecting said drum with said drive gears so that said drum rotates with said drive gears.

3,376,759
DEVICE FOR COMPENSATING UNBALANCES OF REVOLVING AXIALLY SYMMETRICAL PARTS

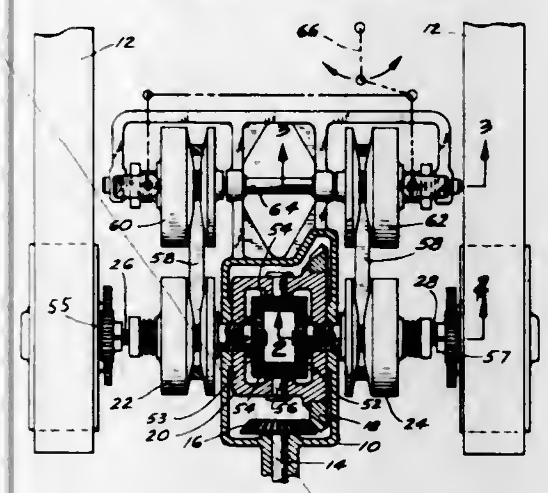
Ludwig Held, Darmstadt, Germany, assignor to Gebr. Hofmann K.G., Darmstadt, Germany
Filed July 31, 1964, Ser. No. 386,571
Claims priority, application Germany, Aug. 8, 1963, H 49,953
13 Claims. (Cl. 74—573)



A device for compensating for unbalances of axially symmetrical parts revolving about their axes including a casing integral with the rotating part. The casing containing a plurality of weights disposed to move along at least two divergent radii of the casing to generate centrifugal forces compensating for the unbalance. The weights being moved in response to a detection of unbalance with the length of movement being a function of the amount of unbalance.

3,376,760
REGENERATIVE STEERING DIFFERENTIAL

Max D. Gordanier, Pleasant Ridge, Mich., assignor to the United States of America as represented by the Secretary of the Army
Filed Mar. 4, 1966, Ser. No. 534,292
1 Claim. (Cl. 74—689)

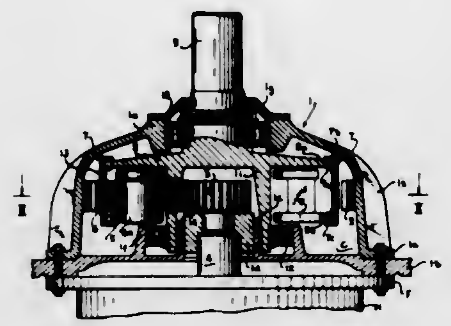


A vehicle skid steer system for steering a tracked vehicle or a wheeled vehicle wherein the wheels cannot be turned from their fixed alignment with the vehicle. Belt driven variable sheaves are utilized in a continuously variable transmission to bias the output of an automotive type differential such that the speed of the differential output shafts can be varied in a smooth, uninterrupted transition with respect to each other.

3,376,761
PLANETARY GEAR TRANSMISSION

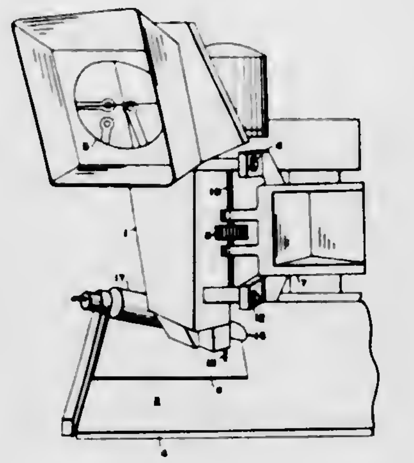
Harald Stepputtis, Mulheim (Ruhr), Germany, assignor to Rheinstahl Huettenwerke AG, Essen, Germany
Filed May 21, 1965, Ser. No. 457,626
Claims priority, application Germany, July 18, 1964, R 38,413
19 Claims. (Cl. 74—801)

A planetary gear transmission wherein the housing accommodates the ends of coaxial driving and driven shafts and carries a ring gear meshing with planet pinions mounted in a planet carrier which is coupled to one of the shafts. The housing further accommodates two antifriction bearings provided at the opposite axial ends of the carrier. The other shaft is journalled in one of the bearings and has an extension which projects through passages provided between the carrier and one of the gears and is journalled in the other bearing.



3,376,762
SPOTTING PROJECTORSCOPE

Andre R. Brault, North Merrick, N.Y., assignor to Optomechanisms, Inc., Plainview, N.Y.
Filed Nov. 26, 1965, Ser. No. 509,707
2 Claims. (Cl. 77—5)

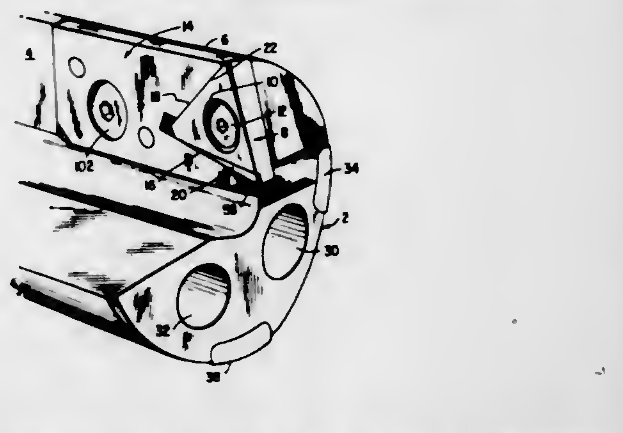


This invention relates to an enlarger-projector for use in a work layout machine for instance, of the type having a movable mounting drill head and drill bit. An enlarger-viewer is mounted adjacent to the drill head on a layout drilling machine to aid in optically position the work piece relating the drill. The magnified image, when centered on the screen, is the precise point the drill will contact.

3,376,763
BORING TOOLS

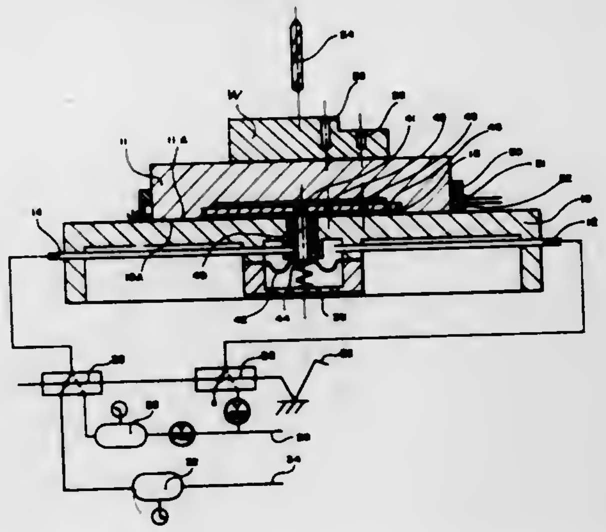
Clifford Y. Welles, Duncan, Okla., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware
Filed Nov. 19, 1965, Ser. No. 508,645
2 Claims. (Cl. 77—58)

A boring tool which includes a rod having a longitudinally extending base and a polygonal cutting element mounted on the base. The cutting element includes a mounting hole with connector means passing through the hole for detachably connecting the cutting element with the base. A supporting plate rigidly and detachably secured to the base includes at least one abutting edge abutting a peripheral edge of the cutting element to prevent rotational movement thereof about the connector means. The cutting element and the supporting plate include outer surfaces lying in a common plane.



3,376,764
PNEUMATIC POSITIONING TABLE

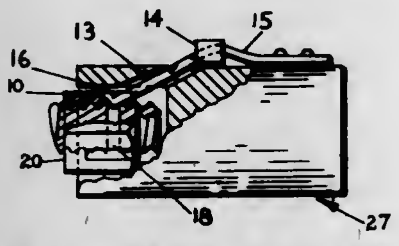
Rudolf Schardt, 3510 Laverne Drive, Houston, Tex. 77024
Continuation-in-part of application Ser. No. 230,353, Oct. 15, 1962. This application Aug. 19, 1965, Ser. No. 480,965
The portion of the term of the patent subsequent to Oct. 5, 1982, has been disclaimed and dedicated to the Public
5 Claims. (Cl. 77—64)



1. Apparatus for positioning a work piece, comprising
- (a) base means having an upper planar bearing surface,
- (b) a work-supporting table having a lower planar surface disposed for movement over said bearing surface,
- (c) a source of gas pressure coupled to said base means to provide a pneumatic bearing between said surfaces,
- (d) a vacuum source coupled to said base means arranged to substitute a vacuum for said gas pressure whereby to lock the work table to said bearing surface solely by the force of said vacuum,
- (e) indexing means operably disposed between the work table and the base means for indexing the work table on said bearing surface with respect to a cutting tool, and
- (f) pantograph means operably connecting said work table to the base means to continuously maintain a true relation between the X—Y axes of the work table and said bearing surface throughout the indexing movements of the work table.

3,376,765
DETENT WRENCH

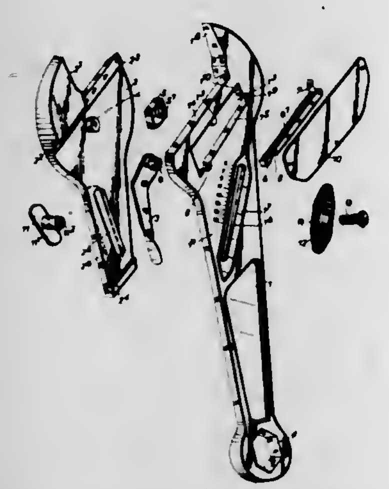
Victor L. Ruby, Oakland Road,
Sykesville, Md. 21784
Filed May 5, 1966, Ser. No. 550,080
3 Claims. (Cl. 81—121)



The device is a modification of a socket type wrench, being substantially a pin or detent finger within the socket, such that, as the socket and castellated nut are advanced on a bolt this detent finger feels for the hole that is usually drilled at right angles to the axis of a bolt and in a bolt for the purpose of fastening a castellated nut with a cotter key or wire. This finger then seats in the hole, and stops the socket wrench and nut action in such a position that some of the castellations are aligned with the hole in the bolt, and are ready for insertion of the wire or cotter key.

3,376,766
SPEEDILY ADJUSTABLE CLAMPING WRENCH

Dominique Vienat, 5820 Tulips St.,
Montreal Nord, Quebec, Canada
Filed Nov. 9, 1966, Ser. No. 593,006
Claims priority, application France, Dec. 21, 1965,
9,347
8 Claims. (Cl. 81—138)

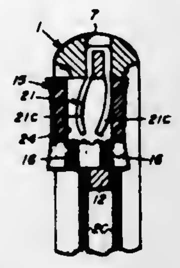


A clamping wrench in which a movable arm is engaged with a stationary arm by a block secured to the movable arm and guidably supported for movement along the upper surface of a slot in the movable arm, the block being engageable with a pivotal lever which is mounted in the slot for movement between locked and unlocked positions with the block.

3,376,767
CLUTCH-BAR MEANS FOR AN ADJUSTABLE WRENCH

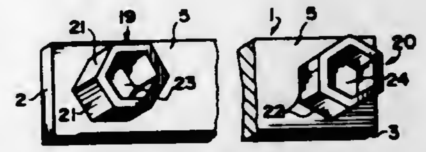
Harry D. O'Quinn, 2846 Playa Del Rey,
Las Vegas, Nev. 89109
Continuation-in-part of application Ser. No. 523,840,
Jan. 19, 1966. This application Sept. 8, 1967, Ser.
No. 666,284
9 Claims. (Cl. 81—145)

This is an adjustable wrench having a main body with fixed jaw extending oppositely to handle portion. There is a first and transverse opening in the main body extending from one face of the flat-like wrench to the other face and adjacently spaced from the fixed jaw. This first opening extends in an elongated manner generally normal to the fixed jaw and has rack teeth on its opposite elongated walls. A second opening defined by a separate slot in the main body opens into and intersects the first and transverse opening. Each face of the body member adjacently surrounding the first and transverse opening is cut away or grooved. A movable jaw adjustable toward and from the fixed jaw has a rib portion thereon received in the second opening in the main body and an integral rib portion that extends into a portion of the first and transverse opening that extends into the main body adjacent to the elongated wall of first and transverse opening remote from the fixed jaw. In the web portion of of the movable jaw is a clutch-bar receiving aperture extending from face to face of the web portion and in alignment with the first and transverse opening in the body member. The side walls of this clutch-bar receiving aperture have rack teeth that are in alignment with the rack teeth in the main body. A clutch-bar is received in this clutch-bar receiving aperture and it has rack teeth in spaced apart rows on opposite sides for cooperation with the adjacent spaced apart rack teeth in the body member on each side of the transverse opening therein. The clutch-bar has a recess therein to receive the leg ends of a generally U-shaped spring that loops over and is held at its bight end by slots in the web portion of the movable jaw member. The clutch-bar on being slid in a direction generally perpendicular to the transverse opening in the main body and in the aperture through the movable jaw and against the spring member has its teeth out of engagement with the teeth in the main body permitting sliding adjustment of the movable jaw. The clutch-bar has serrated exposed opposite faces to prevent slippage when operated from either side by the thumb of the hand which holds the wrench.



3,376,768
LINKAGE BAR FOR WRENCHES

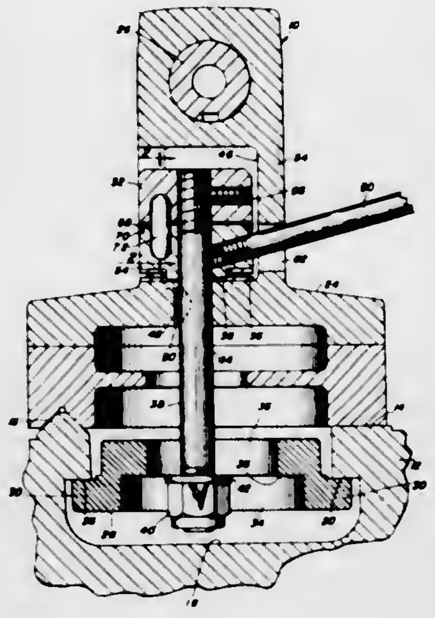
Louis F. Fortunato, 2510 Audrey Terrace,
Union, N.J. 07083
Continuation-in-part of application Ser. No. 493,645,
Oct. 7, 1965. This application Apr. 13, 1967, Ser.
No. 630,701
3 Claims. (Cl. 81—177)

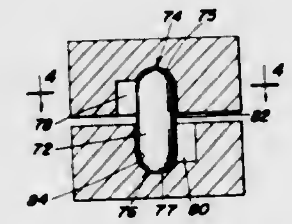


The present invention deals with a linkage bar for wrenches and more particularly with a linkage bar connectable between a pair of wrenches at least one of which is a double-headed end wrench. The linkage bar is provided with a pair of stud-like projections one at each end thereof with one of the stud-like projections having flat perimetrical faces defining a polygon and the other stud-like projection having flat perimetrical faces also defining a polygon, but the flat faces of one stud-like projection being disposed at different angles relative to the bar axis than that of the other.

3,376,769
CLAMP MEANS

George L. Garvin, Osceola, Ind. (% South Bend Lathe,
425 E. Madison St., South Bend, Ind. 46622)
Filed Dec. 13, 1965, Ser. No. 513,178
4 Claims. (Cl. 82—31)



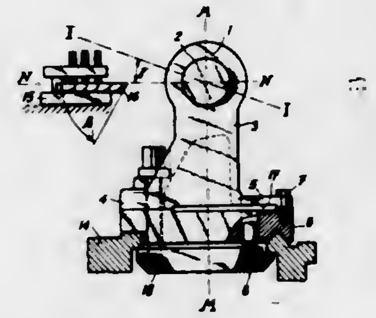


Certain machine tools require quick acting clamping and unclamping means and certain movable portions thereof such as a tailstock. Present clamping means not only includes means for adjusting the clamping pressure but has the advantage of being more easily manipulatable when the locking pressure is the greatest. The clamping means utilizes a plurality of lock pins interposed by the relatively rotatable members, the pins being movable from an unlocked portion wherein the pins are at an oblique angle with the center line of the locking shaft to a locked position wherein the pins are parallel with the center line of the locking shaft.

3,376,770
TAILSTOCK FOR MACHINE TOOL

Jiří Tlustý, Miloš Poláček, Lubor Pluhař, and Oldřich Maryška, Prague, Czechoslovakia, assignors to Vyzkumny ustav obrabecich stroju a obrabeni, Prague, Czechoslovakia
Filed May 23, 1966, Ser. No. 551,988
Claims priority, application Czechoslovakia,
May 24, 1965, 3,368/65
4 Claims. (Cl. 82—31)

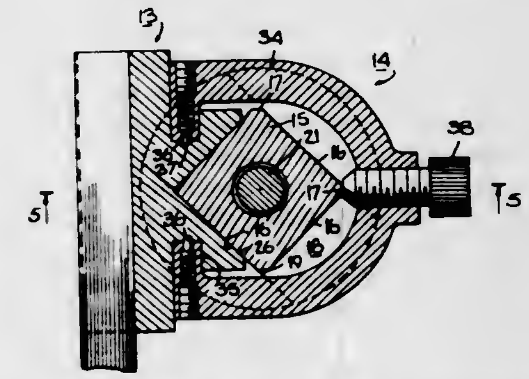
1. In a machine tool, in combination:
- (a) a support;
- (b) a tailstock;
- (c) means defining an axis of rotation through said tailstock;
- (d) a tool having a cutting edge, said edge and said axis defining a first plane through said axis and a second plane perpendicular to said first plane in said axis,
  - (1) said planes defining therebetween four quadrants about said axis,
  - (2) two of said quadrants being on the same side of said first plane and respectively remote from and near said cutting edge,
  - (3) said support and said tailstock each having respective first portions in said remote quadrant and respective second portions in said near quadrant;



- (e) first connecting means resiliently connecting said first portions; and
- (f) second connecting means fixedly connecting said second portions.

3,376,771
TOOL POST AND HOLDER ASSEMBLY

James R. Barnes, Bergen Hill Road, R.F.D. 1,
Rockaway, N.J. 07866
Filed Feb. 4, 1966, Ser. No. 525,012
4 Claims. (Cl. 82—36)



The tool post is of one piece block construction while the tool holder is secured against the tool post by means of a U-shaped clamp. The clamp has a pair of legs which fit into grooves of a tool holder as well as spring biased pins which project into corresponding depressions in the tool holder for holding the tool holder during placement on the post.

3,376,772
SLIDE-FASTENER CUT-APART MEANS CONTROLLED BY WORK SENSING MEANS

John D. Langwell, Freeport, N.Y., assignor to Waldes Kohinoor, Inc., Long Island City, N.Y., a corporation of New York
Filed Ang. 31, 1966, Ser. No. 576,310
10 Claims. (Cl. 83—154)

1. An automatic slide-fastener chain cut-apart machine comprising, in combination:

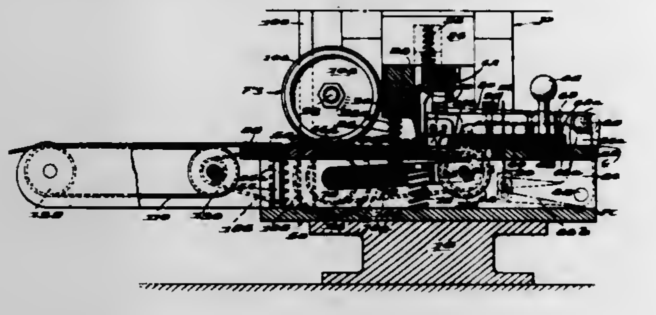
means defining a straightway extending guideway for a continuous slide-fastener chain consisting of a pair of elongate flexible tapes secured together along adjacent edges by a succession of spaced-apart groups of interengaged fastener elements and with the edges of the tape length-portions which extend between said groups defining gaps;

a cut-apart blade reciprocable in a path intersecting said guideway;

means for reciprocating said blade intermittently;

means driven by said last means for positively feeding said continuous slide-fastener chain along said guideway to the action of said blade;

and means for controlling actuation of said blade-reciprocating means and said fastener-chain feed means whereby the blade is actuated throughout each of its working strokes only when the feed motion of the chain is arrested and the then most advanced gapped-length portion of the chain is disposed in said guideway in position as to be acted upon by said blade, said means including a gap-sensing finger disposed to the feed-in side of said blade and depending into the guideway and positioned therein so as normally to ride on the interengaged fastener elements of the successive groups thereof moving along said guideway;

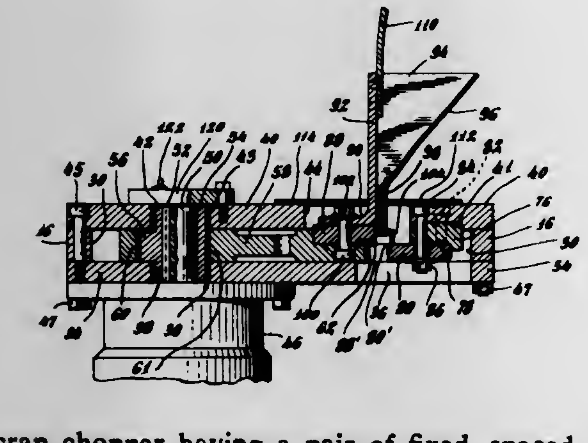


means mounting said finger for relative raising and lowering movement and for bodily motion toward and away from said blade, whereby the finger is free to lower into the gaps in the gapped length portions between the successive groups of interengaged fastener elements when such move under the same and is translatable towards the blade when, following each such lowering movement, it is abutted by the forward-most interengaged fastener elements of the next oncoming group of said elements;

means responsive to such lowering and translating motion of said finger for effecting actuation of said blade reciprocating means and thereby motion of the blade throughout its working and return stroke;

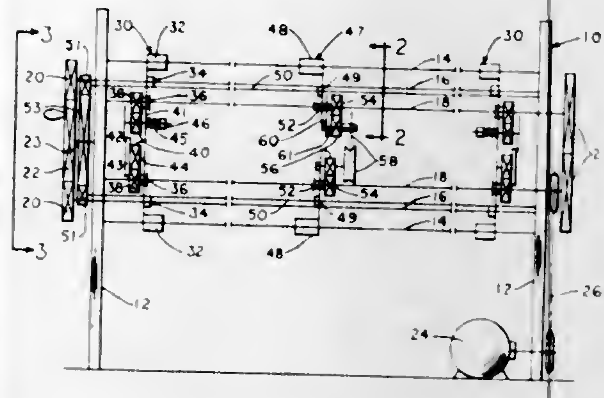
and means for deactivating the chain feed means immediately prior to the blade, in partaking of its working stroke, moving into cutting engagement with each said gapped length-portion of the chain.

3,376,773
SCRAP CHOPPER
Pierre de la Motte, Trumbull, Conn., assignor to The U.S. Baird Corporation, Stratford, Conn., a corporation of Connecticut
Filed June 8, 1965, Ser. No. 462,369
4 Claims. (Cl. 83—441)



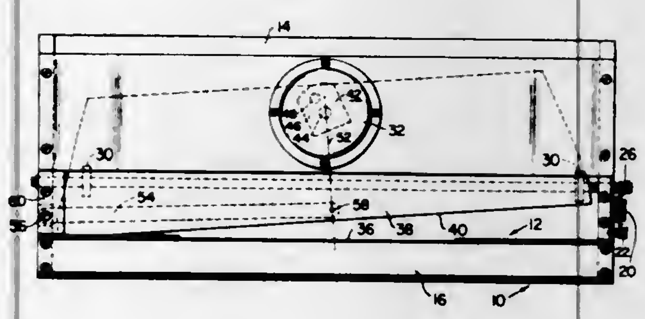
A scrap chopper having a pair of fixed, spaced plates defining aligned feed and discharge openings and a fixed first cutter blade secured thereto. Slidably mounted intermediate the fixed plates is a center plate carrying a second cutter blade and a stock chute. A drive shaft extends through the plates and includes an eccentric cam engaging a first portion of the center plate to impart a circular motion thereto. One end of a tethering link is pivotally secured between the fixed plates, the other end being pivotally secured to a second portion of the center plate. Rotation of the drive shaft imparts a scissoring motion to the second cutter blade.

3,376,774
SLITTER AND ADJUSTABLE EDGE TRIMMER FOR A CONTINUOUSLY MOVING WEB
Donald F. Collins, Akron, and Lavern E. Domer, Hartville, Ohio, assignors to Adamson United Co., Akron, Ohio, a corporation of Ohio
Filed Jan. 24, 1966, Ser. No. 522,777
4 Claims. (Cl. 83—482)



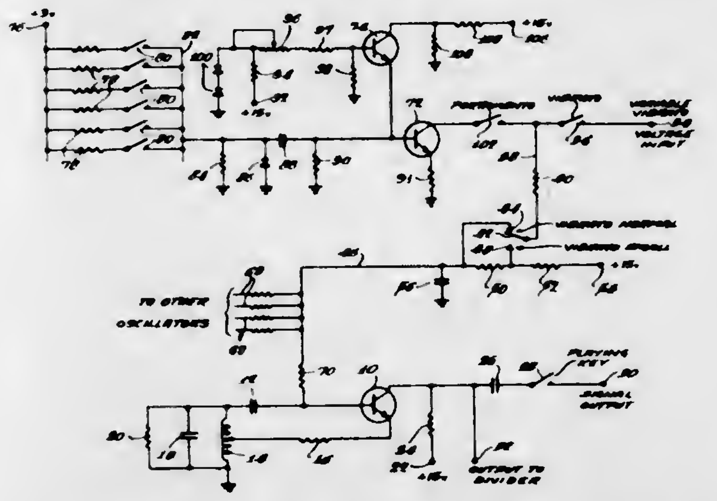
A slitting and/or edging assembly for an article such as a continuously moving web is provided and such assembly has a pair of side members with a pair of parallel threaded shafts extending therebetween and two pairs of opposed brackets are adjustably carried on the shafts. Means are present to drive the shafts so as to move brackets mounted on the shafts towards or away from each other. The shaft driving means include an idler gear adapted to rotate in either direction and a pair of drive gears engaging with the idler gear to drive the two threaded shafts. Other means are provided for transmitting drive means to cutting discs journalled on each of the brackets.

3,376,775
CUTTING MECHANISM
Raymond E. Eliason, Rochester, N.Y., assignor to Itek Corporation, Lexington, Mass., a corporation of Delaware
Filed Jan. 3, 1966, Ser. No. 518,239
5 Claims. (Cl. 83—582)



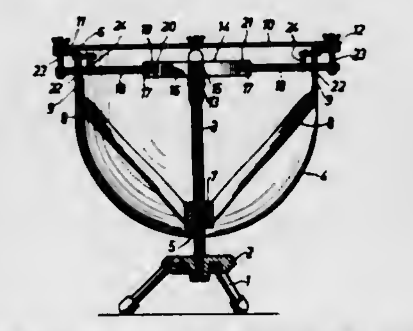
This disclosure illustrates a power driven knife for cutting strip or sheet material. A fixed blade coacts with a movable blade which is driven by a crank drive mechanism. A special linkage mechanism is provided having one portion pivotally mounted to the transport structure and a second portion pivotally mounted to the movable blade in a manner to permit only small variations in the cutting angle during the cutting stroke.

3,376,776
ORGAN PORTAMENTO SYSTEM
Rame W. Bull, Mount Prospect, William C. Ring, Mundelein, and Ray B. Schrecongost, Park Ridge, Ill., assignors to Hammond Corporation, a corporation of Delaware
Filed June 15, 1965, Ser. No. 464,044
11 Claims. (Cl. 84—1.24)



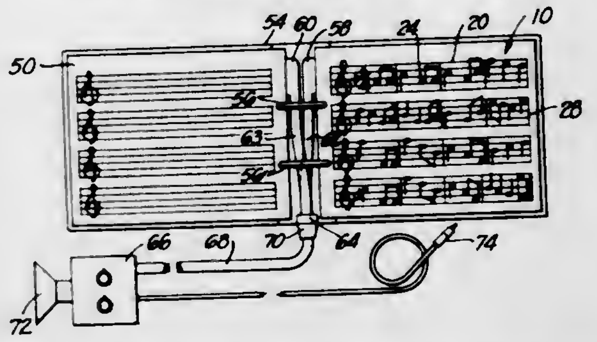
1. A portamento system for a musical instrument of the keyboard type comprising, means providing a group of tone signal sources of the type in which the frequencies supplied by the sources vary with an electrical condition existing at a terminal common to all of the sources in said group, means for establishing a nominal electrical condition at said terminal, circuit means connected to said terminal and adapted when actuated for changing the electrical condtion at said terminal away from said nominal condition abruptly in one direction and then returning the condition at said terminal slowly to said nominal electrical condition, said circuit means having a control connection adapted to actuate said circuit means when a condition at said control connection is shifted in one direction from a nominal condition by more than a certain amount, said circuit means being deactivated when said control connection is at the last said nominal condition or a condition which is shifted from the last said nominal condition by no more than the said certain amount, circuit means including a mechanism actuated by a plurality or playing key actuated switches connected to said control connection and adapted to shift the condition at said control connection by no more than said certain amount when a single one of any of said switches is actuated but to shift the condition at said control connection by an amount which is more than said certain amount if a plurality of said switches are actuated together.

3,376,777
KETTLEDRUM
Klaus Becker-Ehmck, am Kirchenholzl 4, Grafelfing, near Munich, Germany
Filed Oct. 17, 1966, Ser. No. 587,239
Claims priority, application Germany, Apr. 14, 1966, St 1,988
5 Claims. (Cl. 84—419)



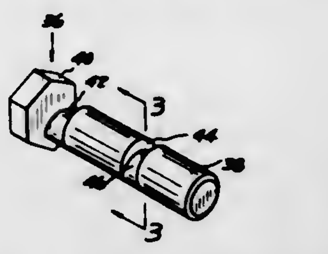
The kettle of the drum has a threaded connection onto a vertical screw. A supporting member is rotatably mounted to said screw at a fixed vertical level. Levers extend from the supporting member through the wall of the kettle and are connected to the drum head. Rotation of the kettle about its vertical axis results in a movement of the kettle relative to the supporting member. This movement is transmitted to the levers at their passage through the kettle and thence to the drum head.

3,376,778
ELECTRICAL MUSICAL INSTRUMENT WITH CONDUCTIVE TUNE SHEET
Clair Omar Musser, 12997 Blairwood Drive, Studio City, Calif. 91604
Filed Oct. 27, 1966, Ser. No. 589,969
9 Claims. (Cl. 84—483)



This invention is directed to a music sheet, and particularly to a music sheet which is capable of being printed with conventional musical staffs and of musical note arrangements thereon, and which notes are able to be contacted with a stylus so as to, through suitable electronic equipment, produce the audible tones corresponding to the notes. Furthermore, the music sheet of this invention is capable of being provided with a plurality of lines and staffs of music on both sides of the sheet. Since the music is in sheet form, a plurality of such sheets can be secured into a single book, and preferably all of the sheets of the plurality are connected to common electronic equipment for reproduction of the corresponding notes as they are selected by the stylus.

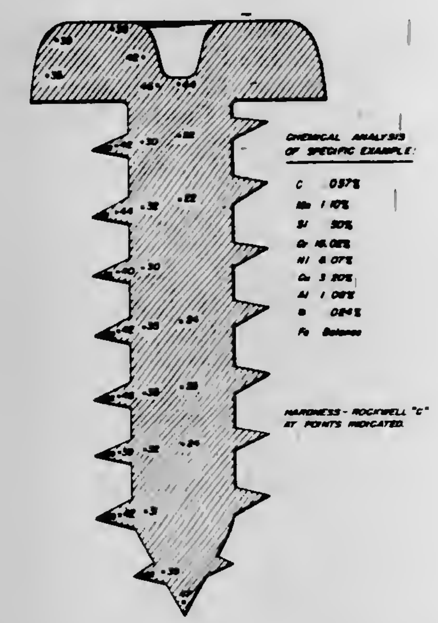
3,376,779
SELF-LOCKING PIN
Jack Sol, 26630 York, Huntington Woods, Mich. 48070
Filed Oct. 23, 1965, Ser. No. 503,810
3 Claims. (Cl. 85—5)



1. A pin for joining a hanger member including a pair of separated plates having circular apertures therein to a third member having an aperture therein comprising: an elongated cylindrical section having a diameter slightly smaller than the apertures adapted to pass through the apertures in the plates and the third member; and a pair of slots on the cylindrical section each having a width slightly greater than the thickness of the two plates, the slots being spaced apart by the same distance as the two plates, the slots each having a convex circular lower surface with a radius substantially equal to that of the cylindrical section, the edges of the slots intersecting the cylindrical sections so that a cross-section through the slots is bounded by two intersecting arcs of substantially equal radii, whereby at least one axial line along the surface of the cylindrical section is uninterrupted.

3,376,780
STAINLESS STEEL, PRODUCTS AND METHOD

Harry Tanczyn, Baltimore, Md., assignor to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio
Continuation-in-part of application Ser. No. 249,506, Jan. 4, 1963. This application Sept. 19, 1966, Ser. No. 580,305
17 Claims. (Cl. 85—48)


CHEMICAL ANALYSIS OF SPECIFIC EXAMPLE:
C .057%
Mn 1.10%
Si .50%
Cr 16.02%
Ni 6.07%
Cu 3.20%
Al 1.06%
N .024%
Fe Balance
HARDNESS - ROCKWELL "C" AT POINTS INDICATED.

Chromium-nickel-copper-aluminum stainless steel of such composition balance that in the annealed condition it is fully austenitic and readily lends itself to drastic cold-reduction and which, moreover, following cold-reduction, is readily hardened by ageing at moderate ageing temperatures. Such steel consists essentially of about 10% to 25% chromium-molybdenum with the actual chromium content being at least 10% and molybdenum up to 5% being substituted for chromium on a 1 to 1 basis; about 5% to 20% nickel-manganese with the actual nickel content being at least 4% and manganese up to 15% substituted for nickel on a 2 to 1 basis, with the relationship between the two groups being:

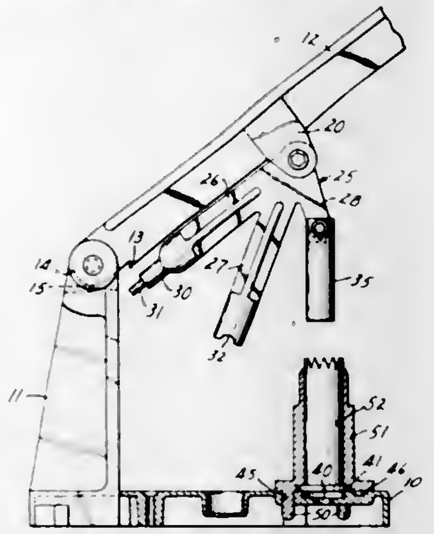
Chromium-molybdenum, percent:	Nickel-manganese, percent
10	13 to 20
12	8 to 20
16	7 to 20
19	6.5 to 20
22	5 to 20
25	5 to 20

about 1% to 5% copper; about .25% to 2.50% aluminum; and remainder substantially all iron. In one specific embodiment the steel is of such particular composition balance that in the final age-hardened condition the metal remains austenitic and essentially non-magnetic. In a further embodiment the composition balance is such that the steel becomes magnetic in the age-hardened condition.

3,376,781
SHELL RELOADER

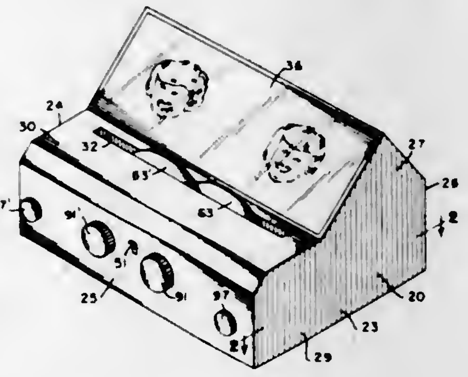
Bernard H. Swanson, 903 Queens Lane, Anoka, Minn. 55303
Filed Feb. 3, 1967, Ser. No. 613,823
3 Claims. (Cl. 86—25)

The apparatus includes a handle having a frame pivotally mounted thereto with a plurality of tools for performing the various operations in reloading a shotgun shell or the like. The apparatus also includes a base having an anvil mounted thereon for holding the shell while the various operations are being performed, and the means mounting the anvil on the base provide the anvil with a normal position wherein the shell is held firmly in the anvil and a position spaced from the base where the shell may be quickly removed from the anvil.



3,376,782
OPTICAL VIEWER WITH MEANS FOR COMPARING DUAL IMAGES

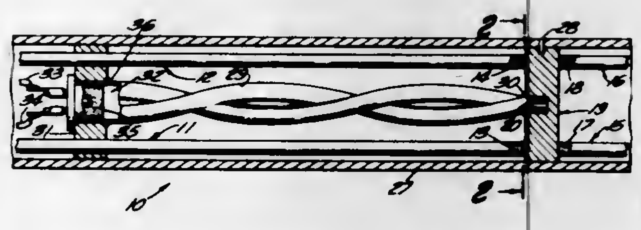
Joe B. Whitley, 433 Star St., and John Cavassa, 318 Center St., both of Hereford, Tex. 79045
Filed Jan. 11, 1966, Ser. No. 519,839
8 Claims. (Cl. 88—24)



A cabinet having a screen on which two side by side images of transparent picture slides can be projected for the purpose of comparing details of the one slide with the other and having two slide projectors therein, a slide carrier for carrying a set of slides associated with each projector, and an independently operable slide selector associated with each carrier so that any slide of one set can be viewed at the same time as any slide in any other set.

3,376,783
ROTARY ACTUATOR

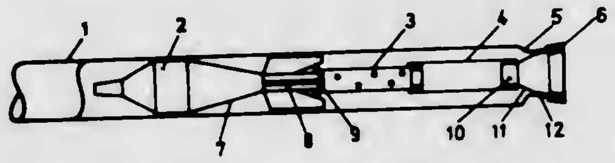
Charles R. Olsen, Los Angeles, Calif. (5409 Cromer Place, Woodland Hill, Calif. 91364)
Filed Apr. 11, 1966, Ser. No. 541,729
10 Claims. (Cl. 89—1)



A first pair of hollow tubes including an ignition charge are disposed in a spaced, end-to-end relation to a similar pair of tubes also including an ignition charge, the latter being in communication with a primary charge to be detonated. A rotatable disc is disposed in the space between the two sets of tubes and includes a pair of openings filled with an ignition charge. The disc and tubes are included within a cylindrical housing. A hollow tubular member of non-circular cross-section includes internal longitudinally extending passageways of a generally helical configuration. One end of the tubular member is affixed to the rotatable disc and the other end is affixed to a second disc secured within the cylinder. A squib mounted on the second disc is in communication with the interior of the tubular member and ignition of the squib reorients the tubular member by rotating the first disc to align the ignition charge filled openings with the ends of the tubes. Simultaneously upon reorienting of the first disc electrical contacts carried by this disc and the cylinder are brought into contact igniting the ignition charge within the first set of tubes that is propagated along the tubes to detonate the primary charge.

3,376,784
SPACING MEMBER FOR A RECOIL-FREE WEAPON

Hugo Abramson, Eskilstuna, Sweden, assignor to Forsvarets Fabriksverk, Eskilstuna, Sweden, a corporation of Sweden
Filed May 19, 1966, Ser. No. 551,342
Claims priority, application Sweden, July 5, 1965, 8,836/65
5 Claims. (Cl. 89—1.703)

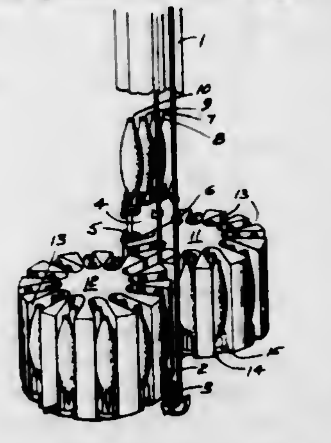


A recoilless weapon having a firing tube and a projectile and a separate gunpowder chamber located behind the projectile, said gunpowder chamber being of smaller calibre than the tube and provided with lateral openings for the combustion gases and connected to the rear end of the projectile by means of an easily interruptable connection, said gunpowder chamber being supported in the firing tube by a spacing member and so located in the firing tube that, when the weapon is fired, a gas stream is directed forwardly for launching the projectile, and a rearwardly directed gas stream from the gunpowder chamber for compensating the recoil, exert forces to the gunpowder chamber which are approximately equal and substantially neutralize each other as far as the gunpowder chamber is concerned.

3,376,785
INSTALLATION FOR LOADING THE LAUNCHING TUBES OF A DEPTH-CHARGE LAUNCHER

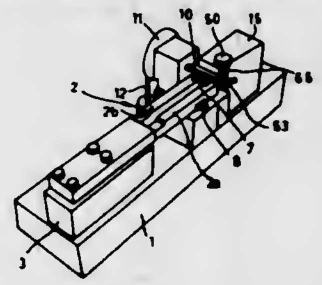
Tore Elwin, Karlskoga, Sweden, assignor to Aktiebolaget Bofors, Bofors, Sweden
Filed June 22, 1966, Ser. No. 559,554
Claims priority, application Sweden, June 30, 1965, 8,613/65
4 Claims. (Cl. 89—46)

There is shown an installation for loading launching tubes of a depth charge launcher. The installation comprises a hoist including a hoist shaft for loading depth charges into the launching tubes of the launcher. The charges are delivered to the launching tubes by means of a loading tray which is up and down movable in the shaft between a discharge position and a position for loading depth charges upon the tray which is capable of receiving at least two charges at a time. The installation further comprises a pair of compartmentalized magazines which are rotatable about axes parallel to the hoist shaft. The magazines and the compartments therein are so disposed that in predetermined angular positions of the magazines one compartment in each magazine is in alignment with the loading tray when in the loading position for transferring depth charges from the aligned compartments to the loading tray.



3,376,786
MACHINE FOR CUTTING TOOTHED WHEELS

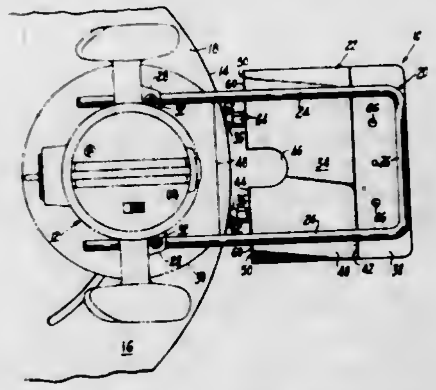
Max Hetzel, Bienne, Switzerland, assignor to Centre Electronique Horloger S.A., a company of Switzerland
Filed Dec. 14, 1965, Ser. No. 513,792
Claims priority, application Switzerland, Jan. 26, 1965, 1,073/65
7 Claims. (Cl. 90—1)



In a machine for cutting teeth in a wheel, electronic driving means drive an oscillator and a cutting tool is mounted on the oscillator for oscillating therewith, the oscillator is adapted to oscillate with an oscillation in a first direction which corresponds to cutting of the wheel by the tool and is further adapted to oscillate with a second oscillation in a second direction which corresponds to the penetration of the wheel by the cutting tool.

3,376,787
GUIDE ATTACHMENT

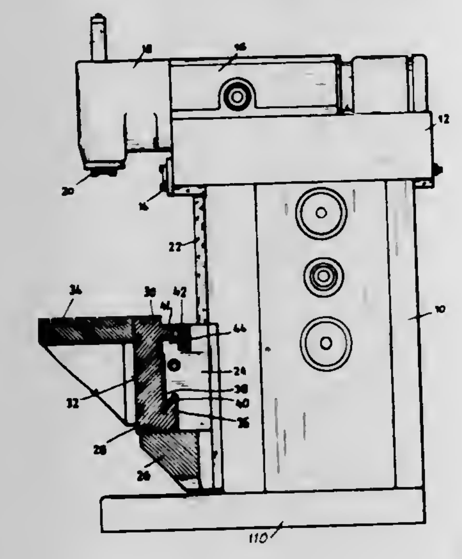
Peter H. Morganson, Winsted, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed July 14, 1966, Ser. No. 565,299
2 Claims. (Cl. 90—12)



A guide attachment for a router comprising a U-shaped rod with leg portions adapted to be adjustably mounted in openings in a router frame, a stair-step shaped plate having an outer flat portion secured to the outer end of the U-shaped rod and an inner depending edge with laterally spaced coplanar portions engageable with a workpiece for guiding the router therealong and having laterally spaced openings in which nut and screw fasteners may be mounted to provide for guiding the router along an irregular or curved workpiece edge. The outer flat portion of the guide plate is also provided with openings for storing the fasteners when the spaced coplanar edge portions are used to guide the router.

3,376,788
WORK TABLE MOUNTING FOR MACHINE TOOLS

Johann Müller, Munich, Germany, assignor to Friedrich Deckel Prazisions Mechanik und Maschinenbau, Munich, Germany, a German firm
Filed Nov. 2, 1965, Ser. No. 506,068
Claims priority, application Germany, Nov. 5, 1964, D 45,787
9 Claims. (Cl. 90—58)

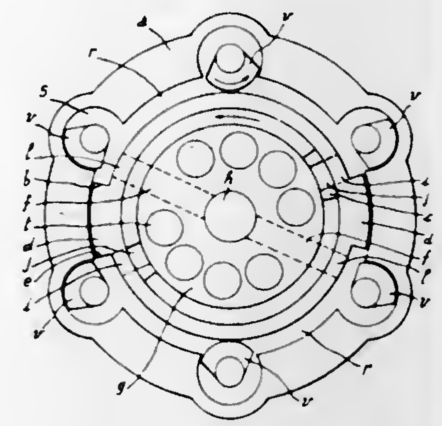


There is disclosed a machine tool work table mounting comprising a bracket having near its lower edge a forwardly projecting horizontal shelf which supports the lower edge of a work table slidable along this shelf. Near its top the bracket has a rearwardly faced guide surface elongated horizontally parallel to the length of the shelf, the face of this guide surface being vertical. A vertical surface on a gib on the work table engages this guide surface on the bracket and holds a rear face on the work table snugly against a front guide surface on the bracket. A little above the horizontal shelf, an inclined guide surface on the work table cooperates with an inclined guide surface on the bracket to restrain the work table from moving upwardly relative to the bracket.

3,376,789
HIGH SPEED TURBINE

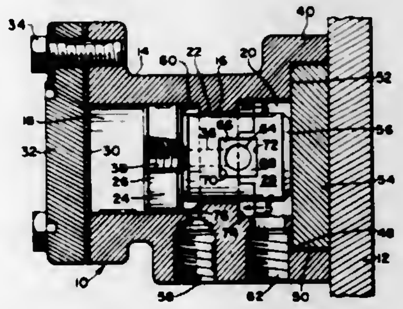
Henry L. Chambaut, Villeneuve-Loubet, Alpes Maritimes, France, assignor to O.M.N.I. H. Campana & Cie.
Filed May 6, 1965, Ser. No. 453,771
Claims priority, application Monaco, May 6, 1964, 494; Apr. 26, 1965, 040
2 Claims. (Cl. 91—92)

A high speed rotary engine comprising a rotor revolving inside a hollow cylindrical stator and the operative chambers of which are formed inside the gap between the rotor and stator and bounded by one or more piston-shaped projections on the rotor the outer surfaces of which are flush with the inner periphery of the cylindrical stator and by sector-shaped obturators pivotally carried by the inner periphery of the stator and driven in synchronism with the rotor so as to close at predetermined moments said chambers to the rear of the piston-shaped projections. The admission of driving fluid is performed through a hollow shaft coaxially rigid with the rotor and radial bores connecting the inner bore of the shaft with the periphery of the rotor just behind each projection.



3.376.790
PISTON VIBRATOR

Carl G. Matson, Kewanee, Ill., assignor to Vibrator Mfg. Co., Inc., Neponset, I'l.
Filed Dec. 27, 1966, Ser. No. 605,031
7 Claims. (Cl. 91—234)

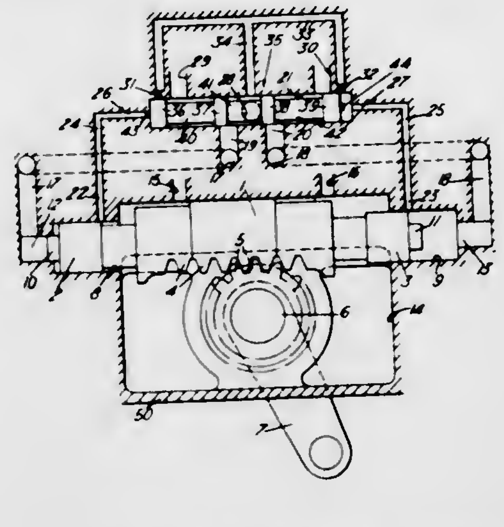


A single-acting, fluid-pressure-operated vibrator having a cylinder divided by a centrally apertured radial wall into inlet and exhaust chambers and in which a piston reciprocates by changes in porting among the chambers and piston passages to create axial vibrations either by striking of an anvil by the exhaust-chamber end of the piston or by adjusting piston reciprocation so that the piston is fluid-cushioned at both ends of its strokes.

3,376,791
HYDRAULIC OSCILLATING POWER TAKE-OFF MECHANISM FOR TRACTORS

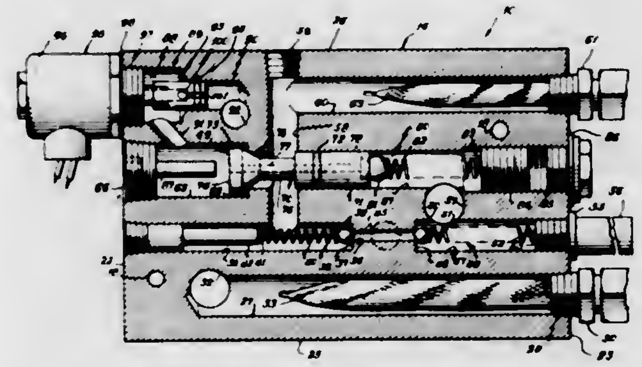
Herbert Edward Ashfield, Huddersfield, and Kenneth Dearnley, Newsome, Huddersfield, England, assignors to David Brown Tractors Limited
Filed Nov. 30, 1966, Ser. No. 598,111
Claims priority, application Great Britain, Feb. 6, 1964, 5,014/64, 5,015/64
9 Claims. (Cl. 91—290)

A hydraulic mechanism for producing oscillating movement of a mid-mounted tractor power take-off shaft in which the shaft has a pinion mounted on it which engages a rack which forms part of a reciprocating member slidable in a cylinder. The member is caused to oscillate from one end of the cylinder to the other by a supply of oil under pressure which is controlled by movement of a shuttle valve slidable in a bore, the shuttle valve being operated by a feedback of oil under pressure from the cylinder.



3,376,792
CONSTANT FLOW HYDRAULIC CONTROLS

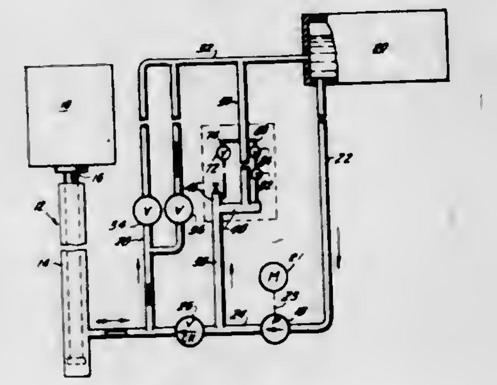
Dudley S. Clarke, Chicago, and Lawrence Richards, Elk Grove, Ill., assignors to Autoquip Corporation, Chicago, Ill., a corporation of Illinois
Filed Jan. 3, 1966, Ser. No. 518,216
2 Claims. (Cl. 91—443)



A control block assembly is provided for controlling the fluid flow in a hydraulic system and is adapted to the affixed side of a hydraulic reservoir with openings in the block in communication with openings in the reservoir so that the fluid connections therewith are provided for permitting the assembly to be easily removed for replacement or servicing. The block is rectangular and extending inwardly from the side edges, and generally parallel to each other or four openings. The lower opening provides intake communication with the reservoir and an external connection to the pump intake and has a strainer in the opening. The opening thereabove has two enlarged end portions connected by a smaller central portion. The connection from the high pressure side of the pump communicates with the smaller central portion. At each end of the smaller central portion are balls urged against the ends, as seats, by springs in the large portions. One of these forms a high pressure relief valve and that enlarged portion communicates with the reservoir through a drain opening. The other serves as a check valve and communicates with a high pressure communication passage formed by a right angular positioned opening. Adjacent the second opening is a third opening generally parallel thereto and having an enlarged portion at one end, a central cylindrical portion and a threaded portion at the other. In this third opening is a valve spool having a frustoconical enlarged head positioned in the enlarged portion of the third opening and seating against the valve seat formed by the adjacent end of the central cylindrical portion. The spool has a neck which is positioned at about the point of the high pressure communication passage and at the other end of the spool is a cylindrical portion with a seal ring thereabout. The spool has an axial passageway extending the length thereof with a counterbore at the distal end of the cylindrical portion of the spool. The ball of the relief valve seats against this counterbore and is held in place by a spring. The part of the central portion of the third opening between the cylindrical head of the spool and the threaded portion of the third opening communicates with a drain opening to the reservoir. The high pressure communication passageway also connects to a third opening which contains a filter and has an external connection adapted to receive the fluid line to the cylinder. Communicating with the enlarged portion of the third opening is a passageway leading to a drain valve opening which has an enlarged upstream portion and a smaller downstream portion connected to a drain opening to the reservoir. A comparatively low pressure solenoid valve is threaded into the upstream portion of the drain valve opening and has valve elements extending into the downstream portion of the drain valve opening. When the valve elements are in one position flow from the upstream portion to the downstream portion is blocked, while when the valve elements are in a second position fluid flow at a controlled rate is permitted between the upstream portion and the downstream portion.

3,376,793
HYDRAULIC FLOW REGULATING APPARATUS

Cosimo S. Papadia, 251 Greenway S., Forest Hills, N.Y., and Joseph Di Giovanni, Palisades, N.J., said Di Giovanni assignor to said Papadia
Filed Oct. 11, 1965, Ser. No. 494,638
5 Claims. (Cl. 91—468)



Apparatus for reducing the flow of hydraulic fluid through the system as the pressure of the hydraulic fluid is increased as when a load is placed on a platform.

3,376,794
FLUID PRESSURE DEVICE

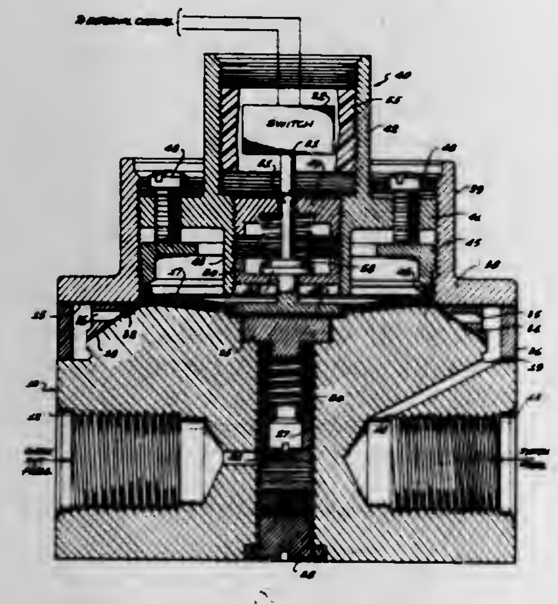
Donald Lee Griffith, Northridge, and Starr King Williams, Reseda, Calif., assignors to Custom Component Switches, Inc., Chatsworth, Calif., a corporation of California
Filed May 17, 1965, Ser. No. 456,139
8 Claims. (Cl. 92—63)

8. A fluid pressure device comprising:
disc spring means having a characteristic surface contour and spring rate, said disc spring means further having a central pressure plate means;
a first diaphragm means in intimate contact with said disc spring means, sad first diaphragm means having an effective area substantially equal to that of said disc spring means, said first diaphragm means further having a spring rate substantially less than that of said disc spring means;

a second diaphragm means in intimate contact with said first diaphrgam means and having a substantially equal effective area, said second diaphragm means further having the characteristics of a limp diaphragm;

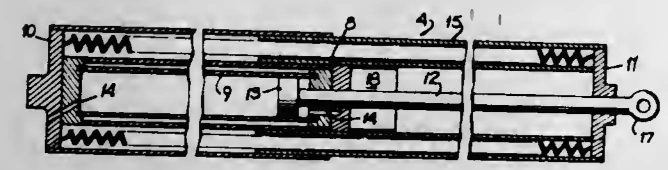
a solid body having a support surface in intimate contact with said second diaphragm means over a portion thereof;

first fluid introduction means for introducing fluid between said first and second diaphragm means to effect movement of said first diaphragm means and said disc spring means; and



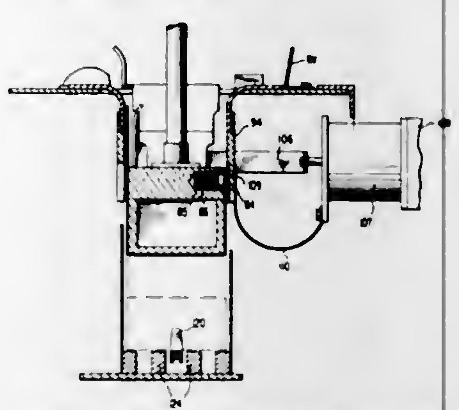
second fluid introduction means for introducing fluid between said second diaphragm means and said support surface to effect movement of said first and second diaphragm means and said disc spring means, the movement of said first diaphragm means and said disc spring means being substantially equal to that caused by the introduction of fluid at an equal pressure into said first fluid introduction means.

3,376,795
HYDRAULIC DRIVE CYLINDER
Earle F. Allen, Norwell, Mass., assignor of one-half to Valentine E. Macy, Jr., New York, N.Y.
Filed Oct. 21, 1965, Ser. No. 499,723
5 Claims. (Cl. 92—130)



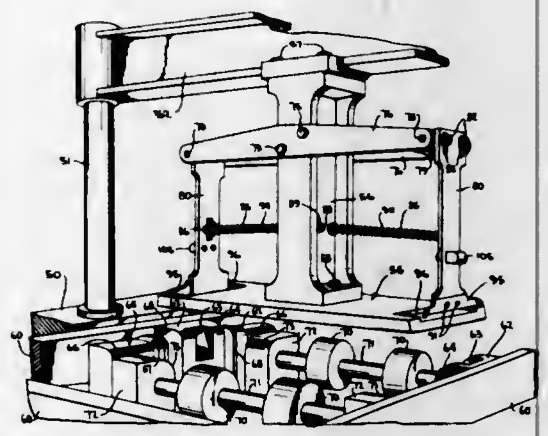
A hydraulic drive cylinder incorporating a hydraulic motor and having concentrically arranged spring means which acts coaxially with the hydraulic force and stores energy which is used as a counterbalance to the load being moved by the cylinder. The spring means is connected to the oppositely telescoped ends of the cylinder and consists of steel or elastomer or a combination of both. The spring means may also be incorporated in individual hydraulically sealed telescoping cylinders which communicate with their own source of hydraulic fluid. Solid elastomer cylinders with steel springs embedded therein as well as laminated elastomers are also disclosed for use in this device.

3,376,796
APPARATUS FOR FOLDING, FORMING AND SEALING CARTONS
Samuel Gordon, Baltimore, Md., assignor to Gordon Cartons, Inc., Baltimore, Md.
Filed Dec. 24, 1964, Ser. No. 420,927
9 Claims. (Cl. 93—51)



Apparatus for folding and sealing cartons including a frame having a hopper secured thereto for carton blanks, at least one surface of the blanks being coated with a plastic material softened upon application of welding energy thereto, a base plate on the frame having a shaping opening, means for moving carton blanks singly from the hopper and depositing the same over the shaping opening, guide means adjacent the opening for shaping the blank to provide side and end walls with overlapping terminals, pairs of spaced electrodes below the base plate, a combination former-electrode operable to engage a carton blank on the base plate over the shaping opening and pass the guide means to set up the side and end walls of the carton with overlapping terminals, means on the frame in operative engagement with the pairs of spaced electrodes to move the latter into clamping relationship with the overlapping side and end wall terminals of the carton blank, providing an electrode adjacent each corner of the carton, a stationary conductor plate mounted on the guide means, a grounding member carried by the combination former-electrode, spring means for urging the grounding member into engagement with the conductor plate, and a dielectric generator for supplying energy in the radio frequency range, for building up molecular friction within the carton coating, and softening the coating instantly, resulting in fusion of the end wall of the carton to the overlapped end flap, to seal the carton in set-up position.

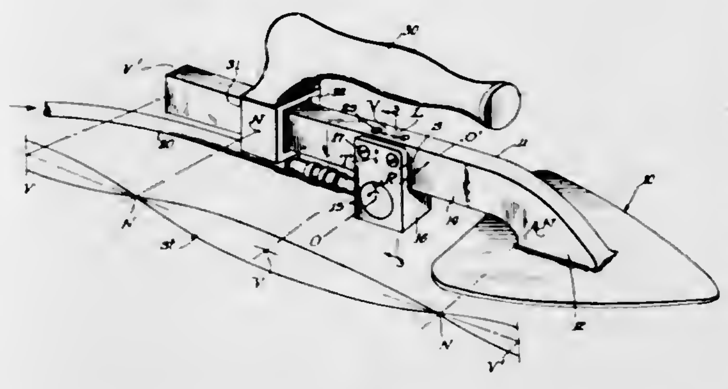
3,376,797
CARTON SETTING-UP MACHINE
Arthur B. Scace, Toronto, Ontario, Canada, assignor to F. N. Burt Company, Inc., Buffalo, N.Y., a corporation of Delaware
Filed Feb. 11, 1966. Ser. No. 526,872
7 Claims. (Cl. 93—51)



1. A setting-up device for erecting cartons from flat blanks, such cartons comprising a bottom panel, pairs

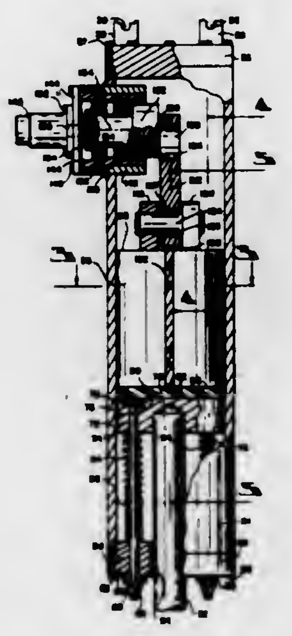
of oppositely disposed side wall panels connected to the margins of said bottom panel by score lines, the side wall panels of one of said pairs having slits therein adjacent their respective opposite end portions, and the panels of the other of said pairs having flaps adapted to fold around said opposite ends of said first named side wall panels and be received through said slits to interlock the corner structure of the carton, said device comprising, in combination, a die structure and a mandrel structure, said mandrel structure including a plate portion generally rectangular in plan and having a bottom surface adapted to engage the bottom panel of a carton blank within the score lines defining said panel, means mounting said mandrel structure for reciprocating movement through said die structure, said die structure comprising guide blocks having surfaces configured to fold said opposite pairs of said wall panels toward positions at substantially right angles to said bottom panel as the blank passes through the die structure, and certain of said guide blocks adjacent the corners of the blank having surfaces configured to in-fold said flaps around the outer surfaces of said slitted wall panel; and means for snapping terminal portions of said tabs through said respective slits as one of the final operations in erecting the carton, said last named means comprising a pair of arms having their proximal ends pivotally secured to a portion of said mandrel structure one on each side thereof, a tab-snapping member secured to the distal end of each of said arms and having prongs extending in opposite directions therefrom to press against areas of the slitted panels inwardly of said slits to simultaneously open said slits for the reception of said tabs and to overlie the incoming terminals of said tabs as they enter the slits, and finally to snap said terminal portions through the slits to interlock the corner structure of the carton; and cooperating means on said arms and on said die structure for moving said tab-snapping member inwardly of the carton to accomplish said snap action.

3,376,798
SONIC TROWEL
Albert G. Bodine, Los Angeles, Calif.
(7877 Woodley Ave., Van Nuys, Calif. 91406)
Filed July 14, 1965, Ser. No. 471,944
7 Claims. (Cl. 94—48)



A sonic vibration generator is coupled to a resonant elastic vibration system including a trowel blade to cause high level resonant vibration thereof. In one embodiment, the vibration system includes an elastic bar member on which the vibration generator is mounted and to which the trowel blade is attached. In another embodiment, the vibration generator is attached directly to the trowel blade and directly elastically vibrates such blade. The sonic energy imparted to the trowel blade facilities the movement thereof over the material being worked and provides significant benefits in the working of such material.

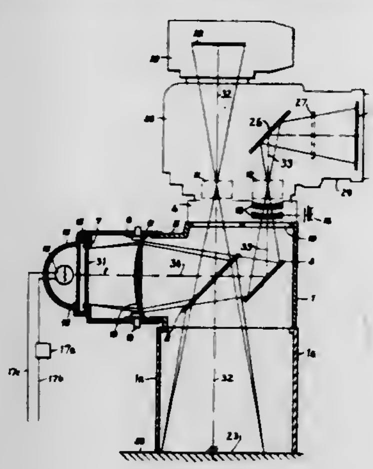
3,376,799
IMPACT MACHINE
James W. Perry, Phoenix, Ariz.; William H. Goettl, 4717 N. Granite Reef Road, Scottsdale, Ariz. 85251; and Emery L. Henderson and John M. Goettl, Phoenix, Ariz.; said Perry, said Henderson, and said John M. Goettl assignors to said William H. Goettl
Filed May 5, 1966, Ser. No. 547,964
7 Claims. (Cl. 94—49)



1. In an impact machine the combination of: a hollow cylindrical housing having first and second ends; a first end member removably fixed on said first end; fixtures on said first end member adapted to be pivotally connected to a down bearing arm of a backhoe vehicle, or the like; a normally lower end of said housing; a second end member removably fixed to said second end of said housing and having a plunger guiding opening therein; a plunger extending through said opening; an impact tool carried by said plunger and disposed externally of said housing and beyond said second end member; a portion of said plunger projecting into said housing; an anvil connected to said plunger; a hammer reciprocally mounted in said housing to stroke toward and away from said anvil; wrist pin, connecting rod and crank pin means coupled to said hammer to cause and control the reciprocal stroke of said hammer in said housing; a hydraulic motor for rotating said crank pin; a resilient cushion member disposed between said hammer and said anvil; resilient means tending to move said anvil toward said hammer; anvil locating means tending to restrain said anvil and said cushion against force of said resilient means to hold said anvil and the cushion in position to interfere with the stroke of said hammer and whereby said anvil receives impact force from said hammer through said cushion to cause forceful impact force to be transmitted by said plunger to said impact tool.

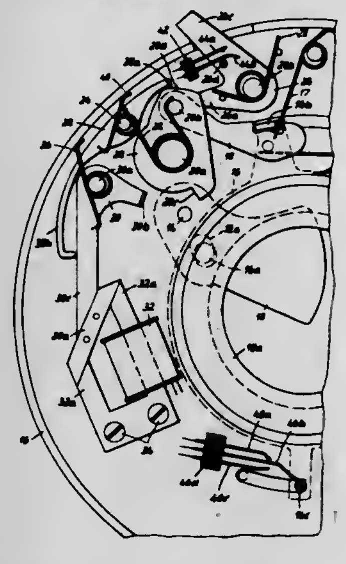
3,376,800
SUPPLEMENTARY SYSTEM FOR MIRROR REFLEX CAMERAS
Werner Faasch, Bienrode, near Braunschweig, Germany, assignor to Rollei-Werke Franke & Heidecke, Braunschweig, Germany, a German firm
Filed May 10, 1965, Ser. No. 454,250
Claims priority, application Germany, May 13, 1964, R 37,890; May 23, 1964, R 37,956
3 Claims. (Cl. 95—42)

An attachment for use with a photographic camera, especially a twin lens mirror reflex camera, comprises a hollow housing member for holding the camera at a definite distance from the object to be photographed, e.g., the image screen of an oscilloscope. A lateral extension on the housing member contains a transparency of a grid or other reference pattern, the image of which is to be superimposed on the image of the object, on the viewing screen of the camera and on the photographic film in the camera. An illuminating lamp of variable intensity illuminates the transparency so that the image thereof is projected through a lens and along a transverse axis intersecting the main optical axis extending from the object to the film in the camera. At the intersection of the two axes is a semi-transparent mirror reflecting part of the image of the reference pattern along the main axis toward the film, and allowing part of the image to pass through to a second mirror which reflects the reference pattern image into the viewfinder chamber of the camera. A variable power lens in the viewfinder optical axis compensates for the difference in length of path of rays to the film and to the viewfinder screen.



3,376,801
PHOTOGRAPHIC CAMERA

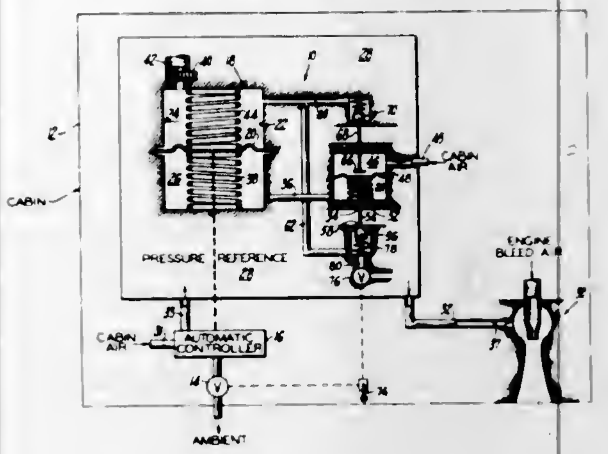
Paul Fahlenberg, Baierbrunn, near Munich, Germany, assignor to Compur-Werk Gesellschaft mit beschrankter Haftung & Co., Munich, Germany, a German firm
Filed June 29, 1965, Ser. No. 468,058
Claims priority, application Germany, July 2, 1964, C 33,303
2 Claims. (Cl. 95—53)



There is disclosed a photographic shutter having a master member which runs down from a tensioned position to a rest position, and serves during the running down movement to open and close shutter blades. During the running down movement, while the shutter blades are fully open, the progress of the master member is temporarily stopped by one arm of a latch lever, another arm of which carries an armature cooperating with an electromagnet which, when energized, keeps the lever in effective latching position. An electronic circuit including two transistors energizes the electromagnet to keep the latch lever in the latching position for a variable time depending on the desired duration of the photographic exposure, and then the lever is released so that the master member may resume its running down movement and close the shutter blades.

3,376,802
TRACKING LOOP FOR AIRCRAFT CABIN PRESSURE REGULATING SYSTEM

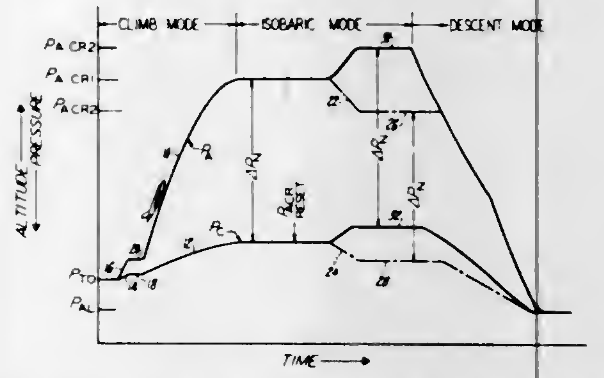
Floyd R. Emmons, Granby, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed July 8, 1966, Ser. No. 563,727
7 Claims. (Cl. 98—1.5)



1. For a cabin pressure regulator including:
pressure control means which is normally operable against a reference pressure,
an outflow valve for adjusting the pressure in said cabin being responsive to said control means,
tracking means for tracking the actual pressure in the cabin,
said tracking means including means for adjusting said outflow valve independently of said reference pressure when said cabin pressure deviates from said reference pressure by a predetermined value.

3,376,803
CABIN PRESSURE REGULATOR

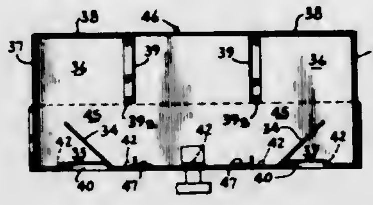
Floyd R. Emmons, Granby, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed July 11, 1966, Ser. No. 564,114
26 Claims. (Cl. 98—1.5)



1. A device for automatically regulating the pressure in an aircraft cabin exposed to varying external air pressure comprising:
means for sensing the pressure of the environment external to the cabin and producing an ambient signal indicative thereof,
means for scheduling a signal indicative of a preselected pressure level of said external environment,
means responsive to the ambient signal and the preselected external cabin pressure signal for generating a signal indicative of the difference therebetween,
means responsive to the difference signal for producing a signal indicative of the desired pressure in the cabin,
means for sensing the actual cabin pressure and producing a signal indicative thereof, and
means comparing the actual pressure signal with the desired cabin pressure signal and producing an error signal for varying the cabin pressure in a direction tending to drive said error signal to a minimum.

3,376,804
DRIPLESS GREASE EXTRACTOR FOR KITCHEN HOODS

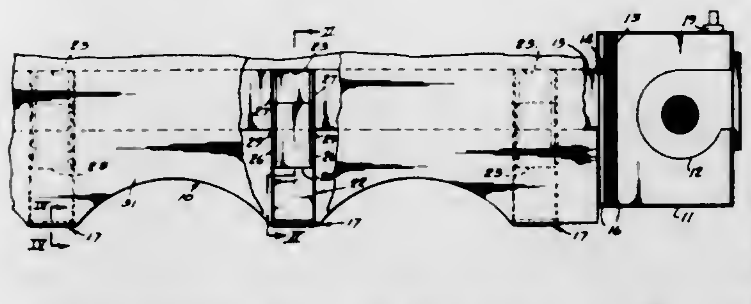
Ulrich G. Marks, Chicago, Ill., assignor to Cockle Ventilator Company, Inc., Wheeling, Ill., a corporation of Ohio
Filed May 23, 1966, Ser. No. 551,978
3 Claims. (Cl. 98—115)



A dripless extractor for removing grease and other contaminants from a vaporous stream passing through the extractor. The extractor consists of a housing with a front wall provided with an entranceway, an internal baffling arrangement, and a rear wall provided with an exit way. The entranceway is described as having an internal inturned flange around its periphery and rounded corners to prevent the dripping of condensed vapors from the edges of the entranceway.

3,376,805
AIR CIRCULATION AND FILTER SYSTEM

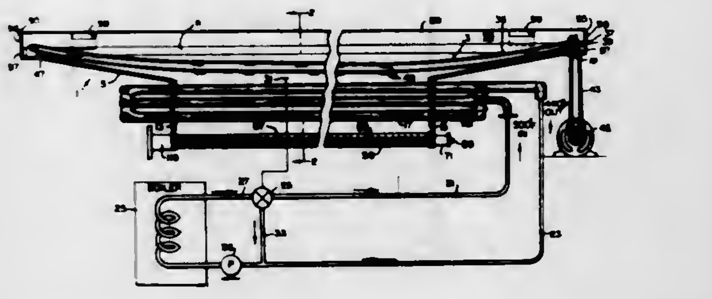
Daniel G. Deddo, 5101 W. St. Paul, Chicago, Ill. 60639, and Shirley C. Oakley, 3700 W. Wrightwood Ave., Chicago, Ill. 60647
Filed May 9, 1966, Ser. No. 548,750
5 Claims. (Cl. 98—115)



Air recirculation and filtering system for filtering lacquer spray dust from the air in beauty salons. The apparatus comprises a suction duct extending along the ceiling of a beauty salon with a suction blower at the discharge end of the duct and arranged to recirculate the filtered air drawn through the duct, back to the beauty salon. An intake duct for each operator's station leads downwardly from the suction duct. Each intake duct is provided with a damper to enable the air flow through all of the intake ducts to be balanced. The filtering means includes a frame sealed to each intake duct and having a grille facing the room. A filtering element is supported in the frame and extends along the grille. A screen in the frame retains the filtering element from deformation by the pressure of air passing through the filtering element. A filter is also provided at the intake of the suction blower and an audible warning signal is spaced downstream of the filter for the blower unit, to give a warning signal upon the clogging of the filter.

3,376,806
FRYING APPARATUS

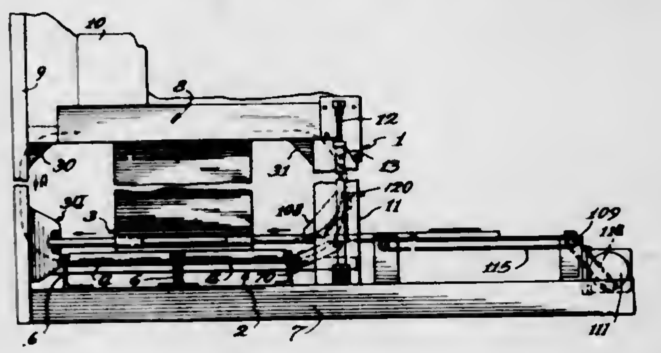
Sverrir H. Magnusson, Wormleysburg, Pa., assignor to Design & Process Engineering, Inc., Waltham, Mass., a corporation of Massachusetts
Filed Jan. 12, 1967, Ser. No. 608,773
8 Claims. (Cl. 99—408)



A continuous belt hot oil fryer comprising an indirectly heated cooking oil reservoir. A vapor trap is provided for excluding air from contact with the cooking oil. Two valved settling chambers in the cooking well are alternately opened to collect crumbs and closed to permit removal of crumbs to provide continuous oil cleaning. The full specification should be consulted for an understanding of the invention.

3,376,807
APPARATUS FOR STRAPPING LOADED PALLETS

Olle P. Sterner, Park Ridge, Ill., assignor to Signode Corporation, a corporation of Delaware
Continuation of application Ser. No. 124,984, July 18, 1961. This application June 13, 1966, Ser. No. 557,323
5 Claims. (Cl. 100—26)

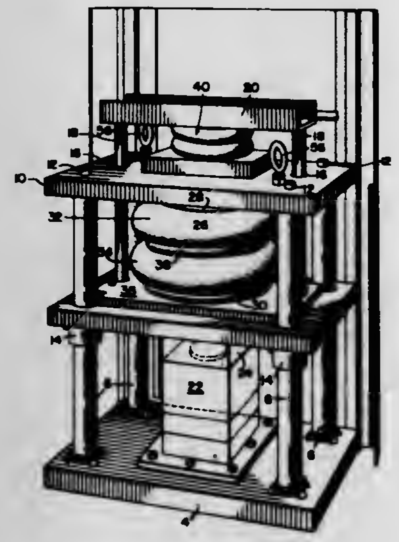


1. Apparatus disposed at a strapping station for strapping a load to a pallet having spaced support means including a platform and defining a horizontal opening extending between said spaced support means below said platform comprising means for compressing the load disposed on the pallet, a strap guiding means completely encircling the platform and said load including reciprocally mounted chute means positioned to extend through the opening in said pallet, said chute means having a passageway for strap therethrough defined by a resiliently mounted closure, means for extending the chute means through said opening to guide the strap therethrough, means for directing a strap through said guide means completely around the load and through the opening defined by the pallet, means for tensioning the strap about the load and pallet, means for sealing the strap into a tension resisting joint, and means for retracting the chute to permit the strapped loaded pallet to be removed from said strapping station.

3,376,808
FLUID-OPERATED PRESS

Donald E. Beckett and Robin K. Beckett, Wilmington, Ohio, assignors to Beckett-Harcum Company, Wilmington, Ohio, a corporation of Ohio

Filed Oct. 24, 1966, Ser. No. 588,815
23 Claims. (Cl. 100—53)

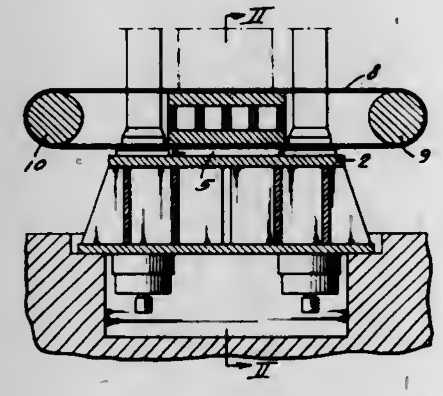


1. A fluid-operated press comprising in combination: a platen, and means guiding the platen for movement between a position of advancement, and a retracted home position; a flexible inflatable primary bellows operative upon the movable platen for advancing said platen upon introduction of fluid under pressure into said primary bellows; a flexible inflatable secondary bellows operative upon the movable platen to return said platen to home position; and control means for selectively directing pressurized inflating fluid into either of said bellows while the other of said bellows deflates incident to the exhausting of fluid from said other bellows.

3,376,809
ARRANGEMENTS FOR A BALING PRESS

Gunnar Stoeng, Oslo, Norway, assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin

Filed Aug. 1, 1966, Ser. No. 569,135
2 Claims. (Cl. 100—215)



A baling press incorporating a conveyor passing over a pressing table to deliver material to the pressing table to be pressed. The conveyer is a continuous belt passing over and under the pressing table and wrapping a pair of rolls rotatably secured at stations outwardly of the pressing table. The pressing table includes detachable spacer means secured along one edge thereof to provide a space between the pressing table and the bottom frame of the press. The endless conveyer belt passes through the space on its return run. When the removable spaces are removed from the edge of the pressing table other spacer means positioned along the opposite edge thereof support the pressing table in cantilever fashion when no pressing force is applied to the table.

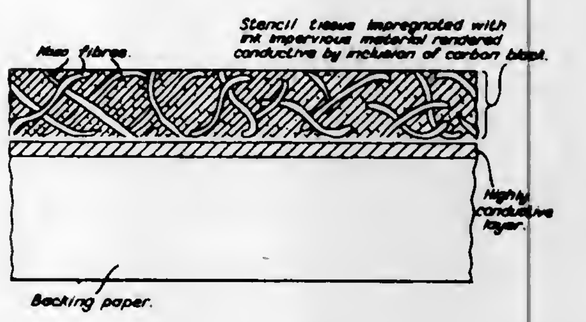
3,376,810
DUPLICATING STENCILS

Alan Francis Blake, London, and Cyril Green, Barnet, England, assignors to Gestetner Limited, London, England, a British company

Continuation-in-part of application Ser. No. 388,550, Aug. 10, 1964. This application Oct. 21, 1966, Ser. No. 588,426

Claims priority, application Great Britain, June 21, 1963, 24,890/63

7 Claims. (Cl. 101—128.2)

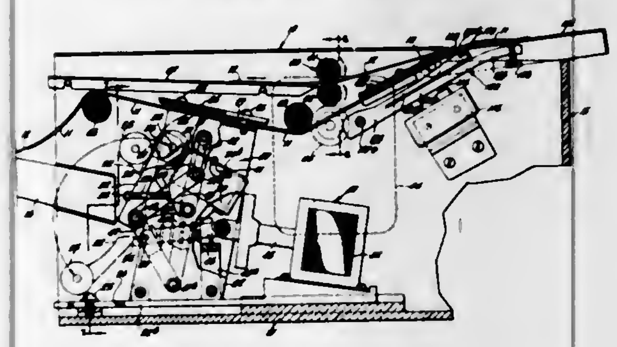

Stencil tissue impregnated with ink impervious material rendered conductive by inclusion of carbon black.
fibres.
Highly conductive layer.
Backing paper.

The invention provides a duplicating stencil, designed to be cut electrically, made of a sheet of thin light stencil tissue strengthened with a modified polyamide resin and impregnated with ink-impervious material containing electrically conductive particles, the said sheet being attached to a backing sheet having a relatively highly electrically conductive layer coated thereon.

3,376,811
LABEL IMPRINTER AND DISPENSER

Joseph John Grintz, 1701 Bristol Road, Churchville, Pa. 18966

Filed Oct. 31, 1966, Ser. No. 590,879
16 Claims. (Cl. 101—295)



The present invention relates to imprinting and dispensing apparatus and more particularly to label imprinting and dispensing apparatus adapted to print longitudinally spaced labels mounted on a strip, and remove labels therefrom.

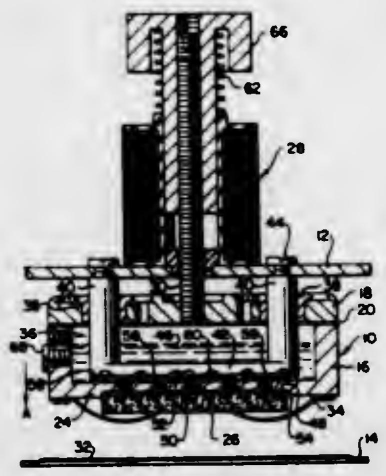
In brief, the apparatus of the present invention includes an imprinter comprising a base and at least one upstanding frame member connected thereto. A platen is provided which extends laterally of the frame and a chase holder, having a chase and printing means mounted thereon, is positioned relative to the platen and contains guide pins which, when associated with track means which are engageable with the guide means, permit guided movement of the chase between a first, at rest position, and a second, print position wherein the printing means comes into contact with the platen. Of course means are provided to guide the strip containing the labels intermediate the chase holder and the platen and means are provided to move the strip intermittently whereby at least one label mounted on the strip is positioned between the platen and the imprinting means when the imprinting means strikes the platen.

Intermediate the strip drive means and the imprinter is a label dispenser which includes a guide positioned on the side of the strip opposite the side on which the labels are mounted, the guide having a terminal edge which extends laterally of the strip and which is adapted to effect peeling of labels as the strip pulls back around the terminal edge. In addition, a feeler is provided for contact with the strip on the side thereof having labels thereon, which feeler may be positioned adjacent the terminal edge of the guide. The feeler is connected to a switch, which is operative to activate the strip drive means, when the feeler is in contact with a label on the strip, and to de-activate the drive means when the feeler is intermediate adjacent labels, i.e. on the strip. In addition, the switch is provided with means for activating and de-activating chase drive means to cause movement of the chase between the first and second positions.

3,376,812
RECIPROCAL POROUS PRINTING MEMBER WITH INK RESERVOIR FEED

Robert E. Sterling, Kettering, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed Oct. 23, 1965, Ser. No. 503,485
6 Claims. (Cl. 101—324)



A re-inking device including an ink reservoir having a porous printing member carried thereby on a side thereof which faces a printing platen. The reservoir is reciprocated between printing and non-printing positions by a solenoid. When the device is in the non-printing position, a U-shaped member seals off a plurality of ports connecting the reservoir with the porous printing member. When the device is moved to the printing position, the reservoir moves away from the U-shaped member, permitting ink to pass through said ports to the porous printing member. Upon returning to the non-printing position, the U-shaped member assists in forcing the ink through the ports to said printing member prior to effectively sealing off said ports when the reservoir finally reaches the non-printing position.

3,376,813
POROUS PRINTING-INK-CONTAINING ROLLER FOR INKING PRINTING PLATES

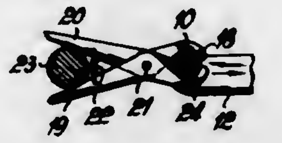
Friedrich Hell and Wilhelm Muller, Frankfurt am Main, Germany, assignors to Telefonbau und Normalzeit GmbH, Frankfurt am Main, Germany

Filed Aug. 27, 1965, Ser. No. 483,170

Claims priority, application Germany, Nov. 21, 1964, T 27,460

2 Claims. (Cl. 101—348)

Described below is a roller mechanism for inking printing plates which includes a roller body of a spongy material for storing printing ink therein. The roller body has zones intended to engage printing plate means, and additional zones intended to stay out of engagement with the printing plate means. The structure further includes means for moving the roller body to a printing-plate-means-engaging position, and out of that position to another position out of engagement with the printing plate means. The structure further includes means for constricting the aforementioned additional zones of the roller body to cause the flow of printing ink from said additional zones to the zones intended to engage the printing plate means. These constricting means are under the control of means allowing these constricting means to be effective only when the roller body is in the aforementioned other position out of engagement with the printing plate means.



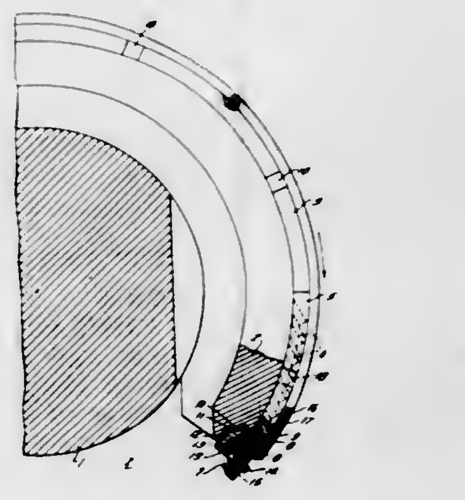
3,376,814
PRINTING CYLINDER ASSEMBLY

Ludwig Schollenberger, Leimen, near Heidelberg, Germany, assignor to Schnellpressenfabrik Aktiengesellschaft Heidelberg, Heidelberg, Germany, a corporation of Germany

Filed Feb. 28, 1967, Ser. No. 619,390

Claims priority, application Germany, Mar. 2, 1966, Sch 38,579/66

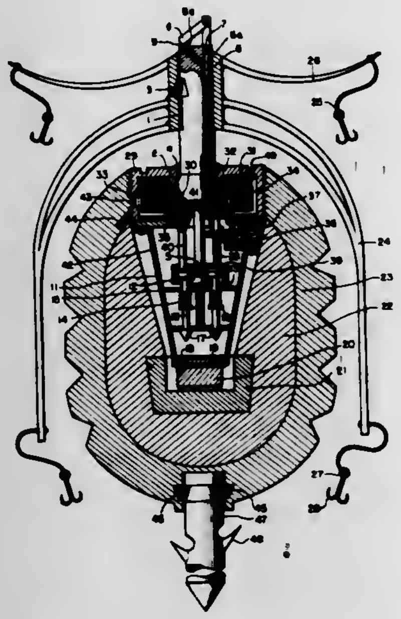
6 Claims. (Cl. 101—384)



Printing cylinder assembly includes a printing plate cylinder having a printing-plate engaging surface interrupted by a channel extending in the axial direction of the cylinder and a curved printing printing plate such as a cliché, electroplate or the like superimposed on the plate-engaging surface, the curved printing plate having undercut recesses formed on the underside thereof for receiving support facets therein. Arcuate members are displaceably received in grooves of equal width extending respectively about the periphery of the printing-plate engaging surface and disposed alongside one another in the axial direction of the cylinder, the grooves having ends opening into the channel. The arcuate members are formed with a plurality of bores extending from the outer convex surface thereof in a direction inclined to the direction in which a clamping force is to be applied thereto, the bores being adapted to hold support facets receivable in the undercut recesses of the curved printing plate mounted on the plate-engaging surface. A rack of inclined teeth is formed at least at one end of the arcuate members on the concave side thereof facing the printing plate cylinder. A self-locking worm is turnably mounted on a wall of the channel beneath one of the open groove ends and meshes laterally in the teeth of the arcuate members so as to clamp the arcuate members to the printing-plate engaging surface and thereby the curved printing plate is secured to the arcuate members by the support facets received in the undercut recesses formed in the underside of the curved printing plate.

3,376,815
PINEAPPLE MINE

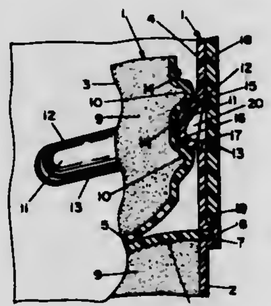
John Pelszynski, Chicago, Ill.
(212 Washington Ave., Apt. 2, Golden, Colo. 80401)
Filed Sept. 9, 1965, Ser. No. 486,091
8 Claims. (Cl. 102—8)



A mine with a spring-actuated arming device comprising a governor-controlled gearing rotating a screw threaded into a safety latch and moving it to a disengaged position with respect to the firing pins.

3,376,816
EXPLOSIVE CONTAINER

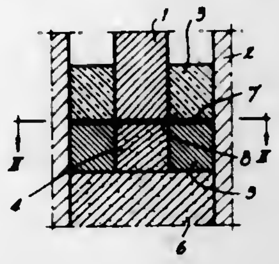
Stephen F. Foster, Hopatcong, and Homer G. Moore, Mine Hill, N.J., assignors to Hercules Incorporated, Wilmington, Del., a corporation of Delaware
Filed Sept. 6, 1966, Ser. No. 577,211
4 Claims. (Cl. 102—24)



1. In a blow-molded plastic container adapted to be filled with an explosive and to be connected into an explosive column assembly with like containers, a substantially cylindrically side wall including a central body portion with a threaded end portion and a tubular end portion at the opposite ends thereof, closure means for closing said container at the end of said threaded end portion and at the juncture of said tubular end portion and said body portion, said threaded end portion having an integral external screw thread dimensioned relative to said tubular end portion whereby the threaded end portion of the container is adapted to be inserted endwise into the tubular end portion of a like container, said tubular end portion having a plurality of tabs formed in the side wall thereof with each of said tabs being resilient and adapted to be deflected by said thread, said tabs having an active surface spirally of said tubular end portion on a helix angle corresponding to that of said thread and adapted to cooperate with the thread of a like container to provide a threaded coupling therewith; the improvement comprising a sleeve slidably mounted on and closely embracing the periphery of said tubular end portion said sleeve being movable endwise of said container to a locking position overlying said tabs and a released position clear of said tabs, said tabs having locking surfaces adapted to engage against said sleeve in the locking position to prevent movement of said tabs to the deflected position and thereby preventing movement of said thread relative to said tabs endwise of the container while providing a threaded connection between a pair of joined containers.

3,376,817
ELECTRIC SPARK DETONATORS

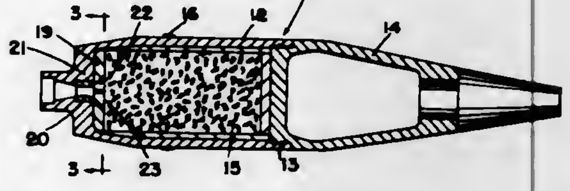
Jean Vilbajo, Brussels, Belgium, assignor to Contigea Societe Anonyme, Brussels, Belgium
Filed June 11, 1964, Ser. No. 374,537
Claims priority, application Belgium, June 18, 1963, 633,725; Apr. 23, 1964, 519,452
2 Claims. (Cl. 102—28)



1. Electric spark detonator, comprising a priming mass, a first ring-shaped electrode surrounding said mass, a second cylindrical electrode located above said priming mass and a disc-shaped layer of an electrically insulating material having at least one hole, said layer being interposed between one of said electrodes and said priming mass, on the one hand, and the other of said electrodes, on the other hand, whereby said hole establishes a path for a spark between an edge of one of said electrodes and the other of said electrodes through said priming mass.

3,376,818
ROCKET MOTOR

Stephen J. Harnett, Mount Arlington, N.J., and Myron A. Olstein, Springfield, Va., assignors to the United States of America as represented by the Secretary of the Army
Filed May 12, 1966, Ser. No. 550,881
2 Claims. (Cl. 102—49.3)

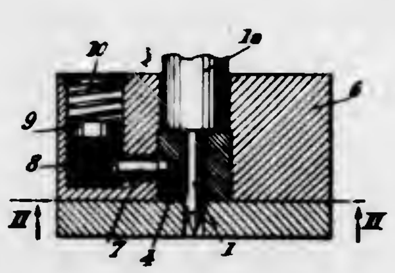


A spin stabilized rocket motor has a tubular housing portion containing an end burning solid propellant grain and terminating in a rearwardly directed nozzle. The

nozzle has a convergent section terminating in a throat constriction adjacent the solid propellant grain. Exhaust gas angular velocity eliminating means extend laterally across the convergent section in a plurality of transverse directions adjacent the propellant grain.

3,376,819
EXPLOSIVE APPLIANCES WITH A DELAY MECHANISM

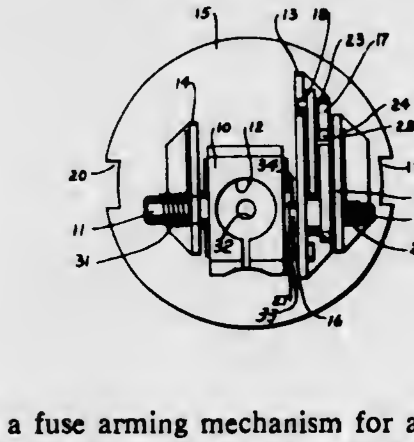
William Guerne, Geneva, Switzerland, assignor to Brevets Aero-Mecaniques, S.A., Geneva, Switzerland
Filed Feb. 7, 1966, Ser. No. 525,450
Claims priority, application Luxembourg, Feb. 9, 1965, 47,947
3 Claims. (Cl. 102—76)



A shell fuze safety device preventing the fuze firing pin from striking the detonator for a predetermined time after the shot has been fired, said device comprising the combination with retractable means for locking the firing pin of a mass of a silicone gum having a hysteresis to deformation arranged yieldingly to oppose retraction of said locking means.

3,376,820
SAFETY AND ARMING MECHANISM

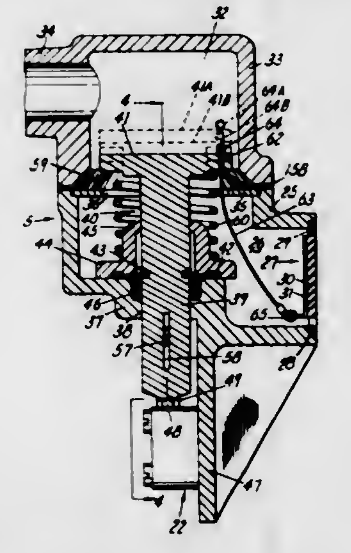
Robert Gelman, Levittown, Pa., assignor to the United States of America as represented by the Secretary of the Army
Filed Sept. 17, 1957, Ser. No. 684,628
2 Claims. (Cl. 102—83)



1. In a fuse arming mechanism for a projectile operable under the force of set back, said fuse arming mechanism having a two position rotor movable between an unarmed position and an armed position, a shaft for said rotor, a support for said rotor shaft, a spring engaging said support and said rotor shaft for moving the rotor from said unarmed position to said armed position, said rotor having a hole therethrough for the passage of an initiator flame when said rotor is in said armed position, and an angularly movable retaining and releasing means for retaining said rotor and shaft in said unarmed position and releasing said rotor shaft for movement of said rotor by said spring to said armed position, the combination therewith of the improvement in said angularly movable retaining and releasing means whereby said fuse arming mechanism may be more nearly safe and more compact for use in small calibers of ammunition, said improvement including a leaf having a radially off-set center of gravity for rotation of said leaf under setback during acceleration of a projectile, said leaf being mounted adjacent said rotor and laterally displaced from a longitudinal axis of said rotor shaft, a shaft on which said leaf is mounted for rotation between two positions, means on said leaf shaft for retaining said rotor shaft in said unarmed position and for releasing said rotor shaft for rotation to said armed position, a spring engaging said leaf shaft and said support for moving said leaf to a position for releasing said rotor shaft, a disc, a shaft on which said disc is mounted adjacent a longitudinal axis of said leaf shaft and said rotor shaft, said disc shaft extending in the general direction of said leaf shaft and said rotor shaft, a counter-weight on said disc projecting from the plane of said disc to engage said leaf and retain said leaf and said leaf shaft against movement to a position in which said rotor retaining and releasing means operates, and means engaging said disc for retaining said disc against movement under set back and releasable by movement of said leaf under a predetermined set back whereby said leaf is moved under predetermined set back before said disc and said disc is moved under set back after said disc locking means has been released by said leaf, said weight on said disc moving clear of said leaf during movement of said disc under set back and on a reduction in set back said leaf shaft spring moving said leaf through said position in which said leaf is retained by said disc counter weight to a position in which said rotor shaft is released by said rotor releasing means, said rotor shaft spring moving said rotor to said armed position on release of said rotor shaft by said rotor shaft retaining means whereby said rotor perforation can pass an initiator flame through said rotor and whereby said rotor, said leaf and disc may be mounted for movement in generally parallel adjacent planes.

3,376,821
LIQUID SUPPLY SYSTEM AND PUMP CONTROL THEREFOR

Robert D. East, Kalamazoo, Mich., assignor to General Gas Light Company, Kalamazoo, Mich.
Filed July 28, 1966, Ser. No. 568,581
20 Claims. (Cl. 103—25)



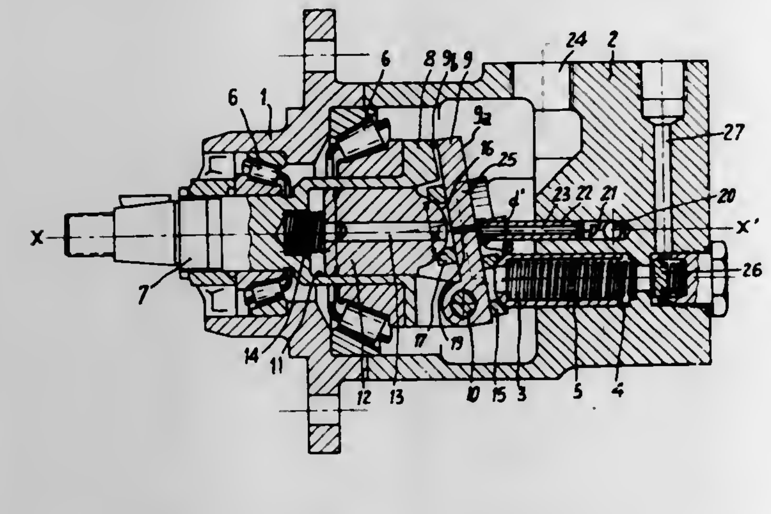
1. A liquid supply system having a supply tank and at least one outlet valve comprising

a centrifugal pump having an impeller, and an inlet,

a conduit connected between a lower portion of said tank and said inlet to said pump, the inlet to the pump being no higher than the capacity of the pump to draw liquid from the level of the connection of the conduit to the tank,

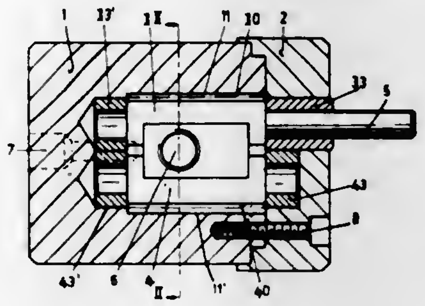
a motor connected to drive said pump,
a control housing having an inlet chamber communicating with the outlet of said pump,
a check valve arranged to close toward the outlet of the pump under the influence of back pressure in said chamber,
a flow port formed in a wall of said housing and opening from said inlet chamber,
means defining a flow passage connected to said housing and surrounding the outer side of said flow port,
a control member having a head exposed on its outer side to said flow passage and a stem extending through said flow port reducing the effective area of the inner side of the head which is exposed to pressure in said inlet chamber,
said head on said control member being movable into substantial closing relation to said flow port,
an electric switch mounted adjacent said control member and electrically connected to said motor to control the motor,
means mechanically connecting said switch to said control member to open said switch in the fully extended position of said stem with said head closed in relation to said port and also in a fully retracted position of said stem with said head at a widely opened position relative to said port,
means biasing said control member toward said widely opened retracted position of said head,
said biasing means being of insufficient strength to fully overcome the force differential on the outer and inner sides of said head when said chamber and said flow passage are subjected to liquid pressure created by said pump in said system,
said mechanical connecting means being arranged to close said switch at intermediate positions of said control member between closed and widely opened positions of said head,
and means preventing the closing of said check valve when said control member is in said fully retracted position,
at least part of the liquid connection to said outlet valve being located above the level of said flow chamber.

3,376,822
VARIABLE-DELIVERY HYDRAULIC PUMP
René Leduc, 23 Rue Henri Cloppet, Le Vesinet, France, and Gérard Leduc, 84 bis Rue d'Alsace, 88 Saint-Die, France
Filed Jan. 4, 1967, Ser. No. 607,188
Claims priority, application France, Jan. 6, 1966, 45,023
3 Claims. (Cl. 103—38)



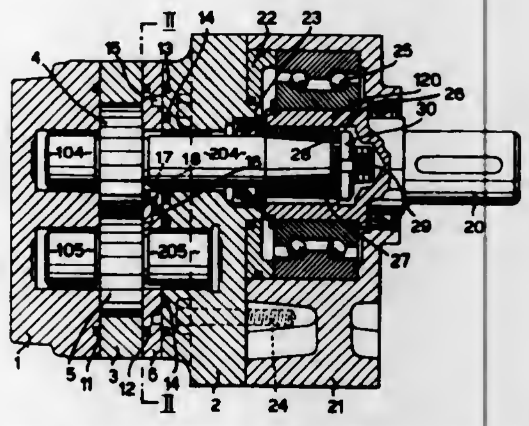
Multi-piston hydraulic pump comprising a plurality of parallel pistons which are given a reciprocating movement of variable amplitude by means of a swash plate pivotally mounted on its support wherein the improvement comprises: a first piston bearing on the rear face of the swash plate and sliding in a cylinder bored in the body of said support; a second piston bearing on the front face of said swash plate and sliding in a cylinder bored in the pump body and communicating with a source of pressure; an axial bore extending through both of the pistons and said piston communication one with the other through a orifice drilled through the swash plate.

3,376,823
ROTARY PISTON HYDRAULIC PUMP
Otto Alphonse Grosjean, 53 Chemin de Safnern, Bienne, Switzerland
Filed Jan. 11, 1966, Ser. No. 519,916
Claims priority, application Switzerland, Jan. 11, 1965, 454/65
3 Claims. (Cl. 103—126)



In a hydraulic pump, the rotary pistons are rotatably mounted in two parallel cylindrical chambers, one inlet and one outlet communicates with the chambers and each piston has a semi-circular cross-section, the cylindrical part of which has teeth forming a gear, one gear being rotated by a motor to drive the other gear, and both gears being adapted during operation of the pump successively to suck in fluid through the inlet conduit into the chambers, to block off the inlet conduit, and by centrifugal effect, to create an overpressure of fluid in the chamber whereby the fluid is driven out of the chambers across the teeth of the piston-gears through the outlet conduit. The speed of rotation of the pistons can be of 2700 r.p.m. and the pressure at the outlet can attain 18 atmospheres.

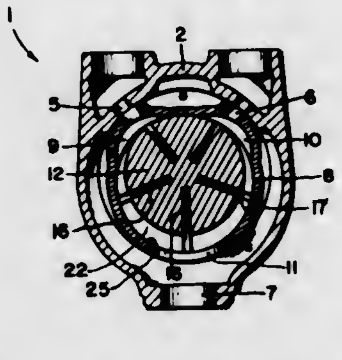
3,376,824
GEAR PUMP
Marco Turolla, 213 Via Toscana, Bologna, Italy
Filed June 27, 1966, Ser. No. 560,441
Claims priority, application Italy, July 1, 1965, 15,110/65; July 1, 1965 (utility model), 4,292/65; Aug. 9, 1965, 18,191/65
12 Claims. (Cl. 103—126)



1. A gear pump comprising a pump case, a pair of gears rotatably mounted in cavities in said case, inlet and

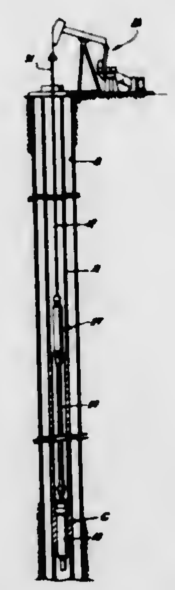
outlet openings in said case communicating with said gear cavity, a sealing plate mounted at one side of said gears resiliently bendable axially of said case and clamped at its periphery in said case, a pressure chamber in said case on the outer side of said plate and in communication with the pressure side of said pump, the hydraulic pressure generated in said chamber urging said plate against the lateral surfaces of said gears, and a weakening groove in said plate which at least at said pressure side of said pump has an outline approximating to the circumferential profile of said gears.

3,376,825
VANE SPRING
Elmer B. Burnett, Monroeton, Pa., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Jan. 21, 1966, Ser. No. 522,158
7 Claims. (Cl. 103—136)



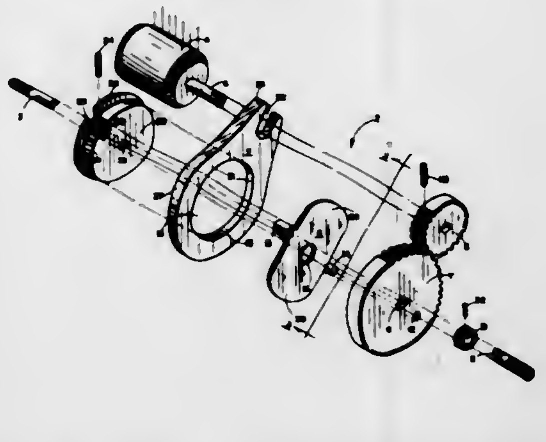
A vane spring for use with a rotary fluid motor or pump. The spring is designed so that when the motor is operating at speeds below normal operating speed, the spring will force the vane against the cylinder wall. When the speed of the motor is increased, centrifugal force flattens the spring and the spring becomes ineffective to hold the vane against the cylinder wall. At these higher speeds, the vane is held against the cylinder wall by centrifugal force.

3,376,826
SUCKER ROD COMPENSATOR FOR SUBSURFACE WELL PUMPS
Talmadge L. Crowe, Houston, Tex., assignor to Baker Oil Tools, Inc., Commerce, Calif., a corporation of California
Filed Apr. 29, 1966, Ser. No. 546,351
22 Claims. (Cl. 103—202)



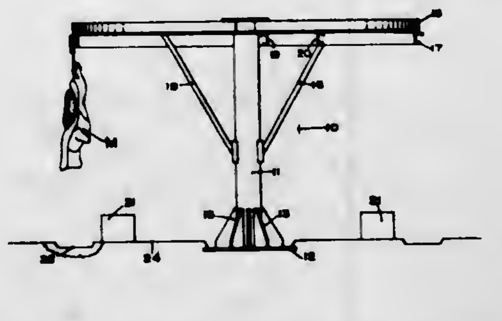
A compensator located in a sucker rod string adjacent to a deep well pump and embodying upper and lower telescopically arranged members, in which the upper member progressively shifts step-by-step relatively upwardly along the lower member in response to reciprocation of the sucker rod string to increase the overall length of the members, until the travelling valve of the pump taps against the standing valve of the pump.

3,376,827
BRAKING SYSTEM FOR MINIATURE VEHICLES
John W. Slemmons, 19142 Glen Albyn, Orange, Calif. 92667
Filed Jan. 27, 1966, Ser. No. 523,344
13 Claims. (Cl. 104—60)



1. A braking system for a miniature vehicle comprising an axle having wheels at the ends thereof,
gear means disposed around said axle for angular rotation with respect thereto,
drive means for driving said gear means,
collar means fixedly disposed around said axle for angular rotation therewith, and
brake means comprising a first member having a surface fixable relative to the angular rotation of said axle and said gear means, a second member joined to said gear means and collar means for driving said collar means in response to angular rotation of said gear means and for engaging the fixable surface when actuated for reducing angular rotation of said axle means, said means being actuated when the angular velocity of said axle is greater than the angular velocity of said gear means.

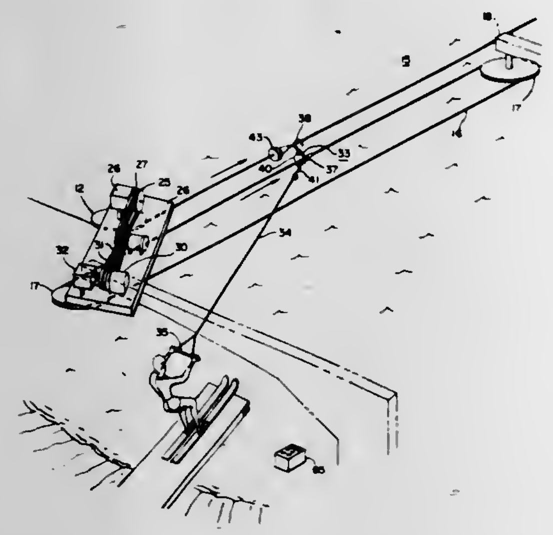
3,376,828
APPARATUS FOR DRESSING BEEF CATTLE
John L. Hager, Northfield, Minn., and Clyde C. White, Omaha, Nebr., assignors to Northfield Equipment and Manufacturing Co., Northfield, Minn., a corporation of Minnesota
Filed Oct. 11, 1965, Ser. No. 494,424
3 Claims. (Cl. 104—91)



An apparatus for dressing beef cattle comprising a generally circular rail for moving beef carcasses, located above a floor having carcass-dressing stations thereon below the rail, whereby an efficient dressing operation may be performed in a lesser area than heretofore.

3,376,829
TOW SYSTEM FOR WATER SKIING AND THE LIKE

John T. Hancock, Jefferson County, Colo.
(8750 W. Dakota Ave., Denver, Colo. 80226)
Filed Aug. 15, 1966, Ser. No. 572,566
8 Claims. (Cl. 104—173)

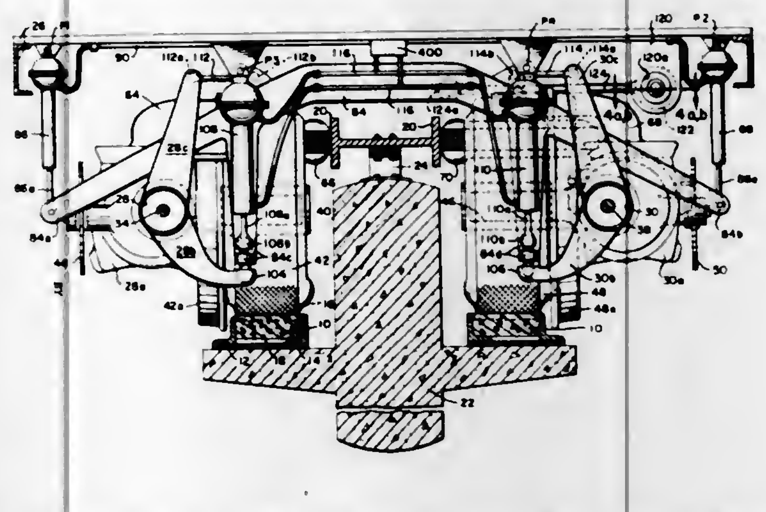


1. A system for towing water skiers and the like over the surface of a body of water comprising:
- a main cable extending around the course to be followed by a water skier,
- a starting zone for the skier,
- an acceleration cable adjacent said starting zone,
- said main and acceleration cables having straight parallel closely spaced portions extending away from said starting zone in the direction of movement of the cables,
- means for driving said main cable at a predetermined speed,
- means for driving said acceleration cable to move said straight portion thereof in the same direction as the main cable and with acceleration up to a speed approaching said predetermined speed,
- a towline for a skier having a grip at one end and an attaching device at its other end,
- stop means on said acceleration cable for attaching said device thereto for towing a skier,
- stop means on said main cable for engaging said device upon overtaking it when it is attached to said acceleration cable and for detaching said device from said acceleration cable and securing it to said main cable, whereby a skier gripping said towline and moving with said acceleration cable on said straight portion thereof is picked up and transferred to said main cable upon engagement of said device by said means on said main cable.

3,376,830
RAILWAY VEHICLE SUSPENSION SYSTEM

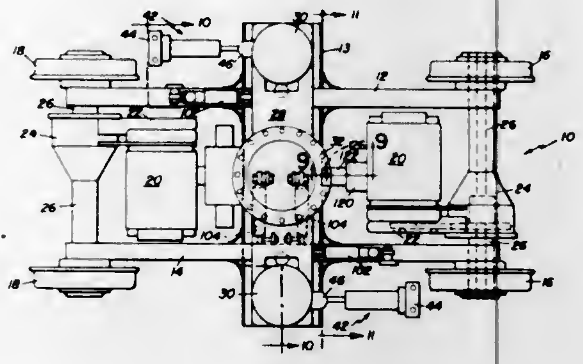
Sidney H. Bingham, 109 E. 35th St.,
New York, N.Y. 10016
Filed July 16, 1965, Ser. No. 472,549
17 Claims. (Cl. 105—133)

A railway vehicle undercarriage and a trackway therefor, for accommodating high speed train travel in which the vehicle body is supported on an undercarriage bolster by means of hydropneumatic assemblies having universal connections with the vehicle body and the bolster ends. Other hydropneumatic assemblies provide the vehicle body with roll control and these assemblies are connected to the undercarriage side frames, and to the vehicle body underframe and bolster by means of universal connections. In one modification the control of body roll is effected through the cross connection of the ends of the hydropneumatic devices; in the other modification it is produced by the effect produced on these devices by an inertia device. The trackway comprises two track members for rubber tired running wheels and a central raised track on which guide wheels run. Paired with each running wheel there is a metal flanged wheel. Each track member is formed of two metal angles with vertical and horizontal flanges, the latter flanges being oriented in the same direction, and the space between the angles being filled with, for example, reinforced concrete. The angle whose horizontal flange extends outwardly of the track member provides a guide for the flanged wheel on its vertical surface and a running surface for the flanged wheel if the rubber tired wheel becomes deflated. It is apparent that the undercarriage can operate either on the trackway disclosed, or one having ordinary steel rails. Other elements of the undercarriage and trackway will appear as the specification proceeds.



3,376,831
HYDRAULICALLY DAMPENED CAR BOGIE

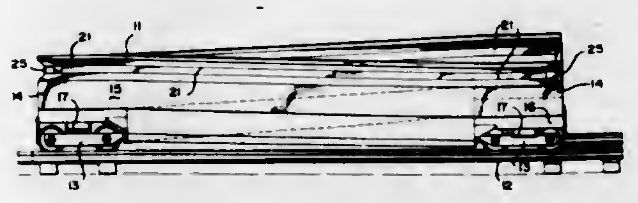
Lyle E. Eaton, Pekin, William H. Hoerr, Peoria Heights, and John H. Hyler and Wayne H. McGlade, Peoria, Ill., assignors to Westinghouse Air Brake Company, a corporation of Pennsylvania
Filed Apr. 27, 1965, Ser. No. 451,173
5 Claims. (Cl. 105—199)



A suspension system for damping movement of a rail vehicle, the vehicle including a bolster connecting a vehicle body to a rail truck for pivotal movement about a vertical axis. Resilient means connect the bolster and truck for limited longitudinal and transverse movement and first, second and third viscous damping means are provided for damping movement of the body about vertical, longitudinal and transverse axes. Further cushioning means are provided to insulate the body and truck against vibration.

3,376,832
TORSIONALLY FLEXIBLE MINE CAR

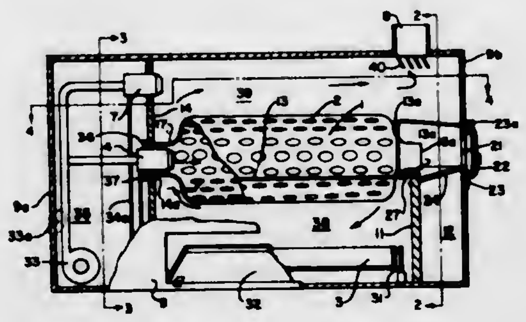
Henry Fort Flowers, 3023 Del Monte Drive,
Houston, Tex. 77019
Filed Aug. 27, 1965, Ser. No. 483,105
4 Claims. (Cl. 105—364)



This disclosure relates to a mine car mounted on four independently trackable truck units, the car being provided with an inwardly extending rib adjacent its upper periphery, formed of sloping sidewalls and a vertical center wall, with corner tie members connecting ribs of adjacent side and end walls. The car is particularly designed for torsional flexibility, having flexible sidewalls and a bottom wall comprising two half bottom wall portions which are relatively movable, to one another. The bottom wall portions are movable, in that they have centrally disposed inwardly upturned flange portions which are in contacting relation to one another, and are either slidable against one another, or are welded at their uppermost points and are sufficiently flexible to permit relative movement, one to the other.

3,376,833
REFUSE INCINERATOR

Paul A. Mutchler, St. Louis, Mo., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed Dec. 16, 1966, Ser. No. 602,311
7 Claims. (Cl. 110—14)

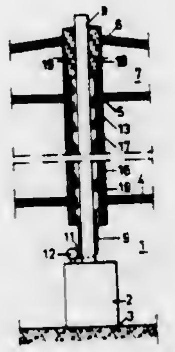


The present invention provides means for burning damp refuse, for example sewage, by separating the liquid and solid portions of the refuse, drying at least a part of the solids, burning the dried solids, evaporating at least a part of the liquid and burning the combustible components of the gases to be emitted from the incinerator.

3,376,834
HEAT INSULATING STRUCTURE AND A HEAT GENERATING APPARATUS INCLUDING SUCH A HEAT INSULATING STRUCTURE

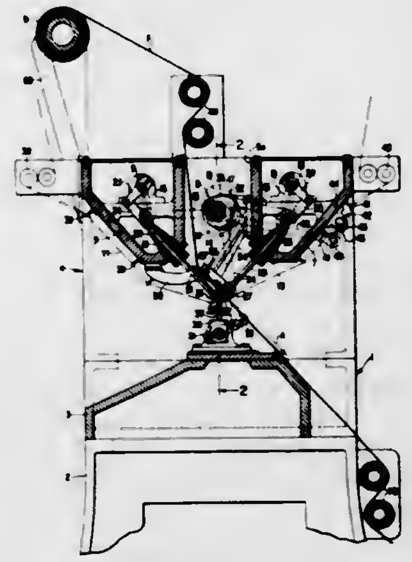
Torgny Alexis Thorén, 23 Kruthornsvagen,
23 Sollentuna, Sweden
Filed May 31, 1966, Ser. No. 553,871
Claims priority, application Sweden, May 31, 1965,
7,092/65
10 Claims. (Cl. 110—56)

A heat insulating structure including spaced walls between which is provided a gas permeable wall defining with each of the first said walls respective spaces between which gas flow is induced preferably in a direction which is countercurrent to the thermal gradient involved. The intermediate wall may be provided with outer surfaces which are perforated to facilitate gas flow and one of the spaces which is formed may be provided with a partitioned wall dividing this space into two smaller and parallel spaces, one of which participates in the gas flow involving the porous intermediate wall and the other of which accommodates a gas flow which is, according to one embodiment, independent of the main gas flow and which is according to another embodiment a part of the main gas flow.



3,376,835
TUFTING MACHINES AND METHODS FOR PRODUCING TERRY-LIKE FABRICS AND FABRICS PRODUCED THEREBY

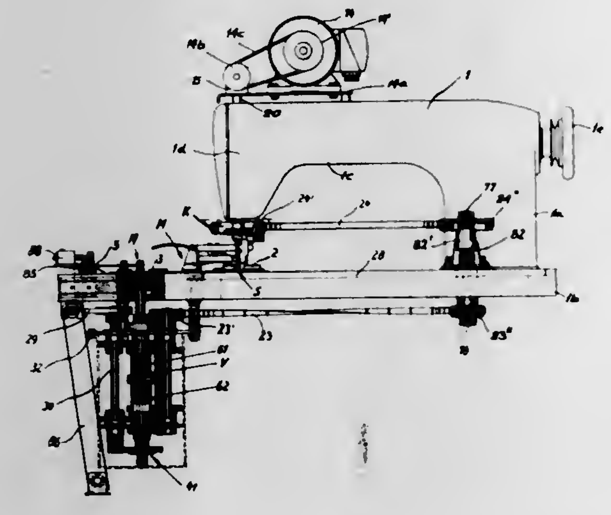
Charles W. Watkins, Hixson, Tenn., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Dec. 27, 1965, Ser. No. 516,437
9 Claims. (Cl. 112—79)



This disclosure relates to textile machinery and in particular to tufting machines which through a novel method of operation is capable of producing novel pile fabrics such as terry cloth and the like. Basically, the novel machine disclosed herein includes means for projecting a loop of a first yarn to one side of a backing fabric, means for projecting a loop of a second yarn to said one side of the backing fabric and means for collapsing one of said loops around the other and for holding the other in loose pile-like disposition.

3,376,836
SEWING APPARATUS WITH CONTOUR CUTTING DEVICE

Karl Nicolay, Bielefeld, Germany, assignor to Dürkoppwerke A.G., Bielefeld, Germany, a corporation of Germany
Filed July 25, 1966, Ser. No. 567,739
Claims priority, application Germany, July 23, 1965, D 47,815
10 Claims. (Cl. 112—124)



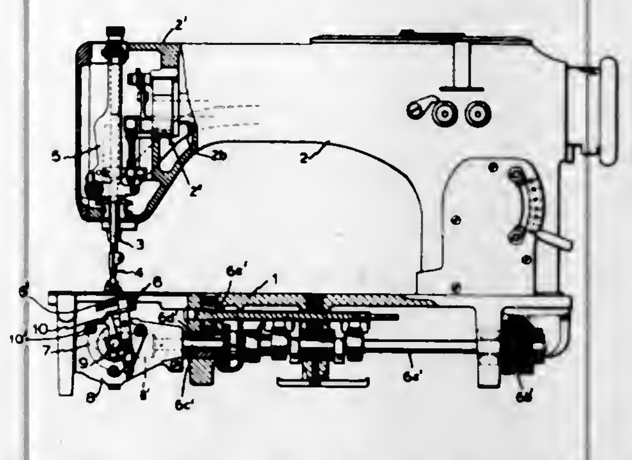
1. In a sewing machine for the sttiching of seam lines on a fabric and having a stitching arm overhanging a table and a stitching needle reciprocable in said arm toward and away from said table, the improvement which comprises in combination:

(a) a template assembly on said table entraining said fabric for displacing the same relative to said needle and a stitching location on said table in accordance with a predetermined pattern on the template of said assembly;
(b) coordinate guide means carried by said table and engaging said template assembly for resolving the movement of said template assembly into two mutually perpendicular components;
(c) cutting means in the region of said stitching location including blade means engageable with said fabric, and means mounting said cutting means for swinging movement about the axis of said needle;
(d) drive means for shifting said template assembly along said predetermined pattern on said template to pass said fabric through said stitching location in a pattern corresponding to said contour;
(e) sensing means responsive to said contour and angularly displaceable in accordance with changes in said contour;
(f) torque-amplifier means between said sensing means and said cutting means for transmitting rotary increments of said sensing means to said cutting means, said sensing means being substantially free of stress during transmission of said rotary increments to said cutting means.

3,376,837
DOUBLE-CHAIN STITCH ZIGZAG SEWING MACHINE

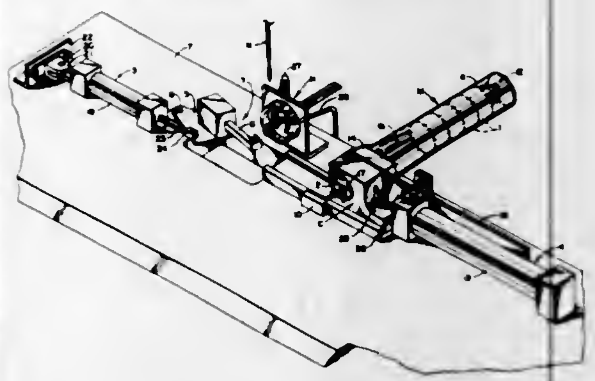
Karl Nicolay, Bielefeld, Germany, assignor to Durkoppwerke G.m.b.H., a corporation of Germany
Filed Nov. 26, 1965, Ser. No. 509,724
Claims priority, application Germany, Nov. 26, 1964, D 45,919
9 Claims. (Cl. 112—158)

A double-chain stitch zigzag sewing machine in which the needle and a gripper beneath the sewing table are displaced synchronously so that the gripper describes a generally orbital path, a finger fixedly positioned with respect to this path having a projection extending into a groove along the side of the gripper blade for controlling the formation and release of the thread loop below the table. The gripper has a protuberance along whose flanks the stretches of the loop are guided.



3,376,838
BOBBIN CHANGER FOR SEWING MACHINES

Fred J. Schiffmacher, New Canaan, and Walter A. Roman, Norwalk, Conn., assignors, by mesne assignments, to Ivanhoe Research Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 1, 1966, Ser. No. 524,222
8 Claims. (Cl. 112—186)



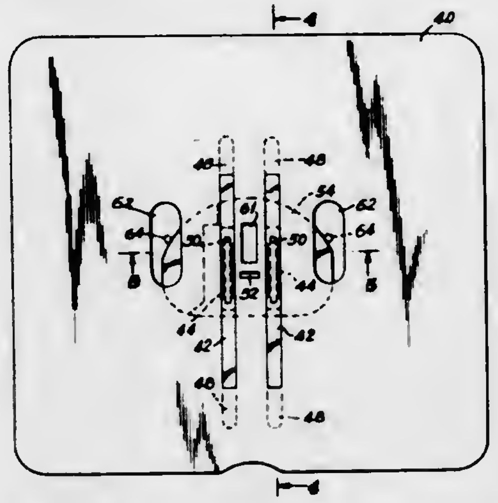
A bobbin changer for sewing machines including a carrier for carrying an assembly of bobbin and case from a magazine to the holder with transfer means for moving the assembly from the carrier into the holder, the transfer means also removing the assembly from the holder when the bobbin has been depleted. An opening in the carrier for reception of the bobbin assembly into the carrier is positioned adjacent to and aligned with the magazine to receive a bobbin assembly therein and in a second position of the carrier this opening is adjacent to and aligned with the holder for transferring the bobbin assembly into the holder. The transfer means includes a movable hook to push the bobbin assembly from the carrier into the holder, this hook being engageable with the pivoted latching element on the bobbin case for releasing the assembly from the holder to remove the depleted assembly, with the operations carried out in sequence providing a quick automatic replacement of the depleted bobbin assembly.

3,376,839
THROAT PLATE FOR SEWING MACHINE

Bernard Howard, New Haven, Conn., assignor to Mite Corporation, New Haven, Conn., a corporation of Delaware
Filed May 31, 1966, Ser. No. 553,914
9 Claims. (Cl. 112—260)

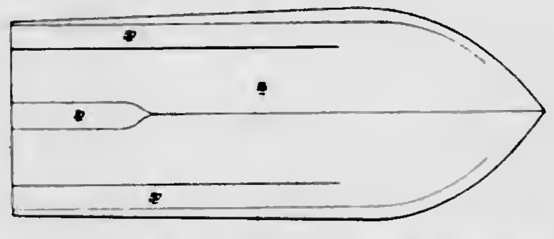
1. A throat plate for use in a sewing machine when using an attachment providing its own feed and which

therefore requires disabling of the regular feed dogs of the sewing machine, said throat plate comprising means disposed entirely over and resting on the sewing machine feed dogs which means are arranged to rise and fall with the feed dogs while the remaining portions of said throat plate remain fixed, said means having a smooth bottom surface along which the feed dogs readily slide, and having a smooth top surface over which the fabric readily moves.



3,376,840
MARINE HULL

James G. Zaphiriou, 25638 Wilson Drive, Dearborn Heights, Mich. 48127; and John R. Cabauatan, 934 Ford, Lincoln Park, Mich. 48146; and Arthur L. Gagne, Detroit, Mich.; said Gagne assignor to said Zaphiriou, and said Cabauatan
Filed Oct. 19, 1966, Ser. No. 587,859
5 Claims. (114—66.5)

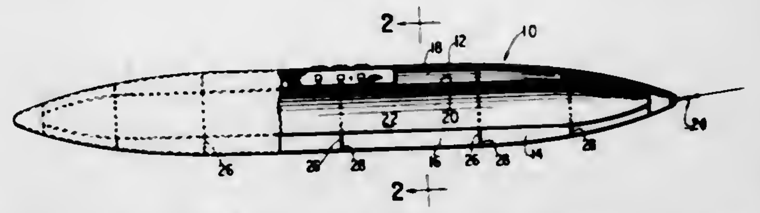


1. A power boat hull construction comprising a longitudinally disposed center portion extending from the forward to the rear end of said hull and being substantially V-shaped in cross-section, said V-shape being formed by adjacent walls of the center portion and having an acute angle at the forward end of said hull with said angle progressively increasing to an angle approaching 180° approximately midway between the forward and rear end of said hull, and a pair of substantially flat runners extending outwardly from the respective side edges of said center portion, said runners being relatively narrow with respect to said center portion and extending from the rear of said hull forwardly, with the lower surface of said center portion and said runners lying in a common plane adjacent the rear end of said hull, whereby the lower surface of the center portion and said runners form a three point planing surface for said hull.

3,376,841
RIGID BARGE

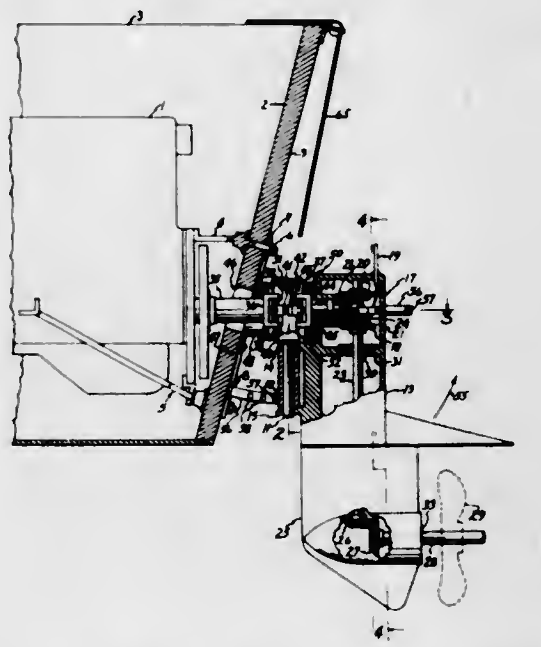
Melville K. Gill, Tampa, Fla., assignor to Tennessee Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 15, 1966, Ser. No. 534,483
13 Claims. (Cl. 114—73)

A rigid type barge which can navigate on oceanic bodies or inland waterways having concentric cylinders capable of transporting fluids or fluidizable solids. Appropriate concentric chambers are loaded with cargo on the initial voyage, while the remaining chambers are empty, in order to supply sufficient buoyancy to maintain a reasonable draft. On the return voyage the previously empty storage chambers may be loaded with a dissimilar material from that carried in the storage chambers on the initial trip. To improve the stability of said barge and to prevent it from overturning, buoyant means are attached to the exterior of the barge in the form of outriggers. The draft of said barge may be raised or lowered by charging or discharging ballast fluid from said outriggers.



3,376,842
BOAT PROPULSION MECHANISM

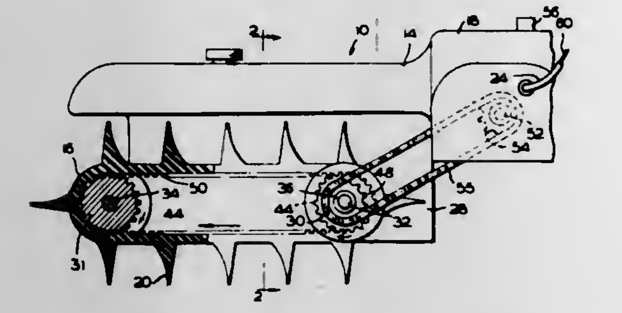
James R. Wynne, Miami, Fla., assignor, by mesne assignments, to A.B. Volvo Penta, Goteborg, Sweden, a corporation of Sweden
Continuation-in-part of application Ser. No. 745,100, June 27, 1958. This application May 11, 1960, Ser. No. 28,405
33 Claims. (Cl. 115—35)



1. In a boat having a stern transom, an engine fixedly mounted on and disposed forwardly of said transom and having a drive shaft extending aftward through said transom, a universal joint on said shaft disposed aft of said transom, a second universal joint disposed aft of said first joint, drive means connecting between said universal joints, an outboard housing having an upper end portion disposed aft of and generally opposite said second joint and having a lower end, a propeller carried on said lower end, a transmission in said upper end, driving means connecting said transmission to said propeller, a connection between said second joint and said transmission, mounting means for said outboard housing comprising a bracket fixed to said transom and a support member disposed between said transom and said housing, a hinge pivotally supportingly connecting said member to said bracket for swinging on a first axis, a second hinge pivotally supportingly connecting said housing to said member for swinging of said housing on a second axis, said axes being mutually perpendicular and being located so as to extend through respective points in substantial alignment with said drive shaft and between said joints.

3,376,843
MARINE PROPULSION DEVICE

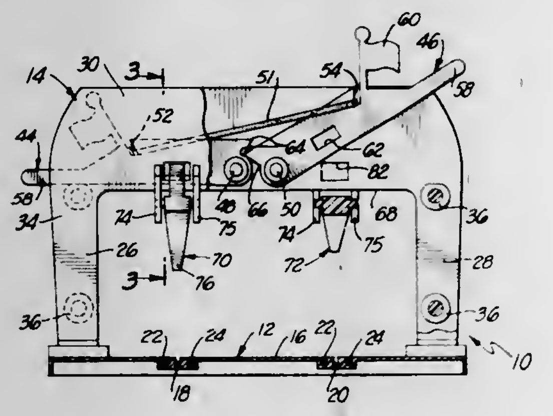
Leon Ray Wilson, 316 16th St.,
Great Falls, Mont. 59401
Filed Apr. 29, 1966, Ser. No. 546,345
5 Claims. (Cl. 115—70)



A continuous belt for propelling a substantially planar water-skimming board is mounted in a cutout portion in the stern of the board. The cutout portion and the belt are substantially as wide as the board in order to provide a leveling action on the stern of the board.

3,376,844
FINISH INDICATING DEVICE

Olen P. Wood, Rosemead, Calif., assignor to Eldon Industries, Inc., Hawthorne, Calif., a corporation of California
Filed Jan. 28, 1966, Ser. No. 523,634
7 Claims. (Cl. 116—114)



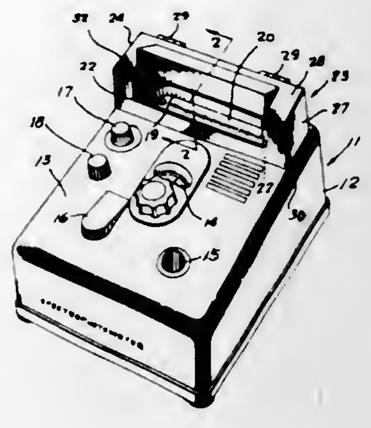
1. A finish indicating device for road race cars, said finish indicating device comprising a base member and a finish indicating arch structure;

said base member having a top surface upon which road race cars are adapted to traverse, at least one guide slot formed in said base member adapted to guide a road race car thereacross;

said finish indicating arch structure positioned on said base member, said finish indicating arch structure having a cross piece extending across at least part of said top surface including said guide slot, an indicator means pivotally mounted on said cross piece, said indicator means being movable from a nonindicating position to an indicating position, a trigger means pivoted to said cross piece and extending towards said top surface so that said trigger means is adapted to be actuated by a road race car traversing in said slot, said trigger means engaging said indicator means and retaining said indicator means in its nonindicating position, biasing means urging said indicator means into said indicating position when said trigger means is moved out of engagement therewith.

3,376,845
ANTI-GLARE SHIELD FOR A SPECTROPHOTOMETER

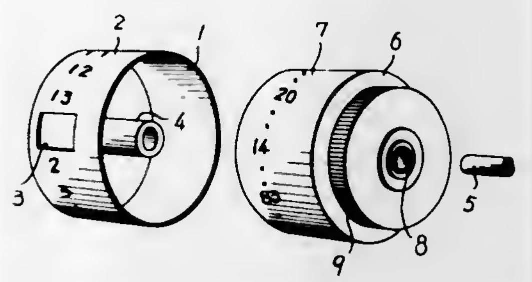
Terry Rebollido, Hayward, Calif. (379 Monte Carlo Ave. VII Hills, Union City, Calif. 94587)
Filed Mar. 1, 1966, Ser. No. 530,901
6 Claims. (Cl. 116—114)



1. In combination, a spectrophotometer having a top wall and having an elogated galvanometer scale located on said top wall, and a glare shield mounted on said top wall over said scale, said glare shield comprising an elongated box-like member mounted over and extending parallel to said galvanometer scale, said box-like member being provided with longitudinal vertical front and rear walls, a top wall, and transverse end walls and with a longitudinally-hinged flap including the forward portion of the top wall of the box-like member and an adjacent depending portion of its front longitudinal wall, said flap overlying the galvanometer scale and being movable to an elevated position exposing the galvanometer scale to view from a location in front of the spectrophotometer, the opposite side portions of the flap being supporting-engageable with the adjacent portions of the box-like member to hold the flap in said elevated position.

3,376,846
INDICATING APPARATUS

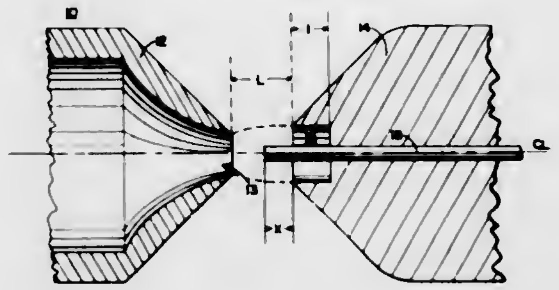
Yasushi Sekiguchi, Shiroyama-machi, Tsukui-gun, and Kozo Fukunishi, Yokohama, Japan, assignors to Victor Company of Japan, Limited, Yokohama, Japan, a corporation of Japan
Filed July 27, 1964, Ser. No. 385,415
Claims priority, application Japan, Aug. 10, 1963, 38/59,343
5 Claims. (Cl. 116—124.1)



An indicating apparatus which comprises an indicating drum having a viewing window within a portion of an indicating band appearing about the outer surface of said drum and a second indicating drum inserted within said first drum and freely rotatable therein with an indicating band thereon visible through the viewing window, the drums being separately mounted on a common shaft.

3,376,847
ACOUSTIC GENERATOR

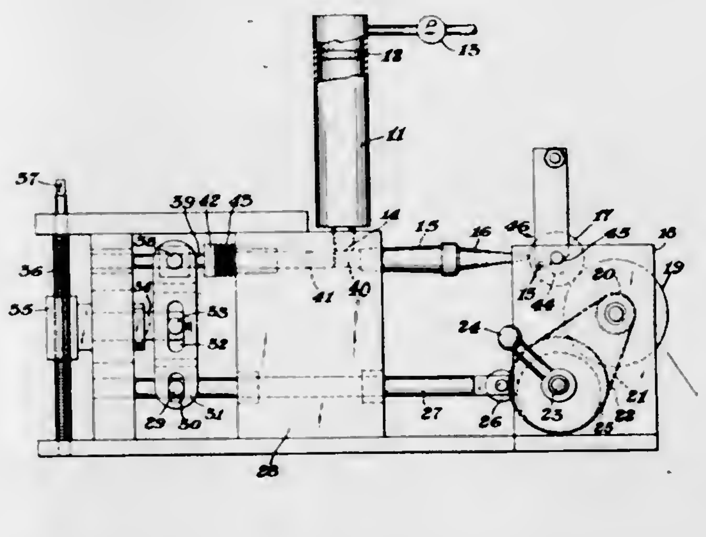
Richard R. Cheeseman, Jr., Bloomington, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed July 10, 1967, Ser. No. 652,186
2 Claims. (Cl. 116—137)



A whistle utilizing a resonant frequency cavity situated within regions of a jet stream which comprises in addition a rod extended from the cavity into a portion of the jet stream to create fluid flow instability and accentuate the resonant frequency.

3,376,848
COATING APPARATUS FOR APPLICATION OF LIQUIDS

Elton H. Relyea, Sanford, and Laurence H. Sias, Midland, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
Filed Feb. 4, 1966, Ser. No. 525,178
4 Claims. (Cl. 118—8)

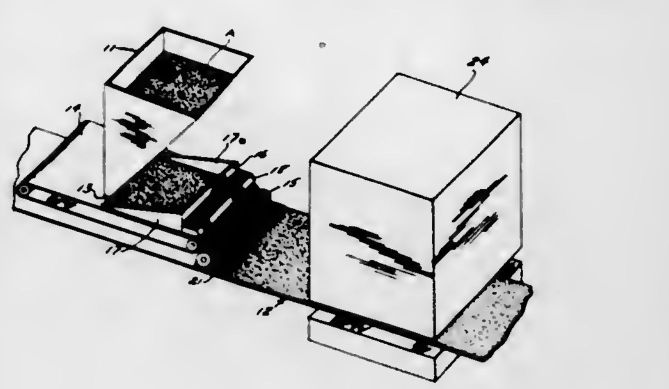


Device which may be either manually operated or power driven to apply bands of liquid coating materials uniformly and economically to cylindrical surfaces of cylindrical objects or web-shaped substrates which may be wrapped around a cylindrical mandrel.

3,376,849
APPARATUS FOR THE DISTRIBUTION OF GRANULAR MATERIAL

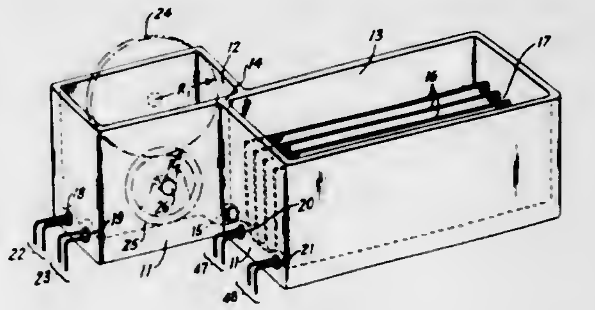
William H. Squier, Greenville, S.C., assignor to J. P. Stevens & Co., Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 14, 1963, Ser. No. 316,009
4 Claims. (Cl. 118—68)

An apparatus for distributing granular material having a conveyor belt for conveying granular material from a supply hopper through a rotating dispersing screen and finally onto a surface wherein the granular material is distributed evenly over the entire length and width of said surface.



3,376,850
APPLICATORS FOR MOLTEN THERMOPLASTIC ADHESIVE

Chester J. Pierce, Jr., Palo Alto, Calif., assignor to Kliklok Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 20, 1967, Ser. No. 617,401
5 Claims. (Cl. 118—202)



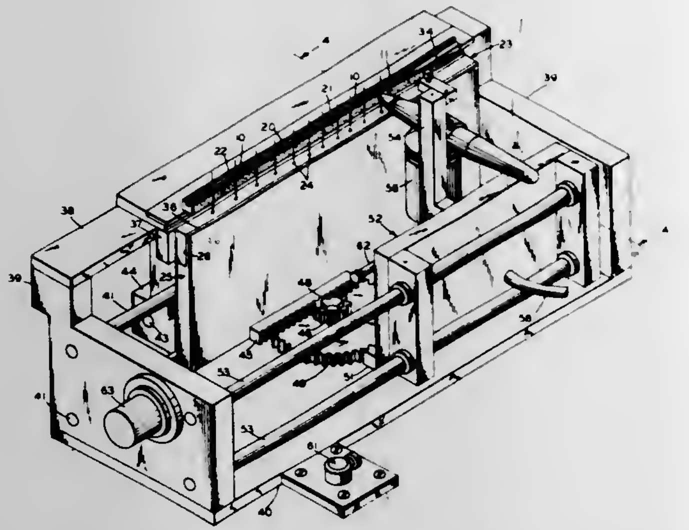
The present improvements bring about a reduction in the rate at which molten thermoplastic adhesives oxidize by providing two volumes of molten adhesive of which the larger one is maintained at a lower temperature than the smaller, and by maintaining the surface area of exposure of molten adhesive small in relation to its volume by the use of a deep chamber from the lower portion of which adhesive is supplied to an applicator wheel by a feeder wheel driven by viscous drag. A further similarly driven wheel collects strung-out threads of adhesive.

3,376,851
APPARATUS FOR HANDLING ARTICLES HAVING PARAMAGNETIC PORTIONS

William A. Schlemm, Fleetwood, and John E. Sorbo, Reading, Pa., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 9, 1965, Ser. No. 512,634
10 Claims. (Cl. 118—321)

A rack-like workholder having spaced, parallel bores is loaded with articles, each of which has a flange head and an elongated paramagnetic lead extending therefrom, with the leads extending into the bores. The workholder is moved relative to a bar magnet with the flange of each article engaging a top portion of the magnet and the lead of each article held against a side portion of the magnet.

The attraction of the leads and flanges to the magnet, together with the linear motion, tends to rotate the articles in the bores so that a coating apparatus coats the entire flange of each article.

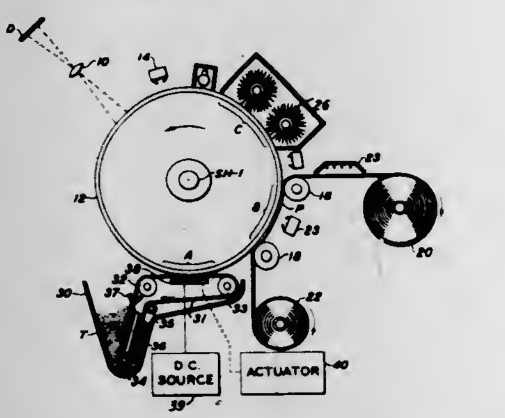


3,376,852
DIELECTRIC BELT DEVELOPING

Ernest A. Weiler, Pittsford, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Dec. 27, 1966, Ser. No. 604,943

5 Claims. (Cl. 118—637)



An electrostatic developing apparatus having an endless belt made from dielectric screened material and adapted to be moved into contact with a photoconductor plate during development of a latent electrostatic image on the plate. A tribo-generator is used to cause toner particles to adhere to the belt electrostatically and scrappers are provided to scrape off excess toner and force toner into mesh of the belt. A development electrode and means for controlling its movement toward and away from the run of the belt adjacent the plate is provided in order to control the application of toner particles during development of solid area and line copy images.

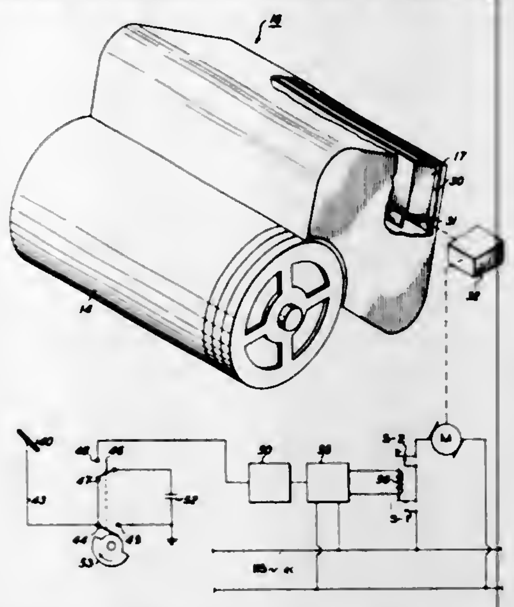
3,376,853
ELECTROSTATIC TONER CONTROL

Ernest A. Weiler, Pittsford, and William Keith Stillings, Penfield, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Apr. 29, 1966, Ser. No. 546,440

4 Claims. (Cl. 118—637)

A toner concentration control system for a recording apparatus in which a conductive plate within a developer housing is used to sense the amount of toner in the housing. A steady stream of developer material is directed across the plate which accumulates a charge induced thereon in proportion to the amount of toner. This induced charge is utilized to charge a capacitor which, when it attains a predetermined charged value, causes actuation of a toner dispenser mechanism.

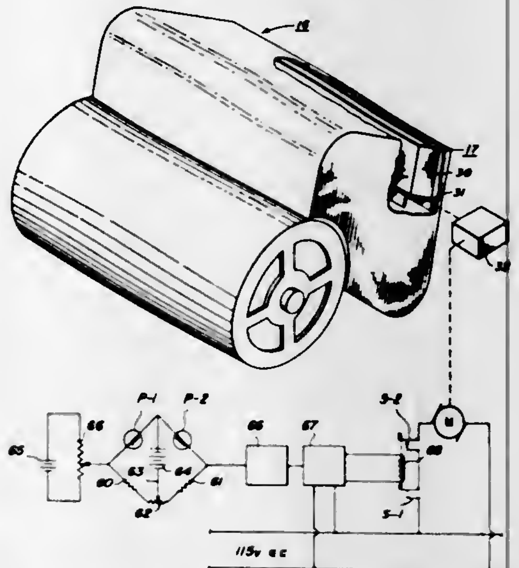


3,376,854
AUTOMATIC TONER DISPENSING CONTROL

Roman C. Kamola, Webster, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed June 1, 1966, Ser. No. 554,522

4 Claims. (Cl. 118—637)



A toner concentration control system for a recording apparatus in which a sensor comprising two parallel spaced NESA glass plates through which developer material flows serves to generate signals to automatically control toner dispensing. The lower plate has a pattern which is held at a potential to attract toner. A light source and photocell on either side of this plate senses the toner deposit per unit of time in accordance with toner concentration. Another photocell is arranged as a leg of a bridge circuit which includes the first photocell such that when the latter senses a toner situation away from the desired density effect, an unbalance of the bridge occurs causing toner dispensing.

3,376,855
ANIMAL CONTROL DEVICE

Arthur L. Mescher, R.D. 1, Box 3, Minster, Ohio 45865

Filed June 13, 1966, Ser. No. 557,127

5 Claims. (Cl. 119—29)

1. An animal control and restraining device comprising:

(a) an elongated member turned at one end,

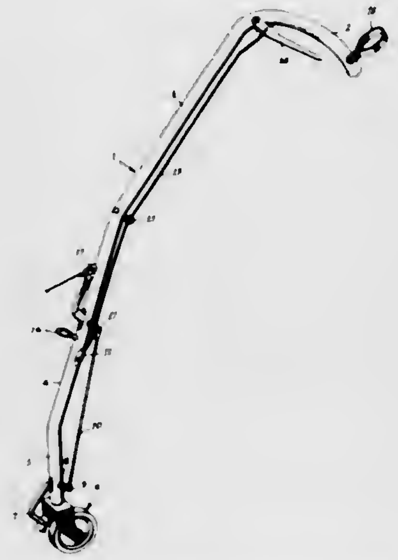
(b) a wheel rotatably mounted on the opposite end,

(c) brake means pivotally mounted to said elongated member and operative to stop rotation of said wheel,

(d) an L-shaped member pivotally mounted to said elongated member intermediate the ends,

(e) means capable of transmitting motion between said L-shaped member and said brake means,

(f) a spring biasing said last named means thereby rendering the brake inoperative during the normal period of use of said device,



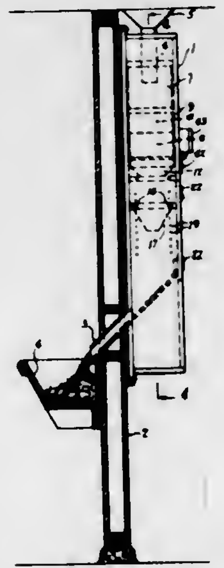
(g) handle means operatively connected to said elongated member to cause pivoting of said L-shaped member resulting in contact between said brake and said wheel, and

(h) means on one leg of said L-shaped member adapted to be connected with a leash, whereby a sudden pull thereon by an animal connected to the leash will move said brake into engagement with said wheel to stop rotation of same.

3,376,856
AUTOMATIC STOCK FEEDER

Huston D. Crippen, Coleswood, Esmont, Va. 22937
Continuation-in-part of application Ser. No. 546,929, May 2, 1966. This application Aug. 22, 1967, Ser. No. 662,490

12 Claims. (Cl. 119—52)



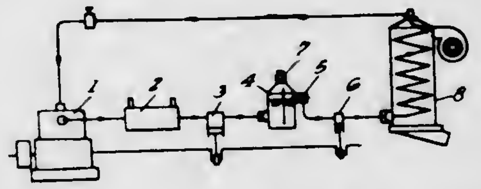
An automatic dispenser for delivering measured quantities of feed to a position for access by animals such as livestock, pets, and the like at regular intervals. The dispenser includes an upper storage compartment, a feed measuring hopper, and an electrically operated valve for initially blocking flow of feed from the hopper while permitting flow of feed thereinto from the storage compartment so that the hopper becomes filled with a measured quantity of feed, and for thereafter blocking flow of feed from the compartment while permitting delivery of the measured quantity of feed from the hopper to a feed trough or the like.

3,376,857
STEAM CONDENSERS

Robert J. S. Smith, 7 New Park Crescent, Falsgrave, Yorkshire, Scarborough, England

Filed Feb. 7, 1966, Ser. No. 525,703

6 Claims. (Cl. 122—1)



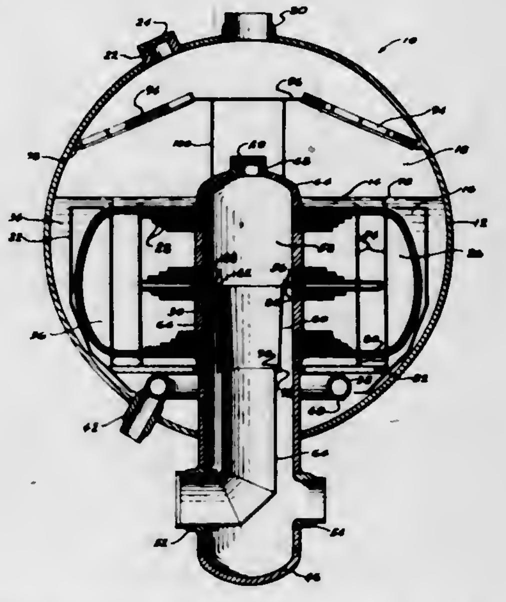
A method of and a system for the recovery of waste heat from the exhaust steam of a steam engine operated by a steam raising plant using low pressure compression to liquify the exhaust steam so as to form superheated water and feeding the superheated water so obtained back to the boiler of the steam raising plant.

3,376,858
STEAM GENERATOR WITH SPHERICAL STEAM GENERATING CHAMBER

Nicholas D. Romanos, Chattanooga, Tenn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware

Filed Dec. 27, 1965, Ser. No. 516,595

7 Claims. (Cl. 122—32)



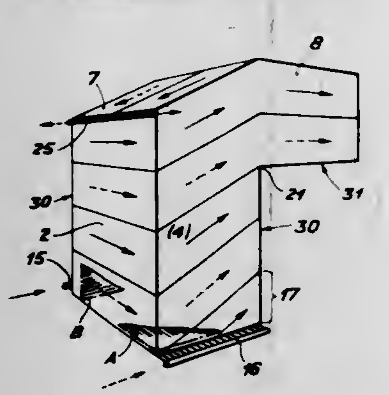
1. A heat exchanger wherein liquid is vaporized by indirect heat transfer from a fluid heating medium comprising: a spherically formed shell defining a substantially closed containment chamber; means for introducing liquid to said chamber to provide a liquid body therein defining a liquid space and a vapor space, each of said spaces occupying substantially the entire transverse area of said chamber and said vapor space having sufficient height to effect gravity separation of a major portion of the liquid contained in the vapor-liquid mixture produced therein; a vapor outlet from said vapor space; an axially disposed, generally cylindrical manifold penetrating said shell and including means dividing the interior of said manifold into separate fluid inlet and outlet compartments; a substantially annular tube bundle disposed in

said liquid space including a plurality of circumferentially spaced rows of U-tubes having their respective ends disposed in vertical planes and radially attached to said manifolds; means connecting one end of each of said U-tubes in communication with one of said compartments and the other end thereof in communication with the other of said compartments and the legs of said U-tubes being curvilinearly offset from the planes of said ends in mutually spaced relation.

3,376,859

PIPE LINING FOR A STEAM GENERATOR

Pawel Miszak, Winterthur, Switzerland, assignor to Sulzer Brothers, Limited, Winterthur, Switzerland, a corporation of Switzerland
Filed Sept. 27, 1966, Ser. No. 586,348
Claims priority, application Switzerland, Oct. 5, 1965, 13,751/65
5 Claims. (Cl. 122—235)

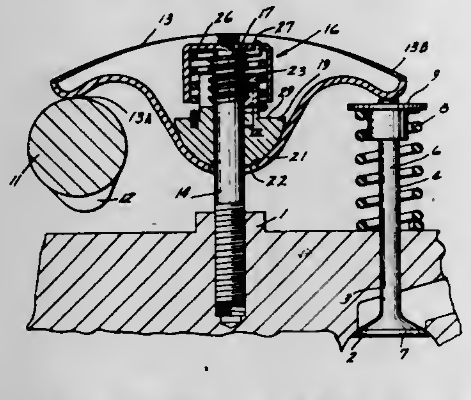


1. A lining for a steam generator having a combustion chamber of four side walls and a floor comprising
   a first plurality of parallel pipes disposed horizontally to form two opposite side walls of the combustion chamber,
   a second plurality of parallel pipes disposed angularly to the horizontal in communication with said first plurality of pipes to form the remaining two side walls of the combustion chamber,
   a third plurality of parallel pipes disposed in parallel to said first plurality of pipes to form the floor of the combustion chamber, and
   an inlet manifold at opposite ends of said floor, said pipes of said floor being alternately interconnected at each end to respective angularly disposed pipes of each respective one of said remaining side walls and to a respective inlet manifold.

3,376,860

MECHANICAL LASH ADJUSTER

Vernon A. Johnson, Southfield, and Sidney Oldberg, Birmingham, Mich., assignors to Eaton Yale & Towne Inc., a corporation of Ohio
Filed Jan. 11, 1966, Ser. No. 519,865
22 Claims. (Cl. 123—90)

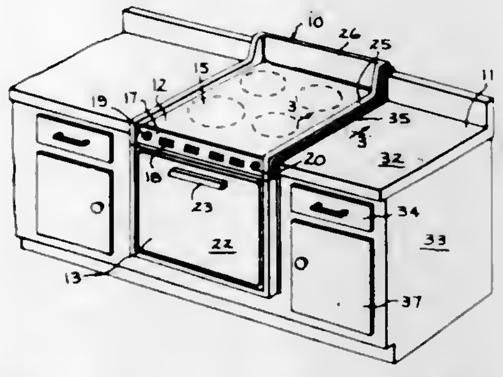


A mechanical lash adjuster for use in a force transmitting train having first and second overlapping members which define a linkage having a longitudinal axis and a releasable lock interconnection therebetween. When a longitudinal force is applied to the linkage the locked interconnection becomes released and causes a movement of one member with respect to the other member and a limited change of length of the linkage in the longitudinal direction. Reaction means are provided for yieldably opposing the movement and tending to effect the return of the members to their original position when the longitudinal force is removed therefrom.

3,376,861

BUILT-IN COOKING APPLIANCE WITH SIDE TRIMMING MEMBERS

Carl G. Bach, Jr., Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Sept. 14, 1966, Ser. No. 579,389
4 Claims. (Cl. 126—37)

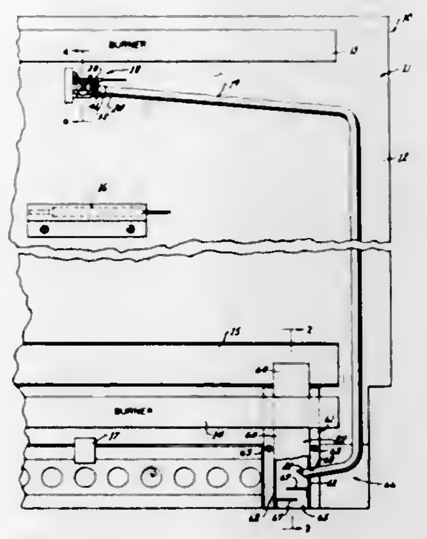


1. A one-piece built-in range comprising a combined cooktop and oven wherein the cooktop is provided with a plurality of heating units mounted therein, and the oven is disposed directly beneath the cooktop, supporting flanges extending outwardly from the side edges of the cooktop, and a supporting rail member for each of the two opposite sides of the range, each rail member being adapted to be fixed to an adjacent vertical side of a countertop and having a top surface configuration which matches the surface contour of the cooperating supporting flange of the cooktop so that the range may be slid into place on the rails into a mating relationship, and adjustable fastening means on the range for engaging the rail members and holding the range in place on the rails.

3,376,862

DOUBLE BURNER FUEL CONTROL SYSTEM

Fred Riehl, Greensburg, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Oct. 23, 1965, Ser. No. 503,385
13 Claims. (Cl. 126—39)

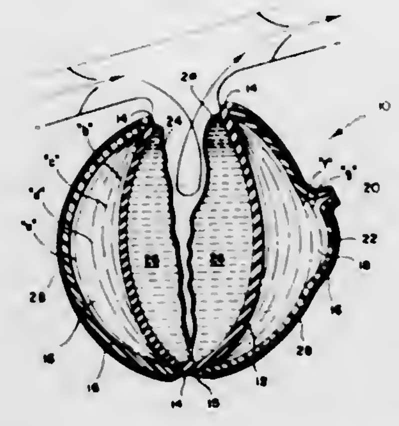


This disclosure relates to a pilot burner arrangement for the broil burner of a double burner oven wherein primary air is fed to the broil pilot burner by a snorkel tube having an inlet end disposed in communication with a baffle box in the lower end of the oven so that clean primary air from the baffle box will be fed through the tube to a primary air intake of the broil pilot burner disposed in offset fluid communication with the outlet end of the tube.

3,376,863

BIVENTRICULAR CARDIAC ASSISTER

Theodor Kolobow, Rockville, and Robert L. Bowman, Bethesda, Md., assignors to the United States of America as represented by the Secretary of the Department of Health, Education, and Welfare
Filed Feb. 9, 1966, Ser. No. 526,211
10 Claims. (Cl. 128—64)

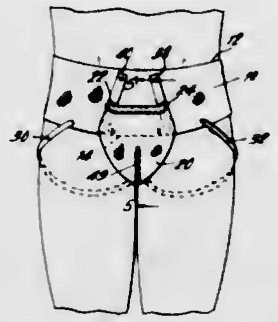


1. A biventricular cardiac assistor comprising:
   a rigid, generally conical shell having a vertex, an opening at the base opposite said vertex, an inner surface and an outer surface and defining a cavity generally complementary in shape to the ventricle portion of the heart;
   an elastomeric layer adjacent the inner surface of said rigid shell and defining an annular cavity therebetween;
   means to withdraw and apply fluid pressure to said annular cavity between said rigid shell and said elastomeric layer, the withdrawal and application of fluid pressure being to effect massage of the heart;
   a thin elastomeric liner within said elastomeric layer; and
   a gelatinous fluid disposed between said elastomeric layer and said elastomeric liner.

3,376,864

ABDOMINAL BELT AND ATHLETIC SUPPORTER

Max A. Gulack, 108 E. 37th St., New York, N.Y. 10016
Filed Oct. 20, 1965, Ser. No. 498,931
10 Claims. (Cl. 128—161)

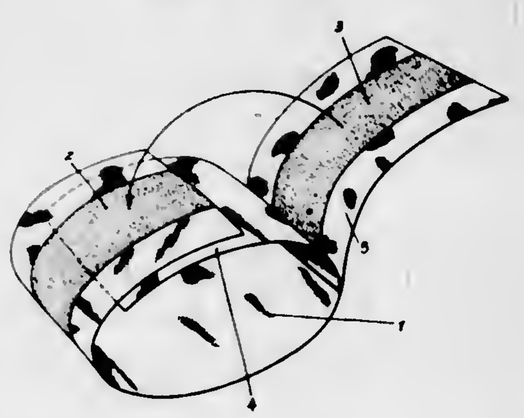


1. A combination abdominal belt and athletic supporting device comprising, in combination, a relatively wide belt adapted to encircle the body of the wearer, said belt being of a width adapted to extend over the major portion of the lower abdomen of the wearer, said belt defining a front lower portion thereof positionable so as to normally extend horizontally across and supportingly resting directly against the inguinal portion of the abdomen of the wearer, a pouch member defining an upper pouch portion normally in mutual overlapping contiguous positions relative to said front lower portion of said belt and normally disposed outside of said belt with respect to said inguinal abdominal portion of the wearer, said pouch member and said belt together carrying cooperating closure means comprising a plurality of distinct spaced fastening spot locations disposed above said front lower portion of said belt and arranged so as to permit lateral and vertical displacement of said upper pouch portion relative to said lower belt portion at said mutual overlapping positions thereof, said front lower portion of said belt and of said upper pouch portion being normally disposed in different geometric planes at a line considered vertically along their respective mutually overlapping positions, whereby said lower front portion of the belt provides supporting pressure directly against the inguinal portion of the abdomen of the wearer while said pouch member is freely movable relative to said belt without depending directly therefrom to provide a comfortable movable support for the genital organs of the wearer without excessive upward pull thereagainst from said closure means.

3,376,865

UMBILICAL BINDER

Myrtha Gamper, 37 Neptunstrasse, 8032 Zurich, Switzerland
Filed Nov. 1, 1965, Ser. No. 505,794
Claims priority, application Switzerland, Sept. 9, 1964, 15,988/64
3 Claims. (Cl. 128—169)



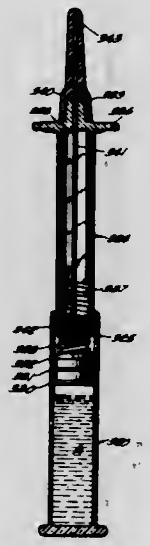
Umbilical binder in the form of an elastic belt with a split end forming two overlapping flaps, the opposite end carrying an adhesive strip of the "Velcro" type (as per U.S. Patent No. 3,054,400) which, upon insertion of the latter end between the two halves, co-operates with a second, similar adhesive strip on one of the flaps while the other flap forms a protective layer preventing contact between the adhesive strips and an infant's skin.

3,376,866

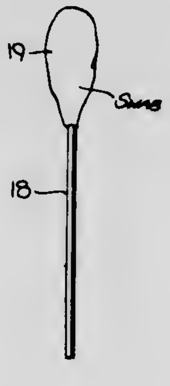
MEDICAMENT INJECTOR WITH ATTACHED VIAL

Robert W. Ogle, Phoenix, Ariz.
(811 W. 7th St., Los Angeles, Calif. 90017)
Continuation-in-part of application Ser. No. 474,413, July 23, 1965. This application May 19, 1966, Ser. No. 551,291
17 Claims. (Cl. 128—220)

A medicament injector comprising a cylindrical vial having an open end and a closed end, a resilient plug inserted at least partially through said open end engaging the walls of said vial with a press fit, a cylindrical member having one closed end and a needle extending both outwardly and inwardly from said cylindrical member with a sharpened inner end terminating within the walls of said cylindrical member, cooperating threaded interlocking means on said cylindrical member and said plug, whereby upon interlocking the said plug with said cylindrical member said vial is first held in an assembled but non-operating position and upon further interlocking of said plug with said cylindrical member said plug is pierced by said needle and said needle communicates with said vial and said plug is locked securely to said cylindrical member to permit aspiration upon withdrawal of said vial or to permit expulsion of the contents of said vial upon exertion of pressure on said vial. The plug and cylindrical member may be provided with a plurality of cooperating teeth extending towards each other which are adapted to releasably engage and lock to prevent relative rotative movement therebetween.

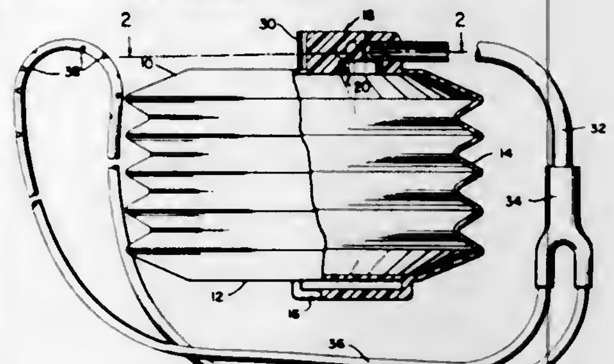


3,376,867
LINT-FREE MEDICAL APPLICATOR
Maurice S. Kanbar, 105 E. 15th St. 10003, and Raymond David Sudarsky, 422 E. 58th St. 10019, both of New York, N.Y.
Filed Nov. 25, 1964, Ser. No. 413,928
10 Claims. (Cl. 128—269)



3. A lint-free swab comprising a stick and a mass of adsorbent material attached to one end of said stick, said material being constituted by a tow of yarns each formed of continuous synthetic filaments, each yarn being individually false-twisted to enhance its adsorption properties, the false-twisted yarns being intertangled in said tow, said tow being wound about said stick.

3,376,868
SURGICAL EVACUATOR DEVICE
Dimitri G. Mondiadis, New York, N.Y., assignor to Howe Sound Company
Filed June 4, 1964, Ser. No. 372,479
6 Claims. (Cl. 128—278)



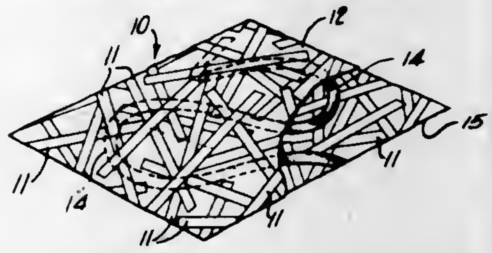
1. An evacuator device for removing and collecting fluids from a closed wound, said evacuator device comprising:

(a) a compressible pump-container of resilient elastomeric material having top and bottom portions connected by a corrugated sidewall having a wall thickness with elastic memory sufficient to expand said pump-container solely by the resiliency of its corrugated sidewall after it is compressed;

(b) a valve turret on said top portion defining the sole communication to the pump-container interior and having an evacuator tube opening therein adapted to receive an evacuator tube and a vent opening communicating with the atmosphere; and

(c) a resilient diaphragm connected to said top and adapted to seal said vent opening.

3,376,869
SURGICAL COLLAGEN FILM FORMED FROM RANDOM LENGTHS OF COLLAGEN TAPES OR STRANDS
Emil Borysko, Somerville, N.J., assignor to Ethicon, Inc., a corporation of New Jersey
Filed Feb. 21, 1964, Ser. No. 346,438
5 Claims. (Cl. 128—334)

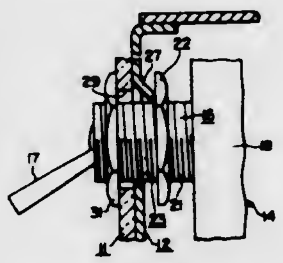


1. A collagenous film for use in surgical repair of soft body tissues having a tear strength of about 0.45 pound per mil of thickness, comprising a multiplicity of collagen tapes, each tape composed of individual collagen monofilaments united into a flat configuration, said tapes ranging in length from about 1 centimeter to about 3 meters, randomly disposed in a plane parallel to the surface of the film; said tapes intersecting each other and being bonded together by collagen fibrils at their contiguous surfaces form a unitary structure.

3,376,870
CRANIAL ELECTRODE CONSTRUCTION FOR SLEEP INDUCING MACHINE
Yujiro Yamamoto, 18611 Newton Ave., and Edwin S. Hemberg, 17171 Calvo Drive, both of Santa Ana, Calif. 92705
Filed Mar. 8, 1965, Ser. No. 437,752
3 Claims. (Cl. 128—410)

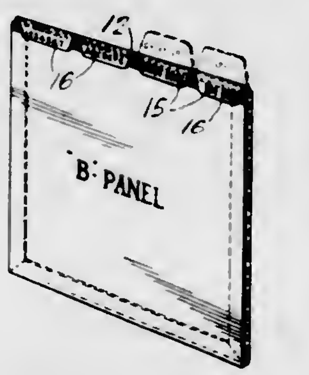
For use in a sleep inducing machine, an electrode construction including a pair of resilient, elliptically shaped eye electrodes each having a central opening and each being adapted to engage the wearer's eyelid without exerting substantial pressure on the eyeball, a frame for holding the eye electrodes in place and adapted to be supported therefrom, the frame having rearward portions extending above the ears and having posterior electrodes attached thereto, and means for supplying electrical current between the eye electrodes and the posterior electrodes.

3,376,871
MOUNTING MEANS
Gerald E. Baker, Washington Township, Mansfield, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 19, 1965, Ser. No. 508,723
4 Claims. (Cl. 248—27)



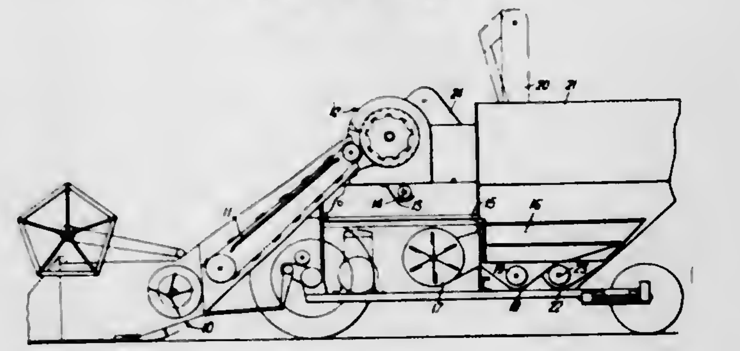
Mounting and alignment structure wherein a D-shaped aperture is provided in a support member and the flat portion thereof is lanced adjacent each end providing a resilient tab which is angulated relative to the plane of the aperture. An externally threaded member, having a matching flat and carrying a pair of movable abutment members in the form of hexagonal nuts, is insertable through the aperture and the nuts when threaded on the threaded member collapse the tab.

3,376,872
RECORD JACKET
Philip F. Durham, 108 E. Centennial, Muncie, Ind. 47303
Filed May 20, 1966, Ser. No. 551,697
5 Claims. (Cl. 129—16.7)



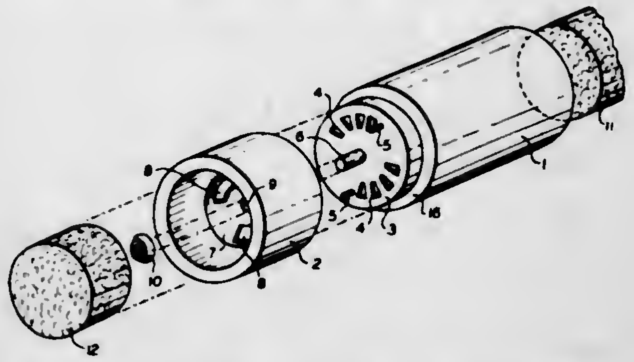
A record jacket constructed of two planar panels, one of which has a portion adjacent a top edge coated with a protective layer to receive a pressure sensitive adhesive and the second of which has a plurality of projecting tabs extending beyond its top edge having a pressure sensitive adhesive coating on the inside surfaces thereof which tabs when folded over the top edge of the first panel secure the top edges of the panels together, whereby a tamper-proof record jacket is provided.

3,376,873
THRESHING MECHANISM
Franz Herbsthofer, Kassel-Harleshausen, Germany, assignor to Massey-Ferguson G.m.b.H., Kassel, Germany
Filed June 3, 1965, Ser. No. 460,942
Claims priority, application Great Britain, June 4, 1964, 23,121/64
3 Claims. (Cl. 130—27)



A threshing assembly including a casing having first and second frusto-conical portions disposed in coaxial, end to end relationship and a third coaxial, part-cylindrical portion at the end of the second frusto-conical portion. A sieve covers the casing and a rotor is journalled coaxially within the casing for cooperation with a concave and with the casing wall to thresh and advance the material axially from the first casing portion to the third portion for discharge.

3,376,874
ADJUSTABLE CIGARETTE FILTERS
Yunil Kim, Namsik Kim, Yongsik Kim, and Jeonsik Kim, all of 58 Taiheungdong, Taijon, Korea
Filed May 27, 1965, Ser. No. 459,194
Claims priority, application Korea, Apr. 12, 1965, 798
7 Claims. (Cl. 131—207)



1. An adjustable cigarette filter for removing impurities, such as nicotine from smoke of a cigarette inserted in the filter, comprising

mouthpiece means defining a fluid flow passage for the flow of said smoke therethrough,

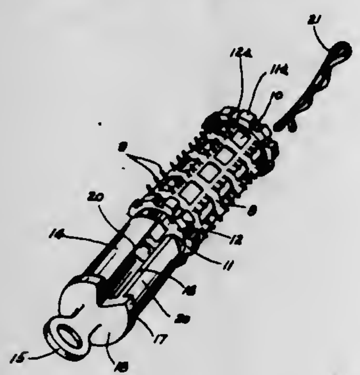
transversely extending wall means dividing said passage into first and second longitudinally disposed communicating chambers and including means permitting an increase and decrease, respectively, in the flow velocity of said smoke, when passing from one chamber to the other,

filter means in at least one of said chambers, and

adjustable restricting means in said wall means for selectively and manually adjusting the cross-section of said passage, whereby various degrees of said flow velocity can be adjusted for a control filtration of said smoke.

3,376,875
HAIR CURLER WITH REMOVABLE ROTATING MEANS

José Rosán, Rancho San Juan, San Juan Capistrano, Calif. 92675
Filed Feb. 25, 1964, Ser. No. 347,279
8 Claims. (Cl. 132—34)



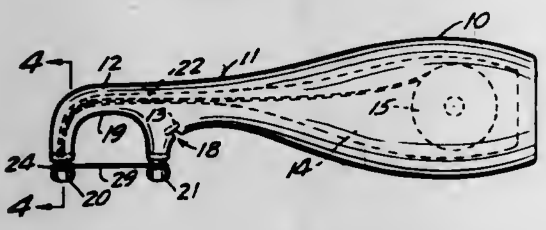
1. A hair curler comprising:

a first body, said body being substantially cylindrical and pliable, said first body being provided with integral external hair gripping means, an annular flange having grooves around the outer periphery thereof being positioned on at least one end of said first body, said first body having an internal longitudinal rib;

a second body, said second body being cylindrical and adapted to be accommodated within said first body, said second body being provided with means for interengaging said first body so as to permit simultaneous rotation of both the bodies, and means for rotating the second body, and said second body being and capable of being withdrawn from said first body after forming a hair curl around said first body.

3,376,876
ARTICLE FOR DENTAL HYGIENE

Roy C. Wicklund, Box 2, Alexandria, Minn. 56308
Filed Feb. 24, 1965, Ser. No. 435,092
6 Claims. (Cl. 132—92)



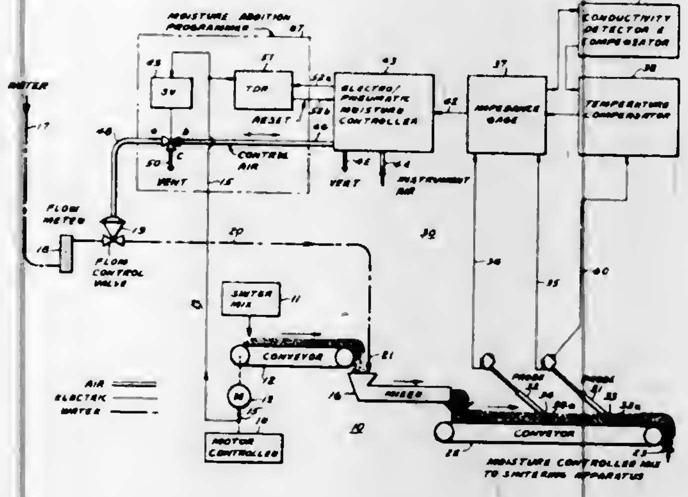
A container-dispenser and holding tool for payout of dental floss, in the form of a monolithic structure free of screw-threaded parts, having a handle containing a recess for a payout winding of dental floss, and a head with spaced apart stub-prongs equipped with dental floss holding means including an annular serrated friction surface, preferably in an annular groove, plus a pinching recess intersecting the annular groove and bifurcating each of the stub-prongs.

3,376,877
MOIST FEED MIX AIR PERMEABILITY CONTROL

Lloyd V. Fegan, Jr., Lebanon, Pa., assignor to Bethlehem Steel Corporation, a corporation of Delaware
Filed May 9, 1966, Ser. No. 548,757
22 Claims. (Cl. 134—57)

1. Condition-responsive apparatus for controlling the air permeability of a feed mix of movable particulate materials subject to treatment by a moisture addition device, said mix having electrical impedance excursions corresponding to physical variations in processing conditions, said apparatus comprising:

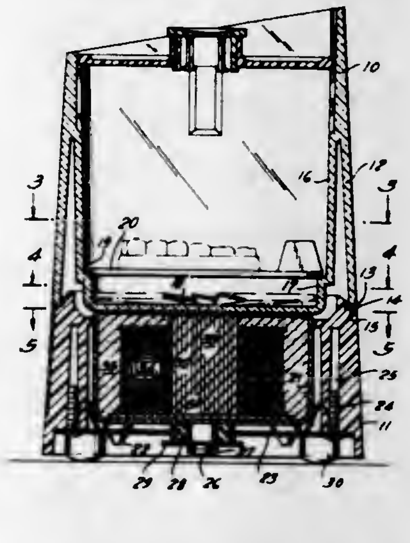
impedance-responsive measuring means for producing a proportional control signal in relation to the impedance of a movable bed of feed mix detected downstream of the moisture addition device, said measuring means including compensating means for offsetting the effects on detected impedance of variations in mix temperature and the conductivity of at least one mix ingredient;



means operatively associated with the moisture addition device and responsive to the compensated control signal for adding controlled amounts of moisture to the feed mix according to predetermined requirements, thereby controlling said air permeability.

3,376,878
CLEANING BATH

Richard E. Shoemaker, Lancaster, Pa., assignor to Schick Electric Inc., Lancaster, Pa., a corporation of Delaware
Filed Jan. 6, 1967, Ser. No. 607,771
10 Claims. (Cl. 134—188)



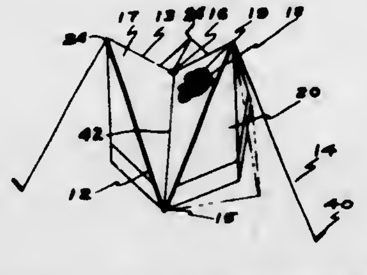
An electromechanical device for cleaning small items by agitating a liquid. An economical cleaning bath for consumer use which incorporates the same cleaning action at a lower frequency as that found in the industrial cleaners which utilize ultrasonic cleaning.

3,376,879
PORTABLE SHELTER

Carl F. Huddle, 3 Kenberton Drive, Pleasant Ridge, Mich. 48069
Original application Aug. 29, 1963, Ser. No. 305,483, now Patent No. 3,215.153, dated Nov. 2, 1965. Divided and this application Nov. 2, 1965. Ser. No. 513,668
11 Claims. (Cl. 135—1)

1. A portable shelter comprising a plurality of more than two triangular arches, said arches being inclined

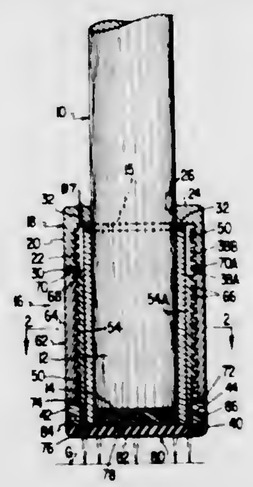
at an acute angle from a common support and tilted outward from the center of said shelter, a flexible membrane attached to said arches and stretched between them to



form a roof structure, and an anchoring system between said arches and said support for retaining said flexible membrane in tension.

3,376,880
NONSKID ATTACHMENT FOR THE GROUND-ENGAGING ENDS OF CANES, CRUTCHES AND THE LIKE

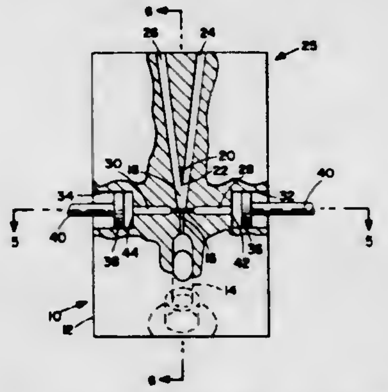
Walter Stark, Rte. 2, Milaca, Minn. 56353
Filed Apr. 27, 1967, Ser. No. 634,219
12 Claims. (Cl. 135—59)



A friction attachment for the ground-engaging end of a cane, the attachment comprising spike means extendable and retractable axially of and relative to the ground-engaging end of a cane, and manually operable means selectively controlling the movement of the spike means.

3,376,881
PISTON CONTROLLED PURE FLUID AMPLIFIER

Carroll B. Godwin, Burkville, Ala., assignor to the United States of America as represented by the Secretary of the Army
Filed Feb. 13, 1964, Ser. No. 344,790
5 Claims. (Cl. 137—81.5)

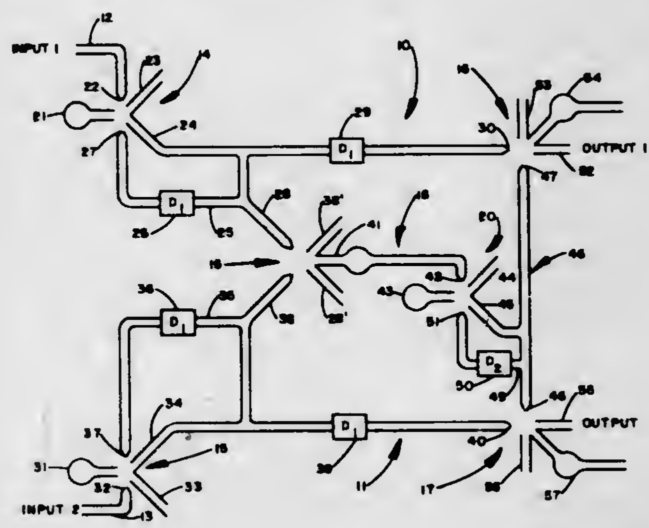


1. A fluid amplifier disposed for controlling the direction of fluid flow therefrom comprising:

(a) a body having a fluid inlet means supplied with a fluid to be controlled;
(a) a plurality of outlets disposed for controlled fluid flow therethrough;
(c) a chamber disposed in said body in communication with said inlet and said plurality of outlets; and
(d) means disposed in said body in communication with said chamber to increase pressure on one side of said fluid flow and decrease pressure on the other side of said fluid flow, said means comprising a pair of cylindrical apertures, each of said apertures disposed in communication with said chamber on opposite sides thereof and said means disposed in said body includes a piston mounted in said apertures for reciprocal movement therein to selectively vary the pressure across the fluid flow to create pressure differentials across said fluid flow and thus control the direction of fluid flow through said outlets.

3,376,882
FLUID LOGIC ANTI-COINCIDENCE DEVICE BY CANCELLATION

Edward Schoppe, Jr., Walpole, and Cavas M. Gobhai, Cambridge, Mass., assignors to The Foxboro Company, Foxboro, Mass., a corporation of Massachusetts
Filed June 24, 1964, Ser. No. 377,548
1 Claim. (Cl. 137—81.5)



1. A fluid logic anti-coincidence device wherein two pulse trains are compared, and wherein coincident pulses cancel each other out,

said device comprising, in combination,

a pair of parallel fluid systems each comprising a powered flip-flop input unit and a passive "and" gate output unit, and a fluid pulse train source for the input unit of each of said systems whereby one pulse train is provided for one of said systems and another pulse train is provided for the other of said systems,

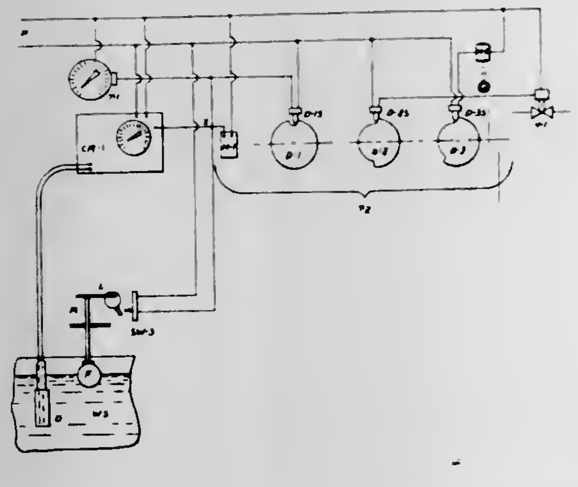
and a common fluid system operatively associated with both said parallel systems and comprising a passive "and" gate input unit and a powered flip-flop output unit,

said device having time related delay means in said parallel and common systems,

each of said pair of parallel fluid systems comprising, in said powered flip-flop input unit, a fluid power flow input, a branching vent output and a branching operating output from said flip-flop input unit, a pulse train control input to said flip-flop input unit as said pulse train source therefor, a feedback from said operating output as a control for said flip-flop input unit, delay means in said feedback, and a

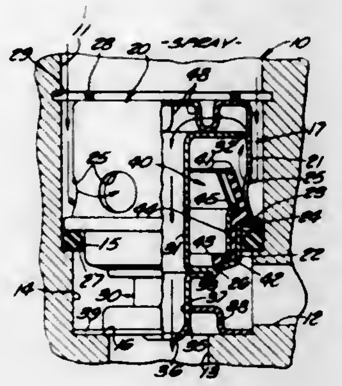
signal take-off passage from said feedback upstream of said delay means,
- a signal passage from said operating output to said passive "and" gate output unit, and delay means in said signal passage downstream of said feedback, and,
- said passive "and" gate output unit comprising said signal passage as one control input, another control input to said "and" gate unit, a direct output for each of said control inputs in the absence of the other, and an intermediate output for the interaction of both said control inputs,
- said common system comprising, in said passive "and" gate input therefor, two control inputs, one from said signal take-off passage from one of said parallel fluid systems and the other from the like passage of the other of said parallel fluid systems, a direct output for each of said control inputs in the absence of the other, and an intermediate output for the interaction of both said control inputs, and,
- said common system powered flip-flop output unit comprising, a fluid power flow source, a branching vent output, a branching operating output, a control input from said intermediate output of said common system "and" gate, a control passage from said operating output to both of said other control inputs to said passive "and" gates of said parallel systems, a control feedback from the signal of said operating output to said common system flip-flop unit, and delay means in said control feedback without applying said delay to said control passage,
- said time relation of said delay means being as follows: shortest time delay, the open systems from said pulse train inputs through said common system to the "and" gate outputs of said parallel systems; the next longest delay, the systems from said pulse train inputs directly to the "and" gate outputs of said parallel systems; the next longest delay, the feedback systems of the flip-flop units of said parallel systems; and the longest delay, the feedback system of the flip-flop output unit of said common system.

3,376,883
APPARATUS FOR CONTROLLING ACIDULATED BATH
Alfred Douty, Wyncote, Dwight E. Buczkowski, Oreland, and James W. Harrison, Wyndmoor, Pa., assignors to Amchem Products, Inc., Ambler, Pa., a corporation of Delaware
Filed Sept. 1, 1965, Ser. No. 484,254
7 Claims. (Cl. 137—88)



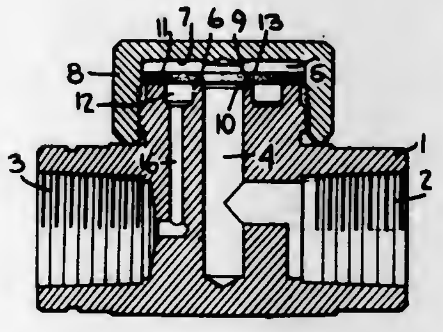
Apparatus is provided for automatically controlling an acidulated rinse bath for treating metal, which includes equipment for introducing concentrated active chemicals to the bath in coaction with equipment for introducing water for the bath, the equipment being controlled by switching means. The switching means are actuated directly or indirectly by closure of one or more of a group of three initiating switches, and the three initiating switches are respectively operated by a recycling proportional timer, a conductance sensitive relay in conjunction with a conductivity cell, and a level sensing device.

3,376,884
ANTI-SIPHON DIVERTER UNIT
Ernest H. Bucknell and Irving A. Ward, Los Angeles, Calif., assignors to Modern Faucet Mfg. Co., Los Angeles, Calif., a corporation of California
Filed Oct. 22, 1965, Ser. No. 501,390
5 Claims. (Cl. 137—119)



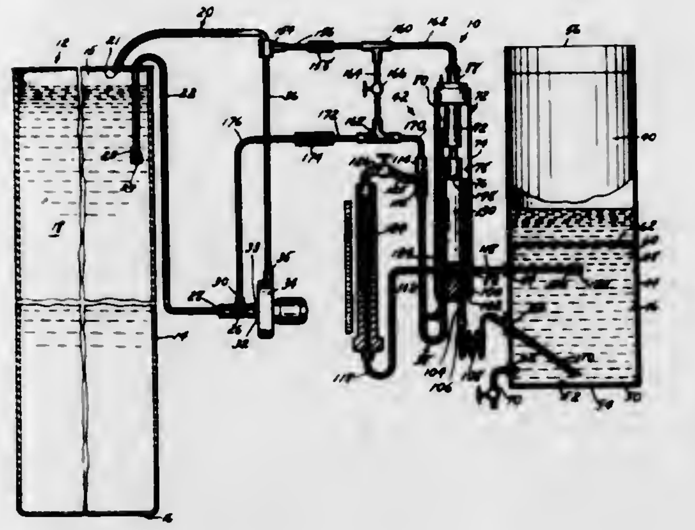
1. A diverter unit comprising cage means having plural ports therein and an opening in an end thereof,
- a valve member extending through said opening, and having flange means forming a piston within said cage means and forming a head external to said cage means, and
- valve means fixedly mounted within said cage means and having resilient segments adjacent said ports adapted to seal said ports, and having a resilient flange means adjacent said opening and adapted to provide a seal with said head upon predetermined longitudinal movement of said valve member.

3,376,885
STEAM TRAP
Eduardo L. Cusi, Buenos Aires, Argentina (935 Moravia St., Bethlehem, Pa. 18015)
Filed Aug. 23, 1965, Ser. No. 481,453
2 Claims. (Cl. 137—183)



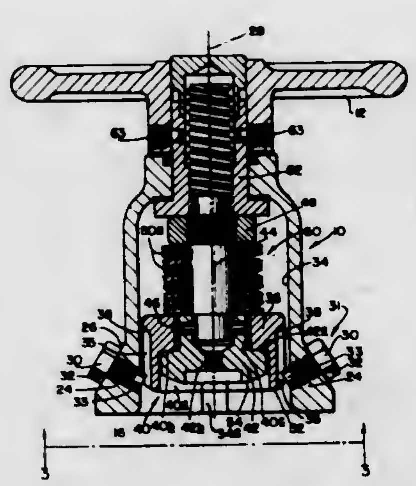
A thermodynamic steam trap provided with at least three outlet conduits connecting a control chamber with the steam trap outlet ports, the outlets having equal flow capacities irrespective of the length of their flow paths, and the outlets being placed symmetrically with respect to the valve disc of the trap such that during operation the sum of moments about the center of the valve disc is substantially equal to zero.

3,376,886
UNIVERSAL CHEMICAL FEEDER
Alfred Klein, Brooklyn, N.Y., assignor to Chemagnetics Controls Corporation, New York, N.Y.
Filed June 3, 1966, Ser. No. 555,058
8 Claims. (Cl. 137—268)



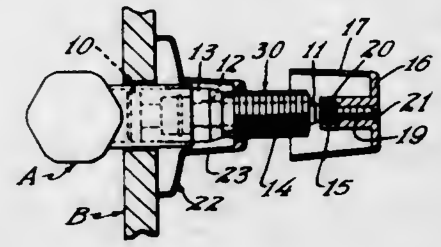
A feeder system for feeding controlled amounts of chemical into a body of liquid from a reservoir containing a solution of such chemical. A portion of the liquid in the body is drawn off under motor force and supplies a pulsating flow of fluid to the reservoir to encourage mixing. A return flow from the reservoir mixes with some of the drawn off fluid to provide a less concentrated solution of chemical which is returned and mixed with the fluid being replaced in the body of liquid.

3,376,887
DIAPHRAGM VALVES WITH MULTI-PART COMPRESSORS
Henry W. Boteler, East Greenwich, R.I., assignor to Grinnell Corporation, Providence, R.I., a corporation of Delaware
Filed Jan. 28, 1966, Ser. No. 523,621
12 Claims. (Cl. 137—316)



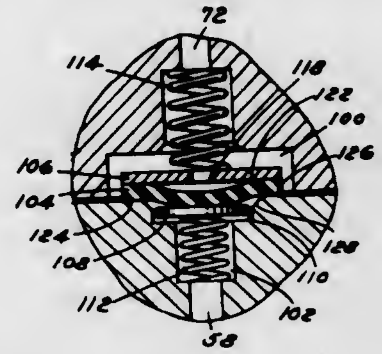
A diaphragm valve actuating mechanism having a multi-part compressor in which, during assembly of the valve, one compressor part can be temporarily held in a position, relative to another compressor part, which is more favorable to the connection of the diaphragm than the normal relative positions of these compressor parts with respect to each other.

3,376,888
ADJUSTABLE MOUNTING PLATES FOR VALVES
Robert C. Anthony, St. Paul, Minn., assignor to Union Brass & Metal Mfg. Co., Ramsey County, Minn., a corporation of Minnesota
Filed Oct. 24, 1965, Ser. No. 504,711
1 Claim. (Cl. 137—359)



This invention relates to an adjustable mounting flange for wall mounted valves wherein a valve stem and externally threaded nipple protrudes from a wall surface. The adjustable flange includes a first flange member encircling the nipple and having a wall engaging end and a smaller diameter outer end. A multi-sided socket is provided in the outer end, and an internally extending flange is provided at the base of the socket having a cylindrical aperture therethrough. A second flange member has a tubular sleeve-like body of a diameter to fit through the internally extending flange. A peripheral multi-sided flange encircles the sleeve-like body and is spaced from the end of the sleeve-like body a distance substantially equal to the axial length of said internally extending flange. The first and second flange members may be angularly related without being obvious.

3,376,889
FLOW CONTROL VALVE
Aladar O. Simko, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Apr. 20, 1964, Ser. No. 361,199
6 Claims. (Cl. 137—540)

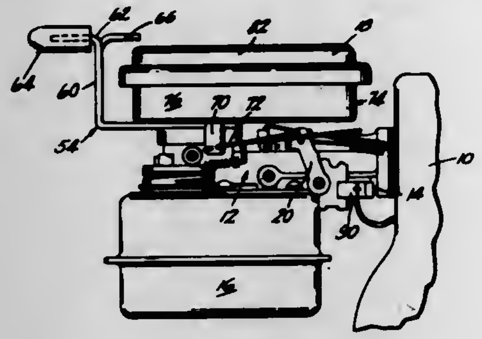


1. Fluid flow control means comprising, a fluid inlet line containing a fluid that varies in pressure, a fluid discharge line having means therein blocking its outlet below a predetermined pressure of fluid therein, and unidirectional flow control valve means between said inlet line and the inlet to said discharge line and movable in response to differential fluid pressure forces between said lines acting in one and the opposite directions to communicate or block, respectively, flow between said lines, said valve means having control means movable in response to a differential fluid pressure force acting in the opposite direction to block said flow and balance the pressures in said lines, said valve means comprising a valve bore connecting said lines and having a valve seat therein, a diaphragm in said bore adapted to engage said seat to block flow between said lines, a valve member adapted to overlay said diaphragm, means biasing said valve member and diaphragm against said seat to block the said flow, said valve member having an aperture

therein admitting fluid from said discharge line to act on one side of said diaphragm, said diaphragm being acted upon on its opposite side by the fluid in said inlet line, said discharge line fluid ballooning a portion of said diaphragm to increase the volume and decrease the pressure in said discharge line until the fluid pressure forces on opposite sides of said diaphragm are balanced, and means operable above a predetermined differential in said fluid pressure forces to limit ballooning of said diaphragm.

3,376,890
CARBURETOR-MOUNTED THROTTLE CONTROL

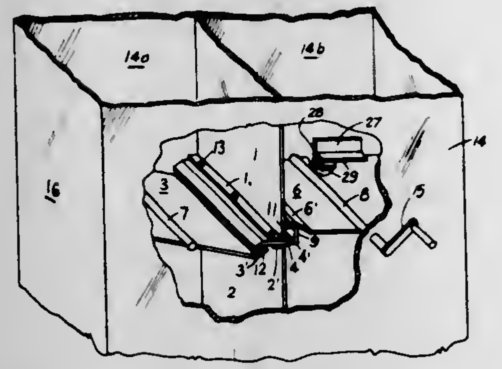
Rudolph A. Hanson and John E. Fischer, Jackson, Mich., assignors to Yard-Man, Inc., Jackson, Mich., a corporation of Michigan
Filed Apr. 13, 1966, Ser. No. 542,347
7 Claims. (Cl. 137—544)



1. A throttle control for an internal combustion engine comprising, in combination, an engine carburetor having a tubular air inlet having an axis, a lever having a handle portion defined thereon and a throttle link anchor defined on said lever adapted to be connected to an engine throttle link, an opening defined in said lever, said carburetor inlet extending through said opening whereby said lever is pivotally mounted on said carburetor inlet for rotation thereabout, and means restraining said lever against axial movement relative to said inlet.

3,376,891
DAMPER SEAL ARRANGEMENT

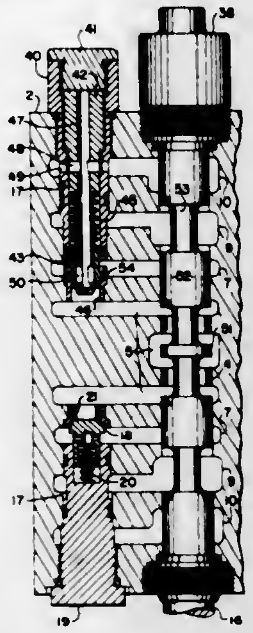
Frank J. Sizek, Rock Island, Ill., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed Feb. 16, 1966, Ser. No. 527,913
4 Claims. (Cl. 137—594)



1. A multizone seal arrangement comprising: a first zone through which fluid flows including damper means rotatable on a first axis to regulate fluid flow through said first zone; a second zone through which fluid flows disposed adjacent said first zone, said second zone including second damper means rotatably mounted about a second damper axis generally parallel to said first damper axis to regulate fluid flow through said second zone; a common partition separating said first zone and said second zone, said partition having an elongated aperture extending in a direction substantially parallel said damper axes; a sealing member including a base section coextensive with said aperture and cooperatively inserted in said aperture, a first damper sealing surface joined to said base section to extend into said first zone to be cooperatively engaged by said first damper in sealing relation when said damper is rotated to a selected position, and a second sealing surface joined to the opposite side of said base section to extend into said second zone to be cooperatively engaged by said second damper in sealing relation when said second damper is rotated to selected position.

3,376,892
DIRECTIONAL CONTROL VALVE

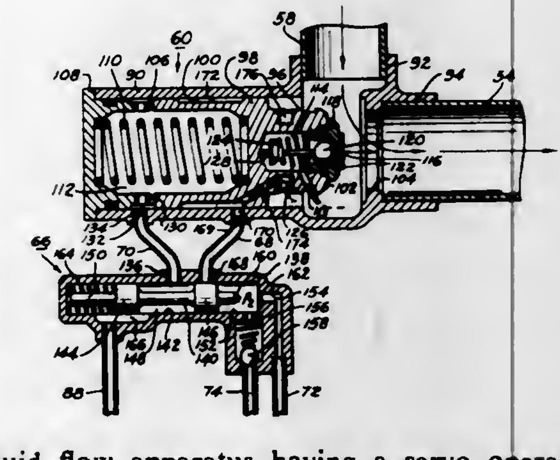
Hugh J. Stacey, Willoughby, Ohio, assignor to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Mar. 4, 1966, Ser. No. 531,951
10 Claims. (Cl. 137—596.12)



A directional control valve assembly having control or divider valves which regulate the rate of flow through the valve spool to a motor passage and also operate as load check valves to prevent flow of fluid in the opposite direction.

3,376,893
EMERGENCY FUEL SHUTOFF VALVE

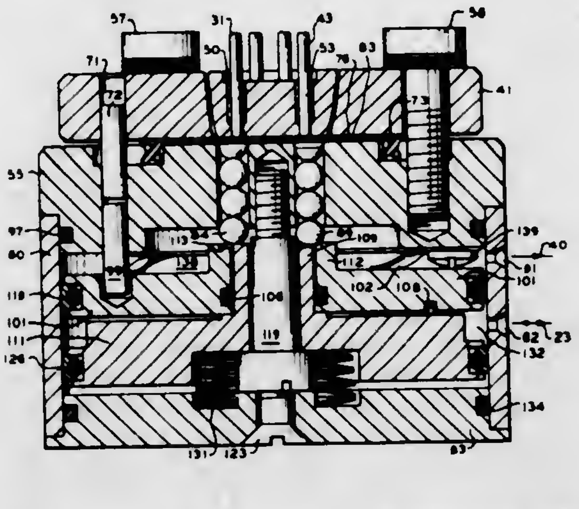
Howard L. McCombs, Jr., South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed Nov. 23, 1964, Ser. No. 413,112
Claims priority, application Sweden, Oct. 22, 1964, 12,756/64
4 Claims. (Cl. 137—599.2)



A fluid flow apparatus having a servo operated two position fluid flow shutoff valve movable to open or closed positions and a normally open spring loaded valve carried thereby for permitting a predetermined rate of fluid flow therethrough when said shutoff valve is closed. The spring loaded valve is flow responsive and actuated to a closed position when the fluid flow therethrough exceeds said predetermined rate.

3,376,894
VALVE

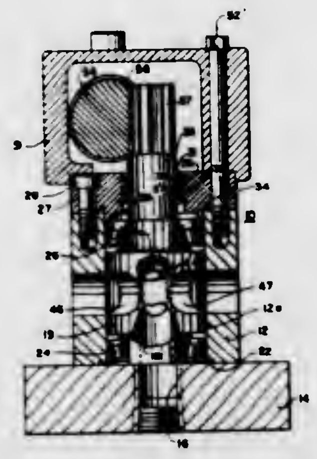
Arthur B. Broerman, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed May 6, 1965, Ser. No. 453,583
12 Claims. (Cl. 137—625.48)



A valve employing at least one plunger rod wherein the plunger rod is composed of a plurality of separate members which are contiguous with one another, optionally, the plunger rods being supported upon a rotatable means for moving one or more of said plunger rods relative to the remainder.

3,376,895
VALVE

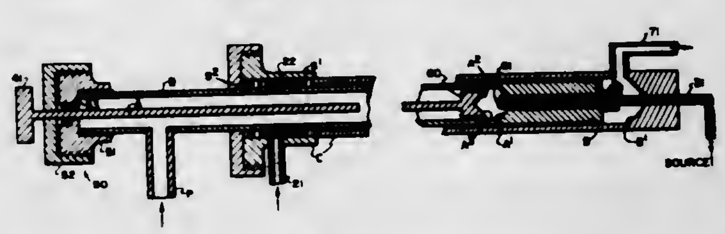
Edwin B. Pray, Springfield Township, Hamilton County, Ohio, assignor to Constellation Steel Mill Equipment Corp., a corporation of Ohio
Filed Oct. 21, 1965, Ser. No. 500,136
7 Claims. (Cl. 137—625.66)



1. A control valve which comprises a hollow body, a plug mounted in said body for swinging movement therein inside, a sub-plate supporting said valve body, there being an inlet opening in the sub-plate communicating with the interior of the body, there being an axial channel in the plug receiving fluid under pressure from the inlet opening, a cap overlying the valve body, tapered anti-friction bearings supported on the sub-plate and underlying the cap and rotatably supporting the plug, there being a radial port in the plug in communication with the axial channel, there being a pair of discharge ports and a return port in the body, the plug being swingable to bring the radial port into registry with each of the body ports, the radial port being of such width that the radial port communicates with at least one of the body ports at all times, there being channels in the wall of the plug, at least one of the wall channels providing communication between one of the discharge ports and the return port as long as the radial port is in communication with the other discharge port.

3,376,896
THREE-IN-ONE HIGH TEMPERATURE VALVE

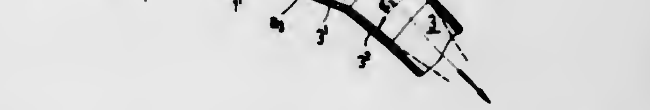
Rano Joseph Harris, Baton Rouge, La., assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Sept. 22, 1964, Ser. No. 398,208
3 Claims. (Cl. 137—637.2)



A valve for the control of high temperature gases includes sealing means physically and thermally isolated from the high temperature gases by supplying a cool fluid under positive pressure into the hot gas stream being controlled. Means are also included to provide a positive or negative pressure to a sliding seal of the valve to pressure balance said seal and prevent leakage therethrough.

3,376,897
PIPE BRANCH PIECE

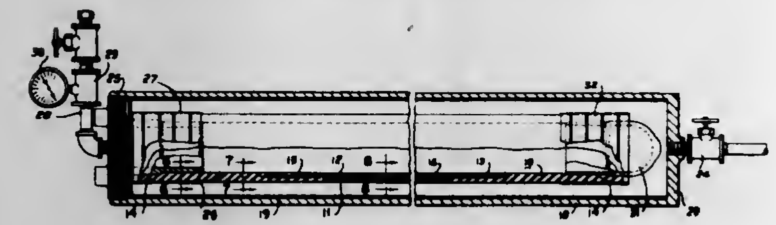
Guido Dolder and Noel Meystre, Zurich, Switzerland, assignors to Escher Wyss Aktiengesellschaft, Zurich, Switzerland, a corporation of Switzerland
Continuation of application Ser. No. 286,089, June 6, 1963. This application July 31, 1967, Ser. No. 657,420
9 Claims. (Cl. 138—39)



1. In combination a pressure line comprising a main pipe, at least two pipes of smaller diameter, and a branch piece consisting of a pipe leg of large diameter connected to said main pipe and at least two pipe legs of smaller diameter each connected to one of said pipes of smaller diameter, said pipe legs having adjoining pipe elements touching a common imaginary sphere and widening conically toward said imaginary sphere; said adjoining pipe element of said pipe leg of large diameter having an aperture angle of between 8° and 15°, said pipe leg of large diameter including a second pipe element widening conically toward said imaginary sphere, having an aperture angle of 5° at most, and interconnecting said adjoining pipe element and said main pipe; a reinforcing gusset provided in the interior of the pipe branch so as to extend along the junction line between the adjoining pipe elements of the pipe legs of smaller diameter; and said imaginary sphere having a diameter which is at least 1.15 times the diameter of the main pipe.

3,376,898
FLEXIBLE MEMBRANE

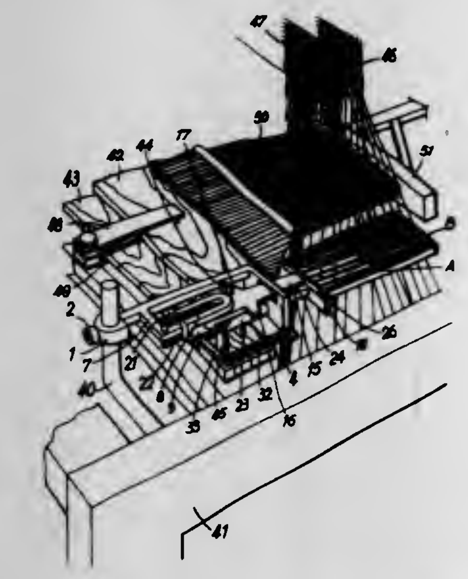
Dale G. Hugley, Dallas, Tex., assignor, by mesne assignments, to Koehring Company, Milwaukee, Wis., a corporation of Wisconsin
Filed June 21, 1965, Ser. No. 465,317
1 Claim. (Cl. 138—137)



A flexible membrane in which any desired number of layers of reinforcing material such as canvas may be vulcanized, the entire assembly being vulcanized together at its margins and constituting discrete, separate layers in its central portion to retain the flexibility of the membrance while providing extremely high strength thereto.

3,376,899
SELVEDGE FORMING MEANS IN LOOMS WEAVING TWO FABRICS SIMULTANEOUSLY

Juan Tubau Quintana, Calle de Sta. Joaquina de Vedruna 1, Berga, Barcelona, Spain
Filed Jan. 12, 1966, Ser. No. 520,241
Claims priority, application Spain, Jan. 23, 1965, 308,836
3 Claims. (Cl. 139—54)



A selvedge forming device for shuttleless looms for producing two parallel fabrics simultaneously comprises two grid-like selvedge-warp thread guiding frames arranged in parallel relationship and adapted to effect respective reciprocating movements in opposed sense for imparting to the selvedge-warp threads corresponding lateral displacing and crossing movements in order to interlace them with the respective weft threads so as to form compact selvedges in the two fabrics.

3,376,900
LOOMS OPERATING WITH MULTI-COLOR STATIONARY WEFT SUPPLIES

Oscar V. Payne, Greenfield, N.H., assignor to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts
Filed Sept. 24, 1965, Ser. No. 489,869
15 Claims. (Cl. 139—122)

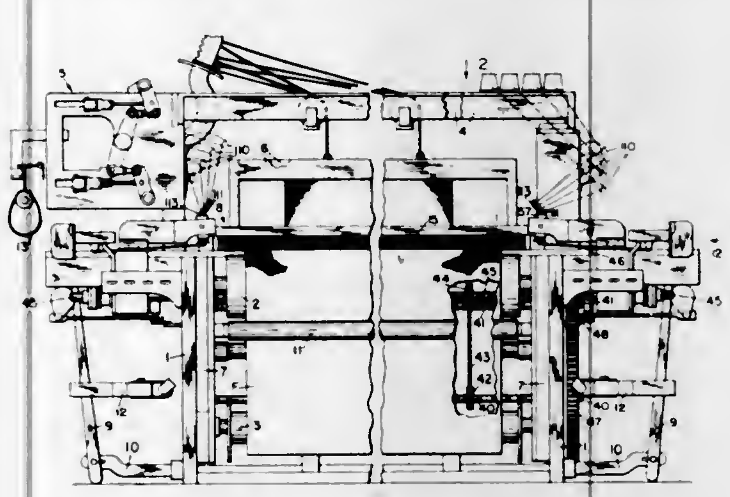
1. In a loom having stationary packages of diverse weft and a gripper shuttle for gripping a weft and carrying it through a warp shed, selective weft presenting means comprising:

(a) a moveable carrier on at least one side of said loom, moveable between a weft retrieval position adjacent the edge of the fabric being woven on said loom and a weft presenting position away from the edge of said fabric;

(b) a plurality of weft presenters moveably mounted on said carrier so as to be moveable between active and inactive positions;

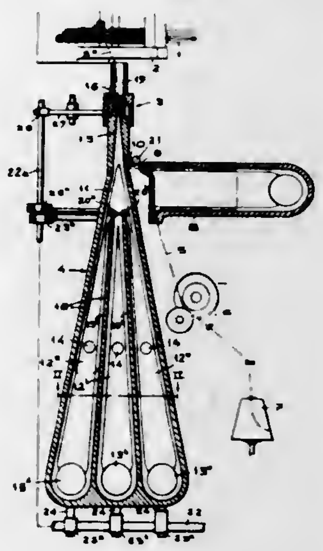
(c) means to move said carrier between said yarn retrieval and presenting positions; and

(d) selective control means for selectively moving said weft presenters into their active positions, whereby selected wefts will be presented to the gripper shuttle when the carrier is in its presenting position and the weft will be retrieved from said fabric edge when the carrier is in its retrieval position.



3,376,901
DEVICE FOR MAKING UP A WEFT TO BE USED IN CONNECTION WITH A LOOM

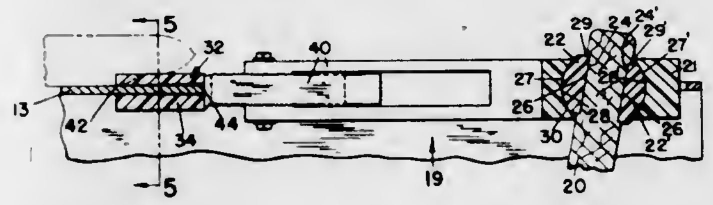
Lambertus Te Strake, Deurne, Netherlands, assignor to N.V. Machinefabriek L. Te Strake, Deurne, Netherlands, a Dutch company
Filed Nov. 2, 1965, Ser. No. 506,067
Claims priority, application Netherlands, Nov. 3, 1964, 64—12,785
8 Claims. (Cl. 139—127)



A device for making up a weft to be used in connection with a loom, comprising apparatus for taking up a measured length of thread drawn from a thread package, which apparatus is associated with a blowing device for inserting such measured length of thread from said apparatus into the shed of the loom by jet action, at least two channels forming part of said apparatus, each of which is in the form of a shaft for receiving a loop constituting a portion of such measured length of thread, each of which has one end debouching into a central chamber that is common to the channels and is connected to the blowing device, and each of which has at its other end an outlet for withdrawal of a stream of air to draw such loop into the channel.

3,376,902
LOOM PICKER MECHANISM

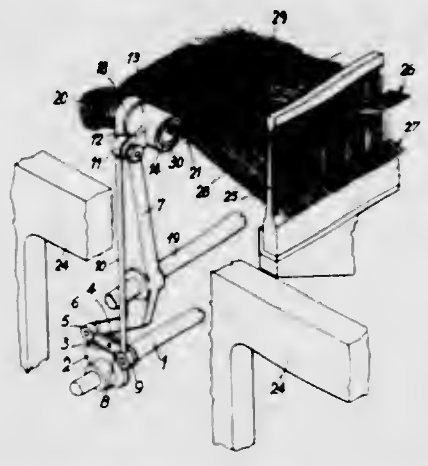
Elliott E. Bradish, Worcester, Mass., assignor to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts
Filed Sept. 26, 1966, Ser. No. 582,083
6 Claims. (Cl. 139—159)



An elongated picker which has a portion that is longitudinally guided on the picking end and pivotally connected to the picker stick on the opposite end, so as to provide a parallel picking motion to the shuttle.

3,376,903
WEFT THREAD ASPIRATING AND CUTTING DEVICE FOR SHUTTLELESS LOOMS

Ramón Balaguer Golobart, 86 Calle Caspe, Barcelona, Spain
Filed Feb. 21, 1966, Ser. No. 528,717
Claims priority, application Spain, Feb. 23, 1965, 310,082
2 Claims. (Cl. 139—302)

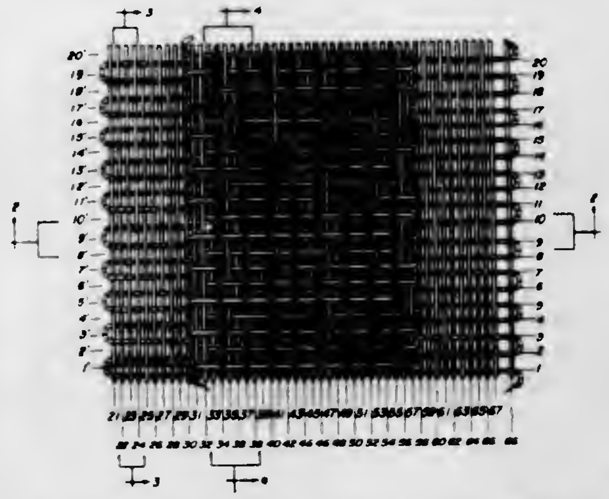


In a shuttleless loom, the cutter for the wefts along the selvage edge comprises two closely fitted concentric tubes connected to a suction line. At the ends remote from said suction line, the tubes have two registering knife-edged cut-outs which, on oscillating movement of one of the tubes, cut the weft sucked into the mouth of the tubes.

3,376,904
NARROW FABRIC WITH LATERAL DIMENSIONAL STABILITY

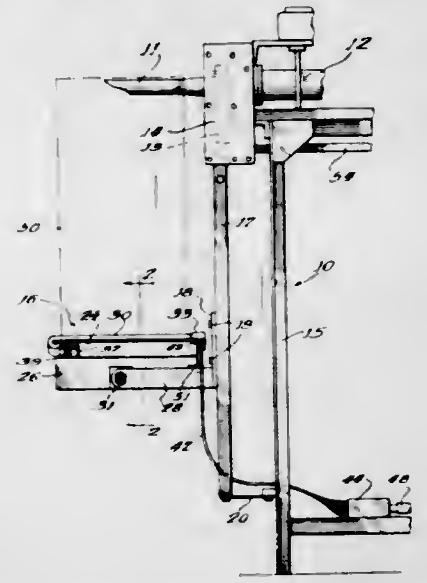
Raymond E. Bellmore, West Springfield, Mass., assignor to United Elastic Corporation, Easthampton, Mass., a corporation of Massachusetts
Filed May 23, 1966, Ser. No. 552,246
3 Claims. (Cl. 139—423)

A dimensionally stable elastic fabric is woven with paired weft threads, one soft and one stiff, springy, such as monofilament polypropylene. There is provided warps for a back surface and warps for a front surface, the back warps being soft and the front warps including elastic warps. The soft wefts weave through the back warps and the stiff wefts weave through the front. Essentially the weave can be considered as a tubular weave with stitching threads holding the front and back surfaces together. At each edge there is a single series of warps which are woven only with soft wefts. The stiff, springy wefts for the front surface are woven only in a central zone. As a result, the front surface provides for dimensional stability and beautiful pattern, whereas the back surface is soft, both its warps and its wefts, and thus when applied to a garment worn next to the skin has no harsh feel.



3,376,905
BAG SETTLER FOR BAG FILLING MACHINE

Erwin M. Lau, Dolton, Ill., assignor to Black Products Co., Chicago, Ill., a corporation of Illinois
Filed Nov. 29, 1965, Ser. No. 510,279
8 Claims. (Cl. 141—76)



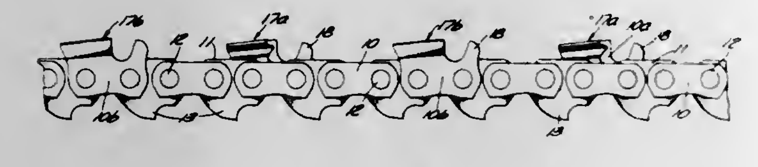
A bag filling machine includes a bag, a saddle hanger, and a settler, all being mounted on the scale mechanism of the machine. The settler includes a pair of inclined saddle plates spaced from each other and pivotally mounted on bracket arms extending forwardly from the saddle hanger. Overlying each saddle plate is a pneumatic pad which serve as vibrating elements and also perform a cushioning function. An air pump is mounted on the machine frame or on the floor. The two ends of the pump cylinder are each connected to a separate manifold. Each manifold is connected to one of the pneumatic pads by a plurality of flexible conduits. The conduits being flexible do not interfere with the tilting or vertical movement of the saddle plates. Each pneumatic pad comprises a length of flexible rubber tubing having header means at one end to provide a connection with the plurality of flexible conduits. The other end of the rubber tubing is folded under the saddle plate and secured thereto by a clamping plate.

3,376,906
ROUTER CUTTER WITH RELIEVED OUTER TOE SURFACE

William L. Gasner, Gardena, Calif., assignor to McCulloch Corporation, Los Angeles, Calif., a corporation of Wisconsin

Filed Feb. 15, 1966, Ser. No. 527,611

7 Claims. (Cl. 143—135)



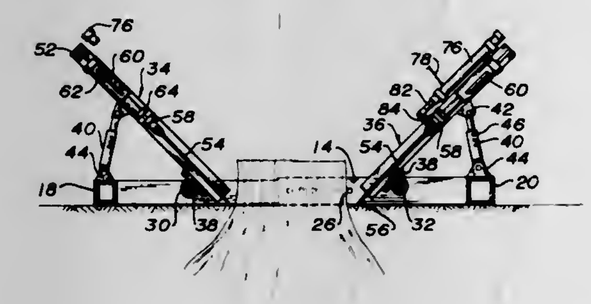
A chain saw cutter including a planar mounting plate portion, a shank portion extending away from and deflected laterally of this plate portion, and a toe portion. The toe portion extends from the shank portion and is directed generally back toward and over the mounting plate portion so as to extend transversely of this mounting plate portion. Cutter surface means is carried by these shank and toe portions. The toe portion includes a side facing away from the mounting plate portion. The cutter is characterized by first and second stabilizing surface means, both of which are formed on the aforesaid toe portion side and extend longitudinally of the toe portion. The first stabilizing surface means extends in one direction generally transversely of a plane parallel to the mounting plate portion. This first stabilizing surface means generally converges with the aforesaid reference plane in a direction facing generally toward the mounting plate portion. The second stabilizing surface means extends in a direction generally opposite to the aforesaid one direction and transversely of the reference plane. The second stabilizing surface means converges with the reference plane in a direction facing generally toward the mounting plate portion. Both the first and second stabilizing surface means converge toward the reference plane in a direction facing generally toward the mounting plate portion.

3,376,907
TREE STUMP REMOVING APPARATUS

Hugh E. McNeal, 9124 Cambon Court, Spring Valley, Calif. 92077

Filed June 14, 1966, Ser. No. 557,482

10 Claims. (Cl. 144—2)



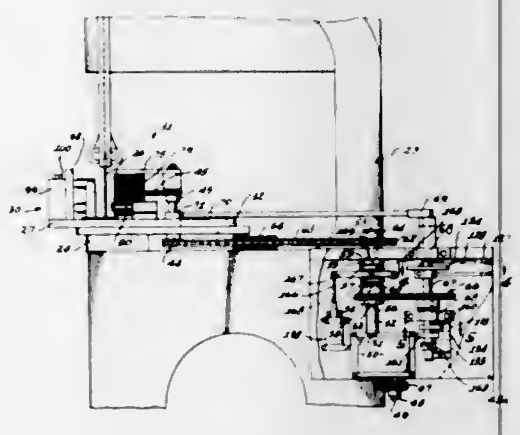
1. A tree stump cutter comprising a main frame defining a central opening for receiving the stump therethrough, first and second subframes supported on said main frame in diametral opposition adjacent said opening, first and second stump severing blades slidably supported on respective said subframes for movement therealong, means for adjusting the angle of said subframes so that said blades are convergingly directed downwardly and inwardly of the stump below the ground surface, and means for driving said blades along said subframes into said stump.

3,376,908
AUTOMATIC CONTOUR CUTTING

Don C. Van Sickle, 321 Primrose Ave., Redlands, Calif. 92373

Filed Dec. 2, 1965, Ser. No. 511,035

15 Claims. (Cl. 144—242)



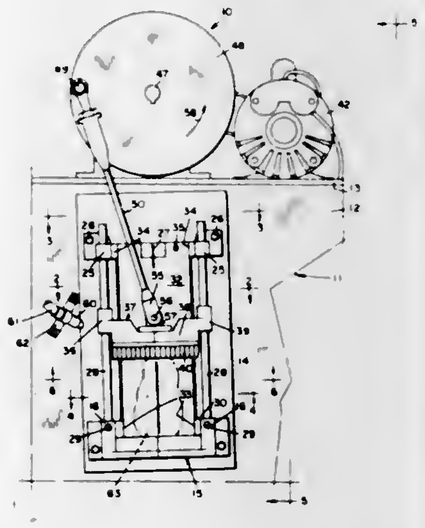
A work feeding apparatus for power tools of the type having a cutting tool operating in a fixed zone, the apparatus having angular and linear feeds automatically operable in a sequence to effect contour cutting of the workpiece in contours including either or both of straight lines and curved edges, the automatic sequence of operation of the apparatus being a function of the feeding of the workpiece through the tool zone and through the feeding devices.

3,376,909
VEGETABLE-SLICING APPARATUS

Herbert S. Murphy, Church Road, Moorestown, N.J. 08057

Filed Feb. 17, 1966, Ser. No. 528,168

6 Claims. (Cl. 146—169)



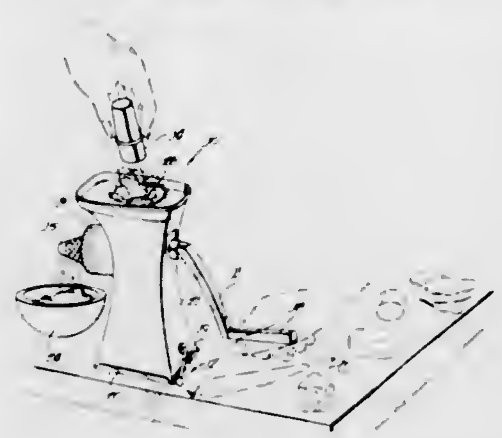
This invention is essentially concerned with slicing apparatus for vegetables wherein an upwardly facing cutter assembly provides a rest for supporting a vegetable prior to cutting, a back member upstands from the back of the cutter assembly having its forward side hollow to maintain a vegetable generally upright leading on the back member, a pusher is mounted on ways for reciprocatory movement downwardly toward and upwardly away from the cutter assembly for pushing a vegetable through the cutter assembly, and a powered crank is mounted over the pushed for operating the latter.

3,376,910
FOOD PROCESSOR

Samuel J. Popeil, 2920 N. Commonwealth, Chicago, Ill. 60657

Filed Nov. 26, 1965, Ser. No. 509,695

18 Claims. (Cl. 146—185)



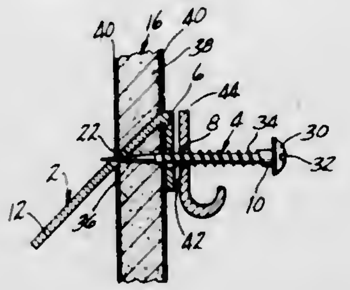
A manually operated compact food processor having a screw auger which is provided with an increasing pitch on the screw or auger conveyor adjacent the feed tube. Also, lead threads which assist in achieving a high degree of comminution by the co-operation of the screw threads and longitudinal cutting ribs within the auger chamber of the food processor are provided. A Gothic thread form with an increasing pitch diameter in the auger chamber is provided to assist in assuring comminution and minimizing compaction.

3,376,911
FASTENER

Robert W. Henning, North Haven, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed May 24, 1966, Ser. No. 552,522

5 Claims. (Cl. 151—41.73)



A fastener including a clip for driving into a dry wall, the clip having a first planar portion with an aperture therein and a second integral planar portion disposed at an angle to the first planar portion, the second planar portion having an opening in alignment with the aperture. Screw means are provided for insertion through the aperture, the screw means to be driven through the dry wall and into engagement with the sides of the opening in the second planar portion.

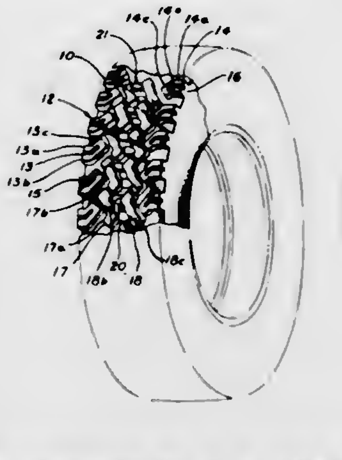
3,376,912
TIRE TREAD FOR SPECIAL USE TIRE

Michael Tiborcz, 714 W. Market St., Akron, Ohio 44303

Filed Feb. 28, 1966, Ser. No. 530,584

5 Claims. (Cl. 152—209)

A pneumatic tire with a road contacting tread surface characterized in a series of clusters of protrusions and depressions arranged circumferentially of the tire. The protrusions being characterized by having reduced angular relationships to the direction of travel of the vehicle. The clusters comprising pairs of protrusions having a planar configuration corresponding to a bent U, a planar configuration corresponding to a double Z and a planar configuration that is generally oval.

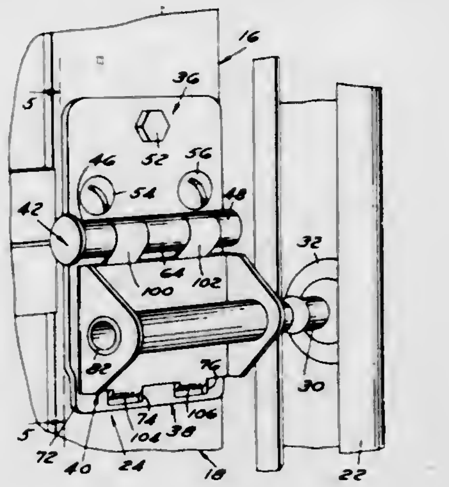


3,376,913
HINGE AND ROLLER CARRIER ASSEMBLY

Victor E. Clapsaddle, Bellmore, N.Y., assignor, by mesne assignments, to Kinnear Corporation, a corporation of Ohio

Filed Oct. 20, 1966, Ser. No. 588,063

6 Claims. (Cl. 160—201)



5. In a sectional overhead door installation, the combination comprising track means, an overhead sectional door comprising a plurality of successive and adjacently disposed door panels supported along the side edges thereof by said track means, and hinge means connecting adjacent panels for articulated operation thereof, said hinge means including at the side edges of said door panels a combined hinge and track roller supporting assembly including a first hinge leaf secured to the inner face of a door panel, a second hinge leaf secured to the inner face of an adjacent door panel, a roller carrier fixed on said second hinge leaf and having a sleeve spaced outwardly from said second hinge leaf and extending parallel to the articulation axes of the door panels, a roller unit including an axle shaft journalled in said sleeve and a roller guided by said track means, said leaves and said roller carrier having hinge eyes interdigitally and coaxially registered, a common pintle removably received axially through said hinge eyes, said carrier and said second leaf having means forming a disconnectable tongue and slot connection therebetween spaced remote from said hinge eyes whereby said carrier is secured in removably fixed relation to said second leaf by said hinge eyes and pintle and by said tongue and slot connection.

3,376,914
PRODUCTION OF METAL INGOTS, SLABS AND BILLETS

Joseph Gordon Emmott, Birmingham, England, assignor to Foseco International Limited, Birmingham, England, a British company

No Drawing. Filed Oct. 28, 1964, Ser. No. 407,240

Claims priority, application Great Britain, Nov. 4, 1963, 43,520/63; Mar. 16, 1964, 10,913/64; May 26, 1964, 21,735/64

14 Claims. (Cl. 164—33)

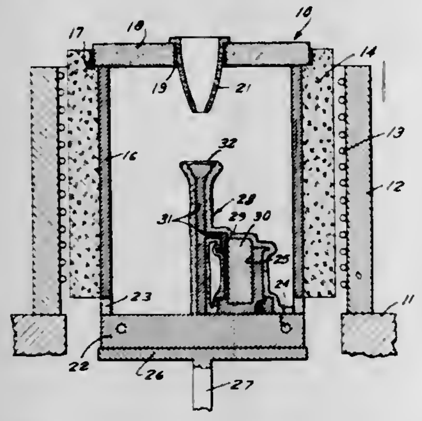
A method for the production of ingots of steel and slabs and billets of Cu, Ni and alloys of each that prevents the formation of oxidation defects, and comprises pouring a molten metal into a metal mold, characterised in that there is placed in the bottom of a mold, the walls of which are free from mold dressing, a tablet or a fused tablet of a carbocyclic chemical substance which comprises carbon and hydrogen, burning the substance not later than the pouring of the molten metal into the mold, with the substance on burning causing a non-oxidising, non-corrosive vapor and a deposit of carbon particles on the walls of the mold, the particles being adherent to the walls because of the adhesive action of material deriving from the substance.

3,376,915
METHOD FOR CASTING HIGH TEMPERATURE ALLOYS TO ACHIEVE CONTROLLED GRAIN STRUCTURE AND ORIENTATION

George D. Chandley, Alliance, Ohio, assignor to TRW Inc., a corporation of Ohio

Filed Oct. 21, 1964, Ser. No. 405,401

8 Claims. (Cl. 164—51)



Method and apparatus for casting of high temperature allows of controlled grain structure and orientation, wherein a porous mold is preheated prior to introduction of the molten metal such that the temperature at the bottom of the mold is the lowest and that at the top of the mold is the highest, pouring the molten metal into the preheated mold, and solidifying the melt therein under conditions of controlled cooling.

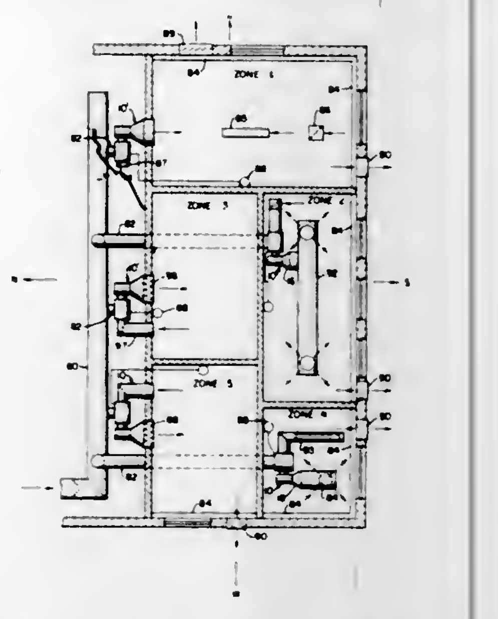
3,376,916
ZONE AIR CONDITIONING APPARATUS

Thomas G. Gressett, 6154 Windermere Circle, Littleton, Colo. 80120

Filed Oct. 24, 1965, Ser. No. 504,379

10 Claims. (Cl. 165—22)

10. In an air conditioning system having a central cold air source provided with common, cold air delivery means for distributing cold air from said source to each of a plurality of zones in a multiple zone building in which each zone is subject to variable heating and cooling load requirements, the combination therewith of air distribution control means for each zone comprising a cold air inlet communicating with said common cold air delivery means and a return air inlet communicating with each zone, air discharge means to induce the flow of air through said cold air and return air inlets from a point downstream of said inlets for discharge at a constant volume into the zone, means for sensing the temperature level in each zone, and temperature-responsive damper control means between said inlets and said discharge means for controlling the proportionate flow capacity of cold air and return air discharged into the zone in response to the temperature level sensed in that zone.

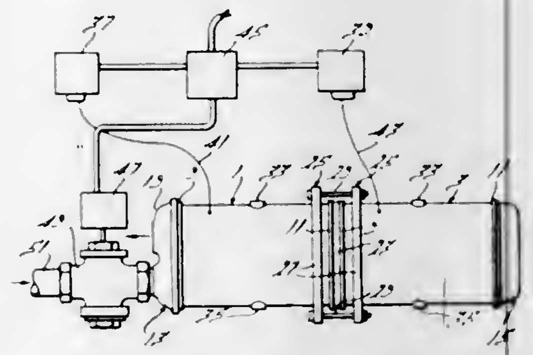


3,376,917
CONDENSER FOR TWO REFRIGERATION SYSTEMS

John E. Fristoe, Xenia, and Lewis R. Smith, Dayton, Ohio, assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

Filed Nov. 28, 1966, Ser. No. 597,394

15 Claims. (Cl. 165—39)



Condenser apparatus including two condenser units connected together in an end-to-end manner which allows refrigerant in two different refrigerant circuits to be condensed by circulating a common liquid supply through tubes in both of the condensers. Seals are provided between the condensers to maintain the refrigerants in the two circuits isolated from one another as they pass through the condensers.

3,376,918
COOLING OF TURBINE BLADES

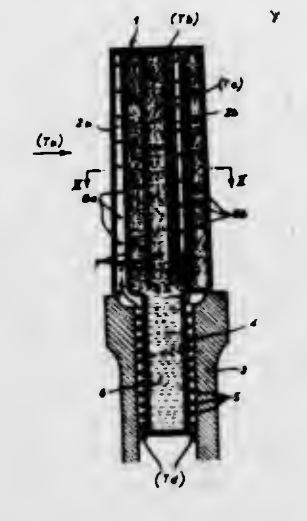
Claude Désiré Foure, Courbevoie, and Claude Henri Charles Moussez, Cachan, France, assignors to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, Seine, France

Filed July 20, 1966, Ser. No. 566,692

Claims priority, application France, Aug. 2, 1965, 26,954; June 23, 1966, 66,643

4 Claims. (Cl. 165—47)

A turbine blade having two kinds of internal passages in heat-exchange relationship formed within its body portion and respectively designed for the flow of two different heat-carrying fluids: (i) passages forming a liquid-tight closed circuit containing a heat-transferring liquid of high apparent thermal conductivity, and (ii) passages forming an open circuit supplied with a cooling gas, the latter leaking from the blade into the boundary layer in outside contact therewith through the region of the leading edge of this blade and also slightly upstream of its trailing edge.



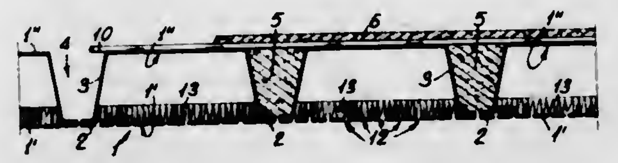
3,376,919
STRUCTURE WITH TUBULAR METAL ELEMENTS FOR COVERING OR SEPARATING TWO SUPERIMPOSED FLOORS OF A BUILDING

Agostino Canepa, Milan, Italy, assignor to Ferrotubi S.p.A., Milan, Italy

Filed Nov. 9, 1965, Ser. No. 507,020

Claims priority, application Italy, Nov. 9, 1964, 741,840; Oct. 29, 1965, Ser. No. 732,956

11 Claims. (Cl. 165—53)



A building floor or roof structure is made up of tubular steel elements, as of trapezoidal or triangular cross section, which are arranged side by side in parallel relation with their bottom walls aligned to form the lower surface of the structure, are interconnected by metal reinforcements welded to their upper surfaces, and have concrete cast between and over them to form reinforced beams integral with a concrete slab embedding the reinforcements. A radiant structure is obtained when the reinforcements are pipes coiled to circulate a heating or cooling fluid. Perforations in the bottom walls of the tubular elements and insulating material inside them make the structure heat and sound insulating.

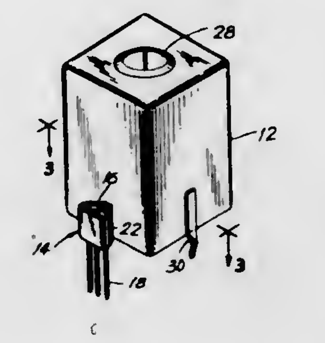
3,376,920
COMBINATION SHIELD CAN AND HEAT DISSIPATOR FOR ELECTRONIC CIRCUITRY USING A TRANSISTOR

Jerome B. Lazarus, Bay Shore, and Edmund G. Trunk, East Meadow, N.Y., assignors to The Staver Company Incorporated, Bay Shore, N.Y., a corporation of New York

Filed Aug. 31, 1966, Ser. No. 576,468

5 Claims. (Cl. 165—80)

A combination shield can and heat dissipator is provided for use in electronic circuitry using a transistor, typically in the final amplifier stage of the intermediate frequency amplifier of a television receiver. A relatively large hollow inverted sheet metal can shields the coupling coil of the amplifier stage. The heat dissipator comprises a small strip of metal bent to form a body portion and spread wings, with the body portion fitting closely around the transistor, and the spread wings bearing against one wall of the shield can for good heat transfer from the dissipator to the can, so that the can then serves as a large area heat dissipator for the transistor, in addition, to acting as a shield for the coil. In preferred form an upright wall of the can has a vertical slot near and extending to the bottom of the can, and the body portion of the dissipator passes through the slot. The spread wings are received within and bear against the inside wall of the can.

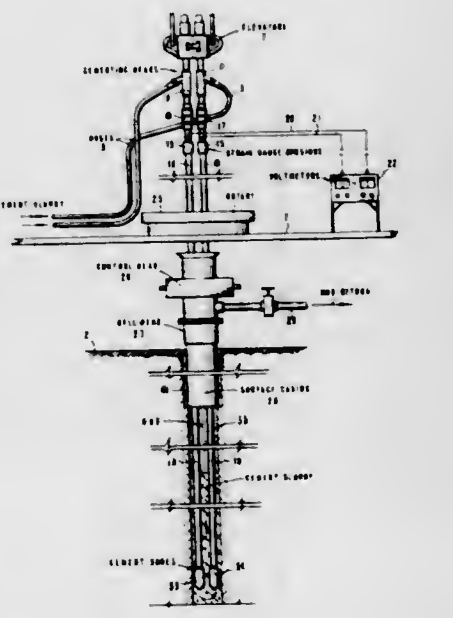


3,376,921
COMPLETION OF WELLS

Charles W. Manry and Martin E. Chenevert, Houston, Tex., assignors to Esso Production Research Company, a corporation of Delaware

Filed July 8, 1966, Ser. No. 563,919

8 Claims. (Cl. 166—4)



1. Apparatus for use with a plurality of well pipe strings in a borehole and a pipe string elevator for vertically reciprocating the pipe strings, comprising:

a plurality of pipe string sections for connecting each of said well pipe strings to said pipe string elevator;

at least one strain gauge transducer on each of said pipe string sections for producing an electrical indication of strain in said each pipe string section;

means for producing an output signal of the relative magnitudes of said electrical indication.

4. In a process of cementing a plurality of pipe strings in a borehole wherein a quantity of cement is deposited through at least one of the pipe strings into the lower portion of the borehole, the improvement comprising:

vertically reciprocating all of the pipe strings prior to cementing, during cement placement and while the cement remains in a fluid condition;

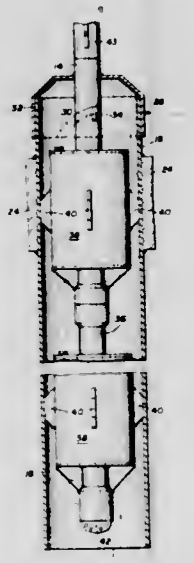
measuring the strain in each of said pipe strings; and

discontinuing reciprocation of said pipe strings when the load on said pipe strings becomes unbalanced such that the load on any one of said pipe strings becomes of a value to exceed a predetermined fraction of the tensile strength of said one of said pipe strings.

3,376,922

JET STRING AND WEIGHT CAN ASSEMBLY

Ernst Leonhardt, Jr., Celle, Germany, assignor to Mobil Oil Corporation, a corporation of New York
Filed June 8, 1966, Ser. No. 556,220
6 Claims. (Cl. 166—.5)



This invention relates to the offshore drilling of oil and/or gas wells and more particularly to a method and apparatus for installing a surface well casing or conductor pipe for a subaqueous well.

3,376,923

UNDERWATER WELL DRILLING METHOD

Billy Jack Bullard, Oklahoma City, Okla., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Original application May 27, 1963, Ser. No. 283,427, now Patent No. 3,322,191, dated May 30, 1967. Divided and this application Dec. 5, 1966, Ser. No. 619,087
5 Claims. (Cl. 166—.5)

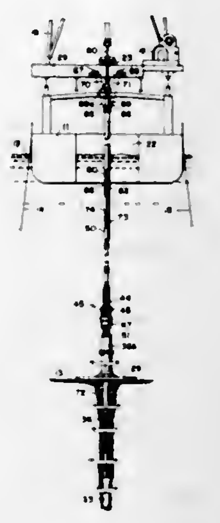
1. A method of running well apparatus to an underwater well being drilled from a floating vessel with well equipment having a common throughbore extending between said well and said vessel, said method comprising the steps of:

(a) running down said equipment throughbore an elongated member of a length greater than the water depth over the permanent equipment positioned at the well;

(b) hanging said elongated member from the inner wall of a portion of said equipment throughbore;

(c) disconnecting said well equipment at a point below the hanging point of said elongated members; and,

(d) raising to the vessel the upper disconnected portion of said well equipment together with said elongated member depending therefrom and remaining in the throughbore of the lower disconnected portion of well equipment left at the well.



3,376,924

FOAM DRIVE FOR SECONDARY RECOVERY

Martin Felsenthal, John W. Quinn, and Claude L. Jacocks, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
No Drawing. Filed Oct. 1, 1965, Ser. No. 492,321
6 Claims. (Cl. 166—9)

An improved foam-flooding gas-drive tertiary oil recovery process wherein the gas bubbles of the foam are alternately contracted and expanded by first shutting in production wells while injecting gas via injection wells and then shutting in injection wells while producing production wells.

3,376,925

PROCESS FOR THE USE OF EMULSIONS IN PETROLEUM RECOVERY

Claude P. Coppel, Woburn, Mass., assignor to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio
No Drawing. Continuation-in-part of application Ser. No. 235,139, Nov. 2, 1962. This application Nov. 18, 1963, Ser. No. 324,182
2 Claims. (Cl. 166—9)

1. A process for the recovery of petroleum from permeable subterranean formations having a plurality of wells drilled therein comprising injecting into said formation through a portion of the wells an emulsion bank, said bank being a water-in-oil emulsion at the emulsion-petroleum interface and an oil-in-water emulsion at the emulsion-drive material interface; thereafter injecting water into the formation to displace the bank from its initial position within the formation and recovering petroleum from a second portion of the wells drilled into the formation.

3,376,926

METHODS OF PLACEMENT OF LOW pH SILICIC ACID IN CARBONACEOUS GEOLOGICAL FORMATIONS

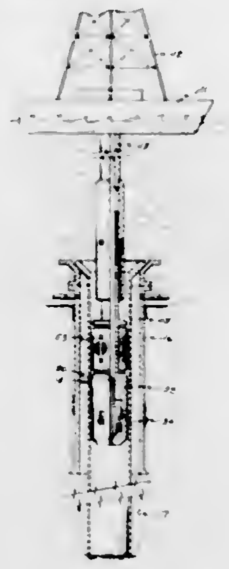
Homer C. McLaughlin and Ronney R. Koch, Duncan, Okla., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware
No Drawing. Filed Apr. 18, 1967, Ser. No. 631,585
12 Claims. (Cl. 166—29)

This patent describes the method for the placement of a low pH silicic acid in a carbonaceous geological formation.

3,376,927

PIPE CUTTING APPARATUS AND METHODS

Joe R. Brown, 5649 Tupper Lake, Houston, Tex. 77027
Filed Nov. 29, 1965, Ser. No. 510,289
9 Claims. (Cl. 166—35)

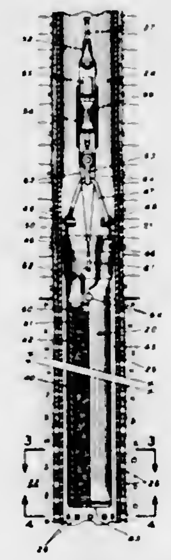


An apparatus and method for cutting or severing a string of submerged pipe from a floating platform employing means for fixing the location of the cut irrespective of the movements of the platform.

3,376,928

METHOD AND APPARATUS FOR IGNITING UNDERGROUND FORMATIONS

Robert S. Kirk, Los Angeles, and Ki C. Hong, Fullerton, Calif., assignors to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
Filed July 21, 1966, Ser. No. 566,891
7 Claims. (Cl. 166—38)



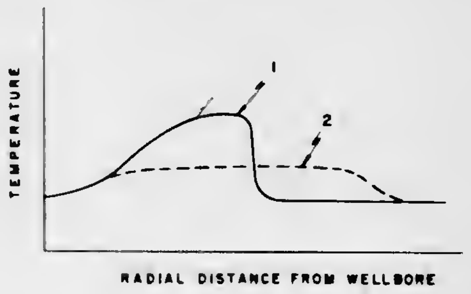
1. An apparatus for use in igniting an underground petroleum-bearing formation penetrated by a well, said apparatus comprising an outer tubular member, a refractory tubular lining on the interior of at least a substantial portion of said tubular member, said refractory lining forming a central flow path through said tubular member, fuel means contained in said central flow path adjacent the portion of said tubular member having said refractory tubular lining, said fuel means being arranged to allow the passage of a substantial amount of air therethrough, means on the lower end of said tubular member to retain said fuel means in said tubular member while allowing passage of air through the bottom end of said tubular member, port means formed in the upper portion of said tubular member above said fuel means providing communication between the central flow path of said tubular member and the outside of said tubular member to provide bypass air to the outside of said tubular member, flow restriction means on the outside of said tubular member above said port means and adapted to form a flow impedance between the outside of said tubular member and a well casing to cause a substantial amount of air to flow through said central flow means of said tubular member, ignition means for igniting the fuel in said tubular member and means for suspending said tubular member in a well.

7. The method of igniting an oil-bearing formation penetrated by a well and having a perforated well liner adjacent said formation comprising the steps of inserting into a well a container of particulate fuel, lowering said container to a position at least partially adjacent an oil-bearing formation to form an annular chamber between the lower portion of said container and the perforated well liner adjacent said formation, providing a flow restriction in said annular chamber above said perforated portion of said well liner, injecting oxygen containing gas into said well and flowing said oxygen containing gas down said well to a position above said container, passing a portion of said oxygen containing gas through said fuel in said container, by passing an amount of oxygen containing gas from 2 to 5 times the amount that flows through said fuel to said annulus below said flow restriction and flowing said bypass oxygen containing gas through said annulus, igniting the fuel in said container and continuing to inject oxygen containing gas down said well and dividing said oxygen containing gas between said fuel and said annulus in a ratio of 1 to 2:5 to burn said fuel to ignite said oil-bearing formation.

3,376,929

MODIFIED IN SITU COMBUSTION WELL STIMULATION

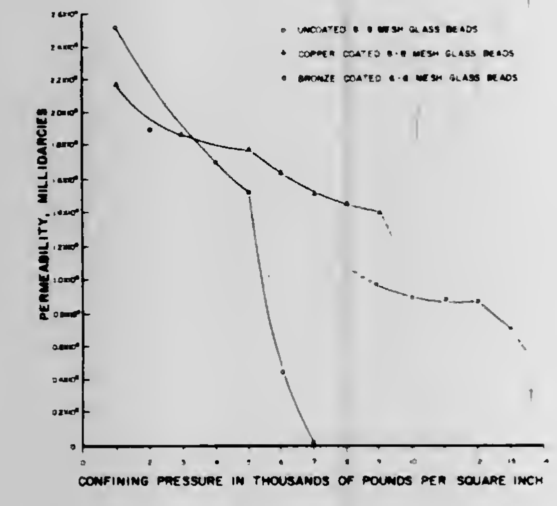
Alton R. Hagedorn, Houston, Tex., assignor to Esso Production Research Company
Filed Nov. 17, 1965, Ser. No. 508,337
3 Claims. (Cl. 166—39)



A short-term, cyclic well stimulation process in which an oxidizing gas is injected into a subsurface hydrocarbon-containing formation, and a portion of the resident formation hydrocarbons is burned to raise the temperature of the formation rock remote from the wellbore, thereby reducing the viscosity of the remaining reservoir hydrocarbons. Injection of oxidizing gas is then halted and water is injected into the formation in sufficient amounts to lower the temperature in the formation to below the cracking temperature of the formation hydrocarbons and to propagate heat further into the formation. Injection of water is halted and formation hydrocarbons are produced through the production well by natural formation energy and/or by pumping a desired period of time, provided only that such production period does not exceed the time in which the formation temperature would fall below the spontaneous ignition temperature of the formation oil upon resumption of the injection of oxidizing gas. The above steps of injecting oxidizing gas, injecting water, and producing hydrocarbons are then repeated.

3,376,930
METHOD FOR FRACTURING SUBTERRANEAN FORMATIONS

Othar M. Kiel, Houston, and Joe K. Heilhecker, Bellaire, Tex., assignors to Esso Production Research Company, a corporation of Delaware
Filed May 20, 1966, Ser. No. 551,780
10 Claims. (Cl. 166—42)



Fractures in subterranean formations are propped with composite particles having cores of a frangible nonmetallic solid that fractures under high confining pressures without substantially elastic deformation and is substantially inert to formation fluids and at least partial outer coatings of a malleable metal substantially inert to formation fluids.

3,376,931
METHOD OF TREATING SOUR RESERVOIRS

Joseph U. Messenger, Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York
No Drawing. Filed July 11, 1966, Ser. No. 564,015
4 Claims. (Cl. 166—42)

1. In a method of treating a petroleum-producing formation containing hydrogen sulfide gas and free sulfur in the matrices, which formation is penetrated by a well, the steps comprising:

(a) introducing in a liquid phase via the well into the formation an aqueous solution of ammonium sulfide material,

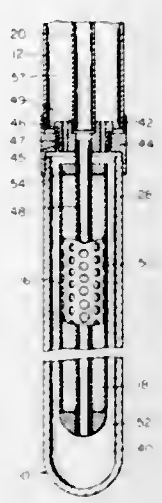
(b) maintaining the aqueous solution as a liquid in place in the formation about the well until a substantial amount of the free sulfur is removed from the formation matrices by dissolving in said aqueous solution to form ammonium polysulfide, and

(c) producing fluids from said formation via the well whereby the free sulfur adjacent the well in the formation is removed as a liquid and thereby cannot reduce the permeability to fluids of the formation adjacent the well.

3,376,932
CATALYTIC HEATER

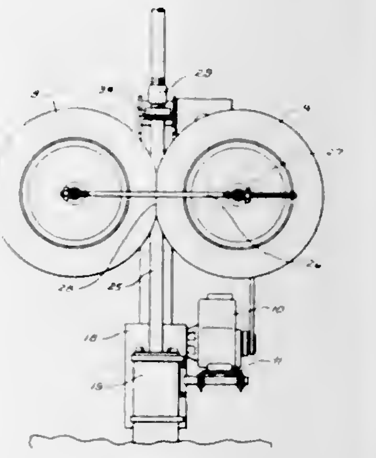
Elton B. Hunt, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed Mar. 4, 1966, Ser. No. 531,825
4 Claims. (Cl. 166—59)

A catalyst-lined bottom-hole heater is proposed for low-temperature service, below about 400 or 500° F. The catalyst coating may be coated with a porous material to limit the reaction rate. However, by having the catalyst in intimate contact with the heater wall, good heat transfer may keep the temperature low enough so that the porous material may not be needed.



3,376,933
PIPE HANDLING MACHINE

Frederick E. Burlett, Benson, Vt. 05731
Filed May 5, 1966, Ser. No. 547,827
10 Claims. (Cl. 166—76)

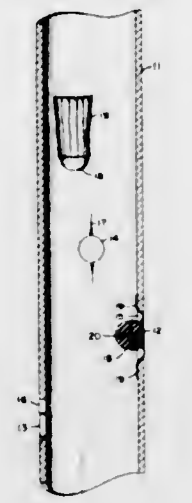


1. A device for raising and lowering an elongated cylindrical object comprising a frame, a pair of pneumatic wheels journaled in coplanar relationship on said frame, means for forcing said wheels together in their common plane thereby to grip said object therebetween, and selective power means for rotating at least one of said wheels, to move said object along its axis.

3,376,934
PERFORATION SEALER

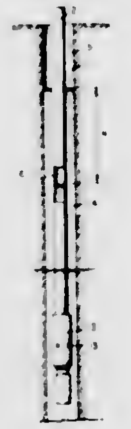
Bertram T. Willman, New York, N.Y., and James F. McPhail, Houston, Tex., assignors to Esso Production Research Company, a corporation of Delaware
Filed Nov. 19, 1965, Ser. No. 508,814
6 Claims. (Cl. 166—193)

A skirted ball sealer for plugging a perforation in the wall of a string of tubing or casing in a well including an at least partially spherical body of sufficient size to lodge in a perforation as fluid carrying the body flows into the perforation and a skirt of a flexible, fluid impervious material attached to and extending from said body a distance sufficient to overspread the wall surface adjacent the perforation.



3,376,935
APPARATUS FOR USE IN WELLS

Eugene E. Baker, Duncan, Okla., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware
Filed Jan. 24, 1966, Ser. No. 522,548
10 Claims. (Cl. 166—224)

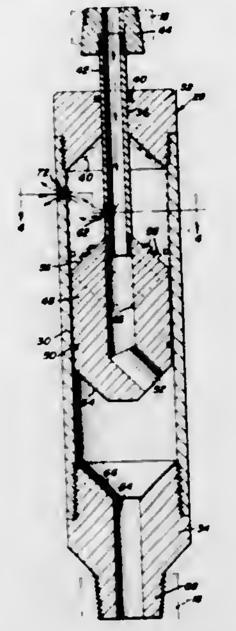


Apparatus for controlling fluid flow in a well tool which includes a radially ported housing yieldably secured within a radially ported tubular member. While the housing is yieldably secure, ports of the cylindrical member and the housing are in fluid communication. A sleeve valve carried by the housing controls fluid flow through the communicating port means. A check valve carried by the housing ensures downward flow only through a housing defined passage. Fluid-induced force exerted on the sleeve valve is transmitted to the housing to displace the previously communicating ports of the cylindrical member and housing.

3,376,936
BYPASS VALVE FOR REMOVING PARAFFIN IN OIL WELLS

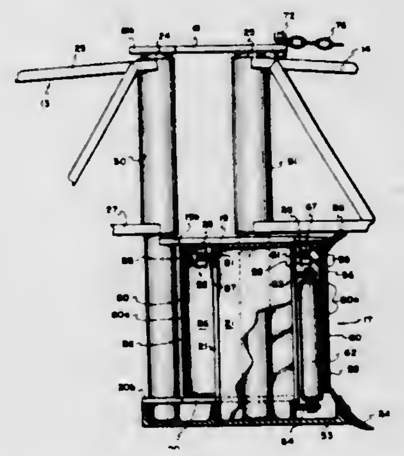
Dave R. Tomlin, Odessa, Tex., assignor to Paraffin Tool & Equipment Co., a corporation of Texas
Continuation-in-part of application Ser. No. 401,110, Oct. 2, 1964. This application Dec. 13, 1966, Ser. No. 611,506
6 Claims. (Cl. 166—226)

A bypass valve installed in the power oil string of an oil well employing a hydraulic pumping system which enables a paraffin removing solution to be pumped down the power oil string and bypassed laterally outwardly thereof for effectively removing paraffin deposits in the production string or tube without the necessity of pulling the production tube or power oil string. The bypass valve may also be employed with conventional type pumps when hollow pump rods or sucker rods are used in order to enable a paraffin removing solution to be pumped down the hollow rod and bypassed laterally outwardly thereof into contact with a paraffin deposit for removing such a deposit.



3,376,937
LAND LEVELER

John R. Groberg, Kaysville, Utah, assignor to Gray Mountain Iedir, Inc., Kaysville, Utah, a corporation of Utah
Filed Nov. 12, 1964, Ser. No. 410,588
7 Claims. (Cl. 172—780)



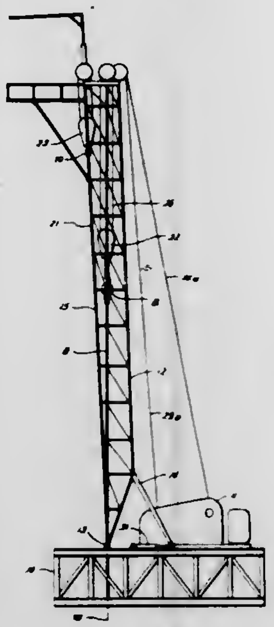
A land leveler having a conveying, cutter-blade assembly with a rigid cutting edge and a suspended conveyor arranged to move and distribute earth along the cutting edge. The legs of the leveler are arranged to telescope and to fold against the conveying, cutter-blade assembly which is arranged to be trailed longitudinally behind a towing vehicle for highway travel.

3,376,938
ADJUSTABLE DRILLING MAST HAVING SPACED SWIVEL AND TRAVELING BLOCK GUIDES

Paul J. Scott, Shreveport, La., assignor, by mesne assignments, to Hycalog, Inc., a corporation of California
Filed May 23, 1966, Ser. No. 552,039
8 Claims. (Cl. 173—44)

1. Well apparatus comprising a base, a mast, means mounting the mast on said base for movement of the mast between a first and a second position to respectively align first and second mast axes with the center line of

a bore hole in the earth; a pipe elevator adapted to engage a pipe and move it up and down; a swivel adapted to be connected to the upper end of a pipe string to support the same and to conduct fluid to or from the pipe string as the latter is rotated; means for moving the elevator and swivel respectively along the first and second mast axes; and means for moving the mast between its first and second positions so that the pipe elevator and swivel can alternately be positioned in alignment with the center line of a bore hole.



3,376,939

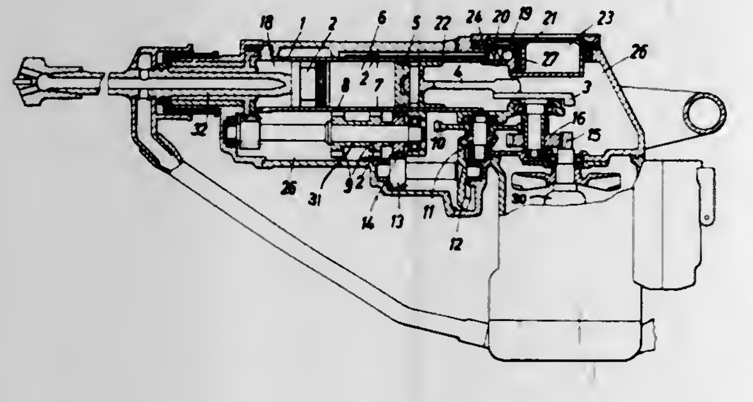
POWER DRILL WITH LUBRICATOR

Jakob Holzäpfel, Calw, Wurttemberg, Germany, assignor to Friedrich Duss Maschinenfabrik, Neubulack, Kreis Calw, Wurttemberg, Germany

Filed May 4, 1966, Ser. No. 547,460

Claims priority, application Germany, May 7, 1965, D 47,190

9 Claims. (Cl. 173—116)



1. A power drill assembly for working stone and including a lubricating system, said assembly comprising, in combination, a housing having arranged therein: an axially vibratable drilling tool; means for vibrating said tool in the axial direction thereof and including a cylinder, a freely movable mass slidably arranged in said cylinder and engaging said tool, a piston also slidably arranged in said cylinder and being axially spaced from said mass thereby to form an air cushion between said mass and said piston, a crank drive for reciprocating said piston in said cylinder, a drive motor for driving said crank drive so that on the forward stroke of the crank drive pressure maxima are produced within the air cushion and on the return stroke pressure minima are produced within the air cushion; at least one air-passage valve arranged for coacting with said cylinder for periodically placing that portion of said cylinder in which said air cushion is located in communication with the interior of the drill housing; an oil reservoir; and conduit means communicating with that portion of said cylinder in which said air cushion is located and said oil reservoir, said conduit means having an oil-passage valve located therein which valve is periodically opened by the pressure minima occurring in the air cushion for permitting transport of oil from the oil reservoir into the air cushion.

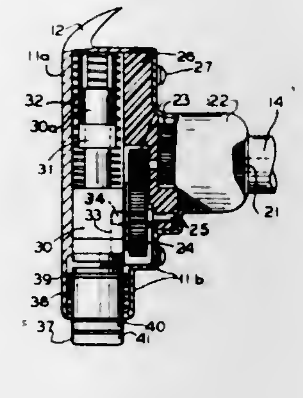
3,376,940

POWERED HAND HAMMER

Richard K. Willis, Rte. 28, Inlet, N.Y. 13360

Filed May 10, 1966, Ser. No. 549,004

5 Claims. (Cl. 173—117)



5. A power hammer comprising: an elongated head housing; a plunger journalled in the housing for longitudinal reciprocating movement therein and spring-biased in the direction from a withdrawn to an extended position; a tool head member journalled coaxially with the plunger for limited longitudinal reciprocating movement in the housing and having a portion normally projecting from one end of the housing, said member being spring biased toward a normal position so as to be struck by the plunger when it moves substantially half way from its withdrawn to its extended position and being movable against the bias of its spring when struck by the plunger; the plunger having a transverse flat surface having a groove thereacross; a rotating element journalled in the housing and having a face abutting the plunger flat surface; a drive pin eccentrically mounted on the element and projecting from its face into the plunger groove; a hollow handle projecting laterally from the head housing; and means in the handle for rotating said element; that portion of the groove carrying the pin during the movement of the plunger from its withdrawn to its extended position being of a width substantially equal to the diameter of the pin and the remaining portion of the groove being wider for allowing the plunger to rebound independent of the housing during the return of the plunger to its withdrawn position.

3,376,941

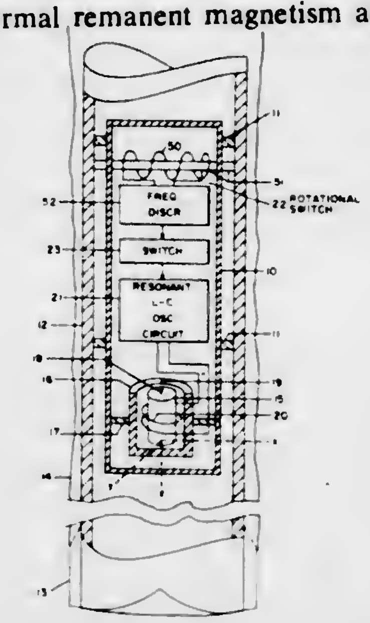
METHOD AND APPARATUS FOR RECORDATION OF THE ORIENTATION OF TOOLS IN REMOTE LOCATIONS

John L. Fitch and Bobbie J. Patton, Dallas, Tex., assignors to Mobil Oil Corporation, a corporation of New York

Filed Feb. 23, 1966, Ser. No. 529,357

9 Claims. (Cl. 175—44)

The specification discloses a technique of and arrangement for recording the orientation of remote tools by imparting remanent magnetism to a synthetic sample of magnetic material located in the tool in a known alignment. The magnetism imparted to the sample may be anhysteretic or thermal remanent magnetism aligned in the direction of the earth's magnetic field. The preferred use of the invention is for borehole tool orientation purposes.



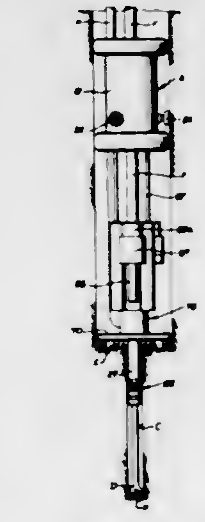
3,376,942

LARGE HOLE VERTICAL DRILLING APPARATUS

Denzal W. Van Winkle, La Mirada, Calif., assignor to Baker Oil Tools, Inc., City of Commerce, Calif., a corporation of California

Filed July 13, 1965, Ser. No. 471,629

27 Claims. (Cl. 175—81)



Formation drilling apparatus having a prime mover and cutters rotated thereby movable as a unit in the hole being drilled by inlet and exhaust conduits through which fluid is circulated to remove the cuttings, parts of the apparatus being releasably anchored to the wall of the hole to enable the cutters to be forced against the end face of the hole by fluid pressure.

3,376,943

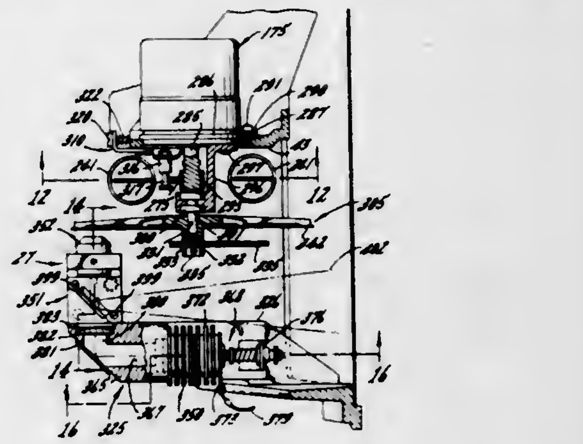
WEIGHING SCALE WITH OPTICAL READOUT SYSTEM

Edward C. Karp, Belvidere, Ill., assignor to Sanitary Scale Company, Belvidere, Ill., a corporation of Illinois

Original application Apr. 9, 1964, Ser. No. 358,672, now Patent No. 3,308,900, dated Mar. 14, 1967. Divided and this application Apr. 29, 1966, Ser. No. 558,529

4 Claims. (Cl. 177—173)

A weight information transmission system for a weighing scale including a weight information wheel mounted on the free end of a rotatable shaft so its hub extends beyond the free end. Threaded balancing pins extend through the hub. The wheel includes a weight information ring seated on the outer ends of spokes extending radially from the hub, said ring has a specular surface which forms a part of an optical readout system.



3,376,944

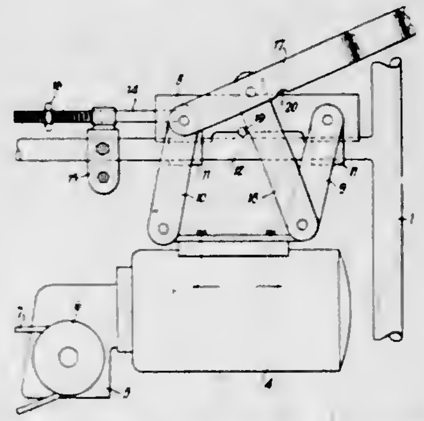
SELF-PROPELLED WHEEL CHAIR

Benno Lotz, Salzredder, Germany, assignor to Everest & Jennings, Inc., Los Angeles, Calif., a corporation of California

Filed Nov. 26, 1965, Ser. No. 509,734

Claims priority, application Great Britain, Feb. 9, 1965, 5,669/65

1 Claim. (Cl. 180—6.5)



A motor driven wheel chair wherein there is an electric motor for each drive wheel, drivingly connected thereto by a belt. The motor is suspended from a longitudinally disposed horizontal side frame brace of the wheel chair by a motor mount longitudinally positionable on the brace, and a pair of depending pivotal parallelogram arms having a lever associated therewith to swing the arms and motor forwardly and rearwardly away from and toward the drive wheel of the wheel chair.

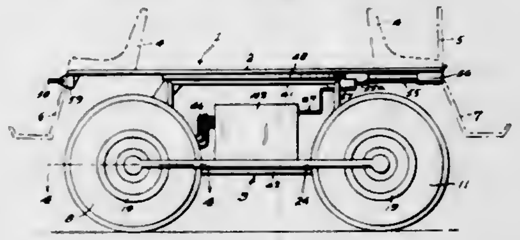
3.376,945

DUAL-MODE VEHICLE

Edward K. Kaprelian, 811 Philadelphia Road, Joppa, Md. 21085, and Joseph T. Gurganious, 313 Wakefield Place, Bel Air, Md. 21014

Filed Oct. 5, 1965, Ser. No. 493,285

6 Claims. (Cl. 180—6.48)



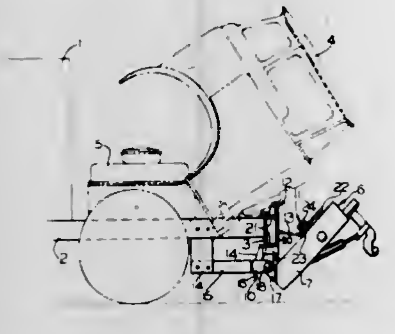
A dual-mode vehicle including a frame on which a flat bed is rotatably mounted, a pair of axle assemblies pivoted to the frame, wheel screws mounted on the axle assemblies, a motive power located in each wheel screw for independently driving each wheel screw and coupling members at each end of the bed for operating more than one vehicle in train, one of the coupling members preventing rotation of the bed when the vehicle is operated as a single unit.

3,376,946
AUTOMATIC COUPLING MECHANISM MOUNTING MEANS

Howard E. Paulson, Waukesha, Wis., assignor to Central Engineering Company, Inc., Milwaukee, Wis., a corporation of Wisconsin

Filed Mar. 7, 1966, Ser. No. 532,205

6 Claims. (Cl. 180—89)



Means for hingedly mounting the coupling frame of an automatic coupling mechanism for snowplows and the like on a cab-over-engine truck immediately forward of the front end thereof, including hinge means pivotally connecting the coupling frame to the truck chassis for pivoting the coupling frame away from the front end of the truck to permit the cab to be tilted forwardly; and locking means for releasably locking the coupling frame in its normal upright position and for preventing any lateral movement thereof.

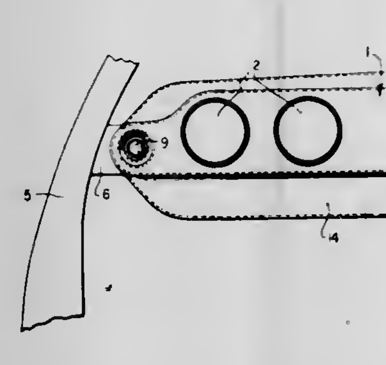
3,376,947
INSTRUMENT PANEL

Béla Barényi, Stuttgart-Vaihingen, and Heinrich Haselmann, Sindelfingen, Wurttemberg, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

Filed Nov. 23, 1965, Ser. No. 509,343

Claims priority, application Germany, Nov. 27, 1964, D 45,928

19 Claims. (Cl. 180—90)



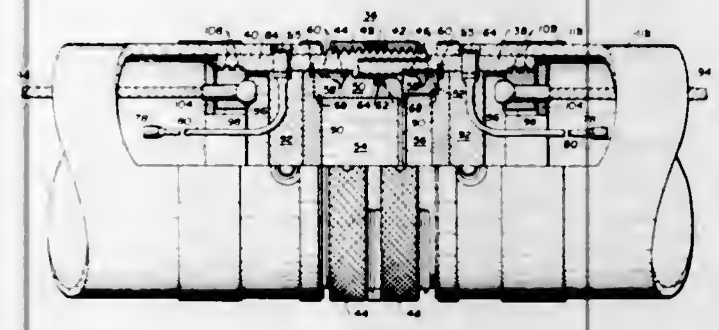
An instrument panel for a motor vehicle, affording maximum protection to passengers from injuries caused by impact with said panel, wherein the panel is resilient and is mounted at a distance from the lower edge of the windshield, being free of any connection with said edge, the panel being secured, at the lateral ends thereof, to an area constituting the door columns or the like, the securing surfaces being disposed approximately in the transverse direction of the vehicle, and connected to brackets at said door columns or the like by readily detachable bolts or rivets disposed in the longitudinal direction of the vehicle, thus effecting a frictional contact. The securing surfaces at opposite ends of the panel may be disposed in a common plane. An additional securing surface may be provided within the area of the tunnel. Further, the panel may be arranged to overlap, without being secured to, a deformable sheet metal part provided along the lower edge of the windshield.

3,376,948
STREAMER COUPLER

Donald E. Morrow, Irving, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Dec. 30, 1966, Ser. No. 607,599

6 Claims. (Cl. 181—.5)



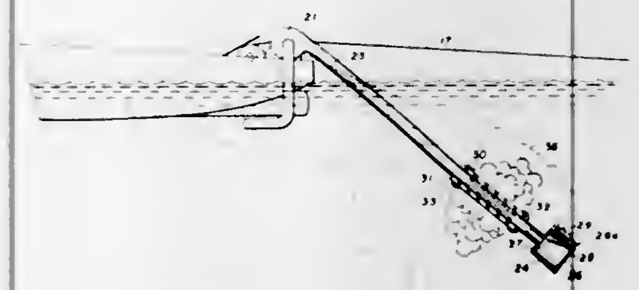
A coupler for connecting a pair of streamer sections comprising a pair of thin-walled shells forming a housing, housing insertion means mounted in the forward part of each pair of shells and having grooves located around its outer perimeter, sealing means in each of the grooves, external buoyant fluid filler and air bleed ports penetrating the shells, mating electrical connector halves in the hollow interior of each of the housing insertion means and tension receptacle means mounted in the rearward part of each of the shells for receiving the strain wires from the streamer section.

3,376,949
WATER HAMMER MARINE SEISMIC SOURCE

Buford M. Baker, Dallas, and James H. Waugh, Jr., Coppell, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Dec. 8, 1966, Ser. No. 600,102

4 Claims. (Cl. 181—.5)



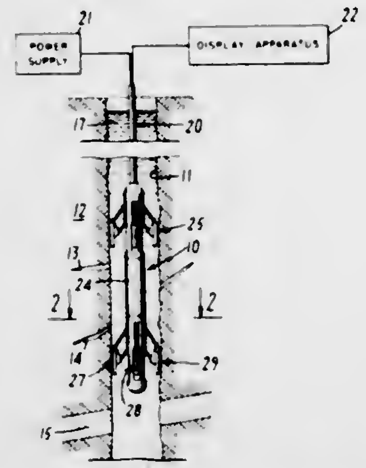
A marine seismic detector streamer moves along a traverse for detecting seismic energy with a source vessel which employs a pump for directing a high energy flow of water along a confined course, at least a portion of which is submerged in the water with a valve abruptly terminating such flow of water to form a classical water hammer. A resilient sealed perforated section along the flow course provides for transmission of water hammer energy to generate seismic waves.

3,376,950
ACOUSTICAL WELL LOGGING METHODS AND APPARATUS FOR DETERMINING THE DIP AND OTHER CHARACTERISTICS OF EARTH FORMATIONS TRAVERSED BY A BOREHOLE

Donald R. Grine, Redding, Conn., assignor, by mesne assignments, to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas

Filed Sept. 3, 1965, Ser. No. 484,926

6 Claims. (Cl. 181—.5)



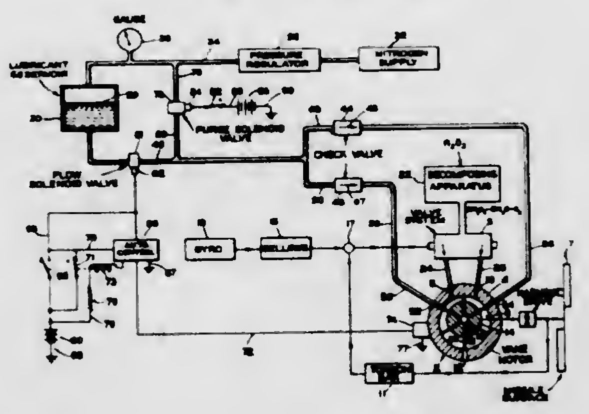
An acoustical well logging system for determining the dip and/or other characteristics of earth formations traversed by a borehole by disposing at least three pairs of electroacoustical transducers against the borehole wall in laterally mutually spaced relation, pulsing one of each pair of transducers with electrical energy to transmit pulses of acoustic energy from the borehole into the formation, generating electrical signals by the other of each pair of transducers in response to the acoustic energy received in the borehole through the formation from the corresponding one of each pair, determining the transmission times of the acoustic energy pulses between the one and the other of each pair of transducers and/or the attenuation suffered by the acoustic energy pulses in the formation adjacent each pair of transducers, and correlating the transmission times and/or the attenuations.

3,376,951
MEANS FOR LUBRICATION OF GAS VANE MOTORS

Robert H. Bosworth, Morristown, and Edward A. Cohen, Roselle, N.J., assignors to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware

Filed Dec. 29, 1964, Ser. No. 421,919

11 Claims. (Cl. 184—6)



Apparatus for lubricating a gas propelled motor having a high pressure gas intake side and a low pressure exhaust side. A lubricant is pressurized in a container so as to flow to the motor and check valves are provided for restricting lubricant flow to the low pressure side of the motor and for preventing transmission of pressure from the high pressure side of the motor to the container. The flow of lubricant is manually controlled or automatically controlled in response to the predetermined ambient temperature of the motor.

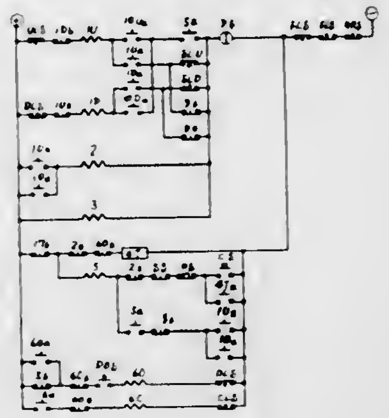
3,376,952
ELEVATOR "WILD CAR" SYSTEM IN WHICH ONE CAR IS ALWAYS THE WILD CAR

Isao Inuzuka and Kikuo Watanabe, Katsuta-shi, Japan, assignors to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan

Filed Oct. 17, 1963, Ser. No. 316,925

Claims priority, application Japan, Oct. 19, 1962, 37/45,611

5 Claims. (Cl. 187—29)



1. An elevator control system for a group of elevator unit comprising up and down landing call means at each floor common to all the elevators in the group, a main car selecting means operable when all the elevator units are standing at the main parking floor to select one of the elevator units as a main car to respond to any landing call and after operation to remain at the last floor called and to respond to any subsequent landing call, and landing call direction selecting means operatively intercoupled with said landing call means and said main car selecting means and operable in conjunction with said main car selecting means in a manner such that all cars other than the main one are made non-responsive to any landing call requesting a service in the same direction as that of travel of the main car in operation and, means for rendering one of the cars other than the main one responsive in case the main car remains not responsive to the landing call after a predetermined time setting has expired, said landing call direction selecting means further including means for rendering one of the cars other than the main one responsive to any landing call requesting a service in a direction opposite to that of travel of the main car in operation, and means for stopping said main car at the nearest landing upon another unit being placed in operation in response to a landing call requesting a service in a direction opposite to that of travel of the main car under circumstances where the main car, car call means have not been actuated and the landing call is answered by another unit.

3,376,953
ELEVATOR PLURAL CAR SYSTEM INCLUDING MEANS TO SELECT ONE GROUP OF CARS AS THE ACTIVE GROUP

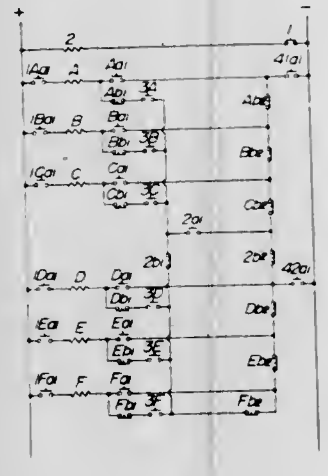
Isao Inuzuka and Kikuo Watanabe, Katsuta-shi, Japan, assignors to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan

Filed Dec. 10, 1963, Ser. No. 329,559

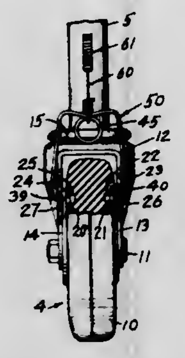
Claims priority, application Japan, Dec. 12, 1962, 37/54,983

5 Claims. (Cl. 187—29)

This invention provides an elevator control system for a plurality of elevators. The control system divides the elevators into a plurality of different groups with each group having a plurality of elevators. Each group includes first-starting car selection means which operate independently of the first-starting car selection means of other groups for selecting one of the elevators in the group as the first starting car at the main floor. Service demand detecting means are provided for detecting whether the service demand for the elevators is normal or slack. Control means are provided which are operated by the service demand detecting means and include means for isolating each group so that it can be operated independently of the other group when the service demand is normal and means for interconnecting all of the groups when the service demand is slack. In addition, priority selection means are provided which are controlled by the control means for giving a priority in dispatch to one of the groups while the service demand is slack. The priority selection means include interlocking means for maintaining groups other than the group given priority non-operative during the slack service condition and shifting means for making one of the other groups to select one of its available cars as a first-starting car, irrespective of the priority, if there is no available car at the main floor in the group which has been given priority by the priority selection means.

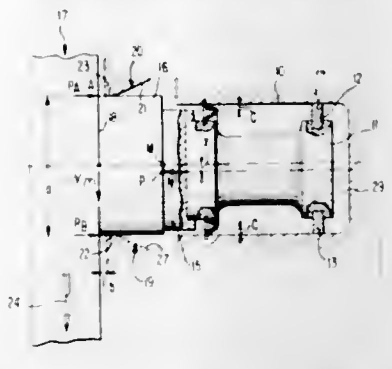


3,376,954
WHEEL BRAKE FOR SHOPPING CARTS
Herman P. Neptune, 2204 Moreno Drive,
Los Angeles, Calif. 90039
Filed Jan. 23, 1967, Ser. No. 611,069
5 Claims. (Cl. 188—69)



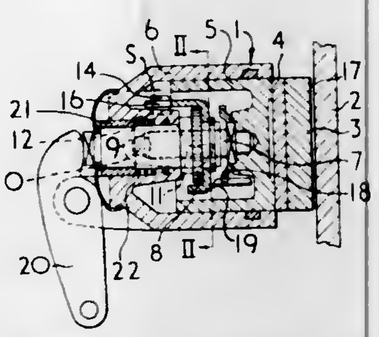
The brake of the present invention is primarily for wheeled shopping carts and other wheeled members wherein one of the wheels may be positively braked against rotation, or released by means adjacent the shopping cart handle. The apparatus comprises a pair of spring arms the ends of which are passed through opposed holes in the wheel framing for frictional engagement with the wheel or for reception within openings within the wheel, the framing holding the ends of the spring arms against side movement so that the wheel is positively locked against rotation.

3,376,955
MOUNTING MEANS FOR BRAKE BLOCK AND ACTUATING PISTON
Reinhold G. Kamps, Vaihingen, Manfred H. Burckhardt, Waiblingen, and Günter Funke, Schmiden, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Dec. 29, 1965, Ser. No. 517,284
Claims priority, application Germany, Dec. 31, 1964,
D 46,168
6 Claims. (Cl. 188—73)



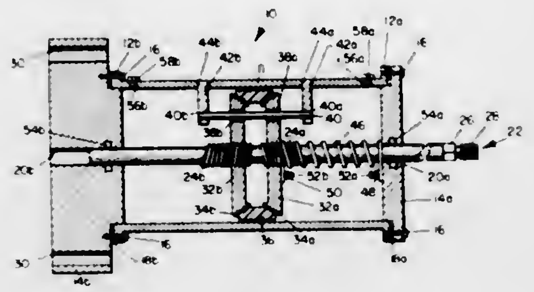
The present disclosure relates to a spot type disk brake for vehicles, especially for motor vehicles, whereby the brake lining is guided in lateral slideways and is pressed into abutment—possibly by way of a pressure plate—by means of a piston that can pivot about an imaginery point spaced from the disk plane as far as possible. The brake lining block is supported in a substantially moment-free manner by having its lateral abutment places being arranged exclusively substantially directly adjacent to the plane of the brake disk and having a lost motion connection with the piston in the forward rotation direction to shift the piston pressure center point from the center of the brake block by predetermined amount substantially equal to the product of the distance of the abutment point from the disk plane and the average friction coefficient between the brake disk and the brake block.

3,376,956
HYDRAULIC DISC BRAKE WITH MANUAL ACTUATION DEVICE AND WEAR COMPENSATING MEANS
Carl Press, Wunsiedel, Germany, assignor to Dunlop Rubber Company Limited, London, and Fort Dunlop, Erdington, Birmingham, England, a corporation of Great Britain
Filed June 22, 1966, Ser. No. 559,496
Claims priority, application Germany, July 23, 1965,
T 29,049
8 Claims. (Cl. 188—73)



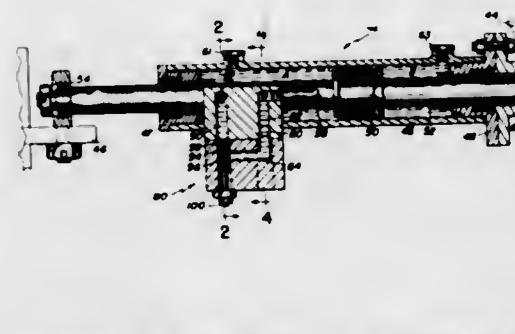
This invention pertains to an automatic adjuster, which is made up of two-threaded members, which are separable to effect the adjustment, one of the threaded members being rotatable by a pivoted lever having a pawl and ratchet connection with the one-threaded member, with the lever caused to pivot to produce an adjustment when engaged by a link that is carried by the two-threaded members. There is a lost motion between the link and the lever which corresponds to the clearance maintained within the brake.

3,376,957
VIBRATION DAMPING APPARATUS
Alois Baumgartner, Chatsworth, Calif., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed Jan. 18, 1967, Ser. No. 610,124
9 Claims. (Cl. 188—96)



Vibration damping apparatus comprising a shaft mounted for movement axially of a casing and a piston mounted on said shaft within said casing, said piston having an expandable periphery so that a gap of variable width can be formed between the periphery of said piston and the wall of said casing, whereby movement of hydraulic fluid between the spaces within said casing on opposite sides of said piston is controlled by the width of said gap and the rate and amplitude of vibration of said shaft relative to said casing is thereby varied.

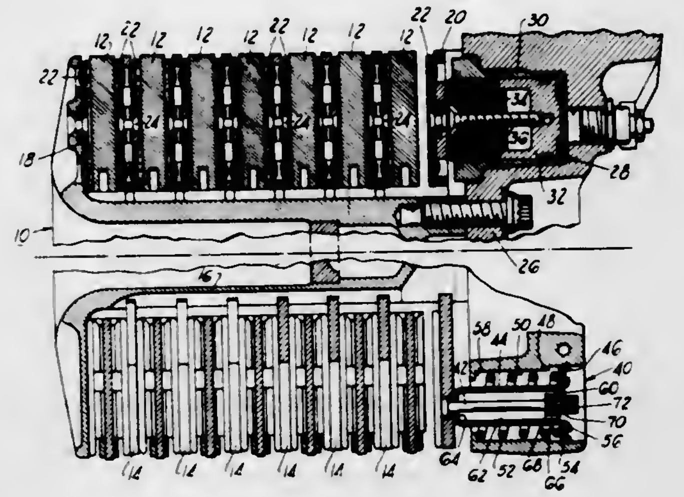
3,376,958
HYDRAULIC DAMPENING DEVICE
Louis E. Carr, Peoria, Ill., assignor to Westinghouse Air Brake Company, a corporation of Pennsylvania
Filed Apr. 27, 1965, Ser. No. 451,174
2 Claims. (Cl. 188—97)



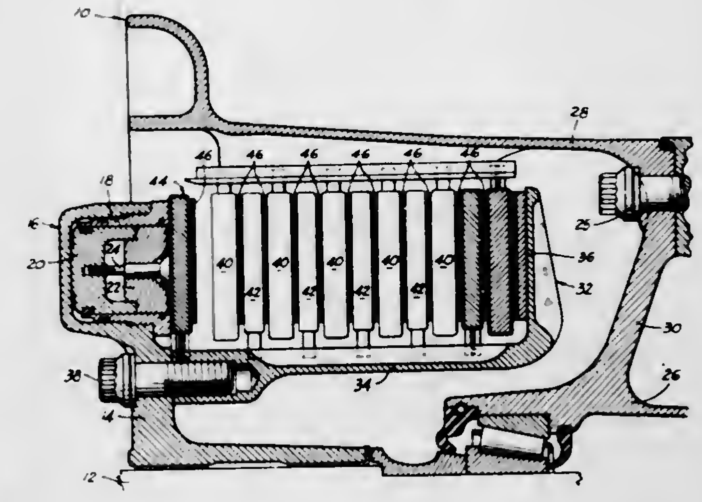
A damping jack assembly, as for reducing hunting of a rail vehicle truck, for damping the relative approach and recession of two elements dependent upon the rate of extension or collapse. The jack assembly includes a pair of fluid chambers placed in fluid communication by a first passageway having an adjustable restriction therein. Second and third passageways, each having a spring-loaded check valve therein, are in direct fluid communication with the first passageway for receiving flow therefrom.

3,376,959
AUTOMATIC BRAKE ADJUSTER MECHANISM
Orla L. Holcomb, Jr., and Frank F. Hartman, South Bend, Ind., assignors to The Bendix Corporation, a corporation of Delaware
Filed Sept. 6, 1966, Ser. No. 577,281
7 Claims. (Cl. 188—196)

An automatic brake adjuster mechanism having permanently deformable means therein which is capable of assuming a new shape and position during a brake application to determine the proper release position of the pressure plate for the next brake application. The deformable means can be a ductile deformable tubular member which can invert from a large diameter to a small diameter (or vice versa), or a ductile deformable tubular member which can be deformed by movement of an expander button located therein.



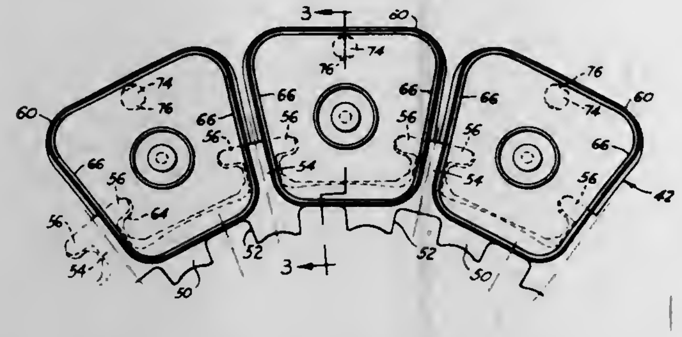
3,376,960
DISC ELEMENT CONSTRUCTION FOR DISC BRAKE
John R. Bender, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Aug. 1, 1966, Ser. No. 569,302
3 Claims. (Cl. 188—218)



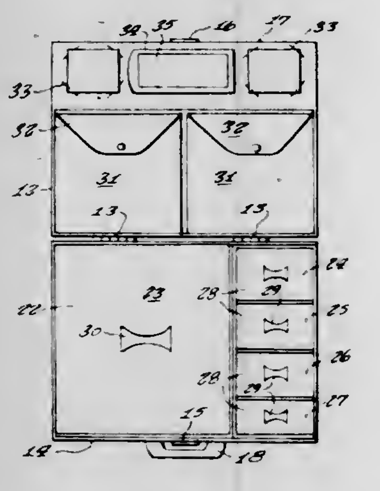
The following relates to disc brakes, particularly for aircraft, having a unique friction disc element construction which incorporates beryllium as a heat sink core. The heat sink core is formed of a plurality of separate beryllium segments which are structurally supported and encapsulated by a hollow two-piece steel retainer to form an annular composite sandwich-type disc element.

3,376,961
DISC BRAKE STATOR CONSTRUCTION
Richard F. Horner, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Sept. 6, 1966, Ser. No. 577,410
3 Claims. (Cl. 188—218)

A stator disc element which includes an annular support member having a plurality of circumferentially spaced radially extending retention fingers, each of which has a pair of tongues extending therefrom, and a plurality of circumferentially arranged brake disc segments, each of which comprises an inner plate having a groove along each radial edge thereof for receiving one of the tongues, wherein the annular support member, the fingers extending therefrom, and the plate are all confined between a pair of friction pads which are riveted to the plate.



3,376,962
PERSONALIZED KEEPSAKE CASE
Betty A. Adams, 817 E. Pine St.,
Millville, N.J. 08332
Filed Mar. 1, 1966, Ser. No. 530,953
1 Claim. (Cl. 190—51)



This invention is essentially concerned with the provision of a case for the transportation and display of keepsakes, wherein a pair of hollow mating parts are hingedly connected together for swinging movement between open and closed positions, one of the hollow parts being shallower than the other, and containing a plurality of inserts for printed matter as well as pockets, while the deeper part contains compartments, one of which is relatively large for receiving and preserving clothing.

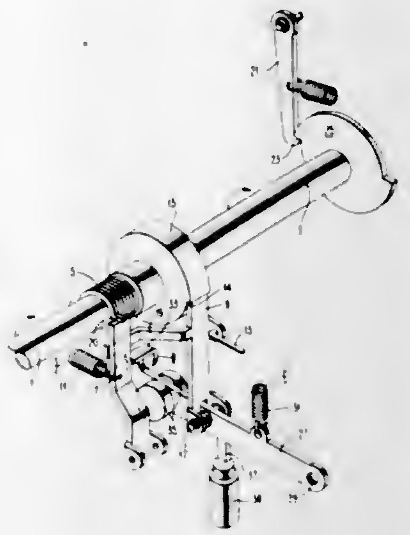
3,376,963
CLUTCH WITH IMPACT INERTIA BRAKE
John O. Schaefer, Lexington, Ky., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Apr. 22, 1966, Ser. No. 544,439
10 Claims. (Cl. 192—12)

1. A brake comprising:

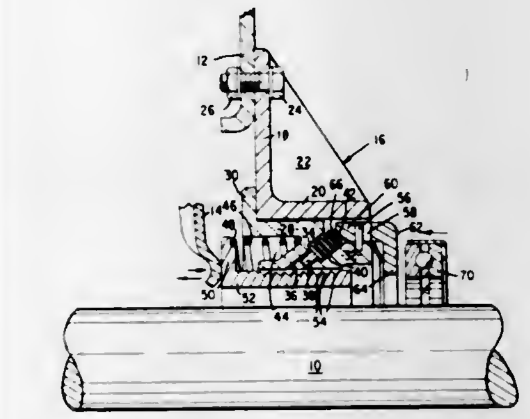
a rotatably mounted movable mechanism having a shaft and an abutment connected to said shaft for rotation therewith,

at least one mass mounted to be selectively interposed in the path of said moving abutment and to be movable initially in the direction of the force of impact from said moving mechanism,

said mass having an acceleration inertia substantially equal to the acceleration inertia of said movable mechanism and being mounted so that said mass moves away freely after impact while at least said movable mechanism substantially stops suddenly without substantial bounce.

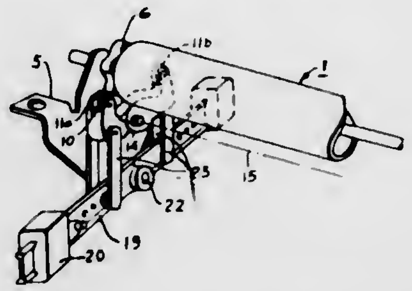


3,376,964
SELF-ADJUSTING CLUTCH
Robert S. Root, Syracuse, N.Y., assignor to Lipe-Rollway Corporation, Syracuse, N.Y., a corporation of New York
Filed July 26, 1966, Ser. No. 568,027
1 Claim. (Cl. 192—111)



1. A self-adjusting clutch release mechanism to automatically compensate for wear in a lever release friction type clutch, comprising a first sleeve member carried by the clutch cover, a second sleeve member telescopically and slidingly received in said first member, spring means received in the space between said first and second sleeve members to urge apart and to urge said second sleeve member into engagement with the clutch release levers, a cup shaped release member carried by the said first sleeve and a plurality of angularly disposed release pins carried by said first sleeve member and positioned to be moved radially inwardly by said cup shaped member, spring means to normally urge said pins outwardly in said sleeve member and into engagement with the inner end of said cup shaped member, a plurality of V-shaped grooves formed in the outer surface of said second sleeve member and positioned for engagement by said pins, release bearing means operable to move said cup shaped member and said pins inwardly to engage said second sleeve member and move it in the same direction toward said clutch to operate said release members.

3,376,965
CONVEYORS
Geoffrey R. Tregoning and Hugh Kenvyn Davies, London, England, assignors to Westinghouse Brake and Signal Company, Limited, London, England
Filed June 17, 1966, Ser. No. 558,350
Claims priority, application Great Britain, Jan. 10, 1966, 1,019/66
42 Claims. (Cl. 193—35)

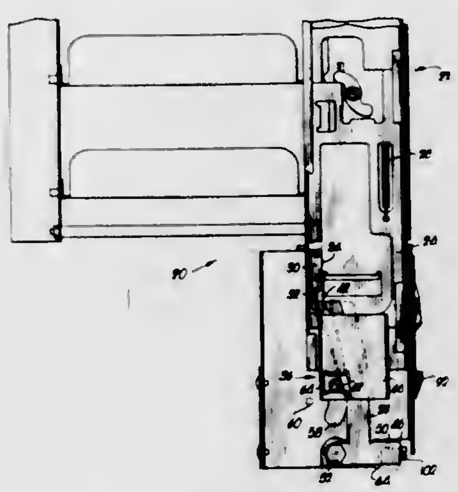


A conveyor having an article support surface for supporting a body to be conveyed along the conveyor and at least one rotatable element mounted on the conveyor and operatively connected to the article support surface so that the speed at which the rotatable element rotates and the speed at which the body moves along the article support surface are interdependent. A restraining mechanism is operatively connected to the rotatable element to restrain the speed thereof, and thereby restrain relative motion between the rotatable element and the body as the latter moves along the article support surface. The restraining mechanism includes a brake apparatus mounted to be cyclically accelerated and decelerated, gearing means on the conveyor for interrelating the rotation of the rotatable element with the cyclic acceleration and deceleration of the braking apparatus so that at least two of the said cycles of the braking apparatus occur for each revolution of the rotatable element. The braking apparatus may be an inertial mass mounted for oscillating movement about an axis, the number of accelerations and decelerations, and thus the braking effect of the mass, increases as the rate of speed of the rotating element increases. The connection between the braking apparatus and the rotating element is a gearing means attached to the rotating element, and this may include a plurality of projections around its periphery and an oscillating member attached to the braking apparatus to cause acceleration and deceleration of the same. The oscillating member has engagement elements, one on each side of the axis about which the oscillating member oscillates, and engaging the projections on the cam.

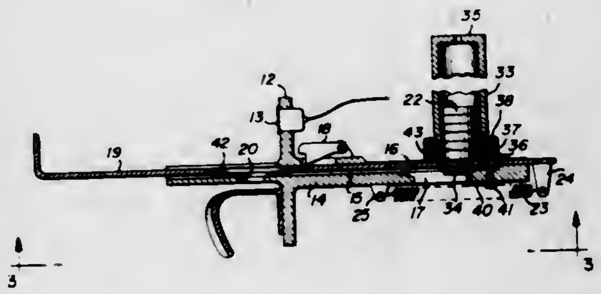
3,376,966
INCLINED SHELF DISPENSER HAVING COIN ACTUATED CONTROL MECHANISM
Kit E. Pennell, Independence, Mo., assignor to The Vendo Company, Kansas City, Mo., a corporation of Missouri
Filed Aug. 22, 1966, Ser. No. 574,166
7 Claims. (Cl. 194—63)

A vending machine includes a customer-actuatable device which is unlocked for movement to a position permitting product delivery when appropriate coinage is deposited in the machine. The device includes a vertically reciprocable, common operating bar which is normally at the upper limit of its path of travel and, in such position, retains products within the machine. A pair of pivotal latch elements beneath the bar are positioned to engage a shoulder presented by the bar upon downward movement of the latter toward its product delivery position. Full actuation of the bar to the product delivery position thereof, however, is prevented by the latch elements unless the latter are pivoted to a location in clearing relationship to the shoulder by the action of the coin receiving mechanism of the machine.

The coin mechanism includes a drum having solts for receiving coins of two denominations. The drum is rotated by a crank connection as the bar shifts downwardly and, if proper coinage is supported in the slots, such coinage cams the latch elements to their shoulder-clearing locations to permit full actuation of the bar. The latch elements are selectively interconnectable for movement in unison and the coin capacity of one of the coin slots in the drum may be selectively varied, such alternative modes of operation permitting the sale price of the products to be set as desired and as dictated by the nature of the products.



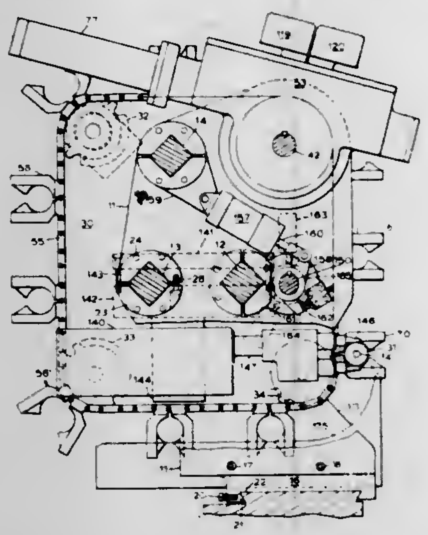
3,376,967
COIN AND TOKEN DISPENSER
George E. Fulhorst, 2842 Forbes Ave.,
Santa Clara, Calif. 95051
Filed Nov. 9, 1966, Ser. No. 593,141
4 Claims. (Cl. 194—93)



A coin and token dispenser having a slide operated coin chute with a magazine from which coins and tokens are deposited into the coin slide for dispensing to operator. A retainer is provided which supports coins and tokens during movement therein.

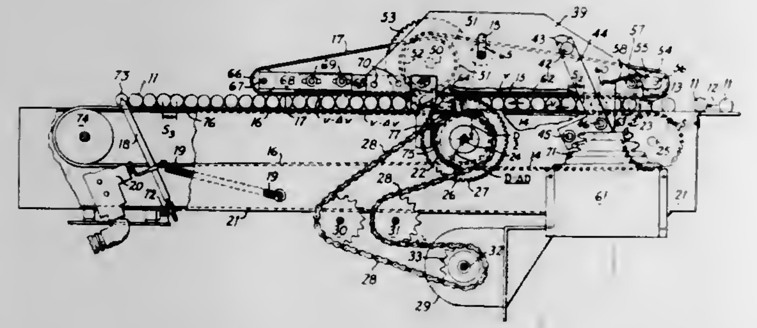
3,376,968
LOADING FIXTURE
George T. Lott, 7200 Huckleberry Lane,
Cincinnati, Ohio 45242
Filed Mar. 26, 1965, Ser. No. 442,923
2 Claims. (Cl. 198—19)

An apparatus is shown which is adapted to move elongated articles from one station to another past a location at which work is performed on the articles. The articles are held at each end by grippers mounted on an endless chain. The chains are driven in a step by step manner and means is included in the driving mechanism to prevent overrunning of the drive mechanism due to the weight of articles carrier by the apparatus. There are also included in the apparatus an in-process gauging unit and a backrest mechanism, both of which are supported between the ends of the articles carried and within the path of the articles as they are moved from the one station to the other.



3,376,969
CONVEYING DEVICE FOR GROUPING ARTICLES

Thomas R. Baker, Los Altos, and William H. Hittenberger, Santa Clara, Calif., assignors to Kliklok Corporation, New York, N.Y., a corporation of Delaware
Filed May 12, 1966, Ser. No. 549,571
8 Claims. (Cl. 198—34)

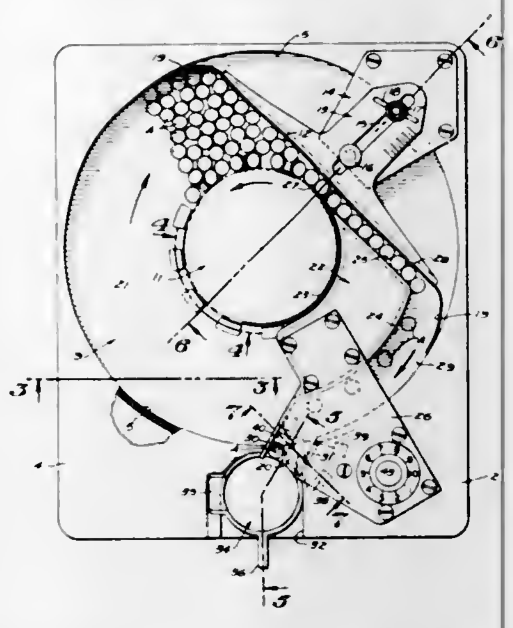


The present improvements provide a conveying device capable of handling tacky articles, such as fresh sausages, which may arrive irregularly spaced and in irregular sequence. Their arrival on a main conveyor is detected by a sensor which then causes the main conveyor to advance by about the length, or diameter, of one article. An overhead conveyor synchronized with the main conveyor and moving at the same speed as the latter comprises a normally raised leading portion which overhangs the sensor station and, upon arrival of an article at the sensor, is lowered to grip the article between the overhead and the main conveyor. The main conveyor discharges onto a slower moving outfeed conveyor on which the articles are tightly packed against one another. Tight packing is aided by a trailing portion of the overhead conveyor which overhangs the slower outfeed conveyor and causes articles to roll tightly against one another, even though tacky. A second overhead conveyor is provided above the outfeed conveyor and is synchronized with the latter to move at the same speed as the outfeed conveyor.

3,376,970
ARTICLE SEPARATING AND DISPENSING APPARATUS

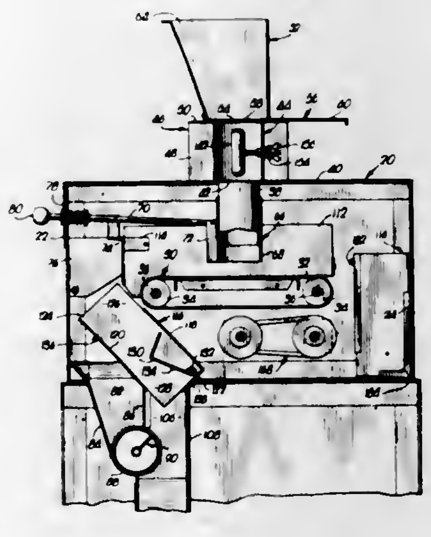
Harry G. Roseberg, 2011 S. Bedford St., Los Angeles, Calif. 90034
Filed Aug. 4, 1966, Ser. No. 570,207
11 Claims. (Cl. 198—40)

1. A dispensing apparatus, comprising:
(a) a turntable;
(b) a marginal wall surrounding said turntable, said wall being interrupted by a discharge chute;
(c) a counter rotating disk centered in said turntable;
(d) a wall traversing and clearing said turntable between said marginal walls for rotation of said turntable thereunder, said traversing wall being disposed in confronting relation with said disk to define a slot for passing articles in single file; said turntable defining an article receiving area between said discharge chute and said traversing wall in the direction of rotation of said turntable whereby said articles are urged toward said single file slot; said counterrotating disk being operable to arrange said articles in single file for passage of said articles through said slot;
(e) and means for accelerating, guiding and spacing said articles from said single file slot to said chute.



3,376,971
FEED BLENDER AND GRINDER

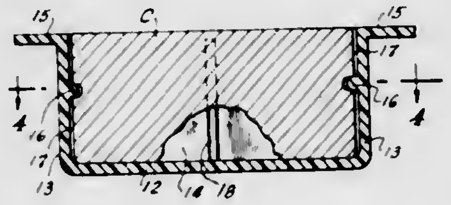
Larry J. Greer, Salina, Kans., Theodore H. Grau, Columbus, Nebr., and John McCloskey, Ralph J. McGinty, and Robert Rousser, Salina, Kans., assignors to The Wyatt Manufacturing Co., Inc., Salina, Kans., a corporation of Kansas
Filed Oct. 31, 1966, Ser. No. 590,646
2 Claims. (Cl. 198—68)



A feed blender and grinder including and endless belt conveyor provided with longitudinally extending dividers separating the conveyor for advancing a plurality of streams of feed material toward a discharge end overlying a receiver for movement of the material into a grinding mill. A second receiver disposed below and at an angle from the conveyor discharge end by-passes the mill. A plurality of combination material diverter and sampling cans of tubular construction may be placed in saddled relationship on elongated support elements extending transversely across the discharge end of the conveyor for diverting any of said streams of material into the by-pass receiver. An L-shaped gate in the cans is shiftable to a position for collecting material from the streams in the can. A series of tubular conduits having an axially disposed, magnetic element conducts material to the conveyor and separates any ferro-magnetic material therefrom.

3,376,972
PLASTIC RECEPTACLES FOR CONTAINING SOLID CAKES OF PAINT CAST THEREIN

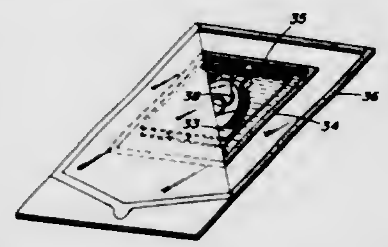
Morton Sobel, Easton, Pa., assignor to Sobel Industries, Inc., Easton, Pa.
Filed Apr. 6, 1967, Ser. No. 629,021
4 Claims. (Cl. 206—1.8)



A plastic receptacle, such as, a cup having a single recess, or a tray having a plurality of recesses, for containing a solid paint cake cast in each recess, injection molded to be stripped from the mold parts in a direction normal to the recess bottom is formed with opposed first projections at sides of the recess between its top and bottom for holding the paint cake therein and with second projections at recess sides between the first projections to prevent shifting of the paint cake out of engagement with the first projections upon cake shrinkage, the second projections extending from the recess bottom parallel to the direction of stripping from the mold parts to avoid interference therewith.

3,376,973
PACKAGE FOR SURGICAL SUTURES

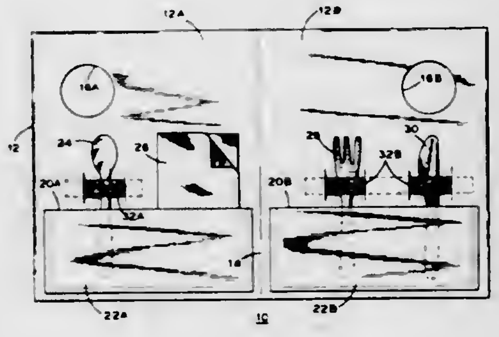
Jack Marks Granowitz, Danbury, and Gaetano Salvatore Buccino, Bethel, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
Filed July 15, 1966, Ser. No. 565,513
10 Claims. (Cl. 206—63.3)



A surgical suture or ligature is stored under sterile conditions until time of use on a thin, flat reel which reel is rotably mounted on a hollow axle of such size as to fit over the finger of the surgeon, with the external surface of the axle being the bearing for the reel, with the reel being held between a support flange and a retaining lip; and with a generally flat, round case attached to the axle and surrounding the reel. Wings on the case have suture holding notches so that the case can be held either on a finger or in the flat of the hand, and the suture may be dispensed either axially, through the notch, or radially. The entire assembly is packed in a double strippable envelope, and may have a conditioning fluid present.

3,376,974
COMBINATION CARRYING TRAY, PLACEMAT AND UTENSIL HOLDER

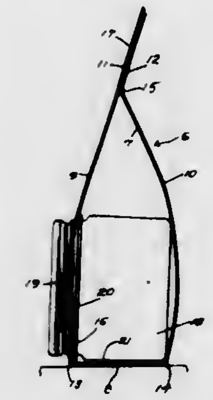
Xenia P. Hilliard, Rte. 1, Box 174, Shepherdstown, W. Va. 25443
Filed July 12, 1966, Ser. No. 564,651
4 Claims. (Cl. 206—72)



There is disclosed a combination carrying tray, placemat and utensil holder. The device comprises a rigid flat element, divided into two sections, which is folded. Each of the elements has a pocket for holding a napkin and eating utensils. An elastic band is fixed to each surface for retaining the position of the utensils. In addition, there is an opening in the sections which are aligned in the folded position for holding a drinking cup.

3,376,975
DISPLAY HOLDER

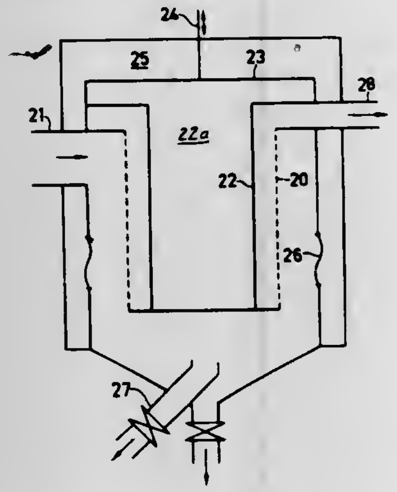
George V. V. Brothers, Egremont Plain, Great Barrington, Mass. 01230
Filed May 10, 1967, Ser. No. 637,597
5 Claims. (Cl. 206—78)



A holder for containing and displaying merchandise, which may be either suspended from a rack or self-supported on a shelf or counter, so constructed that the supported article can be readily viewed while in the holder. The holder is constructed to discourage pilfering of the article supported thereby and to thus encourage the display of articles which might otherwise not be displayed by merchants.

3,376,976
SCREEN

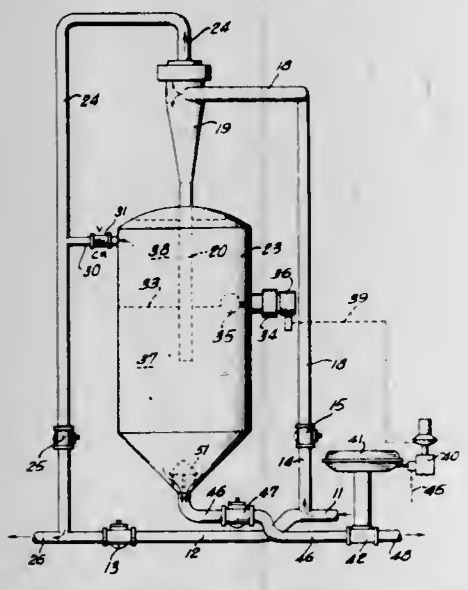
Emil Olof Lennart Wallén, Stockholm, Sweden, assignor to Grubbens & Co. Aktiebolag, Stockholm, Sweden, a Swedish joint-stock company
Filed Oct. 18, 1965, Ser. No. 497,023
Claims priority, application Sweden, Oct. 19, 1964, 12,570/64; Dec. 30, 1964, 15,870/64
5 Claims. (Cl. 209—273)



A screening device having a chamber which is divided by a screen into an inlet reject compartment and an accept compartment, with one or more appropriate inlets and outlets for the material to be screened, and having oscillatable diaphragms on both sides of the screen, one face of at least one diaphragm lying in the path of the flow of the material. A pressure medium is in pressure contact with the other face of the diaphragm and means are provided to oscillate the diaphragms, whereby pulsations of the diaphragms and the pressure medium are transmitted to the material to be screened.

3,376,977
SYSTEM FOR SEPARATING SOLIDS FROM AN OIL-WATER FLUID MIXTURE

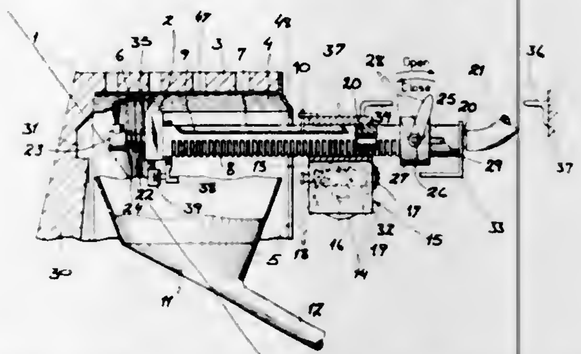
Elliott F. Gordon, Corpus Christi, Tex., and Merle W. Brubaker, Gretna, and Charles B. Page, Jr., Metairie, La., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 21, 1964, Ser. No. 419,803
4 Claims. (Cl. 210—114)



A solids-fluid separator system. It contains a cyclone chamber with tangential inlet and top outlet plus limited size bottom discharge orifice. There is an enlarged down spout for receiving cyclone chamber bottom discharge that feeds a sump with controls for flushing water and solids from the bottom while draining oil from the top of the sump.

3,376,978
EXTRACTION CENTRIFUGE

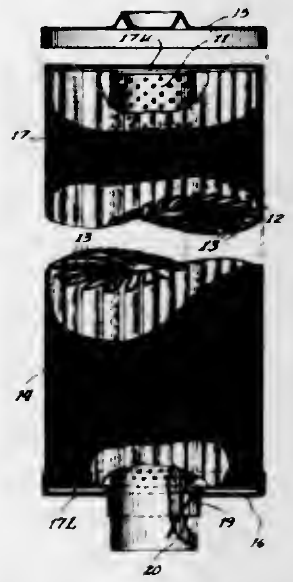
Günther Hultsch and Albrecht Beck, Munich, Germany, assignors to Krauss-Maffei A.G., Munich-Allach, a corporation of Germany
Filed Aug. 17, 1966, Ser. No. 572,978
Claims priority, application Germany, Mar. 24, 1966, K 58,810
15 Claims. (Cl. 210—375)



Extraction centrifuge wherein a spreader is axially reciprocated to deposit a filtrand on a perforated wall of the drum, the spreader moving substantially in synchronism with an unloader, such as a scraper, which precedes the spreader outlet during a forward stroke, both the unloader and the spreader being ineffectual during a subsequent return stroke.

3,376,979
PLEATED FILTER

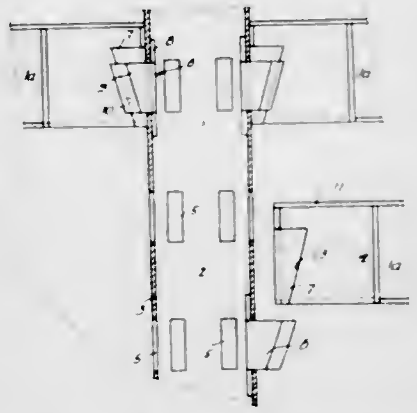
Stanley G. Bair, Chicago, Ill., assignor to Allied Filter Engineering, Inc., a corporation of Illinois
Filed Oct. 4, 1965, Ser. No. 492,735
2 Claims. (Cl. 210—457)



A locomotive lubrication filter having a perforated tubular core encircled by an elongated permeable pleated paper filter that presents a series of circumferentially distributed pleats extending in side by side relation substantially coextensive with the tube. A woven sock structure having a diameter in its relaxed configuration of less than ½ the diameter of the filter element is mounted in an expanded stretched condition about the filter element and lies in taut contact against the outer extremities of the pleats to constrain the pleats in normally spaced array and prevent collapse or caking of one pleat against another. The sock is of cotton waste material to cooperate with the paper filter element and provide a dual filter action. The sock is a one piece element having a closed end and is applied full length over the pleats or, a pair of stub socks are applied over opposite ends of the filter element which has a netting encircling its intermediate region and fixed to the pleats therealong.

3,376,980
DISMOUNTABLE STRUCTURES

Max Schaefer Serra, Calle Rosaria 17, Barcelona, Spain
Filed June 8, 1966, Ser. No. 556,182
Claims priority, application Spain, June 9, 1965, 314,308; Feb. 4, 1966, 323,028; May 26, 1966, 327,633
10 Claims. (Cl. 211—148)



1. A dismountable structure in assembled form comprising

(a) channel sections which form uprights, one face thereof being open and the other faces being provided with pairs of windows which are separated from one another longitudinally of the sections,

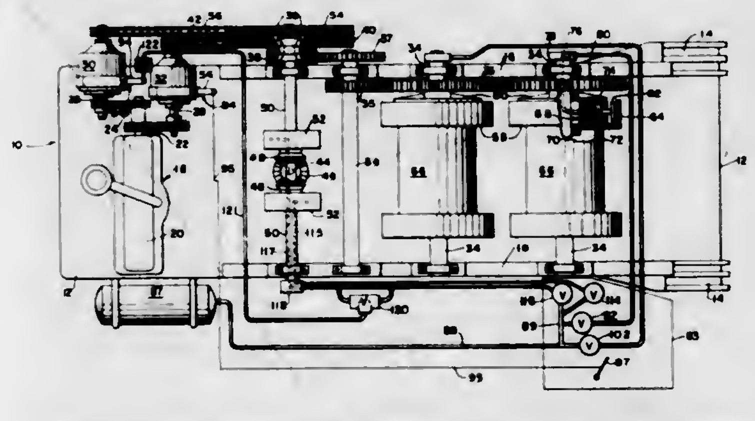
(b) U-shaped clips the upper edges of the legs of which are folded into the shape of hooks of a size to pass through the windows and are sloped with respect to the bases of the U-clips whereby wedge-shaped channels are formed between the polygonal sections and the folded edges of the clips when the clips are positioned with the legs through the windows and

(c) wedge-shaped assembly pieces corresponding in shape to the wedge-shaped openings and secured to

(d) other sections which form shelves or other members passing between the polygonal sections when the assembly pieces are inserted in the wedge-shaped openings.

3,376,981
CRANE DRIVE SYSTEM

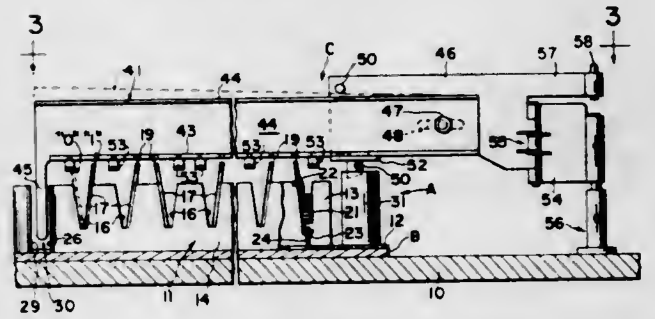
James G. Morrow, Manitowoc, Wis., assignor to Manitowoc Engineering Corporation, Manitowoc, Wis., a corporation of Wisconsin
Filed Dec. 6, 1965, Ser. No. 511,844
15 Claims. (Cl. 212—38)



This invention relates a drive connection especially adapted for use in a crane which undergoes both swinging and hoisting movement. Suitable variable output torque converters are disposed in operative relation between a prime mover in the swing and hoist mechanisms. There is provided means for controlling the variable output torque converters and means for clutching and declutching the swing and hoist loads. One or more, but not all, of the swing and hoist torque converters and clutch devices is manually or mechanically actuated while the remainder are fluid pressure actuated. In one embodiment of the invention, the hoist torque converter is manually controlled while the swing torque converter, swing clutch, and hoist clutch are fluid operated. In a second embodiment of the invention, the hoist clutch is manually controlled while the swing torque converter, the hoist torque converter and the swing clutch are fluid actuated. In a third embodiment, the hoist clutch and the hoist torque converter are manually actuated, while the swing torque converter and the swing clutch are fluid actuated.

3,376,982
CONVEYOR SYSTEM WITH CODED OPERATIONAL ELEMENTS

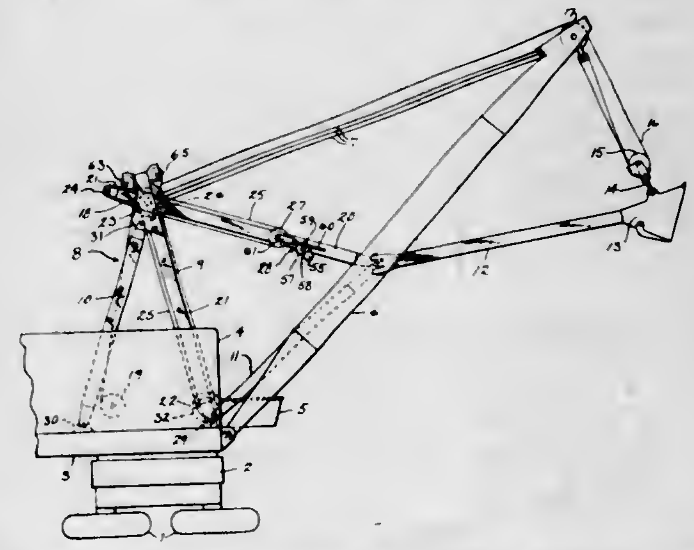
Robert O. Hutchinson, 959 Rich Ave., Mountain View, Calif. 94040
Filed Sept. 8, 1965, Ser. No. 485,885
5 Claims. (Cl. 214—11)



A conveyor assembly is disclosed having coded information impressed upon the conveyor in the form of vanes each movable between a plurality of positions with each position serving as a bit of information and writing assemblies in the form of shaped channel members and reading and actuating members in the form of vane riders for avoiding engagement between a conveyor actuating plate and the actuated member except where the coded position of the vanes correspond to the coded position of the riders.

3,376,983
ROPE CROWD FOR A KNEE ACTION SHOVEL

Ellis C. Wilson, South Milwaukee, and Robert E. Talley, Racine, Wis., assignors to Bucyrus-Erie Company, South Milwaukee, Wis., a corporation of Delaware
Filed Nov. 14, 1966, Ser. No. 593,932
5 Claims. (Cl. 214—136)



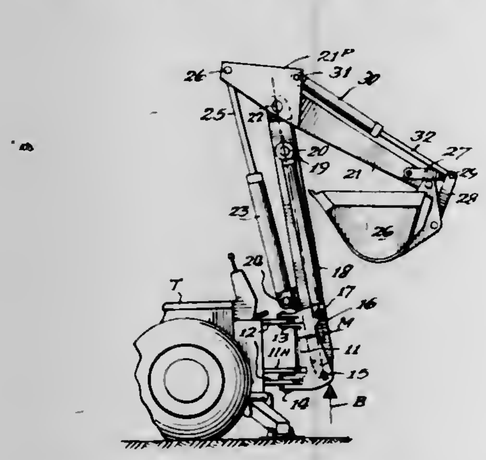
1. In a knee action power shovel of the type having a revolving frame with a boom mounted on its front end and an A-frame mounted on it behind said boom with boom support cable supporting the top of said boom from said A-frame; and having a stiff leg pivotally mounted on the front end of said revolving frame, a dipper handle

with a dipper on its forward end and its rearward end pivotally mounted on the top of said stiff leg, and a crowd handle with one end pivotally connected to the top of said stiff leg and its other end supported in a crowd mechanism in the top of said A-frame to impart crowd movement to said crowd handle, a crowd mechanism comprising the combination of

a support and guide for said crowd handle mounted in the top of said A-frame and including means for reciprocally supporting the bottom of said crowd handle, means laterally spaced from each side of said crowd handle to limit lateral movement of said crowd handle, and said crowd handle being unrestrained on its top;

and a rope crowd having a crowd cable and a retract cable extending from at least one power driven drum mounted on said revolving frame to crowd sheaves and retract sheaves mounted both in the top of said A-frame and on said crowd handle.

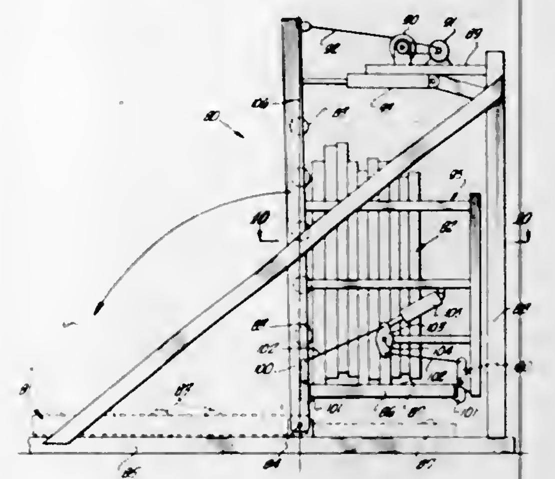
3,376,984
BACKHOE
Elton B. Long, Burlington, and John F. Shumaker, Mount Pleasant, Iowa, assignors to J. I. Case Company, a corporation of Wisconsin
Filed Nov. 16, 1966, Ser. No. 594,813
7 Claims. (Cl. 214—138)



A backhoe arrangement is disclosed wherein overcenter forward movement of the boom and boom cylinder provides a transport configuration for the backhoe wherein the center of gravity is substantially closer to the rear of the vehicle. A swing tower of cradle form is attached at the rear of a vehicle and serves as a support that embraces the pivotally mounted boom, with a pair of outboard mounted boom cylinders being pivoted on the swing tower to flank the boom in a clearance relationship that permits the boom to assume a substantially vertically directed neutral intermediate position. The boom cylinders are operable to control the boom to swing to either side of neutral position.

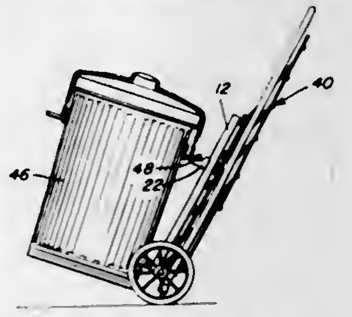
3,376,985
METHOD OF ALIGNING THE ENDS OF A STACK OF LUMBER
Thomas N. Melin, Long Beach, Calif.
(1424 24th Ave., Longview, Wash. 98632)
Continuation-in-part of application Ser. No. 401,594, Oct. 5, 1964. This application Dec. 6, 1966, Ser. No. 609,973
1 Claim. (Cl. 214—152)

The invention encompasses method and apparatus for rendering coplanar the end surfaces of all the pieces of timber in a stack of lumber by placing the stack in near vertical position while subjected to slight lateral constraints, and then dropping (or its equivalent) the stack end-wise to a foundation to produce a vertically effective impact upon the stack sufficient to cause the various timbers to move longitudinally relative to each other against the friction between the timbers, thereby to move the lower ends of all the timbers into a common plane.



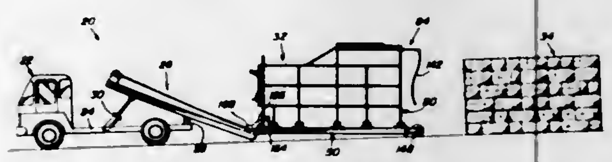
The stack is then returned to a horizontal position in such a manner that the timbers do not move longitudinally relative to each other.

3,376,986
DETACHABLE GARBAGE CAN CARRIER
Henry Farber, 69—28 226th St., Bayside, N.Y. 11364
Filed May 12, 1966, Ser. No. 549,713
5 Claims. (Cl. 214—372)



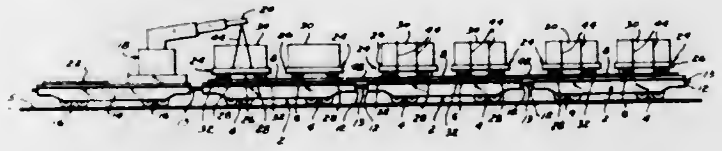
A carrier for garbage cans or the like in the nature of an attachment removably mountable upon a wheeled cart for use of the cart as a transporter for a can engaged by the carrier. The carrier includes mounting hooks engageable with the cart, lifting hook means engageable with the handle of a container, and an arcuate stabilizing member within which the container is nested.

3,376,987
BALE STACK TRANSFER DEVICE
Vernon G. Lohse, R.D. 2, Minot, N. Dak. 58701
Filed Dec. 13, 1965, Ser. No. 513,265
16 Claims. (Cl. 214—505)



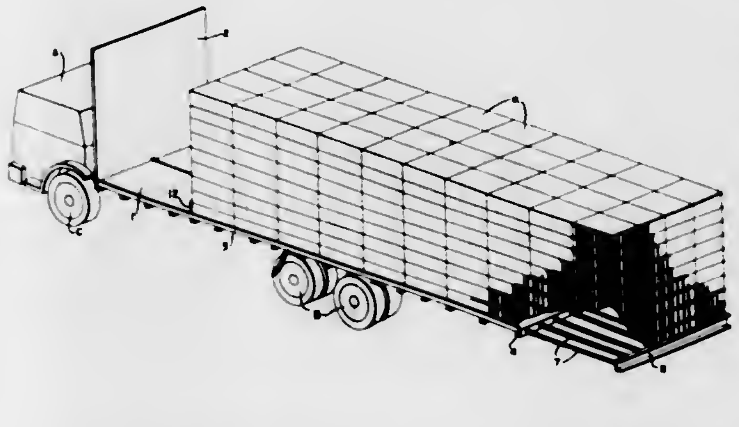
A bale stack transfer device including a frame having a pair of longitudinally spaced side beams which are hydraulically moved toward each other when the frame is placed over a bale stack so as to grip the stack. Spring loaded front and rear structural members lend support by the frame to the stack. The frame is pulled upon a truck bed for transfer of the stack to a distant location where the frame is lowered from the bed to the ground. The frame is removed from the stack and returned to the truck bed thereby depositing the stack at a final destination.

3,376,988
MATERIALS HANDLING ASSEMBLY
Lawrence Klosk, 120 Gale Place, Bronx, N.Y. 10463
Filed Apr. 9, 1965, Ser. No. 446,990
4 Claims. (Cl. 214—515)



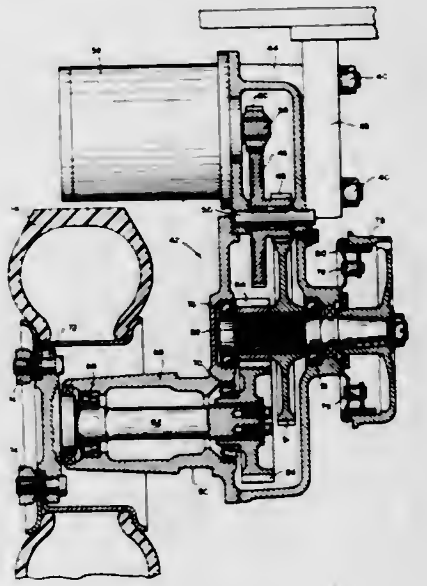
1. A materials handling assembly comprising a plurality of open-ended railroad cars coupled together in end-to-end relationship with opposing car ends separate from one another to define a train which rides over a tracked roadbed, each of said cars comprising a floor having car tracks thereon, removable track jumpers removably secured to said cars, extending between opposing car ends and joining the car tracks on adjacent cars to produce substantially continuous car tracks along said train, and a plurality of materials-carrying dolleys riding on and movable along said car tracks, means for selectively securing said dolleys in place on and permitting said dolleys to move along said car tracks, said dolleys being movable from car to car when said track jumpers are in place, and, in combination therewith, crane means operatively mounted on said track roadbed for movement thereover with said train, said crane means being effective to engage a dolley on a car adjacent said crane means and to engage the materials by said dolley and to lift said materials and said dolley from said car and deposit them elsewhere, and a second crane means operatively mounted on said track roadbed for movement thereover with said train, said second crane means being spaced from said first mentioned crane means in the direction of the length of said roadbed by a distance greater than the length of a dolley, said first crane means being effective to place an unloaded dolley in said space between itself and said second crane means, and said second crane means being effective to lift said unloaded dolley from said space and place it on tracks on the other side of said second crane means from said space.

3,376,989
TRUCK BODY LOADER
James S. Hilbun, P.O. Box 2266, Laurel, Miss. 39440
Filed Aug. 8, 1966, Ser. No. 571,025
11 Claims. (Cl. 214—517)



1. In combination with a truck chassis; a main truck floor on said chassis; a vertical wall at the front end of said floor; said floor being of width to receive rows of stacked chicken coops or the like disposed end-to-end and being of length to receive rows of said coops disposed side-by-side; an extensible floor at the rear end of said main floor forming a continuation thereof when extended and adapted to receive several of the rearmost longitudinal rows of coops when the entire load of coops on the main floor is moved rearwardly; and means on the main floor for moving the entire load of coops thereon rearwardly to provide a space equal to said several longitudinal rows of stacks between the vertical wall and the foremost row of stacked coops, the rear end of said load of coops engaging the extensible floor and simultaneously extending same rearwardly as the load is moved.

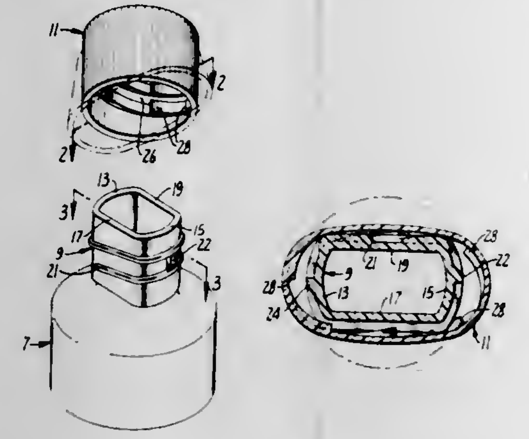
3,376,990
DRIVE ASSEMBLY AND MAST MOUNTING MEANS FOR AN INDUSTRIAL VEHICLE
Roy Charles Latall, Battle Creek, Mich., assignor to Clark Equipment Company, a corporation of Michigan
Continuation of application Ser. No. 421,207, Dec. 28, 1964. This application July 26, 1967, Ser. No. 656,297
2 Claims. (Cl. 214—671)



1. A vehicle comprising an elongated body, a pair of laterally spaced apart mounting members located at the front of the said body, a wheel connected to and partially supporting the said body, and a pair of drive train assemblies, each assembly including an elongated housing with a transversely extending arm, a wheel carried at the outer end of the said arm and a motor connected to the said housing so that the said motor, arm and housing define generally a horizontal U-shape, the said assemblies being spaced laterally apart and detachably fixed only to separate ones of the said mounting members so that the said assemblies extend substantially longitudinally of the said body forwardly and outwardly from the said mounting members and the said arms and motors extend outwardly away from each other, a lift mechanism pivotally attached to said arms and serving as a lateral brace between said assemblies, said monting members, assemblies, motor and wheels being disposed inwardly of the lateral exterior sides of said body, and said motors being located between the body and arms.

3,376,991
SAFETY CLOSURE
Danny L. Deaver, 1753 Curtner Ave., San Jose, Calif. 95124
Filed July 10, 1967, Ser. No. 652,207
3 Claims. (Cl. 215—9)

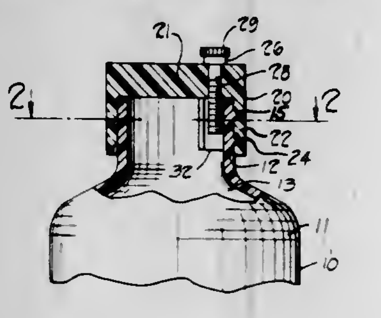
A safety closure wherein the container has an oval neck with threads thereon with ratchet members interposed within the threads on the short sides of the oval and a cap of a deformable material having threads normally mating with those on the short side of the oval and having ratchets around its periphery mating with and opposing the ratchets on the neck, said cap being deformable to an oval configuration whereby the mating ratchet mem-



bers are released and the threads in the cap are brought into contact with the threads on the long side of the oval neck whereby the cap can be partially unscrewed and can be fully unscrewed by successive repetitions of said movement.

3,376,992
SAFETY CONTAINER

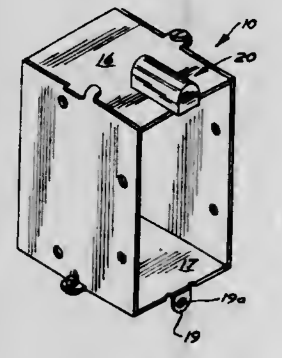
Frank O. Klapp, Sr., 70 Warren St.,
Tiffin, Ohio 44883
Filed July 12, 1967, Ser. No. 652,794
6 Claims. (Cl. 215—9)



A container and rotatable closure combination including a releasable safety latch carried by the closure for engagement with a fixed catch on the container to prevent rotation and removal of the closure.

3,376,993
COVER DEVICE FOR EAR OF ELECTRICAL BOX

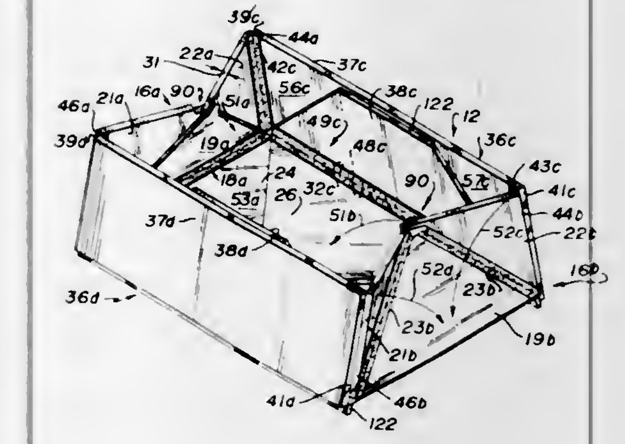
John B. Javner, 3309 Winnetka, Ave.,
Minneapolis, Minn. 55427
Filed May 18, 1966, Ser. No. 551,166
2 Claims. (Cl. 220—3.4)



1. A cover device to protect the ear of an electrical box and to provide a passage for a screw disposed through said ear, said device comprising
a housing having a flat bottom and a front wall,
an elongated open bottom chamber within said housing,
a second open bottom chamber within said housing forward of said first mentioned chamber,
a common wall separating said chambers,
said common wall and said front wall being formed to be frangible,
said second mentioned chamber being arranged and formed of a size to snugly receive said ear for frictional engagement therewith to anchor said housing thereto, and
said first mentioned chamber overlying said box rearwardly of said ear.

3,376,994
COLLAPSIBLE BOX

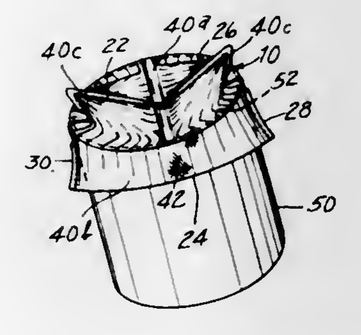
Joseph A. Flinn, Jr., 10835 Ettrick St.,
Alameda County, Calif. 94501
Filed Apr. 6, 1966, Ser. No. 540,589
9 Claims. (Cl. 220—6)



A collapsible box having segmented end walls and side walls hingedly secured to a rectangular base and to each other so that the ends and walls may be rotated inwardly toward the base with the segmented end walls thereupon folding inwardly to form an overlay of the segments which in turn are received by pockets formed by raised portions in the base of the box and the inner surfaces of the side walls.

3,376,995
UNIVERSAL COVER FOR CONTAINERS

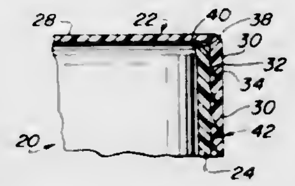
Roger A. Hunt, Worcester, Mass., assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts
Filed June 21, 1966, Ser. No. 559,169
4 Claims. (Cl. 220—24)



A flexible trapezoid-like shaped cover comprising identically shaped superimposed initially flat layers of sheet material having gripping means as a part thereof for retaining the cover stretched onto various sizes and shapes of the containers or the like.

3,376,996
SEALING ARRANGEMENT FOR PLASTIC CONTAINER

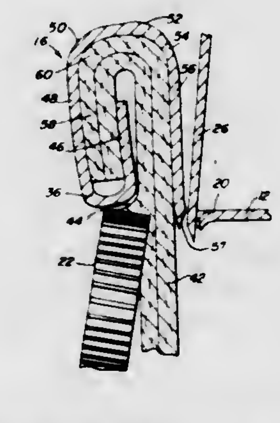
Ralph V. Bardell, Homewood, Ill., assignor to Bennett Industries, Inc., Peotone, Ill., a corporation of Delaware
Filed Sept. 21, 1966, Ser. No. 581,081
17 Claims. (Cl. 220—24)



1. A container comprising in combination:
an open end container body having a generally cylindrical side wall structure and an integrally formed bottom wall structure at one end of the body, the other end of the body being open;
barb means on the outer surface of the side wall structure of the container body adjacent the open end thereof;
closure means adapted for placement downwardly over the open end of the container body and having a depending side wall structure, the inside diameter of the depending side wall structure being substantially the same as the outside diameter of the side wall structure of the container body;
groove means formed in the inner surface of the depending side wall structure of the closure member, the groove means being adapted to removably mate with the barb means on the container body when the closure member is positioned over the open end of the container body; and
resilient sealing means adapted for positioning between the container body and the closure member and adapted to urge the closure member away from the container body whereby the barb means are maintained in positive locking engagement with the corresponding groove means and whereby a fluid-tight seal is effected between the closure member and the container body.

3,376,997
CAN AND CAN END UNIT

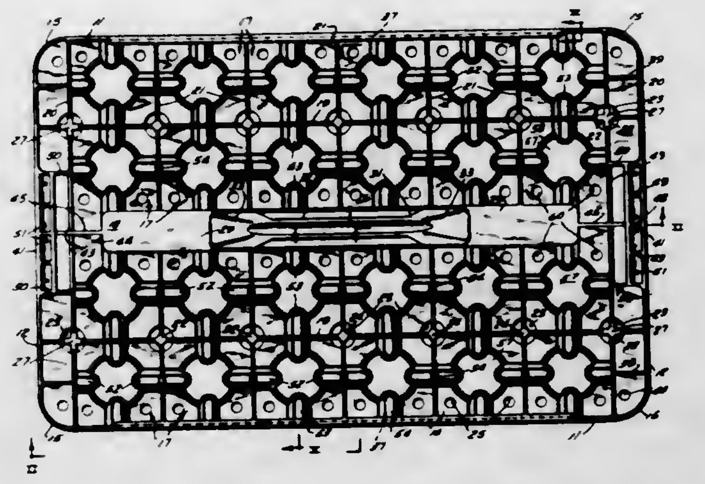
Vincent C. Kutka, Chicago, Ill., assignor to National Can Corporation, Chicago, Ill., a corporation of Delaware
Filed Jan. 30, 1967, Ser. No. 612,567
7 Claims. (Cl. 220—48)



A can cover having a serrated curl portion, and a can in which the end hook radius portion of the double seam fastening the end to the container body has a coined or serrated surface. This construction is particularly useful where the can body is made from fibre or other soft material.

3,376,998
MOLDED PLASTIC BOTTLE-CARRIER

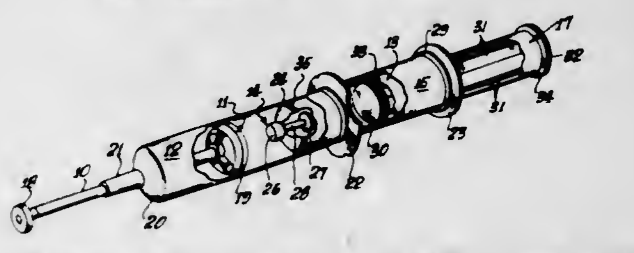
Richard T. Cornelius, Minneapolis, Minn., assignor to The Cornelius Company, Anoka, Minn., a corporation of Minnesota
Filed Dec. 28, 1964, Ser. No. 421,342
17 Claims. (Cl. 220—102)



A one-piece molded plastic 24-bottle carrier, interchangeable with conventional wooden carriers, has a center carrying handle on a hollow longitudinal cell divider and manipulating handlebars on opposite end buffer walls.

3,376,999
PACKAGING, MIXING AND DISPENSING APPARATUS

Larry L. De Hart, Pomona, and Spencer J. Speer, Ontario, Calif., assignors to General Dynamics Corporation, a corporation of Delaware
Filed May 31, 1967, Ser. No. 642,507
10 Claims. (Cl. 222—135)

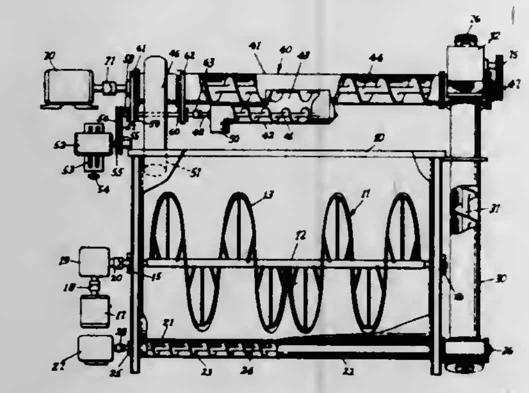


The disclosure is directed to a syringe-like construction which is adapted to serve as a package and also serve for mixing and dispensing two separate materials which must be mixed in fixed ratios and dispensed in measured amounts. Generally the syringe-like apparatus comprises a dual chamber and plunger construction wherein one of the syringe-like units acts as a plunger for the second syringe-like unit, and wherein one of the syringe-like units contains a mixer connected to a manipulating rod. Each of the plungers is provided with a ferrule for preventing depression until actually desired. In addition, the wall between the chambers of the syringe-like units is provided with a rupturable or blow out seal. In use, when the ingredients are merged, the impeller is manipulated by the actuator rod so as to intimately mix the substances, whereupon the rod may be unthreaded from the impeller so as to provide an exit for the mixture.

3,377,000
CONTINUOUS VOLUMETRIC DELIVERING AND METERING APPARATUS

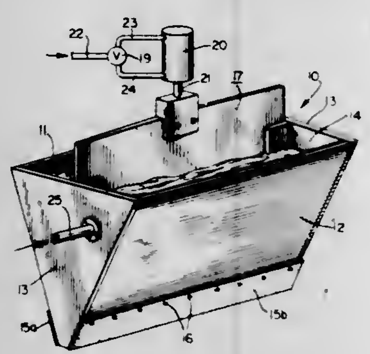
Walter R. Mason, Jr., Cincinnati, Ohio, assignor to Hoge Warren Zimmermann Co., Cincinnati, Ohio, a corporation of Ohio
Filed Jan. 19, 1967, Ser. No. 610,444
10 Claims. (Cl. 222—227)

This invention resides in the discovery of new apparatus for the continuous and uniform volumetric delivering and metering of amorphous dry materials such as cement or plaster. This is achieved primarily through the use of dual conveyor tubes disposed in parallel planes, and so arranged that the metering conveyor tube feeds from the delivery tube at an intermediate point therein. Through proper designing of parts, the metering tube removes only a metered quantity of the amorphous material conveyed by the delivery tube.



3,377,001
METERING AND DISPENSING DEVICE FOR VISCOUS LIQUIDS

James E. Hazard, Swarthmore, Pa., assignor to Scott Paper Company, Delaware County, Pa., a corporation of Pennsylvania
Filed Feb. 2, 1967, Ser. No. 613,521
8 Claims. (Cl. 222—263)

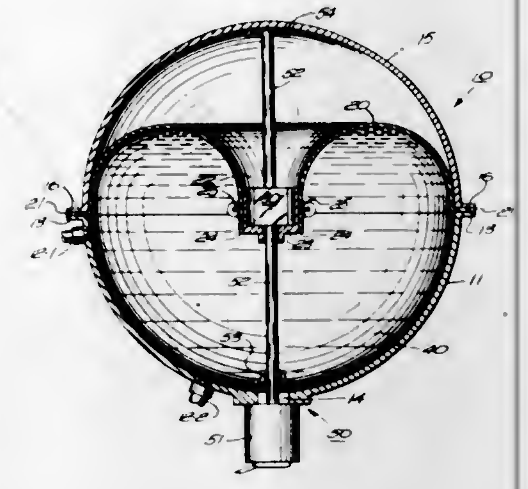


A device for separating predetermined amounts of viscous liquids from a supply reservoir and for transferring them to a remote point for application to a surface. The device includes a specially designed housing having an opening sealed by flexible lips through which a tongue member may be moved after separating a predetermined amount of viscous liquid from the reservoir. Alternative arrangements are disclosed for facilitating transfer of the separated viscous liquid to a surface such as that of a moving paper web. The shape of the tongue member can be altered to apply adhesive in a variety of patterns such as intermittent or wavy lines. Uses include tail tying in web winding.

3,377,002
CONSTANT PRESSURE FLUID SYSTEMS

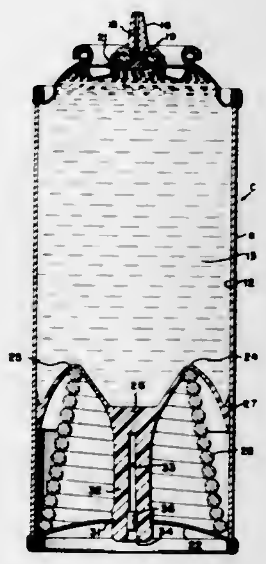
Milton N. Weber, Dearborn, Mich., assignor to Barry Wright Corporation, Watertown, Mass., a corporation of Massachusetts
Filed Sept. 15, 1966, Ser. No. 579,708
2 Claims. (Cl. 222—333)

A storage system in which a diaphragm is interiorly positioned within a container and motor driven to maintain stored fluid under relatively constant pressure. The motor drive illustratively includes a rotating shaft within the container and in contact with a cluster of rollers in a housing affixed to the diaphragm. The axes of the rollers are mounted in the housing at an angle with respect to the shaft. Consequently, rotation of the shaft produces linear motion of the housing, and of the attached diaphragm, until the downward thrust of the housing is matched by the cumulative pressure effect against the diaphragm by the stored fluid.



3,377,003
DISPENSING CONTAINER

Robert D. Bacon, Maitland, Fla., and Herman R. Markert, Hartsville, S.C., assignors to Sonoco Products Company, Hartsville, S.C., a corporation of South Carolina
Filed Jan. 4, 1967, Ser. No. 607,283
4 Claims. (Cl. 222—386)

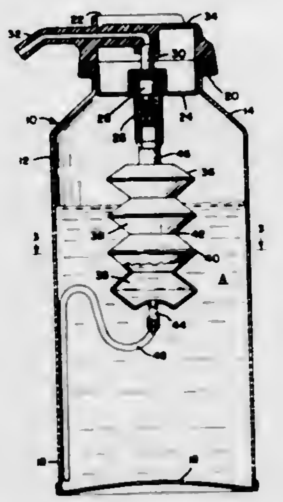


A container having a spring-pressed piston slidable therein with means associated with the piston and the container bottom end wall to lock the spring in a compressed condition.

3,377,004
METERED DISPENSING CONTAINER

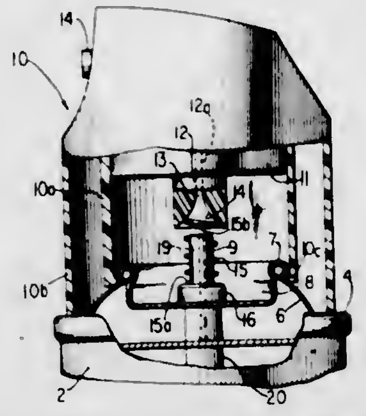
Niles A. Kjelson, Minneapolis, Minn., assignor to General Mills, Inc., a corporation of Delaware
Filed Oct. 3, 1966, Ser. No. 583,530
7 Claims. (Cl. 222—402.2)

A pressurized dispensing container which includes a discharge valve at one end, and a collapsible reservoir or bellows within the container operatively connected to the valve, for dispensing the ingredients in metered amounts. By opening the valve, the bellows is emptied; by closing the valve, the bellows is again refilled.



3,377,005
AEROSOL CONTAINER OVERCAP WITH OOZE-PROOF VALVE-ACTUATING MEANS

Herman L. Marder, Plainfield, N.J., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 3, 1967, Ser. No. 613,780
5 Claims. (Cl. 222—402.13)



An aerosol container conventionally provided with an actuatable valve stem and having associated therewith a spray overcap on which is mounted an actuator element or button adapted for actuating said valve stem, is characterized by means normally biasing said actuator element out of communicating engagement with the valve stem, and reservoir means associated therewith. The arrangement assures that any product accumulating in the conduit to the discharge or spray orifice, after valve shutoff, is discharged into said reservoir instead of exuding via said orifice.

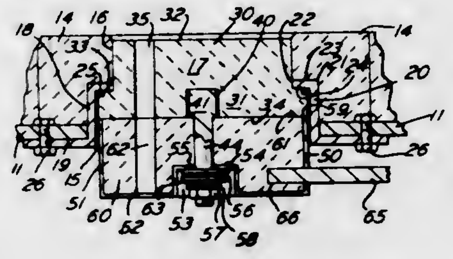
ERRATUM

For Class 222—488 see:
Patent No. 3,376,582

3,377,006
APPARATUS FOR THE TEEMING OF MOLTEN METALS

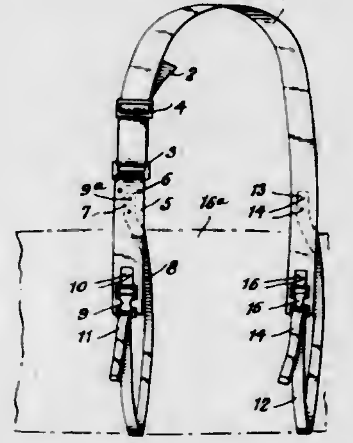
George C. Bahm, 354 Austin Drive, Fairless Hills, Pa. 19030
Filed July 29, 1966, Ser. No. 568,786
10 Claims. (Cl. 222—512)

Apparatus for the teeming of molten metals from a refractory lined ladle which is readily accessible from the exterior of the ladle for replacement or repair which can be manually or power operated as desired. The structure includes an outer housing removably carried on the bottom wall of a ladle tank within which an upper cap member is fixedly carried. The cap member has a discharge port which is controlled by a lower flow control member which is rotatably carried on a spindle secured in a supporting element which is carried in said cap and by the housing.



3,377,007
SLING FOR SURFBOARD

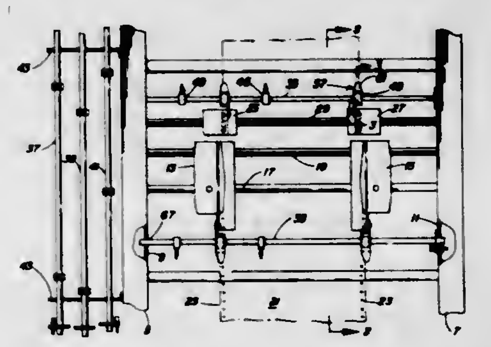
James C. Gayler, Jr., 441 Grandview Ave., Wyckoff, N.J. 07481
Filed Aug. 11, 1966, Ser. No. 571,776
3 Claims. (Cl. 224—5)



This invention relates to carriers or slings and to a type that is particularly adapted for the transport or carriage of surfboards or similar articles. It involves a shoulder strap having loops at both ends which are adjustable and adapted to hold a surfboard, or the like.

3,377,008
LATERALLY ADJUSTABLE WEB FEEDING MEANS

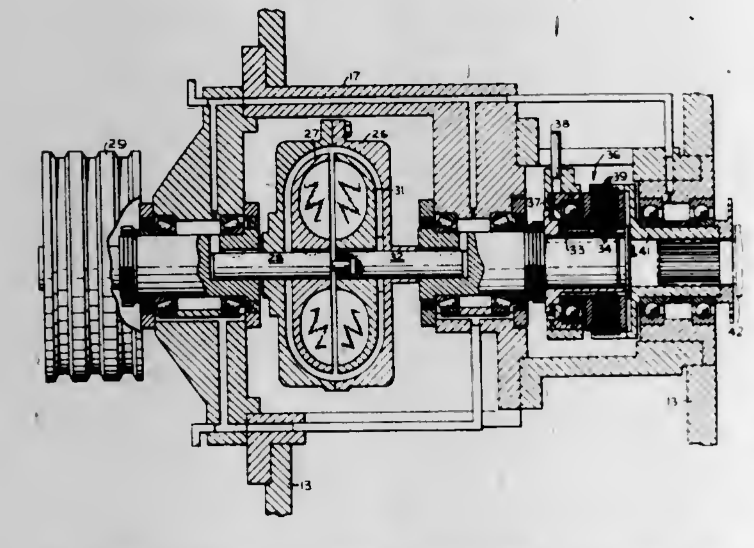
Charles O. Sutton, San Francisco, Calif., assignor to The American Binder Company of California, a corporation of California
Filed Apr. 27, 1966, Ser. No. 545,699
7 Claims. (Cl. 226—100)



1. In a paper handling device wherein a web of paper passes over a mechanism and wherein an operating device acts on said web the combination comprising:

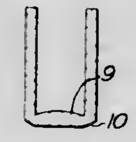
(a) a mounting rod extending transversely of the path of travel of the web;
(b) an operating device slidably mounted on said mounting rod whereby said operating device can be slid from side to side on said mounting;
(c) a program bar;
(d) means for mounting said program bar in parallel relationship with said mounting rod;
(e) a plurality of spaced members on said program bar; and
(f) clamp means on said operating device whereby said operating device can be selectively fastened to one of said spacing members.

3,377,009
BONDING MACHINES
Charles E. Lipp, Alphonzo Rakus, and George W. Vicary, Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Apr. 23, 1965, Ser. No. 450,286
2 Claims. (Cl. 228—2)



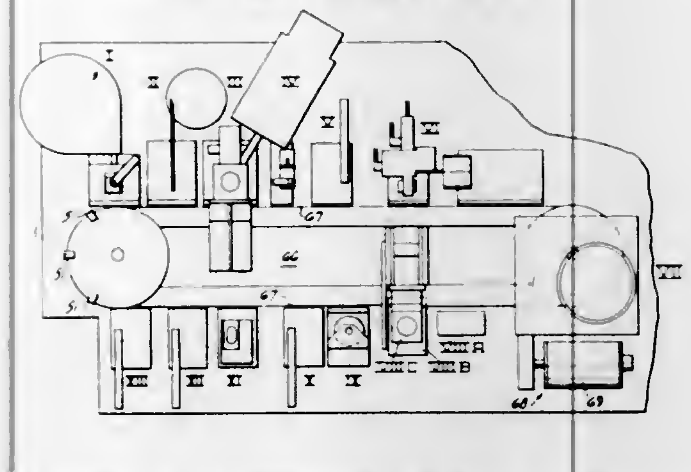
An inertia welding machine includes a disc type clutch and a hydraulic coupling between a drive motor and the inertia weights to prevent slippage of the clutch discs when the motor is connected with the stationary inertia weight. The machine also includes a combined chuck and flywheel hub carrier assembly which is detachably connected to one end of the drive spindle so that the chuck and inertia weights can be readily replaced to accommodate different size parts to be welded.

3,377,010
APPARATUS FOR SPOT WELDING A PLURALITY OF METAL PLATES BY DETONATION OF AN EXPLOSIVE
Teruhiko Suzuki, Masayuki Kameishi, and Kazumoto Yamamoto, Nobeoka-shi, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan
Original application Nov. 5, 1963, Ser. No. 321,590. Divided and this application Mar. 21, 1967, Ser. No. 624,890
11 Claims. (Cl. 228—3)



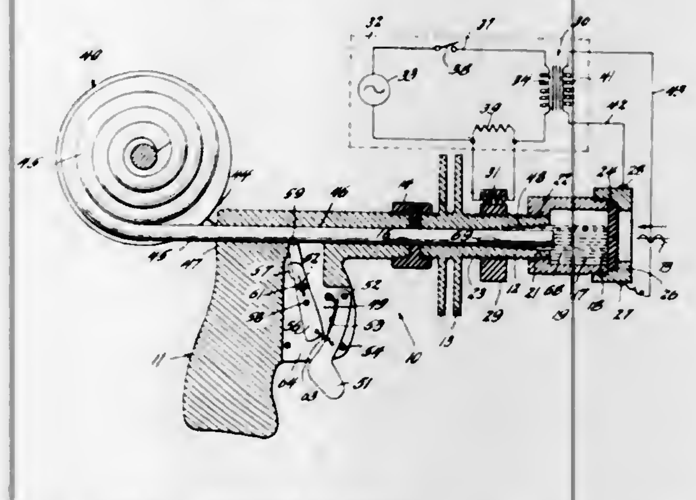
Spot welding apparatus comprising a cylindrical container having a base which is adapted for being placed on the outer surface of an outer plate of a number of plates to be spot welded together. An explosive is contained within the container. The base has an inner surface of convex shape to concentrate the force produced by detonation of the explosive in a localized area. The container is circumferentially cut away at its lower edge to minimize the presence of the pressure trace on the outer surface of the plate.

3,377,011
APPARATUS FOR ASSEMBLING ELECTRICAL DEVICES
Nicholas J. Mandonas, Medford, and Winford T. Nowell and Edward T. Stocker, Groveland, Mass., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 27, 1965, Ser. No. 490,514
12 Claims. (Cl. 228—18)



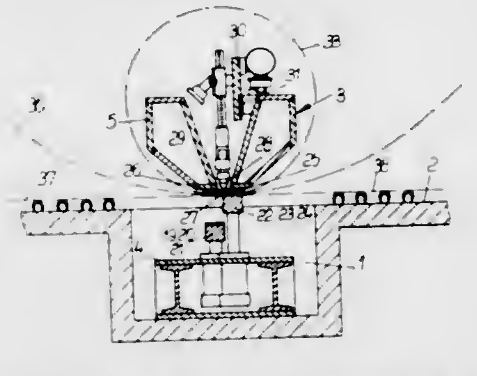
An apparatus for assembling the parts of coaxial connectors wherein a terminal cap is attached to one end of a cylindrical body, an insulating disc is inserted and secured within the body adjacent the same end, an insulating disc is mounted on a center contact and the latter subassembly is inserted within and secured to the cylindrical body. A carrier receives the cylindrical bodies and advances them intermittently to a series of assembly and checking stations to assemble the parts.

3,377,012
APPARATUS FOR APPLYING A COATING OF A FUSED MATERIAL TO AN ARTICLE
Robert H. Cushman, Princeton Junction, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 6, 1966, Ser. No. 540,763
7 Claims. (Cl. 228—40)



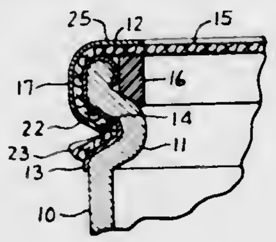
1. In a solder coating apparatus;
a housing having an open reservoir cavity formed therein for receiving molten solder, and
a diaphragm of resilient material secured over said reservoir cavity and having intersecting slits to form flaps deflectable upon application of a predetermined pressure, said material having resiliency characteristics of sufficient strength to preclude deflection by the weight of the molten solder in said cavity.

3,377,013
PROCESS AND DEVICE FOR WELDING SEAMS
Siegfried Hahne, Rheinkamp-Baerl, Germany, assignor to Messer Griesheim GmbH, Frankfurt am Main, Germany, a corporation of Germany
Filed Apr. 22, 1966, Ser. No. 544,612
Claims priority, application Germany, Jan. 19, 1966, M 68,058
9 Claims. (Cl. 228—44)



1. A device for the automatic welding of a longitudinal seam, characterized in clamping means for holding the seam edges, said clamping means including a crosspiece adapted to be positioned above the seam edges, upper clamping jaw means mounted on said crosspiece, lower clamping jaw means for moving toward said upper jaw means to lock the seam edges therebetween, welding means, and guide means on said crosspiece for moving said welding means over said seam edges.

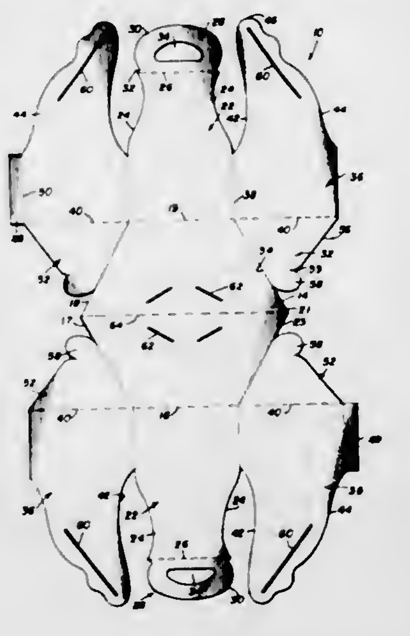
3,377,014
CLOSURE FOR SHIPPING CONTAINERS
Heinz Rocber, Porz-Ensen, Germany, assignor to Inland Steel Company, Chicago, Ill., a corporation of Delaware
Filed Oct. 10, 1966, Ser. No. 585,384
Claims priority, application Germany, Oct. 16, 1965 V 29,537
12 Claims. (Cl. 229—5.5)



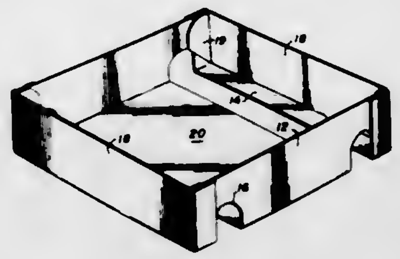
1. In a shipping container having a body terminating at one end in a mouth opening and having an internal circumferential bead at one end of said body adjacent said mouth opening defining an annular ledge therein, a closure comprising, in combination, a closure member including a membrane, said membrane projecting radially over the mouth of said body and substantially conforming to the outer surface of said circumferential bead, a resiliently compressible annular gasket interposed between the inner surface of said closure member and the inner surface of said circumferential bead, and a contractable ring overlying said membrane and bead in clamping relationship to said mouth.

3,377,015
SIX-SIDED FOLDABLE BOX CONSTRUCTION
Oscar Moreno, 2311 W. Flagler St., Miami, Fla. 33135
Filed Mar. 22, 1966, Ser. No. 536,404
7 Claims. (Cl. 229—16)

Hexagonal box construction comprising a hexagonal base with two side and top defining portions secured, in each instance through a central panel, to a pair of opposed edges on the base, each section including, in addition to the central panel, two side panels which, for a portion of the height thereof, correspond in width to the edges of the base adjacent the edge to which the central panel is secured. The two sections are folded vertically and the side panels swung inwardly so as to define an open top hexagonal box. The upper portions of the panels are then folded inwardly into a domed configuration and locked together in a manner which defines a pair of upwardly projecting handle portions.



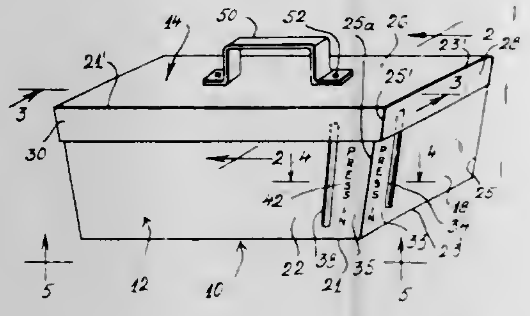
3,377,016
TRAY FOR HOLDING MULTIPLE CARTONS
Warren H. Bates, 7224 Burns, Fort Worth, Tex. 76118
Continuation-in-part of application Ser. No. 464,720, June 17, 1965. This application Sept. 7, 1967, Ser. No. 666,121
1 Claim. (Cl. 229—31)



A tray for holding multiple rectangular cartons, cans or bottles, and comprised of a single rectangular blank of fiberboard or the like having score lines parallel with the sides thereof, defining the side panels of the tray, a transverse cut in said blank parallel with each end thereof and extending into the side panels, thence toward the end of the trays and then at an angle to the score lines. The primary feature of the invention has to do with eliminating bellows folds at the corners of the tray.

3,377,017
TAPERED BOX WITH SELF-LOCKING COVER
Arthur M. Rosenfield, 833 Cliffside Ave., North Woodmere, N.Y. 11598
Filed July 17, 1967, Ser. No. 653,963
1 Claim. (Cl. 229—43)

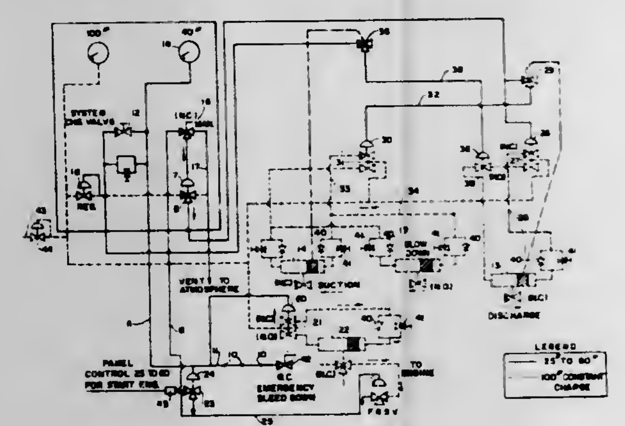
The disclosure describes a box having an open top base and detachable cover. The box and cover are both tapered in form and interfit so that the cover is mechanically locked to the base. The cover is released by pressing the adjacent sides of the base inwardly at one corner. The material of the base is weakened at the one corner to facilitate compressing the corner.



3,377,018

SYSTEM AND APPARATUS FOR AFFORDING FIRE PROTECTION TO COMPRESSORS PUMPING COMBUSTIBLE FLUIDS

Richard H. Nielsen, Gretna, Charles L. McCarty, Algiers, and Herman George Wernette, Gretna, La., assignors to Compressors Automation Controls Inc., Marrero, La., a corporation of Louisiana
Filed Apr. 29, 1966, Ser. No. 546,296
6 Claims. (Cl. 230—2)



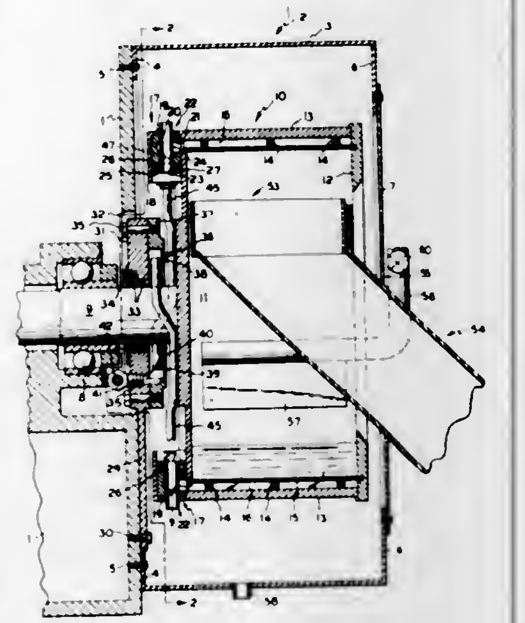
The present invention is directed to a fire prevention system for use on compressors pumping combustible fluids in which the compressor has a supply, discharge, and blowdown valve. The three valves are under the control of a pneumatic monitoring system which can be vented to atmosphere upon a predetermined temperature rise, such as the melting of a fusible plug to cause sequential shut down of the supply, discharge, and blowdown valves to purge the compressor of combustible fluids.

3,377,019

METHODS AND APPARATUS FOR MAINTAINING A LIQUID HEAD IN A CENTRIFUGE

Bradley G. Cox, Saginaw, Mich., assignor to Baker Perkins Inc., Saginaw, Mich., a corporation of New York
Filed Sept. 15, 1965, Ser. No. 487,368
13 Claims. (Cl. 233—2)

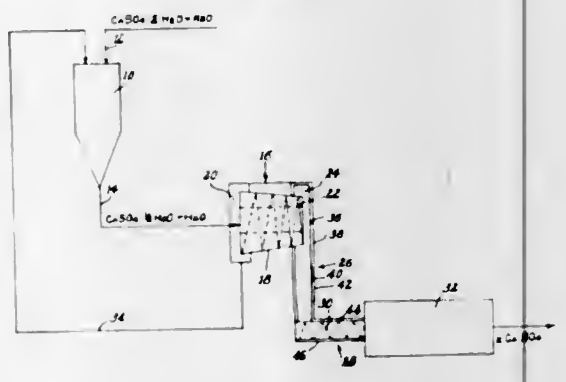
Method and apparatus for controlling a liquid head in a centrifuge by controlling the drain rate from the centrifuge and wherein the rotatable perforate basket member which includes a circumferential collecting chamber carries a drain with a valve therein which is mounted for adjustment from one position in which liquid is enabled to pass through the drain to another position in which liquid is at least partially disabled from passing through the drain, and wherein means is provided for controlling movement of the valve and thereby maintaining the desired liquid head in the basket.



3,377,020

CALCIUM SULPHATE CENTRIFUGING

Eric G. Piper, Dover, Mass., assignor to Bird Machine Company, South Walpole, Mass., a corporation of Massachusetts
Filed Mar. 16, 1966, Ser. No. 534,880
3 Claims. (Cl. 233—11)



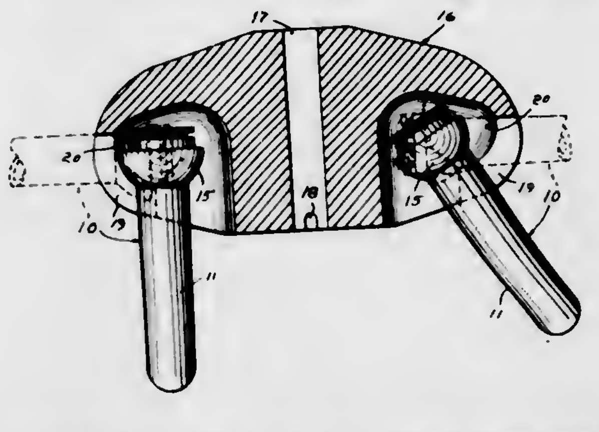
1. A process of deliquoring a slurry of calcium sulphate hemi-hydrate which comprises subjecting the slurry at a temperature below its critical inversion temperature to a centrifuging operation in which a partially dry solids fraction is continuously separated from the liquid fraction and discharged to a solids receiving compartment and supplying heat to said compartment sufficient to maintain the interior wall surfaces thereof at a temperature above said critical inversion temperature.

3.377,021

CENTRIFUGE ROTORS, BUCKETS AND COMBINATIONS OF SUCH BUCKETS AND ROTORS

Gerald D. Fox and John E. Joyce, Quincy, Mass., and Robert C. Leif, Los Angeles, Calif., assignors to International Equipment Company, Needham Heights, Mass., a corporation of Massachusetts
Filed May 17, 1965, Ser. No. 456,310
6 Claims. (Cl. 233—26)

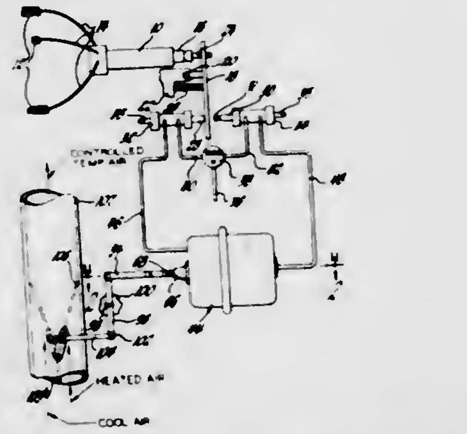
Centrifuge rotors and buckets and combinations of buckets and rotors, the buckets and rotors having, respectively, detachably mating, ball and socket connecting portions.



3,377,022

THERMOMECHANICAL AUTOMATIC CONTROL SYSTEM FOR HEATING AND COOLING AIR

Paul K. Beatenbough, Medina, Gary E. Richards and Philip S. Rogers, Lockport, and Carl A. Scherer, Clarence Center, N.Y., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 16, 1965, Ser. No. 514,306
2 Claims. (Cl. 236—13)

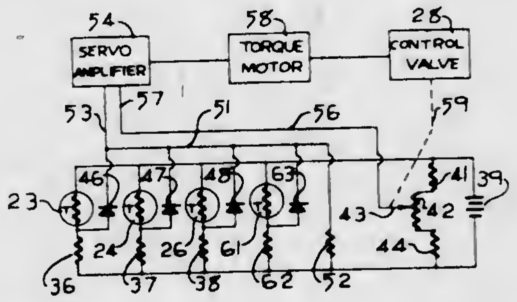


A system for automatically controlling the temperature of air flowing to and through a zone such as a vehicle passenger compartment, the system including means for sensing a variation in the zone temperature, and elements actuated by power derived from a source outside the system and the zone for operating damper means to compensate for the variation.

3,377,023

DISCRIMINATING VARIABLE SPEED CONTROL FOR MULTIPLE HEAT EXCHANGER FAN MOTORS

Philip J. Costa, Chillicothe, and Robert R. McCutchen, East Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Feb. 1, 1966, Ser. No. 524,226
5 Claims. (Cl. 236—35)

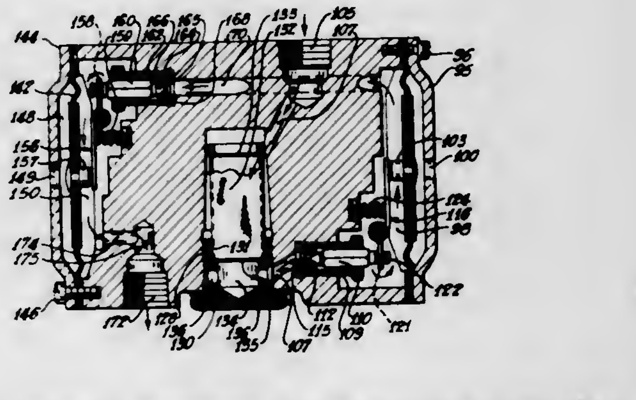


In cooling systems wherein a single, variable speed fan provides cooling air for a plurality of heat exchangers, whose cooling air requirement may vary independently of one another, an electronic control system employing separate temperature sensitive elements associated with each heat exchanger and circuit means connecting the temperature sensitive elements together, which circuit means discriminates between the temperature sensitive elements so that the one registering the highest temperature abnormality in its associated heat exchanger, controls the speed of the fan proportionally to the cooling air needs of that heat exchanger.

3,377,024

LIQUID FUEL BURNER SYSTEM AND FUEL CONTROL

Warren D. Nutten, Erie, Mich., and Bernard C. Phillips, Toledo, Ohio, assignors to The Tillotson Manufacturing Company, Toledo, Ohio, a corporation of Ohio
Filed May 19, 1964, Ser. No. 368,475
5 Claims. (Cl. 239—8)

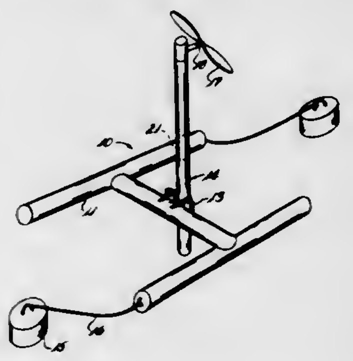


2. Fuel control apparatus for controlling fuel flow from a supply to a fuel delivery nozzle at an air and fuel mixing zone including, in combination, means providing two fuel chambers, a pair of flexible diaphragms respectively forming a wall of each of the fuel chambers, an inlet passage for one of said chambers adapted to be connected with the fuel supply, passage means connecting the fuel chambers, an outlet passage for the other of the chambers connected with the fuel delivery nozzle, a valve in the inlet passage, a valve in the connecting passage means, spring means normally biasing said valves toward closed position, said diaphragms being responsive to pressures at opposite sides thereof for controlling the relative positions of said valves.

3,377,025

WATER AERATION APPARATUS

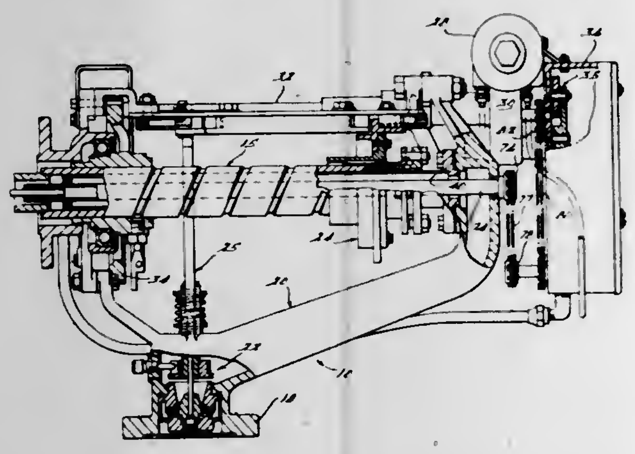
Norman H. Nye, 1348 Highbridge Road, Cuyahoga Falls, Ohio 44223
Filed May 31, 1966, Ser. No. 553,931
10 Claims. (Cl. 239—16)



1. A water aeration apparatus for positioning in a body of water to extend upwardly and downwardly of the surface of the water which apparatus includes
a hollow enclosure member extending substantially the height of the apparatus,

a drive shaft operatively received in the upper portion of said enclosure member and extending axially thereof to a point above said water surface,
means engaging said drive shaft to drive it,
a lower shaft operatively positioned in the lower portion of said enclosure member, which lower shaft is hollow and has radially spaced inner and outer walls with closed ends to form a chamber therebetween in the portion of such shaft to be positioned at, immediately above, and immediately below the surface of the body of water in which the apparatus is to be positioned,
pump means operatively engaging the lower end of said lower shaft and communicating operatively with the body of water in which the apparatus is positioned and with the interior of said enclosure member to force water upwardly thereof when said pump means is driven, said enclosure member being apertured above the surface of the body of water for discharge of water therethrough, and
clutch means operatively coupling said drive shaft to said lower shaft for drive thereof, said clutch means being immersed in a liquid which is not freezable under ambient atmospheric temperatures and which liquid is also received in said chamber in flow connection to the liquid surrounding said clutch means whereby if said lower shaft is embedded in ice said liquid will be heated and caused to flow along said chamber to melt such ice and free said lower shaft for rotation.

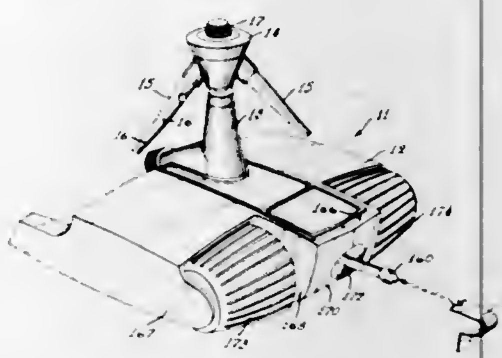
3,377,026
RETRACTABLE CLEANING MECHANISM FOR BOILERS AND OTHER HEAT EXCHANGERS
Le Roy S. De Mart, Lancaster, Ohio, and John C. L. Cowen, Bloomfield Hills., Mich., assignors to Diamond Power Specialty Corporation, Lancaster, Ohio, a corporation of Ohio
Filed Jan. 24, 1966, Ser. No. 522,439
7 Claims. (Cl. 239—187)



A device for projecting liquid against the surfaces of a heat exchanger to dislodge fouling material is disclosed in a preferred mechanism which includes a lance tube constructed and actuatable similarly to a known type of short retracting soot blower, and as having a ball type nozzle rockable by means of a stem which sweeps a conic path so that the path of movement of the jet from the nozzle has components both lengthwise of and rotational about the axis of the lance tube, the jet being thereby projectable against a water wall surface so as to impinge the same at varying distances from the axis, and a valving portion being disclosed which during oscillation of the nozzle, obstructs to a varying degree the access of fluid to the nozzle to thereby throttle the flow of liquid to a degree which varies in relation to the angularity of the nozzle.

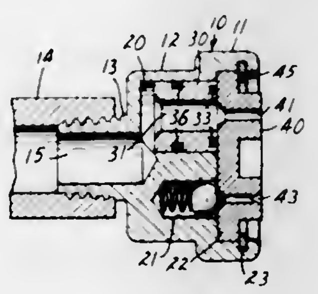
The purpose of this abstract is to enable the Patent Office and the public generally and especially the scientist, engineer or practitioner in the art who is not familiar with patent or legal terms or phraseology to determine quickly from a cursory inspection the nature and essence of the technical disclosure of the application. The abstract is neither intended to define the invention of the application, which of course is measured by the claims, nor is it intended to be limiting as to the scope of the invention in any way.

3,377,027
TRAVELING SPRINKLER
Charles A. Mattson, Oak Park, and George W. Schleicher, Niles, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed July 5, 1966, Ser. No. 562,876
21 Claims. (Cl. 239—189)



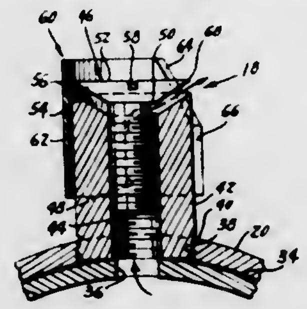
1. A self-propellable sprinkler comprising a housing having an upright post, a reaction type rotary sprinkler head mounted on said post for rotation about a vertical axis, said housing defining an enclosed chamber containing a speed reduction gear means, said head in driving engagement with said gear means, said gear means having an output shaft with a lower end extending downwardly out of said housing chamber whereby the rotation of said head rotates said output shaft at a speed slower than said head, a reel containing a flexible tape rotatably mounted to the underside of said housing with its center of rotation coexistensive with said shaft, said output shaft extending through said reel so that the lower end of said shaft extends beyond said reel, a member slidably secured to the underside of said reel and having means adapted for making a driving engagement with said output shaft lower end whereby said member selectively locks said reel and shaft together for rotation.

3,377.028
SELF-SEALING CONNECTOR FOR MULTIAPERTURE NOZZLE
William L. Bruggeman, White Bear Lake, Minn., assignor to L & A Products, Inc., St. Paul, Minn.
Filed Apr. 5, 1966, Ser. No. 540,366
2 Claims. (Cl. 239—394)



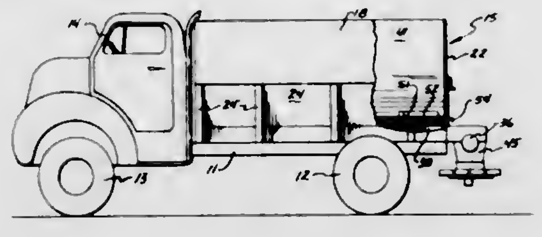
A self-sealing connector which may be utilized to attach a multiaperture nozzle to the end of a conduit including a passage way therethrough with a piston slidably engaged therein and having an opening therethrough approximately equal to the opening of the conduit. The piston further has a sealing ring fitted into the downstream end of the piston approximately concentric with the opening therethrough and a sealing ring around the outer periphery thereof between the walls forming the opening through the connector and the piston. The two sealing rings are disposed to produce a differential pressure on the piston forcing the piston downstream into tight sealing engagement with a rear surface of the nozzle. Because the piston produces a self-sealing effect the nozzle can be connected to the coupling with a simple snap ring or the like.

3,377,029
SLOTTED, FRICTIONALLY HELD SLEEVE SURROUNDING A NOZZLE ORGANIZATION
George R. Montgomery, 1152 Okeechobee Road, West Palm Beach, Fla. 33401
Filed Mar. 18, 1966, Ser. No. 535,538
10 Claims. (Cl. 239—458)



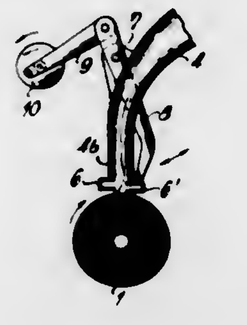
A water irrigation system including nozzle equipped piping and ground engaging support means for positioning the piping in a vertically spaced and elevated position above the ground, and wherein the support means includes a resilient snap-on stand having a portion thereof adapted to contract about the pipe under the influence of its weight to tightly grip the same while at the same time permitting the gripping portion to be expanded to permit the easy separation of the piping and stand; and wherein the pipe is provided with apertured nozzle means projecting laterally therefrom and including valve means therefor which cooperate with a slotted sleeve slidably mounted for adjustment relative to the nozzle means and cooperating with the valve means to provide a further control over the water dispersion from the nozzle.

3,377,030
PLURAL COMPARTMENT APPARATUS
Eskil W. Swenson, Cherry Valley, Ill., assignor to Swenson Spreader & Mfg. Co., Lindenwood, Ill., a corporation of Illinois
Filed Dec. 30, 1965, Ser. No. 517,637
10 Claims. (Cl. 239—656)



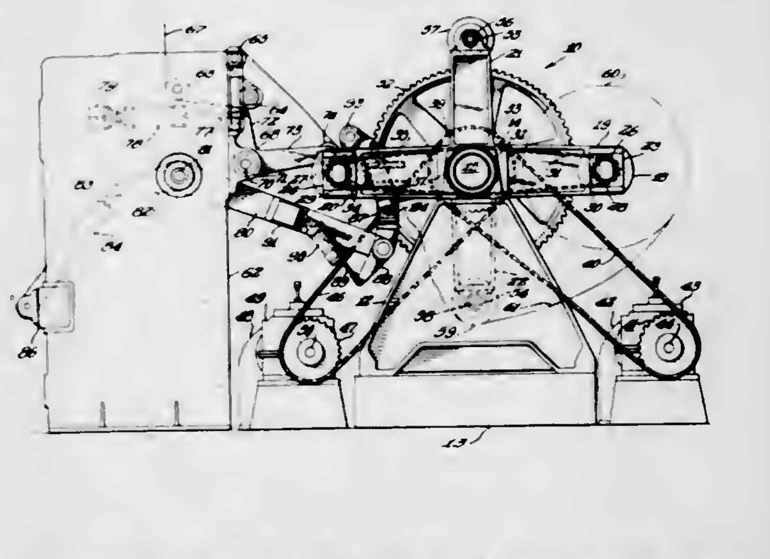
A truck having a broadcast spreader and a V-box hopper mounted thereon. The hopper has a longitudinal divider wall which is arched laterally to divide the hopper into compartments of unequal size. Conveyors are provided for feeding materials from the compartments to the broadcast spreader.

3,377,031
DEVICE FOR PULLING THE LEADING END OF YARN FROM A TEXTILE COIL
Hans Raasch, Rheydt, and Stefan Furst, Monchen-Gladbach, Germany, assignors to Walter Reiners, Monchen-Glaobach, Germany
Filed Mar. 25, 1966, Ser. No. 537,477
Claims priority, application Germany, Apr. 3, 1965, R 40,305
5 Claims. (Cl. 242—35.6)



Device for pulling a leading end of yarn from a coil includes coil holder means for rotating a yarn coil about its axis, a suction nozzle having a suction mouth adjacent the holder means to induct an air current for pulling the yarn end off the rotating coil, mechanical clamping means located in the suction-air current of said nozzle, and means for moving the clamping means periodically into engagement with the yarn end within the suction-air current for supplementing the entraining action of the suction-air current to grip the yarn end intermittently.

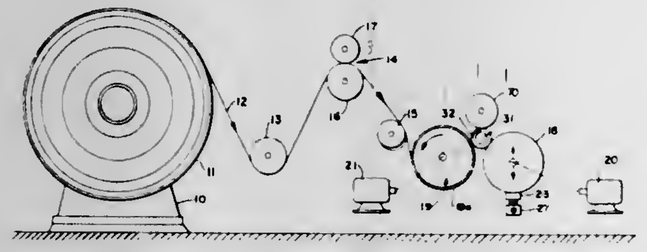
3,377,032
CORE ENVELOPER
Robert J. Jacobs, West Chester, and George J. Prager, Rosemont, Pa., assignors to Beloit Eastern Corporation, Downingtown, Pa., a corporation of Delaware
Filed Aug. 25, 1965, Ser. No. 482,492
6 Claims. (Cl. 242—56)



Apparatus for successively enveloping a web on a plurality of spaced cores carried on a turret. The enveloper includes a rider roll on the end of a lever arm and engaged with the periphery of the roll being wrapped by a cylinder and piston. The rider roll may control movement of the turret to bring a wound core out of a winding position and to bring a new core into position to have a web wound thereon. The web is enveloped about the core by a pressure roll and an outwardly spaced enveloper roll cooperating with the rider roll. The pressure and enveloper rolls are spaced along a common enveloper arm, pivoted to a pivoted support arm, moving the pressure and enveloper rolls into and out of enveloping association with the rider roll and core. A cylinder and piston between the support arm and enveloper arm moves the enveloper arm about its axis of connection to the support arm. A second cylinder and piston connected between the frame of the machine and support arm moves the support arm into operative and inoperative positions. A knife is pivoted on the enveloper arm between the pressure roll and the enveloper roll and is operated by a cylinder and piston to sever the taut web and to guide the leading end of the severed web to the nip between the rider roll and the core to initiate the winding of the web on the core. Air jets in association with the knife may aid in the guiding of the web into the nip between the rider roll and core.

3,377,033
PAPERMAKING MACHINE

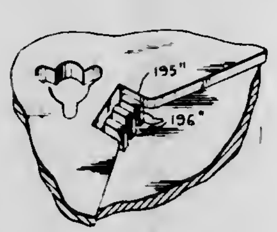
Peter J. Link, Neenah, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed May 12, 1966, Ser. No. 549,716
12 Claims. (Cl. 242—56.2)



A winder for [illegible]per or the like including a pair of spaced drums at [illegible]st one of which is driven and which support a paper roll being wound between the drums, and power mechanism for moving one of the drums vertically as the paper roll is being wound so as to change the proportion of the weight of the roll of web carried by the respective drums. One of the drums is preferably covered with resilient material, and the drive of one of the drums may be changed with respect to the drive for the other drum as the paper roll increases in diameter.

3,377,034
TAPE REEL FOR PARALLEL TRACKS TAPE RECORDERS

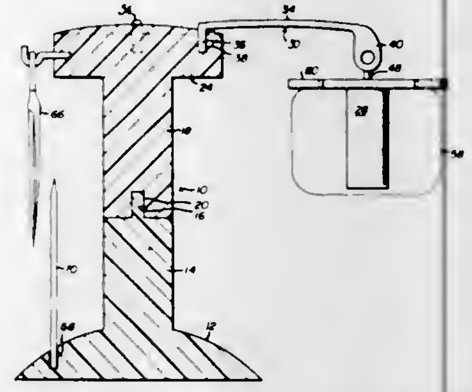
Sidney O. Sampson, Box 3261, Grand Central Station, New York, N.Y. 10017
Substituted for abandoned application Ser. No. 155,738, Nov. 29, 1961. This application Jan. 7, 1966, Ser. No. 536,476
2 Claims. (Cl. 242—74)



A tape reel having a segment removed from the hub and discs of the reel forming unobstructed recesses therein and a plurality of pegs including a centrally located peg, associated with the hub of the reel whereby a tape loop may be dropped over the centrally located peg to catch the tape loop.

3,377,035
YARN HOLDER

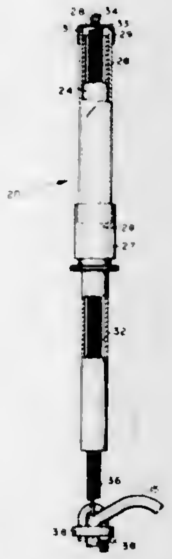
Rosaline Sparr, 21380 Concord, Southfield, Mich. 48075
Filed May 15, 1967, Ser. No. 638,287
5 Claims. (Cl. 242—139)



A yarn holder for supporting a plurality of balls of knitting yarn in readily accessible position and from which the yarn may be knit directly with a uniform constant tension. The yarn balls are supported upon bobbins which are detachably and rotatably supported upon a common head.

3,377,036
TENSIONING APPARATUS

Ronald J. McNatt and Lambert C. Smith, Anderson, Ind., assignors to Anaconda Wire and Cable Company, a corporation of Delaware
Filed Apr. 15, 1966, Ser. No. 542,898
4 Claims. (Cl. 242—156.2)



A sensitive tensioning device for reel pay-offs comprises a long spring incased in a pair of telescoping tubes. The inner tube is rigidly mounted and the spring is fastened to the remote end of the outer tube which can be locked in various degrees of extension.

3,377,037
AIRCRAFT EMERGENCY EJECTION ARRANGEMENT

Walter N. Stewart, Willingboro, N.J., assignor of one-half to Edward P. Remington, Monroeville, N.J.
Filed Oct. 5, 1966, Ser. No. 584,615
5 Claims. (Cl. 244—17.15)

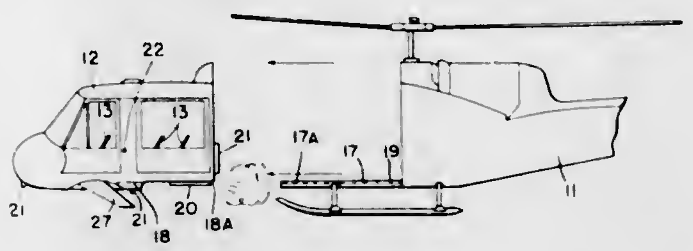
1. In a rotor sustained aircraft having a forward cabin portion normally secured to a main fuselage portion, and rotor means overlying said cabin and fuselage portions,

horizontal track means extending longitudinally of said fuselage,

said cabin portion containing seat means for accommodating occupants,

means on said cabin portion for catapulting said cabin portion forwardly along said track means to eject the cabin portion clear of said fuselage portion and rotor means,

means including at least one downwardly discharging lift rocket for elevating said cabin after it has been catapulted clear of said rotor and fuselage, and



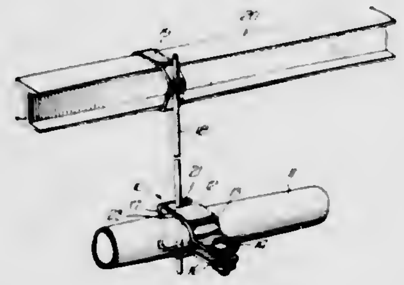
parachute means on said cabin portion for safely enabling said cabin portion and occupants thereof to descend to a ground level.

ERRATUM

For Class 248—27 see:
Patent No. 3,376,871

3,377,038
CLAMP FOR SECURING CONDUIT TO A SUPPORT ROD OR DROP WIRE

James Loudon, Arlington Heights, Ill., assignor to Minerallac Electric Company, Chicago, Ill., a corporation of Illinois
Filed Feb. 15, 1966, Ser. No. 527,452
6 Claims. (Cl. 248—59)

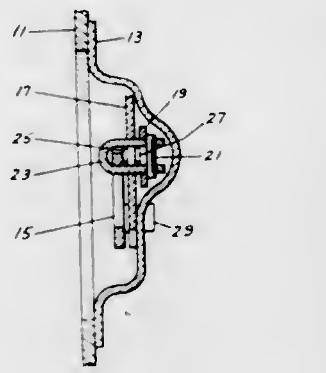


Clamp for mounting thin wall conduit on support rods or drop wires such as used in ceiling construction. The clamp is a generally U-shaped member which receives the conduit between the sides which are apertured near the base or bottom of the member for receiving a support rod or wire transversely of the conduit. The distal ends of the clamp member are drawn together by a bolt and nut so as to both tighten the clamp onto the conduit and also draw the conduit into clamping engagement with the support rod or wire. Preferably the base or bottom of the U-shaped clamp member is inwardly bowed to engage the support rod or wire and an opening is provided in the mid-portion of the bowed base or bottom so that the edges of the opening engage or bite into the support rod or wire.

3,377,039
TIEDOWN ANCHOR

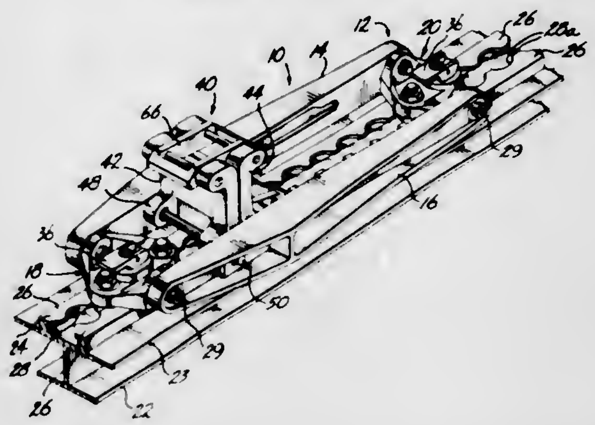
Alex Hayes, Warren, Mich., assignor to the United States of America as represented by the Secretary of the Army
Filed June 16, 1966, Ser. No. 559,060
6 Claims. (Cl. 248—119)

A tiedown anchor for securing cargo lines, belts, and the like in vehicles. The anchor has substantially eliminated the creation of noise and does not obstruct cargo entry and removal from the cargo storage area by means of spring-biasing the anchor and installing it in a recess in the wall of the cargo storage area. The anchor is rotatably mounted to eliminate the creation of stress.



3,377,040
RETRACTABLE CARGO SECURING DEVICE

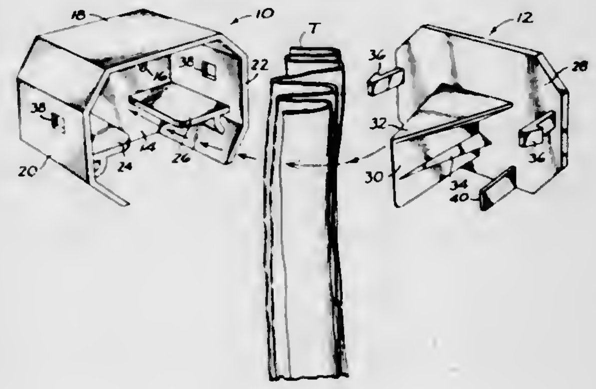
Richard J. Hansen, Seattle, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed Dec. 5, 1966, Ser. No. 599,312
6 Claims. (Cl. 248—119)



This invention relates to a cargo securing device and more particularly to a cargo securing device which can be positioned in a retracted position and then raised to a cargo engaging position. There is a base frame having a cargo securing assembly comprising a lug member pivotally secured to two other members which are, in turn, swing mounted to the base frame.

3,377,041
PLEATED TOWEL HOLDER

Ethan C. Grant, P.O. Box 2091, Salem. Oreg. 97308
Filed Aug. 5, 1966, Ser. No. 570,528
7 Claims. (Cl. 248—314)



1. A pleated towel holder comprising:

(a) a base section adapted to be secured to a supporting structure,

(b) a cover section supported removably on the base section,

(c) a pair of laterally spaced wedge members on one of the sections projecting toward the other section and adapted to receive between them an upper portion of a pleated towel,

(d) a central wedge member on said other section projecting toward said one section and adapted for insertion into the central pleat of the towel,

(e) the central wedge member having a central vertical web portion and at least one laterally extending wedge element projecting therefrom and spaced vertically with respect to the pair of wedge members.

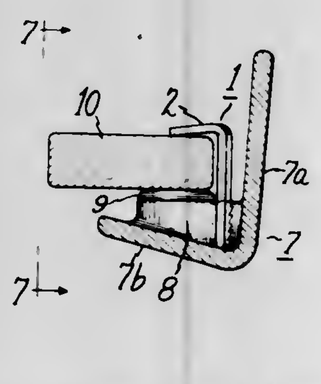
3,377,042

FASTENER DEVICE

Harold A. Breeding and Robert M. Cheadle, Hendersonville, N.C., assignors to General Electric Company, a corporation of New York

Filed Dec. 13, 1965, Ser. No. 513,420

6 Claims. (Cl. 248—316)



Resilient clip for holding window pane in frame comprises bent U-shaped member having serrated gripping legs.

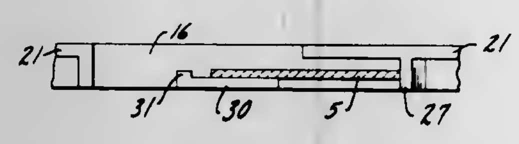
3,377,043

VASE LOCKING DEVICE

Drew King, Des Plaines, Ill., assignor to Bronze Incorporated, Chicago, Ill., a corporation of Illinois

Filed Dec. 1, 1965, Ser. No. 510,764

3 Claims. (Cl. 248—346)



1. In combination, an urn and a support therefor,
said support defining a generally circular opening,
and a plurality of groups of cooperating members of
 which at least one member of each group is positioned on said support extending radially inwardly
 and at least one member of each group is positioned
 on said urn extending radially outwardly,
the groups of cooperating members including lugs and
 a single carrier and a retainer for each lug,
said retainers being positioned above said carriers,
said lugs adapted to be moved under said retainers by
 rotation of said urn,
and stop means positioned upon one of said cooperating members of each group and effective to prevent
 accidental rotation of said urn,
said stop means being carried by a lug, and is positioned at the end of said lug which is positioned
 under a retainer and extends below the lower surface of said lug.

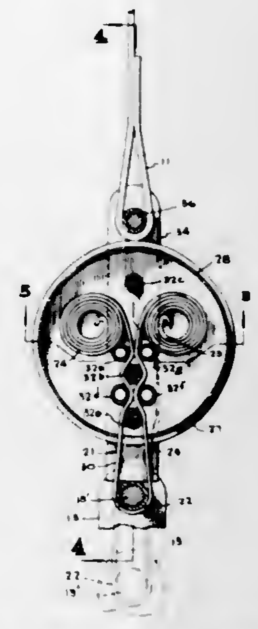
3,377,044

CARGO TIE-DOWN APPARATUS

Martin A. Jackson, Bradshaw, and Edward Stanley Knochel, Baltimore, Md., assignors to Van Zelm Associates, Incorporated, Baltimore, Md., a corporation of Maryland

Filed Mar. 2, 1966, Ser. No. 531,221

6 Claims. (Cl. 248—361)



A cargo tie-down assembly including a pair of tie-down strap sections and a metal bender energy absorber intercoupling the two strap sections together comprising a container coupled to one strap section and a metal element having coils at both ends thereof housed in the container and coupled at substantially its midpoint with the other strap section, the metal element being bent beyond its elastic limit during extraction from the container responsive to dynamic loads on the assembly to absorb a proportion of the energy of the dynamic loads.

3,377,045

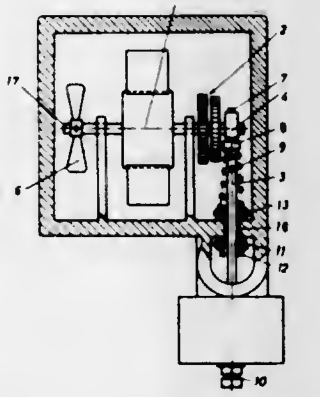
ROTARY FIELD-CONTROLLED SPRING VALVE

Friedrich Welcker, 6 Fritz-Reuter-Weg, Letmathe, Germany

Filed July 9, 1964, Ser. No. 381,426

Claims priority, application Germany, July 24, 1963, W 34,949

8 Claims. (Cl. 251—48)



1. A rotary spring valve, comprising a rotary magnet having a shaft; a reduction gear connected with said shaft, an actuating member connected with said reduction gear, a movable valve shaft having a member located adjacent said actuating member and adapted to be engaged thereby, a spring engaging the second-mentioned member, and a braking device connected with the first-mentioned shaft and adapted to retard the speed of the first-mentioned shaft during the closing movement of said valve shaft, wherein said braking device consists of a fan assembly.

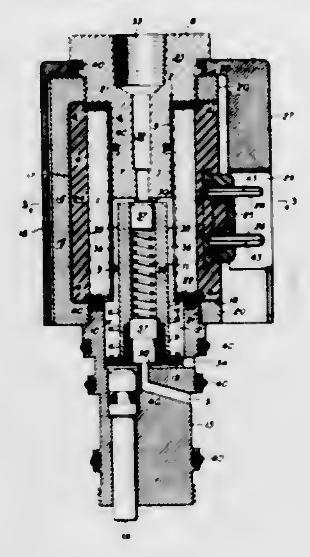
3,377,046

SOLENOID VALVE AND METHOD

Virgil L. Frantz and Brantley D. Switzer, Jr., Salem, Va., assignors, by direct and mesne assignments, to Graham-White Sales Corporation, Salem, Va., a corporation of Virginia

Filed Oct. 9, 1964, Ser. No. 402,709

10 Claims. (Cl. 251—139)



1. A solenoid valve comprising a plastic-bodied spool having an axial bore, a coil wound on said spool, a magnetic core in one end portion of said bore, a base at an opposite end of said bore, a plunger in the other end portion of said bore and projecting into said base, a magnetic field member containing and embracing opposite ends of said spool and coil and connecting said core and base, and a plastic coating molded in place in said field member about said coil.

9. A method of making a solenoid valve comprising winding a coil on a plastic-bodied spool, inserting said coil and spool into a magnetic field member, molding a plastic coating in said member about said coil after treating with a release agent any surface of said member confronting said coating, and inserting into opposite end portions of an axial bore in said spool through adjoining ends of said connector a magnetic core and a magnetic plunger partly contained in a base, while connecting said core and base to said member.

3,377,047

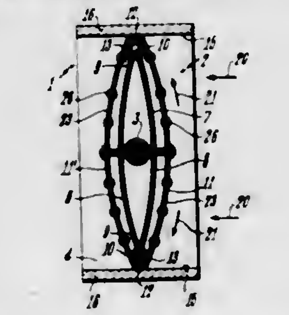
ROTARY GATE VALVE FOR FLUID CHANNELS

Günter Schöll, Mulbergerstrasse 21a, Esslingen (Neckar), Germany

Filed June 22, 1965, Ser. No. 465,986

Claims priority, application Germany, June 26, 1964, Sch 35,390

14 Claims. (Cl. 251—175)



Rotary gate valve for the selective closure of a channel of rectangular cross section, with a shaft journaled in two of the channel walls for rotation about an axis parallel to the two other channel walls and a pair of outwardly bulging valve plates mounted back-to-back on the shaft for rotation therewith, the ends of each valve plate being fitted with sliders which are urged outwardly by a spring to bear upon the shaft-supporting channel walls.

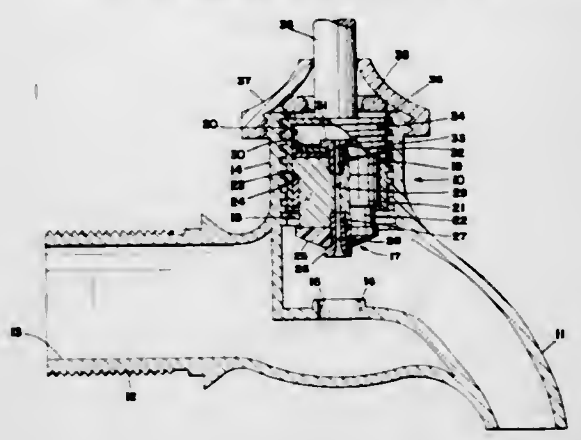
3,377,048

FLUID BIASED FLOW CONTROL MEANS

Stephen A. Gruber, 1352 E. 82nd St., Cleveland, Ohio 44103

Filed Dec. 23, 1965, Ser. No. 515,924

3 Claims. (Cl. 251—175)



1. In a fluid flow control valve having an outlet opening comprising a valve seat and a closure member for selectively opening and closing the outlet opening, in combination therewith the improvement comprising means for moving said closure member along an axis normal to the outlet opening, said means comprising a cylinder, said closure member comprising a piston having one end slidably mounted in said cylinder and having sealing means at its opposite end adapted to engage and seal said outlet opening, detent means carried by said cylinder limiting the travel of said piston out of said cylinder by engaging a portion of said piston so that the piston has a preselected stroke within said cylinder, means defining an opening through said piston so that the fluid pressure exerted on the piston face within said cylinder corresponds to the pressure exerted on the sealing end of the piston, said piston face having a greater area than the area defined by said outlet opening so that the sealing means is retained in its closed position by the force exerted on the piston face, so that the outlet opening will remain closed as the cylinder moves along a path substantially eqnal in length to the stroke of the piston, and so that the sealing means may be moved to an open position when said detent means engages said portion of the piston.

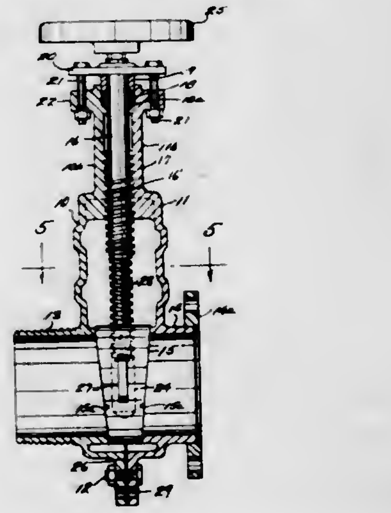
3,377,049

GATE VALVE

Joseph H. De Frees, 414 Liberty St., Warren, Pa. 16365

Filed Oct. 24, 1965, Ser. No. 504,750

3 Claims. (Cl. 251—329)

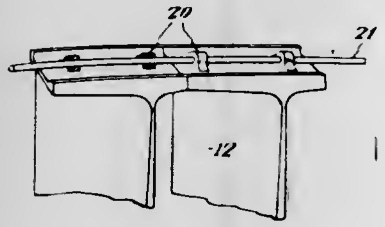


1. A gate valve housing comprising two complementary generally dished halves having respective peripheral edge

flanges unitable in a parting plane to provide respective lower body portions having within them, when assembled, a valve chamber, one said body portion having an inlet port aperture therein defined by first and second tubular stub conduits, the first said conduit extending into said chamber and the second said conduit extending outside said chamber, the other said body portion having an outlet port aperture defined by respective third and fourth stub conduits, the third said conduit extending within said chamber and the fourth said conduit extending outside said chamber, the inner ends of the first and third conduits being spaced apart, said inner ends being formed to respective planar contours and being downwardly convergent to provide respective valve seats for a downwardly convergent wedge-shaped valve head intended for manipulation by a valve stem connected to said head for moving said head to a closed or open position, said halves, when assembled, providing a bonnet extending upwardly from said body portions, each bonnet half being integral with its associated body portion, each bonnet half having matching semi-cylindrical vertically extending bores centrally located whereby, when the dished halves are assembled, the bonnet halves provide a bore through which a valve stem can extend, each bonnet half being cast, in line with said bore, with one half of a thread to receive a threaded portion of a valve stem when said halves are assembled, and each dished half being formed as a single integral casting without re-entrant bends or undercut recesses whereby said half can be withdrawn from its die without the use of multipart molds, dies, or cores.

3,377,050
SHROUDED ROTOR BLADES

Kenneth Ronald Guy, London, England, assignor to Bristol Siddeley Engines Limited, London, England, a British company
Filed May 10, 1967, Ser. No. 637,586
Claims priority, application Great Britain, June 21, 1966 27,564/66
1 Claim. (Cl. 253—77)

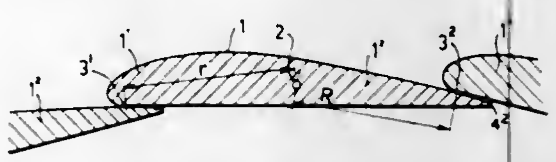


A turbine rotor having a disc supporting at its rim a ring of blades each provided at its tip with a shroud being apertured to provide a ring of circumferential connecting passages and at least one length of a flexible elongate member extending through the connecting passages to constitute a frictional connection between successive blades when being urged against the walls of the apertures by centrifugal force during operation of the rotor.

3,377,051
GUIDE APPARATUS FOR A HYDRAULIC MACHINE

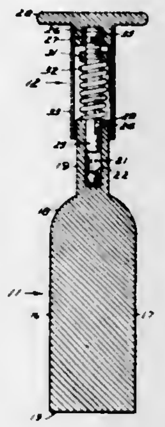
Walter Lecher, Zollikerberg, Switzerland, as-ignor to Escher Wyss Aktiengesellschaft, Zurich, Switzerland, a corporation of Switzerland
Filed Sept. 1, 1966, Ser. No. 576,693
Claims priority, application Switzerland, Oct. 8, 1965, 13,930/65
9 Claims. (Cl. 253—122)

A guide blade apparatus for a hydraulic machine comprising an annular series of pivoted blades which overlap in the closed position. Each blade, in the closed position, engages the adjacent blades along two sealing lines at opposite sides of its pivot axis, the sealing line on the trailing portion of the blade being spaced from the trailing edge a distance at least 4% of the chord length, and being spaced from the pivot axis a distance not greater than 1.25 times the distance between the pivot axis and the sealing line on the leading portion of the blade.



3,377,052
HAND IMPACT WEDGE MEANS

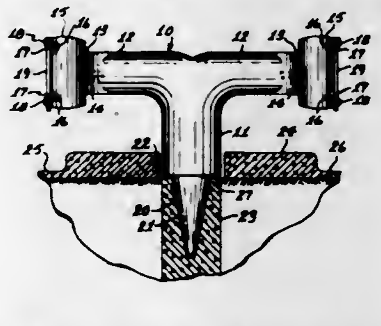
Jack D. Hagen, Washington Island, Wis. 54246
Filed Nov. 14, 1966, Ser. No. 594,005
7 Claims. (Cl. 254—104)



A handy retractile hand-impact wedge means, for use in a saw kerf, having the wedge portion thereof made of a material significantly softer than the teeth of a conventional chain saw, thereby to eliminate damage to said teeth when the chain saw whips up against such wedge.

3,377,053
GUARD RAIL STRUCTURES FOR HIGHWAYS

Harold D. Burdett, 3802 S. Grandview, Tempe, Ariz. 85281, and Milton F. Walling, 3410 N. 34th Place, Phoenix, Ariz. 85018
Filed May 16, 1966, Ser. No. 550,521
3 Claims. (Cl. 256—13.1)

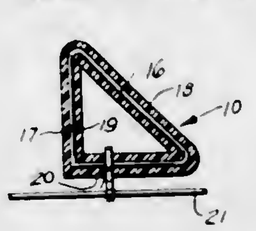


A guard rail structure for highways having frictionally restrained rotating posts with radially laterally extending rail supporting portions to yieldingly restrain and decelerate a motor vehicle striking the guard rail.

This invention pertains to fence structures and is particularly directed to improvements in guard rail structures for highways.

3,377,054
WIRE SECURING DEVICE

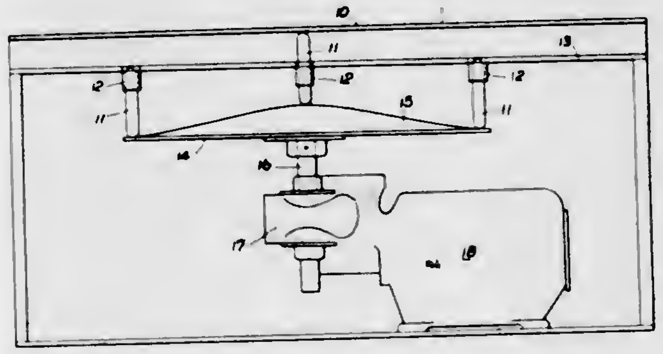
Louis J. Thron, 2306 S. Garden, Visalia, Calif. 93277
Filed Jan. 20, 1966, Ser. No. 521,858
1 Claim. (Cl. 256—47)



A device for supporting wire from a fence post or the like, the device comprising a wire covered by a weather resistant plastic sleeve, the device being adaptable to be made in several various modified designs for specific applications.

3,377,055
PHOTOGRAPHIC PROCESSING APPARATUS

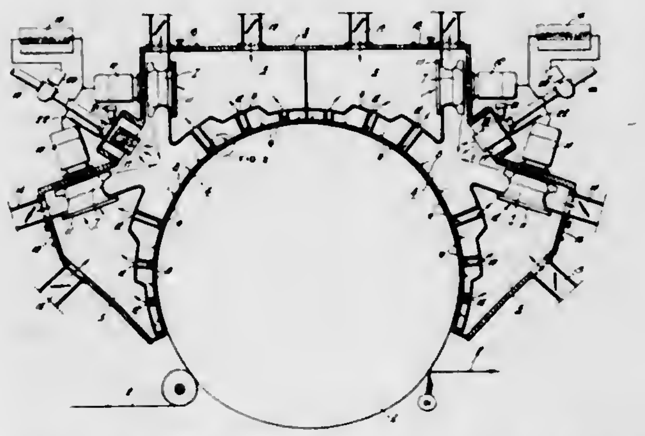
Raymond L. Eastland, Petersfield, England, assignor to Eastland Engineering Limited, Petersfield, England, a British company
Filed Sept. 23, 1966, Ser. No. 581.585
Claims priority, application Great Britain, Sept. 23, 1965, 40,611/65
2 Claims. (Cl. 259—72)



An automatic dish agitator having a plate as a support surface subject to agitation by a motor driven cam in contact with four vertically acting plungers to raise and lower the plate.

3,377,056
DRYING APPARATUS

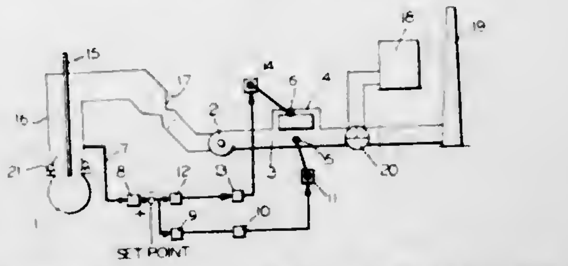
Ingar Boye, Vaxjo, Sweden, assignor to Aktiebolaget Svenska Flaktfabriken, Stockholm, Sweden
Filed Sept. 20, 1966, Ser. No. 580,699
Claims priority, application Sweden, Sept. 23, 1965, 12,334/65
2 Claims. (Cl. 263—3)



A dryer for drying moving webs which are supported on a rotating heated cylinder comprising a hood having a plenum chamber therein adapted to direct drying medium against the web on the cylinder, the drying medium comprising in part air returned from the drying cylinder through a fan, and in part flue gases from burners mounted in the plenum chamber.

3,377,057
APPARATUS FOR RECOVERING WASTE GAS FROM OXYGEN TOP BLOWING CONVERTER IN UNBURNT STATE

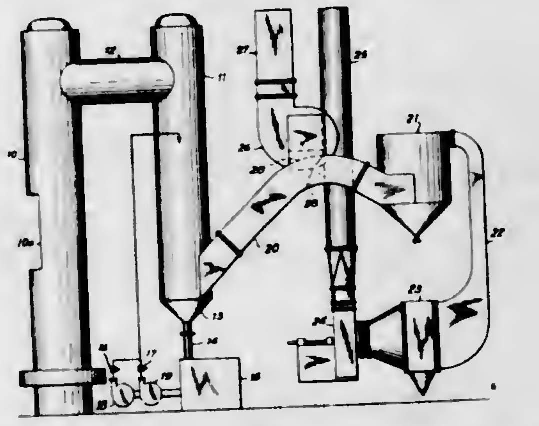
Shigeru Maehara, Isoji Igarashi, and Akira Ito, Kitakyushu, Japan, assignors to Yawata Iron & Steel Co., Ltd., and Yokoyama Engineering Co., Ltd., Tokyo, Japan, a corporation of Japan
Filed Nov. 1, 1963, Ser. No. 320,739
3 Claims. (Cl. 266—15)



An apparatus for recovering waste gas generated in the operation of an oxygen top blowing converter in an unburnt state comprising a cooler for mounting closely above the top of a converter, a gas pipe connected with said cooler and for connection to a gas holder, a suction blower in the gas pipe for inducing the waste gas coming through said cooler and pipe into the gas holder, a detecting and converting mechanism connected to the cooler for detecting the fluctuation in gas flow rate and converting the detected gas flow rate to an electric signal having a fluctuating value, a discriminating mechanism for separating said electric signal into a high frequency component and a low frequency component, and two gas flow regulator dampers in said gas pipe, one being coupled to the high frequency component output of said discriminating mechanism and regulating the gas flow rate in response to the high frequency component and the other being coupled to the low frequency component output of said discriminating mechanism and regulating the gas flow rate in response to the low frequency component.

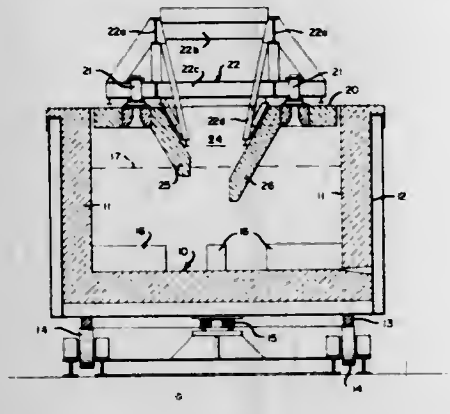
3,377,058
CUPOLA FURNACE INSTALLATIONS HAVING A SAFETY BYPASS

Nicholas John Panzica, Detroit, Mich., assignor to Ajem Laboratories, Inc., Livonia, Mich.
Filed Sept. 21, 1965, Ser. No. 488,901
10 Claims. (Cl. 266—15)



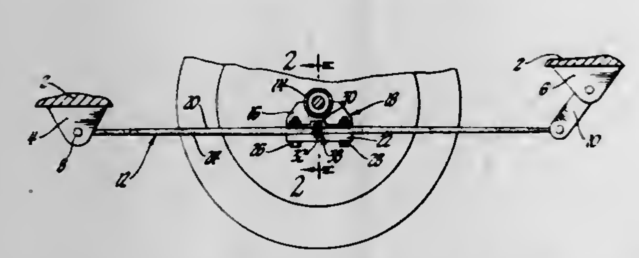
A safety bypass for air pollution control equipment for cupola furnaces including a fan between the downcomer from the cupola furnace and the air washer, which fan is operative to exhaust the quenched, cooled, partially scrubbed fumes from the downcomer directly to the atmosphere when the air washer is inoperative.

3,377,059
ROTARY HEARTH METAL MELTING FURNACES
Borge Richard Ankersen, 2420 Private Drive,
Lake Angelus, Pontiac, Mich. 48055
Filed Dec. 27, 1965, Ser. No. 516,490
5 Claims. (Cl. 266—33)



1. A metal melting furnace comprising a hearth with upstanding sidewalls rotatable about a vertical axis and adapted to contain a molten liquid bath, means for rotating said hearth about said vertical axis, a roof supported above the hearth and vertically movable with respect to said hearth within the upstanding sidewalls whereby the distance from roof to hearth may be selectively adjusted, an opening in said roof having a portion adjacent the axis for passing a metal charge to the hearth, radially extending blade means depending from said roof adapted to extend below the roof into the liquid bath to cause flow of molten liquid radially across the bath to the center thereof, a burner in said roof spaced from said opening and acting onto the molten bath and flue means spaced from the burner means for removal of combustion gases.

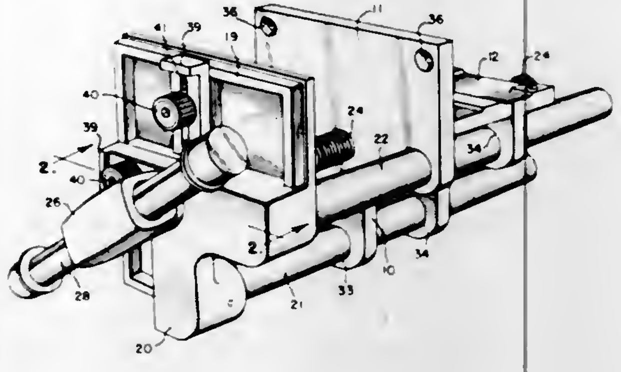
3,377,060
SPRING CONSTRUCTION AND CLAMP LOCATING MEANS THEREFOR
Frank A. Sherwood, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 2, 1966, Ser. No. 546,731
7 Claims. (Cl. 267—52)



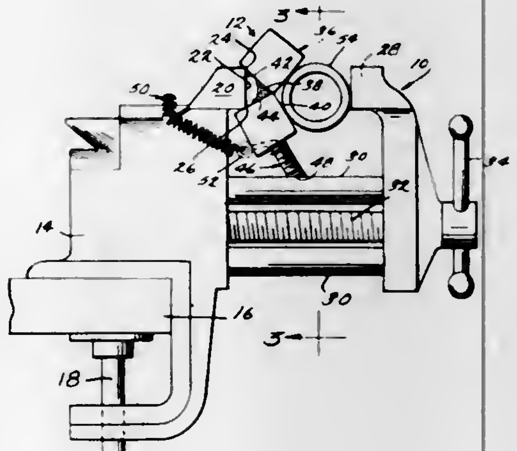
1. A spring assembly comprising, a leaf spring having laterally directed passages extending inwardly of each side edge thereof, a pair of transversely extending interlocking strap members embracing said spring and having integral tabs formed thereon projecting into said passages, and a sandwich clamp structure overlying said spring having transverse recesses formed therein mating with said strap members.

3,377,061
ADJUSTABLY MOUNTABLE WOODWORKER'S VISE
Jerry J. Watson, Lombard, Ill., assignor to Wilton Corporation, Schiller Park, Ill., a corporation of Illinois
Filed Feb. 17, 1966, Ser. No. 528,193
9 Claims. (Cl. 269—101)

1. In an adjustable woodworker's vise, a metal passaged body of substantially right angled section and having mounting faces angularly disposed relative to each other;
- an apertured stationary jaw of right angled shape integral with said body;
- a projecting re-inforcing web integral with said body having spaced apertures therein;
- an apertured movable jaw of right angled shape;
- a spindle rotatably mounted in said movable jaw and threadingly engaging said stationary jaw;
- and guide rods connected to said movable jaw and slidably engaging apertures of said web and of said stationary jaw;
- one of said mounting faces being mountable at one end of a bench or the like and the other of said mounting faces being securable to the opposite end of a bench.

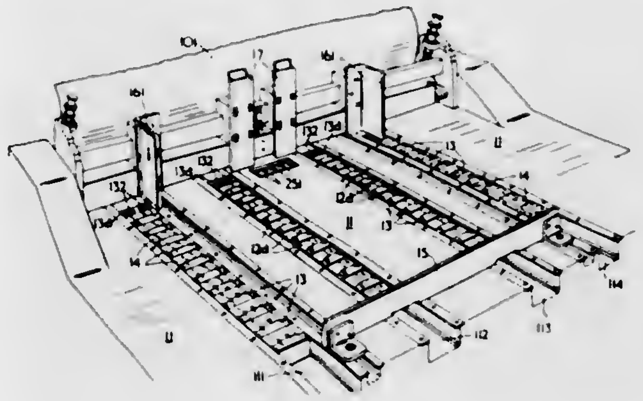


3,377,062
VISE ATTACHMENT
George W. Haselwood, Box 355, Muldrow, Okla. 74948
Filed Mar. 17, 1966, Ser. No. 535,205
7 Claims. (Cl. 269—265)



1. An attachment for a jaw of a vise comprising a rigid member of a size to extend over substantially the entire horizontal extent of a vise jaw and having a generally V-shaped work engaging face and an opposed jaw engaging face, said jaw engaging face including an upper surface portion facing in a direction rearwardly and downwardly for engaging the upper edge of the vice jaw with a substantial line contact and a lower surface portion facing rearwardly and upwardly for engaging the lower edge of the vise jaw with a substantial line contact, a stop element extending downwardly from the lower central portion of said member in a position to abutingly engage the vise slide when at least one end of said member is disposed in substantial alignment with one end of the vise jaw, elongated laterally flexible and longitudinally resilient means secured to the lower portion of said member at laterally spaced positions and engageable around the vise jaw for resiliently retaining said member in operative position on said jaw with said jaw engaging surface portions in substantial line contact with the edges of said jaw and said stop element in abutting engagement with the vise slide bar, the relative slope of said surface portions when said member is disposed in said operative position being such as to tend to cause movement of said member about its lines of contact with said jaw edges in the direction of engagement of said stop element with the vise slide when work is tightened between the work engaging face of said member and the other jaw of the vise whereby said member constitutes an effective rigid part of the vise resisting displacement from its operative position when torque is applied to the work in either direction.

3,377,063
APPARATUS FOR FEEDING BLANKS OF CARDBOARD OR ANALOGOUS SHEET MATERIAL TO MACHINERY FOR OPERATING ON THE BLANKS SO FED
Keith Roland Tallett Kirby, Walsall, England, assignor to Kirby's (Engineers) Limited, Walsall, England, a corporation of the United Kingdom of Great Britain and Northern Ireland
Filed June 14, 1966, Ser. No. 557,457
Claims priority, application Great Britain, June 18, 1965, 25,971/65
7 Claims. (Cl. 271—14)

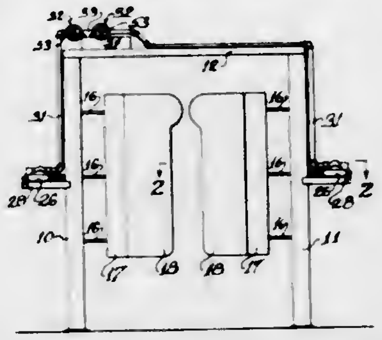


This invention has reference to apparatus for feeding blanks of cardboard or analogous sheet material to machinery for operating on the blanks so fed, incorporating one or more longitudinally arranged feed members which are reciprocably mounted in the bed of the apparatus on which the stacks of cardboard or analogous sheet material to be fed are placed preparatory to being fed to the machinery for performing the subsequent operation or operations, a chamber which may be put into communication with the space or spaces below the bottom of the stack when the stack of blanks to be fed is placed on the feed members, means for maintaining sub-atmospheric pressure within said chamber and valve means for controlling the opening and closing of the communication opening or openings between the said space or spaces and the sub-atmospheric chamber as required.

The invention also resides in associating with the reciprocatory feed members spaced transverse upstanding portions so that the lowermost portions of the sheet to be fed tend to droop within the spaces between adjacent upstanding transverse portions to ensure a positive feeding.

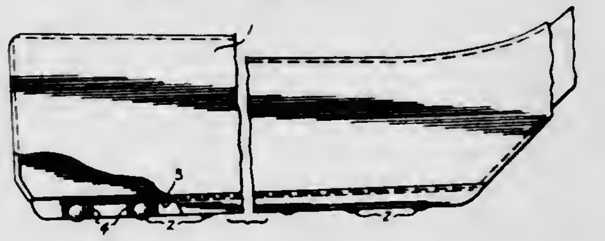
The invention further resides in apparatus for feeding blanks of cardboard or analogous sheet material to machinery for performing subsequent operations on the fed blanks constructed, arranged and adapted for use substantially as will be described hereinafter.

3,377,064
FOOTBALL TRAINER
Thomas H. Hudson, 104 W. Crest Road, Hueytown, Ala. 35201; Eugene L. Watson, Rte. 14, Box 879, Birmingham, Ala.; and Chester B. Skates, Jr., 2658 Patrick Court, Atlanta, Ga. 30317
Filed July 15, 1964, Ser. No. 382,773
3 Claims. (Cl. 273—55)



1. In football training apparatus for presenting separable restraining forces against the movement of a football player which are unknown to the player until contact is made:
- (a) a pair of oppositely disposed movable members each being mounted for independent pivotal movement in a generally horizontal plane adjacent one side thereof with the other sides of said movable members extending inwardly toward each other,
- (b) each of said movable members being movable independently from a first position in which said other sides are generally opposite each other and spaced from each other a distance to permit the head of a football player to pass therethrough and prevent the shoulders from passing therethrough to angular positions away from each other,
- (c) means urging said movable members toward said first position,
- (d) separate fluid pressure operated means operatively connected to each of said movable members restraining movement of said movable members independently of each other toward said angular positions away from each other, and
- (e) separate adjustable control means removed from the control of the football player varying selectively and independently the restraining pressure exerted by each said separate fluid pressure operated means against and unknown to the football player by either of said movable members.

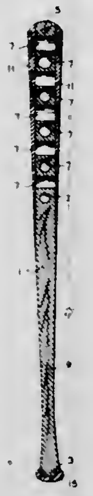
3,377,065
HOCKEY STICK ROAD ADAPTER
Thomas Paul White, Sr., 109 Gilbert St.,
St. John, New Brunswick, Canada
Filed July 9, 1964, Ser. No. 381,315
4 Claims. (Cl. 273—67)



1. An attachment for a conventional hockey stick of the type having a head portion and a handle portion, said attachment comprising an elastic sleeve having top, bottom, side and end portions, and having an overall configuration similar to that of said conventional hockey stick head, friction reducing devices on the bottom portion of said sleeve, whereby when said sleeve is fitted over said hockey stick head said friction reducing devices will engage a playing surface when said stick is in use.

3,377,066
BALL-STRIKING IMPLEMENT AND METHOD FOR MAKING SAME

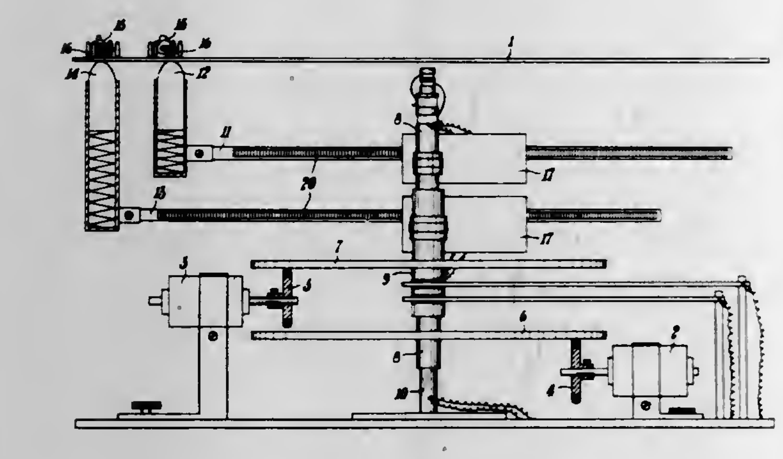
Jeffrey J. Trowbridge, 319 Elm St.,
Sheboygan Falls, Wis. 53085
Filed Jan. 11, 1965, Ser. No. 424,633
21 Claims. (Cl. 273—72)



A baseball bat and method of manufacturing the same, including forming a square core of a dense, heavy wood, drilling a plurality of holes transversely through one end of the core, alternately perpendicular to one another, turning the other end to form a handle, glueing square sections of wood on all four sides of the drilled end of the core with the grain of each outside section perpendicular to the core, turning the built up end to form the barrel of the bat, and molding a plastic knob on the end of the handle.

3,377,067
MINIATURE RACE COURSE

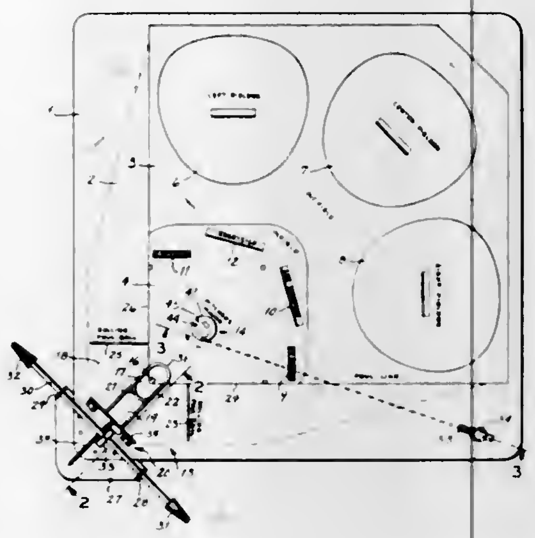
Giovacchino Proietti, Via Martiri della Resistenza 33,
Spoleto, Italy
Filed Dec. 9, 1965, Ser. No. 512,745
7 Claims. (Cl. 273—86)



1. A miniature race track device, comprising in combination with a number of miniature vehicles and a magnet carried by each vehicle, a board of dielectrical material having upon its upper surface a representation of a race track and adapted to carry the miniature vehicles, a number of arms located under said board, the number of said arms each carrying a magnet corresponding to that of said vehicles, means rotating each arm about a vertical axis, means moving each arm comprising an electric motor, a shaft connected with said motor and a gear transmission driven by said motor, and wherein each arm has a plurality of teeth extending longitudinally upon the arm and engaged by said gear transmission, and a magnet carried by the outer end of each arm and pressing against the under surface of said board.

3,377,068
BASEBALL GAME WITH BATTING ELEMENT MOVABLE THROUGH A VERTICAL ARC

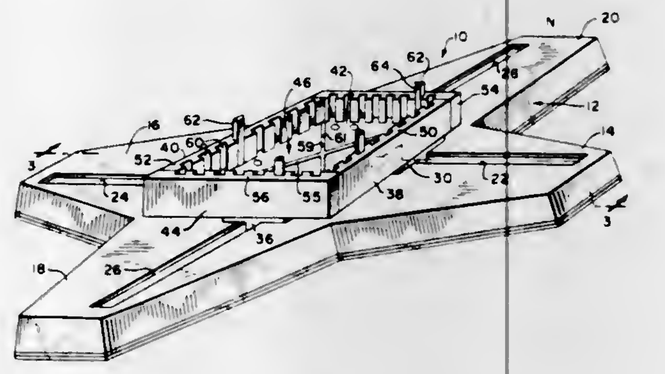
Carl E. Schoen, Barnhart, Mo.
(Imperial, Mo. 63052)
Filed Aug. 2, 1965, Ser. No. 476,448
3 Claims. (Cl. 273—89)



A game board for a simulated baseball game wherein the vigor and direction of the pitching is controlled by one player and the vigor and timing of the batting is controlled by another player; and the batting device is spring-biased for movement about a horizontal axis extending at right angles to the home plate—second base direction, has a rounded nose addressed toward the pitcher's mound, and immediately behind the rounded nose has a hole larger than the ball.

3,377,069
MAGNETICALLY OPERATIVE SELECTIVE CARD DISTRIBUTING DEVICE

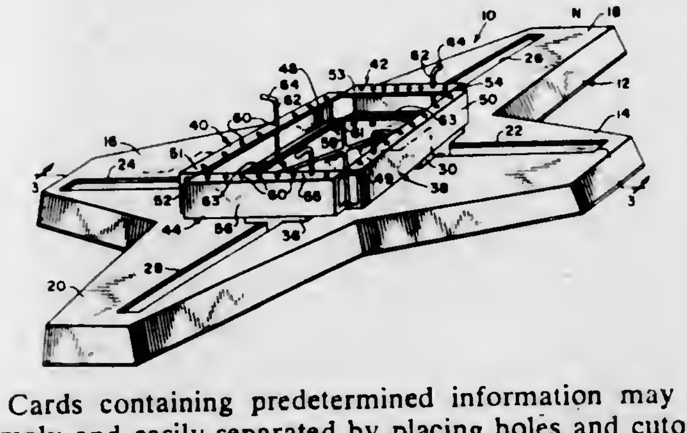
Le Roi Nottoli, New York, N.Y., assignor to
Robert Hallowell III, Bedford, N.Y.
Filed Nov. 16, 1964, Ser. No. 411,256
13 Claims. (Cl. 273—149)



A card dealing device operable in conjunction with a deck of special playing cards, or other data containing cards, having magnetically responsive inserts disposed at selected locations about the peripheries thereof. The deck of cards is placed in the center of the device whereat it is completely confined and contacted by four outwardly movable panels and aligned into a neat pile. An inisotropic magnet is arranged in each panel at a selected position along the periphery of the panels whereby upon outward movement of the panels preselected cards are pulled simultaneously outwardly in four different directions.

3,377,070
SELECTIVE CARD DISTRIBUTING DEVICE

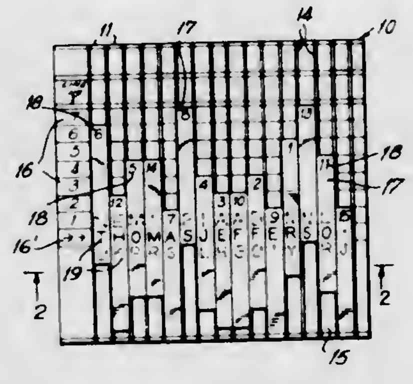
Le Roi Nottoli, New York, N.Y., assignor to
Robert Hallowell III, Bedford, N.Y.
Filed Oct. 15, 1965, Ser. No. 496,618
13 Claims. (Cl. 273—149)



Cards containing predetermined information may be simply and easily separated by placing holes and cutouts along the edges of the cards to be used and utilizing as the means for separation a device comprising a base and a plurality of card carrying trays which are movable on the base, said trays having holes therethrough so that a pin or series of pins which are adapted to be removably placed through a hole in each of said trays will pass through a preselected series of holes and cutouts and movement of the trays outward will result in extraction of certain cards in one or more directions thereby effecting separation. The cards and device described herein are especially suitable for use with playing cards whereby a pack of playing cards having the holes and cutouts above described may be separated into four preselected hands.

3,377,071
SLIDING STRIP PUZZLE GAME

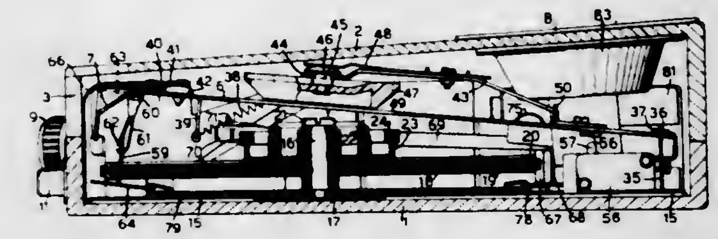
Leonard R. Treinis, 1 Damson Lane,
Valley Stream, N.Y. 11581
Filed Oct. 18, 1965, Ser. No. 497,394
6 Claims. (Cl. 273—155)



1. A word puzzle device comprising a plurality of elongated strips each having regularly spaced-apart letters, sequence indicia means on said strips for arranging said strips in predetermined order, a play board including holding means for supporting said strips in parallel, side-by-side orientation, a row of indicia markings on said board running parallel with said strips, the markings defining said row being spaced apart to correspond with the spacing of the letters on said strips, and a read-out indicator line on said board displaced from and running normal to said row of indicia markings.

3,377,072
PORTABLE RECORD PLAYER

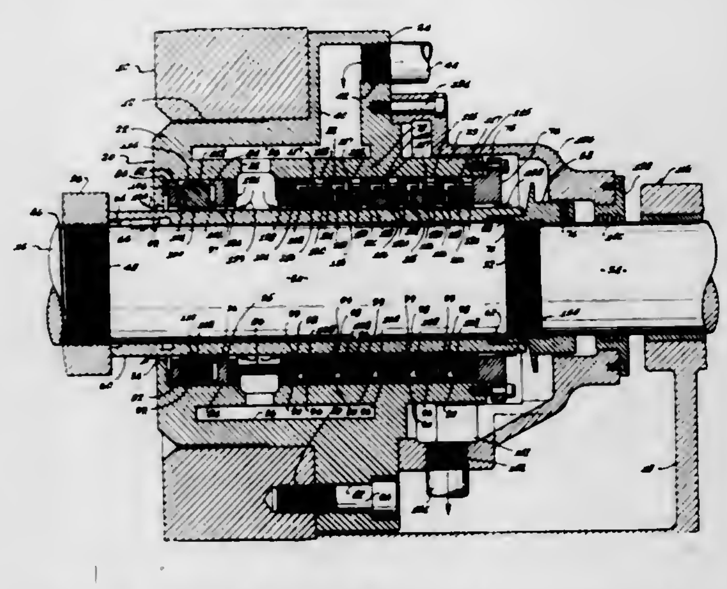
Augusto Gentilini, Via dei Mille 36, Rome, Italy
Filed Dec. 8, 1966, Ser. No. 600,179
Claims priority, application Italy, Dec. 11, 1965,
27,341/65
10 Claims. (Cl. 274—1)



A record player operable irrespective of its spatial orientation. The device has a movable plate on which a record to be replayed is temporarily laid, upon having been slipped through a slot formed through the casing. To replay a record, said plate is manually shifted and the record is automatically positioned so as to rest, centered, on a turntable driven to rotation by a motor and is retained thereon by a spring-biased pressural member. Said displacement of the plate automatically causes said motor to be started and the pickup to be positioned on the record. Upon completion of playback, all the movable portions of the device are automatically restored to their home positions.

3,377,073
SHAFT SEAL

Doran B. Harney, Downey, Calif., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Apr. 26, 1965, Ser. No. 450,937
9 Claims. (Cl. 277—27)



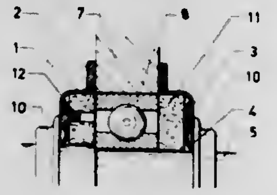
The structure for sealing the cylindrical surface of a rotating shaft includes a body surrounding the shaft defining an annular ring groove having axially inwardly facing and axially outwardly facing groove walls defining radial surfaces. An annular seal ring is nonrotatably disposed in the groove for a limited axial and radial movement relative to the groove. The inner diameter of the seal ring makes a close but freely rotatable fit on the shaft, the clearance being only sufficient to provide a fluid bearing between the shaft and the seal. In one embodiment, a first annular sealing lip is provided at the radially outer portion of the inward wall of the seal ring, extending axially inward for making sealing engagement with the outward facing wall of the groove; and a second annular lip is provided on the outward facing wall of the sealing ring extending axially outward for making sealing engagement with the axially inward facing wall of the groove. When the seal ring is urged to the inner position where the first lip seals against the outward facing wall of the groove, a substantial portion of the inner surface of the seal ring is sealed from the pressure acting on the outer surface of the seal ring. When the seal ring is moved to the outer position wherein the second annular lip is in sealing engagement with the inwardly facing wall of the groove, a relatively small portion of the outer surface of the seal ring is sealed from the pressure acting on the inner surface of the seal ring.

In an alternative embodiment, the first and second seal lips may be provided on the groove walls rather than on the seal ring, to perform the same sealing functions.

Resilient means may be provided to urge the seal ring toward the outer position wherein the second annular sealing lip engages the inward facing groove wall.

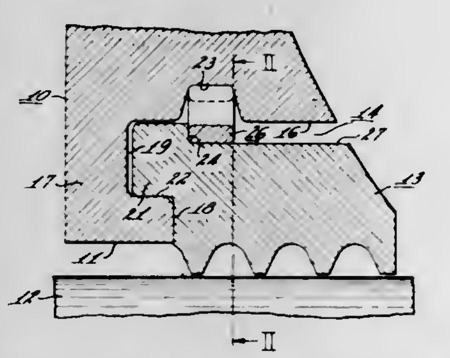
The seal control leakage in either direction, being designed so that higher pressure fluid may exist on either side of the seal ring. One or the other of the sealing lips will always be effective to prevent fluid flow around the outer periphery of the seal ring; and the leakage between the ring and shaft will always be controlled by the differential fluid pressure acting across the ring.

3,377,074
SEALS FOR MACHINE SHAFTS
Graeme Maxwell Cundy, 49 Glen Road, Devonport, Auckland, New Zealand
Filed Oct. 11, 1965, Ser. No. 494,690
8 Claims. (Cl. 277—32)



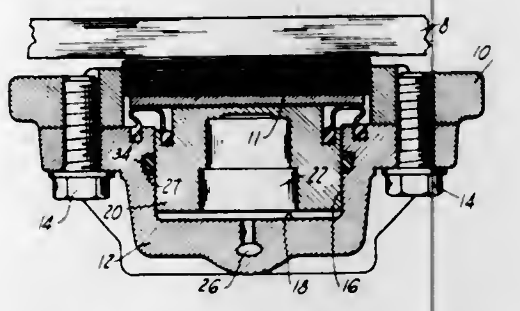
A shaft seal includes a cylindrical flexible portion having an outer thick annular flange adapted to engage a machine part and an inner thick annular disc having a thin inner circumferential margin constituting a sealing lip.

3,377,075
ROTATING SHAFT SEAL RETAINER
Thomas R. Feller, Milwaukee, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Jan. 19, 1966, Ser. No. 521,664
4 Claims. (Cl. 277—149)



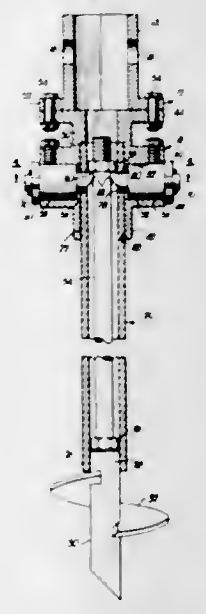
1. A shaft seal comprising: a housing having a bore therethrough; a shaft extending through said bore; walls of said housing defining an annular chamber about said shaft; a seal element positioned in said chamber in sealing association with said shaft; first means on said seal element presenting a substantially radially extending surface; second means on said housing presenting a substantially radially extending surface, said first and second means being in substantial alignment; and a leaf spring retainer engaging the substantially radially extending surfaces of both said first and second means, said leaf spring being of sufficient length to require bending thereof for insertion between said seal element and said housing whereby the ends of said leaf spring engage said second means and the center portion of said leaf spring engages said first means to hold said seal element against axial movement.

3,377,076
RETURN SEAL
Richard T. Burnett, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 501,660
2 Claims. (Cl. 277—171)



A disc brake seal which, in addition to performing a sealing function, acts to controllably return a fluid-actuated piston to its released position.

3,377,077
POWER INSTALLED SCREW ANCHOR WRENCH
William L. Hollander, Centralia, and Paul E. Lewis, Mexico, Mo., assignors to A. B. Chance Company, Centralia, Mo., a corporation of Missouri
Filed Jan. 21, 1966, Ser. No. 522,276
10 Claims. (Cl. 279—1)



1. In an assembly for rotatably installing an anchor in the ground through the medium of power-driven mechanism having a rotatably driven output member, where the anchor comprises an elongated guy rod provided with a screw at the normally lowermost end thereof, a wrench-engaging part adjacent the screw, and means proximal to the normally uppermost end of the rod presenting a shoulder, torque transmitting structure comprising:

an elongated torque tube adapted to be telescoped over said rod having a wrench portion at the normally lowermost extremity thereof engageable with said part, and a normally uppermost extremity presented by a segment of molecular cross-sectional configuration;

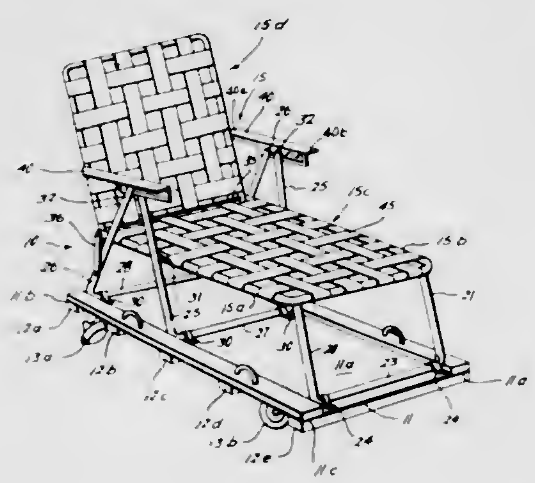
an adapter body having an upright bore complementally receiving said segment;

means coupled with said adapter body for connecting the latter to said output member for rotation of the body and the tube by the member about the longitudinal axis of said tube,

said segment having a lateral aperture therein; and

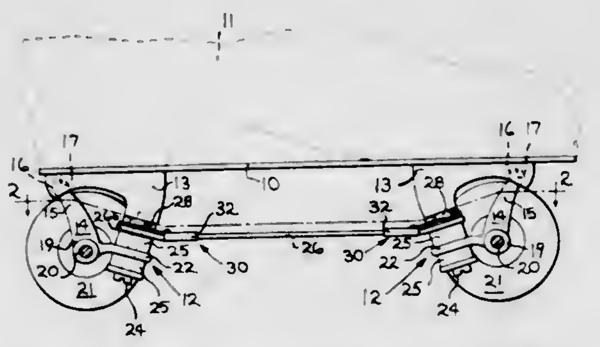
a locking dog carried by said adapter body for movement transversely of said bore into and out of said aperture, between an inner position interlocking the body and the tube and with the dog disposed for engagement with said shoulder to hold the anchor against longitudinal shifting relative to the tube, and an outer position clearing said segment to thereby permit separation of the body and the tube.

3,377,078
PATIENT SUPPORT
Clarence E. Jackson, 3514 Ash Road, La Marque, Tex. 77568
Filed Mar. 21, 1966, Ser. No. 535,922
1 Claim. (Cl. 280—7.1)



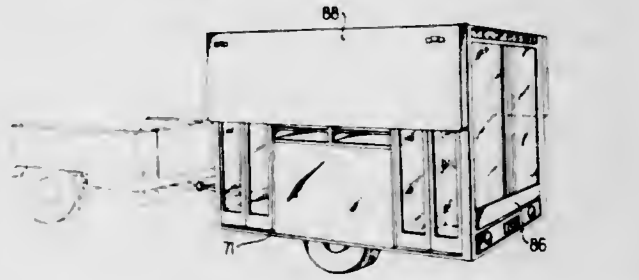
A base support having wheels or rollers receives a spaced second support which includes an adjustable member to enable persons having a disabled leg member to either lie down or sit vertically on the second support and to enable persons having disabled leg members sitting on the second support to move from place to place by providing a force to move the rollers of the first support.

3,377,079
MEANS FOR RETAINING SELECTIVE ADJUSTMENT OF ADJUSTABLE ROLLER SKATE TRUCK ASSEMBLIES
Edward J. Barczak, 315 E. Oakland St., Toledo, Ohio 43608
Filed Aug. 15, 1966, Ser. No. 572,552
14 Claims. (Cl. 280—11.28)



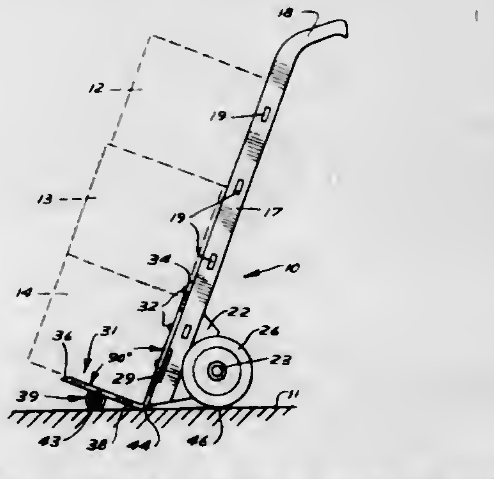
5. In a roller skate construction including a foot plate, a frame member, a truck assembly mounted for swivel movements relative to said foot plate and said frame member in response to shifting forces exerted thereon in supporting the shifting body movements of a skater, means cooperating with said truck assembly for controlling the swivel movement responsiveness of said truck assembly to said shifting forces, said last-mentioned means comprising a yieldable member arranged to yieldably oppose swivel movements of said truck assembly, and adjustment means shiftably adjustable relative to said yieldable member to selectively adjust the yieldability thereof and thereby control the swivel movement responsiveness of said truck assembly; the improvement comprising retainer means shiftably carried on said frame member for guided lineal movements between alternative spaced locations while remaining in cooperatively assembled relationship therewith, one of said alternative locations stationing said retainer means in snap-fit removable engagement with said adjustment means to secure the latter in selectively adjusted relationship with said yieldable member and another of said alternative locations orienting said retainer means in spaced non-engaging relationship with said adjustment means to accommodate selective readjustment of said adjustment means.

3,377,080
TELEPHONE BOOTH ASSEMBLY
Keith D. Bartley, Indianapolis, Ind., and Robert E. Prescott, Rumson, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 21, 1965, Ser. No. 427,030
18 Claims. (Cl. 280—43.23)



A lightweight integral mobile telephoning structure is disclosed featuring several separate telephoning spaces, a central space housing a retractable set of wheels, leveling means, twin roof canopies, a retractable roof mast, a retractable tow bar, telephone directory shelves, ventilating and light equipment.

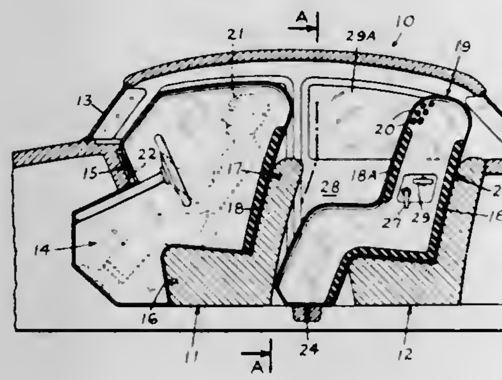
3,377,081
HAND TRUCK
Vernon R. Ude, Box 157, Harlem, Mont. 59526
Filed Feb. 7, 1966, Ser. No. 525,419
9 Claims. (Cl. 280—47.27)



A two wheeled hand truck having a forwardly projected nose carrying an elongated transverse roller. The nose has a substantially flat platform used to hold freight articles in a tightly controlled location on the front side of an upwardly directed frame. When the hand truck is in the loading position the elongated roller and the wheels engage the supporting surface with the center of gravity of the load on the truck located along a vertical line which passes between the axis of rotation of the wheels and the axis of rotation of the roller.

3,377,082
PASSENGER PROTECTIVE DEVICE

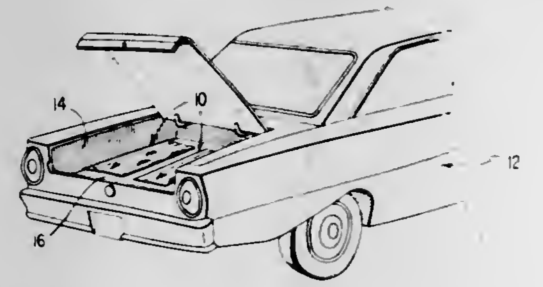
Harvey Ronald Saunders, 412 Sinclair St.,
Norfolk, Va. 23505
Filed Oct. 22, 1965, Ser. No. 502,217
5 Claims. (Cl. 280—150)



The present invention relates to a passenger protective device which comprises a barrier plate. The barrier plate is in the form of a contoured, enclosed shell within which a passenger or driver may be seated. The barrier plate is disposed on the seat of the automobile and is held thereon by means of attachments. Within the barrier plate a cushioning means is provided on the front wall and padding is provided on the seating portion thereof for the comfort of the passenger. A barrier door is provided to work in conjunction with the door on the vehicle to permit entrance and exit into the barrier plate.

3,377,083
CAR WEIGHTS

Robert C. Warren and John C. Baumann, both of
327 Main St., Childs, Pa. 18407
Filed Nov. 25, 1966, Ser. No. 597,152
7 Claims. (Cl. 280—150)

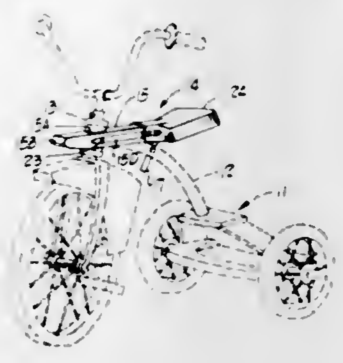


This invention relates to a car weight and more particularly to a portable weight blanket adapted for use in the application of additional weight to a vehicle body at selected locations.

3,377,084
SEAT FOR VELOCIPEDE

Alexander B. Musichuk, Parma, Ohio, assignor to
The M.T. & D. Company, a corporation of Ohio
Filed May 12, 1966, Ser. No. 549,703
7 Claims. (Cl. 280—274)

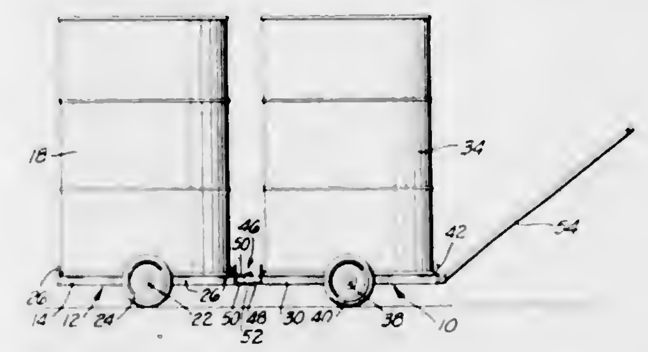
1. A seat for a velocipede having a frame, the frame including a steering post cylindrical sleeve and a backbone extending rearwardly and downwardly from said sleeve, said sleeve having a cylindrical outer wall and said backbone having an opening extending therethrough in an upright plane extending through said sleeve, said seat comprising in combination a longitudinal member having a generally horizontal flat body portion adapted to be disposed longitudinally of said frame, said body portion having an oval opening extending therethrough adjacent the forward end thereof for accommodating said cylindrical sleeve through the opening, said longitudinal member having spaced flange portions extending downwardly along the longitudinal edges of said body portion, said flange portions each having an elongated dwell extending along the outer side thereof, said dwells being disposed parallel to each other, said longitudinal member having a supporting portion extending at an angle downwardly and rearwardly from said body portion, said supporting portion having an elongated slot extending therethrough longitudinally of said frame, a pintle disposed in said slot and extending downwardly from said supporting portion and into the opening in said backbone for securement to said backbone, said pintle carrying axially spaced abutting portions for retaining the pintle in said slot, a saddle member having a rearward seat portion and a forward channel portion extending forwardly therefrom, said channel portion having a body portion and spaced flange portions extending along the opposite longitudinal edges thereof to complementarily fit over the outer side of said longitudinal member and to be slidably moved along said longitudinal member, the said flange portions of said channel portion having boss portions disposed in said elongated dwell portions of the said elongated member to resist movement of the saddle member relative to the said longitudinal member other than longitudinally of the said longitudinal member, said flange portions of the longitudinal member having adjacent openings adjacent the forward end thereof for accommodating first screw means extending through said aligned openings and into said cylindrical sleeve for supporting the forward portion of the seat on said sleeve, said dwell portions of the longitudinal member having a first plurality of holes therethrough and said boss portions of the saddle member having a second plurality of holes therethrough, less than said first plurality, selectively registrable with certain only of the holes in said dwell portions to accommodate second screw means to secure the saddle member at a selected position of a plurality of positions along the length of the longitudinal member as determined by the number and relationship of said first plurality of holes in the boss portions of the longitudinal member.



3,377,085
TRASH CART

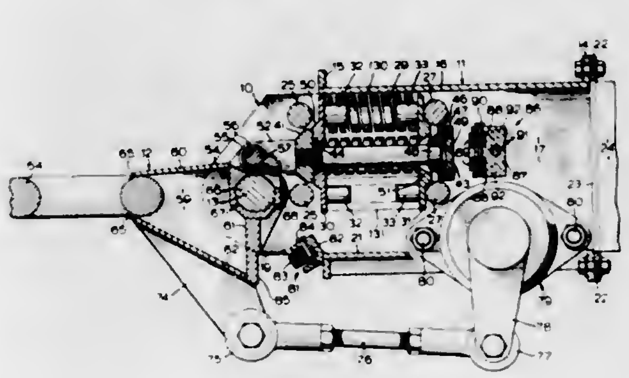
Roy A. Fralick, 15944 Lujon St.,
Hacienda Heights, Calif. 91745
Filed May 6, 1966, Ser. No. 548,124
3 Claims. (Cl. 280—408)

Horizontal longitudinal and lateral cross members form longitudinally adjacent carts which are solely supported by wheels at ends of the lateral support members and are connected by pivot means between adjacent ends of the longitudinal cross members permitting lateral, but preventing horizontal, pivoting therebetween. Spaced flanges on all of the cross members slidably downwardly receive and horizontally confine containers fully centered over the wheels, which containers are vertically slidably removable. A vertically, but not horizontally, pivotal handle is connected to the free end of one cart longitudinal cross member for horizontally moving the coupled carts.



3,377,086
TRAILER TOW-BAR DAMPER MECHANISM

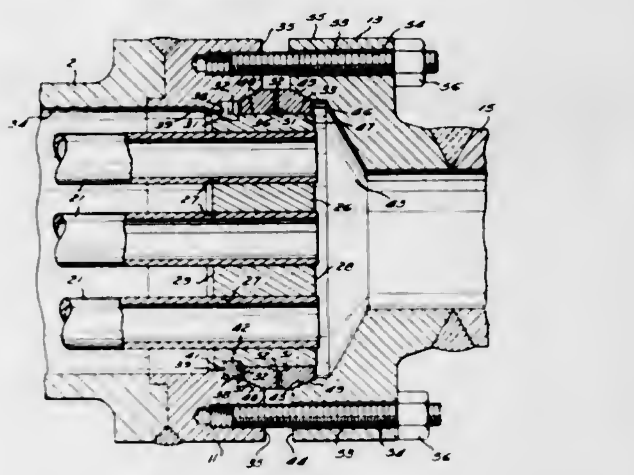
Clifford Ditchfield, Brampton, Ontario, Canada, assignor, by mesne assignments, to Orenda Limited, Malton, Toronto, Ontario, Canada
Filed June 9, 1966, Ser. No. 556,381
7 Claims. (Cl. 280—489)



1. A tow device for a trailer having support wheels mounted for rotation about an axis, said tow device comprising a first member to be secured to the trailer, a second member to be connected to a towing vehicle, pivot means interposed between the members connecting them for relative movement about a pivot axis parallel to the axis of rotation of said wheels, resilient means interposed between the member to urge the members towards an initial relative position about the pivot axis, a damping means connected between the members to damp said relative movement, said resilient means including spring means carried on the first member and a first link engaging the spring means and pivotally connected to the second member, said damping means including a rotary damping device carried on the first member and a second link connected to the damping device and pivotally connected to the second member, said pivot axis lying between the pivotal connections of the links to the second member, said second member having a bore extending parallel to said pivot axis and a plurality of spaced parallel slots intersecting the bore normal to the longitudinal axis thereof, a plurality of parallel spaced tongues on the first link, the tongues being received in the slots in the block and each having a circular aperture in alignment with said bore, and a pivot pin received in the bore and the apertures to provide the pivotal connection between the first link and the second member.

3,377,087
UNION FOR CONNECTING CONDUITS

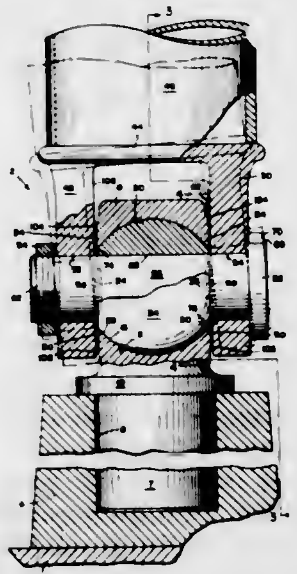
Fred J. Samerdyke, Rocky River, and William C. Sessions, Lakewood, Ohio, assignors to Brown Fintube Company, Elyria, Ohio, a corporation of Ohio
Filed May 5, 1965, Ser. No. 453,374
11 Claims. (Cl. 285—14)



A union for connecting at least three conduits of which the first conduit communicates with at least one second conduit and the third conduit surrounds and is spaced from the second conduit, which union is made up of a terminal member fixed to the third conduit, a fitting member fixed to the second conduit and a securing member fixed to the first conduit, the fitting member being prevented from moving axially of the securing member, there being internal sealing surfaces in the securing and terminal members and external cooperating sealing surfaces on the fitting member, and sealing ring means contacting all of the sealing surfaces and forced into sealing connection with the various members by wedging action of the securing and terminal members when they are drawn together.

3,377,088
UNIVERSAL BOOM SUPPORT

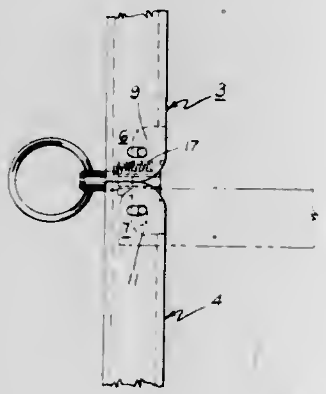
Arthur B. Millay, Wallingford, Pa., and George W. Wilkie, Wilmington, Del., assignors, by mesne assignments, to Newport News Shipbuilding and Dry Dock Company, Newport News, Va., a corporation of Virginia
Filed May 16, 1967, Ser. No. 638,966
4 Claims. (Cl. 287—87)



A support for a boom adapted to pass over center for use on either a forward or an after hatch is provided with cams and associated cam followers to provide for athwartship tilting as the boom approaches and passes a vertical position. The bearing member employed is shaped to abut against a substantial area of a depending member attached to the tilted boom. A ball supported in the bearing member is mounted so as to rotate only to permit tilting of the boom.

3,377,089
LOCK JOINT FOR STRUCTURAL MEMBERS

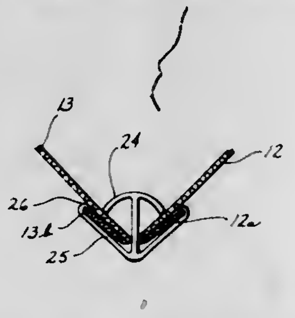
Allan R. Getzin, Jeffersontown, Ky., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed July 28, 1965, Ser. No. 475,428
9 Claims. (Cl. 287—99)



An improved lock joint for two structural members wherein a detent carrying tongue in one structural member slidably engages in loose nesting relationship in a recess of the other structural member when the structural members are in collapsed position, and wherein the detent on the tongue is spring-urged laterally into a detent aperture on such other member when the structural members are in erect position, the detent being sized in conformity with the aperture to permit snug detent-aperture engagement.

3,377,090
CONNECTION FOR RESILIENT DEFORMABLE PANELS

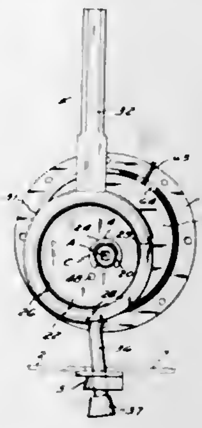
Clifford H. Keith and Kenneth H. Lillis, Cincinnati, Ohio, assignors to The Mead Corporation, Dayton, Ohio, a corporation of Ohio
Filed Dec. 7, 1965, Ser. No. 512,172
1 Claim. (Cl. 287—189.36)



In a joint connecting a pair of panels of resilient material each having a reverse folded flap edge portion, the connecting member includes a web with deformable members extending angularly from opposite sides of the web. An arcuate member extends from both sides of the web toward but terminates short of the deformable members. Each panel and its folded flap is retained between an end of the arcuate member and a deformable member and the flap edge portions is releasably engaged by a depending portion of the deformable member to prevent longitudinal displacement of the panel.

3,377,091
ROLL UP DOOR LOCK

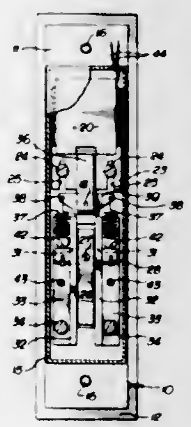
John V. Pastva, Parma Heights, Ohio, assignor to The Eastern Company, Cleveland, Ohio, a corporation of Connecticut
Filed Dec. 2, 1965, Ser. No. 511,048
9 Claims. (Cl. 292—65)



A lock for locking two parts comprising a keeper member on one of the parts and a non-rotatable base member on the other of the parts, a latch member having a latch portion at one end and an opening spaced therefrom, and a movable member rotatably mounted on the base member and engaging the opening to permit eccentric relative rotation of the latch member, the movable member having means for positively moving the latch member toward and away from the keeper member on rotation of the movable member.

3,377,092
ELECTRICALLY CONTROLLED LOCK

Clarence L. Rohman, 5667 Glenfinnan Ave., Azusa, Calif. 91702
Filed Apr. 27, 11967, Ser. No. 634,322
10 Claims. (Cl. 292—201)

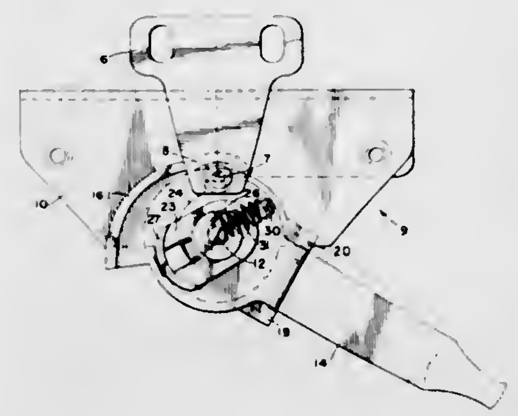


The invention is directed to solenoid-actuated door locks of a projectable bolt type adaptable for sequentially controlling locked and unlocked conditions of a pair of doors leading to a room area to be protected from outside exposure, and aims to provide a locking mechanism that will assure such protection.

Fail-safe performance of the locking mechanism is assured by precluding malfunctioning of either or both the locking bolt or its solenoid actuator by utilizing a gravity projectable bolt and a lost motion spring-interposed connection between the bolt and solenoid core vertically reciprocable above the bolt sothat the spring means transmits bolt projecting movement upon energization of the solenoid and assures downward withdrawal of the core from the solenoid body upon its de-energization. In this manner a combination of such electrically connected locking mechanisms positively assures proper locked and unlocked condiiions in the door sequence.

3,377,093
LATCH MECHANISM

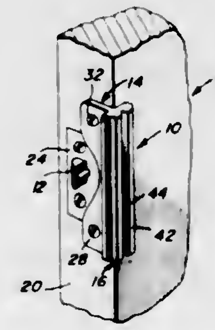
Edward L. Macolcz, Shorewood, Wis., assignor to General Electric Company, a corporation of New York
Filed Apr. 26, 1966, Ser. No. 545,430
4 Claims. (Cl. 292—241)



A combination latching mechanism and switch actuating device for the cabinet door of an electrical appliance, such as a dishwasher or the like. A bolt mechanism is mounted on a support structure carried by the door for movement into and out of latching engagement with a strike mounted on the cabinet. A normally-open electric switch is mounted in a fixed relation relative to the bolt mechanism and a switch actuator is disposed in the path of movement of the bolt mechanism for actuation of the switch to closed circuit condition upon movement of the bolt mechanism in a latching direction and return of the switch to an open position upon return movement of the bolt mechanism. A lock out device is mounted on the bolt mechanism for transverse movement relative thereto between a first position in which it engages both the support structure and the bolt mechanism to prevent movement of the bolt mechanism in a latching direction, and a second position wherein the lock out device disengages the support structure thereby releases the bolt mechanism for movement in a latching direction. Means are provided for moving the lock out device into the first position unless it is firmly engaged with the strike.

3,377,094
REVERSIBLE LOCK GUARD FOR OUT-SWINGING DOORS

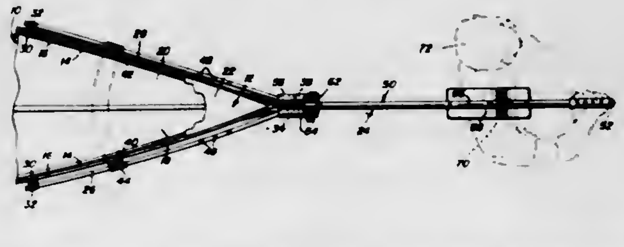
Eugene L. Thompson, 70—151 Ave. 39, Cathedral City, Calif. 92234
Filed Nov. 17, 1966, Ser. No. 595,196
7 Claims. (Cl. 292—346)



1. A door mountable lock guard for a selective covering of the crack normally defined between the free edge of the door and the adjacent inner face of the jamb in the vicinity of a door lock latch bolt, said lock guard comprising an elongated mounting flange mountable in overlying relation to the free edge of a door in the vicinity of the latch bolt, and a covering flange fixed to one edge of said mounting flange at generally right angles thereto, said covering flange extending laterally beyond both faces of said mounting flange so as to define two covering flange portions, one to overlie the door face inward of the mounting flange and the other to overlie the door crack outward of said mounting flange, said covering flange portions being of different widths, and said guard being reversible so as to selectively mount said guard with either covering flange portion projecting outwardly therefrom, thereby accommodating different width door cracks.

3,377,095
PORTABLE HANDLES FOR BOATS

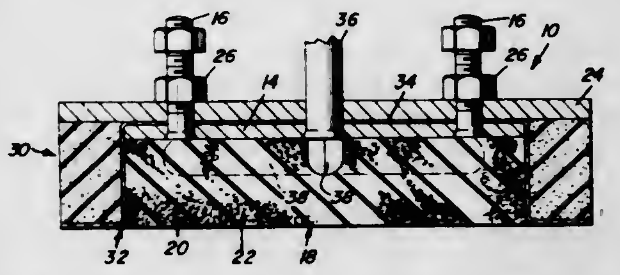
Elmer W. Allen, Hines, Minn. 56647
Filed Aug. 31, 1966, Ser. No. 576,392
10 Claims. (Cl. 294—19)



An elongated supporting arm structure bifurcated at one end and adapted to embracingly receive one end of a boat between the furcations thereof with the one end of the boat supported from the bifurcated end of the supporting arm structure, the other end portion of the support arm structure being adapted to project outwardly of the terminal end of said one end of said boat and including a free end portion adapted to be manually engaged and lifted by a person and including downwardly facing load distributing pad means positionable on the shoulders of such a person for carrying the adjacent end of the boat while portaging the same.

3,377,096
VACUUM GRIPPING PAD

Howard L. Wood, Wolf Point, Mont., assignor to Wood's Powr-Grip Co., Inc., a corporation of Montana
Filed June 2, 1967, Ser. No. 643,210
11 Claims. (Cl. 294—64)

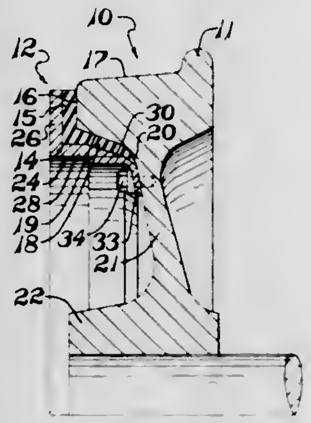


A vacuum gripping pad construction having a body member comprising a means for attachment of an external force which body member overlies an open celled, collapsible, foamed type flexible material provided with a peripheral flexible film seal means to provide a vacuum gripping pad of desired utility.

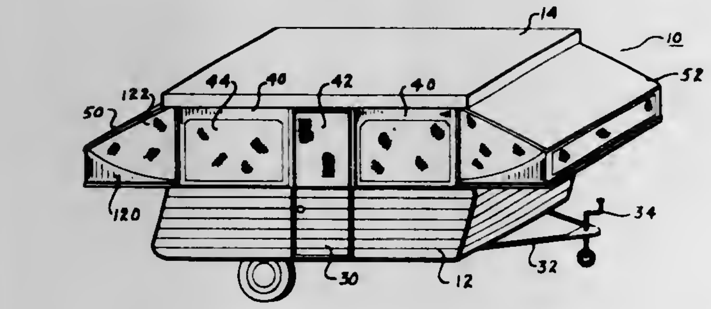
3,377,097
VIBRATION DAMPED RAILWAY WHEEL

Roger C. Swanson, Macedonia, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed June 23, 1966, Ser. No. 559,961
9 Claims. (Cl. 295—7)

In a rigid rolling wheel noise emission primarily results from load-induced vibrations in the heavy rim of the wheel (as distinguished from the web and hub). The lateral or axial and the radial components of such vibration can be damped thereby materially suppressing noise radiation by viscoelastic material adhered to radial side surfaces of the rim adjoining its load-engaging tread and also to the adjoining axial surfaces of the rim. The noise suppression is particularly effective where these materials further include overlying rigid constraining layers.

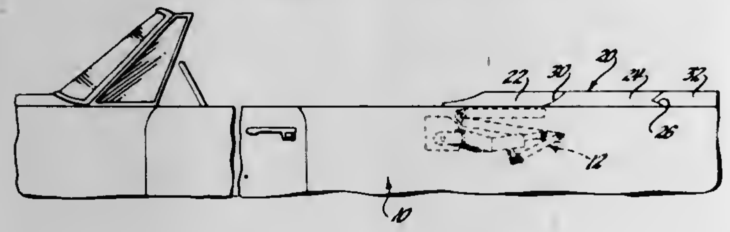


3,377,098
CAMPING TRAILER
Lloyd J. Bontrager, Goshen, Ind., assignor to Star Tank and Boat Company, Goshen, Ind., a corporation of Indiana
Filed Oct. 1, 1965, Ser. No. 492,158
4 Claims. (Cl. 296—27)



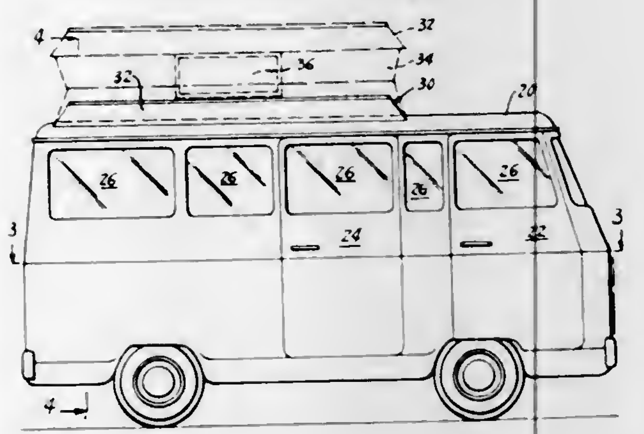
An end extension structure for use with camping trailers and the like having a body and a top adapted to seat on and be raised from the body, the end extension including a platform retractable onto the body. A retractable top of relatively rigid construction is supported in its retractable position within the top, and side and end walls connect the retractable top and platform when the two are in their extended position.

3,377,099
COMPARTMENT CLOSURE FOR VEHICLE BODY
Edward G. Podolan, Utica, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 19, 1966, Ser. No. 580,344
4 Claims. (Cl. 296—136)



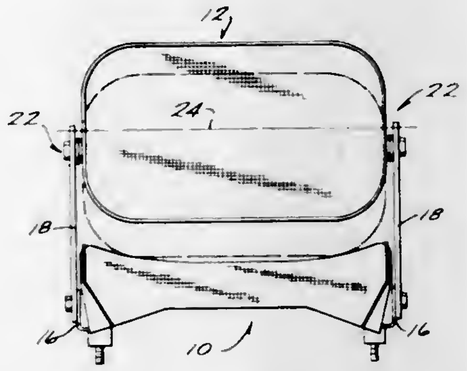
1. In a vehicle body having an opening to a storage compartment therein and a folding top movable between a lowered position within the compartment and a raised position, the combination comprising, a first compartment cover, means mounting said first cover on said body for movement between a covering position closing a portion of said opening and a raised position permitting movement of said folding top into and out of the compartment, a second compartment cover having an exterior finish surface, and means mounting said second cover on said body for movement relative to said first cover between a covering position having said exterior surface exteriorly facing and being generally contiguous with said first cover to close the remaining portion of said opening when said folding top is in lowered position and a retracted position disposed underneath said first cover and having said finish surface thereof facing said first cover.

3,377,100
VERTICALLY EXPANDABLE VEHICLE
Earnest C. Cripe, 2514 S. Main St., Goshen, Ind. 46526
Filed June 28, 1966, Ser. No. 561,193
7 Claims. (Cl. 296—137)



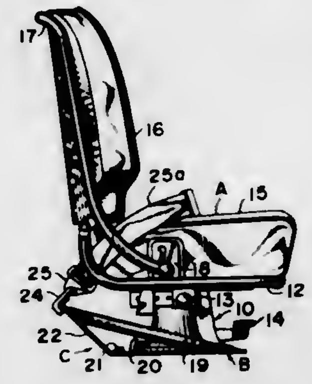
A vertically expandable vehicle with scissors expanding mechanism, comprising the vertically movable portion upwardly, foldable side walls between the movable portion and the body of the vehicle, and biased means for folding the side walls at an intermediate point to cause such side walls to fold automatically when the movable portion is lowered is described.

3,377,101
PIVOTALLY ADJUSTABLE SEAT BACK
Arthur O. Radke, Shorewood, and Garth O. Hall, New Berlin, Wis., assignors to Bostrom Corporation, a corporation of Wisconsin
Filed Dec. 1, 1966, Ser. No. 598,487
3 Claims. (Cl. 297—283)



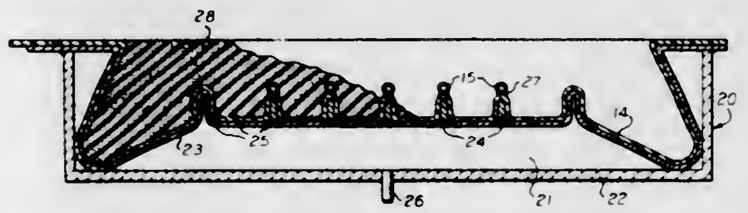
A back rest which has both sides upholstered and contoured for proper back support, pivotally connected to supporting structures which will permit the back height to be adjusted between two vertical positions by pivoting it through 180°.

3,377,102
VEHICLE SEAT BELT ANCHORAGE
Bror W. Henrikson, Grand Rapids, Mich., assignor to American Seating Company, Grand Rapids, Mich., a corporation of Delaware
Filed Feb. 9, 1967, Ser. No. 614,987
6 Claims. (Cl. 297—385)



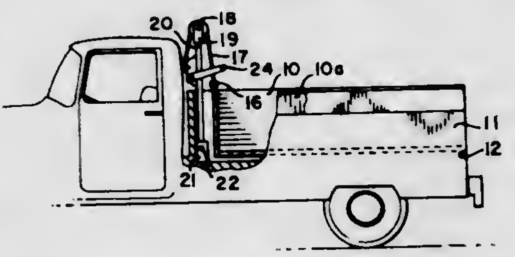
A vehicle seat belt anchorage, especially useful for a driver's seat, in which a plate is anchored to the floor below the seat and has a rigid belt support extending upwardly to an elevation at a rear corner of the seat with an attachment for the seat belt. Diagonal braces from the forward portion of the plate extend to the top portion of the support.

3,377,103
VENTILATED CUSHION AND METHOD OF MAKING SAME
Robert O. Borton, South Bend, Ind., and Garvin L. Beck, Santa Ana, Calif., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed Aug. 17, 1966, Ser. No. 573,043
3 Claims. (Cl. 297—453)



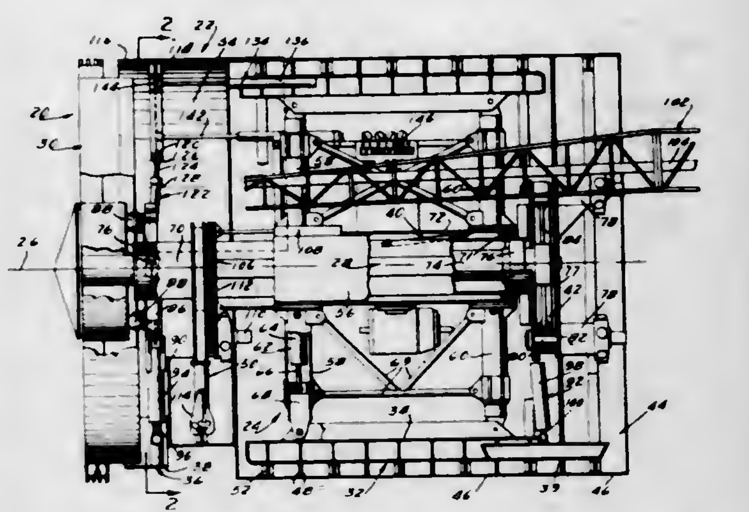
A ventilated foam seat cushion having a cover in contact with the seat portion of the foam and air conduits located under and in contact with the cover so that air may be forced through aligned apertures in the conduits and cover to ventilate the seat portion of the cushion without contacting the foam with the forced air.

3,377,104
ACCESSORY PICKUP TRUCK BED
Theldon F. Sherman, 331 E. Court, San Jose, Calif. 95116
Filed Sept. 12, 1966, Ser. No. 578,748
3 Claims. (Cl. 298—19)



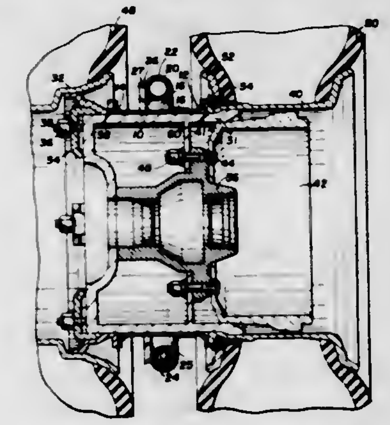
An accessory dump bed which may be attached to existing pickup trucks. The rear end of the bed is pivotally attached to the pickup body and a hoisting mechanism comprising an upright member and winch is pivotally mounted on the floor at the forward end of the pickup body.

3,377,105
PROTECTIVE OVERHEAD SHIELD FOR TUNNELING MACHINE AND METHOD
Richard A. Wallers, Newport Beach, Calif., assignor to Smith Industries International, Inc., Compton, Calif.
Filed Mar. 7, 1966, Ser. No. 532,331
9 Claims. (Cl. 299—11)



A tunneling machine including a main carriage having extendible shoes for supporting it from the tunnel wall, a wheel-type cutting head having a drive shaft, an elongated cutter carriage which rotatably supports the cutter drive shaft and is in turn supported in a longitudinally slidable relationship to the main carriage, separate front and rear anchors for the cutter carriage, a power drive for drivingly rotating the cutter wheel, a longitudinal thrust drive means coupled between the main carriage and the cutter carriage for selectively either driving the cutter carriage forward relative to the main carriage or pulling the main carriage forward relative to the cutter carriage, an erector arm disposed forwardly of the main carriage and rotatable about the forward portion of the cutter carriage for installing tunnel liner segments at selected angular positions on the tunnel wall, and a removable shield located above the erector arm for protecting the area surrounding the erector arm from falling debris.

3,377,106
DUAL RIM SPACER BAND WHEEL BALANCER INSTALLATION
Beauford I. Whitlock, Stafford, Kans., assignor to AWB Manufacturing Co., Inc., Stafford, Kans., a corporation of Kansas
Filed Sept. 22, 1966, Ser. No. 581,272
7 Claims. (Cl. 301—5)



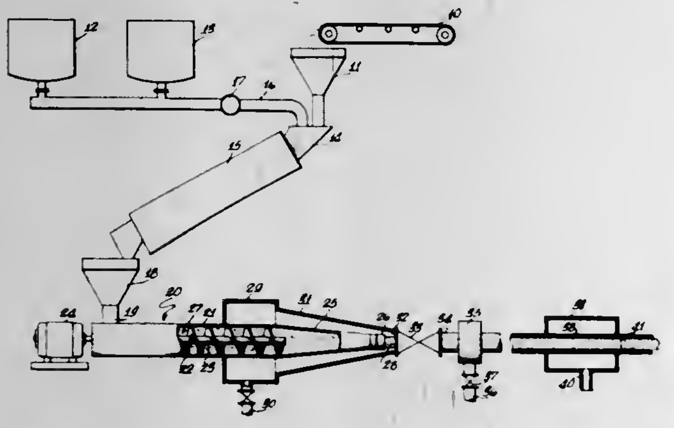
7. A system for mounting an annular dynamic balancer tube between dual wheel rims which comprises:

(a) a dual wheel spacer band,
(b) a clamp ring including radially extending finger means engaging at their radially inner ends the outer surface of said band, said finger means curving radially inwardly at their radially outer ends to form an inwardly facing annular seat for receiving said tube, and
(c) a tension applying means engaging said finger means to clamp said tube coaxially with respect to said band.

3,377,107
METHOD AND APPARATUS FOR TRANSPORTING MATERIAL IN A PIPELINE

Gordon W. Hodgson, Edmonton, Alberta, Michael E. Charles, Port Credit, Ontario, and Alfred A. Roehl, Edmonton, Alberta, Canada, assignors to Research Council of Alberta, Edmonton, Alberta, Canada, a body corporate

Filed Dec. 12, 1966, Ser. No. 601,105
10 Claims. (Cl. 302—15)

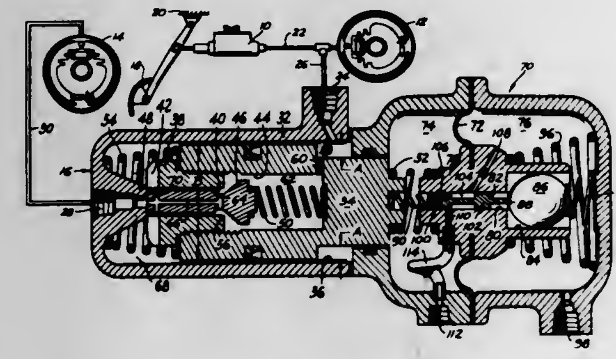


The invention relates to the long distance transport by pipeline of solids in comminuted form and has as its basic feature the substantially reduced pumping energy required when the particulate solids are pasted to a coherent cylindrical form of great length which is suspended in a moving annulus of fluid in a pipeline extending from the source of the delivery point which may be a hundred miles or more away.

3,377,108
BRAKE PROPORTIONING DEVICE

Robert T. Eddy, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware

Filed Aug. 15, 1966, Ser. No. 572,612
4 Claims. (Cl. 303—24)

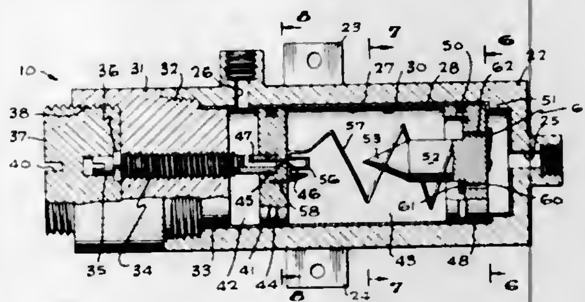


A brake proportioning device which is interposed between a master cylinder and the rear brakes for proportionally increasing the ratio of front braking pressure to rear braking pressure by reducing the rate of increase of the rear braking pressure without restricting the rate of increase of the front braking pressure. The proportioning device, which controls the pressure relationship between the front and rear brakes as a function of a piston load spring and master cylinder pressure, utilizes a power diaphragm and a deceleration responsive servo valve for reducing the load of the proportioning valve piston spring to achieve optimum brake proportioning.

3,377,109
CONTROL VALVE

Augustus R. Scott, Los Angeles, Calif., assignor of one-half to Alfred E. Porter, Sunland, Calif.

Filed May 17, 1966, Ser. No. 550,714
6 Claims. (Cl. 303—84)

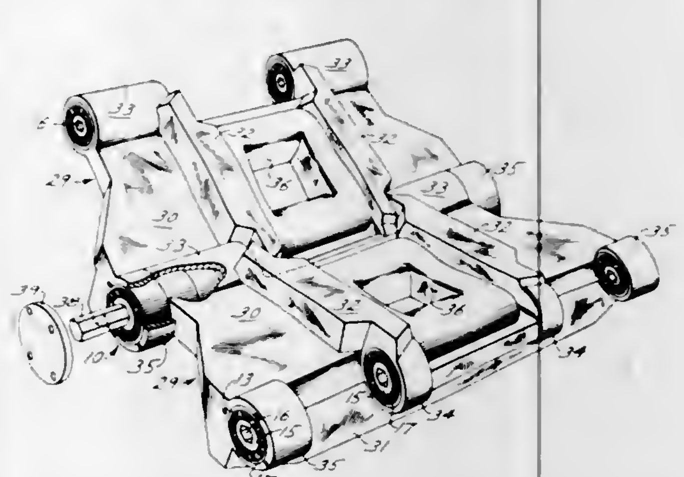


A control valve for an anti-skid hydraulic brake system is disclosed herein having a closure means movably carried within the valve housing adapted to selectively close a fluid passageway responsive to panic demand by the vehicle operator. The closure means includes a piston member slidably mounted in the valve housing and resilient means adapted to interfere with closure means to maintain the fluid passageway open during normal braking operation.

3,377,110
TRACK PIN ASSEMBLY AND BUSHING

Roger L. Boggs, East Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

Filed Sept. 26, 1966, Ser. No. 582,100
4 Claims. (Cl. 305—42)

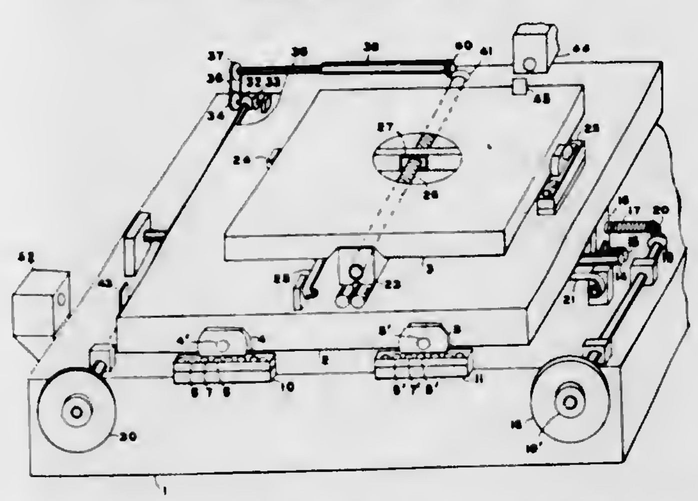


1. Two elements pivotally connected to form a hinged joint, said joint including a laminated bushing assembly capable of resisting radial deflection under load comprising:
(a) at least two bushings, each bushing having an outer retaining sleeve element with an inner core element suspended concentrically within said sleeve by a plurality of circumferentially spaced stacks of bearing material compressed therebetween, said bearing material composed of alternate layers of arcuate metal sheet material and elastomer material bonded together and having a thickness of less than 0.01 inch;
(b) means fixedly mounting said outer sleeves of each busbing in each of the hinging elements; and
(c) means to fixedly tie said core element of each bushing with that of the other bushing whereby hinging movement is accomplished by laminar shifts of layers in said bearing material in said bushings.

3,377,111
PRECISION COORDINATE AXES TABLE MEANS

Andre R. Brault, North Merrick, N.Y., assignor to OPTOmechanisms, Inc., Plainview, N.Y.

Filed Feb. 15, 1966, Ser. No. 527,554
3 Claims. (Cl. 308—3)

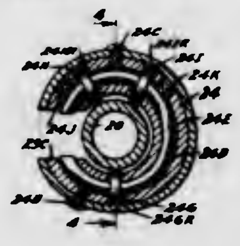


Coordinate axes positioning apparatus having a frame, a first carriage movable along a first axes on said frame and a second carriage mounted on said first carriage and movable along the coordinate axes to said first axes wherein said carriages are mounted on precision ways for perfect alignment and on ball bearing mounted blocks which are supported by a row of balls.

3,377,112
ROLLER BEARING ASSEMBLY

Allister L. Baker, Denville, William R. Krause, Secaucus, and William J. Drexler, Ridgefield, N.J., and Frederick Irving Zener, South Portland, Maine, assignors to Keuffel & Esser Company, Hoboken, N.J., a corporation of New Jersey

Original application July 18, 1960, Ser. No. 43,642, now Patent No. 3,316,644, dated May 2, 1967. Divided and this application Oct. 14, 1965, Ser. No. 529,611
9 Claims. (Cl. 308—6)



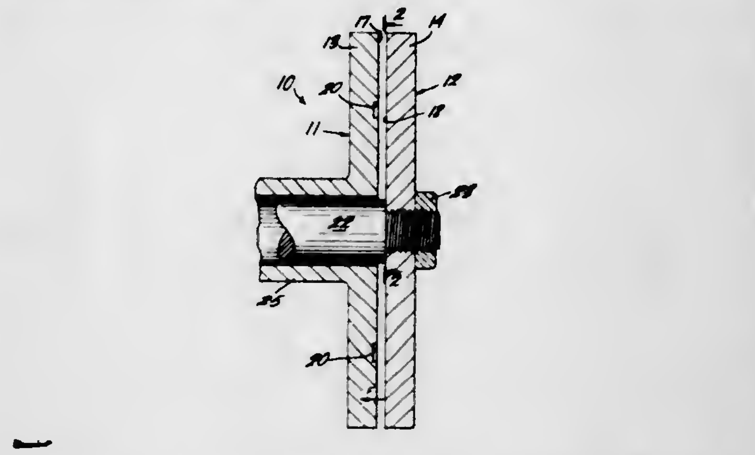
A bearing structure particularly useful for drafting machines for obtaining axial movement of a sleeve with respect to a rail while permitting rotation of the sleeve, including rollers of disc shape engaging the rail and extending radially therefrom and being mounted in the sleeve by means of a collar having a groove therein which receives a horse shoe shaped spring serving as the axle for the rollers with at least one roller being resiliently mounted to maintain constant engagement and with the rollers spaced apart an angular distance less than 180° to provide for movement of the sleeve in all positions of the sleeve and of the rail.

3,377,113
HYDRODYNAMIC BEARING

Donald S. Wilson, West Hurley, N.Y., assignor to Rotron Manufacturing Company, Inc., Woodstock, N.Y., a corporation of New York

Filed Aug. 3, 1965, Ser. No. 476,879
8 Claims. (Cl. 308—10)

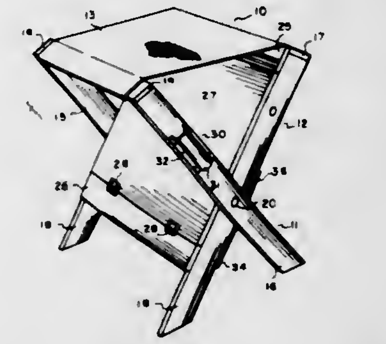
This improvement relates to the prevention of metal-to-metal contact in a hydrodynamic bearing during starting and stopping thereof, when the motion of the bearing is insufficient to establish a load supporting film, through the utilization of magnetic means incorporated in the bearing surfaces for developing a repulsive force sufficient to maintain a clearance between the bearing surfaces.



3,377,114
COMBINATION FOLDING CHAIR AND TACKLE BOX

George S. Blackman, 467 Hub, San Antonio, Tex. 78220

Filed Feb. 23, 1966, Ser. No. 532,525
4 Claims. (Cl. 312—235)

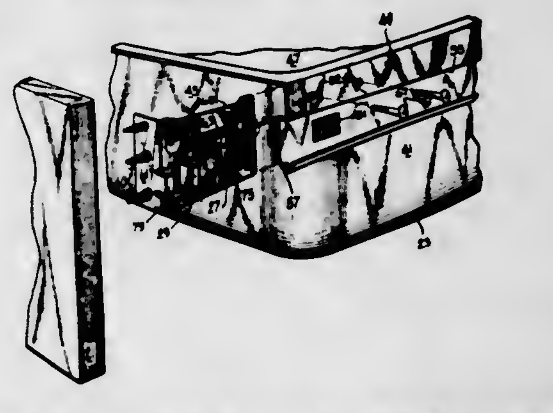


A folding chair including a tackle box pivotally mounted in the frame thereof; a door connected to said frame when in closed condition abuts the tackle box and secures the contents therein; in open condition the said door serves as a platform for the fisherman.

3,377,115
DRAWER CONSTRUCTION

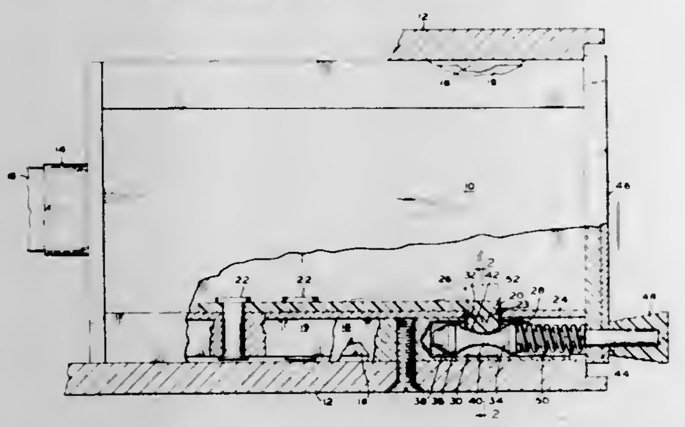
Francis W. Hansen and Richard H. Nulf, Lansing, Ill., assignors to Simmons Company, New York, N.Y., a corporation of Delaware

Filed Feb. 27, 1967, Ser. No. 618,864
9 Claims. (Cl. 312—330)



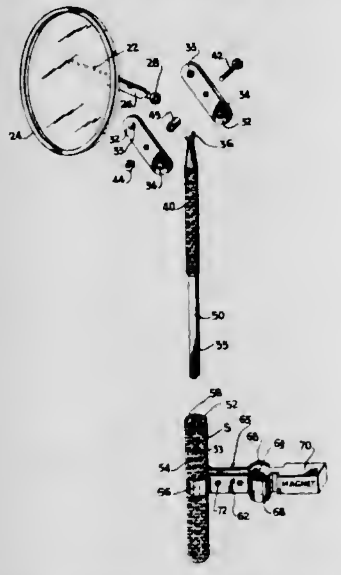
A drawer having integral depending side flanges formed with longitudinally extending seats for one of a pair of telescoping members. The fixed telescoping member is secured to the interior of the cabinet shell. The movable telescoping member is demountably latched in the seat by a spring leaf which is a part of a bracket that unites the front panel to the drawer shell and permits easy removal of the drawer from the cabinet. The removable runner unit may include a pair of facing channel members with bearing balls residing in upper and lower tracks formed in the facing flanges thereof.

3,377,116
LATCHING DEVICE
Carl E. Dalbey, Portland, Oreg., assignor to Tektronix, Inc., Beaverton, Oreg., a corporation of Oregon
Filed Aug. 17, 1966, Ser. No. 573,029
9 Claims. (Cl. 312—333)



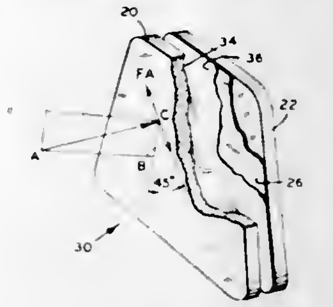
A plug-in unit is slidably received within a frame and is automatically secured in engaged position therewithin by an automatic latching mechanism. The latching mechanism further includes an unlatching means connected to a handle located on an accessible front panel of the plug-in unit. When the plug-in unit is to be physically withdrawn from the frame, the handle is grasped and moved in a direction to withdraw the plug-in unit. Movement of the handle brings about unlatching of the latching mechanism.

3,377,117
REAR VIEW MIRROR ASSEMBLY INCLUDING A SLEEVE HAVING AN INTERNAL SPRING TO RESTORE THE REFLECTOR TO A GIVEN POSITION
Edgar B. Biscow, 67 Flower Road, Valley Stream, N.Y. 11581
Filed Oct. 28, 1963, Ser. No. 319,364
6 Claims. (Cl. 350—97)



A rear view mirror assembly for eliminating blind view areas at opposite sides of an automobile. The mirror assembly is mounted on one side of the automobile. A vertical post adjustably supports the mirror in one position to provide a view along an oblique rear line of sight through a rear window at one side of the automobile, said post adapted to be manually rotated to set the mirror in a further moved position to provide a view along another oblique rear line of sight, said post being adapted to be automatically rotated in a direction to restore the mirror to its original position when pressure on the post is released.

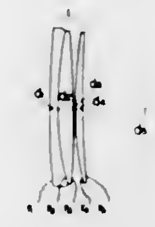
3,377,118
OPTICAL STRAIN-PATTERN SUPPRESSORS FOR HIGH-ALTITUDE AIRCRAFT WINDSHIELDS
Stephen M. MacNeille, Thompson, Conn., assignor, by mesne assignments, to American Optical Company, Southbridge, Mass., a corporation of Delaware
Filed Feb. 2, 1962, Ser. No. 170,675
3 Claims. (Cl. 350—157)

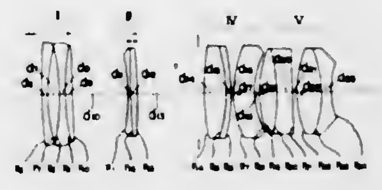


1. A strain-pattern suppressing window construction for use in high-altitude aircraft and the like, said construction for providing a maximum visibility substantially free from strain-patterns for a person looking outwardly through any part thereof and comprising in combination a relatively thick, plate-like member positioned as a window in a wall portion of said aircraft, said member being formed of a transparent material having relatively high light-transmitting characteristics and being so angularly positioned in said wall as to have its outer surface disposed at an angle very nearly equal to a Brewster's angle when considered relative to the plane of incidence of light rays travelling along a predetermined principal direction of viewing through said member, a compensator assembly comprising a second plate-like member formed of a transparent material likewise having relatively high light-transmitting characteristics, said second member being spaced inwardly of said first plate-like member and in such operative relation thereto as to have its outer surface disposed in adjacent spaced substantially parallel relation to the inner surface of said first plate-like member, and a birefringent half wavelength retardation layer of material positioned upon the outer surface of said second member and substantially covering same, said half wave layer being so oriented upon said second plate as to have its principal axis disposed at a 45° angle relative to the plane of incidence of light rays travelling along said principal direction of viewing and passing therethrough, whereby a one-half wavelength relative phase retardation having perpendicularly polarized components for said light waves will be provided said light rays before passing through said second plate, and, accordingly, any partial polarizing effect due to strain-pattern conditions of said first plate will be substantially eliminated.

3,377,119
MECHANICALLY COMPENSATED ZOOM LENS SYSTEM
Eiichi Takano, Tokyo, Japan, assignor to Canon Camera Co., Inc., a corporation of Japan
Filed Dec. 30, 1963, Ser. No. 334,386
Claims priority, application Japan, Jan. 21, 1963, 38/1,776; Jan. 25, 1963, 38/2,691
1 Claim. (Cl. 350—184)

1. Zoom lens system comprising a component I of positive refractive power consisting of a cemented positive doublet and a spaced single positive meniscus with its convex surface toward the object, a component II of negative refractive power consisting of a single negative meniscus with its strong concave surface toward the image and a spaced cemented negative doublet, a component III consisting of a cemented negative doublet with its concave surface toward the object, a component IV of positive refractive power consisting of a cemented positive doublet and a spaced thick negative meniscus with its strong concave surface toward the image, and a component V of positive refractive power consisting of a cemented positive doublet and a spaced cemented negative meniscus doublet with its concave surface toward the image, the component II being movable in one direction while the component III is movable first in the one direction and then in an opposite direction in magnification variation operation, the complete system having the following numerical data:





The focal length of the complete system $f=87.74$ to 292.45

Relative aperture $=1:5$; maximum effective aperture size $=60$

Zooming ratio $=3.33$; telephoto ratio $=1.0$

Back focal length $=108.87$; frame size $=24 \times 36$

The I component:

I	$r_1=325.11$			
		$d_1=2.0$	$N_1=1.5927$	$V_1=35.4$
	$r_2=110.53$			
		$d_2=6.7$	$N_2=1.48749$	$V_2=70.0$
	$r_3=-306.48$			
		$d_3=0.1$		
	$r_4=166.71$			
		$d_4=2.5$	$N_3=1.48749$	$V_3=70.0$
	$r_5=355.71$			
		$d_5=1.984\text{-}72.172\text{-}110.615$		

The II component:

II	$r_6=205.45$			
		$d_6=1.7$	$N_4=1.713$	$V_4=53.9$
	$r_7=77.75$			
		$d_7=3.63$		
	$r_8=-123.15$			
		$d_8=1.7$	$N_5=1.713$	$V_5=53.9$
	$r_9=76.67$			
		$d_9=2.8$	$N_6=1.80518$	$V_6=25.5$
	$r_{10}=582.435$			
		$d_{10}=113.586\text{-}21.262\text{-}4.954$		

The III component:

III	$r_{11}=-98.4$			
		$d_{11}=1.3$	$N_7=1.62041$	$V_7=60.3$
	$r_{12}=>$			
		$d_{12}=2.0$	$N_8=1.62041$	$V_8=36.3$
	$r_{13}=-167.876$			
		$d_{13}=2.736\text{-}24.871\text{-}2.736$		

The IV component:

IV	$r_{14}=89.26$			
		$d_{14}=8.72$	$N_9=1.50137$	$V_9=56.5$
	$r_{15}=-47.52$			
		$d_{15}=1.8$	$N_{10}=1.7552$	$V_{10}=27.5$
	$r_{16}=-103.25$			
		$d_{16}=0.1$		
	$r_{17}=34.34$			
		$d_{17}=8.98$	$N_{11}=1.60311$	$V_{11}=60.7$
	$r_{18}=28.75$			
		$d_{18}=1.05$		

The V component:

V	$r_{19}=37.26$			
		$d_{19}=6.79$	$N_{12}=1.4645$	$V_{12}=65.7$
	$r_{20}=-76.63$			
		$d_{20}=6.08$	$N_{13}=1.7552$	$V_{13}=27.5$
	$r_{21}=-922.7$			
		$d_{21}=0.1$		
	$r_{22}=36.82$ %			
		$d_{22}=10.36$	$N_{14}=1.51118$	$V_{14}=50.9$
	$r_{23}=-31.92$			
		$d_{23}=1.94$	$N_{15}=1.48749$	$V_{15}=70.0$
	$r_{24}=21.70$			

where

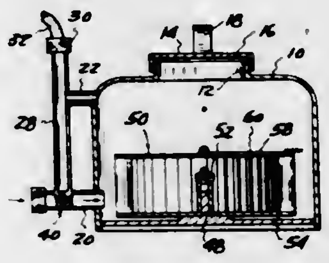
$r_1, r_2 \ldots r_{24}$ denote radii of curvature for refractive surfaces in seriatim from front to rear;

$d_1, d_2 \ldots d_{23}$ spacings between refractive surfaces in seriatim from front to rear;

$N_1, N_2 \ldots N_{15}$ refractive indices of elements for the d line of spectrum in seriatim from front to rear;

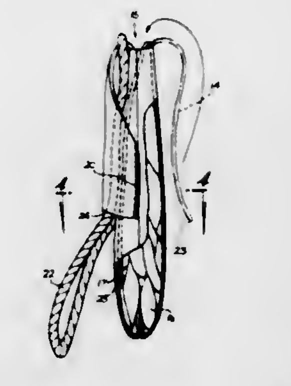
$V_1, V_2 \ldots V_{15}$ Abbe's numbers for elements in seriatim from front to rear.

3,377,120
PORTABLE WASHER
Konstantinos Koutsonicolas, 1156 Lillian, Windsor, Ontario, Canada
Filed July 28, 1966, Ser. No. 568,475
1 Claim. (Cl. 401—4)



A portable washer consisting of a container connectable to a source of pressurized fluid, and having therein a rotatable impeller for receiving soluble detergent or soap solids. The impeller is driven by the water as it flows through the container thereby providing a cleansing suds which is selectively directed through a discharge hose to a remote washer head.

3,377,121
SOAP POUCH ASSEMBLY
Mary D. Billesbach and Frederick M. Billesbach, both of 7934 Clean Ave., Sun Valley, Calif. 91352
Filed May 8, 1967, Ser. No. 636,862
8 Claims. (Cl. 401—7)



The soap pouch assembly herein described provides a pouch having front and rear walls sewn along their common side and bottom edges so as to define an enclosed pocket with an open entrance leading thereto into the interior thereof. Soap chips, small soap cakes or other detergent material are placed within the pocket interior between the front and rear walls and an intermediate flap coextensive with the rear wall is employed to retain the soap within the pouch. A closure flap, having a portion of its edges sewn in common with the side edges of the front and rear walls, is coextensive with the front wall and is adapted to be folded over the pouch entrance including the fold of the intermediate flap to close or conceal the pouch interior or pocket.

3,377,122

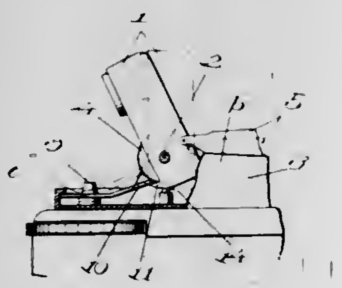
GAS LIGHTER

Kiichi Mori, Tokyo, and Mutsumi Nakamura, Irima-gun, Saitama, Japan, assignors to Zenza Bronica Kogyo Kabushiki Kaisha, Itabashi-ku, Tokyo, Japan

Filed Apr. 21, 1965, Ser. No. 449,850

Claims priority, application Japan, Apr. 30, 1964, 39/24,184

3 Claims. (Cl. 431—131)



1. A gas lighter comprising, in combination, a container adapted to contain a fuel gas under pressure; combined valve and nozzle means carried by said container movable between a closed position and an open position for discharging in said open position fuel gas from said container through the open end of said nozzle means; an operating member connected to said combined valve and nozzle means and mounted on said container movable between an inactive position and an active position and moving in said active position said combined valve and nozzle means to said open position, said operating member having a free end; a closure cap having a closure portion and an operating portion and being mounted on said container movable from a first position in which said closure portion engages said open end of said combined valve and nozzle means and said operating portion is spaced a predetermined distance from and is out of contact with said free end of said operating member to a second position in which said closure portion is spaced from said opening and said operating portion engages said free end of said operating member from said second position to a third position during which it moves said operating member from said inactive to said active position; a spark wheel turnably mounted on said container adjacent said open end of said combined valve and nozzle means and cooperating with a flint to produce during rotation a row of sparks directed toward said open end; and actuating means connected to said closure cap and said spark wheel for moving, when actuated, first said cap from said first to said second position and for simultaneously rotating said spark wheel and then moving said cap from said second to said third position thereof for further rotating said spark wheel and simultaneously therewith moving said combined valve and nozzle means to said open position thereof, whereby said combined valve and nozzle means will be moved to said open position only after said spark wheel has been rotated through a certain angle to thus prevent undesired discharge of fuel gas before creation of sparks by said spark wheel.

3,377,123

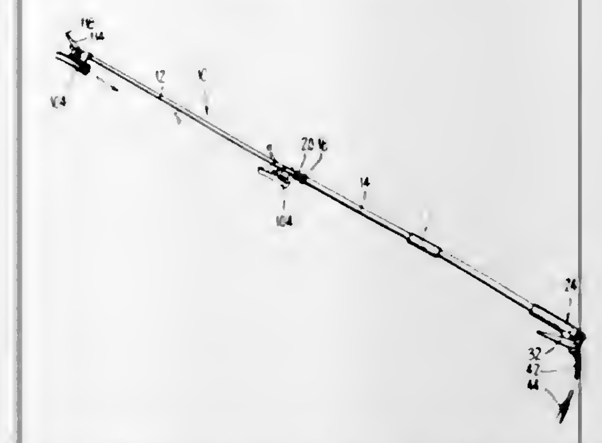
CLEANING DEVICE

George Joseph William Leeson, 86 Caroline St., South Yarra, Victoria, Australia

Filed Feb. 3, 1966, Ser. No. 524,722

Claims priority, application Australia, Mar. 12, 1965, 56,269/65

3 Claims. (Cl. 401—139)



A cleaning device suitable for cleaning motor vehicles, windows and similar surfaces comprises a telescoping hollow handle through which water is fed from a valve controlled hose connection at one end of the handle to a discharge nozzle located at the other end. The nozzle is mounted on a retaining plate for a cleaning pad and water is discharged from the nozzle generally parallel with the cleaning pad and laterally thereof so that a detergent may be applied to the pad without being rinsed off by the water discharged from the nozzle. The retaining plate is pivotally mounted so that the pad and nozzle can be adjusted to lie generally parallel with the axis of the handle or at an angle thereto. A squeegee blade is also pivotally mounted on the retaining plate.

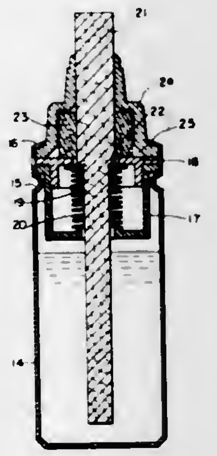
3,377,124

FIBER-TIP PEN

Hiroyuki Matsumoto, Tokyo, Japan, assignor to Dai Nihon Bungu Co., Ltd.

Filed Aug. 31, 1965, Ser. No. 483,994

1 Claim. (Cl. 401—198)



A marking pen having a fiber core extending from a marking end into an ink reservoir. A valve means located peripherally to the core is opened by axial pressure on the marking end of the core. When open, ink has an unobstructed flow path from the reservoir, through the valve means and onto the lateral surfaces of the marking end of the absorbent fiber core.

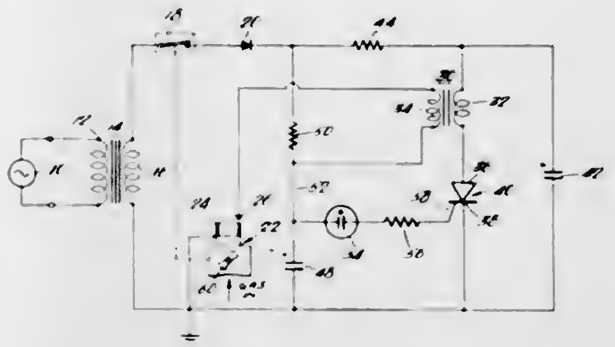
3,377,125

ELECTRICAL IGNITION SYSTEM FOR GASEOUS FUEL BURNERS AND THE LIKE

Robert J. Zielinski, Warrensville Heights, Ohio, assignor to American Gas Association, Inc., New York, N.Y., a corporation of New York

Filed June 16, 1966, Ser. No. 557,995

5 Claims. (Cl. 431—74)



1. Gas flame ignition apparatus, comprising:

a pair of spaced-apart electrode means;

a transformer having a primary and a secondary;

relaxation oscillator means, connected to said primary and including capacitive means and means to charge said capacitive means toward a predetermined voltage for producing a pulse of current through said primary each time the voltage across said capacitive means charges to said predetermined voltage; and

means connecting said secondary and said pair of spark electrode means in common series circuit with each other across said capacitive means, to produce ignition sparks between said pair of spark electrode means in response to pulses of current through said primary and to prevent said voltage from attaining said predetermined value when a flame bridges said pair of spark electrode means, thereby to arrest generation of said sparks whenever said flame is present.

3,377,126

COMBUSTION FLASH BULB LAMP

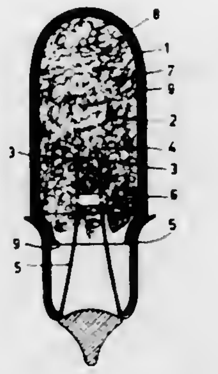
Louis Marius Nijland, Emmasingel, Eindhoven, Netherlands, and Johann Schroder, Aachen, Germany, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed May 10, 1966, Ser. No. 548,980

Claims priority, application Netherlands, June 15, 1965, 65—7,601

5 Claims. (Cl. 431—94)

A flash bulb lamp having an inner colorless coating that gives off a colorless gas, the colorless coating not reacting with the gas atmosphere in the bulb but reacting with solid substance filling material of the bulb.



ERRATUM

For Class 431—131 see:
Patent No. 3,377,122

3,377,127

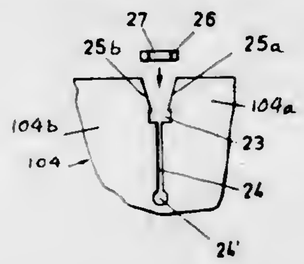
LIGHTER CASING STRUCTURE

Peter Rabe, Mulheim (Main), Rolf Eimecke, Offenbach, Burgel, Erich Gischel, Heusenstamm, and Horst Dieterle, Frankfurt am Main, Germany, assignors to Heinrich Maltner G.m.b.H., Offenbach am Main, Germany

Filed Aug. 18, 1965, Ser. No. 480,698

Claims priority, application Germany, Aug. 29, 1964, M 62,258

10 Claims. (Cl. 431—256)



The side walls of the housing in a lighter have several pairs of registering recesses receiving projections provided on inserts which are separable from the housing in response to elastic deformation of inserts and/or side walls. The projections can be fitted into the corresponding recesses with or without clearance, either to fix the inserts to the housing against relative movement or to permit for controlled reciprocating or other movement of inserts.

CHEMICAL

3,377,128

PROCESS FOR THE PRODUCTION OF COLORED CELLULOSE TRIACETATE MATERIAL AND BLENDS THEREOF WITH POLYACRYLONITRILE

Hans Rafael, Weil am Rhine, Germany, and Erhard Tutsch, Ashiya, Japan, assignors to J. R. Geigy A.G., Basel, Switzerland

No Drawing. Continuation-in-part of application Ser. No. 278,484, May 6, 1963. This application Dec. 11, 1964, Ser. No. 417,762

Claims priority, application Switzerland, Apr. 26, 1963, 5,296/63; May 2, 1963, 5,507/63

15 Claims. (Cl. 8—21)

A process is provided for producing colored cellulose acetate fiber material, polyacrylonitrile type fiber material and blended fabrics consisting essentially of these two types of fibers or blends of polyacrylonitrile type fibers with staple rayon. Padding liquors or printing pastes are also provided. The process comprises padding the fiber material with a thickened padding liquor or printing the material with a printing paste which contains at least one water-soluble acid wool dyestuff, at least one mono- or poly-nuclear aromatic compound which is substituted at the aromatic ring by a functional group containing oxygen, an amide of a thiocarbon-derived acid, and thickener, as well as, if desired, other conventional additives, and steaming the resultant impregnated or printed goods.

3,377,129

PROCESS FOR THE DYEING OF POLYETHYLENE GLYCOL TEREPHTHALATE-TYPE POLYESTER FIBERS

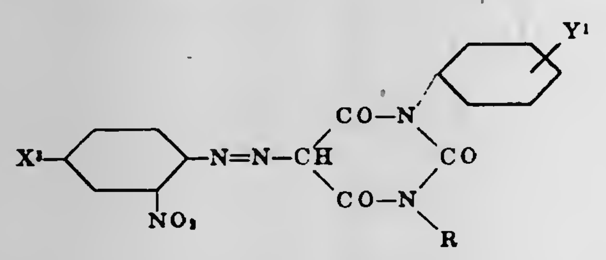
Hans E. Wegmüller and Werner Bossard, Riehen, Switzerland, assignors to J. R. Geigy A.G., Basel, Switzerland

No Drawing. Original application Aug. 17, 1964, Ser. No. 390,232, now Patent No. 3,341,512, dated Sept. 12, 1967. Divided and this application Jan. 12, 1967, Ser No. 623,785

Claims priority, application Switzerland, Sept. 9, 1963, 11,094/63

5 Claims. (Cl. 8—41)

Polyethylene glycol terephthalate-type fibers and materials made therefrom are excellently dyed with a new group of dyestuffs which correspond to the formula



wherein X^3 is lower alkoxy or phenoxy, Y^1 is H, lower alkyl, lower alkoxy, Cl, Br or NO_2, and R is lower alkyl or lower alkoxyalkyl.

3,377,130

DYED NITROGENOUS FIBERS AND ANIONIC DYE COMPOSITION THEREFOR

Henry Edmond Millson, Ocean City, and James Dammicci, Raritan, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Original application Aug. 11, 1960, Ser. No. 48,857, now Patent No. 3,167,517, dated Jan. 26, 1965. Divided and this application June 9, 1964, Ser. No. 373,829

3 Claims. (Cl. 8—54)

The applicants' invention is a dyeing composition of .001–.160 part of an anionic metallized neutral-dyeing dye, an anionic milling dye or an anionic disperse dye, water, and alkylphenol-ethylene oxide condensate, a polyoxypropylene and polyoxyethylene condensate and an alkali metal salt of a sulfonated naphthalene. Nitrogenous fibers are dyed therewith.

3,377,131

PROCESS FOR DESIZING, SCOURING AND BLEACHING COTTON AND POLYESTER FABRICS

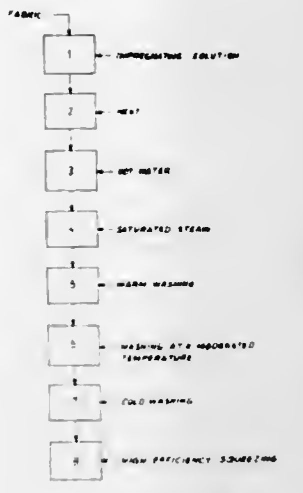
Giuseppe Cerana, Busto Arsizio, Italy, assignor to Roberto Cerana S.p.A., Busto Arsizio, Varese, Italy, a company of Italy

Filed Oct. 15, 1965, Ser. No. 496,586

Claims priority, application Italy, Dec. 10, 1964, 26,341/64, Patent 739,960

3 Claims. (Cl. 8—111)

A process for desizing, scouring and bleaching cotton and polyester fabrics in a continuous operation comprised of the steps of impregnating the fabric with a cold aqueous solution of hydrogen peroxide at a concentration of between 30 to 80 grams per liter, passing the fabric through a chamber filled with saturated steam at atmospheric pressure and at a temperature between 90 and 100° C. for a period of time not exceeding 20 minutes, immersing the fabric in water at about 90° C., steaming the fabric for about 2 to 3 minutes, washing the fabric in water at least 3 separate times each time for a very brief period and at a progressively lower temperature and squeezing the fabric to remove a high percentage of the moisture.



3,377,132

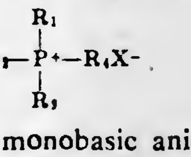
CARROTTING OF FIBROUS MATERIALS

Thomas Barr, Stockport, and Frank E. Higginbottom, near Oldham, England, assignors, by mesne assignments, to Hat & Felt Laboratories, Ltd., a corporation of Great Britain

No Drawing. Filed July 29, 1964, Ser. No. 386,056

4 Claims. (Cl. 8—112)

A process to improve the feltability of fur or hair by treatment with a composition consisting essentially of a phosphonium compound of the general formula



$$\begin{array}{c} R_1 \\ | \\ R_2\text{—}P^{+}\text{—}R_4X^{-} \\ | \\ R_3 \end{array}$$

where X^- may be any monobasic anion preferably acetate (CH_3COO^-) or chloride (Cl^-) and R_1 is of general formula $C_nH_{2n}OH$ and R_2, R_3 and R_4 may be of general formula $C_nH_{2n}OH$ or C_nH_{2n+1} where n can have integral values of 1 to 4 inclusive and subsequently drying.

3,377,133

PREPARATION OF SODA ASH

Warren Standish Miller, Fullerton, Calif., assignor, by mesne assignments, to Intermountain Research & Development Corporation, Cheyenne, Wyo., a corporation of Wyoming

No Drawing. Filed Dec. 13, 1963, Ser. No. 330,272

5 Claims. (Cl. 23—63)

An improved method for operating concurrent flow horizontal rotary flighted calciners at maximum heat transfer rates with small particle size feed and recycle material.

3,377,134

SODIUM METASILICATE PENTAHYDRATE PRODUCT AND PREPARATION

Chester L. Baker, Narberth, and Paul W. Holloway, Wayne, Pa., assignors to Philadelphia Quartz Company, Philadelphia, Pa., a corporation of Pennsylvania

Continuation-in-part of application Ser. No. 194,830, May 15, 1962. This application Sept. 19, 1966, Ser. No. 580,178

4 Claims. (Cl. 23—110)

A sodium metasilicate pentahydrate is formed using a high ratio of crystal surface to added liquor for rapid crystallization and the development of smooth, dust-free spherical particles with a dead-white appearance, low attrition loss and reduced tendency to cake.

3,377,135

DEUTERIUM CONCENTRATION PROCESSES

Albert Raymond Kenyon, Didcot, England, assignor to United Kingdom Atomic Energy Authority, London, England

No Drawing. Filed Feb. 6, 1961, Ser. No. 87,490

Claims priority, application Great Britain, Feb. 4, 1960, 4,087/60

3 Claims. (Cl. 23—193)

1. A process of deuterium concentration comprising contacting gaseous hydrogen with a liquid medium comprising ammonia and an amine selected from the group consisting of methylamine, dimethylamine, diethylamine, pyrrolidine and alkyl substituted derivatives thereof and piperidine and alkyl substituted derivatives thereof, said liquid medium having potassamide dissolved therein to act as a catalyst for the hydrogen isotope exchange reaction between liquid ammonia and gaseous hydrogen.

3,377,136

PROCESS FOR MAKING RADON AND XENON DI- AND TETRAFLUORIDES

Scott I. Morrow, Morris Plains, N.J., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Filed Mar. 29, 1965, Ser. No. 443,628

8 Claims. (Cl. 23—205)

Process for preparing noble gas di- and tetrafluorides by contacting dioxygen difluoride with a noble gas to form the fluorinated noble gas product.

3,377,137

PRODUCTION OF CARBON BLACK AND CHLORINATED HYDROCARBONS

Burton F. Latham, Jr., Houston, Tex., assignor to Continental Carbon Company, Houston, Tex., a corporation of Delaware

Filed Nov. 7, 1963, Ser. No. 322,212

12 Claims. (Cl. 23—209.1)

Hydrocarbons are reacted with chlorine in a manner such that the reactants are initially separated by an inert gas barrier; products comprise hydrogen chloride and, depending upon reaction temperature, varying proportions of carbon black and chlorinated hydrocarbons. In one embodiment, the hydrogen chloride is regenerated to recover chlorine for recycle.

3,377,138

HYDROCARBON REFORMING

William R. Gutmann and Richard A. Mascarich, Louisville, Ky., assignors to Catalysts and Chemicals, Inc., Louisville, Ky., a corporation of Delaware

No Drawing. Filed Jan. 7, 1966, Ser. No. 519,181

1 Claim. (Cl. 23—213)

1. In the process for the production of hydrogen wherein a desulfurized hydrocarbon vapor stream is reformed by reaction with steam at a temperature above 1200° F. in the presence of a reforming catalyst to convert hydrocarbon to carbon monoxide, carbon dioxide and hydrogen; wherein the reformed stream is cooled and subjected to a water gas shift conversion involving the reaction between carbon monoxide in said stream and steam at a temperature below 850° F. in the presence of a shift catalyst to convert carbon monoxide to carbon dioxide; wherein the carbon dioxide in the reaction product is removed by absorption using a liquid absorbent, and wherein carbon oxides remaining in said stream after carbon dioxide absorption are hydrogenated to convert the carbon oxides to methane; the steps of absorbing the carbon dioxide from the shifted gas stream in a thiocyclopentane 1-dioxide solution and subsequent to the said step passing the stream through a bed of activated carbon to remove thiocyclopentane 1-dioxide carried over with the stream to be methanated and thereby protecting said catalyst from decomposition products thereof formed under methanation conditions.

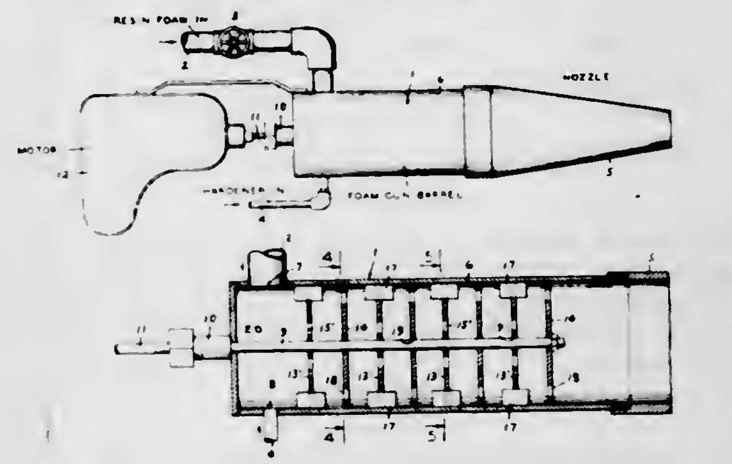
3,377,139

APPARATUS FOR PREPARING LOW DENSITY UREA-FORMALDEHYDE FOAMS

Rob R. MacGregor, Hopewell, and William P. Moore, Jr., Chester, Va., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed June 21, 1963, Ser. No. 289,489

1 Claim. (Cl. 23—285)



Apparatus for blending and conditioning a foam which includes a chamber having a rotatable shaft with a plurality of first and second foam treating disc members having openings therein, the first foam treating discs having a plurality of vanes thereon.

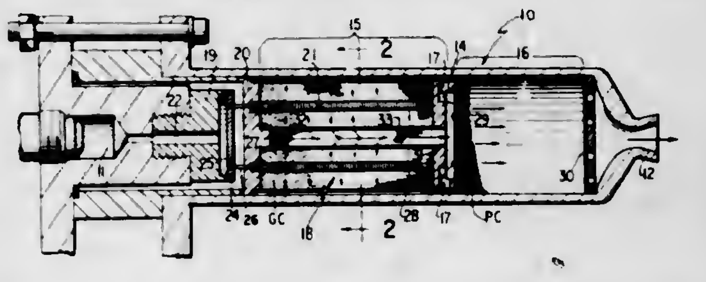
3,377,140

APPARATUS FOR CATALYTICALLY DECOMPOSING HYDRAZINE

Gary M. Hall, Clifton, N.J., assignor to Specialties Development Corporation, Belleville, N.J., a corporation of New Jersey

Filed Oct. 15, 1965, Ser. No. 496,330

5 Claims. (Cl. 23—288)



Apparatus for catalytically decomposing hydrazine wherein one or more tubes formed of a wire coil are disposed in a bed of catalyst, each tube having flow paths between adjacent convolutions for discharging streams of hydrazine onto a large surface area of catalytic particles adjacent each tube.

3,377,141

PROCESS FOR PRODUCING METAL CARBIDES UTILIZING A SOLUTION TREATMENT PRIOR TO REACTION

John F. Hardy, Andover, and Merrill E. Jordan, Walpole, Mass., assignors to Cabot Corporation, Boston, Mass., a corporation of Delaware

No Drawing. Filed Aug. 26, 1964, Ser. No. 392,284

16 Claims. (Cl. 23—345)

1. A process for producing finely-divided metal carbides and mixtures thereof comprising the steps of:

(a) uniformly mixing into a liquid medium
  (1) a metal compound which can be converted to the corresponding metal carbide by reaction with carbon, and
  (2) carbon black,

(b) spray drying the resulting mixture, and
(c) heating the resulting particles in the absence of substantial amounts of oxygen to a temperature sufficient to convert said metal compound to the corresponding metal carbide and below the sintering temperature of said metal carbide.

3,377,142
PHOSPHAZOPHOSPHORYL DIFLUORIDES AND METHODS OF PREPARATION

Santad Kongpricha, Hamden, Conn., and William C. Preusse, Naperville, Ill., assignors to Olin Mathieson Chemical Corporation, New Haven, Conn., a corporation of Virginia
No Drawing. Filed June 19, 1964, Ser. No. 376,579
4 Claims. (Cl. 23—357)

Phosphazophosphoryl difluorides having the formula

$$R_3P=N-POF_2$$

where R is fluorine, chlorine, aryl or alkyl are provided by reacting phosphoramidic difluoride with phosphorus (V) chlorides having the formula R_3PCl_2 at a temperature of about 60° to about 175° C.

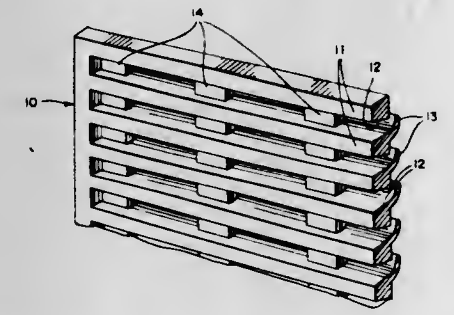
3,377,143
DISPERSION-STRENGTHENED, LOW MELTING POINT METALS

Guy B. Alexander, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 97,994, Mar. 24, 1961. This application Sept. 28, 1964, Ser. No. 399,836
6 Claims. (Cl. 29—182.5)

The creep-resistance of a metal selected from lead, tin, cadmium, indium, thallium, antimony and bismuth and alloys of these with each other, is improved by dispersion therein of 0.05 to 30% by volume of a particulate refractory filler having an average particle size of 2 to 150 millimicrons and a melting point above 400° C., the number of filler particles per unit volume of metal being such that $GA_fV^{1/3}=12$ to 330, where G is the filler density in gm./ml., A_f is the filler surface area in m.²/gm., and V is the volume fraction of filler, the filler being calcium fluoride, barium fluoride, carbon, a metal oxide having a free energy of formation at 1000° C. of more than 60 kcal. per gm. atom of oxygen, or a water-insoluble metal sulfide having a free energy of formation at 1000° C. of more than 100 kcal. per gm. atom of sulfur.

3,377,144
SPEAKER GRILL

Melvin R. Lannert, Park Ridge, Ill., assignor to Paragon Die Casting Company, Chicago, Ill., a corporation of Illinois
Original application Apr. 8, 1965, Ser. No. 446,641, now Patent No. 3,328,869, dated July 4, 1967. Divided and this application Mar. 20, 1967, Ser. No. 624,421
6 Claims. (Cl. 29—183)



A cast speaker grill having a plurality of horizontally elongated openings, each of the openings being partially closed at its rear by an integral horizontally elongated rib. Each of the ribs is generally arcuate in transverse cross section and has a free longitudinal edge portion generally parallel with the remainder of the grill and spaced rearwardly behind the rear surface of that grill. The ribs merge with partitions of the grill and extend rearwardly and upwardly behind the grill openings.

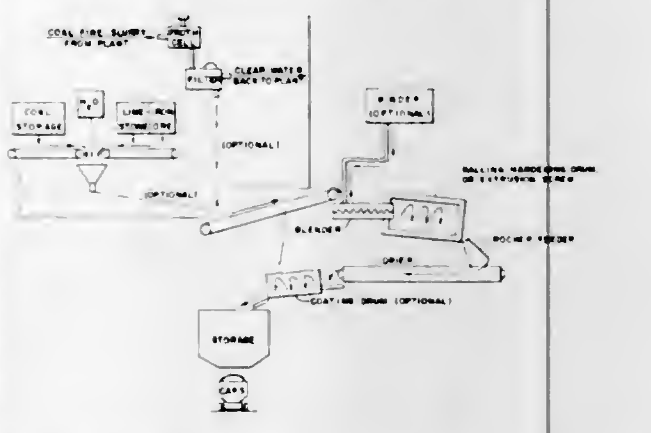
3,377,145
ENAMELLED ALUMINUM COMPOSITE BASE

Paul F. Wallace and Charles J. Walton, New Kensington, Pa., assignors to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Nov. 9, 1964, Ser. No. 409,985
12 Claims. (Cl. 29—195)

1. An enamelled clad product comprising a core of aluminum base alloy consisting essentially of aluminum and 0.3 to 5.0% magnesium as an essential strength-imparting constituent, a cladding bonded to said core consisting of an alloy composed of aluminum, 0.2 to 0.75% copper and impurities, and a vitreous enamel bonded to said cladding.

3,377,146
PROCESS FOR PELLETING AND EXTRUDING MATERIALS

Gerald F. H. von Stroh, Huntington, W. Va., assignor of fifty percent to James D. Ireland, Cleveland, Ohio
Continuation-in-part of application Ser. No. 223,135, Sept. 12, 1962. This application Jan. 26, 1967, Ser. No. 611,965
13 Claims. (Cl. 44—10)

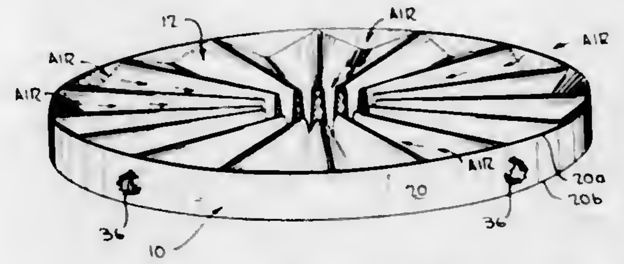


A process for the pelleting of solid fines of different material and particularly coal, iron oxide or iron ore, wherein a liquid slurry is first formed, the moisture contents thereof substantially reduced, suitable binder agents added, and then by violent agitation in opposite directions at the critical speed of such material, the surfaces of the solid fines are finely coated with the binder and thus caused to form nuclei, the latter then agglomerated to form pellets which are dried to produce an unfired or non-sintered pellet of unique and unusual crush strength hardness.

3,377,147
CHARCOAL STARTING DEVICE

Oscar J. Remines, Box 452, Princeton, W. Va. 24740
Filed Aug. 25, 1966, Ser. No. 575,001
6 Claims. (Cl. 44—38)

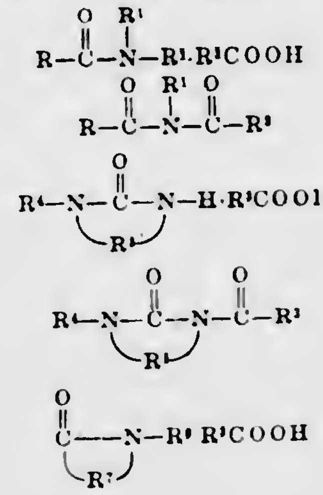
1. A charcoal starting device comprising a wax impregnated fibre sheet having a central opening means and a depending peripheral flange, said sheet being interfolded into a plurality of alternating ribs and channels extending between said central opening means and said peripheral flange, said flange having a lower edge for abutting against a supporting surface to support said device, said flange including at least one aperture means therein to facilitate air flow under said device, whereby, when charcoal is placed upon said ribs of said sheet and said sheet is ignited, air will flow through said aperture means and said channels to facilitate ignition of said charcoal.



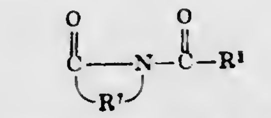
3,377,148
GASOLINE FUEL COMPOSITION

Richard J. DeGray, South Euclid, and John S. Mann, Warrensville Heights, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed Mar. 15, 1965, Ser. No. 439,993
7 Claims. (Cl. 44—63)

1. A gasoline containing from 1 to 6 ml. of tetraalkyl lead per gallon and from 0.05 to 3% by weight of a lead appreciator selected from the group consisting of:



and



wherein R is a hydrocarbon group having from 1 to 18 carbon atoms, R^1 and R^2 are members selected from the group consisting of hydrogen and an alkyl group having from 1 to 4 carbon atoms, R^3 is a hydrocarbon group having from 1 to 6 carbon atoms, R^4 is a hydrocarbon group having from 1 to 18 carbon atoms, R^5 is a hydrocarbon diradical having from 1 to 12 carbons, R^6 is a member from the group consisting of hydrogen and a hydrocarbon group having from 1 to 12 carbon atoms and R^7 is a hydrocarbon diradical having from 1 to 12 carbon atoms.

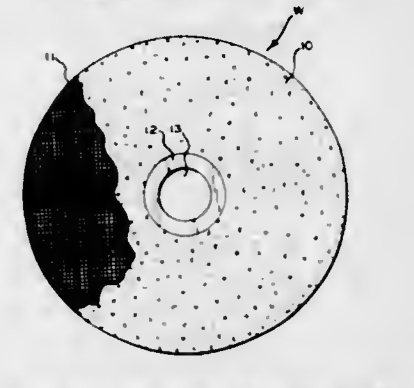
3,377,149
MOTOR FUEL CONTAINING AN OCTANE APPRECIATOR

George W. Eckert, Wappingers Falls, Stanley R. Newman, Fishkill, Kenneth L. Dille, Wappingers Falls, and Norman Alpert, Poughkeepsie, N.Y., assignors to Texaco Inc., a corporation of Delaware
No Drawing. Filed Feb. 4, 1959, Ser. No. 791,051
2 Claims. (Cl. 44—69)

1. A hydrocarbon fuel in the gasoline boiling range containing a tetraalkyl anti-knock agent, substantial quantities of high octane components selected from the group consisting of olefinic hydrocarbons, aromatic hydrocarbons and mixtures thereof and 2-methyl-2, 4-pentanediol monoacetate in an amount sufficient to improve the octane rating of said hydrocarbon fuel.

3,377,150
METHODS OF MAKING ELECTROLYTIC TOOLS

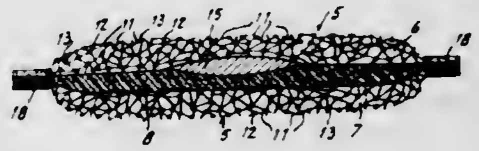
William G. Corley, Bay City, and George T. Sermon, Essexville, Mich., assignors to Carbond Corporation, Bay City, Mich., a corporation of Michigan
Filed Feb. 15, 1965, Ser. No. 432,801
8 Claims. (Cl. 51—293)



1. A method of preparing an electrolytic machining tool comprising: intimately blending particulate hydrocarbon with abrasive grains and inert filler material; interlaminating flexible graphite body means with layers of said blend to form a raw tool; compressing said raw tool into a rigid body; and slowly baking the body in an inert atmosphere at a temperature sufficient to dehydrogenize the hydrocarbon to form a carbon matrix and bond the grains and graphite body means in the matrix.

3,377,151
METHOD FOR MAKING A CLEANSING AID

Samuel E. Lanham, Hazel Crest, and Robert J. Lamczyk, Roselle, Ill., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware
Original application Mar. 26, 1964, Ser. No. 354,929, now Patent No. 3,284,963, dated Nov. 15, 1966. Divided and this application Oct. 3, 1966, Ser. No. 604,084
6 Claims. (Cl. 51—295)



1. The process for fabricating a cleansing aid in the form of a laminated pad including outer laminae of abrasive web material composed of non-woven fibers bonded together and an inner lamina of foamed thermoplastic web material, said process comprising the steps of continuously withdrawing a sheet of the inner lamina foamed thermoplastic web material and sheets of each of the outer laminae abrasive web material from individual supplies thereof, directing said sheets of abrasive web material into contact with opposite surfaces of said sheet of foamed thermoplastic web material, heat sealing said sheet of foamed thermoplastic web material to each of said sheets of abrasive web material, and cutting through in pad defining patterns heat sealed areas of said sheets to separate therefrom individual sections each in the form of a laminated pad heat sealed around all edges thereof.

3,377,152
PHENOLICS-ENRICHMENT OF HUMUS PLANT NUTRIENT

John C. Karcher, Dallas, Tex., assignor to Concho Petroleum Company, Dallas, Tex., a corporation of Delaware
Continuation-in-part of application Ser. No. 358,850, Apr. 10, 1964. This application Mar. 6, 1967, Ser. No. 633,320
15 Claims. (Cl. 71—24)

The method of producing a plant nutrient from a material containing humic acids and/or humic acid salts involving the step of contacting such material with hydrogen peroxide at a temperature in excess of a critical minimum of 140° F. The end product plant nutrient has an increased quantity of phenolics present which were converted from the humic acids and metal salts thereof during such contact. Preferably, a weak acid, such as orthophosphoric or acetic acid, and ammonia are also used in conjunction with the hydrogen peroxide during the course of processing.

3,377,153
PROCESS OF AMMONIATING AN ACIDULATED PHOSPHATE ROCK TO PREPARE A SLURRY FERTILIZER

Casimer C. Legal, Jr., Elkridge, and Alvin Richmond, Baltimore, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Apr. 14, 1964, Ser. No. 359,794

2 Claims. (Cl. 71—37)

1. In the process of ammoniating an acidulated phosphate rock to prepare a slurry fertilizer, the improvement comprising:

(1) forming an acidulated phosphate rock in slurry form by treating phosphate rock with a mixture of nitric and phosphoric acids;

(2) forming a neutralization mixture by ammoniating acidulated phosphate rock prepared as in (1) to a pH of about 4.5–9; and

(3) adding acidulated phosphate rock slurry prepared as in (1) and liquid anhydrous ammonia simultaneously and directly to said neutralization mixture prepared as in (2) in separate streams at rates such that the pH of the neutralization mixture is maintained in the range of 4.5–9, thereby to provide a free-flowing, non-caking, non-thixotropic slurry fertilizer.

3,377,154
PYRIDAZONE DERIVATIVES CONTAINING A TARTRONIC ESTER RADICAL AND METHOD FOR CONTROLLING UNDESIRABLE VEGETATION WITH SAME

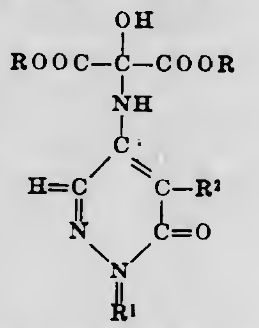
Franz Reicheneder, Ludwigshafen (Rhine), Germany; and Karl Dury, deceased, late of Kirchheimbolanden, Pfalz, Germany, by Franz Winter, representative, Ludwigshafen (Rhine), Germany, and Adolf Fischer, Mutterstadt, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengsellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Sept. 30, 1966, Ser. No. 584,074

Claims priority, application Germany, Oct. 13, 1965, B 84,075

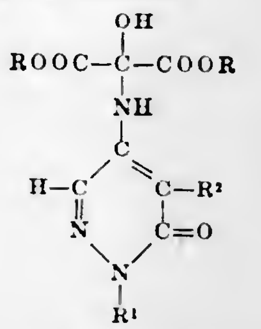
5 Claims. (Cl. 71—92)

1. A compound having the formula



in which R^1 is a member selected from the group consisting of phenyl, fluoro-substituted phenyl, chloro-substituted phenyl, methyl-substituted phenyl, cyclohexyl and cyclooctyl, R^2 is a member selected from the group consisting of chlorine, bromine, iodine, methoxyl, and thiomethyl and R is a member selected from the group consisting of alkyl of 1 to 4 carbon atoms, chloro-substituted alkyl of 1 to 4 carbon atoms, bromo-substituted alkyl of 1 to 4 carbon atoms, methoxy-substituted alkyl of 1 to 4 carbon atoms, ethoxy-substituted alkyl of 1 to 4 carbon atoms, and benzyl.

2. A method of controlling unwanted plant growth contacting said plant growth with a phytotoxic amount of a compound having the formula



in which R^1 is a member selected from the group consisting of phenyl, fluoro-substituted phenyl, chloro-substituted phenyl, methyl-substituted phenyl, cyclohexyl and cyclooctyl, R^2 is a member selected from the group consisting of chlorine, bromine, iodine, methoxyl, and thiomethyl and R is a member selected from the group consisting of alkyl of 1 to 4 carbon atoms, chloro-substituted alkyl of 1 to 4 carbon atoms, bromo-substituted alkyl of 1 to 4 carbon atoms, methoxy-substituted alkyl of 1 to 4 carbon atoms, ethoxy-substituted alkyl of 1 to 4 carbon atoms, and benzyl.

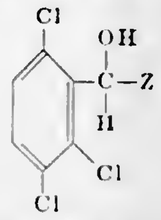
3,377,155
2,3,6-TRICHLOROMANDELIC ACID DERIVATIVES AS HERBICIDES

Edward D. Weil, Yonkers, Jerome Linder, Niagara Falls, and Edwin Dorfman, Grand Island, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

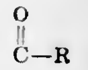
No Drawing. Continuation-in-part of application Ser. No. 116,252, June 12, 1961. This application Aug. 4, 1966, Ser. No. 570,153

8 Claims. (Cl. 71—105)

1. A method for the prevention of plant growth comprising applying to the locus to be treated a phytotoxic amount of a herbicide of the structure:

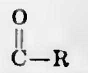


wherein Z is selected from the group consisting of C≡N and



$$\overset{O}{\overset{\|}{C}}-R$$

and wherein R is a radical selected from the group consisting of alkoxy, aryloxy, hydroxy, amino, halo, hydroxyalkyl, and when Z is



$$\overset{O}{\overset{\|}{C}}-R$$

and R is hydroxy, the salts thereof wherein said salts are selected from the group consisting of the alkali metal, ammonium, lower alkyl-substituted ammonium and lower hydroxyalkyl-substituted ammonium.

3,377,156
PROCESS OF REDUCING IRON OXIDE ORES WITH GASES CONTAINING CARBON MONOXIDE

Theodore Kalina, Elizabeth, and John A. Kivlen, Sparta, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed July 30, 1965, Ser. No. 476,159

15 Claims. (Cl. 75—26)

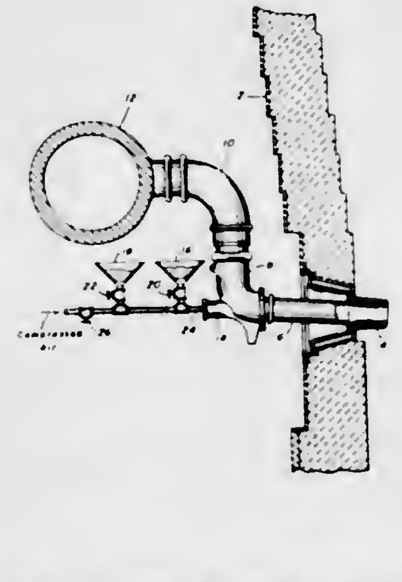
The reversion of gases containing carbon monoxide to carbon dioxide and carbon when in contact with catalytic metal surfaces at high temperatures is suppressed or inhibited by providing small concentrations of sulfur or heat-decomposable sulfur compounds in the gases. This invention is especially useful in direct iron ore reduction processes.

3,377,157
METHOD OF OPERATING A BLAST FURNACE TO PRODUCE PIG IRON AND CEMENT SLAG

Fred S. Della Rose, Thornton Township, Cook County, Ill., assignor to United States Steel Corporation, a corporation of Delaware

Filed Apr. 26, 1965, Ser. No. 450,661

2 Claims. (Cl. 75—41)



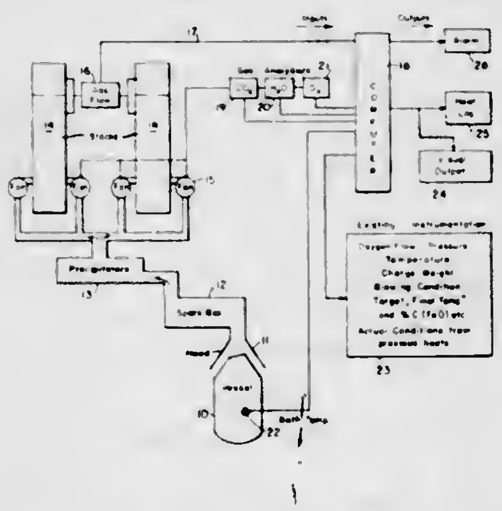
A method of operating a blast furnace to produce pig iron and slag suitable for cement which includes introducing magnesia into the furnace above the slag and into the fusion zone of the slag when the slag is too viscous for best furnace operation, and introducing silica at the same location to give the desired slag composition for cement.

3,377,158
CONVERTER CONTROL SYSTEMS AND METHODS

Harry W. Meyer and W. Fergus Porter, Mount Lebanon Township, Allegheny County, and Melvin M. Fischer, Castle Shannon, Pa., assignors to Jones & Laughlin Steel Corporation

Filed Apr. 28, 1965, Ser. No. 451,523

8 Claims. (Cl. 75—60)



The method of controlling the refining of a bath of iron of known weight by the steps of continuously measuring the content of carbon and oxygen compounds in the waste gas per unit of time and the amount of oxygen blown per unit of time and continuously determining from these two measurements the carbon oxidation rate by dividing the measured carbon content of the waste gas per unit of time by the amount of oxygen blown, retrieving from previous values of bath carbon the values of carbon and oxygen rate corresponding to the determined rate thereby establishing a relation between bath carbon and carbon oxidation and thereafter determining the quantity of oxygen required to reduce a value of bath carbon so determined to a desired final value by integrating the relation between bath carbon and carbon oxidation rate from that value of bath carbon to the desired final value and blowing the bath with that quantity of oxygen.

3,377,159
PROCESS FOR THE CONCENTRATION OF BERYLLIUM AND ALUMINUM MINERALS

Orrin F. Marvin, 1549 W. Madison, Phoenix, Ariz. 85007

No Drawing. Filed Oct. 1, 1964, Ser. No. 400,930

5 Claims. (Cl. 75—101)

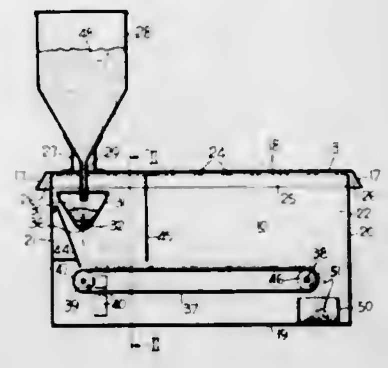
My invention relates to a method of treating aluminum and beryllium oxides to change them from a relatively hydrophilic mineral to a highly hydrophobic particle so that these oxides can be easily removed by flotation from impurities found in these ores.

3,377,160
PROCESS OF MAKING A HIGH SURFACE AREA SILVER CATALYST

James Earl Schroeder, Greendale, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Dec. 31, 1964, Ser. No. 422,794

5 Claims. (Cl. 75—118)



1. A method of producing a high surface area silver comprising the steps of admixing a water soluble silver salt, a water soluble organic carboxylate, and water; collecting the precipitate of silver carboxylate; drying said silver carboxylate in a thin layer until flaked; contacting the silver carboxylate with a surface heated to a temperature from about 35° C. greater than the decomposition temperature of the silver carboxylate to about 375° C.; and collecting the reduced silver.

3,377,161
PROCESS FOR THE PRODUCTION OF AN ALUMINUM-URANIUM ALLOY

Daniel A. Zappi, Sao Paulo, Brazil, assignor to Comision Nacional de Energia Atomica, Buenos Aires, Argentina

No Drawing. Filed Oct. 11, 1965, Ser. No. 494,952

1 Claim. (Cl. 75—122.5)

1. A process for the production of an aluminum-uranium alloy by reducing uranium hexafluoride with an excess of aluminum using a fluxing mixture containing alkaline chlorides, comprising the steps of applying a

fluxing mixture of equal parts of sodium chloride, calcium chloride, and sodium fluoride to the surface of a molten mass of aluminum and then introducing gaseous uranium hexafluoride under the surface of said molten aluminum while maintaining the latter at a temperature of about 850° C.

3,377,162
STAINLESS STEEL

William Bleloch, Johannesburg, Transvaal, Republic of South Africa, assignor to Rand Mines Limited, Johannesburg, Transvaal, Republic of South Africa
No Drawing. Filed Aug. 30, 1965, Ser. No. 483,826
Claims priority, application Republic of South Africa, Sept. 10, 1964, 4,319/64
5 Claims. (Cl. 75—125)

A stainless steel is disclosed whose essential composition is from 1% to 30% chromium; 0.3% to 2.0% vanadium, 2.5% to 4% copper, up to 0.03% carbon and the balance iron.

3,377,163
COTTON STRETCH YARNS BY GRAFT POLYMERIZATION WITH VINYL MONOMERS FOLLOWED BY BACK-TWISTING OR FALSE-TWISTING

Carl Hamalainen, Metairie, Hubert H. St. Mard, New Orleans, and Albert S. Cooper, Jr., Metairie, La., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed July 13, 1966, Ser. No. 564,759
6 Claims. (Cl. 57—164)

1. A process for imparting improved stretch properties to cellulose textiles comprising:

(a) grafting onto cellulosic yarns of normal-twist construction a vinyl monomer from an aqueous 2% to 6% solution containing the said vinyl monomer selected from the group consisting of acrylonitrile and methyl acrylate and as a catalyst ceric ammonium nitrate and nitric acid,
(b) washing and equilibrating the treated yarns,
(c) false-twisting the grafted normal-twist yarns, and
(d) allowing the false-twisted yarns to relax in water containing a wetting agent.

3,377,164
METHOD FOR POWDERED METAL FORMING

Thomas E. Piper, La Jolla, and Wilson N. Pratt, Anaheim, Calif., assignors to General Dynamics Corporation, Pomona, Calif., a corporation of Delaware
Filed Jan. 25, 1965, Ser. No. 427,665
13 Claims. (Cl. 75—214)

Broadly, the method of the disclosure consists of mixing the desired ratio of metal powders, pressing the mixture of metal powders to form a briquette, heating the briquette to the plastic condition of the metals, inserting the heated briquette in a die of a desired configuration, forming the heated briquette to the die configuration by striking same with a high energy rate means, and removing the formed article from the die. The apparatus for carrying out the method may be manually or automatically operated.

3,377,165
PROCESS OF COPYING UTILIZING A BLUSH LACQUER COATING AND A PHOTODECOMPOSABLE PROGENITOR OF A PLASTICIZER

Wesley R. Workman, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Filed Jan. 22, 1964, Ser. No. 339,335
2 Claims. (Cl. 96—29)

1. Method of copying comprising: exposing to a light-pattern a copy-sheet having a photosensitive layer including a plasticizable film-forming thermoplastic non-water-soluble polymeric organic binder material and in intimate association therewith a photodecomposable organic progenitor of a plasticizer therefor, the exposure being sufficient to decompose said progenitor and liberate said plasticizer; and then heating said copy-sheet to cause fusion of the binder material only at the thus plasticized areas such that a visible image is formed.

2. Method of copying on a copy-sheet having a thin uniform non-transparent surface layer comprising a plasticizable film-forming thermoplastic non-water-soluble polymeric organic binder material in porous blush form, comprising: exposing to a light-pattern a sheet material having a surface layer of a photodecomposable organic progenitor of a plasticizer for said binder material, the exposure being sufficient to decompose said progenitor and liberate said plasticizer; and then heating said sheet material with its said surface layer in contact with the surface layer of said copy-sheet to cause plasticization and reduction in fusion temperature of said binder material by said plasticizer such that a visible image is formed in the copy-sheet on further heating.

3,377,166
PHOTOGRAPHIC IMAGE TRANSFER PROCESS UTILIZING IMIDAZOLE

Walter J. Weyerts and Wilho M. Salminen, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Continuation-in-part of application Ser. No. 361,781, Apr. 22, 1964, which is a continuation-in-part of application Ser. No. 77,666, Dec. 22, 1960. This application Apr. 19, 1966, Ser. No. 543,633
5 Claims. (Cl. 96—29)

Exposed photographic elements comprising a support having coated thereon a light-sensitive silver halide emulsion layer and dye developer contiguous to the silver halide, are processed in the presence of imidazole. When treated with an alkaline liquid, latent image is developed in the emulsion layer, thereby immobilizing dye developer in regions of exposure. Dye developer from undeveloped regions diffuses imagewise to a dye developer reception layer.

3,377,167
FIXING AGENTS FOR PHOTOSENSITIVE COMPOSITIONS CONTAINING LEUCOTRIPHENYL METHANE DERIVATIVES; LEUCO XANTHENE COMPOUNDS OR LEUCO ANTHRACENE COMPOUNDS

Harry L. Fichter, Jr., Lakewood, Ohio, assignor to Horizons Incorporated, a corporation of New Jersey
No Drawing. Filed Apr. 2, 1965, Ser. No. 445,273
6 Claims. (Cl. 96—48)

Fixing of photosensitive compositions by gentle heating is facilitated by the addition of suitable amounts of triaryl compounds of Sb, P, As or Bi to photosensitive compositions containing leucotriphenylmethane derivatives or leuco xanthene compounds or leuco anthracene compounds, plus an activator which enhances a color forming reaction when the leuco compound is exposed to a suitable dose of radiation.

3,377,168
PHOTOGRAPHIC STRIPPING FILM

John P. Mally, Glen Cove, and Jacob R. Nussbaum, Rego Park, N.Y., assignors to Powers Chemco, Inc., Glen Cove, N.Y., a corporation of New York
No Drawing. Filed July 7, 1965, Ser. No. 470,224
8 Claims. (Cl. 96—83)

1. A photographic stripping film useful for photographic applications comprising a film support, a phenoxy resin stripping layer, and a light-sensitive gelatin-silver halide emulsion layer.

3,377,169
COPPER THALLIUM AND LEAD HALIDE AND PSEUDOHALIDES PHOTOSOLUBLE CRYSTALS

Ralph Kingsley Blake, Westfield, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Mar. 30, 1965, Ser. No. 444,022
12 Claims. (Cl. 96—88)

Photosoluble crystals of copper, thallium and lead halides and pseudohalides,

(a) Said crystals being characterized by having the surfaces of the metal compound reacted with a small amount of an organic salt-forming compound, e.g., a mercaptan or a selenomercaptan;

(b) The modified crystals dissolving more slowly in sodium thiosulfate solution than unmodified crystals, and

(c) Said salt being less soluble in water than the corresponding chloride of copper, thallium or lead.

3,377,170
PHOTOCHROMIC CELLULOSE COMPOSITIONS

Sydney Arthur Giddings, New Canaan, and Lawrence Joseph Patella, Huntington, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Oct. 27, 1964, Ser. No. 406,879
8 Claims. (Cl. 96—90)

A photochromic composition composed of cellulose which has been contacted with certain metal compounds and a method for the production of said compositions which comprises contacting the cellulose with a solution of the metal compound and drying the resultant cellulose are disclosed.

3,377,171
DUSTING STARCH AND METHOD USING THE SAME

William J. Ryan, Bronx, N.Y., and Lawrence Kogan, Stamford, Conn., assignors to Standard Brands Incorporated, New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 480,802, Aug. 18, 1965. This application Apr. 21, 1966, Ser. No. 544,067
9 Claims. (Cl. 99—90)

1. A free-flowing, powdered starch product consisting essentially of starch granules coated with a small amount of a powdered substance capable of increasing the mobility of powdered starch and with a small amount of a substance effective to decrease the mobility of the starch to a Kerr Mobility ration in the range of from 0.02 to less than 1.0.

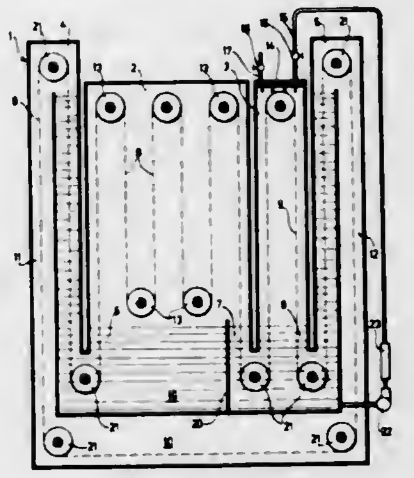
3,377,172
QUICK FREEZING OF RASPBERRIES

Ernest Joseph Benson, Madison, Wis., David G. Dykstra, Portland, Oreg., and Robert C. Webster, Madison, Wis., assignors to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed July 10, 1964, Ser. No. 381,824
14 Claims. (Cl. 99—193)

The invention relates to a process for freezing aggregate type fruit in which the fruit to be frozen is initially washed to remove dirt, etc., and then dried to a point at which substantially all of the moisture in the fruit which is external of the cells of the fruit is evaporated. The fruit is then frozen by contact with a cryogenic media.

3,377,173
METHOD AND DEVICE FOR THE HEATING UNDER PRESSURE OF COMMODITIES PACKED IN CONTAINERS

Johannes Bernardus van der Winden, Amstelveen, Netherlands, assignor to Gebr. Stork & Co's Apparatenfabriek N.V., Amsterdam, Netherlands
Filed Nov. 24, 1964, Ser. No. 413,511
Claims priority, application Netherlands, Sept. 11, 1964, 64—10,660
9 Claims. (Cl. 99—214)



8. A method comprising advancing containers containing commodities along a path through a heating zone and then through a cooling zone, maintaining a pressure greater than atmospheric in the heating zone, isolating the heating zone and the cooling zone by a liquid seal through which the containers pass as they advance from the heating zone to the cooling zone, spraying a cooling liquid into the cooling zone to cool the containers therein, and introducing a gaseous pressure fluid in the cooling zone to maintain the pressure therein at substantially the same value as in the heating zone so that the level of the liquid seal in the heating and cooling zones is the same.

3,377,174
METHOD AND BATH FOR CHEMICALLY PLATING COPPER

Eiichi Torigai, 32 Mitsu, Yao-shi, Osaka-fu, Japan; Giichi Okuno, 2–48 Yokobori, Higashi-ku, Osaka-shi, Japan; and Hiroshi Maekawa, 365 Uenoshiba-cho, 8-cho, Sakai-shi, Osaka-fu, Japan
No Drawing. Filed Aug. 21, 1964, Ser. No. 391,278
Claims priority, application Japan, Oct. 24, 1963, 38/57,004
13 Claims. (Cl. 106—1)

A process and bath for chemically plating copper on a non-electric-conducting substrate in which chelating agents such as 2,2′-biquinoline, 2,9-dimethylphenanthroline and 4,7-diphenyl-2,9-dimethyl-1,10-phenanthroline are used in the bath. The chelating agent forms a tetrahedral chelated compound selectively with cuprous ion which thereby allows for a control of the cuprous ion content of the bath in the vicinity of the substrate being plated, which in turn leads to a control of the velocity of a reduction reaction between formaldehyde and certain cupric ion complex compounds which latter reaction provides the copper used in the plating process.

3,377,175
PRESERVATION OF COATINGS

Paul A. Wolf, Millard M. Kent, and Francis J. Bobalek, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Nov. 1, 1965, Ser. No. 506,010
10 Claims. (Cl. 106—15)

A 3-bromo-4-hydroxy-5-loweralkyl phenyl thiocyanate in antimicrobial amount (typically from 0.5 to 3 percent by weight of paint) protects liquid paints, the films from their drying, and like compositions from microbial attack.

3,377,176
ALUMINA CERAMIC

Vladimir E. Wolkodoff, Wheatridge, and Robert E. Weaver, Arvada, Colo., assignors to Coors Porcelain Company, Golden, Colo., a corporation of Colorado

No Drawing. Filed Dec. 4, 1964, Ser. No. 416,139

13 Claims. (Cl. 106—46)

This invention comprehends a cold formed and then sintered essentially glass-free ceramic body having a density of at least 3.97 grams per cubic centimeter and containing upwards of 99.5% by weight aluminum oxide essentially all of which has a crystal size not exceeding 5 microns. Such ceramic body is made by forming a self-sustaining ceramic powder compact having a density of at least 2 grams per cubic centimeter and in which essentially all of the aluminum oxide has a grain size of less than 1 micron and preferably less than .5 micron and firing such self-sustaining compact at a temperature of about 1400 to 1550° C. to sinter the ceramic. In the preferred embodiment the ceramic composition is 99.9% aluminum oxide and the remainder yttrium oxide and magnesium oxide which function to inhibit aluminum oxide crystal growth during firing.

3,377,177
METALLURGICAL FURNACE LINING

Wilhelm Anton Fischer, Ratingen, Germany, assignor to Max-Planck-Institut fur Eisenforschung, Dusseldorf, Germany

Continuation of application Ser. No. 464,151, June 15, 1965. This application Dec. 29, 1966, Ser. No. 605,945

Claims priority, application Germany, July 17, 1964, M 61,765

6 Claims. (Cl. 106—57)

A composition adapted to form a lining for a metallurgical furnace and a method of making the composition wherein fused lime is comminuted to a mass of particles of grain size 0.25 mm. to 4 mm. and a bedding material is adapted therein in a ratio by weight of 3:7, the bedding material consisting of substantially equimolar quantities of calcium oxide and zirconium oxide with a particle size less than 0.12 mm.

3,377,178
HIGH ALUMINA BRICK

Eldon D. Miller, Jr., Bridgeville, and Stanley R. Pavlica, Irwin, Pa., assignors to Harbison-Walker Refractories Company, Pittsburgh, Pa.

No Drawing. Filed May 23, 1966, Ser. No. 551,935

7 Claims. (Cl. 106—66)

A ceramically bonded brick made from a batch consisting essentially of co-burned Al_2O_3-Cr_2O_3 grain, finely divided chrome sesquioxide and finely divided high alumina material.

3,377,179
PROCESS FOR PRODUCING IMPROVED RAYON THREADS FROM VISCOSE AND THE RAYON THREADS PRODUCED THEREBY

Adriaan C. Cranendonk, Velp, Gelderland, Netherlands, assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware

No Drawing. Filed June 6, 1966, Ser. No. 555,237

Claims priority, application Netherlands, June 12, 1965, 65—7,541

6 Claims. (Cl. 106—165)

A process for producing rayon threads from viscose which includes the steps of spinning viscose containing not greater than 0.04% by weight, based on the weight of the viscose, of at least one aliphatic ether that contains from 8 to 20 carbon atoms, is liquid at 20° C., is miscible with carbon disulfide, is practically immiscible with water, and has a boiling point higher than that of carbon disulfide, into an acidic spinning bath to produce spinning filaments therein, forming thread from the spinning filaments within said bath and drawing the resulting thread from the bath, thereby obtaining thread having a glossy appearance and preventing the formation of large gas bubbles within the spinning filaments.

3,377,180
SOIL STABILIZATION PRODUCT

Keith E. James, Houston, Tex., assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Dec. 16, 1965, Ser. No. 514,389

5 Claims. (Cl. 106—287)

An improved grouting material for treating clay-sensitive soil containing from .05% to 50% of specified amine oxide detergent, at least about ¼% sodium chloride or calcium chloride, up to 30% lime, cement, or mixtures thereof, and the balance water; process for stabilizing clay-sensitive soil comprising saturating said soil with said grouting material.

3,377,181
METHOD FOR PRODUCING WEBS INCLUDING POLYPROPYLENE FIBERS

Tsutomu Kamijo and Takehiko Fujimoto, Higashiyama-ku, Kyoto-shi, and Toshio Saiuchi, Yasu-gun, Shiga-ken, Japan, assignors to Toyo Rayon Kabushiki Kaisha, Tokyo, Japan, and Sanyo Kasei Kogyo Kabushiki Kaisha, Kyoto-shi, Japan, both corporations of Japan

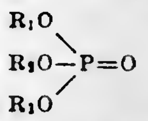
No Drawing. Filed Nov. 19, 1963, Ser. No. 324,867

Claims priority, application Japan, July 19, 1963, 38/36,781

7 Claims. (Cl. 117—4)

1. A process for manufacturing web comprising polypropylene staple fibers comprising:

(a) treating polypropylene staple fibers with an aqueous liquid vehicle containing at least 0.01% by weight of an organic phosphate having the general formula:



$$(R_1O)(R_1O)(R_1O)P{=}O$$

wherein at least one of R_1, R_2 and R_3 is selected from the group consisting of alkyl or alkyl-aryl having from 8 to 18 carbon atoms and the remainder of R_1, R_2 and R_3 are selected from the group consisting of hydrogen and alkali metals;

(b) removing liquid vehicle from the thus-treated staple fibers with retention of said phosphate on said fibers;

(c) beating the phosphate treated fibers; and

(d) carding the beaten fibers to form a web thereof substantially free of intertwining.

3,377,182
METHOD OF PRODUCING MONOCRYSTALLINE SEMICONDUCTOR BODIES

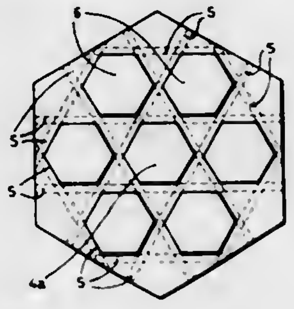
Götz von Bernuth, Munich, Germany, assignor to Siemens Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany

Filed Mar. 26, 1964, Ser. No. 354,862

Claims priority, application Germany, Mar. 27, 1963, S 84,388; Switzerland, Jan. 17, 1964, 501/64

7 Claims. (Cl. 117—4)

Described is a method of producing monocrystalline rods by growing semiconductor material, particularly silicon, from the gaseous phase of a chemical compound containing this material, on a monocrystalline core heated to a dissociation temperature of said compound, said core having been previously obtained by the same method. The invention is characterized by using as the core a prismatic rod whose axis is positioned in parallel with the (111) direction of the crystal lattice, and is sectioned from the monocrystalline-grown edge region of a thicker rod to form an equilateral hexagon as the cross section surface area of which either one corner or the center of one side is 30° off the (111) direction. The resulting monocrystalline body possesses throughout the properties desired for the intended application.

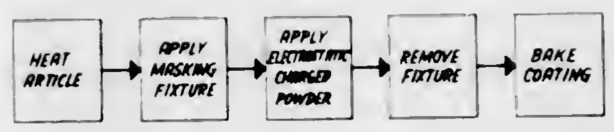


3,377,183
ELECTROSTATIC POWDER COATING ON HEATED PARTS

William C. Hurt, Jr., and Raymond P. Boehm, Pittsfield, Mass, assignors to General Electric Company, a corporation of New York

Filed July 1, 1963, Ser. No. 291,973

2 Claims. (Cl. 117—17)



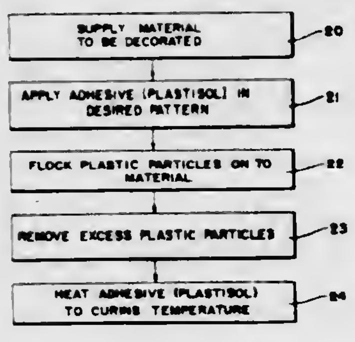
1. A method of coating a metallic article with a material comprising a composition of epoxy resin, polyvinyl acetal resin and polyacrylate resin comprising the steps of pre-heating the article to approximately 125° C., spraying the article with the material in the form of electrostatically charged powder, then baking the coated article at a temperature of at least 200° C. to fuse the coating.

3,377,184
DECORATIVE FABRIC

Milton Kukoff, 30 Irma Drive,
Oceanside, N.Y. 11572

Continuation-in-part of application Ser. No. 226,242, Sept. 26, 1962. This application July 1, 1966, Ser. No. 562,295

5 Claims. (Cl. 117—25)


SUPPLY MATERIAL TO BE DECORATED
20
APPLY ADHESIVE (PLASTISOL) IN DESIRED PATTERN
21
FLOCK PLASTIC PARTICLES ON TO MATERIAL
22
REMOVE EXCESS PLASTIC PARTICLES
23
HEAT ADHESIVE (PLASTISOL) TO CURING TEMPERATURE
24

A dry-cleanable fabric having a base material with a predetermined open-work design thereon. A multiplicity of polyvinyl chloride particles permanently adhered to the fabric in the predetermined open-work design. The fabric being capable of flexiblity in all directions even with the permanent fixing of the plastic particles thereon. Further the method of making the dry cleanable fabric comprises the steps of applying adhesive to a fabric in a predetermined open-work design, placing polyvinyl chloride particles on the adhesive, heating the adhesive, melting only a portion of the polyvinyl chloride particles in communication with the adhesive so that the particles become integral with the adhesive.

3,377,185
ARYLMETHANE DYE AZIDES AND METHOD OF FORMING COLORED INDICIA THEREWITH

Chester Davis, Newport, Ky., assignor, by mesne assignments, to Scott Paper Company, Delaware County, Pa., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 200,052, June 5, 1962. This application Nov. 18, 1964, Ser. No. 412,256

12 Claims. (Cl. 117—38)

1. The method of printing which comprises applying to an unfired silicate surface characterized by high ionizing power a substantially colorless associated salt of an arylmethane dye base characterized by a logarithmic dissociation constant below 7 and hydrazoic acid whereby physical contact of the associated compound and the silicate dissociates the compound to the intensely colored cation of the dye and produces color on the silicate surface.

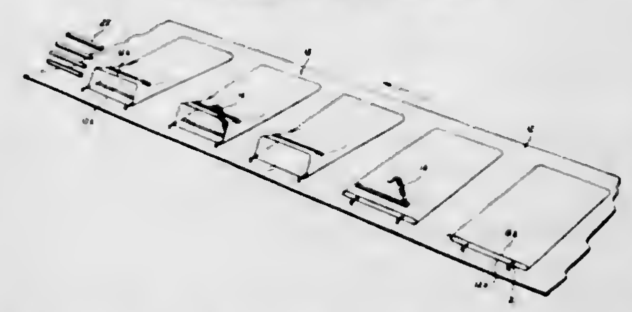
3,377,186
METHOD OF APPLYING ADHESIVE STRIPS TO BAGS

Harold B. McGee, 7 Frederick Ave., Bowmanville, Ontario, Canada

Filed Sept. 27, 1965, Ser. No. 490,254

Claims priority, application Canada, Dec. 17, 1964, 918,969

4 Claims. (Cl. 117—44)



1. A method of applying strips of pressure-sensitive adhesive to a bag wherein the strips are positioned adjacent an intended closure end of the bag and extending substantially parallel to said end, a first strip being located on the outer surface of a first side of the bag and a second strip being located on the inner surface of a second opposed side of the bag whereby the adjacent end of the bag may be so folded to bring the strips into contact as to effect closure of the bag, said method comprising the steps of placing the bag on a conveyor as to move the bag along a substantially horizontal path wherein an intended closure end of the bag is so located that it extends substantially parallel with the direction of movement of the conveyor, applying a first strip of pressure-sensitive adhesive to the outer surface of a top wall of the bag adjacent said intended closure end by means of a stationary adhesive applying device as the bag is moved beneath said device by the conveyor, raising said top wall of the bag, and holding said top wall in its raised position while moving said bag beneath a second adhesive applying device as to deposit a second strip of adhesive on the upper surface of a lower wall of the bag adjacent said intended closure end.

3,377,187

GLOSSY, TRANSPARENT NYLON FILM HAVING AN IONICALLY REACTED CONTENT OF A STRONGLY ACIDIC MATERIAL AND METHOD OF MAKING SAME

Malcolm Macfarland Donaldson, Bedford Village, N.Y., and David Randal Sexsmith, Boonton, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Continuation-in-part of applications Ser. No. 213,149, July 30, 1962, and Ser. No. 287,210, June 12, 1963. This application Feb. 21, 1967, Ser. No. 617,481

10 Claims. (Cl. 117—47)

Glossy, transparent nylon film is contacted with a dilute solution of an acid having a pK less than 1 for a time only sufficient for an ionic reaction to take place between the acid and the film. The resulting film is not significantly harmed as to gloss and transparency and possesses an improved (and if desired, a greatly improved) affinity for hydrophobic organic topcoat material.

3,377,188

METHOD FOR PAINTING WAX SURFACES

Robert P. Zmitrovis, Freehold, N.J., assignor to Cities Service Oil Company, Bartlesville, Okla., a corporation of Delaware

No Drawing. Filed Apr. 6, 1965, Ser. No. 446,112

11 Claims. (Cl. 117—47)

1. Method of painting on wax surfaces with a water-base paint which comprises carrying out said painting in the presence of a non-ionic, water soluble phosphoric acid ester of polyethylene glycol in an amount sufficient to enable said water-base paint to be spread uniformly on a wax surface.

3,377,189

FURFURAL RESIN COATED SILICEOUS MATERIAL AND PROCESS OF MAKING SAME

Ellsworth G. Acker, Baltimore, Md., assignor to W. R. Grace & Co., a corporation of Connecticut

No Drawing. Continuation-in-part of application Ser. No. 187,924, Apr. 16, 1962. This application Oct. 1, 1964, Ser. No. 400,937

8 Claims. (Cl. 117—62)

An organophilic particulate silica or clay material which is characterized by a polymerized furfural surface coating and a method of preparing this material. The process is characterized by the polymerization of furfural on the surface of the particulate silica or clay under conditions of heat and pressure without the use of a catalyst.

3,377,190

GAS-PERMEABLE LAMINATED SHEET AND PROCESS FOR MAKING SAME

Maurice Edward Baguley, Coventry, England, assignor to Courtaulds Limited, London, England, a British company

No Drawing. Filed July 16, 1964, Ser. No. 383,246

Claims priority, application Great Britain, July 18, 1963, 28,402/63; Jan. 14, 1964, 1,535/64

3 Claims. (Cl. 117—63)

A gas-permeable laminated sheet including a coherent fibrous layer and an adherent microporous polymer layer, the polymer being a linear block copolymer containing segments of a random copolyamide and of polyethylene oxide, polytetramethylene oxide or polybutadiene, the microporous layer containing particles of an elastomer immiscible in the solid state with the copolymer; and a process for making a gas-permeable, microporous laminated sheet comprising dissolving a block copolymer, as above described, in the continuous phase of an elastomeric emulsion, forming a layer of the emulsion on the fibrous layer, precipitating the block copolymer to form a gel containing residual solvent and entrained particles of the elastomer, and reducing the solvent content of the gel at a temperature below the glass-transition temperature of the gel.

3,377,191

METHODS OF COATING WITH PHASE SEPARATION COATINGS, AND RESULTANT COATED ARTICLES

Alan K. Macnair, Keyser, W. Va., assignor to West Virginia Pulp and Paper Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 3, 1964, Ser. No. 394,348

19 Claims. (Cl. 117—63)

Method of coating a substrate with a film of a partial ester of a carboxyl-containing styrene copolymer and then phase separating the copolymer to produce novel coated products bearing a continuous, microporous coating which is opaque primarily due to the phase separated copolymer.

3,377,192

PROCESS FOR COATING PAPER WITH A HEAT FLOCCULATABLE LATEX-BASED COMPOSITION AND THE RESULTANT PRODUCT

Mahlon R. Kirk and Robert A. Clift, South Windham, Maine, assignors, by mesne assignments, to Scott Paper Company, Delaware County, Pa., a corporation of Pennsylvania

No Drawing. Filed Dec. 17, 1963, Ser. No. 331,098

7 Claims. (Cl. 117—64)

A novel paper coating composition is disclosed that is fluid at conventional coating temperatures below 40° C. but gels to a firm state when heated to a temperature above 40° C. The aqueous coating composition comprises a conventional coating clay, an adhesive latex binder, and a dispersant for the clay. A minimal amount of the dispersant is used to secure the desired heat gelability. The coating composition does not require and is free from polyvalent, metal salt electrolytes that would counteract or reduce the dispersing action of the dispersing agent.

The process of using the novel coating composition is claimed, especially in conjunction with a cast coating step.

3,377,193

CORROSION-RESISTANT COATING COMPOSITION OF ZINC AND FLUOROCARBON RESIN AND FERROUS METAL ARTICLE COATED THEREWITH

Frederic B. Stilmar, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 10, 1964, Ser. No. 417,491

10 Claims. (Cl. 117—75)

1. A corrosion-resistant coating composition for ferrous metals comprising from about 20% to 90% by volume of finely divided zinc metal dispersed in a fluorocarbon polymer, said polymer being characterized by having a fluorine content of at least 30% by weight, a sticking temperature greater than 60° C., a glass transition temperature of less than 105° C., and a melt flow rate of greater than 0.5 g./10 minutes at 195° C.

8. An article of manufacture comprising a ferrous metal substrate and adhered thereto over at least a portion of said substrate a coating layer of the corrosion-resistant coating composition of claim 1 and overlaid and adhered to said corrosion-resistant coating a zinc-free fluorocarbon polymer topcoating composition, said polymer being characterized by having a fluorine content of at least 30% by weight, a sticking temperature greater than 60° C., a glass transition temperature of less than 105° C., and a melt flow rate of greater than 0.5 g./10 minutes at 195° C.

3,377,194

COATINGS FOR SURFACES CONSISTING AT LEAST IN PART OF A RUBBER COMPOSITION

John Liberty Smith, Coleshill, and Anthony Geoffrey Marriott, Birmingham, England, assignors to Dunlop Rubber Company Limited, London, England, a British company

No Drawing. Filed May 18, 1964, Ser. No. 368,349

Claims priority, application Great Britain, May 25, 1963, 20,980/63

8 Claims. (Cl. 117—76)

An article having a surface of rubber composition, a coating having an outer coating layer of acrylic polymers and nitrocellulose and an intermediate layer of a composition of a vinyl monomer and rubber to adhere said outer layer to said rubber surface.

3,377,195

DIFFUSION COATING FOR METALS

George V. Sneesby, Canoga Park, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware

No Drawing. Filed Sept. 21, 1965, Ser. No. 489,064

6 Claims. (Cl. 117—114)

1. The method of forming a diffusion coating containing chromium on a chromium-alloyable base metal selected from the class consisting of refractory metals and ferrous metals which comprises placing the base metal in a molten calcium-lithium bath containing from 10 to 60 weight percent lithium based on the calcium-lithium content maintained under an inert environment, said bath containing chromium values dissolved therein equivalent to from 1 to 20 weight percent of chromium based on the calcium-lithium content, and maintaining said base metal in said bath at a temperature between about 1400° F. and 1800° F. until a diffusion coating containing chromium is obtained on said base metal.

3,377,196

CHROMIUM-CONTAINING DIFFUSION COATINGS FOR METALS

George V. Sneesby, Canoga Park, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware

No Drawing. Filed Sept. 22, 1965, Ser. No. 489,374

7 Claims. (Cl. 117—114)

A process for forming a chromium-containing diffusion coating on a chromium-alloyable base metal in a molten calcium-sodium bath. A chromium diffusion coating is formed on a ferrous base metal by placing the base metal in a molten calcium-sodium bath containing between 5 and 50 weight percent sodium and having 1 to 20 weight percent chromium dissolved therein. Preferably the calcium-sodium composition is the calcium-sodium eutectic, molten below 1400° F.

3,377,197

FLUORINE - ORGANOMETALLIC COMPOUNDS, PROCESS OF PREPARING SAID COMPOUNDS, AND PROCESS OF TREATING SOLID MATERIAL WITH SAID COMPOUNDS

William A. Erby, Alburtis, and Richard A. Flinn and Robert A. Walde, Emmaus, Pa., assignors to Air Products and Chemicals, Inc., Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed July 30, 1964, Ser. No. 386,436

24 Claims. (Cl. 117—121)

Novel fluorine-organometallic compounds are prepared by reaction of an organo-metallic compound with 0.5 to 2.0 mols of a fluorinated organic acid in an organic solvent. Applied to textile fibres or other solid water-insoluble materials such as paper, wood, glass or ceramic clays, these compounds impart resistance against soiling, staining and wetting. The starting fluorine reactant is a compound of the formula:

$$C_nF_{2n+1}CHOHCH_2COOH$$

or

$$C_nF_{2n+1}CONH(CH_2)_xCOOH$$

wherein n is 1 to 20 and x is 1 to 10. Examples of such preferred compounds are perfluoro-octanoyl glycine and beta-hydroxy-beta perfluoroheptylpropionic acid. The organo-metallic reactant is one corresponding to the structure

$$M\ R'(R)d$$

in which M is preferably aluminum but may be another metal such as: boron, cadmium, gallium, magnesium, thallium or zinc; R′ is an alkyl radical of 1 to 8 carbon atoms, R may be hydrogen, halogen or an alkyl radical of up to 8 carbon atoms; d is equal to the valence of the metal (M) minus one. Representative of preferred organo-metallic reactants are: triisobutyl aluminum and triethylaluminum.

3,377,198

OIL AND WATER REPELLENT SURFACES CONTAINING FLUORINATED METAL CHELATES

Manfred Sander, Frankfurt am Main, Germany, assignor to Chemische Fabrik Pfersee G.m.b.H., Augsburg, Germany, a firm of Germany

No Drawing. Original application Aug. 28, 1962, Ser. No. 220,071, now Patent No. 3,299,109, dated Jan. 17, 1967. Divided and this application July 7, 1966, Ser. No. 627,271

1 Claim. (Cl. 117—121)

Normally solid surfaces rendered oil and water repellent by a perfluorocarboxylic acid metal salt and a beta-dicarbonyl chelate forming compound, the metal being aluminium, titanium or zirconium.

3,377,199

VINYL TERPOLYMERS FOR IMPARTING CASHMERELIKE PROPERTIES TO SYNTHETIC FIBERS

Karl Altau, Waynesboro, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 836,350, Aug. 27, 1959. This application June 9, 1964, Ser. No. 373,823

6 Claims. (Cl. 117—138.8)

A vinyl terpolymer which imparts cashmerelike properties to synthetic fibers which comprises a polymer of a molecular weight of at least 2,500 and having a carbon chain with a plurality of side groups consisting of (a) about 37 to about 88 long chain alkyl groups of at least 8 carbon atoms per 200 chain carbon atoms, (b) about 3 to about 27 radicals selected from the group consisting of epoxy and methylol radicals per 200 chain carbon atoms and (c) about 10 to about 50 ionic groups per 200 carbon chain atoms. The ionic groups can be selected from ionic groups of salts of ethylenically unsaturated organic acids having a pKa value between 1 and 6 and cationic groups of salts of ethylenically unsaturated organic basis having a pKb value between 2 and 13.

3,377,200

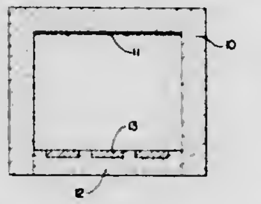
PROCESS FOR ACTIVATING PHOTOCONDUCTIVE FILMS

Rhodes R. Chamberlin, Dayton, and John S. Skarman, West Carrollton, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed July 31, 1964, Ser. No. 386,606

9 Claims. (Cl. 117—201)

The present invention relates to the further doping of a previously formed crystalline photoconductive semiconductive film by sintering an activating powder to a cover, covering the previously formed crystalline photoconductive semiconductive film with the cover, the sintered activating powder layer facing the crystalline photoconductive semiconductive film, and heating the combination to a temperature between 566 degrees centigrade and 621 degrees centigrade for a time ranging from six to twenty minutes. In this manner, the light resistance of the previously formed crystalline photoconductive semiconductive film can be decreased by a factor of at least ten.

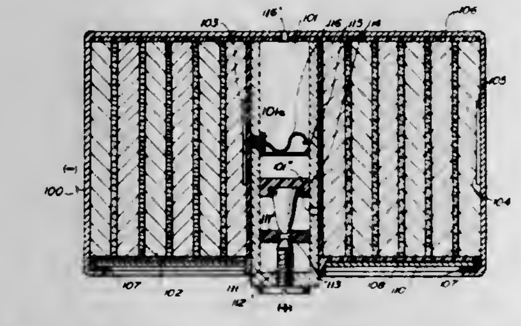


3,377,201
SPIRAL BATTERY CELL

Otto C. Wagner, Bronx, N.Y., and Renato Di Pasquale, Rutherford, N.J., assignors to Yardney International Corp., New York, N.Y.

Filed Mar. 24, 1964, Ser. No. 354,261

5 Claims. (Cl. 136—13)



1. A rechargeable electrochemical battery cell comprising a housing with a closed inner peripheral wall; electrically conductive core means disposed within and communicating with said housing and spaced therefrom; insulating means interposed between said core means and said housing for electrically isolating said core means from said housing; at least one foil like positive electrode strip disposed between said core and said housing with its major surface substantially parallel to said core; at least one electrolyte absorbable ionically permeable separator means at least coextensive in length with said positive electrode with its major surface substantially parallel to the major surface of said positive electrode, and disposed on the side thereof toward said housing; at least one foil like soluble negative electrode strip substantially coextensive in length with said positive electrode, with its major surface substantially parallel to the major surface of said separator and said positive electrode, and disposed on the side thereof toward said housing; wherein said electrodes and said separator substantially fill the annular space between said core and said housing; said core means being the terminal for said positive electrode; said housing being the terminal for said negative electrode; and said cell is filled with electrolyte, the said electrodes being so dimensioned that the edge to surface ratio is small.

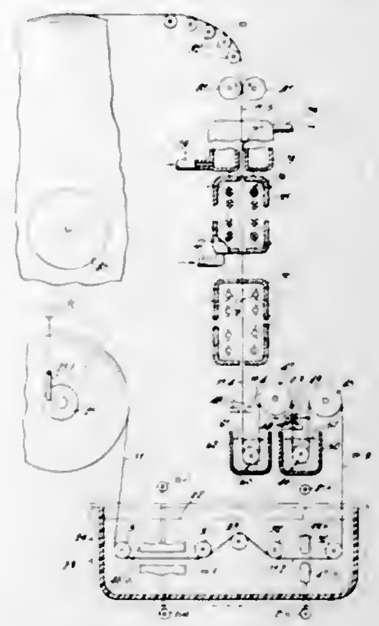
3,377,202
PROCESS FOR PRODUCING SINTERED NICKEL ELECTRODE PLATES

Louis Belove, Ardsley, N.Y., assignor to Sonotone Corporation, Elmsford, N.Y., a corporation of New York

Filed Aug. 1, 1966, Ser. No. 569,233

6 Claims. (Cl. 136—29)

A method of producing sintered porous electrode plates usable in rechargeable battery cells as set forth. The method is comprised of providing a thin, strong metallic support sheet which has perforations or openings over 30% to 80% of its entire surface. The perforations may be formed by providing a sheet having a thin, strand-like structure which defines openings or perforations between the intersecting strands. The surfaces of the support sheet are electroplated with a thin, porous nickel coating, thereafter nickel powder particles are deposited thereon either through the use of an aqueous slurry or through powder metallurgy techniques. The deposited material is pressed against the surface of the support member to increase surface contact between the particles and the nickel coating on the support sheet. The nickel powder particles are admixed with a filler substance which evolves hydrogen to form a layer of a predetermined porosity. The hydrogen is emitted in a sintering treatment in the presence of a hydrogen reducing atmosphere. A second layer of a second predetermined thickness and having a greater amount of the distributed filler substance is deposited upon the first layer and is sintered in a like manner. The outermost layer has a higher porosity than the innermost layer.

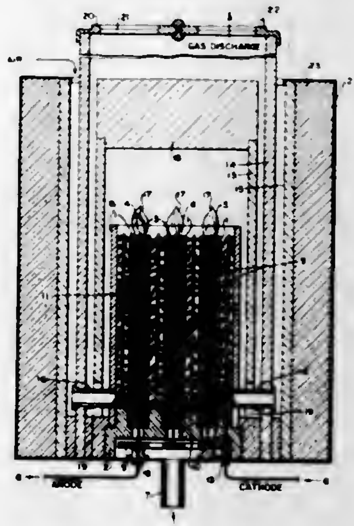


3,377,203
METHOD OF PRODUCING FUEL CELLS WITH SOLID ELECTROLYTES AND CERAMIC OXIDE ELECTRODE LAYERS

Hans-Heinrich Möbius and Bernd Röhland, Greifswald, Germany, assignors to Ernst-Moritz-Arndt-Universitat, Greifswald, Germany

Filed Nov. 18, 1964, Ser. No. 412,088

10 Claims. (Cl. 136—86)



1. Method of producing fuel cells consisting of solid electrolyte and ceramic oxide electrode layers, which

comprises simultaneously sintering a ceramic electron-conducting oxide anode layer and a ceramic electron-conducting oxide cathode layer to a solid oxygen-ion conducting electrolyte in the same atmosphere of low partial pressure of oxygen, said sintering being carried out at a temperature of between 1700° and 1900° C. while the partial pressure of oxygen, at least during the last part of the process, does not increase to more than about 10^{-3} atmospheres, and the atmosphere, at least during the last phase of sintering, consisting of a gas with volume ratio of carbon dioxide plus steam to carbon monoxide plus hydrogen of about 4–20 and any admixture of inert gas.

3,377,204
METHOD OF INCORPORATING PLATINUM IN CARBON

William B. Mather, Jr., and Robert M. Suggitt, Fishkill, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

Filed Dec. 21, 1964, Ser. No. 419,802

1 Claim. (Cl. 136—122)

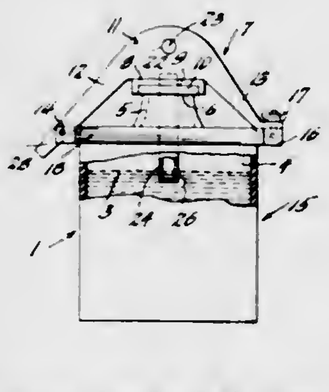
A platinum-coated, porous carbon, fuel cell electrode having improved long term performance characteristics is prepared by subjecting the platinum surface of the electrode to a reducing atmosphere at between 700 and 1000° C. for 1 to 10 hours following the formation of the elemental layer of platinum on the carbon surface.

3,377,205
COMBINED BATTERY LIFTER AND GAGE

Arthur B. Butterworth, Ashbrook-on-the-James, Smithfield, Va. 23430

Filed Oct. 4, 1965, Ser. No. 492,539

6 Claims. (Cl. 136—170)



A combined battery handle and cover for the cells of the battery with a bar extending across all the cell openings and having a gage for each cell connected to the bar with the latter when lifted raising all the gages simultaneously to determine the liquid level in all the cells.

3,377,206
THERMOELECTRIC DEVICE WITH SOLDER-FREE PRESSURE CONTACTS

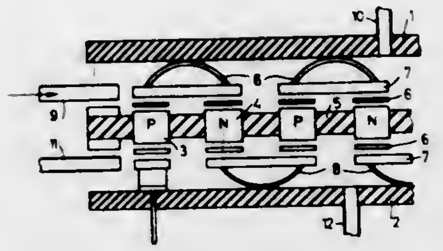
Walter Hänlein, Erlangen, and Reimer Emeis, Ebermannstadt, Germany, assignors to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany

Filed Nov. 27, 1962, Ser. No. 240,478

Claims priority, application Germany, Nov. 28, 1961, S 76,870

2 Claims. (Cl. 136—212)

1. A thermoelectric device comprising pairs of thermocouple legs, said legs being spaced from each other and forming jointly a serial arrangement, respective bridge pieces of metal placed upon each two adjacent ones of said legs and forming an electrically and thermally conducting interconnection thereof, said thermocouple legs being built into an insulating partition and tightly sealed in the partition, a conducting foil interposed between said legs and said bridge pieces, a rigid mounting structure, and spring means between said structure and said bridge pieces for forcing said bridge pieces and said foil under pressure against said legs, whereby said legs are conductively interconnected only by solder-free pressure contact engagement, said mounting structure forming a sealed housing, said partition forming part of said sealed housing and dividing it into two chambers, at least one of said chambers forming part of a circulatory system for fluid heat exchange medium.

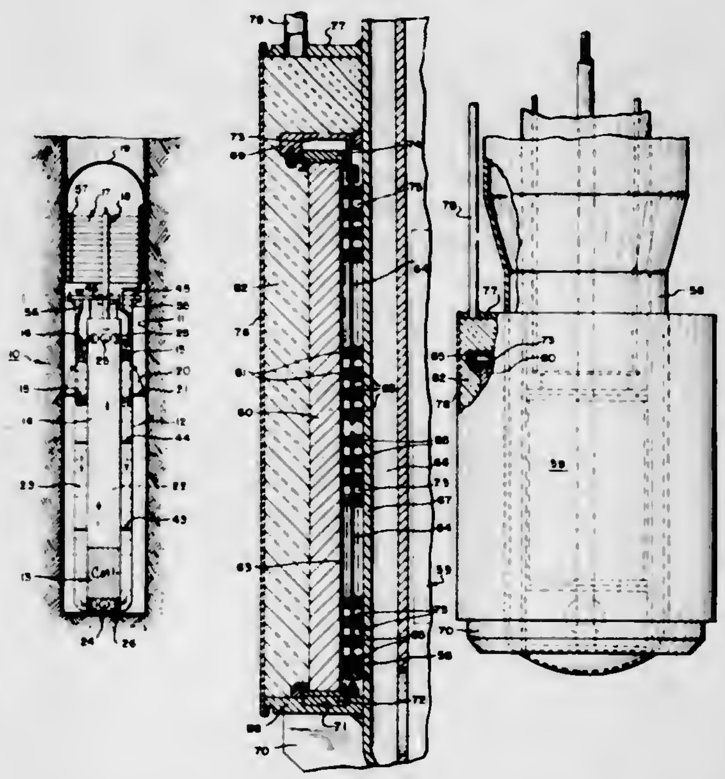


3,377,207
SPACE HEAT REACTOR

Anthony Stathoplos, Briarcliff Manor, N.Y., assignor to United Nuclear Corporation, White Plains, N.Y., a corporation of Delaware

Filed Oct. 19, 1965, Ser. No. 497,805

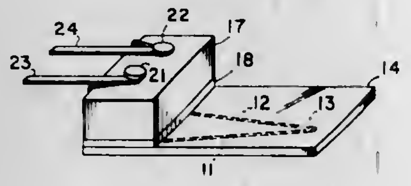
4 Claims. (Cl. 136—202)



A water-cooled and moderated non-boiling low pressure nuclear reactor is used for space heating purpose and for providing electrical power. The reactor is self regulating at equilibrium power level without internal moving mechanical elements such as conventional control rods. Within the pressure vessel of the reactor a shroud is used to divide the inside of the vessel into an inner and an outer zone for housing the reactor core and heat exchanger respectively. The water coolant is circulated among the inner and outer zones by natural convection. A depleted uranium blanket surrounding the periphery of the pressure vessel is provided to capture neutrons escaped from the reactor core. The blanket is used as hot junctions and the outside of the pressure vessel as cold junctions for thermal electrical elements to generate electricity.

3,377,208
THERMOCOUPLE ASSEMBLY

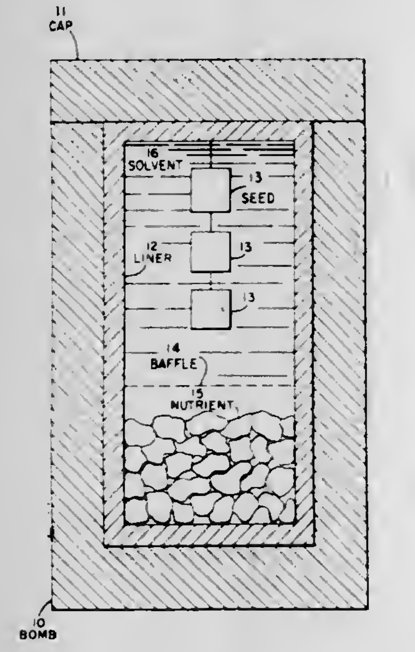
James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Richard C. Turner, Levittown, Pa.
Filed Nov. 10, 1964, Ser. No. 410,332
5 Claims. (Cl. 136—230)



A thermocouple assembly which consists of a flexible strip of tape, such as nylon. One or a first side of the tape, having adhesive properties, is used to adhesively support a junction of a thermocouple, as well as for adhesively attaching the assembly to the surface of matter whose temperature is to be sensed. The opposite or a second side of the tape has heat-reflecting properties, achieved by means of a metallic coating, in order to minimize heat which is directed to the junction through the tape. A pair of terminals, electrically insulated from one another, are supported on the second side of the tape to provide means for electrically connecting the thermocouple junction to appropriate circuitry.

3,377,209
METHOD OF MAKING P-N JUNCTIONS BY HYDROTHERMALLY GROWING

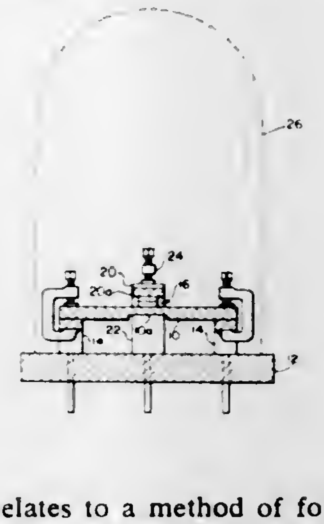
Alexander Beck, Ottawa, Ontario, Canada, assignor to National Research Council, Ottawa, Ontario, Canada, a body corporate of Canada
Filed May 1, 1964, Ser. No. 364,173
1 Claim. (Cl. 148—1.5)



1. A method of making P-N junctions in a crystalline semiconductor comprising positioning a crystal seed of one conductivity type of said semiconductor material in apparatus for hydrothermally growing crystals, placing a nutrient of said semiconductor material in said apparatus, filling said apparatus with a hydrothermal solvent for said nutrient, dissolving into said solvent said nutrient and doping material to cause the precipitation of a layer of opposite conductivity type on said seed, wherein said crystalline semiconductor is iron pyrites, said crystal seed is natural iron pyrites, said nutrient is natural iron pyrites of opposite conductivity type to said seed, said nutrient being roasted in a closed quartz tube under vacuum at approximately 500° C. prior to introduction into said apparatus, and said solvent is a 1 normal aqueous solution of Na_2S, said solvent filling said apparatus to 67% of its total volume, the temperature of said apparatus during precipitation being approximately 400° C.

3,377,210
PROCESS OF FORMING SILICON CARBIDE DIODE BY GROWING SEPARATE P AND N LAYERS TOGETHER

Daniel William Bruce Somerville and Reino Olavi Tervo, Niagara Falls, Ontario, Canada, assignors to Norton Company, Worcester, Mass., a corporation of Massachusetts
Continuation-in-part of application Ser. No. 365,329, May 6, 1964. This application Mar. 25, 1965, Ser. No. 442,666
4 Claims. (Cl. 148—1.5)



This invention relates to a method of forming a diode of silicon carbide by taking two separately formed layers of "P" and "N" conductively, providing flat surfaces on at least one face of each layer, placing the flat faces of each layer in contact and heating the contacted layers up at a sufficient temperature and time to cause the two layers to bond together.

3,377,211
TUNGSTEN BASE ALLOY TREATMENT

William J. Schoenfeld, Pittsburgh, Pa., assignor to Cyclops Corporation, a corporation of Pennsylvania
No Drawing. Filed Dec. 7, 1964, Ser. No. 416,644
3 Claims. (Cl. 148—4)

A method for producing a tungsten-rhenium alloy containing from about 10 to 35% rhenium comprises mechanically deforming said alloy at least 50% at a temperature of at least 2500° F. followed by subjecting said alloy to at least 5% further mechanical deformation at a temperature below the recrystallization temperature of said alloy.

3,377,212
METHOD FOR COATING TORTUOUS ALUMINUM SHAPES

Nelson J. Newhard, Jr., Plymouth Meeting, Pa., assignor to Amchem Products, Inc., Ambler, Pa., a corporation of Delaware
No Drawing. Filed Nov. 14, 1966, Ser. No. 593,744
5 Claims. (Cl. 148—6.16)

This invention relates to the art of coating aluminum, especially tortuous aluminum shapes, with an acidic chemical conversion coating to impart good corrosion resistance and paint adhesion properties to the aluminum surfaces.

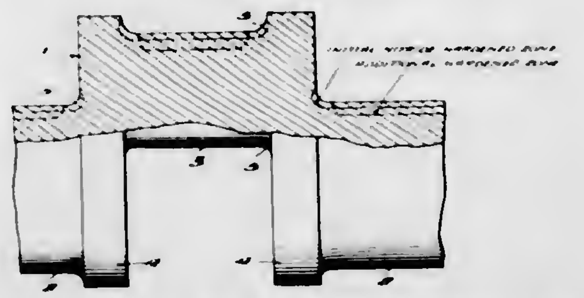
3,377,213
METHOD FOR OXIDIZING THE SURFACE OF RECUPERATOR TUBES

Walther Hiller, Frankfurt am Main, Germany, assignor to Firma Industrie-Companie Kleinewefers Konstruktions- und Handelsgesellschaft m.b.H., Krefeld, Rhineland, Germany, a corporation of Germany
No Drawing. Filed Nov. 15, 1963, Ser. No. 323,875
Claims priority, application Germany, Nov. 20, 1962, J 22,691
6 Claims. (Cl. 148—6.35)

A method of treating the surface of recuperator tubes with a hot oxidizing gas where the tubes have been built into the flue channel of a recuperator, the hot oxidizing gas being a flue gas from a furnace operating with an excess of air to form a uniform protective oxide layer on the recuperator tubes.

3,377,214
METHOD FOR HARDENING CRANKSHAFT

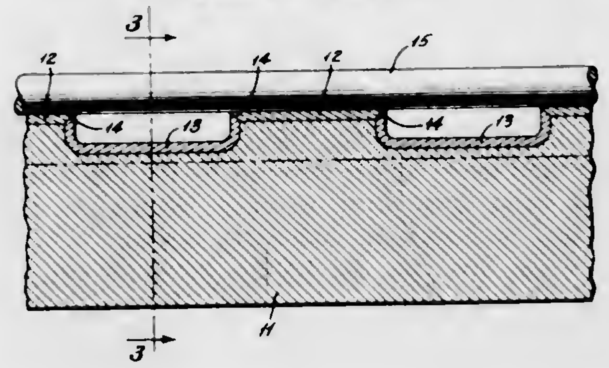
James O. Woodbridge, Warren, Robert M. Spencer, Youngsville, and Donald D. Dalrymple, North Warren, Pa., assignors to National Forge Company, Irvine, Pa., a corporation of Delaware
Filed Jan. 6, 1966, Ser. No. 519,099
2 Claims. (Cl. 148—16.6)



1. In the method of hardening a journal of a steel crankshaft and a fillet zone at the end of said journal the steps which comprise nitriding said journal and fillet zone in one and the same nitriding operation to obtain an initial hardening of said journal and a final favorable residual compressive stress hardeing of said fillet zone thereby to increase the fatigue strength of said fillet zone, and thereafter subjecting only said nitrided journal to a subsequent hardening treatment by rapidly heating only the nitrided portion of said journal to a temperature within the austenitizing range for the steel followed by quenching until a temperature is reached such that substantially all of the austenite in the nitrided portion of said journal is transformed into nitrogen bearing martensite.

3,377,215
DIODE ARRAY

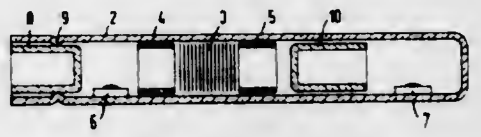
Clarence J. Carter, Rolling Hills, Calif., and Richard F. Stewart, Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Original application Sept. 29, 1961, Ser. No. 141,854. Divided and this application Apr. 26, 1965, Ser. No. 462,774
4 Claims. (Cl. 148—33)



Disclosed is a diode array comprised of a body of high-resistivity material, each diode comprising a P–N junction which is defined by layers of opposite type conductive material, one on top of a ridge and the other there being in a depression between the ridges and extending to the surface of the semiconductor body.

3,377,216
METHOD FOR INDIFFUSION OF FOREIGN MATERIAL INTO A MONOCRYSTALLINE SEMICONDUCTOR MEMBER

Kurt Raithel, Uttenreuth, Germany, assignor to Siemens Aktiengesellschaft, Berlin, Germany, a corporation of Germany
Filed June 21, 1965, Ser. No. 465,504
Claims priority, application Germany, June 20, 1964, S 91,637
4 Claims. (Cl. 148—189)



Method of indiffusing active impurity, such as donor impurity, acceptor impurity and impurity forming recombination centers, into a crystalline semiconductor member includes heating a closed ampule containing a semiconductor member and two sources of active impurity, spaced from the semiconductor member and from one another, to a temperature at which the semiconductor member is indiffused by active impurity from the sources thereof; melting the material of the ampule at a location intermediate the semiconductor member and one of the active impurity sources so as to divide the interior of the ampule into two sealed chambers one of which containing the one active impurity source and the other of which containing both the semiconductor member and the other active impurity source; and heating the ampule to a temperature at which the semiconductor member is further indiffused by active impurity only from the other active impurity source.

3,377,217
GELLED AMMONIUM NITRATE-NITROMETHANE EXPLOSIVE COMPOSITION

James W. Francis, Marion, Ill., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland
No Drawing. Filed Dec. 12, 1966, Ser. No. 600,710
6 Claims. (Cl. 149—50)

Gelled non-cap-sensitive explosive compositions consisting of an intimate admixture of ammonium nitrate of particle size sufficiently small to substantially completely pass through a 10 mesh screen, not more than 22% by weight of the ammonium nitrate passing a 200 mesh screen, nitromethane and gelling agent for the nitromethane, the weight ratio of ammonium nitrate to nitromethane being in the range of from about 65:35 to about 45:55, said compositions having high detonation rates. The explosive compositions are useful in seismic exploration for oil and gas.

3,377,218
GELLED AMMONIUM NITRATE-NITROETHANE EXPLOSIVE COMPOSITION

Robert A. Brown, Marion, Ill., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland
No Drawing. Filed Dec. 12, 1966, Ser. No. 600,786
6 Claims. (Cl. 149—50)

Gelled, non-cap-sensitive explosive compositions consisting of an intimate admixture of ammonium nitrate of particle size sufficiently small to substantially completely pass through a 10 mesh screen, not more than 22% by weight of the ammonium nitrate passing a 200 mesh screen, nitroethane and gelling agent for the nitroethane, the weight ratio of ammonium nitrate to nitroethane being in the range of from about 75:25 to about 85:15, said compositions having high detonation rates. The explosive compositions are useful in seismic exploration for oil and gas.

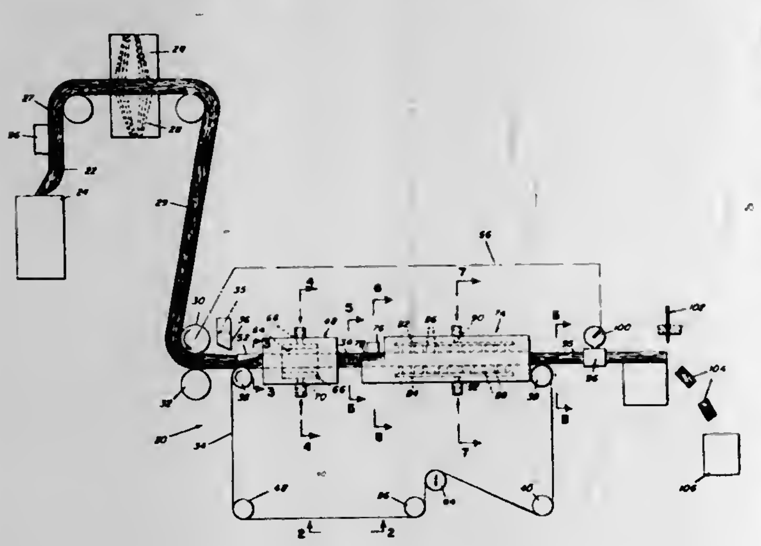
3,377,219
NITRATED ORGANIC LIQUID PROPELLANT COMPOSITION HAVING IMPROVED SPARK IGNITION

Ludwig Stiefel, Philadelphia, and Howard A. Kirshner, Levittown, Pa., assignors to the United States of America as represented by the Secretary of the Army
No Drawing. Filed Sept. 28, 1964, Ser. No. 399,943
4 Claims. (Cl. 149—88)

Liquid propellants capable of ready ignition by a submerged spark therewithin, the spark requiring but little energy to cause its formation due to the composition of said propellant which includes either a quaternary ammonium salt or colloidal graphite.

3,377,220
PROCESS FOR MAKING STABLE ELONGATED ELEMENTS

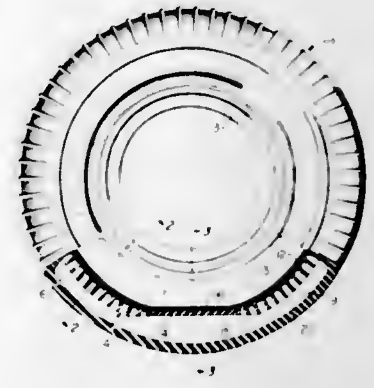
Richard M. Berger and Reavis C. Sproull, Richmond, Va., assignors to American Filtrona Corporation, Richmond, Va., a corporation of New York
Continuation-in-part of applications Ser. No. 351,162, Mar. 11, 1964, and Ser. No. 502,250, Oct. 22, 1965. This application June 9, 1967, Ser. No. 644,959
50 Claims. (Cl. 156—62.2)



The production of stable elongated elements particularly for use as smoke filters and the like wherein the starting material is carried and formed by a porous belt through which processing fluids such as steam and cooling air can be passed directly into the material being formed. Filamentary tow such as conventional plasticized cellulose acetate can be treated in this manner or can be first chopped into staple fibers and blown into the belt, with the staple fibers primarily transversely to the longitudinal dimension of the final product. Additionally, particulate sorbent materials such as activated carbon and the like mixed with a binding material such as polyethylene particles or the like can be processed in the same manner. Since the final product need not be wrapped for handling, continuous monitering of pressure drop characteristics of the same can be correlated with the rate of feed of the starting material to insure uniform characteristics. The processing techniques for forming staple fiber filter elements and the like result in products having physical and functional characteristics comparable to prior art products, but requiring approximately 20–30 percent less material.

3,377,221
METHOD OF MAKING A TIRE WITH RUN-FLAT WARNING DEVICE

Joseph S. Hawkes, Cuyahoga Falls, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Original application Apr. 27, 1964, Ser. No. 362,724, now Patent No. 3,225,811. Divided and this application Aug. 16, 1965, Ser. No. 479,869
4 Claims. (Cl. 156—110)

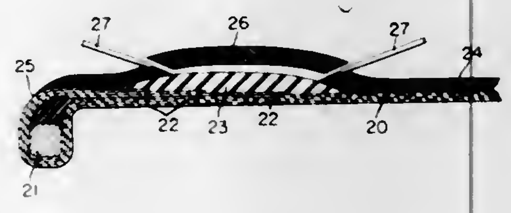


A method of making a safety inner tire having a tread with a flat spot to provide a run flat warning; the method including wrapping an uncured tread strip around a tire carcass, and substantially increasing the thickness of the tread strip over a major portion of the circumference thereof by forming voids or holes in the tread strip while leaving at least a portion of the remaining minor portion of the tread strip at a thickness not greater than its initial thickness and generally without any voids or holes.

The foregoing abstract is not to be taken as limiting the invention of this application, and in order to understand the full nature and extent of the technical disclosure of this application, reference must be made to the accompanying drawings and the following detailed description.

3,377,222
WHITE SIDEWALL TIRE

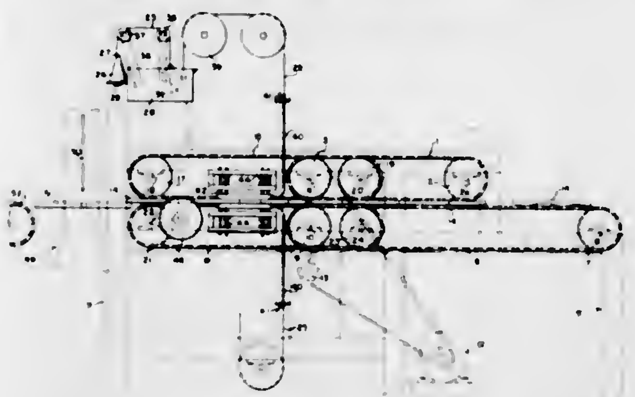
Earl W. Dean, East Gadsden, Ala., assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Aug. 18, 1964, Ser. No. 390,440
9 Claims. (Cl. 156—116)



A method and apparatus for building white side wall tires in which the white rubber is applied in narrower width than usual and is covered by the black tread stock in one layer from bead to bead. The white is exposed by a pair of knives set angularly toward each other and toward the tire axis, the setting, depth of cut, and spacing of the knives being adjustable. The white strip is covered with a thin, black, stain-free rubber layer, and the tire is molded and vulcanized to give the outer side wall contour. The thin black layer is buffed off to expose the white side wall ring.

3,377,223
COMPOSITE WOOD VENEER AND MEANS FOR PRODUCING SAME

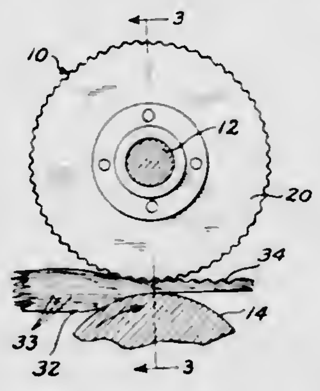
Victor H. Clausen, Bellevue, and Arnold Zweig, Olympia, Wash., assignors to Simpson Timber Company, Seattle, Wash., a corporation of Washington
Filed Dec. 19, 1963, Ser. No. 331,893
9 Claims. (Cl. 156—166)



1. The method of making a composite wood veneer which comprises: continuously conveying a plurality of veneer strips in close edge-to-edge abutting relation in a direction substantially perpendicular to the abutting edges, holding said strips in tight abutting relation while they are being conveyed, guiding a plurality of substantially untwisted continuous fibrous strands in spaced substantially parallel relation onto the surfaces of said strips perpendicular to and across the abutting edges and applying the strands to the veneer surfaces with thermoplastic adhesive, heating the thermoplastic adhesive to maintain it in a flowable state before the strands are guided onto the surfaces of the strips, and simultaneously flattening said strands on the veneer surfaces by the application of pressure while the adhesive is in the flowable state and producing a cooling effect to cause said adhesive to form a bond between the strands and the surfaces of the veneer strips, whereby said veneer strips are temporarily held together by said strands to form a composite veneer sheet suitable for plywood panel layup.

3,377,224
METHOD OF EMBOSSING DIFFERENTIALLY CREPED TISSUE PAPER

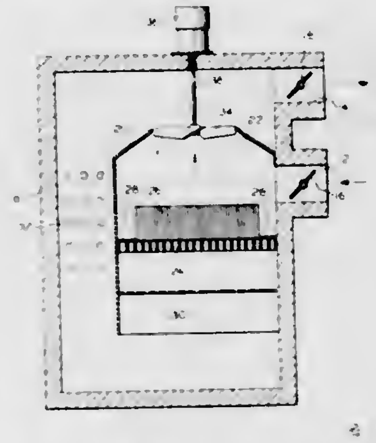
James T. Gresham, Appleton, and Gordon D. Thomas, Neenah, Wis., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Continuation of application Ser. No. 115,682, June 8, 1961. This application Mar. 11, 1966, Ser. No. 543,441
2 Claims. (Cl. 156—209)



1. In a method for fixing together without the use of adhesive a plurality of plies of differentially creped tissue paper which has a basis weight before creping of 4.5 to 7.5 pounds per ream of 3,000 square feet, each of said plies having a series of alternating coarsely creped strips and more finely creped strips constituting alternating puffed and flat areas, the steps which comprise, embossing and pressing the plies of tissue paper between a plurality of bosses and a smooth rigid surface, each of said bosses having a substantially flat surface and being substantially square and being about $\frac{1}{32}$ inch on each side and said bosses being disposed in two parallel rows which are spaced about $\frac{1}{32}$ inch apart and the bosses in each row being spaced from each other about $\frac{1}{32}$ inch, said pressing being done with a pressure of at least 150,000 pounds per square inch so as to bond the tissue paper plies to each other without the use of adhesive.

3,377,225
METHOD FOR THE MANUFACTURE OF GAS CONDITIONING PACKING

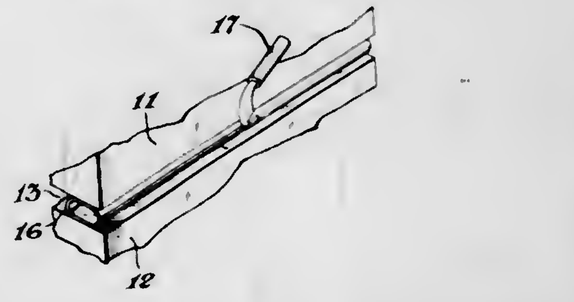
Carl Georg Munters, 3 Danderydsvagen, Stocksund, Sweden
Continuation-in-part of application Ser. No. 202,333, June 13, 1962. This application Apr. 25, 1966, Ser. No. 545,056
8 Claims. (Cl. 156—210)



Heat and/or moisture transfer laminated corrugated bodies formed of an alternate lamina of a corrugated layer with a plane layer of sheets of asbestos, cohered and cured by impregnating the fiber with inorganic particles and which, for temporary assembly purposes may also contain organic fibers as well as organic adhesive, and the assembled body is heated to fuse the inorganic particles into a permanent body between asbestos fibers of great strength and stability, preferably set by oxidizing the corrugated body in a stream of air at a controlled rate so that only sufficient heat is provided to fuse the inorganic particles but insufficient to expel water of crystallization from the asbestos fiber, thereby avoiding chemical destruction of the asbestos fiber.

3,377,226
METHOD OF WATERPROOFING JOINTS

William C. Renwick, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
Filed Oct. 5, 1964, Ser. No. 401,325
2 Claims. (Cl. 156—250)



An improved method of waterproofing joints between substantially parallel surfaces spaced a suitable distance apart to allow for their contraction and expansion due to changes in their environment is disclosed. An elastic tube is cemented to the surfaces and then its outer wall is slit. The inner wall of the tube remains intact and provides a seal which allows great expansion of the joint without impairing its watertight integrity.

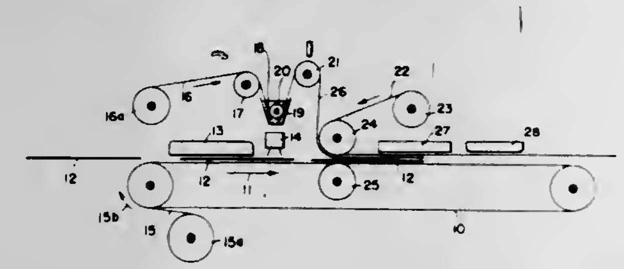
3,377,227
PROCESS OF TROWELLING STICKY ORGANIC SOLDER INTO A BODY SURFACE JOINT

Thomas J. Whalen, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
No Drawing. Filed Apr. 19, 1965, Ser. No. 449,290
3 Claims. (Cl. 156—242)

1. The process of working and trowelling very sticky organic materials which comprises applying force to such sticky organic material solely through a tool face composed of solidified carbon dioxide.

3,377,228
METHOD OF MANUFACTURING A STRUCTURAL PANEL

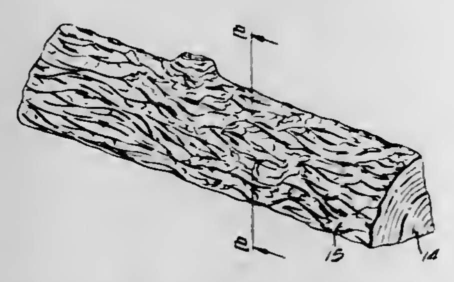
Alfred B. Menzer, Joliet, Ill., assignor to Kemlite Corporation, Joliet, Ill., a corporation of Illinois
Continuation-in-part of application Ser. No. 268,866, Mar. 29, 1963, now Patent No. 3,226,150. This application Oct. 23, 1964, Ser. No. 405,954
11 Claims. (Cl. 156—301)



A process for making a structural panel by which a fiber glass mat is passed through a bath of thermosetting resin to impregnate the sheet with resin, and the impregnated sheet passed between a rigid base sheet such as plywood and a cellulose sheet through the opening between a pair of squeeze rolls, and heat is applied through the cellulose sheet to the impreganted fiber glass sheet to cure the resin. Additional features of the invention are the application of heat to the base sheet prior to contacting the same with the impregnated mat, and the application of thermosetting resin to the plywood sheet, preferably by spraying, prior to contacting the same with the impregnated mat."

3,377,229
ARTIFICIAL LOGS FOR FIREPLACES

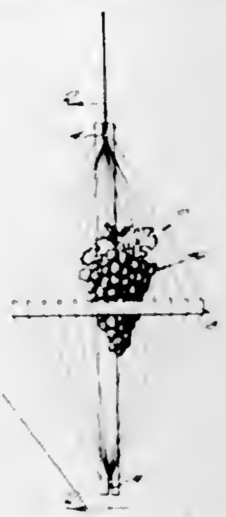
Luther E. Bryan, Sebring, Ohio, assignor to Gem Clay Forming, Inc., Sebring, Ohio, a corporation of Ohio
Filed Feb. 12, 1965, Ser. No. 432,117
1 Claim. (Cl. 161—22)



A light-weight hollow structure simulating a log for a fireplace, comprising an inner hollow self-supporting structure formed of aluminum silicate fibers held in shape by an inorganic refractory colloidal binder of silica gel wherein the proportion of aluminum silicate fibers predominates an outer thin layer of clay covering at least the visible side of the hollow structure. The clay covering being a light-weight fire brick grog mixed with a clay binder and pigment is shaped to simulate a log.

3,377,230
HOLLOW DECORATIVE CONTAINERS

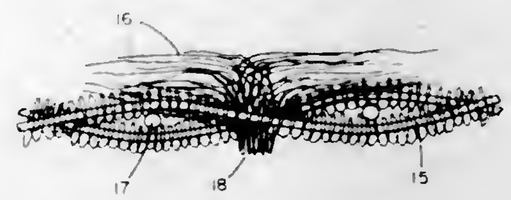
Robert E. Hutley, Box 151, R.D. 1A, Russell, Pa. 16345
Filed Aug. 14, 1964, Ser. No. 389,739
3 Claims. (Cl. 161—32)



A display cage comprising a vertical member, a frame at least partially surrounding said vertical member; filaments secured to opposite ends of said vertical member, said filament extending from end to end of said vertical member and engaging said frame in mutually spaced relationship.

3,377,231
NEEDLED TEXTILE LAMINATES AND METHOD FOR PRODUCING SAME

Nicholas S. Newman, Cambridge, Mass., assignor to The Kendall Company, Boston, Mass., a corporation of Massachusetts
Filed June 11, 1964, Ser. No. 374,338
9 Claims. (Cl. 161—80)



A relatively open-meshed fabric is prepared, in which at least some of the yarns are wrapped with a continuous filamentary wrapping strand in the form of loops extending radially outward from the core of the wrapped yarns. A layer of textile-length fibers is needled into the fabric, as in a conventional needle-loom operation. The fibers in the fibrous layer become mechanically entangled and enmeshed with the filamentary loops of the wrapped yarns, whereby the union between fibers and fabric is enhanced.

3,377,232
NONWOVEN FABRICS AND THE METHOD OF MANUFACTURE THEREOF

Graham Walter Meacock, Newport, and William Gilchrist Paterson, Croesyceiliog, Cwmbran, England, assignors to British Nylon Spinners Limited, Pontypool, England
No Drawing. Filed Sept. 8, 1964, Ser. No. 395,020
Claims priority, application Great Britain, Sept. 24, 1963, 37,441/63
5 Claims. (Cl. 161—155)

A nonwoven fabric is made by forming an open, nonwoven web of staple fibres or continuous filaments, electrostatically projecting potentially crimpable flock fibres into the web and developing the crimp in the flock fibres to entangle them with the web fibres. Either the flock fibres or web fibres or both may be heterofilaments having a potentially adhesive component which is bonded to the neighboring fibres at the cross-over points.

3,377,233
COATED GLASS THREAD

John G. Jackson, 31265 Woodside Drive, Franklin, Mich. 48025
Filed Apr. 8, 1964, Ser. No. 358,291
13 Claims. (Cl. 161—174)

A coated glass thread, suitable for use as a reinforcing element in cementitious mixtures, comprising a glass thread composed of a plurality of fine glass filaments, a protective resin coating applied to the surface of the thread, and inorganic particles secured by the coating material to form a surface layer on the thread.

3,377,234
DE-INKING PRINTED WASTE CELLULOSIC STOCK UTILIZING AN ADMIXTURE OF ALKYL SULFATES AND ALKYL ARYL SULFONATES

Robert H. Illingworth, Madison, N.J., assignor to Garden State Paper Co., Inc., Garfield, N.J., a corporation of Delaware
No Drawing. Filed Sept. 5, 1963, Ser. No. 306,681
13 Claims. (Cl. 162—5)

1. A process for de-inking waste printed paper which comprises pulping waste printed paper utilizing as the active de-inking agent. an alkyl sulfate having 4 to 30 carbon atoms in the alkyl chain, and an alkyl aryl sulfonate having 4 to 30 carbon atoms in the alkyl substituent.

3,377,235
PROCESS FOR BLEACHING MULTI-COLORED BROKE WITH HYPOCHLORITES

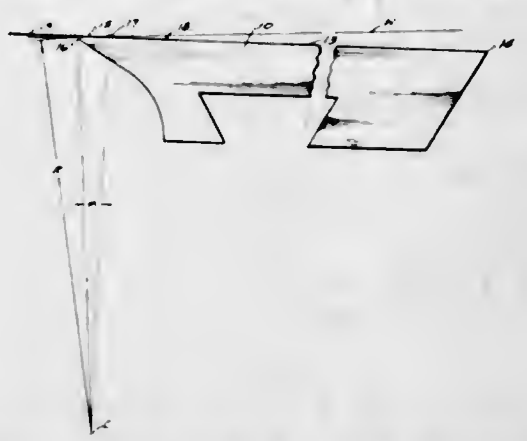
George R. Webster, Snohomish, and Norman S. Lea, Everett, Wash., and Edmund S. Oshetsky, Wallingford, Pa., assignors to Scott Paper Company, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Dec. 3, 1964, Ser. No. 415,803
6 Claims. (Cl. 162—6)

1. A process for bleaching multi-colored broke which comprises the steps of: bleaching an aqueous suspension of substantially unbleached multi-colored broke by a first hypochlorite bleach with a hypochlorite bleach liquor at a pH in the range between about 6.0 and 6.5, adjusting the first bleach step liquor to a pH in the range between about 9.0 and 9.5, retaining said liquor in combination with said pulp throughout the process so as not to substantially separate color bodies from said liquor, and effecting a second hypochlorite bleach of said broke at a pH in the latter range.

3,377,236
DRAINAGE ELEMENT

Alvin C. Roecker, Beloit, Wis., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Filed Mar. 3, 1965, Ser. No. 436,893
9 Claims. (Cl. 162—263)

A dewatering member extending along beneath a travelling Fourdriner wire having a small upwardly curved leading portion ahead of the point of contact with the wire and having a planar trailing portion diverging away from the wire at a small angle.



3,377,237
PROCESS FOR COMBATTING INSECTS WITH DISULFUR DECAFLUORIDE FUMIGANT

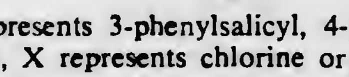
Richard E. Elbeck, Convent Station, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Mar. 9, 1966, Ser. No. 532,864
2 Claims. (Cl. 167—20)

The specification discloses a method of combatting insect pests by subjecting the same to vapors of disulfur decafluoride, S_2F_{10}.

3,377,238
METHOD FOR CONTROLLING GASTROPODS

Frank A. Ehrenford, Zionsville, Ind., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Nov. 21, 1966, Ser. No. 595,582
4 Claims. (Cl. 167—30)

1. The method of combating gastropods which comprises causing said gastropods and their ova to be contacted with a gastropodicidal amount of a toxicant selected from the group corresponding to the formula



wherein R represents 3-phenylsalicyl, 4-phenylsalicyl or 5-phenylsalicyl, X represents chlorine or bromine and *n* represents one of the integers 0, 1, 2 or 3.

3,377,239
METHOD FOR CONTROLLING OR ERADICATING INSECT PESTS BY CHEMOSTERILIZATION WITH 2-AZOLIN-2′-YL BENZIMIDAZOLES

George Holan, Brighton, Victoria, Australia, assignor to Monsanto Chemicals (Australia) Limited, West Footscray, Victoria, Australia, a company of Australia
No Drawing. Filed Mar. 21, 1966, Ser. No. 535,698
10 Claims. (Cl. 167—33)

A chemosterilization method for the control or eradication of insect pests and their larvae by subjecting the pests to the action of a compound of the class of 2-azolin-2′-yl benzimidazoles.

3,377,240
NEMATOCIDAL 4-HALOPYRIDINES, THEIR OXIDES AND HYDROHALIDES

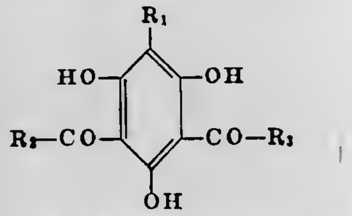
Joyce D. Nault, Walnut Creek, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Oct. 27, 1966, Ser. No. 589,860
5 Claims. (Cl. 167—33)

Soil-inhabiting nematodes are controlled by treatment with a nematocidal amount of a 4-halopyridine or an oxide or hydrohalide thereof.

3,377,241
CERTAIN DIACYL DERIVATIVES OF PHLOROGLUCINOL AS ANTHELMINTICS

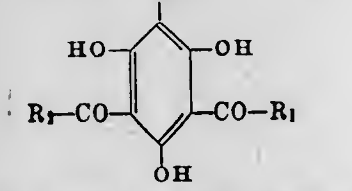
John Lees Broadbent, Welwyn, Kenneth Bowden, Bramfield, near Hertford, and William James Ross, Welwyn Garden City, England, assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed June 5, 1964, Ser. No. 373,061
Claims priority, application Great Britain, June 12, 1963, 23,477/63
9 Claims. (Cl. 167—53)

1. The method of treating helminthic infections in animals comprising administering orally to helminth infected animals an effective anthelmintic amount of a compound of the formula:



in which R_1 is a member selected from the group consisting of hydrogen, methyl and bromo; and R_2 and R_3 are members selected from the group consisting of alkyl groups of from 4–8 carbon atoms, and phenylalkyl group having 1 carbon atom in said alkyl.

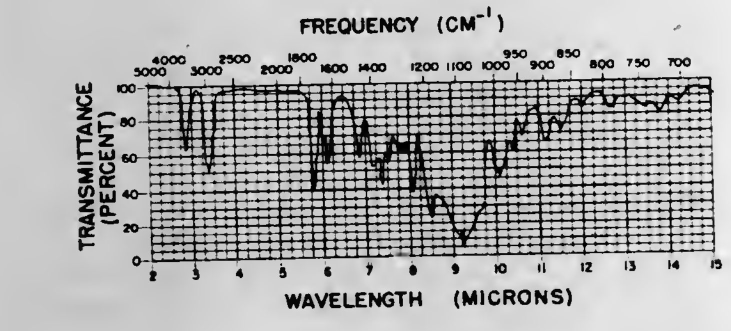
6. An oral pharmaceutical dosage form comprising a tablet, pill, packaged powder, bolus or capsule for producing anthelmintic activity containing from about 5–600 mg./kg. of a compound of the formula:



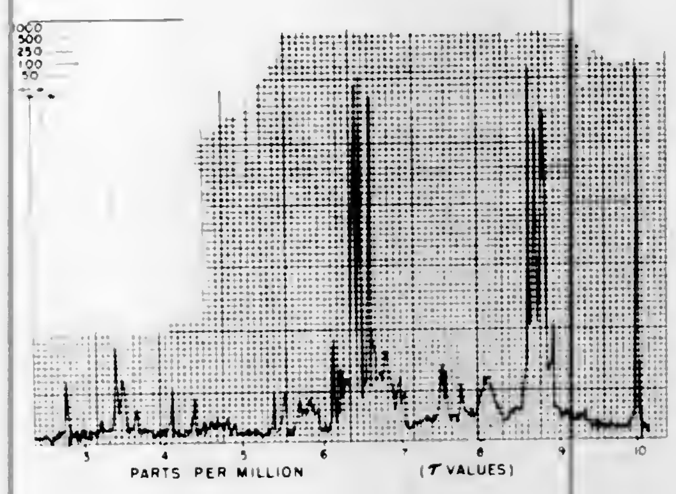
in which R_1 is a member selected from the group consisting of hydrogen, methyl and bromo; and R_2 and R_3 are members selected from the group consisting of alkyl groups of from 4–8 carbon atoms, and phenylalkyl group having 1 carbon atom in said alkyl.

3,377,242
NEUTRAMYCIN AND A METHOD FOR PRODUCING BY USING *STREPTOMYCES RIMOSUS*

Donald Lefemine, West Nyack, and Murray Dann, Samuel Owen Thomas, and Stanley Eugene De Voe, Pearl River, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
Continuation-in-part of abandoned application Ser. No. 303,312, Aug. 20, 1963. This application Oct. 9, 1964, Ser. No. 404,559
7 Claims. (Cl. 167—65)



The invention relates to a new antibiotic of unknown configuration produced by fermentation of a new strain of *Streptomyces rimosus*. The novel antibiotic, designated neutramycin, is effective in inhibiting the growth of gram-positive bacteria. The chemical, physical and biological properties of neutramycin are described in detail hereinafter.



3,377,243
ANTIBIOTIC RA–6950β AND METHOD OF PRODUCTION USING *STREPTOMYCES OCHROSPORUS*

Stanley Eugene De Voe and Lester Allen Mitscher, Pearl River, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
Filed Oct. 22, 1964, Ser. No. 405,681
9 Claims. (Cl. 167—65)

The invention relates to a new antibiotic of unknown configuration produced by fermentation of *Streptomyces ochrosporus* n.s. The antibiotic designated RA–6950β, is separable into components identified as RA–6950β_A and RA–6950β_B which are active against gram-positive bacteria. The chemical, physical and biological properties of the antibiotic are described in detail hereinafter.

3,377,244
ANTIBIOTIC AO–341 AND PRODUCTION THEREOF

Howard Arnold Whaley, Monsey, and Ernest Leonard Patterson, Pearl River, N.Y., and Werner Karl Hausmann, Woodcliff Lake, and John Norman Porter, Ramsey, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
Filed Jan. 13, 1965, Ser. No. 425,151
6 Claims. (Cl. 167—65)

2. A substance basic antibiotic AO–341 characterized as follows:

Melting point: 225–230° C.

Analysis:

	Percent
Carbon	58.0
Hydrogen	6.4
Nitrogen	13.5
Oxygen (by difference)	22.1

Neutralization equivalent: 1315 with a pKa of 6.6

Optical rotation $[\alpha]_D^{25^\circ}$ −104° (c.=1.1 in methanol-water 1:1)

Ultraviolet maxima:

$$\lambda_{max}\ 338\ m\mu\ (E^{1\%}_{1\,cm.}=170)$$
$$\lambda\ 289\ m\mu\ (E^{1\%}_{1\,cm.}=93)\ \text{shoulder}$$
$$\lambda_{max}\ 278\ m\mu\ (E^{1\%}_{1\,cm.}=110)$$
$$\lambda_{max}\ 222\ m\mu\ (E^{1\%}_{1\,cm.}=525)\ \text{in methanol-water 1:1}$$

Infrared spectrum: as shown in Figure 1

Proton resonance spectrum: as shown in Figure 2.

3,377,245
METHODS AND COMPOSITIONS FOR TREATING HYPERTENSION

Roy Fielden, Albert Lawrence Green, and Derek William Hills, Welwyn Garden City, England, assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Mar. 29, 1966, Ser. No. 538,227
Claims priority, application Great Britain, Apr. 8, 1965, 15,046/65, 15,047/65
9 Claims. (Cl. 167—65)

This invention is concerned with compositions and methods for treating hypertension in animals with β-hydroxy-β-phenyl-ethyl-guanidine.

3,377,246
ANTIDEPRESSANT COMPOSITIONS AND METHODS EMPLOYING 7-N AZAINDOLES

Bernard Loev, Broomall, and Edward Macko, Philadelphia, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Sept. 20, 1966, Ser. No. 580,589
10 Claims. (Cl. 167—65)

Pharmaceutical compositions having antidepressant activity containing as active ingredients N-lower alkyl azaindoles. Also methods of inducing antidepressant activity using these compounds with details of the pharmacological study of the parent compound 7-methyl-7-azaindole.

3,377,247
ANTIDEPRESSANT METHOD

John N. Eble, Indianapolis, Ind., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Apr. 28, 1967, Ser. No. 634,496
6 Claims. (Cl. 167—65)

A method of alleviating symptoms of depression in animals by administering to animals suffering from such symptoms an antidepressant amount of 3-[(2-imidazolin-2-yl)methyl]-indole, or a pharmaceutically acceptable salt thereof.

3,377,248
METHODS AND COMPOSITIONS OF FERROCENE CYCLIC ETHERS IN THE TREATMENT OF IRON DEFICIENCY ANEMIA

Jerry E. Robertson, St. Paul, Minn., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 7, 1965, Ser. No. 493,892
6 Claims. (Cl. 167—68)

The pharmaceutical compositions contain ferrocene cyclic ethers in combination with pharmaceutical diluents. The compositions are useful as orally effective agents in the treatment of iron deficiency anemia. A composition disclosed contains a safe and effective amount of 1,1′-diethyl-α,α′-epoxyferrocene in combination with a pharmaceutical diluent.

3,377,249
SOIL RELEASE OF POLYESTER CONTAINING TEXTILES THROUGH TREATMENT WITH AMINOPLAST RESINS IN CONJUNCTION WITH ACRYLIC EMULSION POLYMERS CONTAINING AT LEAST 20% ACID CALCULATED AS ACRYLIC ACID

Francis W. Marco, Spartanburg, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware
No Drawing. Filed Aug. 4, 1966, Ser. No. 570,169
10 Claims. (Cl. 8—115.6)

1. A process for imparting soil release and durable press characteristics to a textile material comprising inear polyester fibers which comprises applying thereto an aminoplast textile resin, a textile resin catalyst and a synthetic acid emulsion polymer which is stable under the conditions of application, said polymer comprising at least 20 weight percent acid calculated as acrylic acid and curing the textile resin; the proportion of acid polymer solids on said textile material being from about 0.25 to about 5.0 weight percent based on the dry weight of the textile material.

3,377,250
WATER-IN-OIL EMULSIONS CONTAINING SULFONIUM COPOLYMERS

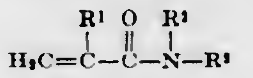
Kenneth Richard Hansen, Staten Island, N.Y., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 13, 1963, Ser. No. 323,276
17 Claims. (Cl. 167—87)

4. A stable, hair dressing composition in the form of an aqueous emulsion comprising, in parts by weight:

(a) from about 30 to about 60 parts of a hair grooming agent comprising an oil;

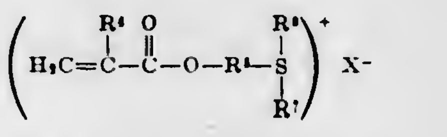
(b) from about 0.2 to about 1 part of an emulsifying agent selected from the group consisting of beeswax-lime, beeswax-borax, sorbitan sesquioleate, lanolin, lanolin alcohols, mineral oil, petrolatum, polyoxyethylene esters of C_{12}–C_{16} fatty acids, said esters having a molecular weight within the range of from about 400 to about 600, calcium, zinc and aluminum stearates, neutral esters of polyhydric alcohols and of fatty acids having at least about 10 carbon atoms per melecule and mixtures of two or more of the foregoing;

(c) from about 0.1 to about 1 part of a copolymer of an amide (A) represented by the formula



$$H_2C=\overset{R^1}{\overset{|}{C}}-\overset{O}{\overset{\|}{C}}-\overset{R^2}{\overset{|}{N}}-R^3$$

wherein R^1 is selected from the group consisting of hydrogen, methyl and ethyl; R^2 is selected from hydrogen and alkyl hydroxy of not more than 5 carbon atoms; and R^3 is selected from the group consisting of hydrogen, alkyl of 1–4 carbon atoms, and alkyl hydroxy of more than 5 carbon atoms, and a sulfonium compound (B) represented by the formula



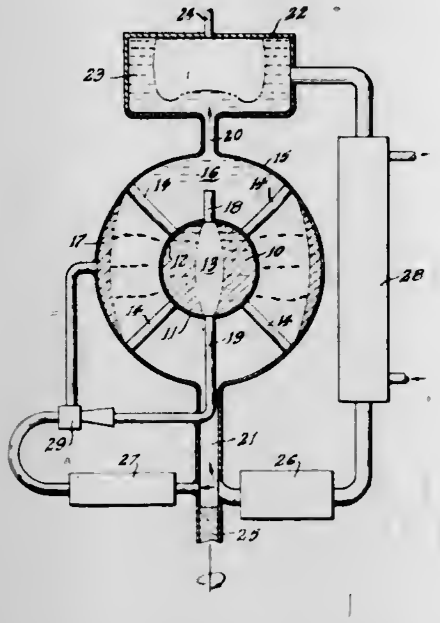
$$\left(H_2C=\overset{R^4}{\overset{|}{C}}-\overset{O}{\overset{\|}{C}}-O-R^5-\underset{\underset{R^7}{|}}{\overset{\overset{R^6}{|}}{S}}\right)^+ X^-$$

wherein R^4 is selected from the group consisting of hydrogen, methyl and ethyl; R^5 is alkylidene having from 2 to 12 carbon atoms; R^6 is alkyl having from 1 to 12 carbon atoms; and R^7 is alkyl having from 1 to 12 carbon atoms when X is halogen, and is selected from the group consisting of methyl and ethyl when X is, respectively, methyl sulfate and ethyl sulfate, said copolymer consists of approximately 60% by weight of units of Formula A and approximately 40% by weight of units of Formula B.

3,377,251
NUCLEAR REACTOR FOR USE IN SPACE

Howard E. Hanthorn and Harold Harty, Richland, Wash., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed May 24, 1967, Ser. No. 642,660
5 Claims. (Cl. 176—29)

A nuclear reactor incorporating a molten plutonium alloy as fuel and liquid sodium as coolant designed primarily for use in a low-gravity environment. Centrifugal force created by rotation of the reactor causes drops of the fuel alloy to flow outwardly from the core through the sodium coolant. The reactor is controlled by



varying the rate of rotation of the reactor and the rate of return of the fuel to the core.

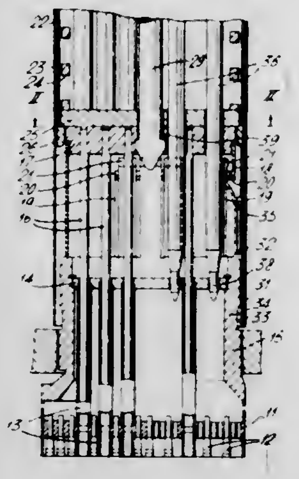
3,377,252
NUCLEAR REACTORS

Herbert Chilvers Knights, Culcheth, Warrington, England, assignor to United Kingdom Atomic Energy Authority, London, England

Filed July 28, 1966, Ser. No. 568,422

Claims priority, application Great Britain, Aug. 17, 1965, 35,299/65

8 Claims. (Cl. 176—36)



A nuclear reactor core comprises plural individual core units, each core unit including both fuel and a movable reactivity controlling assembly. There is an operating assembly for each controlling assembly, each controlling assembly having attachment means for engagement by the operating assembly. Each core unit includes within the unit lock means for holding its controlling assembly during transport and handling against movement away from an initial low reactivity position. Cooperating means on the lock means and the associated operating assembly release the lock means as the operating assembly engages the attachment means of the controlling assembly. Only on assembly into an operational core is there a freeing of the lock to enable achieving a critical state in the core.

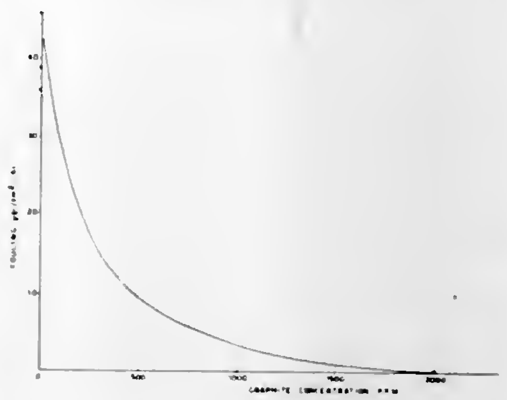
3,377,253
METHOD FOR REDUCING FOULING ON SURFACES COMING INTO CONTACT WITH ORGANIC COOLING AND/OR MODERATOR FLUIDS

Fernand Van Rutten, Varese, Meinolf Höpper, Monvalle, and Friedhelm Diletti, Gemonio, Italy, assignors to European Atomic Energy Community (Euratom), Brussels, Belgium

Filed Nov. 18, 1966, Ser. No. 595,429

Claims priority, application Netherlands, Dec. 9, 1965, 65—1,027

4 Claims. (Cl. 176—38)



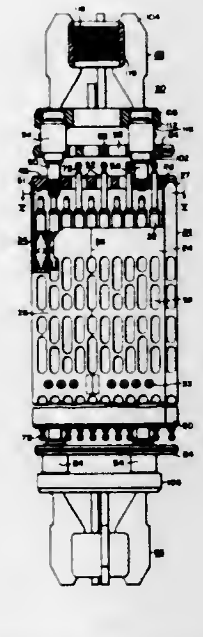
Fouling on metal surfaces coming into contact with hot organic, terphenyl containing coolant used in a nuclear reactor is greatly reduced by filtration of the coolant over graphite, preferably at the operating temperature of the reactor.

3,377,254
FUEL ARRANGEMENT FOR A NUCLEAR REACTOR

Erling Frisch, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Continuation of application Ser. No. 540,360, Apr. 5, 1966, which is a division of application Ser. No. 156,370, Dec. 1, 1961, now Patent No. 3,255,091, dated June 7, 1966. This application Feb. 3, 1967, Ser. No. 613,965

9 Claims. (Cl. 176—78)



A nuclear fuel assembly is provided containing a bundle of elongated fuel rods arranged in a longitudinally parallel array. The fuel rods are supported and are laterally positioned relative to one another by at least one grid member and are prevented from substantial longitudinal movement by a pair of plate members positioned outwardly of the ends of the fuel elements. Means are provided for positioning the grid member between the plate means. The grid positioning means includes at least one elongated member secured to each of the plate means and extending through one of the openings in the grid member. In one example of the invention, the grid supporting means comprises a plurality of tie rods.

3,377,255
FERMENTATION OF EBURICOIC ACID

Allen I. Laskin, Griggstown, and Josef Fried, Princeton, N.J., assignors, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application Sept. 13, 1963, Ser. No. 308,696, now Patent No. 3,329,699, dated July 4, 1967. Divided and this application Nov. 23, 1966, Ser. No. 608,713

2 Claims. (Cl. 195—51)

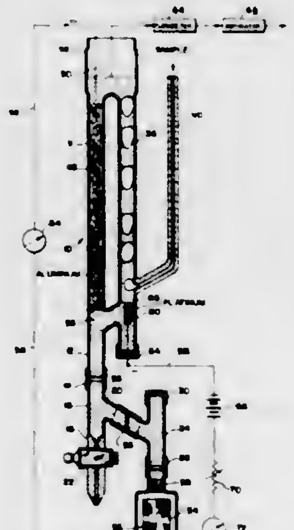
Fermentation of eburicoic acid with microorganisms of the genus Glomerella to produce oxygenated derivatives thereof.

3,377,256
ALKALI ANALYSIS

Carlos J. Sambucetti, La Habra, and Rudolf Deuringer, El Toro, Calif., assignors to Beckman Instruments, Inc., a corporation of California

Filed Feb. 18, 1965, Ser. No. 433,555

17 Claims. (Cl. 204—1)



1. In a galvanic process for determining a basic species, the steps comprising:

conveying a gas stream containing said species to an aqueous electrolyte contacted by an aluminum anode and a cathode selected from the group consisting of active carbon and Hg—Hg_2SO_4, whereby the aluminum anode is oxidized by the hydroxyl ions resulting from the dissolution of said species in said electrolyte; and

measuring the current across the anode and cathode as a function of the rate of entry of said species into the electrolyte.

3,377,257
ELECTROLYTIC PROCESS FOR CLEANING PLUTONIUM METAL

Morris Kolodney, New York, N.Y., assignor to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Apr. 28, 1948, Ser. No. 23,861

4 Claims. (Cl. 204—1.5)

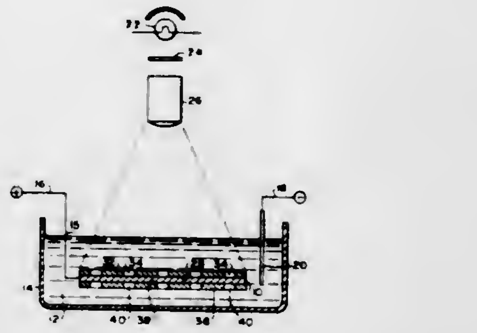
1. A process for cleaning plutonium metal compositions which comprises making a plutonium metal composition anodic in an electrolyte consisting essentially of from 15 to 75 percent by volume concentrated orthophosphoric acid and from 85 to 25 percent by volume ethylene glycol.

3,377,258
ANODIC OXIDATION

Paul F. Schmidt, Allentown, and Norbert J. Roney, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 2, 1965, Ser. No. 436,600

8 Claims. (Cl. 204—15)



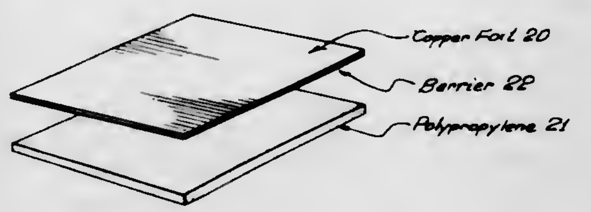
1. In the process for forming oxide coatings on opposite sides of an N-type silicon wafer, the steps of immersing the wafer in an electrolyte capable of forming an anodic oxide layer thereon, applying an anodizing potential between the wafer and an inert electrode extending into the electrolyte, and subjecting only one side of the wafer to a beam of white light containing near infrared wavelengths whereby the short wavelengths of the light beam will cause the formation of an oxide film on the side of the wafer on which the light beam is incident while the longer wavelengths will pass through the wafer to form an oxide coating on the opposite side.

3,377,259
METHOD FOR PREVENTING OXIDATION DEGRADATION OF COPPER BY INTERPOSING BARRIER BETWEEN COPPER AND POLYPROPYLENE

Eugene Phillips, Diamond Bar, Calif., assignor to General Dynamics Corporation (Pomona Division), Pomona, Calif., a corporation of Delaware

Filed Mar. 15, 1965, Ser. No. 439,669

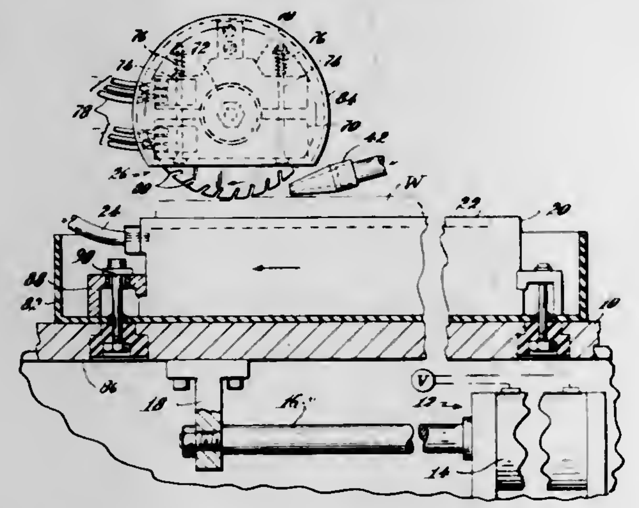
6 Claims. (Cl. 204—20)



Broadly, the present disclosure provides means and methods for eliminating catalytic oxidation degradation of copper plated or copper laminated polypropylene by interposing a non-catalytic barrier between the polypropylene substrate and the copper layer. This barrier may be silver or other non-catalytic metal which has good electrical conductivity; for example, aluminum, gold, platinum, tin, etc. Non-catalytic metals are defined as those metals which when in contact with polypropylene are significantly less active than copper in promoting oxidative degradation. Thus stripline circuit boards, phase shifters, and other microwave components may be fabricated from polypropylene.

3,377,260
ELECTROCHEMICAL MACHINING USING A WHEEL ELECTRODE HAVING A SLOTTED PERIPHERY

Bernard G. E. Stiff, Lynnfield, Mass., assignor to The Lapointe Machine Tool Company, Hudson, Mass., a corporation of Maine
Filed Mar. 18, 1965, Ser. No. 440,885
12 Claims. (Cl. 204—143)



1. In an apparatus for electrolytic shaping a metallic workpiece, the apparatus including means for holding the workpiece, an electrically conductive wheel electrode, means rotatably supporting said wheel electrode, including means for rotating said electrode relative to said workpiece, means for causing converging relative movement between said wheel electrode and the workpiece and for maintaining a gap therebetween, thereby defining a working space, means externally of said wheel for supplying electrolyte to said working space at the downgoing side of said wheel electrode adjacent said gap, and a source of electric current connected across said workpiece and said wheel electrode to make said workpiece predominantly anodic; the improvement wherein said wheel contains substantially uniform inclined slots, spaced about the periphery of said wheel to entrain and supply a substantially continuous flow of finite bodies of electrolyte through said working space.

9. The method of electrolytically shaping a metallic workpiece comprising supporting said workpiece and an electrically conductive wheel having means in the periphery thereof for entraining electrolyte for rotation of the wheel relative to said workpiece and for relative converging movement of the wheel and workpiece, effecting rotation of the wheel and convergent relative movement of the wheel and workpiece to establish and maintain a gap between them thereby defining a working space, supplying electrolyte to the peripheral surface of the wheel at the down going side adjacent the gap whereby finite quantities of electrolyte are entrained at the peripheral surface of the wheel and transported in succession through said working space at a rate such as to constitute a substantially continuous flow of electrolyte through said gap and connecting the wheel and workpiece in an electrical circuit including the electrolyte such that the workpiece is predominantly anodic.

3,377,261
WATER-SOLUBLE BIAXIALLY ORIENTED POLY(ETHYLENE OXIDE) FILM

Frede H. Ancker, Warren Township, Bound Brook, N.J., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed July 19, 1963, Ser. No. 296,372
9 Claims. (Cl. 204—159.14)

1. A self-supporting, biaxially oriented, water-soluble, ethylene oxide polymer film produced by a process comprising:

(a) forming an ethylene oxide polymer having a molecular weight in the range of about 50,000 to 10,000,000 and an intrinsic viscosity in the range of about 0.5 to 36.0 measured in water at room temperature into a self-supporting film;
(b) subjecting said film to high energy radiation in a dose of at least about 0.5 megarep but less than that dose sufficient to cause incipient gel formation in the polymer, at a temperature less than the crystalline melting point of the ethylene oxide polymer;
(c) heating the irradiated polymer film to an orientation temperature and stretching the film at such orientation temperature;
(d) and rapidly quenching the stretched film under tension to set the orientation in the polymer.

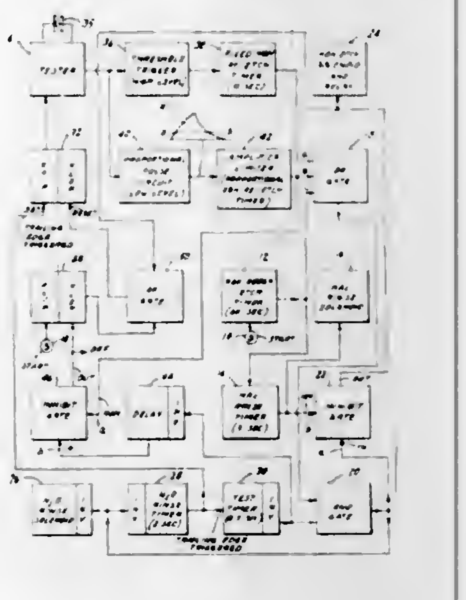
3,377,262
PROCESS OF IMPROVING THE PRINTABILITY OF A POLYESTER DRAFTING FILM USING AN ELECTRIC DISCHARGE AND HEAT

Michael Karickhoff and Jerry Claud Lofland, Circleville, Ohio, assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Mar. 2, 1965, Ser. No. 436,658
3 Claims. (Cl. 204—165)

1. The process comprising: exposing at least one surface of a linear polyester article containing an inorganic particulate material to the action of an electrical discharge between positive and negative electrodes, whereby said surface is rendered adherable to marking materials; and subsequently heating said surface to a temperature within the range of 200° F. to 400° F., whereby the spreading of applied materials is reduced.

3,377,263
ELECTRICAL SYSTEM FOR ETCHING A TUNNEL DIODE

Joseph F. Springer, Jr., Philadelphia, Pa., assignor to Philco-Ford Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Sept. 14, 1964, Ser. No. 396,150
4 Claims. (Cl. 204—224)

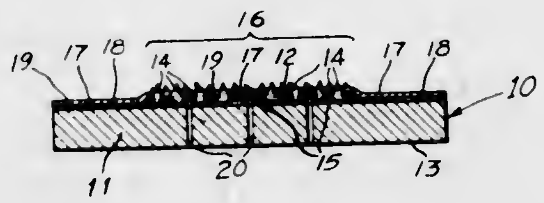


1. In combination:
(a) means for supporting a tunnel diode,
(b) first means for etching said diode,
(c) second means for providing an indication of the peak current level of said diode,
(d) third means for initially actuating said second means,
(e) fourth means responsive to said second means for actuating said first means for a fixed interval if said second means determines the peak current level of said diode is above a first value,

(f) fifth means responsive to said second means for energizing said first means for an interval proportional to the peak current level of said diode if said second means determines the peak current level of said diode is below said first value,
(b) sixth means for reactuating said second means after each energization of said first means is completed,
(h) seventh means for preventing reactuation of said second means if said fifth means energizes said first means for less than said fixed interval, and
(i) eighth means for rinsing said diode after each energization of said first means.

3,377,264
COATED ABRASIVES FOR ELECTROLYTIC GRINDING

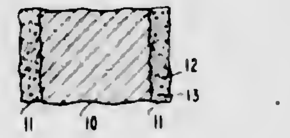
Bruce W. Duke, Amsterdam, and Charles W. Marshall, Troy, N.Y., assignors to Norton Company, Troy, N.Y., a corporation of Massachusetts
Filed Nov. 3, 1964, Ser. No. 408,521
15 Claims. (Cl. 204—290)



A coated abrasive product having a non-conductive backing carrying a plurality of adhesively-bonded, non-conductive abrasive grains on one face and an overlying conductive layer on top of said abrasive grains. When used in electrolytic grinding, the abrasive grains protrude through the electrically conductive layer.

3,377,265
ELECTROCHEMICAL ELECTRODE

Philip D. Caesar, Princeton, N.J., assignor to Mobil Oil Corporation, a corporation of New York
Continuation-in-part of application Ser. No. 146,411, Oct. 20, 1961. This application Nov. 16, 1964, Ser. No. 411,204
8 Claims. (Cl. 204—290)



1. An electrode for an electrochemical cell comprising an electron-conductive support, a thin porous film of fibrous alumina bonded to said support, said alumina having the crystal lattice of boehmite, said film having a thickness of up to about 10,000 Angstrom units, and, deposited in and on said film, an electrochemical catalyst.

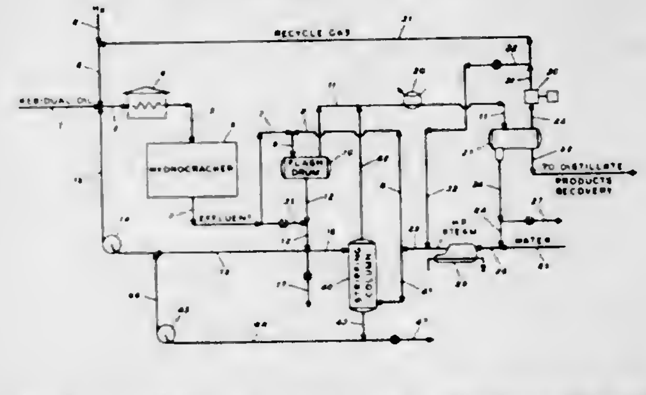
3,377,266
ELECTROTHERMAL PYROLYSIS OF OIL SHALE

Ivan S. Sainikov, 1830 Zinnia, Golden, Colo. 80401
Filed Oct. 12, 1964, Ser. No. 403,315
10 Claims. (Cl. 208—11)

1. A continuous process for destructively distilling oil shale rock to recover shale oil therefrom which comprises the steps of crushing the shale and passing it at a controlled rate of travel in succession through a preheat zone, and a distillation zone in which the crushed shale is heated to the temperature of distillation of the oil-forming gases in the shale by advancing the shale into direct heat transfer relation to a series of elongated heating elements arranged parallel to the path of travel of the shale while excluding air from the preheat and distillation zones, and thereafter positively advancing the shale from the distillation zone to a heat exchange zone in which the shale rock is combusted to produce additional heat energy.

3,377,267
VAPOR-LIQUID PHASE SEPARATION OF HYDROCONVERSION PROCESS EFFLUENT WITH THE USE OF HYDROGEN AND STEAM

Byron G. Spars, Mill Valley, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
Filed Aug. 6, 1965, Ser. No. 477,829
6 Claims. (Cl. 208—108)



1. In a process for converting a hydrocarbon feed selected from the group consisting of petroleum distillates, petroleum residua and mixtures thereof having an end boiling point substantially above 950° F. to lower boiling products by subjecting said feed and at least 1000 s.c.f. of hydrogen per barrel of feed to a temperature in the range of about 700° to about 950° F. at a pressure in the range of about 1000 to 5000 p.s.i.g., in a hydroconversion zone and recovering from the effluent from said hydroconversion zone, products boiling below about 950° F. and higher boiling materials at least a portion of which is recycled to said hydroconversion zone, the improvement which comprises passing the effluent from said hydroconversion zone including effluent hydrogen into a separation zone, maintaining in said separation zone a temperature substantially the same as that in said hydroconversion zone and a pressure only slightly lower than that of said hydroconversion zone, introducing into said separation zone from about 6 to about 60 pounds of steam per barrel of normally liquid effluent entering said separation zone, withdrawing from the upper part of said separation zone a vapor mixture comprising hydrogen, steam and the hydrocarbon products, withdrawing from the lower part of said separation zone high boiling liquid hydrocarbons and recycling at least a portion of said liquid hydrocarbons to said hydroconversion zone.

3,377,268
DEMETALLIZATION OF PETROLEUM FRACTIONS

Tao Ping Li, Texas City, Tex., and Robert John Rosscup, Valparaiso, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Illinois
No Drawing. Filed Dec. 27, 1965, Ser. No. 516,750
9 Claims. (Cl. 208—252)

Method for removing metal compounds from petroleum fractors utilizing an absorbent which has been treated with a member of the group consisting of nicotinic acid, isonicotinic acid, salts of said acids and mixtures thereof.

3,377,269
OXIDATION CATALYST COMPRISING VARIABLE DENSITY ACTIVATOR

Herman S. Bloch, Skokie, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 369,279, May 21, 1964, which is a continuation-in-part of application Ser. No. 75,666, Dec. 14, 1960. This application June 15, 1964, Ser. No. 375,354

13 Claims. (Cl. 208—466)

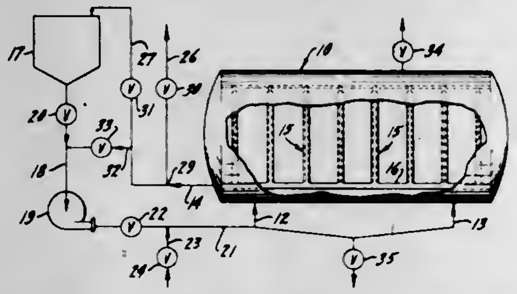
A catalyst particle comprising Pt on high surface area alumina, a minor portion of said surface area comprising a number of small localized spots of Pt at a high density of the order of 10–20,000 micrograms of Pt/m.^{2}, and the remaining surface area thereof having a uniform distribution of Pt thereon at a low density of the order of 0.9–10 micrograms of Pt/m.^{2}, the total Pt content of said particle being 0.05%–0.2% by weight.

3,377,270
PROCESS OF REMOVING IMPURITIES WITH A MIXTURE OF CATION AND ANION RESINS

Joseph R. Capecci, Bronx, N.Y., assignor to Union Tank Car Company, Chicago, Ill., a corporation of New Jersey

Filed Feb. 23, 1965, Ser. No. 434,562

6 Claims. (Cl. 210—37)



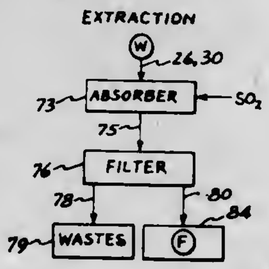
1. In a liquid treating process comprising passing the liquid through a bed comprising a mixture of finely divided cation and anion exchange resin particles in the size range of about 60 to 400 mesh, said bed containing anion and cation resin particle fines smaller than 400 mesh, the method of reducing the pressure drop across said bed comprising prior to forming said bed determining the type and relative amount of excess resin particle fines in a liquid slurry of said mixture of resin particles and adding a predetermined amount of the other type of resin particle fines in the size range of about 5–37 microns to said mixture of resin particles so that a clear supernatant would form upon settling of a slurry of said mixture.

3,377,271
PROCESS FOR THE TREATMENT OF WASTE-CONTAINING WATERS

Everett Douglas Cann, Freeport, Ill., assignor of forty percent to William T. Neiman

Continuation-in-part of application Ser. No. 453,351, May 5, 1965, which is a continuation-in-part of application Ser. No. 270,917, Apr. 5, 1963. This application May 31, 1966, Ser. No. 554,200

12 Claims. (Cl. 210—45)



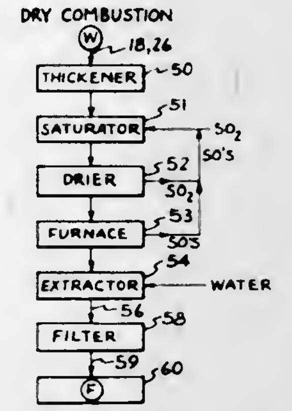
Waste-containing waters are treated for purification, disposal, or reuse with a regenerable floc of magnesium or zinc hydroxide. Procedures are described for recovering and recycling the magnesium and/or zinc.

3,377,272
PROCESS FOR THE TREATMENT OF WASTE-CONTAINING WATERS

Everett Douglas Cann, Freeport, Ill., assignor of forty percent to William T. Neiman

Continuation-in-part of application Ser. No. 453,351, May 5, 1965, which is a continuation-in-part of application Ser. No. 270,917, Apr. 5, 1963. This application June 8, 1966, Ser. No. 556,051

4 Claims. (Cl. 210—45)



Waste-containing waters are treated for purification, disposal, or reuse by contacting with a soluble sulfur oxide salt of the metals aluminum and/or iron alkalized to form a waste-cohering hydroxide floc, recovering the floc and wastes, treating recovered material with sulfur dioxide to re-dissolve the metal, and cycling the resultant soluble sulfur oxide salt of the metal to the contacting step.

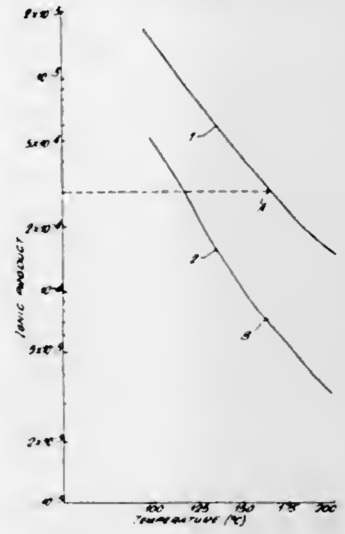
3,377,273
PROCESS AND APPARATUS FOR DESALINATION OF AN AQUEOUS SOLUTION CONTAINING CALCIUM SULPHATE

Eugen Glueckauf, Didcot, England, assignor to United Kingdom Atomic Energy Authority, London, England

Filed Feb. 14, 1966, Ser. No. 527,183

Claims priority, application Great Britain, Feb. 17, 1965, 6,877/65

11 Claims. (Cl. 210—46)



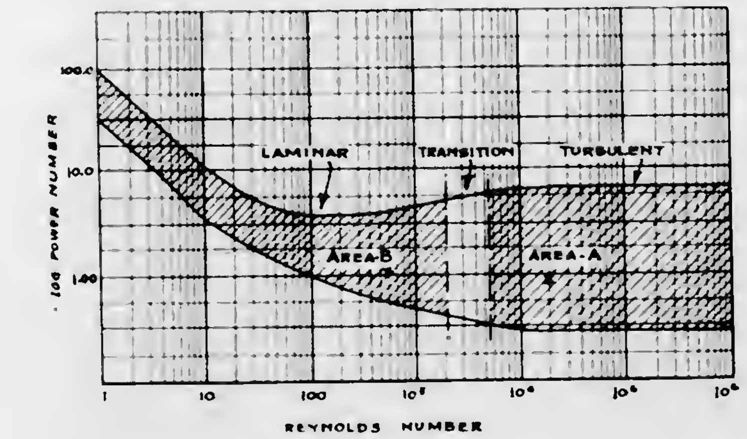
1. A process for the desalination of an aqueous solution containing calcium sulphate comprising the steps of reducing the concentration of calcium sulphate in the aqueous solution and distilling the solution having a reduced calcium sulphate concentration, where the steps of reducing the calcium sulphate concentration comprise heating the aqueous solution to a temperature at which the concentration of calcium sulphate in the solution exceeds the solubility of anhydrous calcium sulphate but is less than the solubility of calcium sulphate hemihydrate and reducing the calcium sulphate concentration by passing the heated solution through a bed of anhydrous calcium sulphate prior to effecting the distillation step.

3,377,274
METHOD OF COAGULATION OF LOW TURBIDITY WATER

John T. Burke, La Grange, Mahmoud T. Dajani, Park Forest, and Theodore R. Schuh, Jr., Broadview, Ill., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

Filed Jan. 5, 1965, Ser. No. 423,540

9 Claims. (Cl. 210—53)



1. A method of optimizing the efficiency of coagulation of low turbidity water via treatment thereof with chemical additives which comprises the sequential steps of first adding in at least a coagulation inducing dosage a chemical additive having at least one site of cationic charge to said water having suspended therein 15–30,000 p.p.m. of solids, subjecting said cationic-treated water to a zone of turbulent flow as defined by the parameters of the graph of the drawing of points lying within Area A, subsequentially further adding a second chemical additive to said partially coagulated water to complete said coagulation, said second added chemical possessing at least one site of anionic charge, subjecting the anionic-treated water to a second zone of laminar flow as defined by the parameters of the graph of the drawing of points lying within Area B, and separating the thus coagulated solids from the water.

3,377,275
TREATMENT FOR AQUEOUS INDUSTRIAL PROCESS FLUIDS

Raymond J. Michalski, Riverdale, Michael S. Sapienza, Oak Forest, and Leonard L. Wolfson, Park Forest, Ill., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed June 17, 1965, Ser. No. 464,866

4 Claims. (Cl. 210—64)

This invention deals with synergistic blend of 3,5-dimethyl tetrahydro 1,3,5,2H-thiadiazine-2-thione in combination with formaldehyde as an improved microbiological formulation for treating industrial process fluids. Typical of the industrial process fluids are aqueous colloidal silica sols, paper mill systems, water flooding operations of the type used in the secondary recovery of petroleum and industrial lubricants and coolants.

3,377,276
DRILLING FLUIDS AND ADDITIVES THEREFOR

Harry W. Parker, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Nov. 7, 1963, Ser. No. 322,026

14 Claims. (Cl. 252—8.5)

1. An aqueous drilling fluid, comprising water, finely divided inorganic solids, and a small but effective amount within the range of from 0.5 to 24 pounds per barrel of an extracted castor pomace which has been solvent extracted with an inert organic solvent so as to contain not more than about 3 weight percent residual castor oil, said amount being sufficient to improve at least one of the (*a*) lubricating properties and (*b*) fluid loss properties of said drilling fluid.

3,377,277
LUBRICATING COMPOSITIONS CONTAINING A COMPLEX SULFIDE OF ARSENIC AND ANTIMONY

John Richard Soulen, Narberth, Pa., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Jan. 26, 1967, Ser. No. 611,824

8 Claims. (Cl. 252—12)

A complex sulfide of arsenic and antimony, having the approximate formula $AsSbS_4$, is used as a solid lubricant composition for bearing surfaces, for example, either alone as a powder or film, or as an essential additive in conventional lubricant formulations such as greases and oils, or in a self-lubricating composite structure.

3,377,278
DRAWING LUBRICANT

Sergio A. Ruzza, Warren, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

No Drawing. Filed July 5, 1966, Ser. No. 563,640

9 Claims. (Cl. 252—23)

A water dispersible composition adapted to be applied to the surface of metal stock so as to provide an adherent protective film which serves as a lubricant when the metal stock is worked. The composition comprises a protective colloid, a fatty acid soap, a lubricant pigment and potassium-sodium tartrate which was found to be an excellent lubricant and pigment stabilizing compound.

3,377,279
METHOD OF PREPARING LUBRICANTS

Wilhelm Sibert, Munich, Germany, assignor to Molykote Produktions G.m.b.H., Munich, Germany

No Drawing. Filed July 19, 1965, Ser. No. 473,220

Claims priority, application Germany, July 22, 1964, M 61,843

3 Claims. (Cl. 252—30)

This invention relates to a novel lubricant composition and a method for preparing the same wherein an inorganic salt solution is admixed with a solid lubricant.

3,377,280
METHOD OF PREPARING GRAPHITE-METAL HALIDE COMPOUNDS

Adolf Knappwost, Hamburg, Germany, assignor to Molykote Produktions G.m.b.H., Munich, Germany

No Drawing. Filed Aug. 4, 1965, Ser. No. 477,287

Claims priority, application Germany, Aug. 12, 1964, K 53,736

7 Claims. (Cl. 252—30)

Graphite-metal halide lubricants are prepared by mixing metal powder with graphite and contacting the mass with a halogenating agent at elevated temperature.

3,377,281
LUBRICATING COMPOSITION

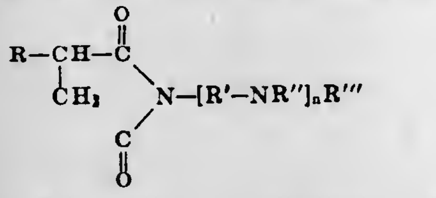
Howard D. Gower, Munster, Ind., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 26, 1965, Ser. No. 435,707

4 Claims. (Cl. 252—32.7)

1. A lubricating oil composition consisting essentially

of a major amount of a mineral oil of lubricating viscosity, about 0.2% to 3% by weight of a basic calcium aromatic sulfonate having a base number of about 10 to 60 and a calcium content of about 1 to 5%, about 0.1 to 1% by weight of an overbased calcium aromatic sulfonate having a base number of about 200 to 500 and a calcium content of about 8 to 30%, and about 0.25 to 2.5% by weight of an alkenyl succinimide having the formula:



wherein R is an alkenyl radical of about 30 to 200 carbon atoms, R' is a divalent alkylene radical of about 2 to 4 carbon atoms, R'' and R''' are selected from the group consisting of hydrogen and a lower alkyl radical and *n* is an integer having a value of 1 to 6, with the proviso that when *n* is 1, R'' and R''' are lower alkyl and when *n* is greater than 1, R'' and R''' are hydrogen, said composition having a total base number of about 2 to 7 with said basic calcium aromatic sulfonate providing about 5 to 25% of said total base number and said overbased calcium aromatic sulfonate providing about 75 to 95% of said total base number.

2. The composition of claim 1 which contains a small amount of zinc dithiophosphate diester in which the organic groups contain from about 4 to 20 carbon atoms, said amount being sufficient to provide a phosphorous level of from about 0.02 to 0.2% by weight and about .001 to 1 percent by weight of a methacrylate ester polymer in which the ester radical contains 4 to 20 carbon atoms.

3,377,282
PRODUCTION OF OIL ADDITIVES

Cyril Ove Robert Bell, Newport, England, assignor to Monsanto Chemicals Limited, London, England, a British company

No Drawing. Filed Sept. 13, 1965, Ser. No. 487,073

9 Claims. (Cl. 252—32.7)

1. A process comprising reacting at temperatures in the range of about 100° F. to about 300° F. a mixture of

- (a) a phosphosulfurized olefin polymer, said polymer having a molecular weight of from about 500 to 2500 and
- (b) a compound selected from the group consisting of an alkylphenol and an alkylphenol sulfide in each of which the alkyl group has from 5 to 20 carbon atoms, with
- (c) at least about an amount sufficient to neutralize said mixture of an oxide or hydroxide of a metal selected from the group consisting of zinc, magnesium, calcium and barium in the presence of a lower alkanol having from 1 to 4 carbon atoms, the weight ratio of (a) to (b) being about 1:1 to about 4:1, respectively.

8. A composition comprising a major amount of a lubricating oil and a minor amount of the product of the process of claim 1.

3,377,283
PROCESS FOR PREPARING THICKENED COMPOSITIONS

Richard L. McMillen, Painesville, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

Continuation-in-part of application Ser. No. 369,271, May 21, 1964. This application Mar. 9, 1967, Ser. No. 621,825

15 Claims. (Cl. 252—33)

A process subject to continuous operation which comes passing an alkali or alkaline earth metal overbased organic material in admixture with a conversion agent through an elongated heating tube at a temperature within the range of about 90°–320° C. and a pressure in excess of one atmosphere which is sufficient to maintain the admixture in the liquid state. Oil solutions of carbonated basic alkaline earth metal salts or complexes of petrosulfonic acids are typical overbased organic materials while water, carboxylic acids, and alcohols are among the suitable conversion agents. The products are non-Newtonian colloidial disperse systems which are useful as lubricants, and additives for lubricants, resins, coating compositions, and the like.

3,377,284
SOLVENT-RESISTANT GREASES FOR HIGH SPEED BEARINGS

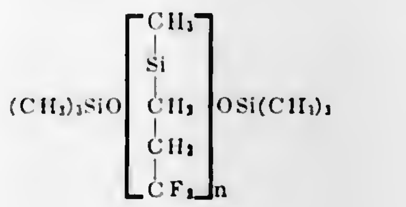
Harry M. Schiefer and John S. Delphenich, Midland, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed June 7, 1965, Ser. No. 462,101

7 Claims. (Cl. 252—49.6)

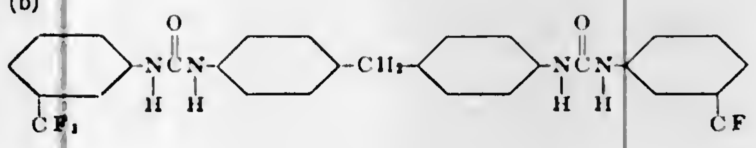
Thermally stable lubricant greases exhibiting superior high-speed bearing life and organic solvent-resistance consisting of (a) liquid fluorinated polysiloxane and (b) arylurea thickener. Illustrative example being mixture of

(a)



and

(b)



3,377,285
NON-THICKENING OIL CONCENTRATES

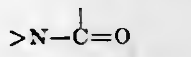
James H. Randles, Newton, Chester, England, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 2, 1966, Ser. No. 546,551

Claims priority, application Great Britain, May 7, 1965, 19,395/65

6 Claims. (Cl. 252—51.5)

Mineral oil concentrates containing an oil soluble ester copolymer having a tendency to increase in viscosity and gel are inhibited with respect to increase in viscosity or gelling by the addition of a minor amount of a nonpolymerizable nitrogen-containing heterocyclic compound having the unit



$$>N-\overset{|}{C}=O$$

in the molecule.

3,377,286
DEVELOPER POWDER CONTAINING BLACK MAGNETIC IRON OXIDE

Buck Stricklin, Roseville, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Jan. 19, 1965, Ser. No. 426,678

3 Claims. (Cl. 252—62.1)

1. A developer powder adapted for developing a permanent visible image on a paper copy-sheet having a fluid

metastable liquid latent image, comprising a mass of colored particles of a mixture of components consisting essentially of a thermoplastic binder and a black magnetic iron oxide powder, said particles having a particle size within the range of 10–40 microns and mostly within the range of about 20–35 microns, a specific gravity within the range of 1.89–2.3, and being adherently retained when placed momentarily in contact with cooled liquefied benzil.

3,377,287
REFRIGERANT COMPOSITIONS

Donovan Erb Kvalnes, Westchester, Pa., and Howard Maurice Parmelee, Woodstown, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 4, 1965, Ser. No. 461,511

2 Claims. (Cl. 252—67)

Mixtures of 1,1,1-trifluoroethane and chloropentafluoroethane. These mixtures behave like an azeotrope, and they boil in the range of −55° F. to −57° F. They are useful as refrigerant compositions.

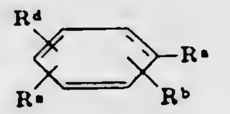
3,377,288
HYDRAULIC PRESSURE TRANSMISSION FLUID

Arthur W. Sawyer, Hamden, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Nov. 5, 1964, Ser. No. 409,317

13 Claims. (Cl. 252—75)

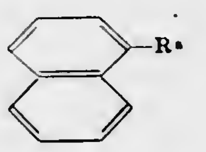
1. A hydraulic fluid composition consisting essentially of from about 20 to about 50 percent by weight, based on the total weight of the fluid composition, of at least one lubricant selected from the group consisting of (A) a compound of the formula:



wherein R^a is selected from the group consisting of (a) $(OC_nH_{2n})_zOH$, in which *n* is an integer of from 2 to 4 inclusive, *z* is an integer of from 1 to 25 and with the proviso that when *n* is 2 then *z* is 1 to 5 inclusive and (b) a heteric polymeric chain of oxyethylene units and oxyalkylene units derived from an alkylene oxide selected from the group consisting of propylene oxide and butylene oxide, the said chain being terminated by a free hydroxyl group, wherein the said chain contains a total of not more than 40 oxyalkylene units and in the said chain the weight percent of oxyethylene units, based on the total weight of all the oxyalkylene units in the entire chain, is from 5 to 65; R^b is selected from the group consisting of (a) hydrogen and (b) alkyl of from 1 to 20 carbon atoms, R^c is selected from the group consisting of (a) hydrogen, (b) alkyl of from 1 to 20 carbon atoms, (c) $(OC_nH_{2n})_zOH$, wherein *n* and *z* have the same meaning as previously described and (d) a heteric polymeric chain of oxyethylene units and oxyalkylene units derived from an alkylene oxide selected from the group consisting of propylene oxide and butylene oxide, the said chain being terminated by a free hydroxyl group, wherein the said chain contains a total of not more than 40 oxyalkylene units and in the said chain the weight percent of oxyethylene units, based on the total weight of all of the oxyalkylene units in the entire chain, is from about 5 to about 65, R^d is selected from the group consisting of (a) hydrogen, (b)

$$(OC_nH_{2n})_zOH$$

wherein *n* and *z* have same meaning as previously described, and (c) a heteric polymeric chain of oxyethylene units and oxyalkylene units derived from an alkylene oxide selected from the group consisting of propylene oxide and butylene oxide, the said chain being terminated by a free hydroxyl group, wherein the said chain contains a total of not more than 40 oxyalkylene units and in the said chain the weight percent of oxyethylene units, based on the total weight of all of the oxyalkylene units in the entire chain, is from about 5 to about 65, and (B) a compound of the formula:



wherein R^a has the same meaning as previously described; and from about 50 to about 80 percent by weight based on the total weight of the fluid composition of at least one diluent selected from the group consisting of (a) a glycol of the formula:

$$HO(R^eO)_pH$$

wherein R^e is alkylene of from 2 to 3 inclusive carbon atoms, and *p* is an integer of from 1 to 3 inclusive and (b) a glycol alcohol ether of the formula:

$$R^fO(R^gO)_mH$$

wherein R^f is alkyl of from 1 to 6 carbon atoms, R^g is alkylene of from 2 to 3 inclusive and *m* is an integer of from 1 to 4 inclusive.

3,377,289
LIQUID OR PASTE SOAP PREPARATIONS HAVING SULFO FATTY ACID SALTS AS VISCOSITY REDUCING AGENTS

Werner Stein, Erkrath-Unterbach, Herbert Weiss, Cologne-Deutz, and Peter Neuhausen, Krefeld-Fischeln, Germany, assignors to Henkel & Cie., G.m.b.H., Dusseldorf-Holthausen, Germany, a corporation of Germany

No Drawing. Filed Jan. 4, 1965, Ser. No. 423,355

Claims priority, application Germany, Jan. 10, 1964, H 51,322

14 Claims. (Cl. 252—109)

1. Wash-active aqueous concentrate having a liquid to pasty consistency which consists essentially of

- (a) 5–55% of wash active substances constituting a mixture of fatty acid soaps having 10–31 carbon atoms in the fatty acid radicals and α-sulfofatty acid salts having 10 to 12 carbon atoms in the fatty acid radical, in which said α-sulfofatty acid salts are present in an amount of about 4–60% of said mixture; and
- (b) 95–45% of water.

3,377,290
LIQUID OR PASTE DETERGENT PREPARATIONS HAVING SULFOFATTY ACID SALTS AS VISCOSITY REDUCING AGENTS

Werner Stein, Erkrath-Unterbach, Otto Koch, Hilden, Rhineland, and Herbert Weiss, Cologne-Deutz, Germany, assignors to Henkel & Cie., G.m.b.H., Dusseldorf-Holthausen, Germany, a corporation of Germany

No Drawing. Filed July 2, 1964, Ser. No. 380,089

Claims priority, application Germany, July 13, 1963, H 49,711

14 Claims. (Cl. 252—152)

1. Wash-active aqueous concentrate having a liquid to pasty consistency which consists essentially of

(a) 5–45% of wash-active substances constituting a mixture of fatty alcohol sulfate having 10–20 carbon atoms and a member selected from the group consisting of α-sulfofatty acid salts having 8–24 carbon atoms in which less than 50% thereof are α-sulfofatty acid salts having more than 15 carbon atoms, α-sulfofatty acid aliphatic ester salts having 8–24 carbon atoms in the corresponding α-sulfofatty acid radical and 1–12 carbon atoms in the corresponding aliphatic ester radical, and mixtures thereof, in which the ratio by weight of α-sulfofatty acid salts to the fatty alcohol sulfate is 0.1–1:1, the ratio by weight of the α-sulfofatty acid ester salts to the fatty alcohol sulfate is 0.1–10:1, and the ratio by weight of the mixture of the α-sulfofatty acid salts and ester salts to the fatty alcohol sulfate is 0.1–10:1; and

(b) 95–55% of water.

3,377,291

THICKENED CHEMILUMINESCENT GELS BASED ON PERAMINOETHYLENES

Hilmer Ernest Winberg, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Original application Feb. 20, 1962, Ser. No. 174,404, now Patent No. 3,239,519, dated Mar. 8, 1966. Divided and this application Aug. 14, 1964, Ser. No. 389,809

6 Claims. (Cl. 252—188.3)

Claimed are chemiluminescent compositions, useful as light-generating markers adherent to vertical and porous surfaces, based on tetrakis(disubstituted-amino)ethylenes, e.g., tetrakis(dimethylamino)ethylene, containing a thickening agent, e.g., a hydrocarbon polymer such as polyisobutylene.

3,377,292

SYNERGIZED LANTHANIDE CHELATE PHOTOLUMINESCENT COMPOSITION

Frederick Halverson, Stamford, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Continuation-in-part of applications Ser. No. 299,193, Aug. 1, 1963, and Ser. No. 323,893, Nov. 15, 1963. This application Oct. 22, 1965, Ser. No. 502,503

21 Claims. (Cl. 252—301.3)

1. A composition consisting essentially of an organic polymeric matrix, said matrix being a solid at room temperature and having finely dispersed therein at least one complex of at least one chelate of a lanthanide ion of atomic number greater than 57, the chelates having organic ligands capable, under ultraviolet illumination, of exciting the lanthanide ions into a metastable electronic state from which the lanthanide ion chelates emit photons having an energy corresponding to a transition of the chelated ion to a lower electronic level, the chelates being complexed with a synergic agent having the property of protecting the chelate molecules from interactions causing radiationless loss of energy subsequent to excitation by radiation in the short wave region of the electromagnetic spectrum, the synergic agent being selected from the group consisting of trialkyl group VA, oxides, aryl group VA oxides, alkyl dialkyl phosphinates, dialkyl alkyl phosphonates, trialkyl phosphates, hexa-alkyl phosphoramide, and the corresponding thio analogs, dialkyl sulfoxides, dialkyl sulfones, and cyclic sulfoxides and sulfones with ring sizes from 3 to 10 carbon atoms, the amount of the chelates being sufficient to render said composition photoluminescent under ultraviolet illumination, and the synergic agent being present in an amount of at least about 1 mole per mole of chelate.

3,377,293

PRODUCTION OF FLUID COMPOSITIONS

Eric James Shepherd, Pinner, Middlesex, England, assignor to Monsanto Chemicals Limited, London, England, a British company

No Drawing. Continuation-in-part of application Ser. No. 474,513, July 23, 1965. This application Nov. 23, 1966, Ser. No. 596,442

Claims priority, application Great Britain, June 23, 1959, 21,448/59

16 Claims. (Cl. 252—309)

The present invention is generally directed to a novel process for the production of a fluid composition containing colloidally dispersed silica, which process comprises the steps of forming a stable, water-in-oil emulsion of a silica aquasol and an organic liquid immiscible with said aquasol, and subsequently evaporating water from said emulsion until sufficient water is removed to transfer the silica particles from the aqueous phase of the emulsion to the organic phase of the resulting fluid composition. The aforementioned silica aquasol is characterized by containing colloidally dispersed silica particles having a particle size in the range of from 5 to 250 millimicrons, and having a pH from about 8.0 to about 11.0. The resultant fluid composition is characterized by having a colloidal dispersion of silica particles within said particles size range in said organic liquid.

3,377,294

METHOD FOR DETECTING MOISTURE

George D. Davis, Creve Coeur, Rodney D. Beckham, St. Ann, and Loyd W. Fannin, Creve Coeur, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 83,354, Jan. 18, 1961. This application Jan. 22, 1965, Ser. No. 427,498

5 Claims. (Cl. 252—408)

1. A method for detecting and measuring moisture in a moisture-containing gas which comprises contacting said moisture-containing gas with a molecular sieve selected from the group consisting of calcium-alumino-silicates, sodium-alumino-silicates, and calcium-sodium-alumino-silicates, a portion of the ions of which have been replaced with manganese by ion exchange, the amount of manganese being sufficient to cause a concentration of 0.5 to 15.0 percent by weight manganese in the molecular sieve, the manganese-containing molecular sieve having been heated in the presence of an oxygen-containing gas of the type which will permit oxidation, at a temperature of 550 to 650° C. for a time sufficient to impart a turquoise color to said molecular sieve, observing the change in color of said manganese-containing molecular sieve as moisture is adsorbed thereby, the degree of change in the color of said molecular sieve being indicative of the amount of moisture in said moisture-containing gas.

3,377,295

PROCESS FOR MAKING HIGH STRENGTH MOLECULAR SIEVE NODULES AND EXTRUDATES

James N. Pryor, Baltimore, Md., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Dec. 17, 1964, Ser. No. 419,213

4 Claims. (Cl. 252—455)

Process for making high strength crystalline alumino-silicate nodules or extrudates using a binder comprising an organic nitrogen compound, such as urea, and an alkali metal silicate or an alkali metal aluminate. The process comprises the steps of mixing a solution comprising an organic nitrogen compound with the crystalline alumino-silicate and then forming nodules or extrudates, drying the nodules or extrudates to decompose the organic nitrogen compound, aging the nodules in atmospheric air, washing the nodules, and then drying and activating the nodules by heating. The process is particularly characterized by the aging step.

3,377,296

FLEXIBLE POLYURETHANE FOAMS

Frank J. Dwyer, Buffalo, and Herman Stone, Tonawanda, N.Y., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 187,229, Apr. 13, 1962. This application Nov. 13, 1962, Ser. No. 237,372

5 Claims. (Cl. 260—2.5)

1. A flexible urethane cellular structure characterized by the following physical properties:

Density lbs./cu. ft.		1.3–2.0
Resilience	percent	<40
Hysteresis	do	<50
Indentation load, percent deflection:		
10	lbs	<14
25	lbs	<20
Stress relaxation at, percent deflection:		
10	lbs	<4.5
25	lbs	<7.0

obtained by a process which comprises mixing and co-reacting a polyfunctional polyether having 3 to 4 hydroxyl groups, a hydroxyl number in the range of 70 to 350, and an equivalent weight of about 180 to less than about 800, an organic polyisocyanate, and water, the amounts of polyisocyanate, polyfunctional polyether, and water being such that the ratio of isocyanato groups to active hydrogen-containing groups present in the polyfunctional polyether and in the water is about 0.3:1 to less than 0.9:1 and the amount of water is such to provide a urea/urethane ratio of about 1:1 to less than about 3:1.

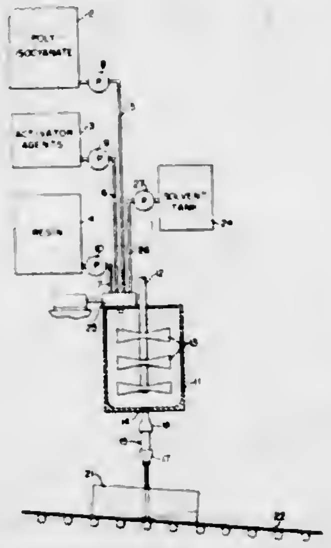
3,377,297

METHOD FOR PRODUCING POLYURETHANE FOAMS

James G. Hanlin, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed July 15, 1963, Ser. No. 294,992

3 Claims. (Cl. 260—2.5)



1. A method of producing polyurethane foam comprising the steps of

(1) forming a liquid polyurethane reaction mixture comprising at least an organic polyisocyanate, a reactive hydrogen containing polymeric material having a molecular weight of about 550 to 4000 and water under a pressure of at least 0.5 to 200 pounds per square inch above atmospheric pressure;

(2) flowing the liquid polyurethane reaction mixture into a hollow expansion chamber containing inert particulated matter therein to increase the travel of the liquid polyurethane reaction mixture between the inlet and outlet to said chamber and to thereby reduce the pressure on said mixture to essentially atmospheric, and then

(3) allowing said polyurethane reaction mixture to flow onto a foam surface, and foam.

3,377,298

EMULSION PASTES OF PALE HYDROCARBON BINDING AGENTS

Jean Conort, Clermont-Ferrand, France, assignor to Esso Standard Société Anonyme Francaise, Paris, France, a corporation of France

No Drawing. Filed Mar. 4, 1964, Ser. No. 349,493

Claims priority, application France, Mar. 8, 1963, 927,350

18 Claims. (Cl. 260—8)

Emulsion pastes or emulsion viscous liquids for use as adhesives or coating compositions are prepared by admixing an aqueous gel of a swelling earth, from 0.5 to 15.0 wt. percent of an ionic emulsifier and from 40–60 wt. percent of a petroleum resin, based on the total emulsion, with or without additional water, pigments, and the like also being present. The emulsions are capable of being diluted with water, without breaking, to the extent that they can be sprayed onto surfaces or the pastes can be spread on surfaces such as pavements, walkways, etc., using mineral fillers, if desired.

3,377,299

LACQUER COMPOSITIONS OF NITROCELLULOSE AND XYLENE-FORMALDEHYDE POLYMERS

Charles A. Rowe, Jr., Elizabeth, Clifford W. Muessig, Roselle, and Stephen A. Yuhas, Jr., Perth Amboy, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Oct. 15, 1965, Ser. No. 496,706

7 Claims. (Cl. 260—13)

1. A lacquer composition comprising nitrocellulose and a xylene-formaldehyde resin as solid constituents dissolved in a hydrocarbon liquid, said xylene-formaldehyde resin having a number average molecular weight in excess of 750 and an oxygen content of at least about 11 wt. percent.

3,377,300

NON-AQUEOUS BACK GUM AND WINDOW ADHESIVE FOR ENVELOPES

Aaron P. Plummer, New York, N.Y., assignor to Stein, Hall & Co., Inc., New York, N.Y., a corporation of New York

No Drawing. Filed Jan. 21, 1964, Ser. No. 339,110

2 Claims. (Cl. 260—15)

A non-aqueous back gum and window adhesive for envelopes, as well as envelopes having the back seals and/or window patches bonded thereto with such adhesive, wherein the adhesive is an organic film-forming resin or base dissolved in an organic solvent system, which solvent system contains a composite plasticizer for the adhesive film-forming resin or base and also an inert filler material.

3,377,301

VISCOSE SOLUTIONS MODIFIED WITH UNSATURATED ALDEHYDES, AND DERIVATIVES THEREOF

Paul H. Williams, Orinda, Calif., and Igor Sobolev, Morristown, N.J., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 20, 1964, Ser. No. 412,823

13 Claims. (Cl. 260—17)

1. A composition comprising a viscose solution containing an additive of the group consisting of polymers

of alpha,beta-ethylenically unsaturated aldehydes, sulfur dioxide-solubilized polymers of alpha,beta-ethylenically unsaturated aldehydes, and sodium bisulfite-solubilized polymers of alpha,beta-ethylenically unsaturated aldehydes.

3,377,302
SAPONIFIED STARCH ACRYLATE GRAFTS

Lewis A. Gugliemelli, Pekin, and Mary Ollidene Weaver and Charles R. Russell, Peoria, Ill., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Jan. 18, 1966, Ser. No. 521,441

3 Claims. (Cl. 260—17.4)

1. Water dispersible thickening agents prepared by reacting an aqueous dispersion of a ceric-induced graft copolymer consisting of starch and from 1 to 2 parts based on the weight of the starch of chemically bonded polymethylacrylate side chains having an average D.S. per starch AGU of 0.000056–0.000091 for about 2 hours at about 80° C. with an aqueous solution containing 0.5–1.5 parts by weight of KOH based on the weight of graft copolymer whereby to convert the ester function of the polymethylacrylate side chains to the carboxylic acid alkali metal salt.

3,377,303
POLYAMIDE COMPOSITION

Dwight E. Peerman and Leonard R. Vertnik, Minneapolis, Minn., assignors to General Mills, Inc., a corporation of Delaware

No Drawing. Filed May 3, 1966, Ser. No. 547,170

9 Claims. (Cl. 260—18)

There is disclosed a specific group of polymeric fat acid polyamides which possess properties suitable for hot melt bonding of vinyl based polymer substrates. These polymers are certain copolymers including a piperazine or dipiperidyl type diamine component. The piperazine type products include a copolymerizing acid and amine to provide suitable properties. With regard to the dipiperidyl type, in addition to compositions including a copolymerizing acid and amine, compositions are suitable with either a copolymerizing acid or amine with a polymeric fat acid, as well as compositions which include a dimer diamine and dicarboxylic acid other than a polymeric fat acid. Illustrative of one vinyl based polymer is polyvinyl chloride, i.e. "Pattina."

3,377,304
HIGH OXIRANE FATTY ESTERS

Frank E. Kuester, La Grange, Ill., and Philip H. Rhodes, Cincinnati, Ohio, assignors to Swift & Company, Chicago, Ill., a corporation of Illinois

No Drawing. Continuation-in-part of application Ser. No. 807,985, Apr. 22, 1959. This application May 18, 1964, Ser. No. 368,389

6 Claims. (Cl. 260—23)

1. A polyvinyl resin composition comprising: a vinyl halide polymer which is free of polyunsaturated monomers and which contains at least 50% polymerized vinyl halide units and glyceride esters of oxirane-containing fatty acids of 10–30 carbons having a low amount of hydroxyl substitution and a low polymer content, the oxirane groups being present in the fatty acyl portion of said esters, the oxirane content of said esters being in the range 8.8–9.2% and the iodine value less than about 12.

3,377,305
HEAT SEALABLE COATING COMPOSITION

Arthur A. House, Freehold, N.J., assignor to Cities Service Oil Company, Bartlesville, Okla., a corporation of Delaware

No Drawing. Filed July 18, 1966, Ser. No. 565,738

10 Claims. (Cl. 260—27)

A wax composition suitable for use as laminating or heat sealing agents in the packaging arts, comprising from about 30% to about 70% wax, from about 10% to about 40% of a rosin ester, from about 0.5% to about 20% of a polyamide resin, and from about 10% to about 40% of an ethylene-RCOOR′ copolymer. The wax preferably has a melting point of about 110° F. to about 210° F. and a viscosity of from about 35 to about 120 SUS at 210° F., the polyamide resin may be produced by interacting ethylene diamine and dimerized linoleic acid and have a molecular weight of from about 5,000 to about 10,000 and the ethylene-RCOOR copolymer may be vinyl acetate.

3,377,306
STORABLE SILICONE COMPOSITION

James Franklin Hyde, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Continuation-in-part of application Ser. No. 260,309, Feb. 2, 1963. This application Apr. 9, 1965, Ser. No. 447,074

20 Claims. (Cl. 260—29.2)

Method of preventing structure build up between a diorganopolysiloxane having a viscosity of at least 1,000,000 cs. at 25° C. and a reinforcing silica filler by adding water during or prior to the mixing operation.

3,377,307
PROCESS FOR THE DRESSING OF LEATHER

Günter Kolb, Cologne-Stammheim, and Kurt Eitel, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Continuation of application Ser. No. 32.521, May 31, 1960. This application July 22, 1966, Ser. No. 567,319

Claims priority, application Germany, June 4, 1959, F 28,605

5 Claims. (Cl. 260—29.7)

This invention relates to dressing compositions for leather based upon a butadiene copolymer having a particular ratio of monomers. The polymers impart improved heat and solvent resistance to the leather coating and consist essentially of a copolymer of (a) 30–50% by weight of an aliphatic conjugated diene having 4 to 6 carbon atoms (b) 5–10% by weight of a member selected from the group consisting of acrylamide and its α-substitution products and (c) 65–40% by weight of at least one further monoethylenicaly unsaturated monomer which is copolymerizable with said conjugated dienes.

3,377,308
TWO-STEP PROCESS FOR THE PRODUCTION OF SOLUTIONS OF SEGMENTED POLYURETHANE POLYMERS

Harald Oertel and Heinrich Rinke, Leverkusen, and Wilhelm Thoma, Cologne-Flittard, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Sept. 3, 1963, Ser. No. 306.271

Claims priority, application Germany, Sept. 4, 1962, F 37,740

22 Claims. (Cl. 260—32.6)

Highly elastic segmented polyurethanes are prepared by reacting in an inorganic solvent for polyacrylonitrile a linear NCO terminated prepolymer from a linear dihydroxy compound having a molecular weight of from about 650 to about 5000 and an aromatic diisocyanate with an excess of a hydrazide or a hydrazine, reacting the polymer thus formed with an organic polyisocyanate having NCO groups of a reactivity less than that of an unhindered NCO group bonded to a benzene ring, the quantity of the last added isocyanate being up to that equivalent to react with all of the reactive groups.

3,377,309
PRIMER COMPOSITIONS AND A METHOD OF MAKING THEM

Jack R. Harper, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Jan. 7, 1963, Ser. No. 249,600

6 Claims. (Cl. 260—32.8)

1. A composition consisting essentially of 1 to 75 percent by weight of a phenyl-containing siloxane resin which is a copolymer that consists essentially of phenyl and methylsiloxane units and has a phenyl to silicon ratio in the range of .1:1 to 1:1, a methyl to silicon ratio in the range of .6:1 to 1.1:1 and the total of the phenyl and methyl to silicon ratio being in the range of .8:1 to 1.8:1, 0.1 to 10 percent by weight of an alkylsilicate, 0.01 to 2 percent by weight of a chlorosilane and the balance being a non-halogenated solvent.

3,377,310
COATING COMPOSITIONS CONTAINING CROSS-LINKABLE POLYAMIDES DISSOVLED IN PHENOLIC SOLVENTS

Irving Serlin, Springfield, Edward Lavin, Longmeadow, and Albert H. Markhart, Wilbraham, Mass., assignors, by mesne assignments, to Monsanto Company, a corporation of Delaware

No Drawing. Filed Oct. 22, 1964, Ser. No. 405,843

11 Claims. (Cl. 260—33.4)

Disclosed herein is a process for forming a stable solution of a polyamide acid in a phenolic solvent which comprises reacting an aromatic dianhydride and a diamine in a phenolic medium in the presence of a tertiary amine.

3,377,311
PREPARING SILICONE RUBBER

Kenneth Malcolm Roch, Dinas Powis, Glamorgan, Wales, assignor to Midland Silicones Limited, London, England

No Drawing. Filed Aug. 8, 1963, Ser. No. 300,905

10 Claims. (Cl. 260—37)

8. A composition consisting essentially of a mixture of (1) 100 parts by weight of an essentially linear diorganosiloxane polymer, wherein the organic substituents are selected from monovalent hydrocarbon radicals, monovalent halogenohydrocarbon radicals and cyanoalkyl radicals, (2) 10–75 parts by weight of a reinforcing silica filler, (3) 2–75 parts by weight of a lower polymeric siloxane of the general formula $R[R_2SiO]_nSiR_2X$ where each R is a monovalent hydrocarbon radical, each X is selected from the group consisting of hydrogen and halogen atoms, hydroxyl, alkoxyl and acyloxyl radicals and *n* is an integer less than 25 and greater than 0, and (4) a vulcanizing agent.

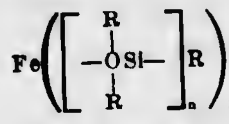
3,377,312
HEAT-STABILIZED SILOXANE ELASTOMERS

Ronald H. Baney, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed June 15, 1964, Ser. No. 375,379

12 Claims. (Cl. 260—37)

5. A heat-stable siloxane elastomer stock consisting essentially of (a) curable siloxane elastomer stock plus, mixed therewith, from 0.005 to 5 weight percent of (b) iron chemically bound as ferric silanolate of the formula:



$$Fe\left(\left[-O\overset{R}{\underset{R}{\overset{|}{\underset{|}{Si}}}}-\right]_n R\right),$$

where R is a monovalent hydrocarbon or halohydrocarbon radical of less than 11 carbon atoms, and "*n*" is a positive integer, based on the weight of the elastomer stock.

11. The composition of claim 5 where a silica filler is present.

3,377,313
DISPERSION OF CARBON BLACK IN A THERMOPLASTIC POLYMER IN ADMIXTURE AND WITH SEPARATELY PREPARED OXYMETHYLENE POLYMER

Julius A. Jupa, Union, and John J. Sweeney, Clark, N.J., assignors to Celanese Corporation, a corporation of Delaware

No Drawing. Filed July 1, 1963, Ser. No. 292,154

22 Claims. (Cl. 260—41)

1. A composition of matter comprising:

(1) a dispersion of (*a*) carbon black in (*b*) a thermoplastic polymeric material, in admixture with

(2) separately prepared oxymethylene polymer, said separately prepared oxymethylene polymer being the sole oxymethylene polymer in said composition and said thermoplastic polymeric material being inert with respect to said carbon black and said oxymethylene polymer.

3,377,314
STABILIZED DYE RECEPTIVE POLYAMIDE CONTAINING COPPER ACETATE, POTASSIUM IODIDE AND HEXAMETHYLENEDIAMMONIUM PHENYLPHOSPHINATE

Anthony Anton, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 396,354, Sept. 14, 1964. This application July 26, 1966, Ser. No. 567,848

2 Claims. (Cl. 260—45.75)

Polyamide yarns having a high degree of blue-whiteness contain specified amounts of copper acetate, potassium iodide and hexamethylenediammonium phenylphosphinate.

3,377,315
ANTIOXIDANTS

Stanley Ashton, Graham Howard Rayner, and Gerald Scott, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Dec. 5, 1963, Ser. No. 328,181

Claims priority, application Great Britain, Dec. 10, 1962, 46,470/62

5 Claims. (Cl. 260—45.75)

The compounds are of the class of acylaminodiphenylamines which are useful as stabilizers for natural and synthetic polymers and mineral oils.

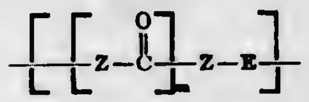
3,377,316
POLYHYDROXYAMINOUREAS AND METHOD OF MAKING SAME

Norman H. Reinking, Millington, and Warren F. Hale, Somerville, N.J., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Aug. 20, 1965, Ser. No. 481,389

22 Claims. (Cl. 260—47)

1. Polyhydroxyaminourea having a reduced viscosity of at least about 0.3 when measured in dimethylformamide and about 0.2 when measured in a 1:1 mixture of water pyridine said polyhydroxyaminourea consisting essentially of repeating units having the general formula:



$$-\left[-\left[Z-\overset{O}{\overset{\|}{C}}-\right]_m Z-E-\right]-$$

wherein Z is a 1,4-piperazine diradical, E is a hydroxyl containing radical residuum of a 1,2-epoxide and *m* is an integer having values from 1 to 2.

3,377,317

FLAME RESISTANT COMPOSITIONS AND METHODS OF MAKING SAME, SAID COMPOSITIONS COMPRISING THE REACTION PRODUCT OF A PHENOL-ALDEHYDE RESOL AND A PHOSPHORIC ACID ESTER

Lowell E. Hoxie, 205 Ridge Road,
Rutherford, N.J. 07070
Filed Aug. 5, 1964, Ser. No. 387,674
2 Claims. (Cl. 260—59)

A flame retardant, flame resistant resinous composition is disclosed comprising the reaction product of a phosphoric acid ester and a phenolic aldehyde resol.

3,377,318

PREPARATION OF FORMALDEHYDE-DIKETENE COPOLYMERS WITH ORGANIC NITROGEN COMPOUNDS AS CATALYST

Kornel D. Kiss, University Heights, Ohio, assignor to Diamond Shamrock Corporation, a corporation of Delaware
No Drawing. Filed May 25, 1964, Ser. No. 370,076
6 Claims. (Cl. 260—73)

Thermally stable thermoplastic copolymers are prepared by reacting a major amount of formaldehyde and a minor amount of diketene under substantially anhydrous conditions and in the presence of an organic nitrogen compound as catalyst. Specific organic nitrogen compounds employed are triethylamine, dipropylamine, tributylamine and pyridine.

3,377,319

METHOD OF PREPARING POLYTETRAMETHYLENE NAPHTHALENE DICARBOXYLATE POLYESTERS

Maria V. Wiener, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
No Drawing. Filed Mar. 10, 1964, Ser. No. 350,683
4 Claims. (Cl. 260—75)

This invention relates to the condensation process for the preparation of polytetramethylene naphthalene dicarboxylate polyesters using a soluble lead compound and a soluble antimony compound as catalysts.

3,377,320

PROCESS OF USING GERMANIUM DIOXIDE AS A POLYESTER CONDENSATION CATALYST

Gijsbertus J. Zoetbrood, Velp, Gelderland, Netherlands, assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware
No Drawing. Filed Feb. 19, 1965, Ser. No. 434,090
Claims priority, application Netherlands, Mar. 3, 1964, 64—2,098
5 Claims. (Cl. 260—75)

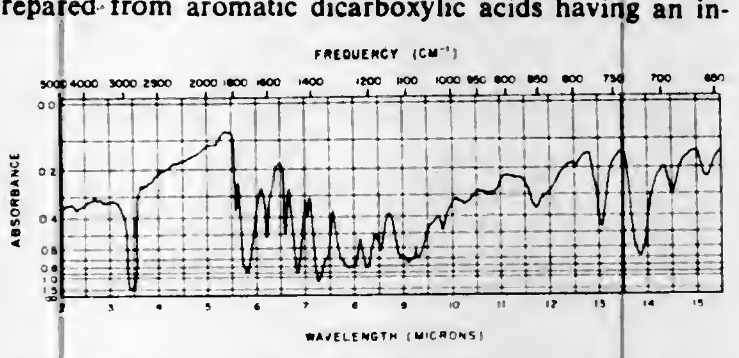
A process for the preparation of polyesters of terephthalic acid and a glycol which comprises polycondensing a glycol terephthalate in the presence of amorphous germanium dioxide as a catalyst.

3,377,321

POLYESTER-IMIDE POLYMERS AND A PROCESS FOR PREPARING POLYESTER-IMIDE POLYMERS FROM AROMATIC CARBOXYLIC ACIDS

Richard E. Van Strien, Griffith, Ind., and James R. Eiszner, North Muskegon, Mich., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Continuation-in-part of application Ser. No. 429,126, Jan. 29, 1965, which is a division of application Ser. No. 290,292, June 25, 1963. This application Apr. 7, 1967, Ser. No. 629,188
2 Claims. (Cl. 260—75)

This invention discloses novel polyester-imide polymers prepared from aromatic dicarboxylic acids having an internal imide group and saturated dihydric alcohols. These polymers are useful as surface coatings and fibers.



3,377,322

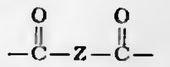
THERMOPLASTIC POLYURETHANE ELASTOMERS SUITABLE FOR INJECTION MOLDING

William Kenneth Witsiepe, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Dec. 30, 1963, Ser. No. 334,595
1 Claim. (Cl. 260—77.5)

1. An injection moldable thermoplastic elastomer consisting essentially of the recurring units (a)

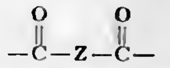
$$—O—G—O—$$

(b) —O—L—O—, and (c) —D—, all connected by the bivalent acyl radical



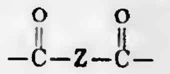
$$-\overset{O}{\overset{\|}{C}}-Z-\overset{O}{\overset{\|}{C}}-$$

wherein O—G—O— is a bivalent radical obtained by removing the hydroxyl hydrogen atoms from a polyether glycol having an average molecular weight of 800 to 3000, —O—L—O— is a bivalent radical obtained by removing the hydroxyl hydrogen atoms from neopentyl glycol, —D— is a linear radical selected from the group consisting of C_2 and C_4 alkylene, and



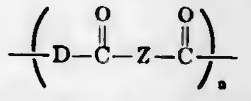
$$-\overset{O}{\overset{\|}{C}}-Z-\overset{O}{\overset{\|}{C}}-$$

is a bivalent acyl radical in which Z is a bivalent radical obtained by removing the amine hydrogens from a diamine selected from the group consisting of piperazine, 2-methyl piperazine, 2,5-dimethylpiperazine, and 2,3,5,6-tetramethylpiperazine, said recurring units (a), (b), and (c) being present in amounts of 40–60 parts, 5–25 parts, and 2–5 parts, respectively, by weight per 100 parts by weight of said elastomer, the balance of said elastomer being the bivalent acyl radical



$$-\overset{O}{\overset{\|}{C}}-Z-\overset{O}{\overset{\|}{C}}-$$

with the proviso that the elastomer contain units having the formula:



$$-\left(D-\overset{O}{\overset{\|}{C}}-Z-\overset{O}{\overset{\|}{C}}\right)_n-$$

wherein the average value of *n* is greater than 1.

3,377,323

METHOD FOR PULVERIZING POLYMERS

Akira Ioka, Kawasaki-shi, Tsuneyuki Kato, Tokyo, and Yutaka Toyoda, Kawasaki-shi, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan
No Drawing. Filed June 10, 1964, Ser. No. 374,173
Claims priority, application Japan, June 11, 1963, 38/29,917
3 Claims. (Cl. 260—78)

1. A method of particularizing polymers comprising heating a mass which is insoluble in water at temperatures up to the boiling point of water at normal pressure in an autoclave solely in the presence of water in an amount at least equal in weight to that of said polymer, the polymer having a solubility parameter in water of at least 10, the temperature in the autoclave being less than the melting point of the polymer and at least 155° C. to dissolve said polymer in water, and then spraying the contents of the autoclave under pressure, through a nozzle, while heated to obtain the polymer in powder state.

3,377,324

METHOD FOR PREPARING POLYSULFONES

Simon Mostert, Amsterdam, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 17, 1966, Ser. No. 535,007
6 Claims. (Cl. 260—79.3)

1. The method of preventing gelation of a polysulfone selected from the group consisting of

a copolymer of a conjugated diolefin having from 4 to about 8 carbon atoms and sulfur dioxide, and a polymer of a conjugated diolefin having from 4 to about 8 carbon atoms, sulfur dioxide and at least one copolymerizable ethylenically unsaturated monomer having from 2 to about 20 carbon atoms prepared in an emulsion in the presence of a free radical initiator comprising the step of adding to the polymerization mixture from about 0.001 and 1% by weight based on the total reaction mixture of a compound selected from the group consisting of

(a) a phenol,
(b) a triaryl phosphite, and
(c) an aryl borate.

3,377,325

PROCESS OF COPOLYMERIZING OLEFINS UTILIZING VANADIUM OXYTRICHLORIDE, ALKYL ALUMINUM SESQUIHALIDE AND SULFUR AS THE CATALYST

Frederick C. Loveless, Oakland, N.J., assignor to Uniroyal, Inc., a corporation of New Jersey
No Drawing. Filed Aug. 26, 1963, Ser. No. 304,647
3 Claims. (Cl. 260—80.78)

Ethylene and propylene are copolymerized in solution in an organic solvent by a catalyst formed by the interaction of vanadium oxytrichloride and alkylaluminum sesquihalide. The activity or efficiency of the catalyst is greatly enhanced by adding a small amount of sulfur to the solution of monomers containing the catalyst. The method is useful for terpolymerizing ethylene and propylene with dienes, such as dicyclopentadiene.

3,377,326

PROCESS FOR COPOLYMERIZING OLEFINS UTILIZING VANADIUM OXYTRICHLORIDE, ALKYL ALUMINUM SESQUICHLORIDE, PHOSPHORUS TRICHLORIDE AND 2-NITROPROPANE AS CATALYST

Frederick C. Loveless, Oakland, Robert J. Kelly, Cedar Grove, and Demetreos N. Matthews, Bloomfield, N.J., assignors to Uniroyal, Inc., a corporation of New Jersey
No Drawing. Filed Aug. 26, 1963, Ser. No. 304,675
3 Claims. (Cl. 260—80.78)

In the copolymerization of alpha-monoolefins, such as ethylene and propylene, using a soluble coordination-type catalyst, such as that based on vanadium oxytrichloride and alkylaluminum sesquihalide, the activity of the catalyst is greatly enhanced by addition of phosphorus trichloride and an oxidant such as 2-nitropropane.

3,377,327

LUBRICATION OF CHLOROBUTYL RUBBER USING TRICHLOROSILANE

Richard L. Gabriel, Gonic, N.H., assignor to General Electric Company, a corporation of New York
No Drawing. Filed Jan. 24, 1964, Ser. No. 339,893
1 Claim. (Cl. 260—85.3)

A method of lubricating chlorobutyl rubber by treating the chlorobutyl rubber with a liquid silicone material having a major portion of unhydrolyzed chlorosilanes for at least 15 seconds, then washing with water to hydrolyze any chlorosilanes not reacted and then drying for at least 15 minutes at 150° C.

3,377,328

POLYMERIZATION OF VINYL ALKYL ETHER IN THE PRESENCE OF A METAL HYDROSULFATE AND AN ORGANO-METALLIC PROMOTER

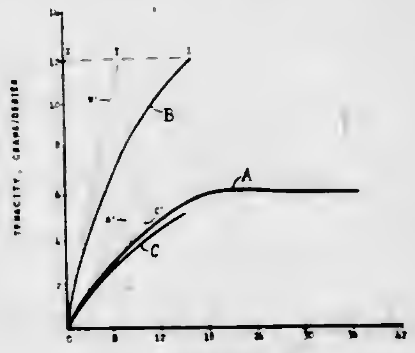
Joginder Lal, Akron, and James E. McGrath, Cuyahoga Falls, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Apr. 1, 1965, Ser. No. 444,730
16 Claims. (Cl. 260—91.1)

Controlled amounts of an organometallic promoter, such as triethylaluminum or diethylzinc, when added to a vinyl alkyl ether prior to the addition of a metal (e.g. aluminum) hydrosulfate polymerization catalyst results in (1) an increased rate of polymerization or higher overall polymer yield; (2) a higher molecular weight polymer; and (3) a higher proportion of methyl ethyl ketone-insoluble fraction of the polymer, arising from a greater degree of stereoregularity in the polymer, than when the organometallic compound is not used in the manner indicated.

3,377,329

HIGH MELTING POLYOLEFIN FILAMENTARY MATERIALS

Herman Dietrich Noether, Millburn Township, Essex County, N.J., and Robert William Singleton, New York, N.Y., assignors to Celanese Corporation, a corporation of Delaware
Continuation of application Ser. No. 321,994, Oct. 21, 1963, which is a division of application Ser. No. 70,509, Nov. 21, 1960. This application Dec. 22, 1966, Ser. No. 604,063
2 Claims. (Cl. 260—937)



1. Creep-resistant stereospecific polypropylene filamentary material exhibiting a tenacity in excess of about 8 grams per denier, an elongation in excess of about 10%, and a post yield ductility of less than about 0.7, said filamentary material having been produced by extruding stereospecific polypropylene in liquid state through an orifice to produce a filament, drawing said filament continuously from said orifice, drawing said filament a second time at a temperature of about room temperature to 110° C. and a draw ratio ranging from about 2:1 to 10:1, and drawing said filament a third time at a temperature of about 140 to 150° C. and a draw ratio ranging from about 1.1:1 to 4:1.

3,377,330
ETHYLENE POLYMERIZATION IN THE PRESENCE OF A FREE-RADICAL CATALYST AND AS A CHAIN-TRANSFER AGENT A MINOR AMOUNT OF PHOSPHINE

George A. Mortimer, La Marque, Tex., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Dec. 31, 1964, Ser. No. 422,491
11 Claims. (Cl. 260—94.9)

1. The process for producing ethylene polymers which comprises polymerizing ethylene at elevated temperatures and pressures in the presence of an amount sufficient to initiate said polymerization of a free-radical-generating compound and as a chain-transfer agent a minor amount of phosphine.

3,377,331
PRODUCTION OF POLYMERS

Robert J. McManimie, Dayton, Ohio, assignor to Monsanto Company, a corporation of Delaware
No Drawing. Filed Aug. 31, 1955, Ser. No. 534,375
20 Claims. (Cl. 260—94.9)

1. In a process for the production of polymer through the catalytic action of a Ziegler polymerization catalyst adapted for the low-pressure polymerization of ethylene, an ethylenically unsaturated hydrocarbon monomer polymerizable thereby, the method of minimizing color formation in the polymer on thermal processing thereof which comprises treating said polymer while still containing at least some catalyst residue with an alcohol at a temperature above 90° C. while completely excluding molecular oxygen from contact with the polymer at all times prior thereto.

15. In a process for the production of polyethylene by polymerizing ethylene in the presence of an inert liquid diluent and a catalyst prepared by the interaction of (*a*) an aluminum compound of the general formula R_2AlX wherein R is selected from the group consisting of alkyl, cycloalkyl, and aryl radicals and X is selected from the group consisting of hydrogen, halogen, alkyl, cycloalkyl and aryl radicals, with (*b*) a metal halide selected from the group consisting of the chlorides, bromides and iodides of titanium and zirconium, the method of minimizing color formation in said polyethylene on thermal processing thereof which comprises completely protecting the total polymerization reaction mixture from any contact with molecular oxygen by blanketing same with an inert gas, and while still completely excluding molecular oxygen by maintaining said gas blanket separating the polyethylene from at least the bulk of the liquid and subjecting thus separated polyethylene containing at least some catalyst residue to the action of an alkyl alcohol containing from 1 to 8 carbon atoms at a temperature above 90° C. for a time sufficient to effect significant removal of catalyst.

3,377,332
PURIFICATION OF OLEFIN POLYMERS WITH METHANOL

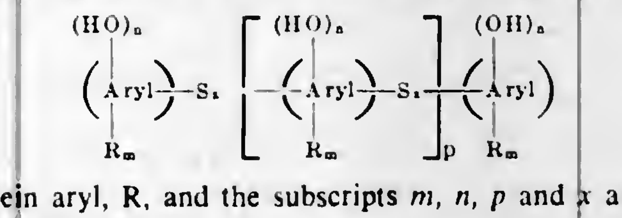
Karl Ziegler, Kaiser-Wilhelm Platz 1, Mulheim (Ruhr), Germany, and Heinz Breil, Erhard Holzkamp, and Heinz Martin, all of Mulheim (Ruhr), Germany; said Breil, said Holzkamp, and said Martin assignors to said Ziegler
No Drawing. Continuation of application Ser. No. 218,527, Aug. 22, 1962, which is a continuation-in-part of application Ser. No. 469,059, Nov. 15, 1954. This application Sept. 13, 1966, Ser. No. 580,144
Claims priority, application Germany, Nov. 17, 1953, Z 3,799
6 Claims. (Cl. 260—94.9)

1. In a process for preparing normally solid hydrocarbon polymers by polymerization in the presence of a catalyst comprising the product obtained by admixing a component containing a heavy metal compound selected from the group consisting of salts, freshly precipitated oxides and hydroxides of metals of Groups IV–B, V–B and VI–B of the Periodic System, including thorium and uranium, with a second component having a hydrocarbon attached directly to a metal of the class consisting of alkali metals, alkaline earth metals, and aluminum, the improvement for purifying the hydrocarbon polymer obtained which comprises contacting the same with methanol.

3,377,333
METHOD OF BLEACHING AND STABILIZATION OF TALL OIL DURING DISTILLATION THEREOF

Leo Frank Ciesielski and Charles Glenn Wheelus, Panama City, Fla., assignors to Arizona Chemical Company, New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 496,652, Oct. 15, 1965. This application Sept. 16, 1966, Ser. No. 579,850
8 Claims. (Cl. 260—97.6)

In the distillation of tall oil and tall oil fractions, with or without fractionation, improved color and stability are obtained by carrying out the distillation in the presence of catalytic amounts of a phenol sulfide of the formula

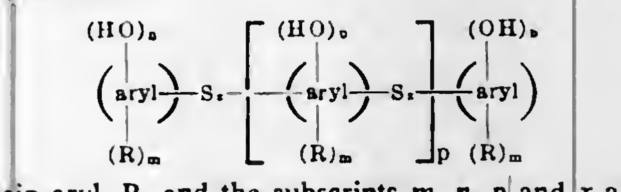


wherein aryl, R, and the subscripts *m*, *n*, *p* and *x* are as hereinafter defined.

3,377,334
DISPROPORTIONATION OF ROSIN

Joseph James McBride and Charles Glenn Wheelus, Panama City, Fla., assignors to Arizona Chemical Company, a corporation of Delaware
No Drawing. Continuation-in-part of applications Ser. No. 496,674, Oct. 15, 1965, and Ser. No. 560,845, June 27, 1966. This application Sept. 16, 1966, Ser. No. 579,817
7 Claims. (Cl. 260—98)

Disproportionated rosin of improved color is obtained by heating, at disproportionating temperatures of about 180°–350° C. and for a time sufficient to reduce the abietic acid content to a desired low figure below 15%, rosin containing about 0.01% to 1% of a phenol sulfide of the formula



wherein aryl, R, and the subscripts *m*, *n*, *p* and *x* are as hereinafter defined.

3,377,335
REACTIVE DISAZO DYESTUFFS

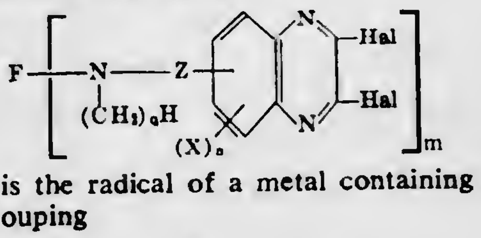
Rudolf Dürig, Basel, and Werner Bossard, Riehen, Switzerland, assignors to J. R. Geigy A.G., Basel, Switzerland
No Drawing. Filed Sept. 14, 1964, Ser. No. 396,422
Claims priority, application Switzerland, Sept. 18, 1963, 11,524/63
7 Claims. (Cl. 260—146)

Fiber reactive disazo-dyestuffs are provided. Such dyestuffs in the free acid form represent a member selected from the group consisting of a benzene-azo-benzene-azo-naphthalene disazo-dyestuff and a benzene-azo-naphthalene-azo-naphthalene disazo-dyestuff, the metallizable substituents of which member are in ortho-positions to the azo bridge linking the terminal naphthalene nucleus to the remainder of the dyestuff molecule, and the fiber-reactive grouping of which member is a 2,4,5-trichloropyrimidyl-(6)-amino group linked to the terminal benzene nucleus, said member containing a total of from 2 to 4 $—SO_3H$ groups at least two of which are at the terminal naphthalene nucleus. The invention also provides 1:1 copper metal complexes of the disazo dyestuffs.

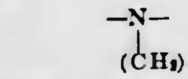
3,377,336
METALLIZED AZO DYESTUFFS CONTAINING 2,3 - DICHLOROQUINOXALINE CARBOXAMIDE OR SULFONAMIDE GROUPS

Edgar Siegel, Leverkusen, and Klaus Sasse, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Continuation-in-part of application Ser. No. 171,269, Feb. 5, 1962. This application Dec. 11, 1964, Ser. No. 417,831
Claims priority, application Germany, Feb. 7, 1961, F 33,153; Jan. 13, 1962, F 35,772
18 Claims. (Cl. 260—146)

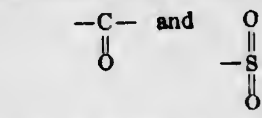
1. A dyestuff of the formula:



wherein F is the radical of a metal containing azo dyestuff the grouping


$$-\underset{\substack{|\\(CH_2)_qH}}{N}-$$

being bonded directly to a nuclear carbon atom of said dyestuff radical F; X is a member selected from the group consisting of hydrogen, lower alkyl, $—SO_3H$, $—COOH$, chloro, bromo, nitro, hydroxy, lower alkoxy, cyano, $—SO_2NH_2$, lower alkyl sulfonamido, carbo lower alkoxy and lower alkyl sulfonic acid ester; Z is a member selected from the group consisting of

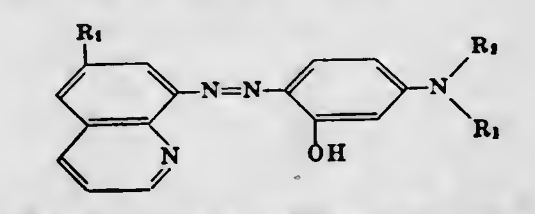

$$-\underset{\substack{\|\\O}}{C}- \text{ and } -\overset{\substack{O\\\|}}{\underset{\substack{\|\\O}}{S}}-$$

Hal is chlorine or bromine; *q* is a whole number from 0 to 4; *n* is an integer ranging from 1 to 3; and *m* is an integer ranging from 1 to 4.

3,377,337
MONOAZO DYES FOR METAL-MODIFIED POLYOLEFIN MATERIALS

Hiroshi Sugiyama, Ashiya-shi, Takuo Ikeda, Amagasaki-shi, Takashi Chinuki, Toyonaka-shi, and Hideo Otsuka, Nishinomiya-shi, Japan, assignors to Sumitomo Chemical Company, Ltd., Osaka, Japan, a corporation of Japan
No Drawing. Filed Apr. 16, 1965, Ser. No. 448,868
Claims priority, application Japan, Apr. 17, 1964, 39/21,705; Aug. 18, 1964, 39/47,353
9 Claims. (Cl. 260—155)

Monoazo dye having the formula:



wherein R_1 represents a hydrogen atom or a methoxy group, and R_2 and R_3 each represents a hydrogen atom, a lower alkyl group having 1 to 2 carbon atoms or a hydroxyethyl group, for dyeing metal-modified polyolefin materials in orange, red to purple shade with high fastness.

3,377,338
PROCESS FOR PREPARING N$^{\epsilon}$-TERTIARY BUTYLOXYCARBONYL-LYSINE AND ITS DERIVATIVES

Harm Jan Panneman, Oss, and Franciscus Hermanus Antonius Andreana van Bakel, Uden, Netherlands, assignors to Organon Inc., Orange, N.J., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 357,768, Apr. 6, 1964. This application June 15, 1967, Ser. No. 646,179
Claims priority, application Netherlands, Apr. 24, 1963, 291,930
8 Claims. (Cl. 260—207.1)

The invention relates to a convenient method of projecting the ϵ-NH_2 group of L-lysine, in the synthesis of peptides, by substitution with the tert. butyloxycarbonyl group, comprising reacting an acid addition salt of an L-lysine ester in an anhydrous organic solvent, with tert. butyl-p. nitrophenyl carbonate or tert. butyloxycarbonyl-azide, in the presence of a lower aliphatic amine or piperidine. The resulting ester can further be converted to the N^{α}-blocked derivative by substituting a group capable of protecting the α-NH_2 group and the resulting N^{α}-blocked-N^{ϵ}-blocked-L-lysine ester can be saponified to the corresponding acid. The products of the conversions are useful as intermediates in the synthesis of peptides containing lysine as amino acid residue.

3,377,339
OXIDIZED STARCH AND METHODS FOR PREPARING THE SAME

Keiiti Sisido, Kyoto-shi, Yuji Imai and Yoshinobu Hirasaka, Tokyo, and Kiyoshi Inoue, Urawa-shi, Japan, assignors to Chugai Seiyaku Kabushiki Kaisha, Chuo-ku, Tokyo, Japan, a corporation of Japan
No Drawing. Filed Feb. 1, 1965, Ser. No. 429,605
Claims priority, application Japan, Feb. 25, 1964, 39/9,349
5 Claims. (Cl. 260—233.3)

A process for oxidizing starch with nitric acid and an oxygen-containing gas.

3,377,340
PROCESS FOR PREPARING N-VINYL AMIDES AND N-VINYL LACTAMS

Robert Hartwimmer, Hofheim, Taunus, and Wolfram Schwiersch, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed July 14, 1964, Ser. No. 382,640
Claims priority, application Germany, July 20, 1963, F 40,290
5 Claims. (Cl. 260—239.3)

The use of a surface-active, insoluble compound having a weakly acid reaction, such as acid aluminum oxide, aluminum phosphate and zirconium dioxide, to facilitate preparation of an N-vinyl lactam or N-vinyl amide from a corresponding N-(α-alkoxyalkyl) lactam or amide, respectively.

3,377,341
1α-CYANO STEROIDS AND REACTION PRODUCTS THEREFROM

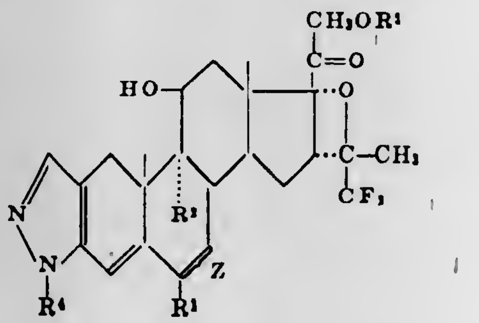
Robert G. Christiansen, Schodack, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 9, 1963, Ser. No. 307,341
30 Claims. (Cl. 260—239.55)

1α-cyano-3-oxo steroids of the androstane and pregnane series are prepared by the addition of the elements of hydrogen cyanide to 1,2-unsaturated 3-oxo steroids. The 1α-cyano-3-oxo steroids are in turn converted to 1-cyano-1,2-unsaturated 3-oxo steroids, 1α-aminomethyl steroids, 1α-acylaminomethyl steroids, 3α,1α-epoxymethano steroids, and 1α-lower-alkanoyl steroids. The compounds possess hormonal, hypocholesteremic and coronary dilator activities.

3,377,342
2′,2′ - BISTRIFLUOROMETHYLOXETANO(3′,4′; 16α,17α) DERIVATIVES OF 4 - PREGNENO [3,2-c]PYRAZOLES AND 4,6-PREGNADIENO [3,2-c]PYRAZOLES

John H. Fried, Palo Alto, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama
No Drawing. Filed May 2, 1966, Ser. No. 546,517
13 Claims. (Cl. 260—239.55)

1. A compound according to the formula:

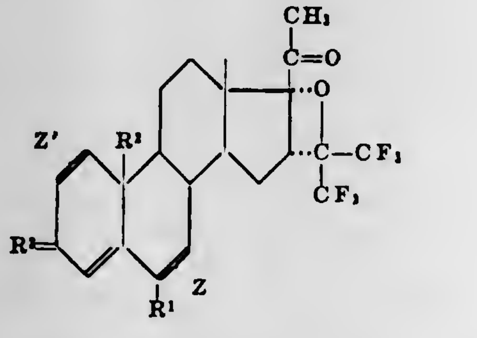


wherein Z is a carbon-carbon single bond or a carbon-carbon double bond;
R^1 is hydrogen, phosphono, tetrahydropyran-2-yl, tetrahydrofuran-2-yl or a hydrocarbon carboxylic acyl group containing less than 12 carbon atoms;
R^2 is hydrogen or fluoro;
R^3 is hydrogen, or methyl;
R^4 is hydrogen, phenyl, fluorophenyl, nitrophenyl or methoxyphenyl.

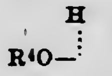
3,377,343
2′,2′ - BISTRIFLUOROMETHYLOXETANO(3′,4′; 16α,17α) DERIVATIVES OF THE PREGNANE SERIES

John H. Fried, Palo Alto, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama
No Drawing. Filed May 2, 1966, Ser. No. 546,549
15 Claims. (Cl. 260—239.55)

1. A compound according to the formula:



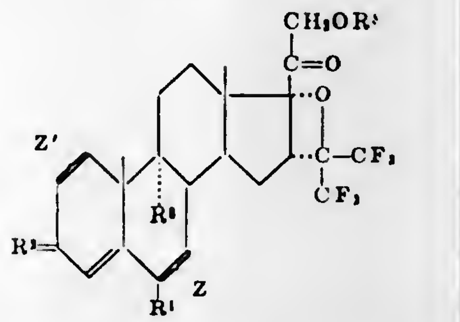
wherein R^1 is hydrogen, chloro, fluoro, or methyl;
R^2 is hydrogen or methyl;
R^3 is keto or the group



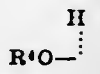
$$R^4O-\overset{H}{\vdots}$$

in which R^4 is hydrogen, tetrahydropyran-2-yl, tetrahydrofuran-2-yl, or a hydrocarbon carboxylic acyl group of less than 12 carbon atoms, R^3 being keto when Z′ is a carbon-carbon double bond;
each of Z and Z′ is a carbon-carbon single bond or a carbon-carbon double bond, Z′ being a carbon-carbon single bond when R^2 is hydrogen.

7. A compound according to the formula:



wherein R^1 is hydrogen, chloro, fluoro or methyl;
R^3 is keto or the group



$$R^4O-\overset{H}{\vdots}$$

in which R^4 is hydrogen, tetrahydropyran-2-yl, tetrahydrofuran-2-yl, or a hydrocarbon acyl group of less than 12 carbon atoms; R^3 being keto when Z′ is a carbon-carbon double bond;
R^5 is hydrogen, phosphono, tetrahydropyran-2-yl, tetrahydrofuran-2-yl, or a hydrocarbon carboxylic acyl group containing less than 12 carbon atoms;
R^6 is hydrogen or fluoro;
each of Z and Z′ is a carbon-carbon single bond or a carbon-carbon double bond.

3,377,344
HYDRAZONES OF 1-AMINO-4-DIBENZOCYCLOHEPTENYLPIPERAZINES

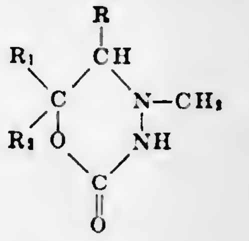
John W. Cusic, Skokie, and Peter Yonan, Chicago, Ill., assignors to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 362,929, Apr. 27, 1964. This application Mar. 25, 1966, Ser. No. 537,308
Claims priority, application Great Britain, Apr. 12, 1965, 15,469/65
15 Claims. (Cl. 260—240)

Hydrazones derived from 1-amino-4-(dibenzocycloheptenyl and dibenzocyclyooctenyl)piperazines and a variety of aldehydes and ketones are described herein. These hydrazones are useful as anticonvulsant agents. They are usually prepared by the reaction of an aminopiperazine with an aldehyde or ketone.

3,377,345
SUBSTITUTED 3,4,5,6 - TETRAHYDRO - 2H - 1,3,4-OXADIAZIN-2-ONE COMPOUNDS AND METHOD OF PREPARATION THEREOF

Donald L. Trepanier, Indianapolis, Ind., and Guy H. Harris, Concord, Calif., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Sept. 23, 1966, Ser. No. 581,449
6 Claims. (Cl. 260—244)

1. The substituted 3,4,5,6-tetrahydro-2H-1,3,4-oxadiazin-2-one compound corresponding to the formula

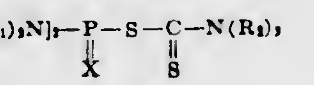


wherein R represents a member of the group consisting of hydrogen, methyl and propyl, R_1 represents a member of the group consisting of hydrogen and methyl and R_2 represents a member of the group consisting of phenyl and lower alkyl of from 3 to 5 carbon atoms, inclusive.

3,377,346
NOVEL PARASITICIDES AND THEIR PRODUCTION

Jean-Pierre Leber and Karl Lutz, Basel, Switzerland, assignors to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland
No Drawing. Filed June 8, 1964, Ser. No. 373,570
Claims priority, application Switzerland, June 12, 1963, 7,312/63
3 Claims. (Cl. 260—246)

Compounds of the formula



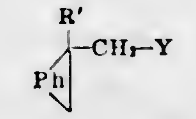
$$[(R_1)_2N]_2-\underset{X}{\underset{\|}{P}}-S-\underset{S}{\underset{\|}{C}}-N(R_2)_2$$

wherein R_1 is either lower alkyl or lower alkyl substituted with at least one chloro, hydroxy, cyano and/or nitro substituent;
R_2 is either monocyclic aryl or a substituted or unsubstituted lower alkyl as defined for R_1;
X is either oxygen or sulfur; and
$(R_1)_2N$— and/or $(R_2)_2N$— may be a heterocyclic ring containing the nitrogen atom have parasiticidal properties.

3,377,347
CYCLOBUTENE DERIVATIVES

Erwin Friedrich Jenny, Riehen, and Karl Schenker, Basel, Switzerland, assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 297,675, July 25, 1963. This application Mar. 18, 1966, Ser. No. 535,368
Claims priority, application Switzerland, Aug. 7, 1962, 9,414/62; June 14, 1963, 7,478/63; Dec. 28, 1965, 17,971/65
14 Claims. (Cl. 260—247)

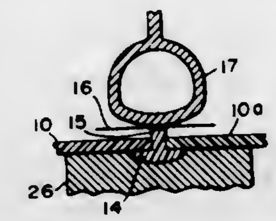
Compounds of the formula



in which Ph represents an o-phenylene radical, Y an amino group and R′ hydrogen or a substituted or unsubstituted alkyl radical, and their salts; also intermediates used for preparing the benzocyclobutenes. The final products possess analgesic, particularly antimorphine activity and also antitussive activity.

3,377,348
WELDING OF PLASTIC PANELS

Edward F. Subocz, Grand Rapids, Mich., assignor to American Seating Company, Grand Rapids, Mich., a corporation of New Jersey
Filed Aug. 23, 1965, Ser. No. 481,840
2 Claims. (Cl. 264—248)



A process for uniting plastic panels into an integrated panel structure in which wire mesh is embedded in the plastic bond uniting the parts which includes providing two thermoplastic panels and a thermoplastic rib positioned therebetween and extending thereabove, applying a strip of metal screen over said upstanding rib and overlapping the panel edges, and applying heat to said rib to cause the same to melt and flow through holes in the screen and into contact with the panel edges to form a single fused panel incorporating an embedded screen reinforcement.

3,377,349
PREPARATION OF MELAMINE

Samuel William Tribit, Hawthorne, N.Y., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed July 22, 1965, Ser. No. 474,165
5 Claims. (Cl. 260—249.7)

Melamine is produced by thermally decomposing urea in a first, fixed, catalyst-free bed of inert, solid particles and thereafter, in a second bed, reactively contacting the resulting decomposition products with a catalyst effective to produce melamine.

3,377,350
MELAMINE PRODUCTION

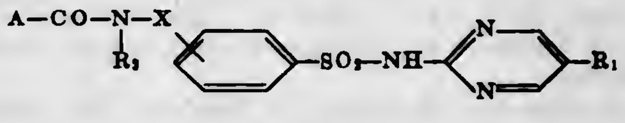
Eugene Kerr Watson, Font Hill, Ontario, Canada, and John Maurice Witheford, Tokyo, Japan, assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
Continuation-in-part of application Ser. No. 390,527, Aug. 19, 1964. This application Mar. 24, 1967, Ser. No. 625,707
12 Claims. (Cl. 260—249.7)

Process for preparing melamine from urea in which molten urea is entrained in an atomizing gas moving at least sonic velocity, the resulting mixture being sprayed into a bed of catalytic solids for conversion to melamine.

3,377,351
BENZAMIDOALKYLBENZENESULFONAMIDO-PYRIMIDINES AND ANALOGUES THEREOF

Erich Haack, Heidelberg, Ruth Heerdt, Mannheim, Felix H. Schmidt, Mannheim-Neuostheim, Kurt Stach, Mannheim, and Rudi Weyer, Frankfurt am Main-Unterliederbach, Germany, assignors to C. F. Boehringer & Soehne G.m.b.H., Mannheim-Waldhof, Germany, a corporation of Germany
No Drawing. Continuation-in-part of application Ser. No. 455,295, May 12, 1965. This application Sept. 23, 1966, Ser. No. 581,445
Claims priority, application Germany, May 20, 1964, B 76,848; Oct. 9, 1965, B 84,050
11 Claims. (Cl. 260—256.5)

A novel class of 2-benzene-sulfonamido-pyrimidines is disclosed. The said compounds constitute highly effective antidiabetic agents and the invention as disclosed includes antidiabetic compositions as well as a method for carrying out antidiabetic therapy. The 2-benzene-sulfonamido-pyrimidines have the following formula:



wherein X is alkylene containing 1 to 4 carbon atoms, A is substituted or unsubstituted alkyl, cycloalkyl, aryl, aralkyl, arylmercaptoalkyl or aryloxyalkyl, R_1 is substituted or unsubstituted alkyl, cycloalkyl, aryl, aralkyl, alkoxy, alkoxyalkyl or alkoxyalkoxy and R_2 is hydrogen, lower alkyl or substituted or unsubstituted aralkyl.

3,377,352

ALKYLAMINO-4-HYDROXY QUINOLINE-3-CARBOXYLIC ESTERS

Robert L. Clark, Woodbridge, Arthur A. Patchett, Cranford, and Edward F. Rogers, Middletown, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 515,757, Dec. 22, 1965. This application Mar. 1, 1967. Ser. No. 619,546

8 Claims. (Cl. 260—286)

Loweralkyl esters of 4-hydroxy-quinoline-3-carboxylic acids having at the 6- and 7-positions a loweralkyl radical of 2–4 carbons or a diloweralkylamino radical, with at least one of such substituents being diloweralkylamino, are obtained by reacting an appropriately substituted aniline with dialkyl alkoxymethylene malonate to form an anil, and heating said anil. The products are novel and have significant anticoccidial activity; for this purpose they are mixed with an element of poultry sustenance and administered to poultry.

3,377,353

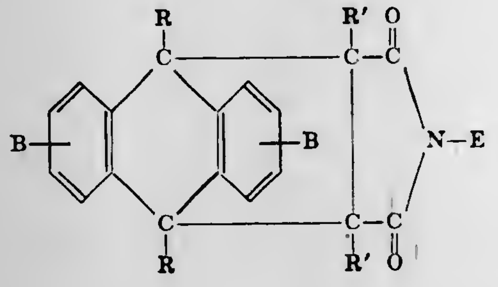
ETHANOANTHRACENE AMINES

William F. Bruce, Havertown, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 26, 1964, Ser. No. 370,368

14 Claims. (Cl. 260—294)

1. A compound represented by the formula:



wherein B is selected from the group consisting of hydrogen, amino and nitro, R and R' are selected from the group consisting of hydrogen and lower alkyl and E is selected from the group consisting of: di(lower)alkylaminophenyl, di(lower)alkyl-2-pyridyl, 2-pyridylmethyl, halo-2-pyridyl, triazolyl, 3-piperidyl, piperidino, lower alkynyl, amino, di(lower)alkoxyphenethyl and quanidino; and the quaternary ammonium salts thereof with (lower) alkyl, (lower)alkenyl and (lower)alkynyl sulfates and halides.

7. N-(1-ethyl-3-piperidyl)-9,10 - dihydro-9,10-ethanoanthracene-11,12-dicarboximide.

3,377,354

FATTY ACID DI-PIPERIDIDES

Francis E. Cislak, Frank A. Karnatz, and Gray A. Shaw, Indianapolis, Ind., assignors to Reilly Tar & Chemical Corporation, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed May 24, 1965, Ser. No. 458,390

4 Claims. (Cl. 260—294)

Long chain fatty acid amides of dipiperidyl alkanes were prepared by the interaction of a dipiperidyl alkane with a carboxylic acid, its ester or acid chloride according to known methods. The fatty acid dipiperidides formed are wax-like solids useful as plasticizers, mold release agents and rust preventives.

3,377,355

4-THIAZOLIDONES AND OXIDE DERIVATIVES THEREOF

Alexander R. Surrey, Albany, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 120,501, June 27, 1961. This application June 30, 1967, Ser. No. 650,233

13 Claims. (Cl. 260—301)

2-aryl-3-(Q—Y'—O—Y)-4-thiazolidones, where Q is monocarbocyclic-aryl or lower-alkyl, Y' is a direct linkage or lower-alkylene, and Y is polycarbon-lower-alkylene, are prepared by reacting Q—Y'—O—Y—NH_2 with a benzaldehyde and heating the resulting azomethine with an α-mercaptoalkanoic acid. The corresponding 1-oxides and 1,1-dioxides are obtained by oxidizing said 4-thiazolidones with a suitable oxidizing agent, e.g., peracetic acid and potassium permanganate, respectively. The compounds have psychomotor stimulatory, anticonvulsant and barbiturate potentiating properties.

3,377,356

CYCLOPROPANECARBOXYLIC ACID ESTERS

Kenzo Ueda, Nishinomiya-shi, Sadao Horie, Suita-shi, Toshio Mizutani, Ikeda-shi, Katsuji Nodera and Keimei Fujimoto, Minoo-shi, and Yositosi Okuno, Nishinomiya-shi, Japan, assignors to Sumitomo Chemical Company, Ltd., Osaka, Japan, a corporation of Japan

No Drawing. Filed July 6, 1965, Ser. No. 469,900

Claims priority, application Japan, July 8, 1964, 39/39,281; July 11, 1964, 39/39,851; July 15, 1964, 39/40,264, 39/40,265

17 Claims. (Cl. 260—326.3)

A cyclopropanecarboxylic acid ester consisting of chrysanthemum monocarboxylic acid as the acid moiety and an N-hydroxymethyl succinimide derivative as the alcohol moiety was prepared. The ester possesses significant insecticidal power but is harmless to warm-blooded animals.

3,377,357

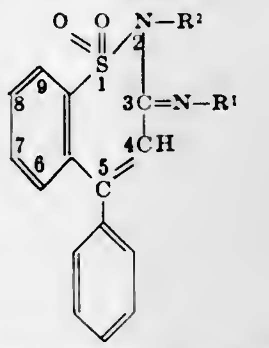
1,2-BENZOTHIAZEPINE-1,1-DIOXIDES AND THEIR PREPARATION

John J. Traverso, Indianapolis, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed June 27, 1966, Ser. No. 560,810

3 Claims. (Cl. 260—327)

1. A compound of the formula



wherein R^1 and R^2 are hydrogen or lower alkyl.

3,377,358

3,3-DIALKOXYTHIETANE-1,1-DIOXIDES AND THEIR PREPARATION

James C. Martin, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation of application Ser. No. 276,161, Apr. 29, 1963. This application Feb. 13, 1967, Ser. No. 615,849

7 Claims. (Cl. 260—327)

The invention relates to 3,3-dialkoxy-thietane-1,1-dioxides and their preparation, useful as dye intermediates and solvents.

3,377,359

AMINO DERIVATIVES, COMPRISING HETEROCYCLES, THEIR SALTS, AND PROCESS FOR PREPARATION

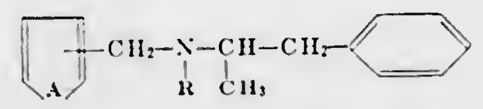
Jacques Robert Boissier, Paris, and Roger Robert Etienne Eugene Ratouis, Saint-Cloud, France, assignors to Societe Industrielle pour la Fabrication des Antibiotiques (S.I.F.A.), Paris, France, a company of France

No Drawing. Filed Jan. 6, 1965, Ser. No. 423,863

Claims priority, application France, Jan. 15, 1964, 960,417; Apr. 15, 1964, 971,004; Mar. 19, 1964, 967,916; June 17, 1964, 978,621

9 Claims. (Cl. 260—329)

1. A compound selecetd from the group consisting of a compound of the general formula:



$-CH_2-\underset{R}{N}-\underset{CH_3}{CH}-CH_2-$

in which A represents an atom selected from the group consisting of oxygen and sulphur atoms and R represents a member selected from the group consisting of a hydrogen atom and an alkyl radical having no more than 3 carbon atoms, and their pharmaceutically accepted acid addition salts or mixtures thereof.

3,377,360

KETALS OF Δ^3-A-NORANDROSTENE-17β-OL-2-ONE AND Δ^3 - A - NORPREGNENE - 2,20 - DIONE AND THEIR 3,5-DIHYDROXY DERIVATIVES

Seymour D. Levine, North Brunswick, and Patrick A. Diassi, Westfield, N.J., assignors, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application Apr. 13, 1964, Ser. No. 359,417, now Patent No. 3,324,171, dated June 6, 1967. Divided and this application Nov. 14, 1966, Ser. No. 593,755

6 Claims. (Cl. 260—340.9)

This invention relates to the 2-ketal derivatives of Δ^3-A-norandrostene-17β-ol-2-one and A-norandrostane 3β, 5β,17β-triol-2-one and the 2,20-bis-ketals of Δ^3-A-norpregnene-2,20-dione and A-norpregnane-3β,5β-diol-2,20-dione. These compounds are useful as intermediates in preparing Δ^3-A-norandrostene-2-one-3,17β-diol and Δ^3-A-norpregnene-2,20-dione-3-ol, by treating the 3,5-dihydroxy derivatives with an acid to yield the free keto derivative and then with a dilute base to dehydrate the compound formed to yield the Δ^3-3-hydroxy final product.

3,377,361

B-NORESTROGENS

Louis R. Fare, Willingboro, N.J., and James F. Kerwin, Broomall, and Roland W. Kinney, Berwyn, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Apr. 2, 1965, Ser. No. 445,239

8 Claims. (Cl. 260—345.9)

3,17 - dioxygenated - B-norestra-1,3,5(10)-trienes prepared either microbiologically from B-nor-Δ^4-3-ketones by means of Protaminobacter, Psuedomonas, or Nocardia organisms, or chemically from 3β,19-dihydroxy-B-norandrost-5-en-17-one. Esters and ethers are prepared by conventional chemical methods. The compounds have estrogenic and hypocholesteremic activity.

3,377,362

1-HALOESTRA-1,3,5(10)-TRIENES

Edward Warren Cantrall, New City, Ransom Brown Conrow, Pearl River, and Seymour Bernstein, New City, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Feb. 28, 1966, Ser. No. 530,344

9 Claims. (Cl. 260—397.4)

The preparation of novel 1-haloestra-1,3,5(10)-trienes from 1-amino-3-methoxyestra-1,3,5(10)-trien-17-ones, is described. The estratrienes are useful for their estrogenic hyprocholesteremic and protein anabolic activity.

3,377,363

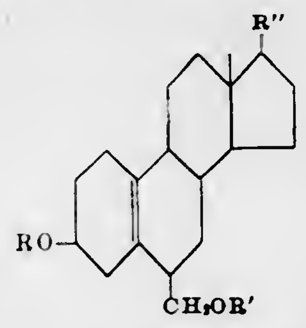
$\Delta^{5(10)}$-6-HYDROXYMETHYL-ESTRENE COMPOUNDS

John S. Tadanier, Chicago, Ill., assignor to Abbott Laboratories, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Apr. 13, 1966, Ser. No. 542,207

4 Claims. (Cl. 260—397.4)

1. A compound of the formula



wherein R is hydrogen, lower alkyl or a lower fatty acid acyl group, R' is hydrogen or a lower fatty acid acyl group and wherein R'' is oxygen, hydroxy or a lower fatty acid acyloxy group.

3,377,364

6 - METHYL - 17α - HYDROXYPROGESTERONE, THE LOWER FATTY ACID 17-ACYLATES AND METHODS FOR PRODUCING THE SAME

George B. Spero, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Michigan

No Drawing. Continuation-in-part of application Ser. No. 623,774, Nov. 23, 1956. This application Sept. 23, 1957, Ser. No. 685,391

13 Claims. (Cl. 260—397.4)

1. 6-methyl-17α-hydroxyprogesterone.

3,377,365

(OPTIONALLY 17-ALKYLATED) 11β,13β-DIALKYLGONA - 1,3,5(10) - TRIENE - 3,17β-DIOLS, ETHERS AND ESTERS THEREOF

John S. Baran, Morton Grove, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 512,539, Dec. 8, 1965. This application Mar. 14, 1967, Ser. No. 622,932

Claims priority, application Great Britain, Oct. 12, 1966, 45,594/66

7 Claims. (Cl. 260—397.5)

(Optionally 17 - alkylated) 11β,13β - dialkylgona - 1,3,5 (10)-triene-3,17β-diols, ethers and esters thereof useful as pharmacological agents, e.g., as potent estrogens, and manufactured by reduction of the 17-keto and $\Delta^{9(11)}$ moieties of the corresponding 3-oxygenated 11-alkylgona-1,3,5(10) - tetraen - 17 - ones followed by oxidation of the resulting 17-hydroxy substances to regenerate the 17-keto group, addition of an organometallic reagent to the 17-keto group to afford the 17α-alkyl-17-hydroxy derivatives and acylation of the free hydroxy groups to yield the instant esters.

3,377,366

17α - ALKYNYL/ALKENYL - 11,13β - DIALKYLGON - 5(10) - EN - 3 - ONES AND ESTERS THEREOF

John S. Baran, Morton Grove, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 512,539, Dec. 8, 1965. This application May 31, 1967, Ser. No. 642,293

Claims priority, application Germany, Dec. 2, 1966, S 107,240

4 Claims. (Cl. 260—397.45)

17α - alkynyl/alkenyl - 11,13β - dialkylgon - 5(10)-en-3-ones and esters thereof useful as potent deciduogenic and estrogenic agents with accompanying lack of progestational side effects and preparable by sequential reduction of the $\Delta^{9(11)}$ double bond and 17-keto group of 3 - (lower alkoxy) - 11,13β - dialkylgona - 1,3,5(10),9(11)-tetraen-17-ones, Birch reduction of the aromatic A-ring to yield the corresponding gona-2,5(10)-dienes, oxidation of the 17-hydroxy group, alkynylation of the resulting 17-keto group and mild acid hydrolysis to produce the instant 17α-alkynyl derivatives. Partial catalytic hydrogenation of the intermediate 17-alkynyl enol ethers followed by mild acid hydrolysis affords the instant 17-alkenyl substances. The esters are produced by acylation of the 17-hydroxy compounds.

3,377,367

PROCESS FOR ISOMERIZING UNSATURATED FATTY ACIDS OR DERIVATIVES THEREOF

Victor Lewis Larimer, Bloomington, Minn., assignor, by mesne assignments, to Ashland Oil and Refining Company, a corporation of Kentucky

No Drawing. Filed Mar. 22, 1965, Ser. No. 441,914

3 Claims. (Cl. 260—405.6)

Oleic acid is isomerized from the cis form to the trans form by contacting the same with silica gel in the presence of a small amount of water, at elevated temperatures.

3,377,368

CASTOR OIL EXTRACTION PROCESS

Albert Gathman, Belmar, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Sept. 29, 1965, Ser. No. 491,429

1 Claim. (Cl. 260—412.4)

The production of castor oil by solvent extraction is improved by use of a hydrocarbon solvent which essentially contains at least 99% isoparaffinic hydrocarbons including at least 85 wt. percent 2,2,4-trimethylpentane, which permits the use of a phase separation at temperatures in the range of 60° F. to 80° F. in obtaining a solvent layer of lower oil content and an oil layer of lower solvent content in comparison to naphtha fractions or normal paraffins containing 6, 7, 8, or 9 carbon atoms per molecule or mixtures thereof.

3,377,369

REPETITIVE PROCESS FOR THE REMOVAL AND/OR RECOVERY OF ORGANIC ACIDIC COMPOUNDS FROM SOLUTION

Roger N. Sargent and Robert M. Wheaton, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Continuation-in-part of application Ser. No. 69,893, Nov. 17, 1960. This application Jan. 28, 1966, Ser. No. 532,038

12 Claims. (Cl. 260—412.5)

An acidic phenolic or carboxylic compound which is molecularly sorbed on a low capacity acid- or salt-form sulfonated poly (vinylaryl) cation exchange resin is removed by neutralizing both the sorbed acidic compound and acid form resin, if used, with aqueous strong base and diluting with water the acidic compound as in an ionic salt of said base.

3,377,370

BIS-DIORGANOSILYLAMINE CARBORANES

Stelvio Papetti, Hamden, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed June 24, 1964, Ser. No. 377,648

4 Claims. (Cl. 260—448.2)

Organoboron compounds containing both silicon and nitrogen are prepared by reacting a compound of the formula:

$$X_{(3-n)}R''_{n}SiCB_{10}H_{8}RR'CSiR''_{n}X_{(3-n)}$$

wherein R and R' are hydrogen or alkyl, R'' is alkyl or aryl, X is a halogen selected from the group consisting of chlorine, bromine and iodine, and *n* is an integer of from 0 to 2 inclusive, with a compound of the formula:

$$HNR'''R''''$$

wherein R''' and R'''' are hydrogen or alkyl.

3,377,371

TRIS-SILOXY ACRYLIC SILANES

George J. Quaal, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Sept. 3, 1964, Ser. No. 394,355

8 Claims. (Cl. 260—448.2)

Tris-siloxy acrylic silanes are disclosed which are useful per se or particularly when polymerized as water repellents for fibrous and masonry substrates.

3,377,372

METHOD FOR PREPARING ESTERS OF HYDROXYAROMATIC THIOACIDS

Gilbert H. Berezin, Newark, Del., and Guy H. Harris, Concord, Calif., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 342,281, Feb. 3, 1964. This application June 16, 1967, Ser. No. 646,503

11 Claims. (Cl. 260—455)

The method for preparing esters of aromatic, thioacids by the rearrangement of the corresponding aryl ester of S-alkyl thio-carbonic acid.

3,377,373

PROCESS FOR THE CONTINUOUS MANUFACTURE OF PEROXYDICARBONATES

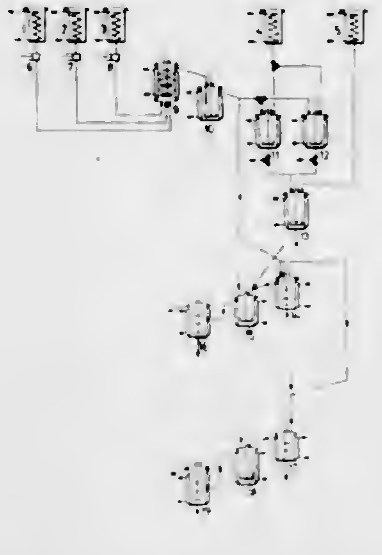
Michael Lederer, Frankfurt am Main, Germany, Karl-Heinz Kasten, Newark, Del., and Hellmut Ebner, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

Filed May 24, 1965, Ser. No. 458,042

Claims priority, application Germany, May 22, 1964, F 42,947

3 Claims. (Cl. 260—463)

A process for the continuous preparation of peroxydicarbonates by reacting a chlorocarbonic acid ester, hydrogen peroxide and an alkali metal hydroxide solution in a first reaction zone wherein a major portion of the reaction occurs, and then in an after-reaction zone in which a further minor reaction takes place in the presence of an inert hydrocarbon solvent for the peroxydicarbonate reaction product.



3,377,374

4-(AMINOMETHYL)CYCLOHEXANE-CARBONITRILE

Chapman M. Hale, Jr., Vada L. Brown, Jr., and Theodore E. Stanin, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed July 17, 1964, Ser. No. 388,740

1 Claim. (Cl. 260—464)

The process which comprises preparing 4-(aminoethyl) cyclohexanecarbonitrile, 1,4 - cyclohexanebis(methylamine), and 3-azabicyclo[3.2.2]nonane by the catalytic hydrogenation of 1,4-cyclohexanedicarbonitrile.

3,377,375

N-ARALKYLSULFONYL CARBAMATES

John A. Stephens, St. Louis, Mo., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Feb. 7, 1963, Ser. No. 256,841

2 Claims. (Cl. 260—470)

1. Ethyl N-(3,4-dichloro-α-toluenesulfonyl) carbamate.

3,377,376

VAPOR PHASE ESTERIFICATION OF TEREPHTHALIC ACID IN THE PRESENCE OF ALKALI METAL IMPREGNATED CATALYST

Alvis B. Gainer and Laurence E. McMakin, Beaumont, Tex., assignors to Mobil Oil Corporation, a corporation of New York

Filed Feb. 7, 1966, Ser. No. 525,420

10 Claims. (Cl. 260—475)

1. A method for preparing diesters of terephthalic acid which comprises contacting a vapor mixture comprising terephthalic acid and an aliphatic alcohol of 1–4 carbon atoms with a particulate solid esterification catalyst containing at least 0.2% alkali metal impregnated therein, and recovering the resultant diester from the reaction mixture.

3,377,377

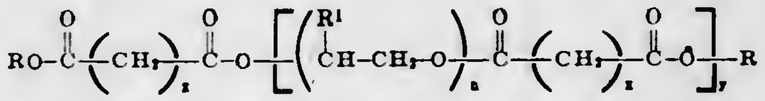
COMPLEX ESTER LUBRICANT

Herman D. Kluge, Fishkill, and Robert H. Krug, Cornwall, N.Y., and Paul A. Cantor, Covina, Calif., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application Oct. 16, 1961, Ser. No. 145,478, now Patent No. 3,247,115, dated Apr. 19, 1966. Divided and this application June 29, 1965, Ser. No. 478,505

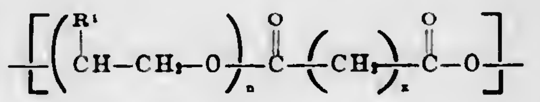
5 Claims. (Cl. 260—485)

1. A complex ester of the formula



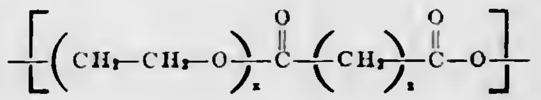
$$RO-\overset{O}{\overset{\|}{C}}-\left(CH_2\right)_x-\overset{O}{\overset{\|}{C}}-O-\left[\left(\overset{R^1}{\overset{|}{C}}H-CH_2-O\right)_a-\overset{O}{\overset{\|}{C}}-\left(CH_2\right)_x-\overset{O}{\overset{\|}{C}}-O\right]_y-R$$

where R is an alkyl of from 1 to 18 carbons, R1 is selected from the group consisting of hydrogen and methyl, *x* is an integer from 0 to 10, *y* is an integer from 1 to 50, and where



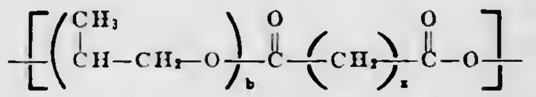
$$-\left[\left(\overset{R^1}{\overset{|}{C}}H-CH_2-O\right)_a-\overset{O}{\overset{\|}{C}}-\left(CH_2\right)_x-\overset{O}{\overset{\|}{C}}-O\right]-$$

consists of



$$-\left[\left(CH_2-CH_2-O\right)_a-\overset{O}{\overset{\|}{C}}-\left(CH_2\right)_x-\overset{O}{\overset{\|}{C}}-O\right]-$$

and



$$-\left[\left(\overset{CH_3}{\overset{|}{C}}H-CH_2-O\right)_b-\overset{O}{\overset{\|}{C}}-\left(CH_2\right)_x-\overset{O}{\overset{\|}{C}}-O\right]-$$

in a mole ratio of 1:1 to 20:1, where *a* is an integer from 4 to 25 and *b* is an integer from 6 to 34.

3,377,378

MANUFACTURE OF ESTERS FROM CARBOXYLIC ACID NITRILES

John F. Jones, Cuyahoga Falls, Ohio, assignor to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed May 10, 1965, Ser. No. 454,732

5 Claims. (Cl. 260—486)

1. The process for preparing a carboxylic acid ester comprising reacting a carboxylic acid nitrile selected from the group consisting of acrylonitrile and methacrylonitrile, water and at least one member selected from the group consisting of an olefin and an alkyl ester of an inorganic acid in contact with a melt of an acid salt selected from the group consisting of alkali metal salts of sulfuric and phosphoric acids at a temperature no greater than 300° C. and recovering the carboxylic acid ester by vaporization of said ester from the ammonium salt of said acid salt which is formed by reaction of said acid salt with the ammonia formed in the reaction.

3,377,379

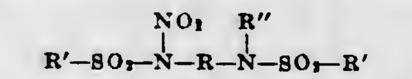
NITROSULFONAMIDES

Stanley J. Strycker, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 307,788, Sept. 10, 1963. This application Jan. 16, 1967, Ser. No. 609,295

5 Claims. (Cl. 260—556)

The present invention is directed to nitrosulfonamide compounds of the formula



$$R'-SO_2-\overset{NO_2}{\overset{|}{N}}-R-\overset{R''}{\overset{|}{N}}-SO_2-R'$$

wherein R represents alkylene being of from 2 to 10, inclusive, carbon atoms, 2-butenylene, cyclohexylene, or cyclohexylenedimethylene; R'' represents hydrogen or nitro; and R' represents loweralkyl being of from 1 to 4, both inclusive, carbon atoms, or substituted phenyl. The products of the present invention are useful as agents to regulate the growth of plants.

3,377,380

DIBENZOCYCLOHEPTENYL CARBOXYHYDRAZIDES

Martin A. Davis, Montreal, Quebec, Canada, assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 15, 1966, Ser. No. 527,518

7 Claims. (Cl. 260—558)

There are disclosed herein 10,11 - dihydro - 5H - dibenzo[a,d]cycloheptene - 5 - carboxyhydrazide and its hydrochloride salt, as well as its N^1-isopropyl and N^1-(1-methyl - 2- phenylethyl) derivatives. The intermediate acetone and 1-phenyl-propan-2-one 10,11 - dihydro-5H-dibenzo[a,d]cycloheptene - 5 - carboxyhydrazones are also disclosed. The compounds have larvicidal; trichomonicidal and anticonvulsant activities, and methods for their preparation and use are also disclosed.

3,377,381

N'-(1-NAPHTHYLMETHYL)-N^3-AMINOGUANIDINE AND SALT THEREOF

André L. Langis, St. Laurent, Quebec, Canada, assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 370,078, May 25, 1964. This application Aug. 4, 1967, Ser. No. 658,363

2 Claims. (Cl. 260—564)

There are disclosed herein N^1-o-chlorobenzyl-N^3-aminoguanidine, N^1 - o - chlorobenzyl-N^3-methyl-N^3-aminoguanidine, N^1-o-chlorobenzyl-N^2-methyl-N^3-dimethylaminoguanidine, N^1-o-bromobenzyl-N^3-aminoguanidine, N^1-o-methylbenzyl-N^3-aminoguanidine and N^1-(1-naphthylmethyl)-N^3-aminoguanidine. The compounds of this invention are useful as antihypertensive agents and methods for their preparation and use are also given.

3,377,382

DIFATTY ALKYL-DILOWERALKYL QUATERNARY AMMONIUM COMPOUNDS

Lyle F. Elmquist, North St. Paul, Minn., assignor to General Mills, Inc., a corporation of Delaware

No Drawing. Filed July 16, 1964, Ser. No. 383,256

3 Claims. (Cl. 260—567.6)

Quaternary ammonium compounds in which two substituents on the nitrogen are derived from the residual fatty acid monomer left after polymerization of higher fatty acids and the remaining two substituents are lower alkyl groups. These compounds are intended as clothes softener compounds and have improved rewetting characteristics.

3,377,383

METHOD OF PREPARING N,N-BIS-(3-AMINOPROPYL)-ETHANOLAMINE

Adalbert Farkas, Media, Pa., and Frank Miller, Wilmington, Del., assignors to Air Products Chemicals, Inc., a corporation of Delaware

No Drawing. Filed Aug. 30, 1961, Ser. No. 134,835

3 Claims. (Cl. 260—584)

1. The method of preparing N,N-bis-(3-aminopropyl) ethanolamine which comprises reacting di-(2-cyanoethyl) ethanolamine with hydrogen at temperature above 30° C. and below about 80° C. in the presence of (*a*) ammonia, (*b*) a hydrogenation catalyst, and (*c*) an inert solvent.

3,377,384

COMPOSITIONS FOR CONTROLLING PLANT GROWTH

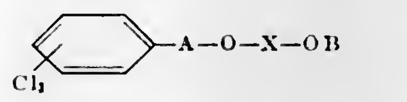
Edwin Dorfman, Grand Island, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Nov. 24, 1961, Ser. No. 154,833

The portion of the term of the patent subsequent to Oct. 31, 1978, has been disclaimed

10 Claims. (Cl. 260—611)

1. Trichlorinated phenylalkoxyalkanol compositions having the structural formula:



wherein A is an alkylene radical of one to two carbon atoms, X is an organic radical selected from the group consisting of alkylene, alkylene-oxy-alkylene, hydroxyalkylene, and trichlorobenzyloxyalkylene radicals wherein the alkylene groups are of 2 to 3 carbon atoms, and where B is selected from the group consisting of alkyl, alkoxyalkyl, trichlorobenzyl, trichlorobenzyloxyalkyl, phenyl, and chlorinated phenyl wherein the alkyl groups are of 1 to 4 carbon atoms.

3,377,385

STABILIZED POLYOXYALKYLENE POLYOLS

Takesi Turumaru, Takarazuka, Masaru Yotsuzuka, Nishinomiya, and Katsuhiko Ogino, Suita, Japan, assignors to Takeda Chemical Industries, Ltd., Osaka, Japan

No Drawing. Continuation of application Ser. No. 343,226, Feb. 7, 1964. This application Apr. 24, 1967, Ser. No. 633,303

7 Claims. (Cl. 260—611.5)

1. Stabilized polyoxyalkylene polyol consisting essentially of a uniform admixture of p,p'-biphenol and of polyoxyalkylene polyol having an average molecular weight of 350 to 8000, the p,p'-biphenol constituting at least 0.05% by weight of the admixture, the alkylene being lower alkylene.

3,377,386

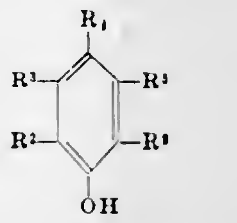
MANUFACTURE OF PHENOLIC COMPOUNDS

Harry Chafetz, Poughkeepsie, N.Y., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware

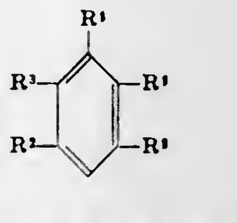
No Drawing. Filed Dec. 10, 1964, Ser. No. 417,492

8 Claims. (Cl. 260—621)

1. A method of preparing a phenolic compound of the formula:



where R^2, R^3, R^4, R^5 and R^6 are selected from the group consisting of hydrogen and methyl comprising contacting an aromatic hydrocarbon of the formula:



where R^2, R^3, R^4, R^5, and R^6 are as heretofore defined with a peroxide selected from the group consisting of hydrogen peroxide, ROOR' and ROOH where R and R' are alkyl radicals from 1 to 20 carbons in the presence of

aluminum chloride at a temperature between about —50 and 50° C. in a mole ratio of said aromatic hydrocarbon to said peroxide of between about 100:1 to 1:5 and wherein said aluminum chloride is present in a molar ratio to peroxide of between about 10:1 and 0.1:1.

3,377,387

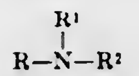
PROCESS FOR PREPARING NITRO COMPOUNDS BY REACTING ORGANIC AMINES WITH OZONE

Gustave Bryant Bachman, Lafayette, Ind., and Kenneth G. Strawn, South Charleston, W. Va., assignors to Purdue Research Foundation, Lafayette, Ind., a corporation of Indiana

No Drawing. Filed Dec. 1, 1966, Ser. No. 598,204

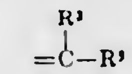
15 Claims. (Cl. 260—632)

1. A process for the production of a nitrohydrocarbon comprising reacting ozone with an organic nitrogen compound corresponding to the formula



$$R-\overset{\substack{R^1\\|}}{N}-R^2$$

wherein R is alkyl, hydroxyalkyl, aryl including substituted aryl or aralkyl, having from 1 to 22 carbon atoms; R^1 and R^2 are hydrogen, or R^2 is hydroxyl; or R^1 and R^2 taken together represents the radical



$$=\overset{\substack{R^3\\|}}{C}-R^3$$

wherein R^3 is an alkyl group of from 1 to 21 carbon atoms.

12. The process of claim 1 wherein the organic nitrogen compound is an alkyl or aryl hydroxylamine having from 1 to 22 carbon atoms.

3,377,388

PREPARATION OF SATURATED, UNSATURATED AND HYDROXY FATTY ALCOHOLS BY HYDROGENATION

Amirapu J. Pantulu, Kongandra Thammu Achaya, Gurbachan S. Sidhu, and Syed H. Zaheer, Hyderabad, India, assignors to Council of Scientific and Industrial Research, New Delhi, India, an Indian corporation

No Drawing. Filed Apr. 5, 1965, Ser. No. 445,737

4 Claims. (Cl. 260—638)

High yields of fatty alcohols are obtained from the corresponding fatty acids. A mixture of a fatty acid containing about 3 percent of a copper-cadmium soap catalyst, the soap being of the same fatty acid and the ratio of copper to cadmium being about 2:1, is heated to a temperature of between 200° and 220° C. while in a hydrogen atmosphere maintained at a pressure of between 3500 and 3800 lbs. p.s.i. The fatty acid is reduced resulting in high yields of the corresponding fatty alcohol.

3,377,389

PROCESS FOR THE CYCLODIMERIZATION OF UNSATURATED COMPOUNDS AND PRODUCTS RESULTING THEREFROM

Karl Griesbaum, Elizabeth, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Apr. 20, 1965, Ser. No. 449,605

20 Claims. (Cl. 260—648)

This disclosure relates to a process for the cyclodimerization of unsaturated hydrocarbon compounds such as allene, homologs of allenes, homologs of acetylenes, and mixtures thereof by the ionic addition thereto of hydrogen chloride or hydrogen bromide. The resulting cyclodimerized products are of utility as lachrymators and as highly valuable intermediates suitable for use in the preparation of other and related chemical products such as the corresponding diene, dinitrile, bisaminomethyl, diol, etc.

3,377,390

IODOPERFLUOROALKANE FLUORIDES AND THEIR USE TO PROMOTE TELOMERIZATION OF IODOPERFLUOROALKANES WITH OLEFINS

Christian Scriver Rondestvedt, Jr., Foulk Woods, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 2, 1966, Ser. No. 546,523

11 Claims. (Cl. 260—653)

The present invention is directed to compounds of the structure R_fIF_x where x is an integer of two or four and the use of these compounds to promote telomerization of perfluoroalkyl iodides R'_fI with olefins R_f is a perfluoroalkyl group.

3,377,391

HIGH TEMPERATURE, SHORT-CONTACT-TIME PYROLYSIS OF CHLOROTRIFLUOROMETHANE

John Richard Soulen, Narberth, and William Ford Schwartz, King of Prussia, Pa., assignors to Pennsalt Cemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Oct. 20, 1965, Ser. No. 499,084

6 Claims. (Cl. 260—653)

Chlorotrifluoromethane ($CClF_3$) is pyrolyzed at a temperature within the range of about 1200° C. to about 2000° C. for a period of from 0.0002 to 0.05 second to produce, as the major products, 1,2-dichlorotetrafluoroethane, carbon tetrafluoride, and dichlorodifluoromethane.

3,377,392

PROCESS FOR PREPARING 1,1,1,2,2-PENTAFLUORO - 3 - CHLOROPROPANE AND 1,1,1,2,2 - PENTAFLUORO-3-BROMOPROPANE

Max M. Boudakian, Hamden, New Haven, Conn., assignor to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 18, 1966, Ser. No. 528,356

3 Claims. (Cl. 260—653)

$CF_3CF_2CH_2X$, wherein X is chlorine or bromine, is prepared by treating a compound of the formula

$$CFXYCF_2CH_2X$$

wherein X is chlorine or bromine and Y is any halogen, with a disproportionate catalyst.

3,377,393

1,1,1,2,2-PENTAFLUORO-3-CHLORO-3,3-DIBROMOPROPANE

Harry Louis Yale, New Brunswick, N.J., assignor to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 21, 1966, Ser. No. 544,086

3 Claims. (Cl. 260—653)

1,1,1,2,2, - pentafluoro - 3 - bromo - 3 - chloropropane is prepared by reducing 1,1,1,2,2 - pentafluoro - 3 - chloro-3,3-dibromopropane. The latter is a new compound prepared by either brominating 1,1,1,2,2 - pentafluoro-3-chloropropane or chlorinating 1,1,1,2,2 - pentafluoro - 3,3-dibromopropane. The latter is also a new compound which is prepared by brominating 1,1,1,2,2 - pentafluoropropane.

3,377,394

METHYL FLUORIDE AND METHYLENE FLUORIDE PROCESS

Max M. Boudakian, Hamden, and Milton Lapkin, New Haven, Conn., and Eugene R. Shipkowski, Rochester, N.Y., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed July 15, 1966, Ser. No. 565,388

5 Claims. (Cl. 260—653)

Methyl fluoride and methylene fluoride are provided by reacting formaldehyde with hydrogen fluoride at a temperature between about 100° C. and 650° C. in the presence of a fluorine-containing inorganic acid, a metal fluoride, a metal oxide or a metal chromite.

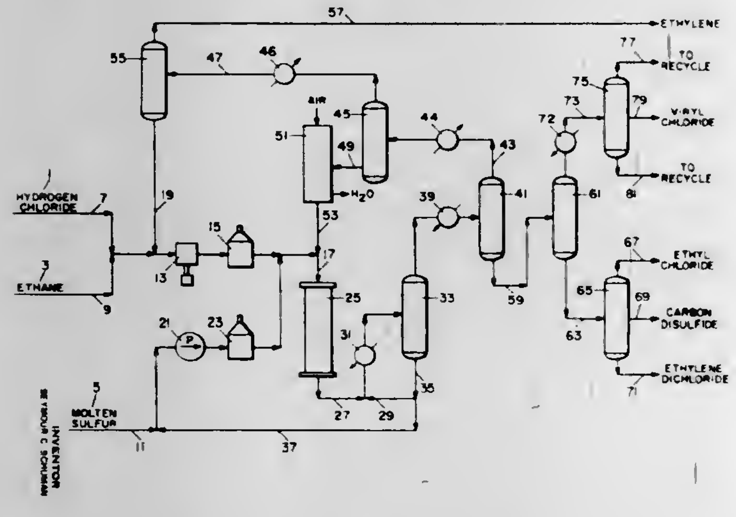
3,377,395
PROCESS FOR DIMINISHING CUPRENE FORMATION

Frank J. Christoph, Jr., Elkton, Md., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed May 3, 1965, Ser. No. 452,853
3 Claims. (Cl. 260—653.4)

Process which diminishes cuprene formation in the preparation of vinyl fluoride from acetylene and hydrogen fluoride in the presence of a catalyst at about 250° C., by adding nitric acid to the reactants. Process which diminishes cuprene formation in processes in which acetylene is heated to 250° C., by pretreating the reaction chamber with nitric acid.

3,377,396
REACTION OF ETHANE, HYDROGEN CHLORIDE AND SULFUR

Seymour C. Schuman, Rocky Hill, N.J.
(360 Jefferson Road, Princeton, N.J. 08540)
Filed June 7, 1965, Ser. No. 461,824
8 Claims. (Cl. 260—656)



Ethane, elemental sulfur and hydrogen chloride are contacted at elevated temperatures to produce saturated and unsaturated chlorine derivations of ethane, particularly, substantial quantities of vinyl chloride.

3,377,397
DIMERIZATION OF DIOLEFINS

Perry L. Maxfield, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Oct. 22, 1965, Ser. No. 502,481
15 Claims. (Cl. 260—666)

Diolefin such as butadiene is dimerized using a dinitrosile halide, an organometallic reducing agent, such as a Grignard reagent, and organo non-metal.

3,377,398
DIMERIZATION PROCESS

Günter Zoche, Beul (Rhine), Germany, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 15, 1966, Ser. No. 542,739
Claims priority, application Germany, Nov. 29, 1965, S 100,715
5 Claims. (Cl. 260—666)

Bicycloheptadiene dimer mixtures, useful as high energy fuels, are prepared by intimately contacting bicyclo (2.2.1)hepta-2,5-diene at substantially atmospheric pressure and at a temperature above 140° C. in the presence of a zero-valent iron complex as catalyst.

3,377,399
EXO AND ENDO 7-VINYL-BICYCLO (3.2.0)-HEPTENE-2

Guido Sartori and Vittorio Turba, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy
No Drawing. Filed May 17, 1966, Ser. No. 550,604
Claims priority, application Italy, May 18, 1965, 11,116/65
2 Claims. (Cl. 260—666)

According to the present invention the isomers 7-vinyl-bicyclo[3,20]-heptene-2 and bicyclo[4,2,1] - nona 3,7-diene are synthesized by photochemical dimerization of cyclopentadiene and butadiene, respectively, in the presence of a sensitizer.

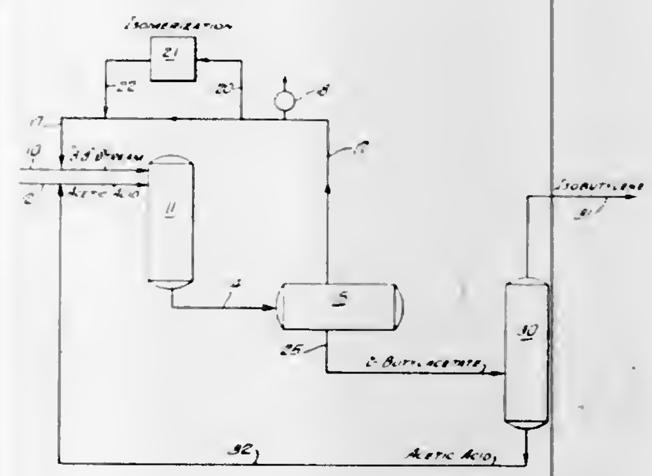
3,377,400
ISOMERIZATION AND DISPROPORTIONATION OF ALKYL AROMATICS

John J. Wise, Arlington, Mass., assignor to Mobil Oil Corporation, a corporation of New York
No Drawing. Continuation of application Ser. No. 313,450, Oct. 3, 1963. This application Mar. 27, 1967, Ser. No. 626,339
10 Claims. (Cl. 260—668)

Alkyl aromatic hydrocarbons are subjected to isomerization or disproportionation at high efficiency by contact with a crystalline aluminosilicate catalyst, in liquid phase, at a temperature below about 600° F.

3,377,401
PROCESS FOR SEPARATING ISOBUTYLENE FROM A HYDROCARBON STREAM

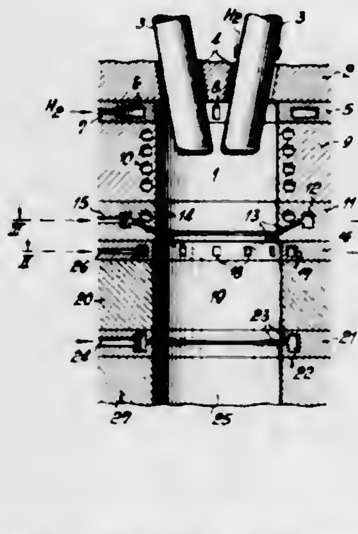
Stanley R. Newman, Fishkill, George W. Eckert, Wappingers Falls, Howard V. Hess, Glenham, and Robert Y. Heisler, Wappingers Falls, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware
Continuation-in-part of application Ser. No. 830,083, July 28, 1959. This application Nov. 17, 1965, Ser. No. 508,324
13 Claims. (Cl. 260—677)



1. A process for separating isobutylene from a mixture of C_4 hydrocarbons which comprises contacting said C_4 hydrocarbon mixture with a hydrocarbyl monocarboxylic acid in a reaction zone at a temperature between 40 and 300° F. and a presssure between 40 and 300 p.s.i.g. whereby a t-butyl ester of said monocarboxylic acid is formed to the exclusion of isomeric butyl esters, separating unreacted C_4 hydrocarbons from the resulting reaction mixture to form an acidic residue comprising said t-butyl ester and free monocarboxylic acid, heating said acidic residue at a temperature between 100 and 510° F. and at a pressure between atmospheric and 30 p.s.i.g. to decompose said t-butyl ester to monocarboxylic acid and isobutylene and separating said isobutylene from said monocarboxylic acid.

3,377,402
PROCESS FOR CRACKING HYDROCARBONS WITH AN ELECTRIC ARC

Kurt Sennewald, Knapsack, near Cologne, Ludwig Bender, Bruhl, near Cologne, Klaus Gehrmann, Knapsack, near Cologne, Heinrich Kallrath, Kerpen, Günter Peantek, Hermulheim, near Cologne, Erich Schallus, Cologne, Hans-Werner Stephan, Cologne-Klettenberg, and Lothar Strie, Knapsack, near Cologne, Germany, assignors to Knapsack Aktiengesellschaft, Knapsack, near Cologne, Germany, a corporation of Germany
Filed July 30, 1965, Ser. No. 475,938
Claims priority, application Germany, Aug. 11, 1964, K 53,716
7 Claims. (Cl. 260—679)



Introducing radially with respect to a reaction zone and into hot hydrogen flowing therethrough, near the inflow end of that zone, a first partial stream of feed hydrocarbon in vapor form and in the form of a cone-shaped shell with the apex thereof pointing in the direction of flow of the hot hydrogen. Immediately thereafter introducing tangentially with respect to the reaction zone a second partial stream conventional manner cracked product leaving the reaction and travelling into a quenching zone. An apparatus comprises in coaxial arrangement a conventional arc chamber, a circular cylindrical reaction chamber, and a circular cylindrical quenching chamber. Between the arc chamber and the reaction chamber there is an annular slit running all around. The reaction chamber is surrounded by an annular channel. An annular slit is disposed in the entrance portion of a quenching chamber.

3,377,403
DEHYDROGENATION PROCESS

Laimonis Bajars, Princeton, N.J., assignor to Petro-Tex Chemical Corporation, Houston, Tex., a corporation of Texas
No Drawing. Continuation-in-part of application Ser. No. 72,327, Nov. 29, 1960. This application Nov. 8, 1962, Ser. No. 236,403
The portion of the term of the patent subsequent to Sept. 20, 1982, has been disclaimed
6 Claims. (Cl. 260—680)

1. The method for dehydrogenating aliphatic hydrocarbons of 4 to 5 carbon atoms which comprises contacting in the vapor phase at a temperature in the range of about 450° C. to 900° C. the said aliphatic hydrocarbon with oxygen in a molar ratio of about 0.5 to about 1.5 mol of oxygen per mol of said aliphatic hydrocarbon, iodine in a molar ratio of between 0.005 to 0.09 mol of iodine per mol of said aliphatic hydrocarbon, and 2 to 30 mols of steam per mol of said hydrocarbon the partial pressure of said aliphatic hydrocarbon being no greater than equivalent to 5 inches of mercury at a total pressure of one atmosphere, and the ratio of the mols of oxygen to the mols of iodine being at least about eight.

3,377,404
POLYMERIZATION METHOD

Robert P. Zelinski, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 64,280, Oct. 24, 1960. This application Oct. 6, 1964, Ser. No. 401,960
9 Claims. (Cl. 260—680)

1. A process for making a polymer which comprises preparing a hydrocarbon insoluble polymerization initiator having the formula RLi_x where x is an integer of 2 to 4 and R is a hydrocarbon radical selected from the group consisting of aliphatic, cycloaliphatic and aromatic radicals in an ether solvent having the formula R'OR' wherein R' is an alkyl group containing 2 to 12 carbon atoms, modifying said initiator by contacting same with sufficient conjugated diene having 4 to 8 carbon atoms per molecule to make the modified initiator soluble in a liquid hydrocarbon selected from the group consisting of paraffins, cycloparaffins and aromatics, the amount of conjugated diene added to modify said initiator being substantially not more than required to make said modified initiator soluble in said liquid hydrocarbon, removing said ether solvent, dissolving said initiator in said liquid hydrocarbon, and thereafter contacting the resulting solution of initiator with a conjugated diene having 4 to 12 carbon atoms per molecule under polymerization conditions in said liquid hydrocarbon diluent and in the substantial absence of said ether.

3,377,405
PREPARATION OF POLYENES

Edward Hurley, Jr., Littleton, and David W. Hall, Englewood, Colo., assignors to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio
No Drawing. Filed May 31, 1966, Ser. No. 553,632
10 Claims. (Cl. 260—681)

Isoprene or other polyene is prepared by heating the meta-dioxane in a solvent medium catalyzed with a reaction product of an acid and a weakly basic nitrogen compound such as dimethylformamide.

3,377,406
PROCESS OF ESTERIFICATION OF POLYEPOXIDES WITH ETHYLENICALLY UNSATURATED MONOCARBOXYLIC ACIDS IN THE PRESENCE OF ONIUM SALTS OF INORGANIC ACIDS

Herbert A. Newey, Lafayette, and Clayton A. May, Orinda, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 16, 1963, Ser. No. 330,618
13 Claims. (Cl. 260—837)

1. A process for preparing an acetone-soluble hydroxy-substituted ethylenically unsaturated polyester which consists of heating and reacting a glycidyl ether of a polyhydric compound with an ethylenically unsaturated monocarboxylic acid in a chemically equivalent ratio of 0.5 to 2:1 in the presence of from 0.01% to 5% by weight of

a hydrocarbyl substituted onium salt of an inorganic acid at a temperature of about 50° C. to 150° C.

12. A process for making new unsaturated polyesters which consists of heating and reacting methacrylic acid with a glycidyl polyether of 2,2-bis(4-hydroxyphenyl)propane in an equivalent ratio of 0.5 to 2:1 in the presence of .01% to 5% by weight of a hydrocarbon substituted quaternary ammonium salt of an inorganic acid at a temperature of about 50° C. to 150° C.

3,377,407

CURING OF UNSATURATED POLYESTER RESINS

Donald M. Kressin, Getzville, Solomon C. Westbrook, Jr., Buffalo, Orville L. Mageli, Kenmore, and James R. Kolczynski, Williamsville, N.Y., assignors to Wallace & Tiernan, Inc., East Orange, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 415,799, Dec. 3, 1964. This application Apr. 17, 1967, Ser. No. 632,151

15 Claims. (Cl. 260—863)

Unsaturated polyester resins are cured using 3,5-dimethyl - 3,5 - dihydroxy - 1,2 - peroxycyclopentane as the curing agent. Preferably a metal activator is also present and the agent is added as a solution in an organic solvent.

3,377,408

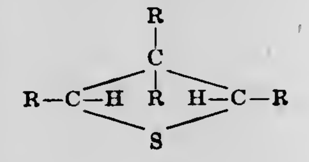
BLEND OF 1-MONOOLEFIN AND TRIMETHYLENE SULFIDE POLYMERS

James T. Edmonds, Jr., Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Nov. 5, 1963, Ser. No. 321,422

9 Claims. (Cl. 260—897)

1. A composition comprising a blend of a major amount of solid polymer of a 1-monoolefin having 2–8 carbon atoms, inclusive, and a minor amount of a solid polymer of a monomer comprising at least 10 weight percent of at least one trimethylene sulfide having the general formula



where each R is selected from the group consisting of hydrogen, alkyl, aryl, and cycloalkyl radicals, and the combination of such radicals, said radicals having from 1 to 10 carbon atoms.

3,377,409

POLYMERS DERIVED FROM DIAMINES OR AMINOALCOHOLS AND TRIALKYL OR TRIARYL PHOSPHITES

Richard L. McConnell and Harry W. Coover, Jr., Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation of application Ser. No. 271,884, Apr. 10, 1963. This application Oct. 17, 1966, Ser. No. 587,945

8 Claims. (Cl. 260—926)

Flame-resistant linear and cross-linked phosphorus-containing polymers are prepared from the reaction of [A] an organic phosphite—e.g., triethyl phosphite, triphenyl phosphite, and [B] a compound having at least one amino group—e.g., ethylenediamine, 1,4-cyclohexanebis(methylamine), 5-aminopentanol.

3,377,410

O,O-DI-LOWER ALKYL-S-[(p-LOWER ALKYLMERCAPTO-PHENYL)-LOWER ALKOXYCARBONYLMETHYL]-DITHIOPHOSPHATES

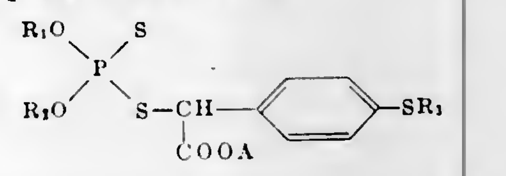
Richard Sehring and Karl Zeile, Ingelheim am Rhine, Germany, assignors to C. H. Boehringer Sohn Ingelheim am Rhine, Germany, a limited partnership of Germany

No Drawing. Continuation of application Ser. No. 333,207, Dec. 24, 1963. This application Aug. 3, 1967, Ser. No. 658,294

Claims priority, application Germany, Jan. 4, 1963, B 70,221; Oct. 25, 1963, B 74,017, B 74,018

4 Claims. (Cl. 260—941)

1. A compound of the formula



wherein

R_1, R_2 and R_3 are each alkyl of 1 to 3 carbon atoms, and

A is alkyl of 1 to 4 carbon atoms.

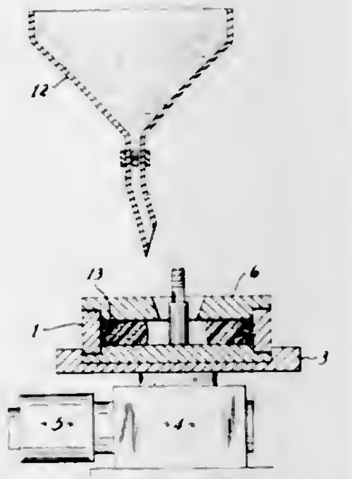
3,377,411

METHOD OF MANUFACTURING GRINDING WHEELS AND THE LIKE

Vernon K. Charvat, Bay Village, Ohio, assignor to The Osborn Manufacturing Company, Cleveland, Ohio, a corporation of Ohio

Continuation-in-part of application Ser. No. 304,002, Aug. 23, 1963. This application Mar. 2, 1964, Ser. No. 348,735

29 Claims. (Cl. 264—45)



A method of manufacturing grinding wheels and the like wherein granular abrasive is concentrated in substantially contacting relationship in a liquid resin binder by centrifuging the abrasive-binder mixture, and such abrasive grains are then very slightly uniformly spaced apart by controlled foaming of such binder prior to final setting of the binder.

3,377,412

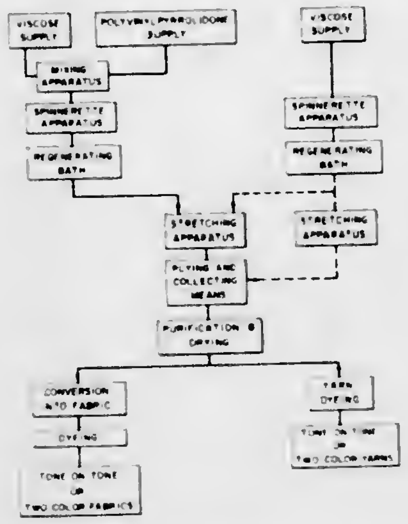
POLYVINYL PYRROLIDONE IN VISCOSE AND METHOD OF PRODUCING DYE-RECEPTIVE FILAMENTS

Neal E. Franks, Cincinnati, Ohio, assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware

Continuation-in-part of application Ser. No. 371,840, June 1, 1964. This application Aug. 14, 1967, Ser. No. 660,250

2 Claims. (Cl. 264—78)

A process for the production of regenerated cellulose in the form of textile structures such as filaments, fibers and yarns, the combination including incorporating into a viscose, prior to extrusion thereof, an amount of polyvinyl pyrrolidone having an average molecular weight of about 360,000 and a K-value between 80–100 in order to permit dyeing with acid or premetallized dyestuffs. The thus modified structures can then be combined with unmodified structures that are only susceptible to those dyestuffs normally used in dyeing regenerated cellulose in order to obtain a composite textile article of manufacture consisting of polyvinyl pyrrolidone modified textile structures and unmodified structures that are especially suitable for multicolored effect dyeing when utilizing a single dyebath and containing at least two distinct classes of dyestuffs, i.e., the above-mentioned acid or premetallized dyes and direct or substantive dyes.



3,377,413

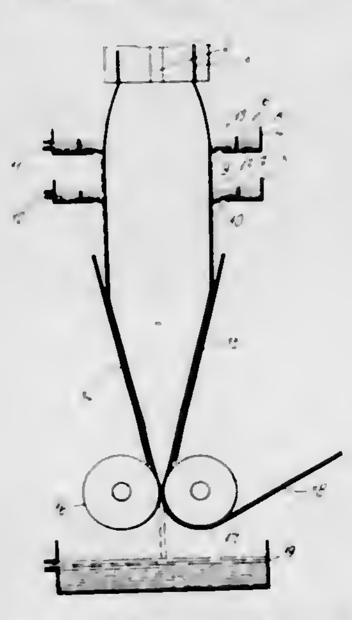
PROCESS IN THE EXTRUSION OF FILMS OF THERMOPLASTIC MATERIAL IN TUBULAR FORM AND AN ARRANGEMENT FOR CARRYING OUT THE PROCESS

Sven August Jansson, John Iwan Johansson, and Erik Johan Mariedahl, Upplands Vasby, Sweden, assignors to Aktiebolaget Svenska Metallverken, Vasteras, Sweden, a joint-stock company limited

Filed May 17, 1965, Ser. No. 456,163

Claims priority, application Sweden, May 15, 1964, 59,994/64

9 Claims. (Cl. 264—95)



1. In the extrusion of films of thermoplastic material in tubular form, in which the tube is forced out of a nozzle, and is subjected to an inner gas pressure, a method of cooling the tube comprising the steps of drawing the tube through at least one body of cooling liquid, and then drawing the tube from said liquid while applying a constant thin edge pressure contact around the circumference of said tube to maintain a thin layer of liquid on the surface of the tube to lubricate same, and to prevent the formation of droplets on, and the running of liquid down, the surface of said tube.

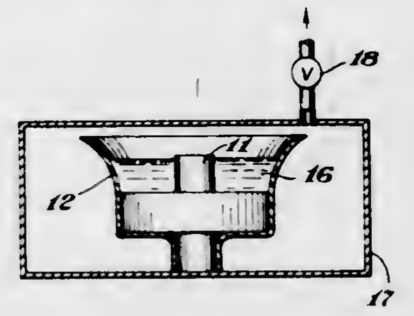
3,377,414

METHOD OF APPLYING ELECTRICAL INSULATION

Donald E. Weyer, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

Filed Oct. 5, 1964, Ser. No. 401,537

5 Claims. (Cl. 264—135)



Method of electrically insulating electrical devices by both impregnation and encapsulation of the device with insulating material. A cup-shaped container is formed by inserting the device into a tube of shrinkable insulating material, which is then caused to shrink tightly around the bottom portion of the device. This cup is then filled with a liquid insulation suitable for impregnating the device and the open end of the cup is then caused to shrink tightly around the portion of the device not previously encapsulated.

3,377,415

ELASTIC POLYPROPYLENE YARN AND PROCESS

George C. Oppenlander, Embreeville, Pa., assignor to Hercules Incorporated, a corporation of Delaware

No Drawing. Filed May 27, 1964, Ser. No. 370,666

11 Claims. (Cl. 264—210)

A high degree of elasticity is imparted to filaments of stereoregular polypropylene by incorporating therein a small amount of a polyfunctional azido compound, spinning at high temperatures and high draw-down ratios and then heat treating the finished filaments under substantially no tension.

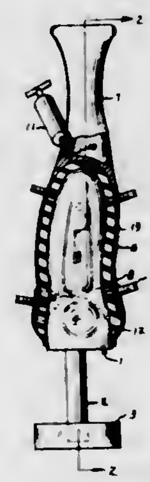
3,377,416

METHOD OF MAKING LINER FOR ARTIFICIAL LIMB

Edward J. Kandel, 28466 Kendalwood Drive, Farmington, Mich. 48024

Filed Jan. 22, 1965, Ser. No. 427,356

7 Claims. (Cl. 264—222)



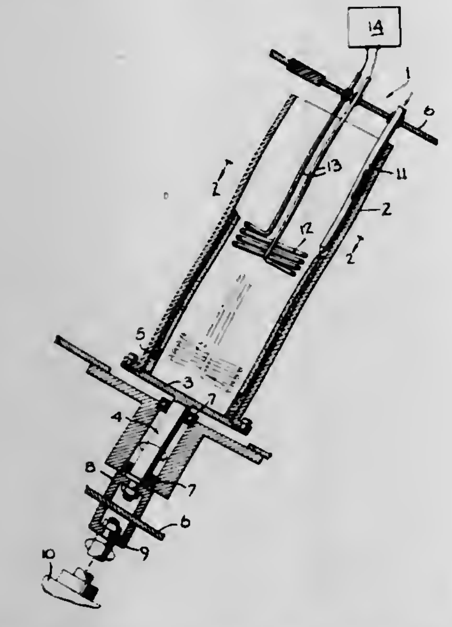
A method for making a liner for the socket of an artificial limb, which method includes making a cast of the contours upon which said limb is to be fitted, disposing said cast in a spaced relationship to the inner surface of a socket in an artificial limb, providing means to maintain said spaced relationship, and filling the space between said cast and said socket with a yieldably resilient material which will set to form a cohesive unit bearing on its exterior surface the countours of said socket and on its interior surface the contours of said cast or model.

ERRATUM

For Class 264—248 see:
Patent No. 3,377,348

ELECTRICAL

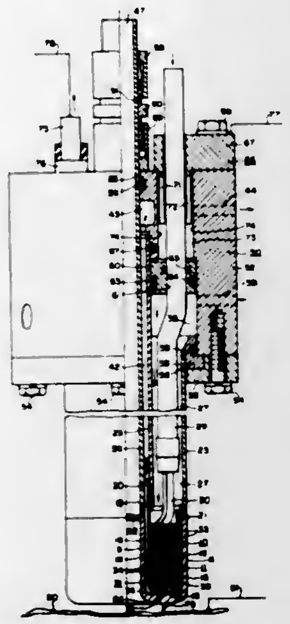
3,377,417
CENTRIFUGAL FURNACE
Emil R. Capita, 7020 Hudson Blvd., North Bergen, N.J. 07047
Filed Apr. 30, 1965, Ser. No. 452,268
3 Claims. (Cl. 13—1)



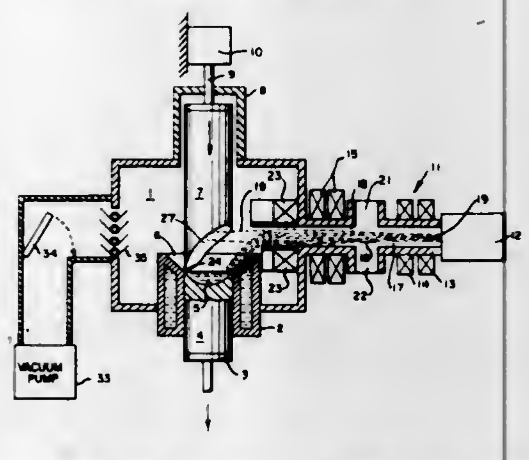
A method and apparatus for melting or sintering powdered refractory materials to transform them to an even density solid state using a container made from a material having a lower melting point than the refractory material. The melting container is rotated to produce a centrifugal force for holding the powdered material in a uniform density layer against the container walls and only the innermost portion of the refractory material is melted by means of an inductive heating coil. A protective boundary layer of unmelted refractory material remains between the melted refractory material and the container walls thereby avoiding contamination of the melted portion of the refractory material by the container material during extreme heating.

3,377,418
SMALL DIAMETER FLUID COOLED ARC-ROTATING ELECTRODE
Serafino M. De Corso, Media, George A. Kemeny, Export, and Charles B. Wolf, Irwin, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 28, 1967, Ser. No. 663,714
13 Claims. (Cl. 13—9)

A small diameter electrode for an arc or a vacuum furnace has an annular electrode tip composed of a material having high thermal conductivity brazed or otherwise joined to a supporting tube. Within the annular tip, which is U-shaped in cross-section, is a field coil within a coil cup spaced from all of the inner walls of the tip including the bottom by studs. The studs may be secured to, or formed integrally with, the tip, the coil cup, or both. Cooling fluid brought to the tip exerts a pressure on the coil cup maintaining the studs in close abutting relationship to the other suraface, and cooling fluid flows around an annular passageway U-shaped in cross-section extending around the entire periphery of the tip near the arcing surface, to cool the tip. The field coil itself is composed of insulated turns of hollow conduit, and the leads thereto may be insulated so that the field coil is separately excited, or one lead to the field coil may be insulated and one lead thereto electrically connected to the supporting structure of the electrode tip whereby the field coil is energized in series with the arc-producing current. Contact fingers in slidable engagement with a conduit are used to prevent stresses due to differential thermal expansion.



3,377,419
ELECTRON BEAM MULTICHAMBER HIGH VACUUM FURNACE
Siegfried Schiller and Peter Lenk, Dresden-Weisser Hirsch, Germany, assignors to VEB Lokomotivbau-Elektrotechnische Werke "Hans Beimler," Hennigsdorf, Kreis Oranienburg, Germany
Filed Oct. 24, 1966, Ser. No. 589,043
7 Claims. (Cl. 13—31)

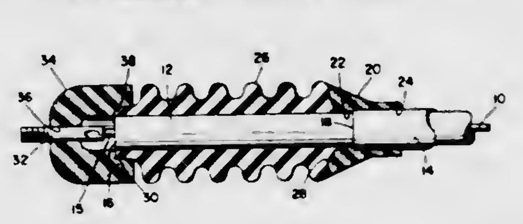


1. An electron beam multiple chamber furnace, comprising a melting chamber having a top, bottom and sides; a fluid-cooled crucible at the bottom of the melting chamber; support means for feeding melting stock substantially vertically downward into the crucible from the top of said melting chamber, said melting stock and said crucible having substantially the same cross-sectional configuration, said melting stock having an axis;

electron beam producing and directing assembly means positioned in a side of said melting chamber for producing and directing an electron beam onto the lower area of said melting stock in a determined periodical deflection program thereby melting said melting stock to produce a melt pool in said crucible and for directing said electron beam over the surface of said melt pool in a determined periodical deflection program, said electron beam producing and directing assembly means comprising an axially symmetrical electron gun positioned to supply an electron beam at an angle of 50 to 90 degrees with the axis of said melting stock and electromagnetic deflection means for deflecting said electron beam onto said melting stock and onto said melt pool in said crucible, said periodical deflection program of said electron beam on said melt pool being adjustable separately from said periodical deflection program of said electron beam on said melting stock in a manner whereby the time that said electron beam is on each point of said melting stock and on each point of said melt pool is adapted by said periodical deflection programs to the amount of heat required, said electron beam forming a cavity in the lower area of said melting stock, the periodical deflection programmed patterns of said electron beam for said melting stock and for said melt pool merging at the area of smallest separation between said melting stock and said melt pool; and

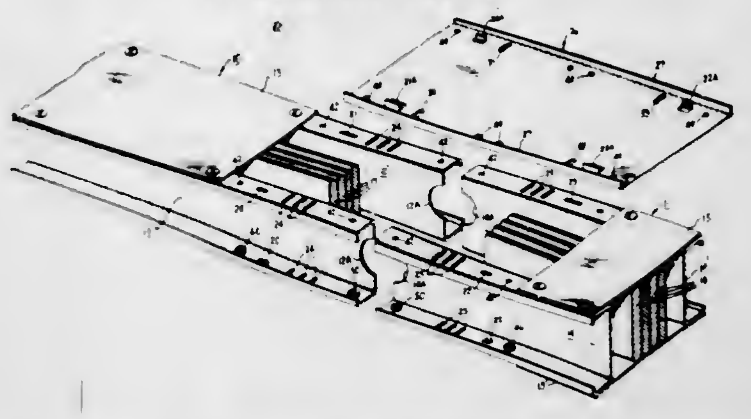
vacuum pumping means for evacuating said melting chamber and said electron beam producing and directing assembly means for maintaining a high vacuum in said melting chamber and said electron beam producing and directing assembly means.

3,377,420
DEVICE FOR TERMINATING OUTDOOR ELECTRIC CABLES
Robert R. Brown, Bernardsville, and Robert C. Ruete, Long Valley, N.J., assignors to Elastic Stop Nut Corporation of America, Union, N.J., a corporation of New Jersey
Filed Apr. 16, 1965, Ser. No. 448,590
4 Claims. (Cl. 174—73)



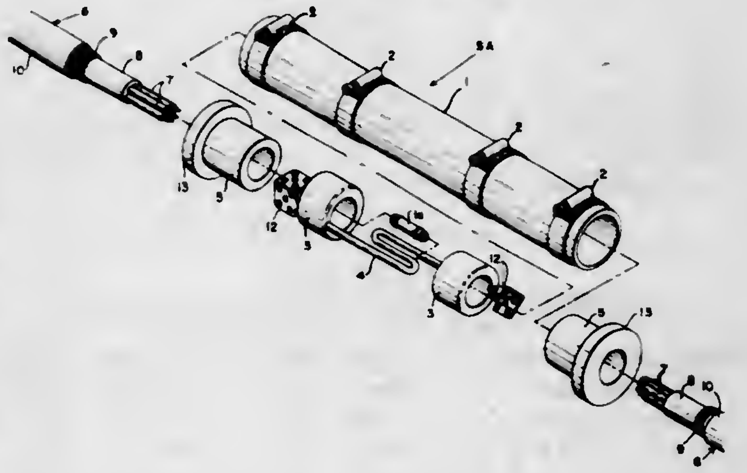
An outdoor terminator for electric cables of the type having an electrical conductor, a covering of insulation over the conductor and a conductive ground shield jacket over the insulation and wherein a portion of the shield jacket is removed to expose an elongate portion of the insulation, the terminator being in the form of an elongate tube of insulating elastomeric material having an annularly corrugated exterior and a resiliently dilatable bore for receiving the exposed portion of the insulation in waterproof engagement. A stress relief cone of electrically conductive elastomeric material is molded integral with one end of the elongate tube and has a resiliently dilatable bore for receiving the shield jacket and the exposed insulation in waterproof engagement. A cap of electrically conductive elastomeric material may be fitted over an axially extending rim at the other end of the elongate tube in waterproof engagement and an electrical contact is fixed to the cable conductor and may pass through a resiliently dilatable bore in the cap such that the bore and the contact will be in waterproof engagement. A longer terminator may be established by placing more than one elongate tube in tandem along the exposed insulation with abutting tubes being engaged in waterproof relationship by corresponding rims and sockets.

3,377,421
ELECTRIC POWER BUSWAY SYSTEM WITH NOVEL CONNECTING MEANS FOR JOINING BUSWAY SECTIONS
Eric A. Ericson, Plainville, Conn., assignor to General Electric Company, a corporation of New York
Filed Aug. 5, 1966, Ser. No. 570,594
5 Claims. (Cl. 174—84)



An electric power busway system including a plurality of elongated metallic housing sections having electric power busbars supported in insulated relation therein; a joint cover including portions overlapping corresponding endwise adjacent portions of adjacent housing sections in the manner of a splice-plate; the joint cover being provided with holes and tabs at each end, there being corresponding holes provided in the adjacent portions of the housing sections; with one end of the joint cover attached to one of the housing sections, a screwdriver or similar tool is inserted into corresponding holes in the free end of the joint cover and in the other of the section housings in order to "jack" the two section housings into proper position whereupon they may be secured in place.

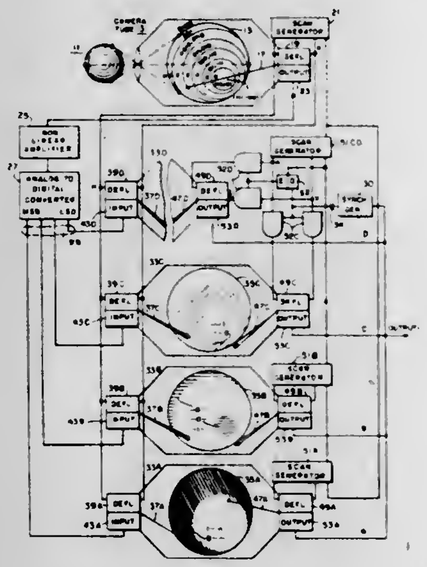
3,377,422
SPLICE ASSEMBLY TO CONNECT CABLE ENDS TOGETHER
John Omer Trimble, Malvern, and Arthur Llewellyn Mueller, Havertown, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Filed Jan. 26, 1966, Ser. No. 523,202
7 Claims. (Cl. 174—88)



A splice assembly for splicing together ends of cable means having a plurality of conductor members, insulation means surrounding the conductor members, shield means surrounding the insulation means and an insulating sheath means surrounding the shield means, the splice assembly comprises connector means for sealingly connecting respective conductor members together, yieldable annular sealing members disposable on the insulation means, connecting means extendable through the sealing members and connectable to the shield means, yieldable plug members disposable on the insulating sheath means, a yieldable unitary sleeve disposable over the sealing members and plug members, and clamping means disposable on said sleeve to sealingly clamp the plug members and sealing members respectively to the insulating sheath means and insulation means.

3,377,423
REDUCED BANDWIDTH BINARY PICTURE TRANSMISSION

Bernard Lippel, West Long Branch, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed Feb. 11, 1963, Ser. No. 257,800
9 Claims. (Cl. 178—6)

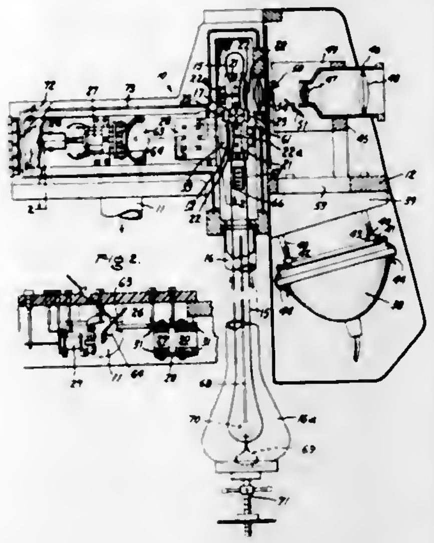


1. Apparatus for the transmission and reception of pictures comprising; means to periodically sample the amplitude of an analog picture signal and to convert each amplitude sample into a binary number comprising a plurality of bits of different significance; means to produce a different time-variant bit map corresponding to the information in each of said bits; means to transmit the bit map produced by the most significant bit at a given horizontal and vertical resolution; means to transmit the bit maps produced by all of the bits of lesser significance at less than said given horizontal and vertical resolution, some of the bit maps produced by said bits of lesser significance additionally being transmitted at a lower frame rate than said bit map produced by the most significant bit, and receiving apparatus for reconstructing said analog picture signal by combining the bits maps so transmitted.

3,377,424
INFORMATION RECORDING AND LIGHT PROJECTION APPARATUS

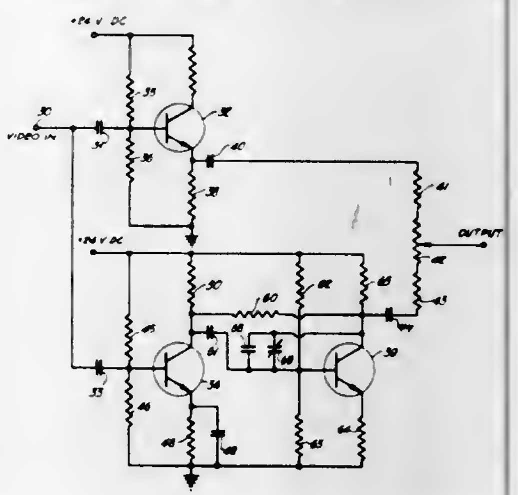
William E. Glenn, Jr., Scotia, and John L. Henkes, Jr., Loudonville, N.Y., assignors to General Electric Company, a corporation of New York
Filed July 27, 1964, Ser. No. 385,302
6 Claims. (Cl. 178—6.6)

A combined electron beam recorder and optical projector is disclosed in which the recording is in the form of thickness deformations corresponding to the information and the projector is of the reflection type and utilizes schlieren optics. A single pull-down mechanism is utilized for effecting intermittent motion of the recording medium at both the recording and projection stations and the electron beam is interrupted for the period of scanning of alternate periods corresponding to the scan time of a field so that the pull-down can be accomplished. Light from the projection lamp is also interrupted. In the specific embodiment, both of these interruption means are mechanical and are operated in synchronism with each other and with the recording beam and the pull-down mechanism.



3,377,425
APERTURE CORRECTION CIRCUIT

James Dale Buzan, Bloomington, Ind., assignor to Sarkes Tarzian, Inc., Bloomington, Ind., a corporation of Indiana
Filed Aug. 31, 1964, Ser. No. 393,308
9 Claims. (Cl. 178—7.1)



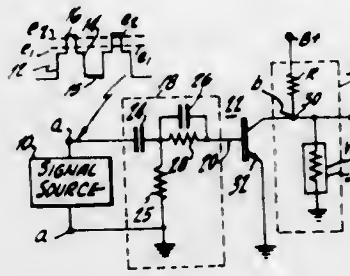
An aperture correction circuit for television signal generating apparatus in which the high frequency components of video pulses are selectively amplified and are combined with inverted high frequency components which have been slightly delayed and amplified by approximately the same amount as the selected components, to provide video output pulses having relatively steep leading and trailing edges and essentially flat tops.

3,377,426
AMPLITUDE LIMITING SIGNAL TRANSLATING CIRCUIT UTILIZING A VOLTAGE DEPENDENT RESISTOR IN THE OUTPUT CIRCUIT

Lucius P. Thomas, Indianapolis, Ind., assignor to Radio Corporation of America, a corporation of Delaware
Filed July 16, 1964, Ser. No. 383,004
5 Claims. (Cl. 178—7.3)

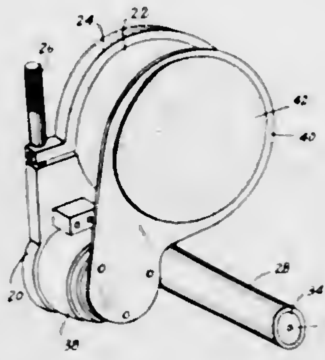
A signal translating circuit including a voltage dependent resistor coupled between, and exhibiting a re-

sistance that varies as a function of the instantaneous voltage developed across, the output and common electrodes of an amplifier device, and means for deriving amplitude limited output signals across that resistor.



3,377,427
LIGHT-SENSITIVE OPTICAL CONTROL SYSTEM FOR A TELEVISION CAMERA

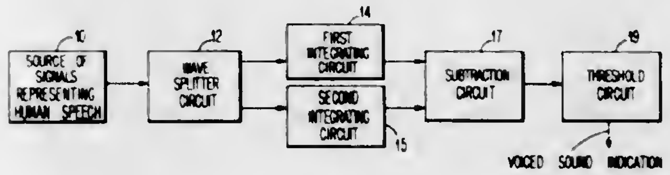
George J. Fischer, 2030 Lonedell, Arnold, Mo. 63010
Filed July 29, 1965, Ser. No. 475,712
18 Claims. (Cl. 178—7.92)



A mounting bracket is secured to a television camera adjacent the lens of that camera; and that mounting bracket supports a light-sensitive cell which can sense the light directed toward that lens, and also supports a solenoid which can move a light-intercepting element into position in front of that lens to protect the light-sensitive tube of that camera from injury whenever the intensity of the light directed toward that lens exceeds a predetermined value.

3,377,428
VOICED SOUND DETECTOR CIRCUITS AND SYSTEMS

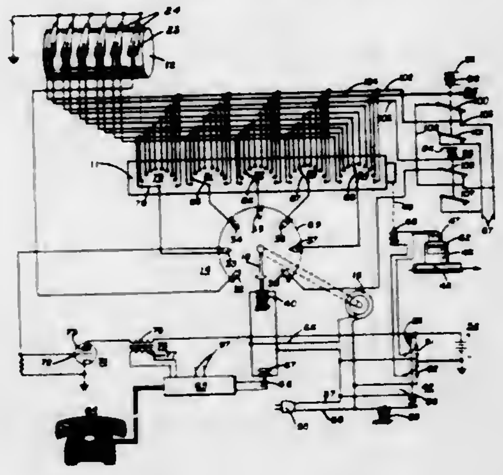
William C. Dersch, Los Gatos, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 29, 1960, Ser. No. 79,389
13 Claims. (Cl. 179—1)


10
SOURCE OF SIGNALS REPRESENTING HUMAN SPEECH
12
WAVE SPLITTER CIRCUIT
14
FIRST INTEGRATING CIRCUIT
SECOND INTEGRATING CIRCUIT
15
17
SUBTRACTION CIRCUIT
19
THRESHOLD CIRCUIT
VOICED SOUND INDICATION

Symmetry of unvoiced sounds and asymmetry of voiced sounds are detected and utilized by splitting the wave, rectifying each portion, and subtracting one from the other. The presence of a difference signal indicates asymmetry or voiced sound.

3,377,429
AUDIO READOUT OF REMOTELY LOCATED METER

Lewis J. Schwartzkopf and John S. Lavender, Jr., Findlay, Ohio, assignors to Marathon Oil Company, a corporation of Ohio
Filed July 20, 1960, Ser. No. 44,124
4 Claims. (Cl. 179—6)



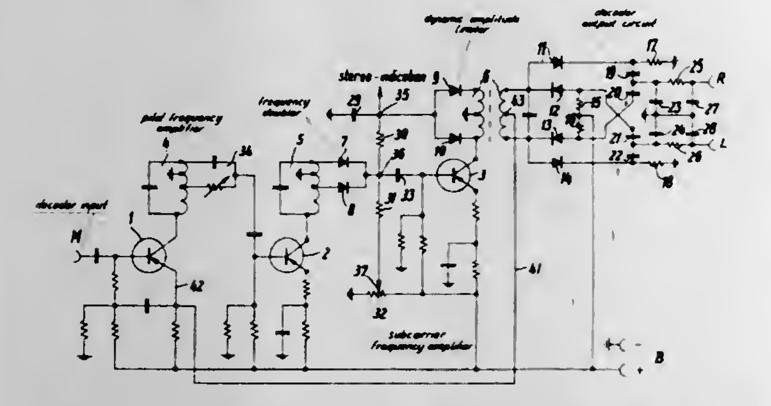
1. A transmitting apparatus for telemetering systems and the like comprising a counter of the digital accumulator type having a plurality of digit indicating elements and a row of normally open switches for each element each switch representing a digit of the element and being closed when its respective digit is indicated by the element whereby one switch of each element is closed depending on the position of the counter, a rotatable record holder having voice recordings of the nine digits and zero arranged in spaced positions, a motor for rotating said record holder, pickup heads one adjacent each recording for reproducing said voice recordings, means actuated by a predetermined signal for energizing said motor to rotate said record holder, scanning means connected to be actuated by said motor for connecting the closed switch of each of said elements in order and at predetermined substantially equal intervals to their respective heads representing the respective digit corresponding to each closed switch, said scanning means comprising a rotary switch unit for connecting said pickup heads selectively one at a time to said output circuit, said unit comprising a rotatable arm and a plurality of normally open switches positioned for successive engagement and operation by said arm during its rotation, each of said switches having an elongated flexible actuating member extending into the path of said arm and arranged to remain in operating engagement with said arm a time sufficient to afford reproduction of the recording on the corresponding head, and means for transmitting the voice signals from the selected digit recording to a telephone circuit.

3,377,430
HIGH-FREQUENCY STEREO DECODER CONTAINING ELECTRONIC MONO-STEREO SWITCHING MEANS

Egon Frank, Ringstrasse 4a, Berlin, Germany
Filed Aug. 12, 1964, Ser. No. 393,489
Claims priority, application Germany, Aug. 17, 1963, L 45,632
4 Claims. (Cl. 179—15)

1. FM multiplex stereo decoder system for receiving high-frequency transmissions modulated with audio signals together with a pilot tone frequency comprising an input amplifier for amplifying the multiplex signal, a subsequent second selective amplifier for amplifying said pilot frequency, a full-wave rectifier system in the selective output circuit of said second amplifier for doubling the pilot frequency, a subsequent variable voltage divider, a further subsequent third selective amplifier for amplify-

ing said doubled pilot frequency, a resonance transformer and a full-wave rectifier circuit in the output of said latter amplifier, said full-wave rectifier system in said second amplifier consisting of two diode systems connected together in push-pull with the selective output circuit of said second amplifier, the anodes of said diode systems being together connected to said variable potential divider as well as to said third amplifier, said voltage divider consisting of a plurality of resistors connected as to be adapted to supply D.C. threshold value for interrupting said full-wave rectifier system in the output of said second amplifier in case of absence of said pilot frequency, the primary of said resonance transformer of said third selective amplifier being connected together with two diodes as to form said full-wave rectifier circuit in the output of said third amplifier, the poles of said latter diodes not connected with said primary being in direct conductive connection with said variable voltage divider, said latter diodes being thus adapted to act as dynamic noise limiter by supplying via said voltage divider said two diode systems of said second amplifier with a D.C. threshold bias voltage dependent on the pilot signal voltage in the output of said third amplifier, the secondary of said resonance transformer being connected with a balanced diode switching system for demodulating the two stereo components of said multiplex system, said latter secondary having further a center tap connected with the output circuit of said input amplifier conducting the amplified multiplex signal to said diode switching system for demodulating the two stereo components.


dynamic amplitude limiter
stereo-selection
pilot frequency amplifier
frequency doubler
subcarrier frequency amplifier

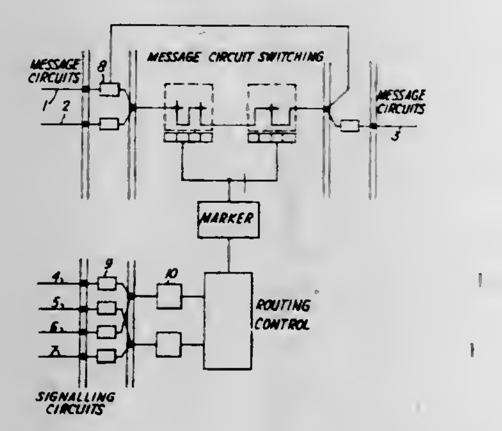
3,377,431
TELEPHONE SYSTEMS WITH SEPARATE SIGNALLING CIRCUITS

Esmond Philip Goodwin Wright, London, England, and Martinus Den Hertog, Antwerp, Belgium, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Mar. 6, 1964, Ser. No. 349,987

Claims priority, application Great Britain, Mar. 8, 1963, 9,305/63

8 Claims. (Cl. 179—18)



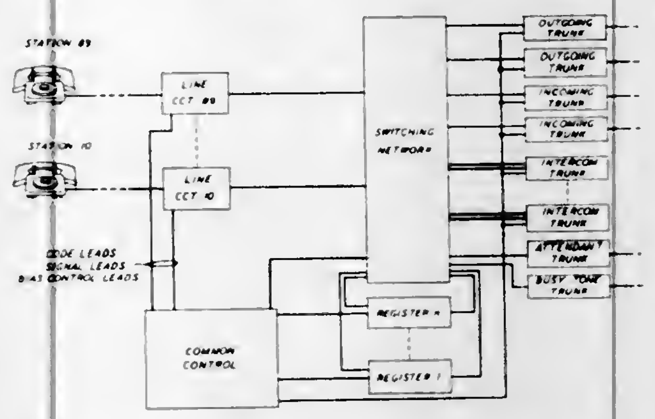
A telecommunication system is provided having a number of message channels interconnecting two or more switching centres by one or more different routes. One or more separate and independent signalling circuits provide a means for exchanging signals relating to the establishment and supervision of message connections between the centres. The signalling circuits determine an available route before message connections are completed.

3,377,432
TELEPHONE SWITCHING SYSTEM

Henry H. Abbott and Charles J. Fette, Middletown, and Henry A. Meise, Jr., Red Bank, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed July 31, 1964, Ser. No. 386,589

35 Claims. (Cl. 179—18)



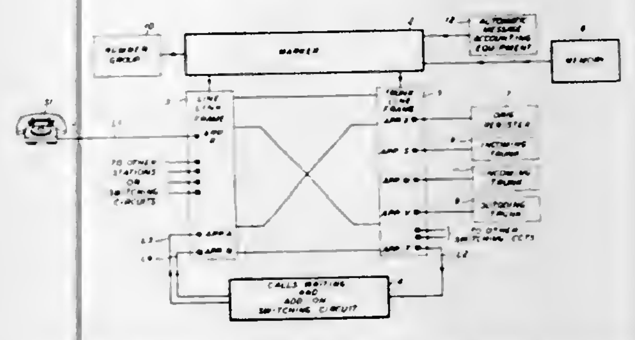
An electronic common controlled type PBX is disclosed which is entirely self-contained and which, when installed on a customer's premises, requires no modification of the central office servicing the PBX. An end marked switching network is used together with registers, trunk circuits, line circuits, and a common control circuit which coordinates the operation of the system in establishing call connections via the switching network. Each line circuit includes a transistor whose conductive state is selectively altered (1) to initiate a service request, (2) to identify a calling line circuit initiating a service request, (3) to re-identify a calling line circuit following the completion of a dialing operation, and (4) to identify a called line circuit.

3,377,433
SWITCHING SYSTEM ARRANGEMENT FOR PROVIDING MULTIPLE SWITCHING NETWORK LINE APPEARANCES WITHOUT PREASSIGNMENT

Wiley Whitney, Columbus, Ohio, assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 2, 1964, Ser. No. 415,319

16 Claims. (Cl. 179—18)



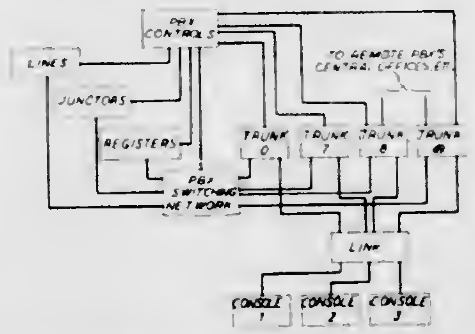
The preassigned dual station line appearance requirement of the calls-waiting and add-on features is eliminated by providing a switching circuit having one output (trunk) appearance and two input (line) appearances in a switching network. Each special service station line is connected via the network output appearance of any available switching circuit, through the switching circuit, to the dual input appearances for the duration of each call. Upon the completion of the initial connection of a switching circuit, a memory records the association of the specific line and the specific switching circuit to provide a source of this information for subsequent use by the common control equipment in providing the associated special service features.

3,377,434
SWITCHING LINK

Harry R. Banks, Neptune, N.J., Gerald R. Sorenson, Royal Oak, Mich., and Henry J. Walsh, New Monmouth, and John G. Walsh, Middletown, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 8, 1964, Ser. No. 402,531

19 Claims. (Cl. 179—27)



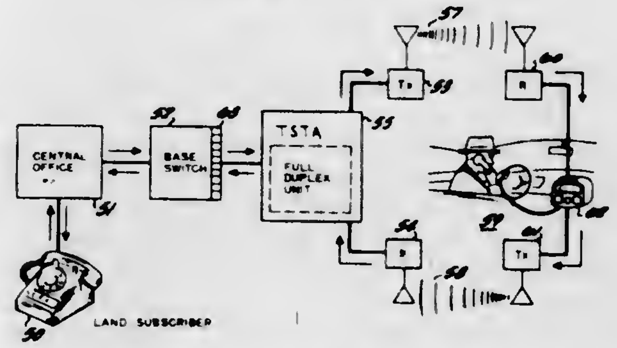
A private branch exchange is provided with crossbar switch linkage and control circuitry whereby full two-way access is afforded between fifty trunks and three attendant consoles. Each console telephone circuit has access by means of keys to six lines corresponding to six verticals of the switch array. Each trunk corresponds to a horizontal of the array. A pair of select magnet control circuits and a pair of hold magnet control circuits are provided. A calling trunk uses one control circuit from each pair to select an idle attendant line in an available console and to operate the calling trunk select magnet and the idle line hold magnet. A calling line uses the other control circuit from each pair to select an idle trunk and to operate the idle trunk select magnet and the calling line hold magnet. Traffic regulating circuitry allows only one calling trunk or calling line at a time to use the magnet control circuits. The consoles are arranged for the usual private branch exchange functions such as night connections, busy verification, call holding, circuit splitting, audible signaling, exclusion, and the like.

3,377,435
LAND-TO-MOBILE TELEPHONE LINK

Anthony H. Lippert, Chicago, Ill., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland

Filed Apr. 30, 1964, Ser. No. 363,851

15 Claims. (Cl. 179—41)



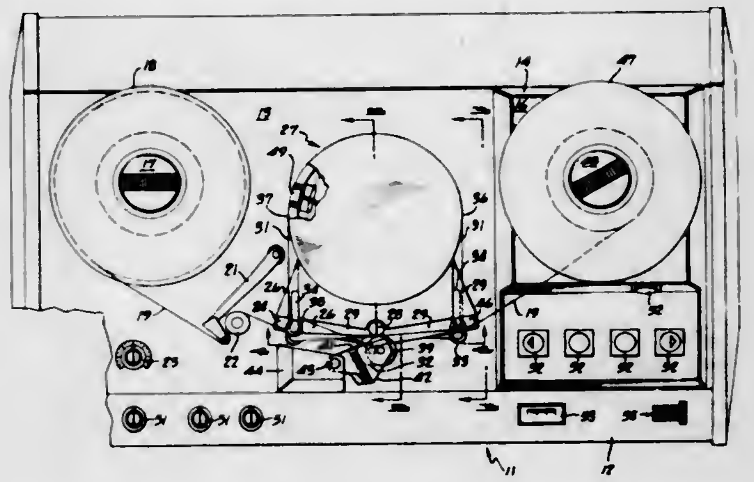
A land-to-mobile telephone link is provided between central office equipment and radio links to enable direct dial control connections to be made between a central office and mobile stations. The link makes it possible by dialing to interconnect land subscribers and mobile subscribers or to interconnect two mobile subscribers.

3,377,436
TAPE TRANSPORT FOR DRIVING BOTH IN-GOING AND OUT-GOING PORTIONS OF A TAPE LOOP WITH A SINGLE CAPSTAN

Alexander R. Maxey and John H. Streets, Redwood City, Calif., assignors to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed July 16, 1962, Ser. No. 210,265

20 Claims. (Cl. 179—100.2)



1. A magnetic tape transport wherein a magnetic tape having two surfaces is guided between a tape supply means and tape takeup means, comprising at least one magnetic transducing head, means for rotating said head, means for guiding said tape in a loop with a portion of said loop positioned so that said head engages said portion during rotation of said head and with in-going and out-going portions of said loop passing one another in non-contacting relationship at a cross-over zone fixedly positioned with respect to the axis of rotation of said head, and a capstan positioned adjacent the same surface of said in-going and out-going tape portions at said cross-over zone and engaging both of said in-going and out-going portions at said zone for driving the tape, said tape being driven by substantially the same side of said capstan, whereby irregularities in the drive of said tape by said capstan are minimized.

3,377,437
MINIATURE MAGNETIC TAPE RECORDER WITH REMOVABLE TAPE CARTRIDGE

Georg Probst, Munich, Germany, assignor to Firma GATAG Ltd., Zug, Switzerland

Filed Oct. 10, 1962, Ser. No. 229,555

Claims priority, application Germany, Oct. 19, 1961, P 28,058; Feb. 16, 1962, P 30,622

5 Claims. (Cl. 179—100.2)

1. In a portable miniaturized magnetic tape recording and playback apparatus, in combination:

(a) a casing;

(b) a detachable tape cartridge of flat, elongated shape formed with a recess therein extending inward of a longitudinal edge portion of said cartridge,

(1) the cartridge being formed with two spool chambers at opposite sides of said recess and having two flat top walls above said chambers respectively,

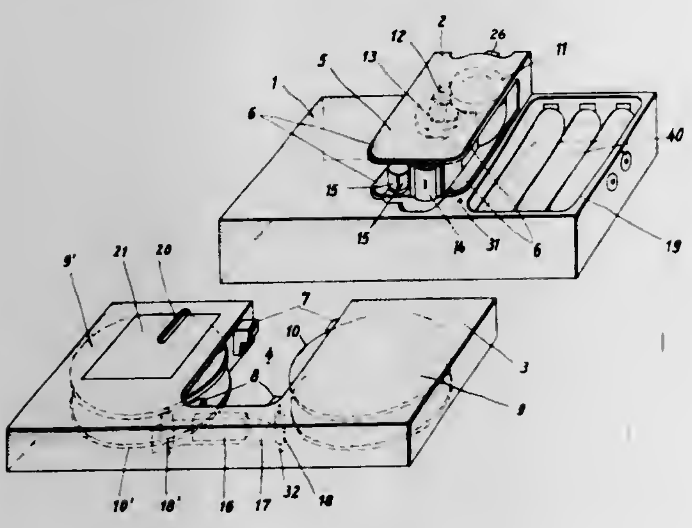
(2) a portion of said casing being shaped for conforming engagement with said recess,

(3) said casing portion having a flat top wall covering said recess when the casing portion is received in the same,

(4) the width and length of said cartridge being substantially equal to the overall width and length of said casing thereby affording maximum tape storage space;

(c) two spools respectively arranged in said chambers for rotation about parallel axes;

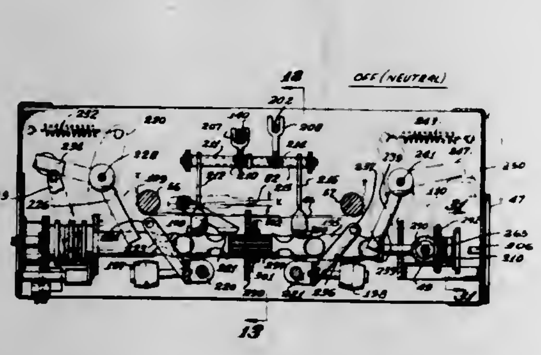
(d) friction drive means mounted in said portion of the casing for engagements with said spools when the portion of the casing is received in said recess, said friction drive means including a control lever projecting from said portion of the casing in a direction outward of said recess when said portion is received in the recess, and motion transmitting means responsive to movement of said lever transversely of said axes for moving the friction drive means from a position of engagement with one of said spools to a position of engagement with the other spool;



(e) a magnetic head in said portion of the casing; and

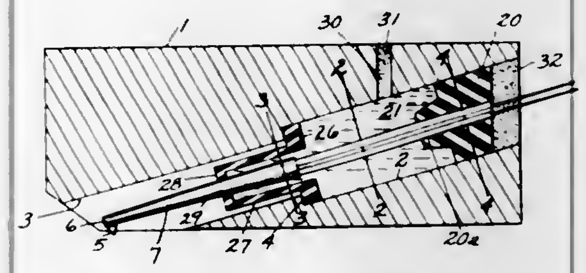
(f) pressure means on said cartridge adjacent said recess for pressing a tape extending in said cartridge between said spools against said head in the casing portion.

3,377,438
PIVOTALLY MOUNTED CAPSTANS
Richard E. Schroter, Hollywood, Calif., assignor to Ralph J. Samuels, Los Angeles, Calif.
Filed May 1, 1963, Ser. No. 277,384
22 Claims. (Cl. 179—100.2)



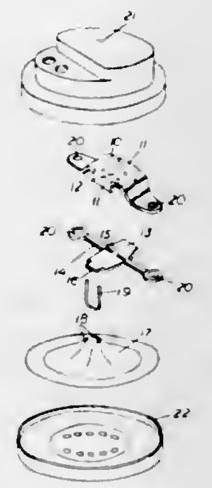
1. In a tape recorder, the combination comprising:
a cartridge containing a length of magnetic tape;
a pair of pivotally mounted tape driving capstans;
means for biasing the outer ends of said capstans towards each other;
means within said cartridge for camming the outer ends of said capstans away from each other and bringing said capstans into contact with said tape when said cartridge is inserted onto said capstans;
means for rotating each of said capstans continuously in opposite directions after insertion of said cartridge; and pressure roller means for selectively pressing said tape against one or the other of said capstans to drive said length of tape in either of two directions.

3,377,439
BINAURAL PIEZOELECTRIC PICKUP
Auguste Louis Marie Antoine Rouy, Scarsdale, N.Y., assignor to Erie Technological Products, Inc., a corporation of Pennsylvania
Filed Apr. 3, 1958, Ser. No. 726,212
17 Claims. (Cl. 179—100.41)



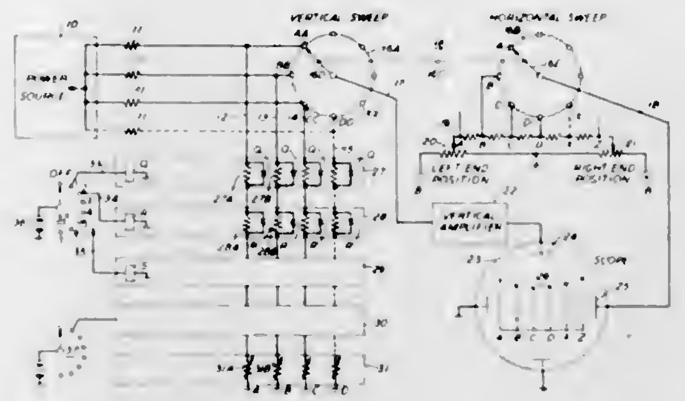
14. A binaural phonograph pickup member comprising a bender type piezoelectric element having response to bending in two directions substantially at right angles to each other, and having provisions for coupling one end to a needle, the needle excursions in said two directions corresponding respectively to one and the other of two binaural channels, and resilient means for mounting the other end of the element as a cantilever, said means offering substantially equal restraint in said two directions.

3,377,440
ROCKING ARMATURE RECEIVERS
James Samuel Paterson Roberton, Whetstone, and Leslie Eugene Basil Dymoke Bradshaw, Edgware, England, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 10, 1965, Ser. No. 431,541
11 Claims. (Cl. 179—115)



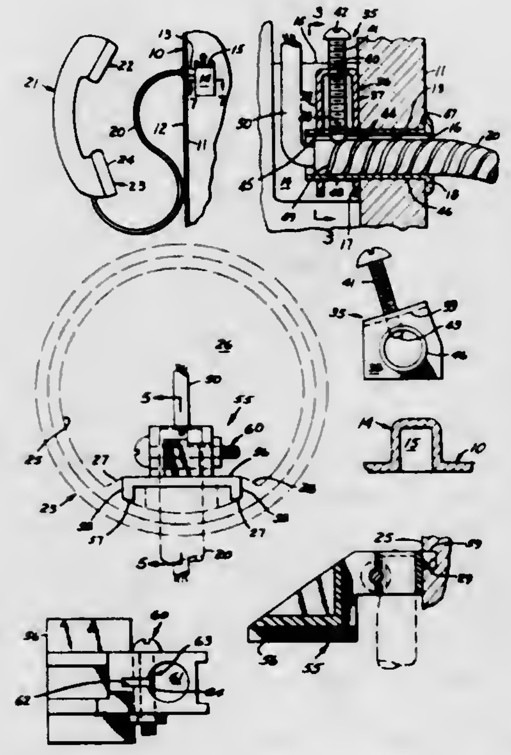
1. An electromechanical vibratory device comprising a driving member and a driven member, resilient means for coupling said driving and driven members, means for fixedly connecting said resilient means to said driving member, means for frictionally connecting said resilient means to the driven member, and said frictional connecting means having a value of limiting friction at the frictional contact being such that the said resilient means will transmit the highest required vibratory force between the driving member and the driven member, but will slip under a static force along the line of force transmission between the driving member and driven member.

3,377,441
DELAY EQUALIZER COMPUTER
Howard E. Bomar, North Highlands, and Harry A. Cline, Carmichael, Calif., assignors to American Telephone and Telegraph Company, New York, N.Y., a corporation of New York
Filed Aug. 3, 1964, Ser. No. 387,154
5 Claims. (Cl. 179—175.3)



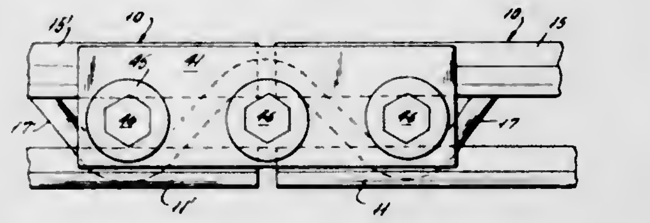
An analog computer for selecting the number and type of delay equalizers required to compensate a voice-band transmission facility. A linear relation is established between the known delay at selected frequencies of a transmission facility and of available equalizers and resistance values in the computer. The resistance values are arranged in an array in circuit between a constant-current source and an oscilloscope. Selected resistance values which render the trace on the oscilloscope essentially flat horizontally are then indicative of the correct combination of equalizers to compensate the particular transmission facility for delay distortion.

3,377,442
RETENTION MEANS FOR TELEPHONE HANDSETS
Allen A. Foster, Jr., 477 W. Loma Alta, Altadena, Calif. 91001
Filed Aug. 21, 1964, Ser. No. 391,223
10 Claims. (Cl. 179—186)



1. In combination: a baseboard having a retaining wall with a port therethrough; an armored cord; a telephone handset having a microphone cavity with a declivity, and a passage through the handset into the cavity, the armored cord passing through the passage into the cavity and through the port past the retaining wall; first retention means for restraining the armored cord against removal from the port comprising a first plate having a lateral dimension greater than that of the port so as to be unable to pass therethrough, and first engagment means attached to the first plate and adapted to be forced into restraining contact with the armored cord; and and second retention means comprising a second plate in said microphone cavity and having a lateral dimension greater than that of the passage so as to be unable to pass therethrough, a post on said second plate adapted to enter said declivity, thereby to be restrained against motion in one direction, an abutment surface on said second plate adapted to engage the handset inside the cavity, thereby to be restrained against motion in a direction opposite to the first-named direction, and second engagement means attached to the second plate which last-named means is adapted to engage and hold the armored cord, the second engagement means thereby restraining the armored cord against motion in either of said directions.

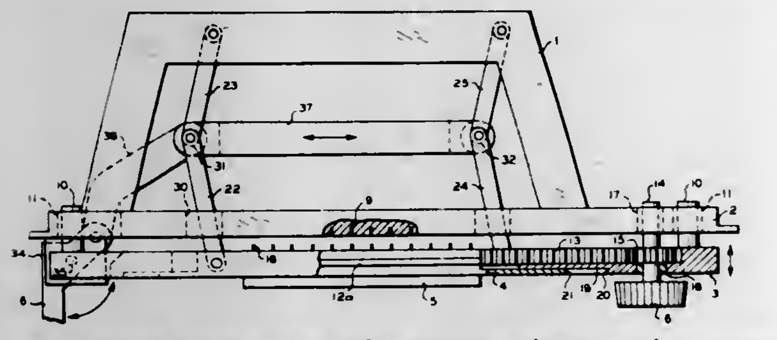
3,377,443
ELECTRICAL CONDUCTOR CLAMPING MEANS FOR RAPID TRANSIT ELECTRIFICATION
Sigurd O. Rodeselke, Greensburg, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Nov. 12, 1964, Ser. No. 410,448
3 Claims. (Cl. 191—29)



Means for joining conductors end-to-end, comprising two elongated clamping elements which extend across the gap between the conductors and are positioned along opposite sides of the conductors being joined; one of the clamping elements being flexible, whereby the conductor joints can readjust for variations in temperature conditions; as an alternate embodiment both clamping elements being rigid and being held to the conductors by a fastening means having a spring washer thereon to absorb stresses of conductor repositioning due to temperature variation; as an alternate embodiment a truss consisting of an elongated rod having a serpentine configuration, which truss connects a conductive surface of a conductor to a supporting base, the clamping elements being positioned alongside the truss and the fastening means for the clamping elements passing through the spaces in the truss, whereby the clamping means will not interfere with readjustment of the conductor assembly for temperature conditions.

3,377,444
ELECTRICAL SELECTOR SWITCH WITH IMPROVED CARRIAGE AND DIAL ACTUATING APPARATUS
Ralph A. Doubt, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Nov. 7, 1966, Ser. No. 592,357
9 Claims. (Cl. 200—16)

A switch structure containing a carriage member having a movable contact panel which engages a stationary contact panel with socket structure. The carriage member is movable by a lever while lateral adjustment is accomplished by dial intermittent motion apparatus.



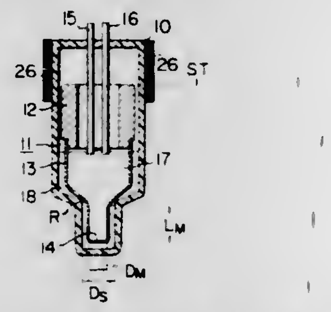
3,377,445
TIME DELAY SWITCHES UTILIZING CONDUCTIVE LIQUIDS

Susumu Ubukata, Nagoya-shi, Yasukazu Mizutani, Chita-gun, Haruki Kusakawa, Hekikai-gun, and Isao Yoshida, Nagoya-shi, Japan, assignors to Susumu Ubukata, Nagoya-shi, Aichi-ken, Japan

Filed Nov. 18, 1965, Ser. No. 508,470

Claims priority, application Japan, Nov. 24, 1964, 39/66,100

2 Claims. (Cl. 200—33)



1. A time delay switch comprising a sealed container having a quantity of a conductive liquid therein which forms a convex meniscus, a hollow member disposed within said sealed container for vertical movement therein, said hollow member also having a quantity of said conductive liquid therein, said hollow member having a bottom wall provided with an orifice, the wall being of a thickness substantially less than the diameter of said orifice, so that the combined thicknesses of the convex meniscuses formed on opposite sides of said orifice by said conductive liquid is greater than the thickness of the wall to thereby maintain a state of constant contact between the conductive liquids internally and externally of the hollow member, means for moving said hollow member within the sealed container substantially instantaneously between lowered and raised positions whereby when the hollow member is raised, the conductive liquid contained therein flows gradually under the force of its own weight through the orifice and into the sealed container, said lowered and raised positions corresponding respectively to closed and open positions of an electrical circuit, a pair of electrodes positioned within said hollow member and immersed in the conductive liquid therein when said hollow member is in its lowered position and exposed when said hollow member is in its raised position and the conductive liquid flows therefrom.

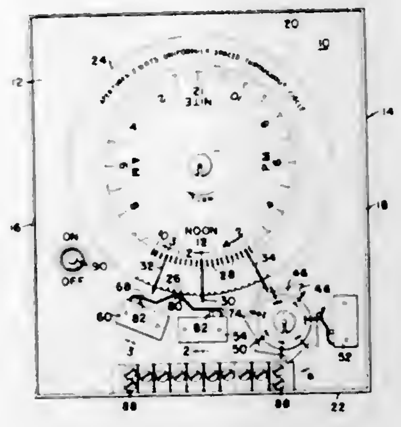
3,377,446
TIMING MECHANISM

Harry Shafter Davis, 600 NE. 13th St., Fort Lauderdale, Fla. 33304

Filed May 23, 1966, Ser. No. 552,094

7 Claims. (Cl. 200—38)

1. In a timing mechanism, in combination: a rotating timing dial having an axis of rotation, a series of axially extending slots spaced around the periphery of said dial, and a series of axially extending apertures spaced in a circle concentrically of said axis of rotation and disposed inwardly from the periphery of said dial, said apertures being equal in number with said slots and disposed along corresponding radial lines; a plurality of U-shaped keys removably inserted in said slots and apertures, said keys made of resilient material and the spacing of the legs of the U corresponding to the radial spacing of a companion aperture and slot, each of said keys having at least one projecting ear; and at least one operated member having a movable projection disposed in the path of movement of an ear and operated thereby.

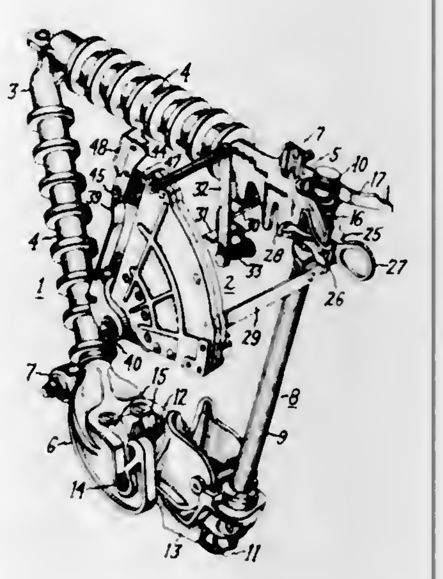


3,377,447
LOADBREAK FOR OPEN TYPE CUTOUTS

Benjamin R. Hermann, Lanesborough, and Robert E. Koch, Pittsfield, Mass., assignors to General Electric Company, a corporation of New York

Filed Mar. 31, 1965, Ser. No. 444,166

4 Claims. (Cl. 200—114)



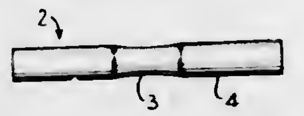
1. The combination with an open type cutout having a conducting arm hingedly supported at one end and a movable main contact at the other end for latched closed engagement with a fixed main contact, of an enclosed loadbreak device fixedly mounted on said conducting arm, said loadbreak device having an external pivotally attached drag arm and a pair of internal arcing duty contacts spring biased closed, one of said arcing duty contacts being connected to said movable main contact and the other being connected to said drag arm, a contact tip on said drag arm having an insulating rear face, and a yieldable contact in the path of movement of said contact tip connected to said fixed main contact.

3,377,448
THERMAL RESPONSIVE MINIATURE FUSE

Bertram W. Baumbach, Arlington Heights, Ill., assignor to Littelfuse Incorporated, Des Plaines, Ill., a corporation of Illinois

Filed Aug. 22, 1966, Ser. No. 574,242

9 Claims. (Cl. 200—143)



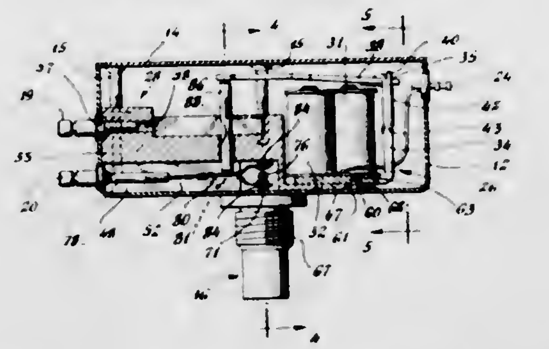
1. A thermal protector switch unit comprising: an outer open-ended insulating sleeve, a pair of hollow terminals open at their ends and fixed in place at the opposite ends of and inside of said insulating sleeve in spaced apart relation, a solid fusible conductive link within said insulating sleeve physically and electrically connected by telescoping into the inner ends of said terminals, said conductive link melting at a given temperature to break an electrical circuit, said hollow terminals being covered by said insulating sleeve so that there are no longitudinally exposed conductive surfaces thereon, and said hollow terminals defining conductor-receiving sockets opening onto the ends of the insulating sleeve to receive the bared ends of a pair of conductors to be electrically connected by the switch unit, and said insulating sleeve being inwardly deformable and said hollow terminals being permanently crimpable snugly around the bared ends of the conductors for fixedly securing the switch unit to the conductors.

3,377,449
HIGH FREQUENCY RELAY SWITCH

Edgar E. Marquis, Newtown, Conn., assignor to Gorn Corporation, Stamford, Conn.

Filed Feb. 21, 1966, Ser. No. 528,884

10 Claims. (Cl. 200—153)



The microwave switch relay comprises a conductive housing mounting coaxial input and output connectors. Plural, side-by-side switch reeds are supported by the output connectors. The reeds engage a transverse contact bar carried by the input connector. A plurality of elongated open channels formed in a conductive cavity block co-operate with the housing to form enclosed cavities individually accommodating the reeds and the contact bar. A relay assembly in the housing is energizable to selectively position the reeds for RF coupling between the input and one of the output connectors.

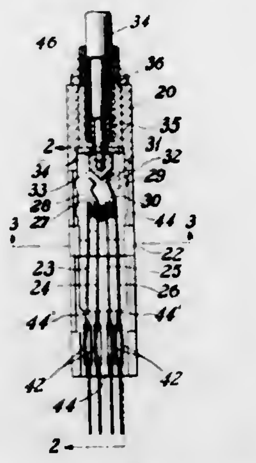
3,377,450
ELECTRIC PUSHBUTTON LEAF SPRING SWITCH

Charles B. Grady, Jr., 1 Ridgeway Ave., West Orange, N.J. 07052, and Miguel G. Mendoza, 48 Park Lane, Fair Haven, N.J. 07701

Filed Apr. 22, 1966, Ser. No. 544,440

2 Claims. (Cl. 200—166)

Metal cantilever switch leaves having wedge shaped notches therein are assembled into a thermoplastic base having moulded nearly congruent cavities which are too shallow to fully embrace the width of the leaves. A thermoplastic cover is then dropped over the leaves and supersonic vibrations with static pressure is applied resulting in first melting the metal-plastic interfaces and subsequently, the plastic-plastic interfaces. The sonic energy is then discontinued but with continuing static pressure, thereby freezing the parts into accurate positional relation due to the use of the wedge shaped recesses in the body as its own assembly jig.

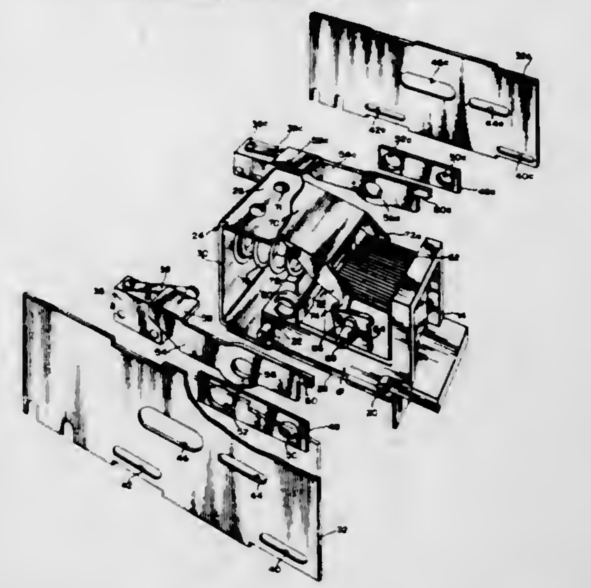


3,377,451
SWITCHING AND INDICATING MECHANISM

Kenneth G. Kreuter, Goshen, Ind., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Filed Mar. 31, 1966, Ser. No. 539,054

17 Claims. (Cl. 200—167)



A combined switching and indicating mechanism having a switch operator and a plural indicator that are pivotally and slidably carried in a housing and that are linked together for unitary sliding movement in response to a manual push actuator; a spring effects return movement of the actuator during which the indicator is pivoted and a cam causes pivoting of the operator whereby switch operation and switch position indicia changes are effected simultaneously.

3,377,452
LIGHTING OR ILLUMINATING DEVICE FOR SWITCHES

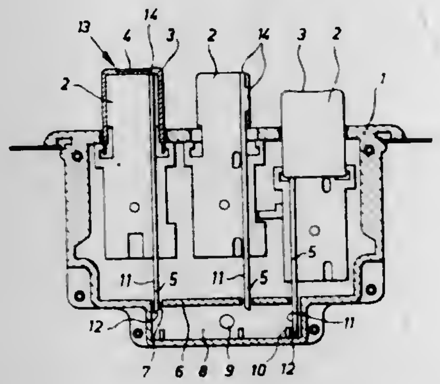
Willy Bock and Erich Mutschler, Bietigheim, and Franz Schreiber, Kirchheim (Neckar), Germany, assignors to SWF-Spezialfabrik fur Autozubehor Gustav Rau GmbH, Bietigheim, Germany

Filed Jan. 27, 1967, Ser. No. 612,132

Claims priority, application Germany, May 9, 1966, S 103,705

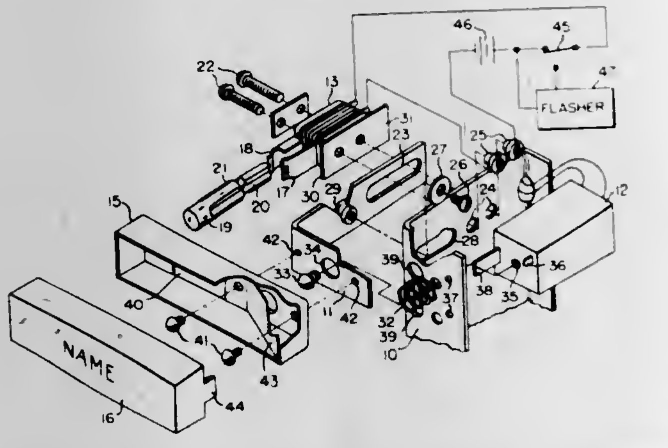
15 Claims. (Cl. 200—167)

This application discloses a switch having one or more keys provided with means for selectively conducting first and second levels of illumination to the exposed key caps so as to indicate respective engaged and disengaged conditions of the key and simplify visual location thereof. A light conducting guide rod may be provided so as to conduct two different amounts of illumination depending upon the key condition or a shield or apertured diaphragm may be selectively rotated in front of the light source to provide the desired change in intensity. A variation in the color of the illumination may also be provided.



3,377,453
PUSHBUTTON SWITCH HAVING A NAMEPLATE LIGHT SIGNAL

Rudolph M. Duris, Norwalk, Conn., assignor to Edwards Company, Inc., Norwalk, Conn., a corporation of Connecticut
Filed Mar. 6, 1967, Ser. No. 621,017
8 Claims. (Cl. 200—167)

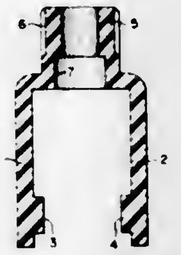


Pushbutton nameplate light signal modules are secured one above another to a vertically disposed supporting bracket or channel. Each module has a lamp receptacle and a switch secured to respective sides of the channel. An L shaped bracket is provided for actuating the switch having one leg disposed between the receptacle and the channel and slidable longitudinally within limits, and the other leg of the bracket having a light box secured thereto. The light box has an opening for receiving light from a lamp in the receptacle, and a reflector is provided in the light box for even illumination by the lamp of a quickly detachable translucent nameplate cover.

3,377,454
THREADED QUICK COUPLING PUSHBUTTON HOLDER FOR MICROSWITCHES

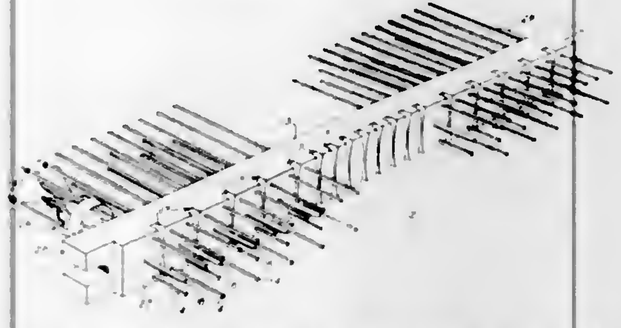
Giuseppe Faggiano, Milan, Italy, assignor to AMF Electrica S.p.A., Milan, Italy, a corporation of Italy
Filed Sept. 26, 1966, Ser. No. 581,812
Claims priority, application Italy, Oct. 2, 1965, 5,899/65
1 Claim. (Cl. 200—168)

A pushbutton holder for microswitches characterized in that it possesses a U-shaped configuration having a pair of side wall shanks which enclose the microswitch, the shanks being provided with inwardly directed bosses adapted to be snap-coupled into the ends of the conventional fastening openings of the switch housing, the holder having an apertured turret for receiving a pushbutton and said turret being aligned with the actuating member of the switch.



3,377,455
ELECTRICAL NETWORK UTILIZING A SINGLE MODULE IN WHICH THE CIRCUITRY AND CROSS-CONNECTION FIELD ARE PART OF THE SAME MODULE

Peter A. Ghiloni, Lincroft, Carleton D. Irish, Neptune, Joseph J. Kasten, Freehold, and Joseph A. Seifert, Atlantic Highlands, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 13, 1965, Ser. No. 447,813
11 Claims. (Cl. 200—175)

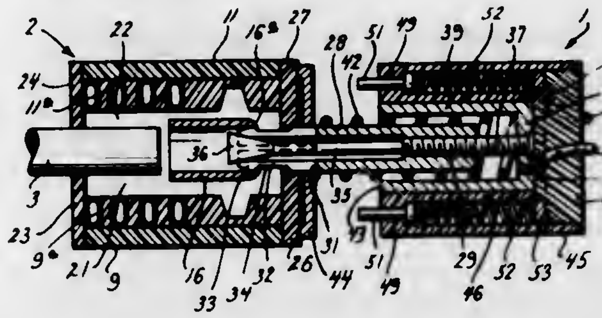


1. An electrical network comprising a plurality of modules mounted upon a frame, each of said modules including an insulating block and a plurality of electrical terminals, said terminals extending through said block and from a first and a second face of said block, said terminals that extend from said first face form a portion of a cross-connection field, said terminals that extend from said second face of said block form a mounting for circuit components, each of said blocks including a module bus bar, the latter having a plurality of projections that extend from said first face and form a further portion of said cross-connection field, said frame including a plurality of frame bus bars, each of the latter having a plurality of projections that form a further portion of said cross-connection field, said frame further including a distribution block having electrical terminals, said first mentioned terminals connected in a pattern to said projections of said module bus bars and said projections of said frame bus bars, said projections of said bus bars in turn connected to said terminals of said distribution block.

3,377,456
AUTOMATIC HEAT CONTROLLED TUBE UNION REMOVAL TOOL

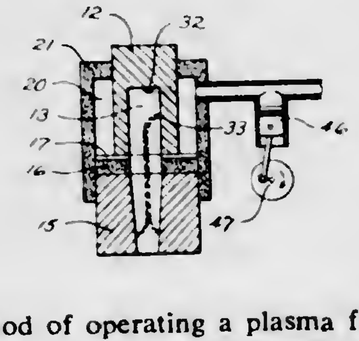
Kermit L. Wilkison, St. Charles, Mo., Charles A. Headley, Alton, Ill., and Victor E. Padilla and Jerry D. Trolinger, St. Louis, Mo., assignors, by mesne assignments, to Aeroquip Corporation, Jackson, Mich.
Filed July 1, 1965, Ser. No. 468,768
6 Claims. (Cl. 219—7.5)

1. A union removal tool to heat brazed-on tube unions and remove the union from the tube comprising a pulling component having gripping means, a relatively movable electrically conductive pressure exerting means carried by said gripping means and exerting a force between said pressure means and said gripping means, and an electrical connector means secured to said gripping means, an insulative sleeve including an electrical contact means in the wall thereof for normally engaging said pressure means; and a heating component having a heating chamber including heater means adapted to enclose the union to be heated and removed, and having a wall for said chamber engaged by said pressure means, said gripping means moving relative to said heating chamber under the influence of said pressure exerting means upon heating of the union, said electrical contact means disengaging said pressure means during limited movement of said gripping means relative to said pressure exerting means to interrupt operation of said heating means.



3,377,457
ELECTRIC ARC TORCHES

Chapin A. Pratt, West Lebanon, N.H., assignor to Thermal Dynamics Corporation, a corporation of New Hampshire
Filed Jan. 12, 1965, Ser. No. 424,914
9 Claims. (Cl. 219—75)

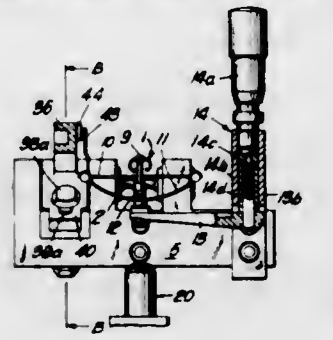


1. The method of operating a plasma forming electric arc torch having at least one of the arc terminals on an electrode in said torch comprising introducing a plasma forming fluid in a vortex flow having an axial flow component along said electrode; introducing a second plasma forming fluid in a vortex flow having an axial flow component in an opposite direction along said electrode, whereby an axial flow null region is established along said electrode where the two fluids meet; and positioning an arc terminus in said null region.

3,377,458
PERCUSSION WELDING APPARATUS

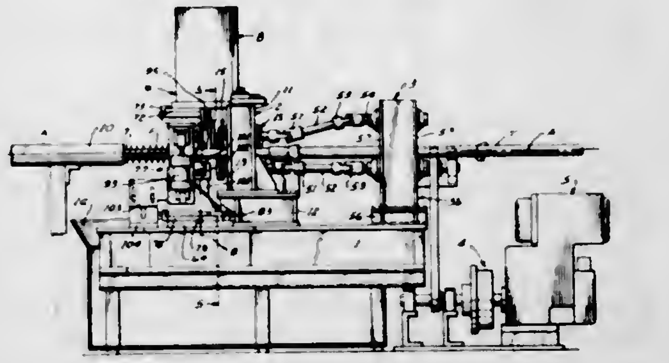
Andreas Keusch, Ville Brossard, Quebec, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada
Filed June 12, 1964, Ser. No. 374,797
14 Claims. (Cl. 219—95)

An apparatus for percussively welding light-weight work pieces, in which a movable work piece clamp, initially held releasably away from a stationary work piece clamp, is propelled, upon release, towards a stationary work piece clamp by a bow spring consisting of an elongated flat strip of resilient metal anchored at the middle and bowed by a fine wire attached to the ends of the strip and to the movable clamp. The movable clamp is a tubular shell of resilient metal pivotally mounted at one end and carrying a work piece-gripping chuck at the other end. The shell is split longitudinally so that by forcing a wedge into the open end of the shell, the chuck is opened to release the work piece.



3,377,459
METHOD AND APPARATUS FOR HELICALLY WELDING STRIP MATERIAL

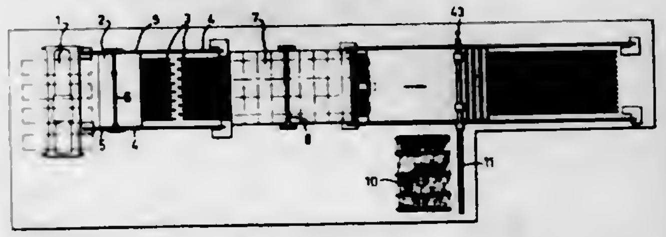
John W. Brown, Jr., Lakewood, and Robert W. Kaase, Bay Village, Ohio, assignors to Brown Fintube Company, Elyria, Ohio, a corporation of Ohio
Continuation of abandoned application Ser. No. 285,953, June 6, 1963. This application Mar. 1, 1967, Ser. No. 619,870
10 Claims. (Cl. 219—107)



Apparatus and method for bending and welding a metal strip helically on edge about a generally cylindrical member utilizing high frequency electrical current, according to which an electrode is applied to the generally cylindrical member and another electrode is applied to the side of the metal strip that faces the edge thereof that is welded to the generally cylindrical member.

3,377,460
METHODS OF WELDING STIFFENING MEMBERS TO PLATES AND INSTALLATIONS THEREFOR

Harry Carl Axel Jonsson, Olafur Sigurdsson, and Eric Ragnar Hellstrom, Malmo, and Carl Eric Linnander, Goteborg, Sweden, assignors to Kockums Mekaniska Verkstads AB, Malmo-C, Sweden, a corporation of Sweden
Filed Jan. 25, 1965, Ser. No. 427,758
Claims priority, application Sweden, Jan. 31, 1964, 1,181/64
13 Claims. (Cl. 219—125)



7. Installation for welding stiffening members to plates comprising a conveyor for conveying plates from a plate

supply into suitable position for welding, overhead travelling welding devices extending transversely of the conveyor and welding apparatuses movable along said welding devices for welding plates on the conveyor into plate sections of desired length prior to their introduction into a welding station, means for conveying stiffening members from a supply to the welding station and orienting the stiffening members on the plate, a supporting rail on supporting means beneath the plate, magnets disposed on either side of the supporting rail and movable into engagement with the plate and shiftable each through an individual piston and cylinder unit at right angles to the plate for bending, about the supporting rail, the portion of the plate extending along the supporting rail to provide bias of the plate at places where stiffening members are to be welded to the plate, means for adjusting said supporting rail into different height positions for increasing and decreasing the height of the arc formed at the bending of the plate about the supporting rail and thus of the bias of the plate, pressure means for pressing stiffening members against the plate, and welding means movable along the stiffening members.

3,377,461
ARC WELDING METHOD AND COATED ELECTRODE

John T. Ballass, Troy, Ohio, and Carl W. Perkins, Jr., Norwich, and Bernard J. Freedman, Groton, Conn., assignors to General Dynamics Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 196,004, May 18, 1962. This application Aug. 5, 1965, Ser. No. 477,590

13 Claims. (Cl. 219—146)

1. In a method of electrically welding low alloy high strength steel by fusion-deposition from a weld wire, the improvement comprising the use of a clean consumable wire electrode of low alloy high strength steel filler metal, the electrode having a moisture-free, flexible surface coating of a mixture of chlorinated rubbers and chlorinated resins, feeding the electrode towards a workpiece while maintaining an arc between the end of the electrode and the workpiece with direct current reverse polarity electrical energy, and maintaining the arc under a blanket of inert shielding gas, the welding being conducted with little or no preheating of the workpiece.

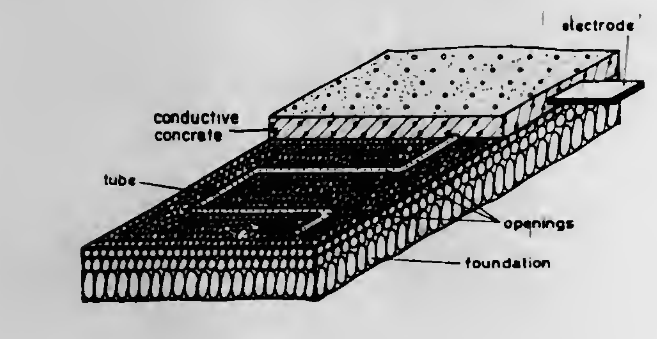
3,377,462
DEVICE FOR HEATING SURFACES SUBJECT TO STRONG MECHANICAL STRESSES OR CONSIDERABLY VARYING ATMOSPHERIC CONDITIONS

Herbert Pferschy, Radetzkystrasse 23, Dornbirn, Austria

Filed Jan. 5, 1965, Ser. No. 423,876

Claims priority, application Austria, Sept. 16, 1963, 7,407/63, 7,408/63, 7,409/63

4 Claims. (Cl. 219—213)



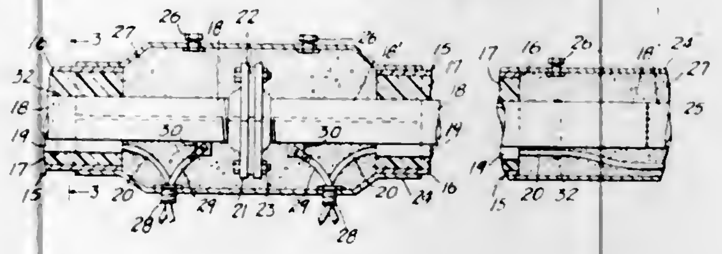
1. A device for heating surfaces subject to strong mechanical stresses or considerably varying atmospheric conditions, such as roads, airport runways, bridges or other traffic areas, said device comprising a foundation layer and at least one coating covering said foundation layer, said coating comprising a heating element of at least one layer of concrete which is uniformly electrically conductive throughout the entire layer, and means in contact with said conductive concrete layer for connecting the latter to a source of electrical energy.

3,377,463
PREFABRICATED ELECTRIC RESISTANCE PIPE HEATING SYSTEM

Hans Rolfes, Bronx, N.Y., assignor to Trans Continental Electronics Corp., New York, N.Y., a corporation of New Jersey

Filed June 21, 1965, Ser. No. 465,619

7 Claims. (Cl. 219—300)



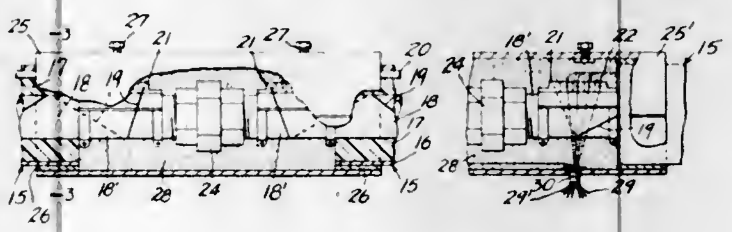
A system employing means for heating fluid mediums passing through an elongated circulating pipe to control temperature of such medium, wherein prefabricated insulated pipe units are employed, the units including cables arranged in insulating elements and extending longitudinally of the pipe, with coupling stations joining the pipe units, with one end of the cable coupled with the pipe at predetermined coupling stations and other stations having means introducing the cables to the system. Still further, predetermined stations include means, such as jumpers, for electrically coupling pipes of adjacent units. The pipes themselves are used as electric resistance heating means and a low voltage heating current is supplied thereto from a suitable transformer through the cables.

3,377,464
ELECTRIC RESISTANCE HEATING AND INSULATING SYSTEM FOR ELONGATED PIPES

Hans Rolfes, Bronx, N.Y., assignor to Trans Continental Electronics Corp., New York, N.Y., a corporation of New Jersey

Filed June 21, 1965, Ser. No. 465,618

10 Claims. (Cl. 219—301)



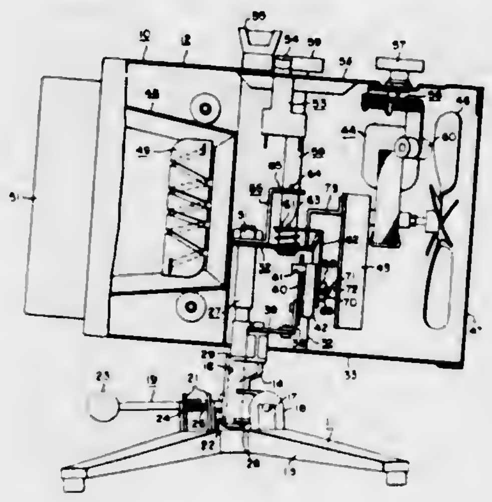
An electric resistance heating system for elongated pipe units, including coupling stations for the units, wherein electric circuit conduit means is arranged directly upon the pipe of each unit and means is arranged in each unit and extending longitudinally thereof for conducting an electric circuit to the circuit conduit means and, wherein, predetermined stations include means for admitting a source of current supply to the system. Further, the coupling stations include means for coupling the electric circuits for each unit and various types of pipe couplings joining the pipes of adjacent units. The electric circuit conduit means may comprise a suitable resistance wire spirally wound on the pipe or an electric resistance heating tape extending longitudinally of the pipe.

3,377,465
OSCILLATING ELECTRIC HEATER

Richard G. Ronk, Bellville, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 12, 1965, Ser. No. 471,167

3 Claims. (Cl. 219—366)



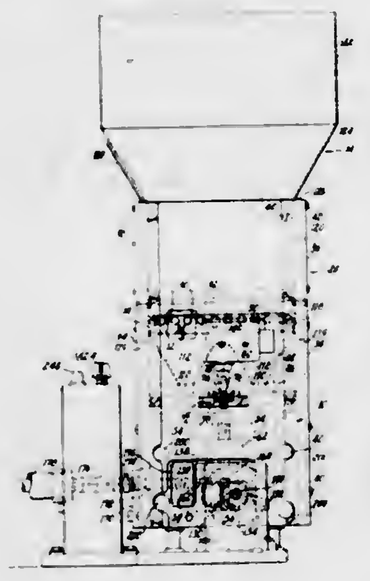
A heater including a housing having therein an air heater and a mechanism for causing the housing to oscillate relative to a support base. The mechanism includes first and second relatively slidable members in the housing. The first member is coupled to the base to preclude movement therebetween and is provided with an elongated slot. The other member is rigidly secured to the housing and supports a rotary motor driving a rotatable drive means having a pin received in the slot in the first member.

3,377,466
APPARATUS FOR HANDLING THERMOPLASTIC MATERIAL

Hans C. Paulsen, Lexington, Mass., assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey

Filed Apr. 5, 1965, Ser. No. 445,430

9 Claims. (Cl. 219—421)



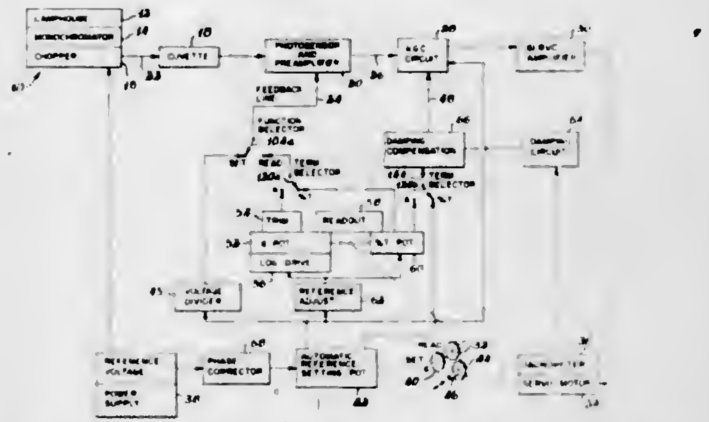
Apparatus for melting and dispensing thermoplastic material includes a housing formed of insulating material having in its lower portion an open-topped heating container for receiving the molten material, a supply hopper mounted in the upper part of the housing and a melting grid located in the housing below the hopper and spaced directly above the storage container, means for heating the grid controlled in accordance with changes in the level of the molten material in the container and means interposed between the container and the grid for insulating the grid from heat tending to rise from the heated container and from the molten material therein.

3,377,467
PHOTOMETRIC READOUT SYSTEM

John J. J. Staunton, Oak Park, and Roy E. Boostrum, Elmhurst, Ill., assignors, by mesne assignments, to The Perkin-Elmer Corporation, Norwalk, Conn., a corporation of New York

Filed Apr. 6, 1964, Ser. No. 357,409

18 Claims. (Cl. 235—92)



A digital readout used with a photometric system which provides linear photometric readout information in either percent transmittance (T) or absorbance (A) without requiring any mechanical conversion of the photometric system. Further features of the digital readout include automatic adjustment of reference setting; a decimal point marker coupled to the transmittance-absorbance switching means and movable relative to said digital readout when the system is switched from one type of readout to the other; provision of a signal to an external recorder which also provides readout linearly in percent transmittance or absorbance; means to provide equivalence between 100% transmittance, zero absorbance and the reference point; means for reversing the direction of rotation of the servo means when switching from transmittance to absorbance readout; the provision of a linear-log drive which permits the use of a linear digit readout with a linear potentiometer to readout a logarithmic function; and means to provide variable damping during absorbance measurement.

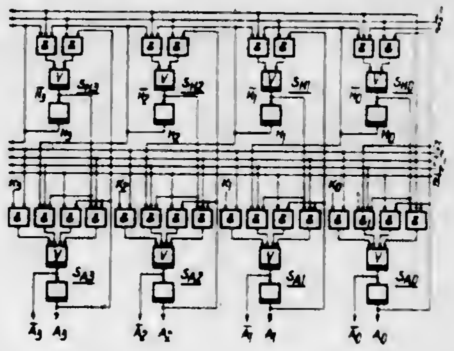
3,377,468
COUNTER EQUIPPED WITH SIGNAL SORTING OUT AND SUPPRESSING MEANS

Dieter Petzold, Berlin-Neukolln, Germany, assignor to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany

Filed Aug. 4, 1964, Ser. No. 387,306

Claims priority, application Germany, Aug. 5, 1963, L 45,542

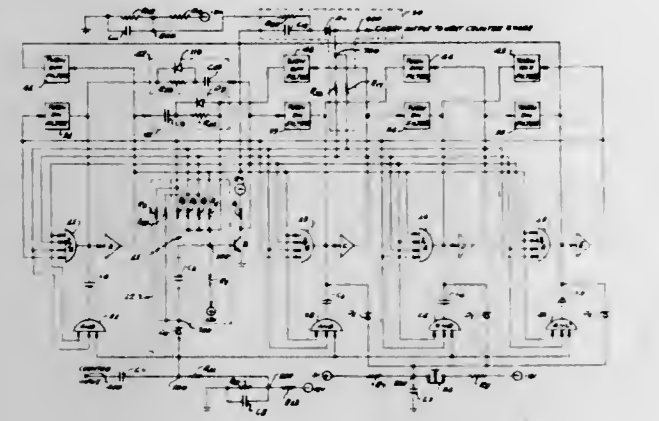
9 Claims. (Cl. 235—92)



A counting arrangement in which a presettable multiple-stage static counter, to which counting and auxiliary counting signals are applied, is equipped with means for sorting out and suppressing signals while the counter is in its zero condition, to which it has reverted after having reached and passed its maximum count.

3,377,469
ELECTRONIC COUNTING APPARATUS

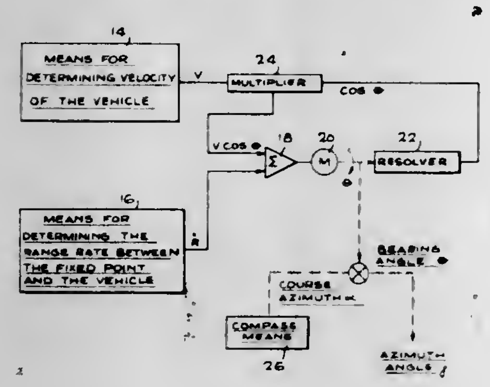
**Bertram D. Solomon, 2016 Corning St.,
Los Angeles, Calif. 90034
Filed Sept. 4, 1964, Ser. No. 394,455
10 Claims. (Cl. 235—92)**



Electronic counting apparatus including a plurality of active electronic counter elements in excess of three, each counter element being capable of exhibiting two stable and distinguishable states. Gating means selectively change the stable states of predetermined counter elements, one at a time upon receipt of a counting pulse, and independent condition interchange means responsive to the change of state of one of the counter elements by the gating means induces a predetermined one of the other counter elements into the stable state assumed by the first counter element prior to receipt of the counting pulse. The condition interchange means may take the form of turn-on filters, or a combination of turn-on and turn-off filters.

3,377,470
MEANS AND METHOD FOR DETERMINING THE BEARING ANGLE BETWEEN THE DIRECTION OF MOTION OF A MOVING CRAFT AND A FIXED POINT

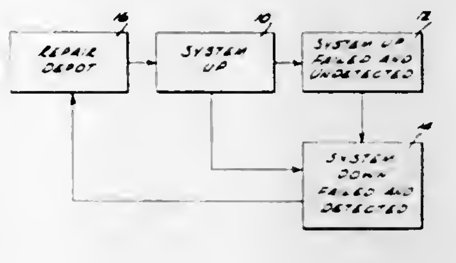
**John Stanley Ausman, Los Angeles, Calif., assignor to Litton Systems, Inc., Beverly Hills, Calif., a corporation of Maryland
Filed Dec. 29, 1966, Ser. No. 605,809
12 Claims. (Cl. 235—150.26)**


14
MEANS FOR DETERMINING VELOCITY OF THE VEHICLE
V
24
MULTIPLIER
COS θ
V COS θ
18
Σ
20
M
22
RESOLVER
θ
16
MEANS FOR DETERMINING THE RANGE RATE BETWEEN THE FIXED POINT AND THE VEHICLE
Ṙ
BEARING ANGLE θ
COURSE AZIMUTH α
COMPASS MEANS
26
AZIMUTH ANGLE β

A means and method for determining the relative bearing angle between the direction of motion of a moving craft and a fixed point using the concept that the cosine of the bearing angle is equal to the negative of the range rate divided by the velocity amplitude of the moving craft.

3,377,471
SYSTEM EFFECTIVENESS SIMULATOR AND COMPUTER

**Edward J. Althaus, Playa Del Rey, Edward P. Andert, Anaheim, and Ernest M. Richter, Fullerton, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed July 21, 1964, Ser. No. 384,176
13 Claims. (Cl. 235—152)**


16
REPAIR DEPOT
10
SYSTEM UP
12
SYSTEM UP FAILED AND UNDETECTED
14
SYSTEM DOWN FAILED AND DETECTED

1. A device for simulating stochastic events of a plurality of systems comprising

a plurality of elements, each element including first and second flip flops, each element simulating a different one of the plurality of systems and having states representative of the occurrence of first events and of second events,

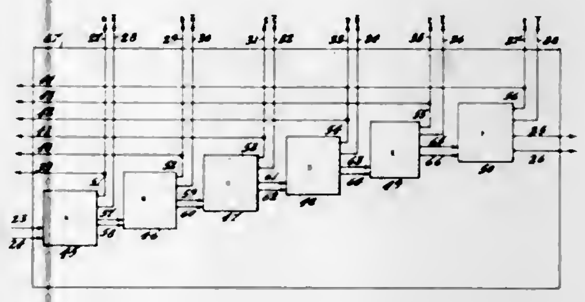
a source of first event pulses random in time and coupled to said plurality of elements,

a source of second event pulses coupled to said plurality of elements,

and control means coupled to said plurality of elements for controlling said elements to be sequentially and repetitively energized to be responsive to the occurrence of said first event pulses and to be sequentially selected when in said state reperesentative of the occurrence of said first event to be responsive to said second event pulses.

3,377,472
LOGIC CIRCUIT SWITCHING BY INTERCONNECTED SERIES OF ELECTRICAL LATCHES

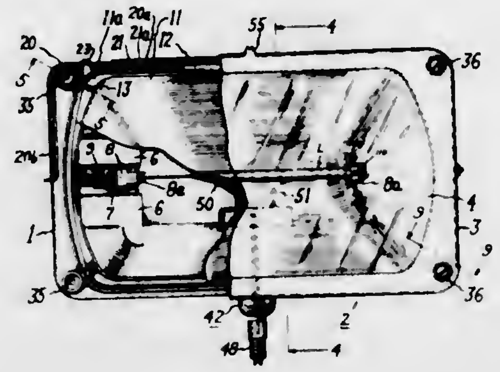
**James Addison Potter, 81 Rumford St.,
West Hartford, Conn. 06107
Continuation of application Ser. No. 223,427, Sept. 13, 1962. This application Mar. 30, 1966, Ser. No. 538,867
1 Claim. (Cl. 235—152)**



Automatic weighing systems, computers and other apparatus featuring logic circuits employing switching actuated by a series of electrical latches so arranged that searching for incremental values always begins with the least unit. Such least-next searching of the logic circuit is also applicable in hydraulic, mechanical or other nonelectrical systems.

3,377,473
FLOODLIGHT

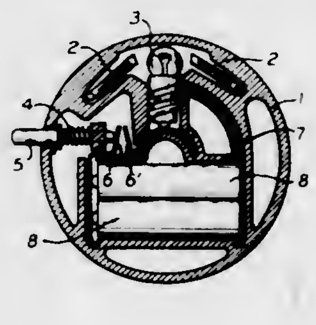
**Harold A. Breeding, Hendersonville, N.C., and Hendrik A. J. deVos, Wenham, Mass., assignors to General Electric Company, a corporation of New York
Filed Mar. 22, 1965, Ser. No. 441,646
18 Claims. (Cl. 240—3)**



Floodlight comprises a housing enclosing a reflector and lamp sockets and covered at its front opening with a framed window pane secured to the frame with pushin clips and held spaced from the frame to provide a drainage opening therebetween, the frame being hingedly secured to the housing by a wire hinge permitting the frame to be moved entirely away from the housing opening and having means for securing the frame to the housing while limiting the compression on a gasket mounted on the reflector between the frame and housing.

3,377,474
HAND MIRROR FOR WOMEN

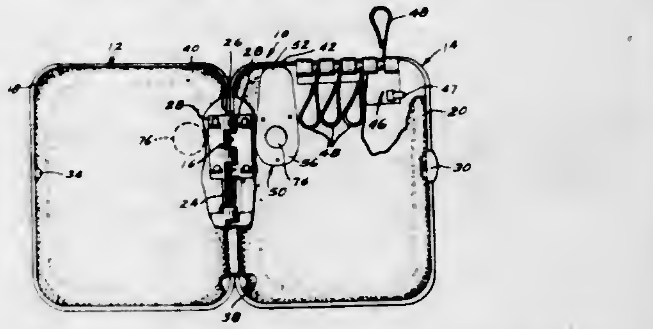
**Renato Corinaldi, Via G. Parini 3/a, Milan, Italy
Filed Aug. 23, 1965, Ser. No. 481,529
Claims priority, application Italy, Sept. 30, 1964, 5,249/64
2 Claims. (Cl. 240—4.2)**



A hand mirror for women comprising a body having a plurality of recesses and a mirror covering at least one side of the body and a frame surrounding the mirror and the body. Electrical elements including an electric bulb and a switch and electrical conduits and battery are disposed in series in the recesses of the body. A clear window is provided in the mirror directly adjacent the electric bulb; the electric bulb and the clear window are positioned centrally relative the mirror and two lateral openings are provided in the mirror spaced on opposite sides of the clear window and are substantially smaller than the clear window. Two of the recesses in the body extend from the electric bulb toward and terminate adjacent the lateral openings and transparent rods having an angular cross-section and having a prismatic optical effect are positioned in each of the two recesses extending from adjacent the electric bulb to the lateral openings, the transparent rods being bent adjacent the lateral openings perpendicular thereto.

3,377,475
ILLUMINATED KEY CASES

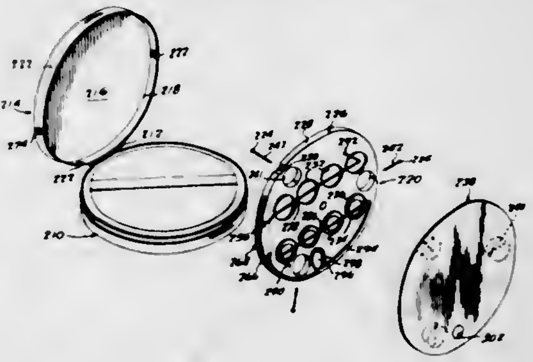
**Paul A. Frigon, Southbridge, Mass., assignor, by mesne assignments, to American Optical Company, Southbridge, Mass., a corporation of Delaware
Filed Sept. 16, 1965, Ser. No. 487,758
4 Claims. (Cl. 240—6.45)**



A hard shell key case containing a pushbutton operated flashlight and having an opening in the shell thereof aligned with the flashlight button. A flexible case covering is extended over the opening wherein operation of the flashlight may be effected by indention of the covering into the opening against the flashlight button.

3,377,476
ILLUMINATING UNIT FOR COMPACTS

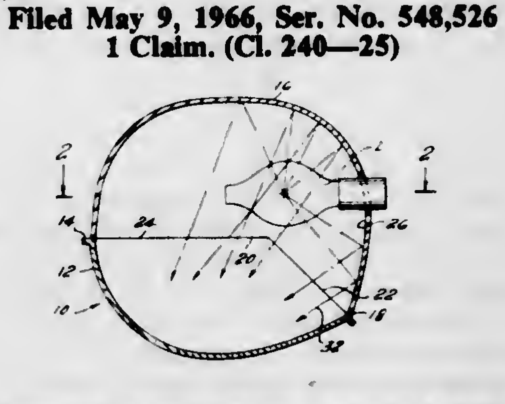
**Dennis W. Milam, Los Angeles, Calif. (5680 Sawtelle Blvd., Apt. J, Culver City, Calif. 90230), and Floyd W. Tracy, Los Angeles, Calif. (29123 Ocean Ridge Drive, Palos Verdes, Peninsula, Calif. 90724)
Filed June 17, 1966, Ser. No. 558,444
7 Claims. (Cl. 240—6.45)**



A compact having hingedly connected and registering container and mirror sections. A mirror, battery holder of dielectric material and a sheet of dielectric material removable as a single unit. A light bulb mounted in the holder behind the mirror with a switch connecting the batteries.

3,377,477
STREET LIGHTING LUMINAIRE

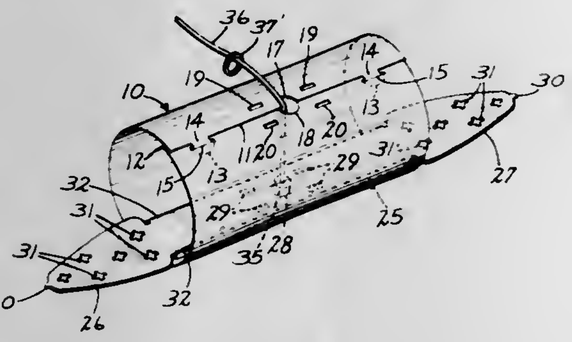
**Herbert A. Odle, Newark, Ohio, assignor to Holophane Company, Inc., New York, N.Y., a corporation of Delaware
Filed May 9, 1966, Ser. No. 548,526
1 Claim. (Cl. 240—25)**



A luminaire of ovate configuration with a refractor and a reflector having edges engaging each other along substantially horizontally extending front edge portions and downwardly inclined rear edge portions forming an angle of from 40° to 90° with respect to the horizontally extending edge portions, the reflector having an inner reflecting surface directing the light forwardly through the refractor through a vertical range of between approximately 40° and 60° and spreading the light laterally.

3,377,478
DISPLAY LAMP

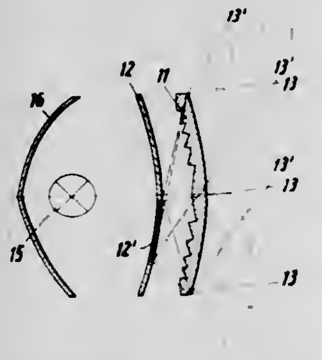
Frederick D. Blanch, Jr., and Paul E. Hannula, Minneapolis, Minn., assignors to 3D Studios, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Mar. 28, 1966, Ser. No. 537,867
4 Claims. (Cl. 240—36)



A display lamp for advertisements and the like including a pliable hollow cylindrical shade constructed from light transmitting material, a relatively stiff elongated spine extending the length of the shade along one side thereof and two end members imparting a desired shape to said shade with openings through the end members and the shade adapted to receive a mounting bracket in a variety of positions thereon to mount the lamp in a variety of positions or on a variety of objects.

3,377,479
SIGNAL SEARCHLIGHT WITH END PLATE CARRYING OPTICAL DIRECTIONAL MEANS AND WITH DIAPHRAGMS ARRANGED IN THE INNER PATH OF RAYS TO ELIMINATE PHANTOM LIGHT CAUSED BY INNER REFLECTION

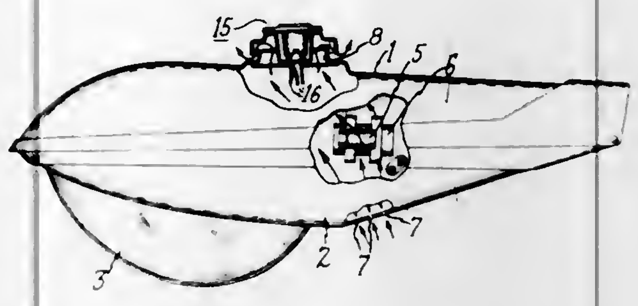
Gunter Schreiber, Berlin, Germany, assignor to Sendlinger Optische Glaswerke G.m.b.H., Berlin, Germany
Filed Oct. 12, 1964, Ser. No. 403,096
Claims priority, application Germany, Oct. 18, 1963, S 87,933; Mar. 19, 1964, S 90,113
17 Claims. (Cl. 240—41.3)



Disclosed is an improved signal searchlight and end plate for reducing phantom indications, particularly in automobile traffic lights. The end plate includes a lens for directing sunlight incident on the end plate from above a predetermined critical angle to a light absorbing surface within the device. Light emitted from the searchlight is directed past the absorbing surface into an area below the critical angle such that when observed from that area, the end plate is fully and uniformly illuminated.

3,377,480
LUMINAIRE

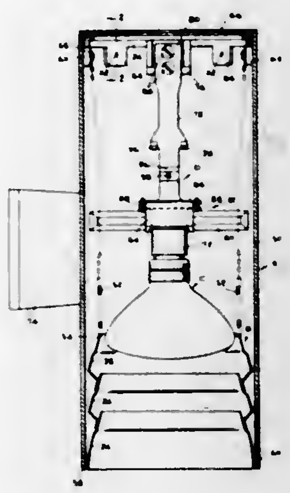
Ernest C. Robertson, Hendersonville, N.C., assignor to General Electric Company, a corporation of New York
Filed Sept. 14, 1966, Ser. No. 579,403
6 Claims. (Cl. 240—47)



Luminaire housing is provided with an adapter cap fitting into a flanged opening in the top of the housing for receiving a photoelectric control unit to provide for mounting the control unit, ventilate the housing and prevent entry of rain.

3,377,481
LIGHTING FIXTURE

Martin L. Lasker, Metuchen, N.J., assignor to Moldcast Manufacturing Company, Newark, N.J., a corporation of New Jersey
Original application Sept. 9, 1965, Ser. No. 486,136, now Patent No. 3,359,415, dated Dec. 19, 1967. Divided and this application June 23, 1967, Ser. No. 648,453
6 Claims. (Cl. 240—78)

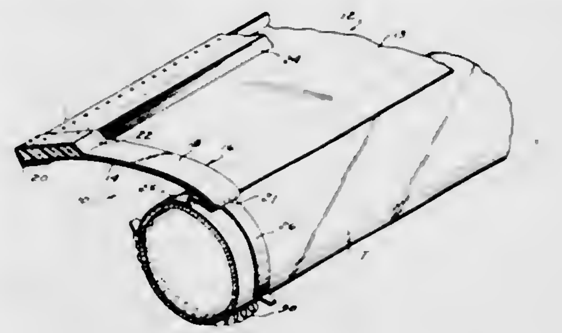


A lamp adjust bracket constructed to enable adjusting the position of a lamp socket in a vertical plane and angularly with respect to such plane, and the combination of the lamp adjust bracket within a housing and related to a reflector mounted within and at the lower end of the housing.

3,377,482
REFLECTOR ASSEMBLY FOR FLUORESCENT TUBES

Oldrich Podany, 87—07 51st Ave., Elmhurst, N.Y. 11373
Filed Dec. 23, 1965, Ser. No. 516,062
13 Claims. (Cl. 240—103)

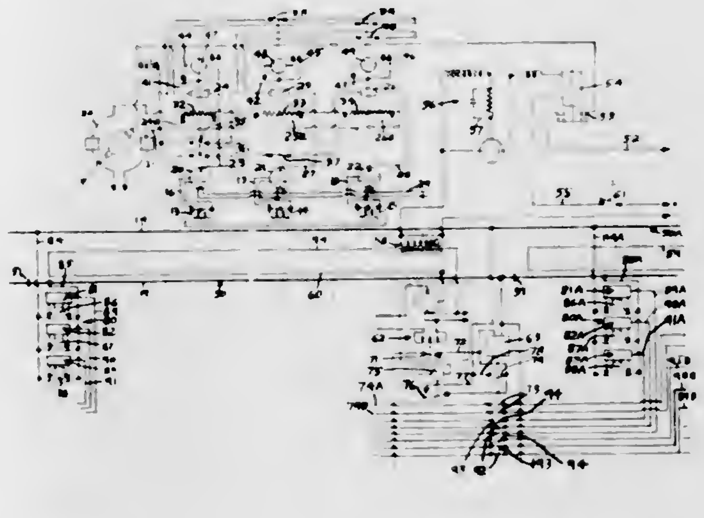
1. A unitary bracket for mounting a light reflecting member adapted to be removably received on a fluorescent tube and adjustable about its longitudinal axis comprising: an elongated strip of spring material having one end bifurcated along a median line; said bifurcated portions being formed to define a generally semi-circular configuration thereby substantially encircling in circumjacent relation said tube; connecting means; said means connecting said bifurcated portions to completely encircle the tube for mounting said bracket; first means formed at the other end of said strip for receiving an edge portion of the light reflecting member; second means formed on said strip between the ends thereof for receiving the opposite edge portion of the light reflecting member; said second means spaced from said first means by an arm portion which



overlies said reflecting member when the latter is mounted by said first and second means; said second means radially removed a predetermined distance by an offset formed in said bracket; said offset disposed between the apex of said semi-circular portions and said second means; and said offset providing an air passage between the tube and the lower surface of the reflecting member when mounted on said bracket.

3,377,483
AUTOMATIC CONTROL FOR TRAINS AND OTHER VEHICLES

John Joyce, 179 Thacher St., Milton, Mass. 02187
Filed Oct. 23, 1965, Ser. No. 503,822
2 Claims. (Cl. 246—63)

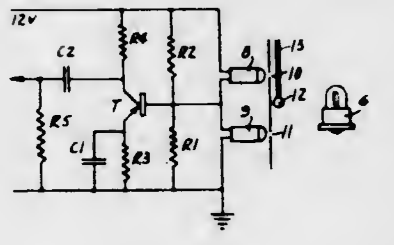


Control for trains and other vehicles, the vehicle having a circuit essential to its operation and having a switch, a shunting circuit and speed control circuit connected thereto with a relay in control of the switch to insure that the vehicle cannot be moved without delivering a shunting circuit.

3,377,484
OPTICAL FLUFF DETECTING APPARATUS EMPLOYING DUAL LIGHT PATHS

Garrit J. Hilferink, Arnhem, Netherlands, assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware
Filed Oct. 20, 1964, Ser. No. 405,211
Claims priority, application Netherlands, Nov. 1, 1963, 300,046
13 Claims. (Cl. 250—219)

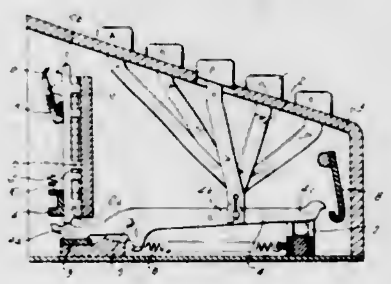
An apparatus for detecting fluffs on a running thread comprising a source of radiant energy, a pair of light sensitive means, each having a resistance variable with the intensity of radiant energy incident thereon, and being positioned with respect to the source of radiant energy whereby the light sensitive means receive angularly spaced beams of radiant energy from the source of radiant energy, guide means causing a thread to travel perpendicularly to the beams of radiant energy substantially centrally therebetween, so that the thread is spaced from the beams of radiant energy and fluffs on the thread pass into the path of one of said beams to vary the intensity of the radiant energy received by the light sensitive means, screening means in front of the light sensitive means for limiting the beams of radiant energy whereby the noise



level caused by vibration of the apparatus is lowered to facilitate detection of the variation of intensity of the radiant energy caused by the fluffs, the light sensitive means being electrically connected in series with two resistor means to define a bridge circuit, the resistance value of the resistor means being substantially lower than the resistance value of the light sensitive means during operation, and with an electronic valve means operatively connected with the bridge circuit between the light sensitive means and the resistor means, and being responsive to variations in the resistance of the light sensitive means to provide an output signal which serves as an indication of the fluffiness of the thread.

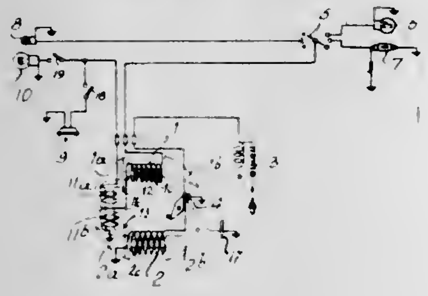
3,377,485
PHOTOMECHANICAL CODE KEYBOARD UNIT

Sanae Amada, Tokyo, Japan, assignor to Fujitsu Limited, Kawasaki, Japan, a corporation of Japan
Filed Jan. 27, 1965, Ser. No. 428,580
Claims priority, application Japan, Jan. 28, 1964, 39/3,942
1 Claim. (Cl. 250—229)



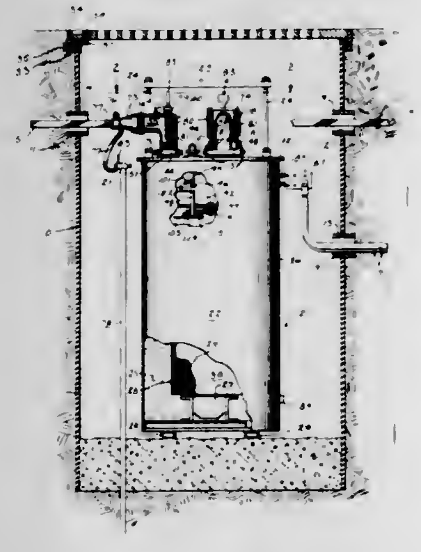
Code keyboard apparatus comprises a plurality of photoelectric transducers spaced from a source of light to provide a coded output corresponding to a key-selected input. The light is directed to the photoelectric transducers in a plurality of separate light paths, each of the light paths being directed to a corresponding one of the photoelectric transducers. Each of a plurality of spaced separate code bars has a plurality of projections arranged in a pattern determining a corresponding code indication. A guide slidably supports the code bars in positions between the source of light and the photoelectric transducers wherein selected ones of the projections of the code bars are adapted to block corresponding ones of the light paths in determined positions of the code bars thereby providing a coded output. Key actuated members in contact with the code bars selectively move the code bars in the guide to the determined positions in accordance with a key-selected input.

3,377,486
MAGNETO-TYPE POWER SUPPLY FOR VEHICULAR LIGHTING SYSTEM
Jacques Benezech, Le Vesinet, France, assignor to Société anonyme dite: Novi-P.B., Pantin, France, a corporation of France
Filed Dec. 7, 1964, Ser. No. 416,498
Claims priority, application France, Sept. 24, 1964, 989,176, Patent 1,416,537
2 Claims. (Cl. 307—10)



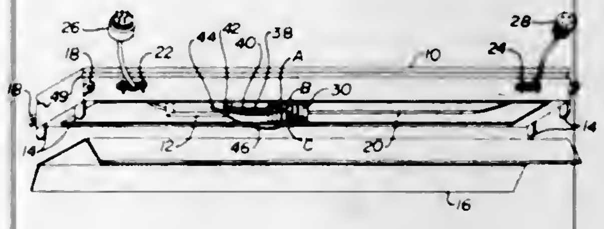
Vehicular lighting system with flywheel magneto supplying current to ignition system and to lighting circuits, the latter including a stop light, wherein the usual armature windings for the ignition and light circuits are supplemented by a split winding having its two sections connected in series-aiding relationship for the energization of the stop light, one of these sections being also connected in series-aiding relationship with the energizing winding for the light circuits whereby part of the power available for energization of the stop light during daytime driving will be supplied to the headlight at night, with concurrent dimming of the normally overdriven stop light.

3,377,487
UNDERGROUND RESIDENTIAL POWER DISTRIBUTION CONSTRUCTION
Lyle E. McNulty, South Milwaukee, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Apr. 19, 1965, Ser. No. 448,934
13 Claims. (Cl. 307—17)



An underground residential electrical power distribution construction comprising a tubular open-ended vault disposed vertically below grade and having conductor passage means extending therethrough and a removable cover closing its upper end. A distribution transformer is disposed within the vault and has a sealed metallic casing for enclosing primary and secondary windings. First, second and third primary insulating bushings are disposed on the casing and each has similar first connector and second mating members exterior of the casing. A test cap comprising an insulating member covers one of the second connector members and is surrounded by an outer conductive element which is releasably secured to the casing by conductive means. Each of the other second conductor members is surrounded by a cable termination which includes an inner insulating portion and an outer conductive member which is releasably secured to the casing. The first and second primary bushings are connected within the casing and a sectionalizing switch is disposed within the casing and has contact means for selectively connecting and disconnecting the second and third bushings to each other and individually to the primary winding, and means extending through the casing for operating the sectionalizing switch.

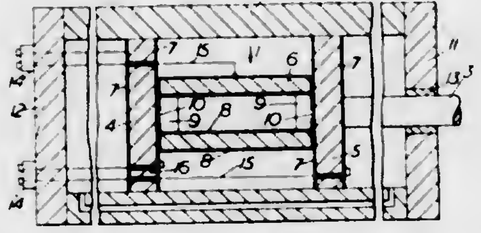
3,377,488
POWER SUPPLY CIRCUITRY FOR LIGHTING FIXTURES OR THE LIKE
Albert A. Lorenzo, 1901 Hanover St., Pittsburgh, Pa. 15218
Filed May 26, 1964, Ser. No. 370,250
4 Claims. (Cl. 307—157)



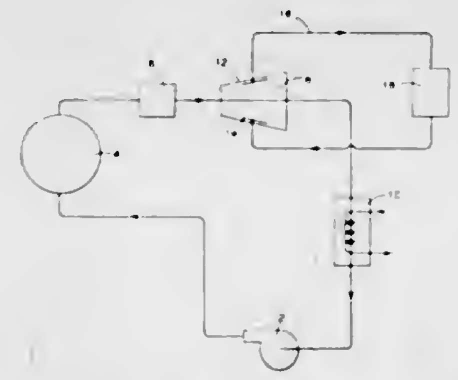
1. In power supply circuitry for a plurality of lighting fixtures wherein means are provided to energize all fixtures and means are provided to energize selected ones of the fixtures only; the combination of an electrical cable for each of said fixtures having male and female connecting plugs at opposite ends thereof, a plurality of conductors in each of said cables which are electrically insulated from each other, means connecting the cables in series whereby the male plug of one fixture is inserted into the female plug of the succeeding fixture and vice versa, a terminal block carried on each of said lighting fixtures, means connecting a first pair of said conductors in each cable to a first set of the terminals on the terminal block associated with that cable, means connecting said first set of terminals on certain of said terminal blocks to their associated lighting fixtures such that said associated lighting fixtures will be energized when the cables are interconnected and said first set of conductors are energized, means connecting a second pair of the conductors in each cable to a second set of the terminals on the terminal block associated with that cable, and means connecting said second set of the terminals on selected ones of the terminal blocks to their associated lighting fixtures whereby said latter-mentioned associated lighting fixtures will be energized when said second set of conductors are energized.

3,377,489
POSITION CONTROL DEVICE
Alan Douglas Brisbane, London, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 4, 1965, Ser. No. 506,378
Claims priority, application Great Britain, Nov. 6, 1964, 45,300/64
6 Claims. (Cl. 310—8.3)

An electromechanical actuator utilizing a piezo-electric material which when subjected to an electrical potential results in mechanical distortion of the material, either torsional movement or variations in dimensions. In operation, one portion of the piezo-electric material is held in position during the application of a voltage to cause mechanical distortion of other portions. Thereafter, the moved or distorted portions of the material are locked in their distorted positions. Following the release of the first-held portion and removal of the noted potential, the piezo-electrical material reverts to its normal non-distorted condition, but in a different location. This incremental movement of the piezo-electric material from one location to another may be used for accurate positioning functions.



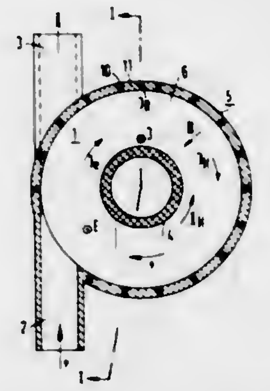
3,377,490
MAGNETOPLASMADYNAMIC ELECTRIC GENERATORS
Melville T. Woodcock and John S. Whamby, London, England, assignors to Babcock & Wilcox, Limited, London, England, a corporation of Great Britain
Filed Dec. 20, 1963, Ser. No. 332,180
Claims priority, application Great Britain, Dec. 21, 1962, 48,428/62
4 Claims. (Cl. 310—11)



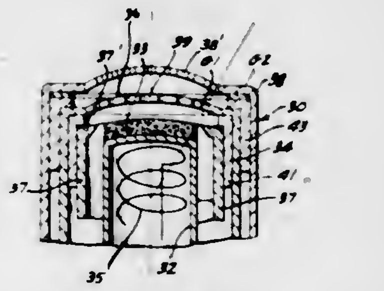
1. A method of operating a magnetoplasmadynamic electric generator which includes circulating a gas suspension in a closed circuit, said gas suspension being loaded with not more than ten pounds of heat resistant particle material per pound of gas, passing the gas suspension through a reactor core at a velocity of approximately 100′/sec. while heating the gas suspension to a temperature range of approximately 750–900° C., radioactively contaminating the particles for ionization within the gas suspension with volatile fission products from the reactor fuel, supplying the suspension in an ionized state to the generator at a velocity of approximately 0.3 Mach in the throat of the generator.

3,377,491
MAGNETOHYDRODYNAMIC GENERATOR
Rudolf Gebel, Erlangen, Germany, assignor to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany
Filed Mar. 10, 1965, Ser. No. 438,532
Claims priority, application Germany, Mar. 11, 1964, S 88,092
3 Claims. (Cl. 310—11)

1. MHD generator comprising an annular flow chamber for the passage of ionized gaseous medium in a helical path about an axis, said chamber having a pair of annular electrodes forming opposite end walls thereof respectively, a plurality of electrical conductors extending substantially parallel to said axis at a peripheral wall of said annular flow chamber intermediate to and electrically connecting said annular electrodes, and an annular electromagnet coil mounted coaxially to said helical path outside said chamber and adjacent each of said electrodes, each of said coils being energizable by an alternating current supply for producing a magnetic field extending substantially radially to said axis in said annular flow chamber.



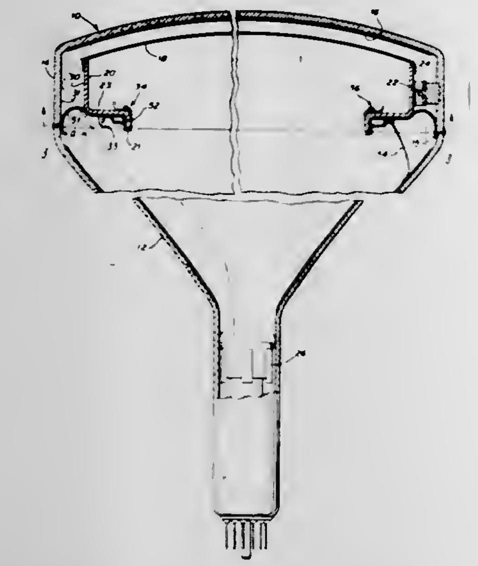
3,377,492
FLOOD GUN FOR STORAGE TUBES HAVING A DOME-SHAPED CATHODE AND DOME-SHAPED GRID ELECTRODES
Frederick G. Oess, Oceanside, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Aug. 3, 1965, Ser. No. 476,925
9 Claims. (Cl. 313—71)



A flood electron gun for storage cathode ray tubes wherein the flood gun cathode has a spheroidal electron emissive surface with two electrode members nested over and around the electron emissive surface and having spheroidal mesh members (grids) covering the apertures in the electrode members with the, spacing between the spheroidal mesh member and the electron emissive surface adjacent thereto being substantially constant.

3,377,493
CLIP FOR MOUNTING PERIPHERAL ELECTRON SHIELD ON SHADOW MASK OF COLOR TELEVISION TUBE, PROVIDED WITH CONTACT SPRING TO TUBE INNER COATING
Nathan D. Levin, Highland Park, and Arthur H. Andrews, Glenview, Ill., assignors to Admiral Corporation, Chicago, Ill., a corporation of Delaware
Filed Feb. 15, 1967, Ser. No. 616,272
10 Claims. (Cl. 313—92)

Fastening apparatus for securing an electron shield to the mask frame of a color television picture tube, without the necessity of weldments. The configuration of the fastening apparatus precludes its accidental removal after installation on the mask frame, and may also include an electrical contact member for providing a current path between the frame and the interior conductive coating of the picture tube.

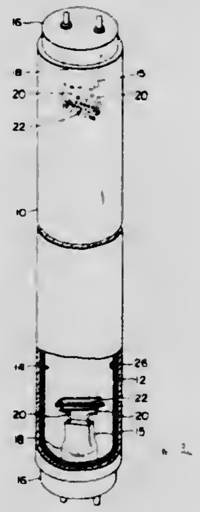


3,377,494
FLUORESCENT LAMP ENVELOPE WITH TRANSPARENT PROTECTIVE COATINGS

Robert W. Repsher, Kinnelon Township, Butler, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 24, 1965, Ser. No. 458,242

17 Claims. (Cl. 313—109)



For use with fluorescent lamps, a very thin, transparent, continuous and adherent coating of titanium dioxide or zirconium dioxode, which is modified by the addition of other selected metal oxides, is positioned intermediate the phosphor and the envelope interior surface to serve as a barrier or glass-protective layer and improve lamp performance. When applied to the exterior surface of the lamp envelope, the same coating provides lubricity to the lamp envelope in order to facilitate handling.

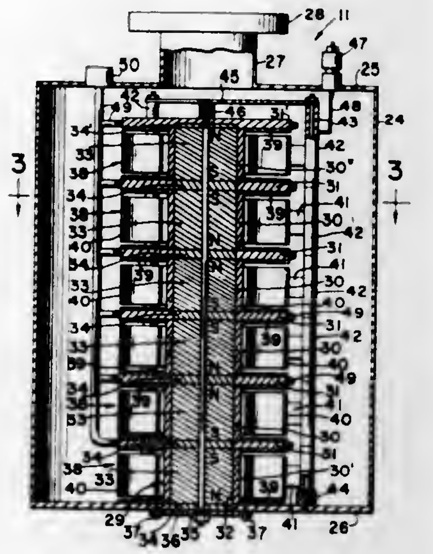
3,377,495
GLOW DISCHARGE APPARATUS HAVING A STACKED ARRAY OF MAGNETS

Harry E. Aine, Palo Alto, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed June 17, 1965, Ser. No. 464,813

8 Claims. (Cl. 313—161)

A magnetically confined glow discharge vacuum pump having a stacked array of magnets contained within a gas impervious tube which forms a re-entrant portion of the pump envelope. Portions of the tube wall are made of magnetic material in order to direct the magnetic field into the evacuable envelope to the glow discharge cells. The tube is provided with an opening through which the magnets can be removed to permit "bakeout" of the pump at temperatures which would cause undesirable outgassing of the magnets and possible reduction of magnetic field strength.



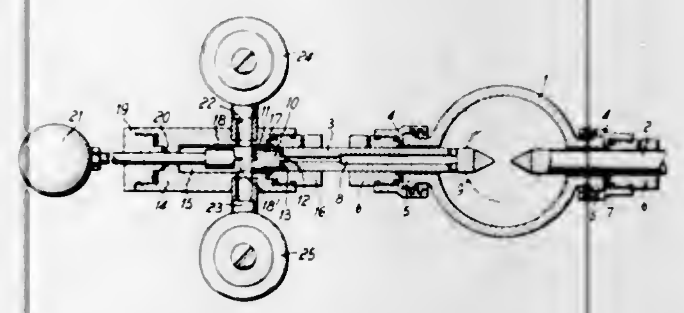
3,377,496
GAS FILLED ENVELOPE FOR A SPARK GAP OR THE LIKE

Frank Fruengel, Hamburg-Rissen, and Gert Roeder, Hamburg-Lokstedt, Germany, assignors to Impulsphysik G.m.b.H., Hamburg-Rissen, Germany

Filed July 6, 1966, Ser. No. 563,277

Claims priority, application Germany, July 6, 1965, J 28,545

12 Claims. (Cl. 313—175)



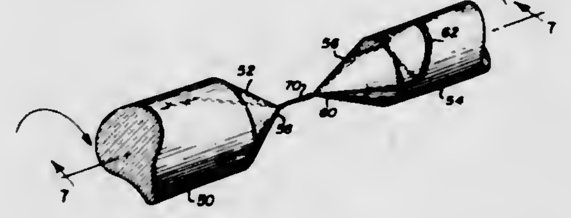
1. In a gas filled envelope for a spark gap and the like, in combination, a filling tube gas tightly connected to said envelope and communicating at one end thereof with the interior of said envelope, said tube having a portion projecting outwardly of said envelope and having a free end; closure means at said free end of said filling tube, said closure means being movable between a first position gas tightly closing said free end of said tube and a second position permitting passage of gas through said tube; fitting means removably and gas tightly fitted over said portion of said filling tube, said fitting means defining an enclosed space communicating with the interior of said tube when said closure means is in said open position; operating means having an engaging portion in said enclosed space adapted to be brought into engagement with said closure means, and an operating portion extending gas tightly sealed from said space to the outside of said fitting means so as to be operable for moving said engaging means into engagement with said closure means and to move the latter between said position thereof; passage means communicating at one end thereof with said enclosed space and adapted to be connected at the other end thereof to apparatus for causing flow of gas through said passage means into and out of said space; and at least one shut-off valve in said passage means for opening and closing the latter.

3,377,497
SELF-STARTING ARC LAMP

Charles H. Keller, Los Altos, Calif., assignor to Pek Labs., Inc., Sunnyvale, Calif.

Original application Mar. 15, 1965, Ser. No. 439,757, now Patent No. 3,274,427, dated Sept. 20, 1966. Divided and this application May 19, 1966, Ser. No. 554,933

7 Claims. (Cl. 313—184)



1. In a short arc lamp, including a pressurized envelope and a pair of spaced apart electrodes immovably disposed within the envelope which have arc ends defining an arc gap therebetween, the improvement in the form of a self starting feature comprising:

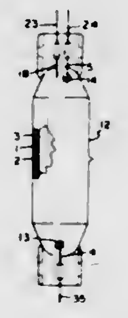
a pair of conductive strands of wire forming a fusion bridge conductively connected across the arc ends of said electrodes to bridge said arc gap, the portion of said pair of strands of wire disposed across the gap being twisted about each other, said fusion bridge being dimensioned so that the electrical energy, normally applied across said electrode to sustain a once established arc, consumes said fusion bridge by melting to establish the arc.

3,377,498
IN A HIGH PRESSURE LAMP, PROTECTIVE METAL OXIDE LAYERS ON THE INNER WALL OF THE QUARTZ ENVELOPE

Frederic Koury, Lexington, and John F. Waymouth, Marblehead, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed Jan. 3, 1966, Ser. No. 526,935

10 Claims. (Cl. 313—221)



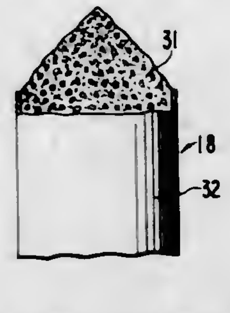
In lamps containing mercury, halogen and light emitting metals to prevent gettering of the light emitting metals by the silicon dioxide which forms the arc tube, a transparent layer of the oxide of the light emitting metal is disposed upon the inner surface thereof. Additional layers of refractory oxide and calcium, aluminum and magnesium oxide can be disposed between the light emitting metal oxide coating and the arc tube wall.

3,377,499
RELATIVELY LARGE CONSUMABLE PELLETIZED GETTER SOURCE ELEMENT FOR SUBLIMATION TYPE GETTER VACUUM PUMPS

William A. Lloyd, San Jose, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed May 16, 1966, Ser. No. 552,374

4 Claims. (Cl. 313—354)



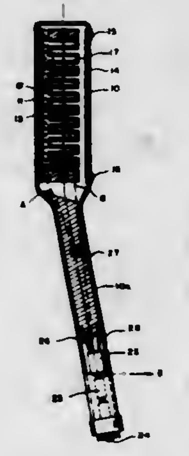
A sublimation type getter vacuum pump is disclosed. The pump includes a hot zone into which a relatively large consumable rod of titanium is advanced for subliming titanium from the rod onto collecting surfaces within the pump envelope. The sublimed getter material serves to getter gas within the pump envelope and to, thus, reduce the pressure within the pump and structures in gas communication with the pump. The titanium rod is formed by an aggregate of titanium pellets for reducing the thermal conductivity of the rod such that the region of the rod which extends into the hot zone and from which getter material is sublimed is relatively well defined such that getter material is not sublimed from relatively large regions of the rod removed from the immediate area of the rod which is within the hot zone. In one embodiment, an electron gun bombards the end of the pelletized rod for heating same to sublimation temperature. In another embodiment, a thermal radiator is heated by electron bombardment and the titanium rod is heated by thermal radiation from the radiator.

3,377,500
FLAT CATHODE-RAY DISPLAY TUBE

Joseph Burns, Pequannock, N.J., assignor to Fairchild Camera and Instrument Corporation, a corporation of Delaware

Filed June 20, 1966, Ser. No. 558,987

7 Claims. (Cl. 315—14)

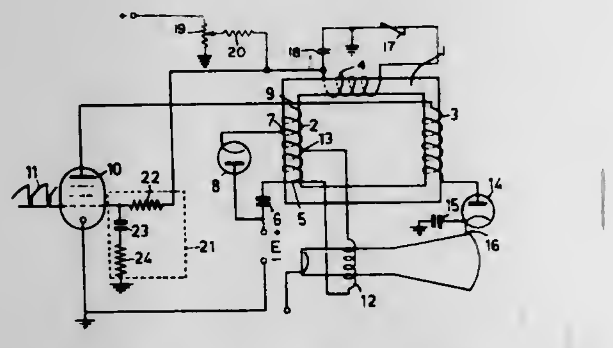


1. A flat cathode-ray display tube comprising an envelope including a body portion of substantially parallelepiped configuration having a thickness which is a minor fraction of its length and width and a

tapered tubular neck portion extending therefrom with its axis lying approximately in the median plane of said body portion;
a transparent conductive film and a phosphorescent screen disposed on one of the major walls of said body portion;
a screen electrode adjacent said film, said film being designed and intended to operate at a potential substantially higher than said screen electrode;
means including said screen electrode for establishing an electric field substantially throughout said body portion;
means in said neck portion for developing and injecting a cathode-ray beam into the electric field region;
and means for deflecting said beam in two orthogonal directions prior to injection into said region to scan a raster on said screen electrode and on said phosphorescent screen.

3,377,501
LINE DEFLECTION CIRCUIT FOR USE IN TELEVISION RECEIVERS WITH A FREQUENCY-DEPENDENT NETWORK CONNECTING THE FEEDBACK CONTROL CIRCUIT WITH THE CONTROL ELECTRODE OF THE OUTPUT AMPLIFIER

Peter Johannes Hubertus Janssen, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed July 24, 1964, Ser. No. 385,008
Claims priority, application Netherlands, Aug. 12, 1963, 296,560
6 Claims. (Cl. 315—27)

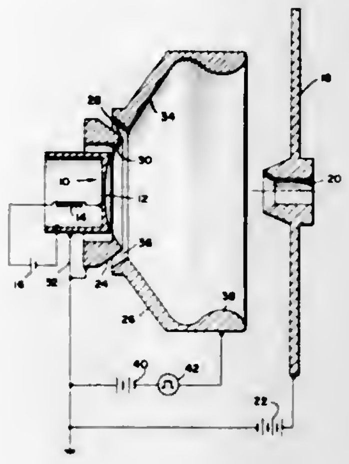


A television line deflection circuit includes a control circuit having a non-linear resistor for developing a direct current control voltage. The control circuit is connected to the output transformer of the line deflection circuit. A frequency-dependent coupling network interconnects the control circuit with the control electrode of the output amplifier so as to attenuate the high-frequency components of the control voltage supplied thereto.

3,377,502
PIERCE-TYPE ELECTRON GUN WITH COMBINED MODULATING AND BEAM-FORMING ELECTRODE ARRAY

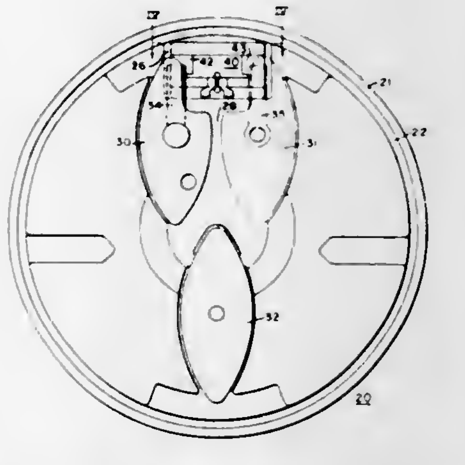
Kurt Amboss, Malibu, and William E. Kramer, Canoga Park, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Apr. 11, 1966, Ser. No. 541,677
4 Claims. (Cl. 315—30)

1. An electron gun comprising: a cathode having a concave electron-emissive surface facing a predetermined longitudinal direction, an anode spaced from said cathode along said predetermined direction and having an electron beam aperture aligned with at least a portion of said electron-emissive surface, electron beam focusing means spaced from said cathode at a location radially outwardly of said cathode and longitudinally substantially between said cathode and said anode for establishing a potential profile in the region between said cathode and said anode causing electrons emitted from said electron-emissive surface to converge radially inwardly as they travel longitudinally toward said anode, said focusing means including a pair of spaced electrode segments defining a gap-containing frusto-conical surface extending outwardly from said electron-emissive surface at an angle of essentially 67½° with respect to the normal to said electron-emissive surface at the perimeter thereof, means for maintaining the focusing electrode segment nearer said cathode at the same electrical potential as said cathode, and means for applying a modulating voltage to the focusing electrode segment more remote from said cathode.



3,377,503
LIGHTNING ARRESTER GAP AND GRADING MEANS

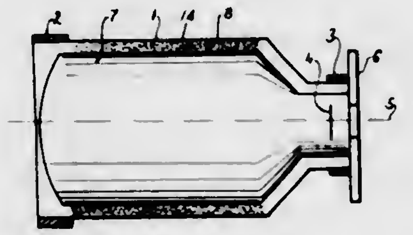
Joseph C. Osterhout, Bloomington, Ind., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 1, 1965, Ser. No. 492,087
11 Claims. (Cl. 315—36)



The invention comprises a plurality of voltage grading variable impedance, preionizing gap means connected across the main spark gaps in a lightning arrester unit and in parallel with a second plurality of voltage grading means of equal impedance values connected across the main gaps. Such a combination of means provides both balanced and unbalanced voltage grading for the arrester unit so that the voltage and resulting stresses on the unit are distributed equally throughout the unit until the moment of sparkover at which time the voltages across the gaps are unequal with a resulting overall, lower and more consistent sparkover voltage for more rapid discharge of surge current.

3,377,504
X-RAY IMAGE INTENSIFIER TUBE WITH MAGNETICALLY SHIELDING MOUNTING SLEEVE SECURED TO ENVELOPE

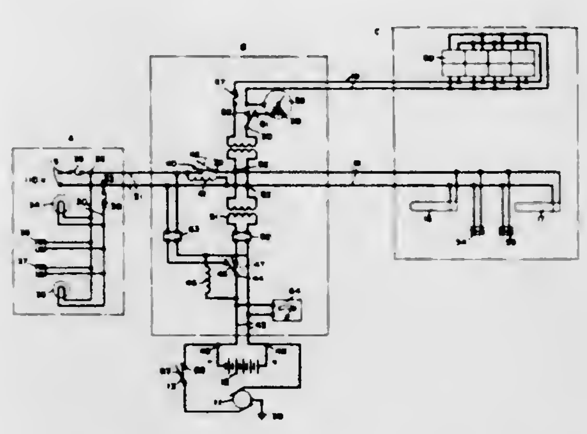
Miroslav Řebíček, Prague, Czechoslovakia, assignor to Chirana Praha, národní podnik, Prague, Czechoslovakia
Filed June 24, 1965, Ser. No. 466,738
Claims priority, application Czechoslovakia, June 27, 1964, 3,719/64
4 Claims. (Cl. 315—85)



An X-ray intensifier tube, upon being placed in an adjusting sleeve which surrounds the tube, is properly adjusted in its position within the sleeve. The sleeve and the tube are inseparably united and thus form a unit which is much easier exchangeable and adjustable as the tube alone. When the unit is introduced in a housing no adjustment of the tube is needed. Means on the outside of the sleeve suffice to properly locate the unit within the housing.

3,377,505
EMERGENCY LIGHTING SYSTEM WITH LOW, MEDIUM AND HIGH VOLTAGE OUTPUTS

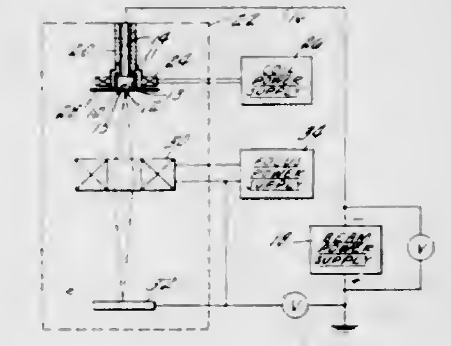
William H. Engle, 98 Harrow Road, Levittown, Pa. 19056
Continuation of application Ser. No. 189,728, Apr. 24, 1962. This application Apr. 8, 1966, Ser. No. 541,214
2 Claims. (Cl. 315—86)



1. In a lighting circuit incorporating a manually operated generator charging a wet cell storage battery, the combination of a vibrator receiving low voltage, direct current from said storage battery, said vibrator modifying said direct current to low voltage alternating current; a first transformer having low voltage and medium voltage windings, said transformer receiving said low voltage alternating current from said vibrator and increasing the voltage of said current to medium voltage; a medium potential lighting circuit connected to said medium voltage winding of said first transformer; a second transformer having a medium voltage winding and a high voltage winding, said medium voltage winding of said second transformer being connected to the medium voltage winding of said first transformer, said second transformer increasing the voltage of said medium voltage current to high voltage; a high potential circuit connected to said high voltage winding of second transformer; an external source of medium voltage, alternating current connected into the circuit between the medium voltage winding of said first transformer and the medium voltage winding of said second transformer; an automatic, two position throwover switch connected into the circuit between said first and second transformers, said switch directing said external source of alternating current to the lower voltage winding of said second transformer, said switch at the same time removing said first transformer and said battery from the circuit; and an automatic, two-position switch connecting said batttery to the circuit to feed said low voltage winding of said first transformer through said vibrator upon failure of said external source of alternating current.

3,377,506
ELECTROMAGNETIC CURRENT CONTROL FOR A HOLLOW CATHODE

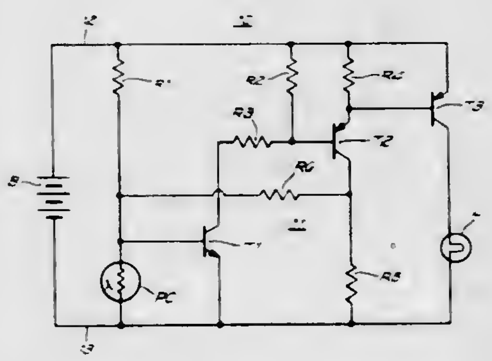
Conrad M. Banas, Manchester, and Clyde O. Brown, Newington, Conn., and Donald E. Powers, Springfield, Mass., assignors to United Aircraft Corporation, Hartford, Conn., a corporation of Delaware
Filed Mar. 30, 1966, Ser. No. 538,862
11 Claims. (Cl. 315—107)



A magnetic current control device is described for a hollow cathode structure which operates in a glow discharge and produces a collimated beam of electrons from the volume enclosed by the cathode structure. The number of electrons produced in the beam is controlled by subjecting the plasma within the hollow cathode structure to a magnetic field and varying the intensity of the field to produce the desired beam current.

3,377,507
PHOTOELECTRIC LATCHING CIRCUIT FOR SIGNAL LAMPS

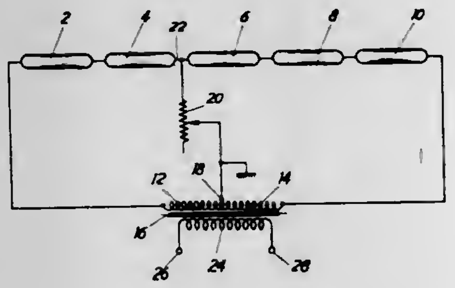
Richard E. Riebs, Hales Corners, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Sept. 13, 1966, Ser. No. 579,166
1 Claim. (Cl. 315—159)



A device for controlling a lamp from a self-contained DC energy source and including a negative resistance type photocell in circuit across the energy source and a plurality of transistor stages, the first stage having its base emitter circuit connected across the photocell and its collector connected to the base of a succeeding transistor stage with the last transistor being in circuit with the lamp, and a resistance connected between the base of the first stage and the collector of a succeeding stage so that the resistors are rapidly switched from their substantially off condtion to a fully on condition.

3,377,508
ARRANGEMENT FOR VARYING THE LUMINOSITY OF AT LEAST TWO ELECTRIC DISCHARGE TUBES

Edouard Gomonet, Paris, France, assignor to Claude Paz et Visseaux
Filed May 6, 1965, Ser. No. 453,703
Claims priority, application France, May 22, 1964, 975,381, Patent 1,404,606
13 Claims. (Cl. 315—185)

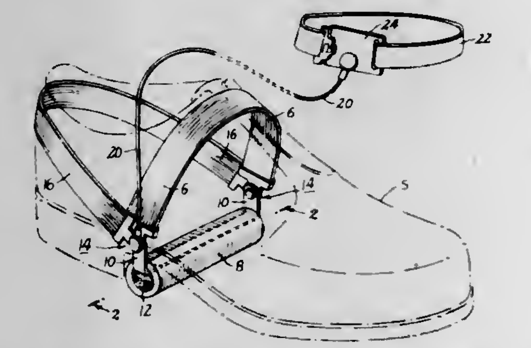


The device comprises a high leakage transformer **16** with an intermediate tap **18** on its secondary winding. Said tap is connected through an impedance **20** to a connection **22** between electrically adjacent serially connected discharge tubes. When the value of the impedance is varied, the lighting powers of the tubes on either side of the connection **22** charge in opposite directions.

The luminous effects may be still more varied when switching means are provided.

3,377,509
BODY GROUNDING DEVICE

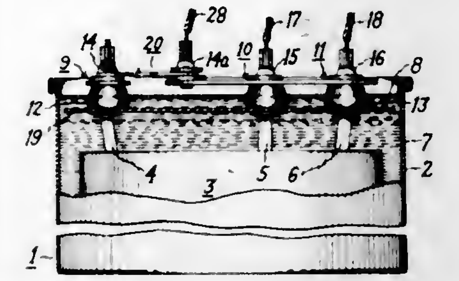
Walter G. Legge, 1200 S. Ocean Blvd., Boca Raton, Fla. 33432
Filed July 17, 1967, Ser. No. 653,985
4 Claims. (Cl. 317—2)



A body grounding device for wearing on the shoe of the user in which a tubular element fabricated of flexible and conductive material is strapped under the instep of the shoe. A metallic conductor is inserted within the element and both the element and the conductor are electrically connected to a body contacting member. Surface contact is made between the two conductive components which serve together to provide a foot pad and a resistive combination of elements which together present a lower resistance in the static electricity discharged circuit of the device than either component individually.

3,377,510
ELECTRICAL APPARATUS

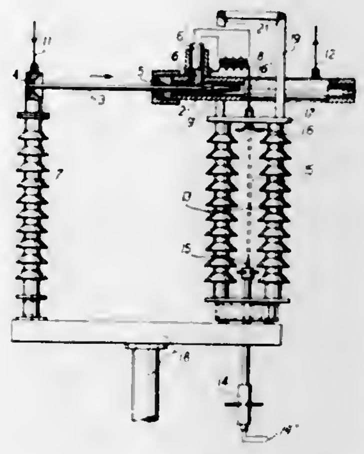
Glenn D. Rayno, Glens Falls, N.Y., assignor to General Electric Company, a corporation of New York
Continuation of application Ser. No. 573,427, Aug. 18, 1966, which is a continuation of application Ser. No. 315,659, Oct. 11, 1963. This application Nov. 9, 1967, Ser. No. 681,935
13 Claims. (Cl. 317—12)



A flexible bridge member in a sealed capacitor casing is attached to a potentially bulging cover, on one side, and electrically connected by a tab to a capacitor section on the other side, and the bulging cover flexes the bridge member until the tab connection is broken and the bridge member returns to its original position to increase the break distance.

3,377,511
QUICK-ACTING SWITCH ARRANGEMENT FOR A HIGH TENSION TRANSFORMER

Josef Richtr and Karel Prochazka, Ceske Budejovice, Czechoslovakia, assignors to Vyzkumny ustav energeticky, Prague, Czechoslovakia
Filed May 13, 1966, Ser. No. 549,892
Claims priority, application Czechoslovakia, Dec. 14, 1965, 7,502/65
4 Claims. (Cl. 317—15)

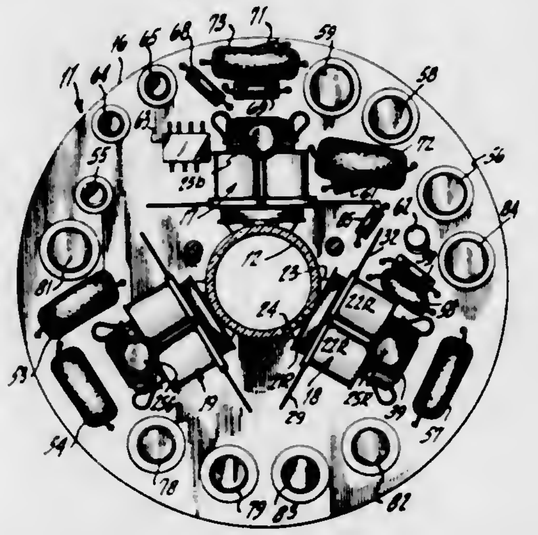


1. In a disconnecting switch arrangement for a high voltage transformer having a primary winding, in combination:

(a) short-circuit means for grounding said primary winding in response to an electrical signal;
(b) pulse generating means in circuit with said short-circuit means and responsive to said grounding of the primary winding for generating an electric pulse;
(c) a cylinder member enclosing a cavity;
(d) a piston member movable in said cavity;
(e) explosive means communicating with said cavity and connected in circuit with said pulse generating means for discharging a gas under pressure into said cavity in response to said electric pulse, and for thereby moving said piston member in a predetermined direction;
(f) a source of electric power, and
(g) switch means operatively interposed between said source and said primary winding for energizing said winding by the current of said source, and for disconnecting the winding from said source, said switch means including a movable contact and a fixed contact, said movable contact being connected to said piston member for movement therewith, and responsive to said movement of the piston member in said direction for disconnecting said source from said transformer.

3,377,512
UNITARY BEAM CONVERGENCE MAGNET STRUCTURE AND CONTROL APPARATUS

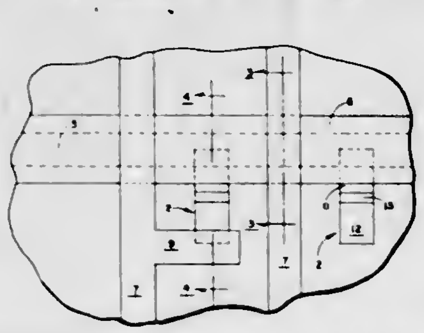
James W. McLeod, Jr., Indianapolis, Ind., assignor to Radio Corporation of America, a corporation of Delaware
Filed Aug. 18, 1965, Ser. No. 480,550
8 Claims. (Cl. 317—101)



An insulating panel on one side of which the convergence circuit controls are mounted also supports, on the same side, the convergence magnet structure in a resilient manner such that, when the panel which is provided with a central opening is mounted on the picture tube neck, the magnet core elements are urged into firm contact with the tube neck in alignment with the internal pole pieces. All interconnections between the electromagnets and the control elements are made by printed circuits on the other side of the panel.

3,377,513
INTEGRATED CIRCUIT DIODE MATRIX

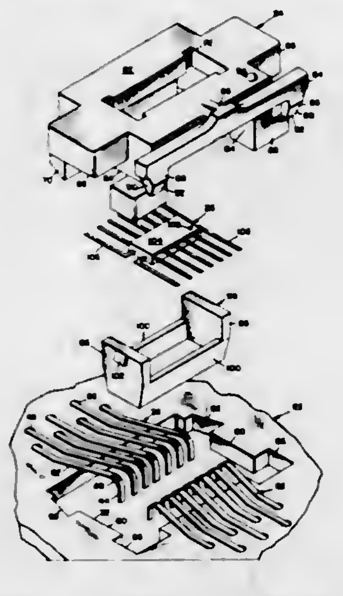
Robert M. Ashby, Pasadena, Theodore J. La Chapelle, Orange, and Gordon H. Smith, Santa Ana, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware
Filed May 2, 1966, Ser. No. 546,959
10 Claims. (Cl. 317—101)



A microminiature integrated circuit diode matrix fabricated on a single crystal, electrically insulating substrate. A plurality of diode elements are disposed atop the substrate to form a high density array. A first set of electrical conductors also is disposed on the substrate, each conductor being electrically connected to one terminal of each diode in the corresponding row of the matrix. A second set of conductors, electrically insulated from the first set, crosses the first set. Each conductor of the second set is electrically connected to the second terminal of preselected ones of the diode elements in the corresponding column.

3,377,514
MICROELECTRONIC CIRCUIT CARRIER

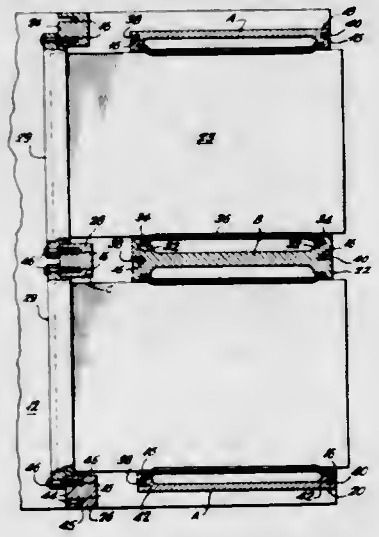
Herbert E. Ruehlmann, Huntingdon Valley, and Frank J. Frompovicz, Cornwell Heights, Pa., assignors to Elco Corporation, Willow Grove, Pa., a corporation of Pennsylvania
Filed Oct. 22, 1965, Ser. No. 500,794
18 Claims. (Cl. 317—101)



A microelectronic carrier is mechanically and electrically attached to a carrier plate by using a retainer to attach the microelectronic carrier to a holder utilizing a resilient interconnection between the holder and the retainer. The carrier plate is provided with slots which receive tabs on the holder permitting the latter to be moved laterally relative to the carrier plate to misalign the tabs with the slots until a portion of the tabs underlie the lower surface of the carrier plate. Means are provided for maintaining the tabs in misalignment with the slots whereby the microelectronic carrier is securely attached to the carrier plate.

3,377,515
CIRCUIT CARD CAGE CONSTRUCTION

Peter F. Erb, Huntington, N.Y., assignor to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York
Filed Aug. 23, 1966, Ser. No. 574,405
7 Claims. (Cl. 317—101)



A printed circuit card assembly comprising at least two card retaining shelf assemblies having connector elements for fixing the assemblies in fixed relationship. Electric connector members are supported in position to engage edges of printed circuit cards.

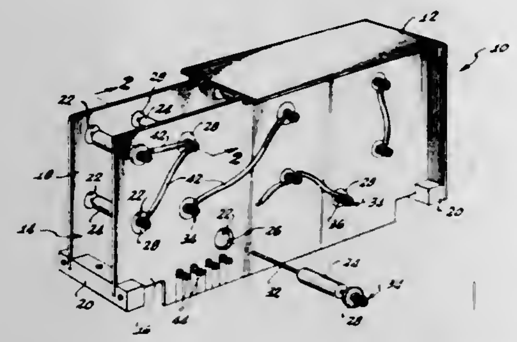
3,377,516

CORDWOOD PACKAGE WITH REMOVABLE PLUGS

John A. Ellett, Berton B. Brinker, Jr., and Robert B. Love, Los Angeles, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Aug. 4, 1966, Ser. No. 570,354

1 Claim. (Cl. 317—101)



There is disclosed parallel circuit boards with components extending transversely therebetween, and connected to terminals located opposite each other on each of the boards. One of the terminals is on a tapered plug seated in a tapered hole in one of the boards. By disconnecting the component lead from the terminal opposite the plug, the plug can be removed from the hole, thereby withdrawing the component through the hole.

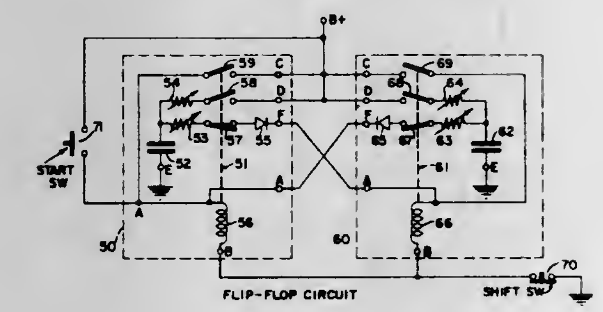
3,377,517

RELAY COMPUTER CIRCUITS

Frederick A. Hurley, Miami Shores, Fla., assignor, by mesne assignments, to Elliott & Evans, Inc., a corporation of Florida

Filed Feb. 13, 1964, Ser. No. 344,639

10 Claims. (Cl. 317—140)



A modular unit used in circuits performing various digital logic functions including an electromechanical relay, a capacitor and a diode. Pulse generators, flip-flop circuits, shift registers, pulse distributors and free-running multivibrator are formed by interconnecting the modular units.

3,377,518

MAGNETOSTRICTIVE DELAY LINE DRIVER

Jerry K. Radcliffe, Cortland, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed June 1, 1966, Ser. No. 554,454

6 Claims. (Cl. 317—148.5)

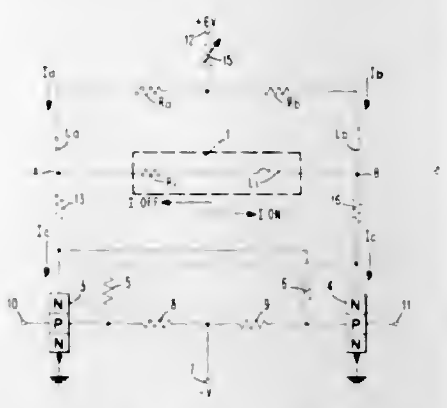
1. An electronic switching circuit for driving a large inductive load at high frequency data pulse rates substantially free of pattern sensitivity, comprising

a low voltage source of energy having a pair of terminals,

a first conductive path for current including a first resistor, a first inductor and a first transistor switch connected in series between the terminals,

a second conductive path for current including a second transistor switch and the inductive load connected in series between one of the terminals and the junction between the inductor and the first transistor switch, and

means for turning the first switch from an on to an off state and the second switch from an off to an on state to induce in the inductor a voltage spike which causes a rapid rise in current in the inductive load,



the value of the first inductor being selected substantially in accordance with the equation

$$\frac{L_a}{L_L}\approx\frac{+\Delta I_c\cdot R_a-\Delta V_B}{+\Delta I_c\cdot R_L-\Delta V_B}$$

where:

L_a is the value of the first inductor,

L_L is the value of the inductive load,

R_a is the sum of the values of the first resistor and the resistance in the first inductor,

R_L is the value of the resistance of the inductive load,

ΔV_B is the positive-going change in voltage at the junction between the inductive load and the second switch, and

ΔI_c is the change in collector current in the first switch when it is turned from its on state to its off state,

to cause said rapid rise in current in the inductive load to be to a level substantially equal to a predetermined value of steady state current in the load.

3,377,519

MAGNETICALLY LATCHED SWITCH

Karl K. Stong, Whitefish Bay, Wis., assignor to Allen-Bradley Company, Milwaukee, Wis., a corporation of Wisconsin

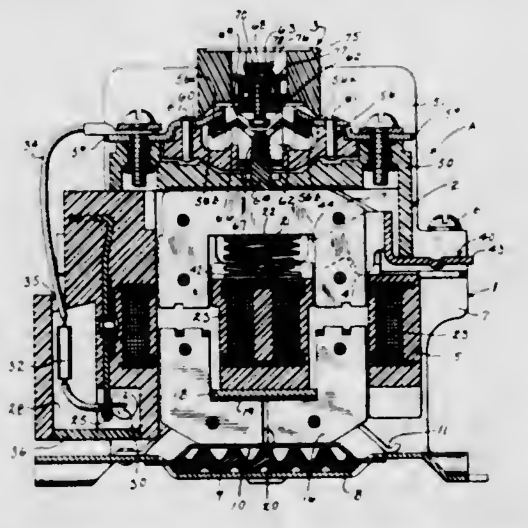
Filed Dec. 26, 1963, Ser. No. 333,324

13 Claims. (Cl. 317—157)

1. In combination with a magnetic switch comprising magnetic core means including a magnetically actuated armature means

- (a) a permanent magnet latch means used to maintain said switch in a closed position,
- (b) a plurality of electric conductor means connected between a coil means of said switch and a current source,
- (c) said coil means comprising
  - (1) a molded coil block means encapsulating said coil means and housing said core means,
  - (2) a hollow cavity formed in said block means,
  - (3) a plurality of coil terminal means molded into said block means and connected to said coil means,
  - (4) a first coil terminal means extending into said cavity,

- (d) a normally-closed switch means in said magnetic switch and in a first of said conductor means comprising,
  - (1) a housing means with internal, spaced apart, fixed contact means,
  - (2) connector means with internal ends carrying said fixed contact means and external ends which are symmetrical with respect to said housing means and include a single connection means, respectively, to permit lead connection as well as attachment of said housing to said magnetic switch,
  - (3) spanner guide means intermediate said fixed contacts which guide means carry a spanner means comprising movable contact means for engagement with said fixed contact means,
  - (4) said spanner means being located within said spanner guide means by a resilient means and an adjustable means so as to permit adjustment of engagement and disengagement between said fixed and movable contact means,
  - (5) said normally-closed switch means capable of becoming a normally-open switch means when inverted,
- (e) the combination of said coil block means and said magnetic core means being removably inserted into said magnetic switch,
- (f) stem means attached to said spanner guide means and responsive to motion of said armature means which at least causes said normally-closed switch to open with the closing of said magnetic switch,



- (g) spring means adjacent said stem means for biasing said guide means against said armature means,
- (h) a normally-open switch means in a second of said conduit means which normally-open switch closes upon the closing of said magnetic switch,
- (i) control means in said conductor means to reverse the polarity of said current source comprising
  - (1) rectifier means in said first and second conductor means and located in said hollow cavity of said coil block means,
  - (2) said first and second conductor means connected to said first coil means terminal,
- (j) operating switch means in said first and second conductor means to initiate opening and closing of said magnetic switch,
- (k) a third conductor means connected to a second coil means terminal,
- (l) lever means pivoted on said coil block means for mechanically moving said armature means and thereby opening said magnetic switch comprising
  - (1) spring means with a first end against which the armature must close and a second end abutting said coil block means,
  - (2) one end of said lever means inserted between said coil block means and said second end of said spring means.

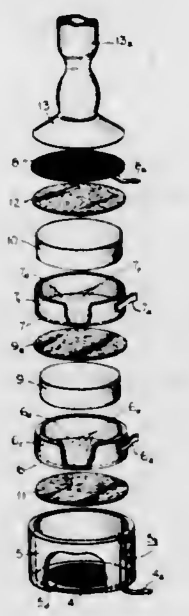
3,377,520

LOW DRIFT, HIGH TEMPERATURE SOLION CELLS

George M. Marcotte, Tewksbury, and Robert S. Norman, Marblehead, Mass., assignors to General Electric Company, a corporation of New York

Filed July 2, 1965, Ser. No. 469,154

12 Claims. (Cl. 317—231)



A low drift, high temperature solion cell has collinearly stacked, spaced electrodes and a redox electrolyte solution in a sealed envelope. Two electrodes define an integral chamber. A platinum-iridium alloy mesh electrode bonded to the envelope by portions thereof interstitially positioned in the mesh is spaced from another, relatively thin and flexible, perforated electrode. Quartz spacers and refractory oxide diffusion barriers provide critical spacing and electrode support.

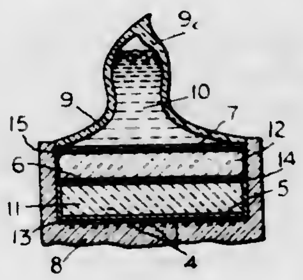
3,377,521

SOLION CELLS HAVING ELECTROLYTE FOR LOW-TEMPERATURE OPERATION

Clarence W. Hewlett, Jr., Hampton, N.H., assignor to General Electric Company, a corporation of New York

Filed July 2, 1965, Ser. No. 469,186

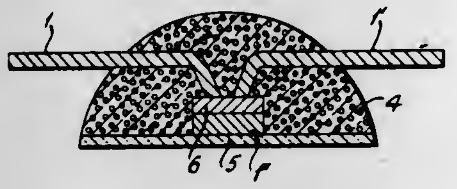
9 Claims. (Cl. 317—231)



A solion cell for low-temperature operation. A plurality of closely fitted, stacked elements including platinumiridium alloy electrodes are disposed in a glass envelope and surrounded with a eutectic aqueous solution of either iodine and sodium iodide or iodine, sodium iodide, and potassium iodide.

3,377,522
GLASS MOLDED TYPE SEMICONDUCTOR DEVICE

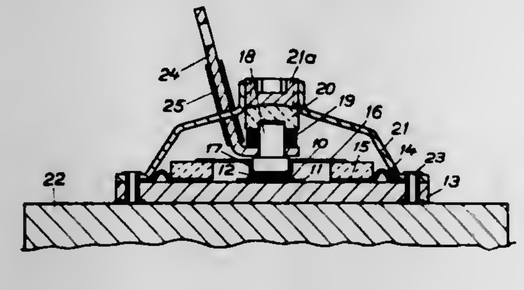
Shigeru Tsuji, Shinzo Anazawa, and Tsukasa Koyama, Tokyo, Japan, assignors to Nippon Electric Company, Limited, Tokyo, Japan, a corporation of Japan
Filed Nov. 24, 1964, Ser. No. 413,446
Claims priority, application Japan, Dec. 23, 1963, 38/69,379
4 Claims. (Cl. 317—234)



1. An improved semiconductor device comprising:
a semiconductor element having connecting leads, said element and portions of said leads being encapsulated in glass,
said glass having been formed from a composition including a low melting point glass and a porous solid substance that is substantially non-reactive with said low melting point glass,
and said glass being characterized by having substantially uniformly dispersed air bubbles throughout the same whereby a glass seal having an extremely low value of strain is produced around said semiconductor element.

3,377,523
SEMICONDUCTOR DEVICE COOLED FROM ONE SIDE

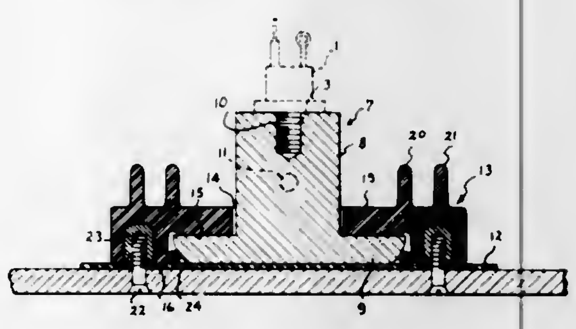
Nils Eric Andersson and Göran Lilja, Ludvika, Sweden assignors to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
Filed Sept. 9, 1965, Ser. No. 486,080
Claims priority, application Sweden, Sept. 28, 1964, 11,583/64
2 Claims. (Cl. 317—234)



1. A semiconductor device capable of carrying high currents comprising an element comprising a semiconductor wafer, said element having two major opposed surfaces and a casing, said casing comprising a metal base member engaging one of said major opposed surfaces and a cover attached to said metal base member, said cover and metal base member hermetically enclosed the semiconductor wafer, said cover comprising a first metal part attached to the metal base member and a second part comprising a body of insulating material attached to said first metal part and a second metal part attached to the second part of insulating material and overlying said metal base member and being in engagement with the other of said major opposed surfaces, said metal base member being in direct contact with a cooling body, a closed metal cap having an opening therein and overlying said cover and electrically insulated from said second metal part, said cap having a peripheral portion attached to said metal base member, a counter-electrode extending between said cap and said second metal part, a body of insulating material beneath the cap electrically insulating the second metal part from the closed cap, spring means located between said cap and said second metal part for pressing said counter-electrode into pressurized engagement with said second metal part, and a connection conductor attached to said counter-electrode and extending through said opening to the outside of said cap and being separated from said cap at said opening by insulating material.

3,377,524
MOUNTING ARRANGEMENT FOR SEMI-CONDUCTOR DEVICES

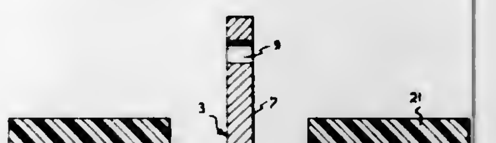
Donald D. Bock and Alvin L. Gardner, Erie, Pa., assignors to General Electric Company, a corporation of New York
Filed Sept. 30, 1965, Ser. No. 491,580
10 Claims. (Cl. 317—234)



The invention is directed to a mounting of a semiconductor device on a heat sink by means of a thermally conducting intermediate body that, while electrically insulated from the heat sink, transfers heat from the semiconductor device to the heat sink.

3,377,525
ELECTRICALLY INSULATED MOUNTING BRACKET FOR ENCASED SEMICONDUCTOR DEVICE

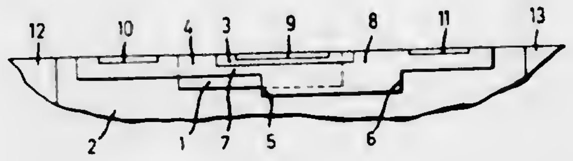
Robert B. Bradstock, Erie, Pa., assignor to General Electric Company, a corporation of New York
Filed Dec. 3, 1965, Ser. No. 511,433
3 Claims. (Cl. 317—234)



A mounting assembly, for an encased semiconductor device, including: a metal support having means for readily detachably mounting the semiconductor device thereon and having a substantial heat transfer surface; a metal backing plate having a first surface spaced from the support heat transfer surface by a thin film of electrical insulation and having a second surface adapted to abut a heatsink; and, a body of thermoset resin engaging and securing the support and backing plate in integral assembled relationship and establishing a relatively long creepage path therebetween.

3,377,526
VARIABLE GAIN TRANSISTOR STRUCTURE EMPLOYING BASE ZONES OF VARIOUS THICKNESSES AND RESISTIVITIES

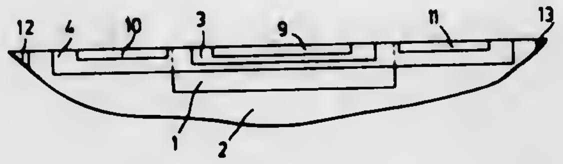
Julian Robert Anthony Beale, Reigate, Andrew Francis Beer, Crawley, and Kenneth William Moulding, Horley, England, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 15, 1964, Ser. No. 418,414
8 Claims. (Cl. 317—235)



1. A bipolar transistor comprising a semiconductor body having emitter, base, and collector zones of alternate conductivity type forming at least two p-n junctions, said emitter, base, and collector zones being arranged in series with the base zone contiguous with and underneath the emitter zone and the collector zone underneath the base zone, the thickness of the base zone being defined as its smallest dimension between the junctions in the series direction of the zones, the portion of said base zone lying underneath the emitter zone being divided into at least two transverse regions of different thickness with each of said regions having a uniform thickness and being contiguous with the base zone, connections to the emitter and collector zones, a first base connection to the thicker region of the base portion, a second base connection to the thinner region of the base portion, means for biasing the emitter zone to inject carriers into the base zone, means for biasing the collector zone to collect carriers from the base zone, and means for applying a bias voltage between the first and second base connections to establish a transverse electrical field in the base portion and selectively control the injected carrier flow principally through the thicker or thinner base regions.

3,377,527
LOW CAPACITY AND RESISTANCE TRANSISTOR STRUCTURE EMPLOYING A TWO-CONDUCTIVITY COLLECTOR REGION

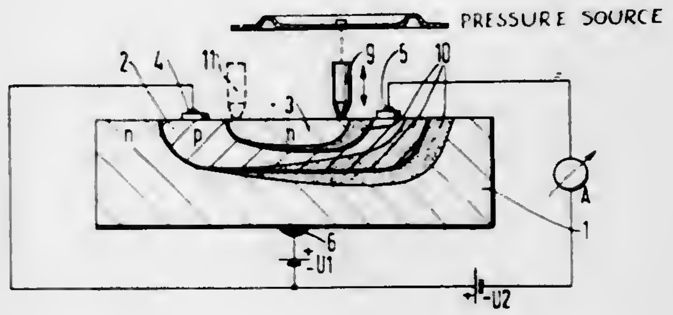
Julian Robert Anthony Beale, Reigate, and Andrew Francis Beer, Crawley, England, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 15, 1964, Ser. No. 418,446
11 Claims. (Cl. 317—235)



A transistor in which the collector zone is divided into two regions of different conductivity each of which is contiguous with the base zone. The collector zone having the higher conductivity is located at least in part directly opposite the emitter zone. This construction provides a transistor exhibiting reduced collector series resistance without a corresponding excessive increase in collector capacitance. The construction is especially useful with planar transistor types.

3,377,528
FIELD-EFFECT PRESSURE TRANSDUCER

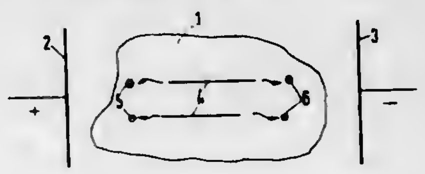
Hans-Norbert Toussaint, Munich, and Friedrich Krieger, Gilching, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany
Filed Feb. 26, 1965, Ser. No. 435,478
Claims priority, application Germany, Feb. 28, 1964, S 89,744
9 Claims. (Cl. 317—235)



1. Field-effect transistor, comprising a semiconductor body having three regions of alternately opposed conductivity type forming two pn junctions therebetween and having two terminal electrodes spaced from each other on the intermediate one of said regions and defining between each other a current path having a resistance dependent upon space charges, and means for subjecting said body to variable pressure, said means comprising an electrically insulated hard pressure point in pressure engagement with said body in a space charge region.

3,377,529
SEMICONDUCTOR DEVICE WITH ANISOTROPIC INCLUSIONS FOR PRODUCING ELECTROMAGNETIC RADIATION

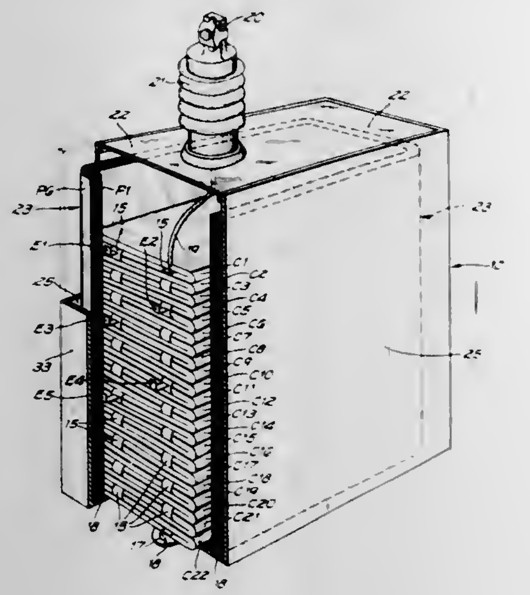
Herbert Weiss, Nurnberg, Germany, assignor to Siemens Aktiengesellschaft, Berlin, Germany, a corporation of Germany
Filed Oct. 4, 1965, Ser. No. 492,588
9 Claims. (Cl. 317—237)



Device for producing electromagnetic radiation includes a semiconductor body comprising a semiconductor material, a pair of conductive plates respectively adjacent opposite ends of the semiconductor body and adapted to have a voltage applied therebetween and a plurality of anisotropic substantially needle-shaped relatively good electrical conductivity inclusions contained in the semiconductor body, the inclusions being disposed in substantially parallel spaced relationship and aligned substantially perpendicularly to the surfaces of the plates and forming barrier contacts between the inclusions and the semiconductor material whereby upon application between the plates of a unidirectional voltage of a given polarity, opposite conductivity type charge carriers are injected into the semiconductor material at the respective ends of the inclusions, the charge carriers combining to produce the resulting emission of radiation and whereby upon reversing of the applied voltage polarity, the charge carriers are injected in reverse types at the ends of the inclusions into the semiconductor material and combine to produce the resulting emission of radiation.

3,377,530
HIGH PONTENTIAL CAPACITOR

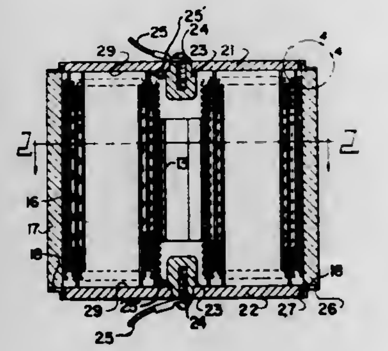
Ralph C. Meyers, New Berlin, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed May 24, 1966, Ser. No. 552,451
7 Claims. (Cl. 317—242)



A high voltage capacitor having a metallic casing and a plurality of series connected capacitor packs, one end of which is connected to the casing and the other end to a high voltage bushing. An insulating envelope surrounding the capacitor packs and including a plurality of interleaved layers of insulation and conductive stress grading layers wherein the stress grading layers increase in area and are connected to capacitor packs of decreasing potential as they progress radially outwardly to uniformly stress the layers of insulating material.

3,377,531
VACUUM CAPACITOR

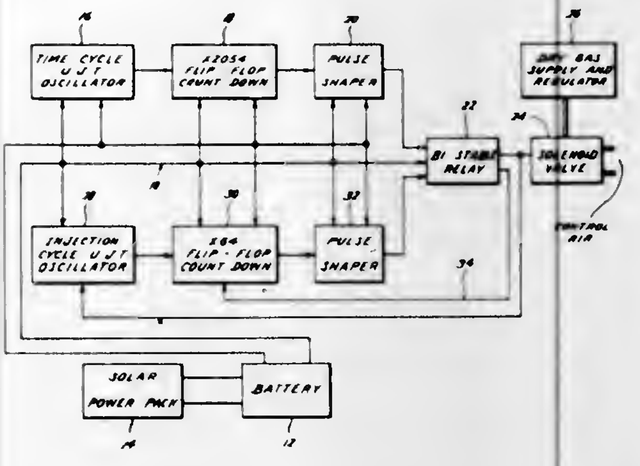
Wesley N. Lindsay, San Jose, Calif., assignor to Jennings Radio Manufacturing Corporation, San Jose, Calif., a corporation of Delaware
Continuation of applications Ser. No. 326,696, Nov. 29, 1963, and Ser. No. 540,102, Apr. 4, 1966. This application Mar. 24, 1967, Ser. No. 625,879
10 Claims. (Cl. 317—244)



An electrode structure for hermetically sealed and vacuum capacitors utilizes an elongated strip of electrically conductive metal wound to provide free-standing spaced spiral turns. The free-standing spiral turns of one electrode are interleaved with the free-standing spaced turns of an opposed electrode. In another aspect of the invention quartz cloth may be interposed between the adjacent free-standing spiral turns of the two opposed electrodes.

3,377,532
TIME CYCLE CONTROLLER

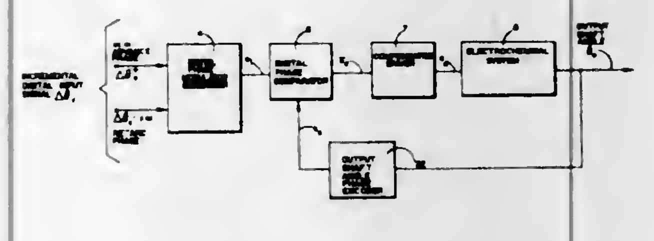
Bobbie R. Lane and Billy E. Davis, Houston, Tex., assignors to Camco, Incorporated, Houston, Tex., a corporation of Texas
Filed Aug. 27, 1965, Ser. No. 483,289
1 Claim. (Cl. 317—262)



A low power consumption gas lift timing controller operating from a battery having a timing cycle oscillator, a first flip flop divider circuit for selecting a timing cycle and actuating a first pulse shaper which in turn actuates a bi-stable relay to control a solenoid valve for supplying flow of gas to the well, and an injection cycle oscillator which is also time controlled by a second flip flop divider circuit which in turn is connected to a second pulse shaper for deactuating the bi-stable relay, and a resetting circuit.

3,377,533
CONTROL SYSTEM FOR POSITIONING A SHAFT IN RESPONSE TO AN INCREMENTAL DIGITAL INPUT SIGNAL

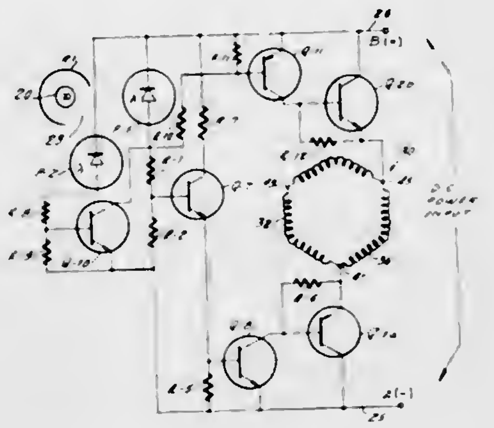
Charles E. Lenz, Fullerton, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware
Filed Sept. 10, 1964, Ser. No. 395,530
3 Claims. (Cl. 318—18)



A control system for positioning a shaft in response to an incremental digital input signal. A digital phase modulated generator accepts an incremental input signal and in response thereto adds or subtracts pulses from a clock pulse train, thereby providing a square wave having a phase indicative of the input signal. A digital comparator compares the phase of this square wave with the phase of a shaft position indicating signal. The comparator then appropriately increments or decrements a reversible step counter. The digital outout of the step counter, indicative of error in shaft position, is converted to analog form, processed by a compensated driver system and applied to a motor which drives the shaft in a direction minimizing shaft position error. The shaft position signal is generated by an Inductosyn receiving as inputs a pair of square waves having a constant 90° phase difference.

3,377,534
BRUSHLESS D.C. MOTOR

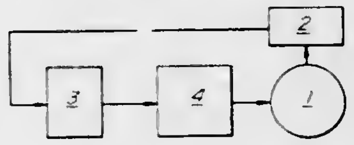
Roy K. Hill, Bristol, Tenn., assignor to Sperry Rand Corporation, Sperry Farragut Company Division, Bristol, Tenn.
Continuation-in-part of application Ser. No. 228,849, Oct. 8, 1962. This application Feb. 1, 1966, Ser. No. 524,016
11 Claims. (Cl. 318—138)



1. A device of the class described comprising a D.C. supply, a torque producing unit, a static switching means; said unit including a rotor and a stator; said switching means operatively connected to said stator for controlling energization thereof– said stator having a main winding means including a plurality of coil portions joined to said switching means at a plurality of juncture points in a closed loop circuit; said D.C. supply having a positive and a negative terminal; said switching means including a first and a second group of sections; each of said juncture points connected to said positive terminal by an individual section of said first group; each of said juncture points connected to said negative terminal by an individual section of said second group; said control means including a radiation producing source and directing means for controlling radiation emanating from said source; each of said sections including an element sensitive to said radiation emanating from said source; said directing means including a portion mounted for rotation by said rotor and constructed to control impingement of said radiation from said source upon selected ones of said elements as a function of rotor position; each of said sections presenting a relatively low impedance to current flow from said D.C. supply through said stator upon impingement of said radiation on its respective element and essentially blocking said current flow under other conditions; said portion being physically spaced from said switching means and operatively positioned to control operation thereof whereby for any given position of said rotor predetermined ones of said juncture points are provided with low impedance connections to said terminals and all of said coil sections are energized with directions of respective currents in said coil sections being a function of rotor position; said portion constructed to subject at least two of said elements to said radiation from said radiation producing source for all positions of said rotor; said elements positioned so that for any given position of said rotor said switching means provides a complete low impedance connection for D.C. current flow from said D.C. supply through said main winding means; said plurality of juncture points being an odd number no less than three; said elements positioned so that for any given position of said rotor a section from each of said groups presents a low impedance connection between said main winding means and said D.C. supply; for a first zone of angular positions of said rotor said plurality of coil portions providing first and second parallel parts of low impedance current paths between said terminals of said D.C. supply; said first part having an impedance greater than the impedance of said second part.

3,377,535
METHOD AND APPARATUS FOR CONTROLLING SPEED OF A DC MOTOR OF BRUSHLESS TYPE

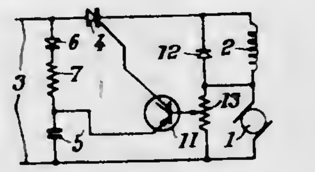
Shine Yasuoka, Toyonaka-shi, Yutaka Tanaka, Kobe, and Sakon Nagasaki, Daito-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Continuation-in-part of application Ser. No. 313,473, Oct. 3, 1963. This application Aug. 23, 1966, Ser. No. 574,402
Claims priority, application Japan, Oct. 25, 1962, 37/47,721, 37/47,722; Dec. 28, 1962, 37/80,679
7 Claims. (Cl. 318—138)



A speed control for a brushless DC motor having a permanent magent rotor, a control coil, a drive coil, a switching circuit and means for adjusting the phase difference between the drive current and magnetic flux of the rotor in accordance with either the motor speed or power source voltage.

3,377,536
ELECTRIC DRIVING DEVICE WITH CONTROLLED SPEED

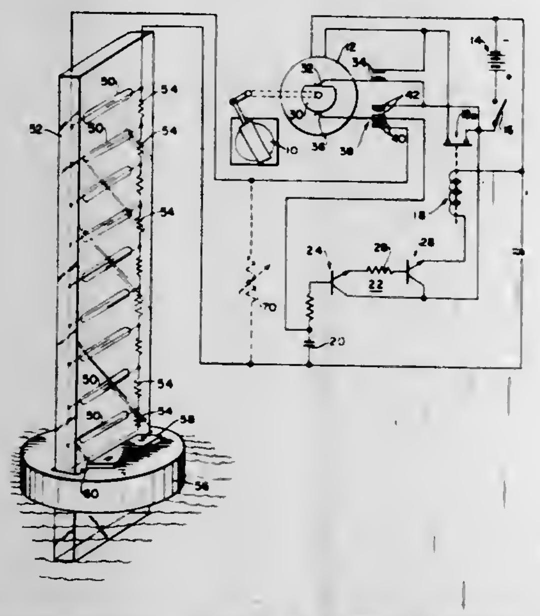
Jean-Michel Bacquart, Antony, France, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 15, 1965, Ser. No. 432,460
17 Claims. (Cl. 318—246)



1. A control circuit for a commutator motor having an armature winding and a field winding connected in series comprising, a controlled rectifier having first and second electrodes which define a current path therein and a control electrode for initiating current flow in said path, a pair of input terminals arranged to be connected to a source of alternating current, means connecting said motor in a first series circuit with said first and second electrodes of said controlled rectifier across said input terminals, the first electrode being directly connected to one of said input terminals, a first resistor and a capacitor connected in a second series circuit across said input terminals and in parallel with said first series circuit so that said capacitor is charged to a given voltage level during a portion of the period said controlled rectifier is nonconductive, means including a device having a given threshold voltage coupled to said control electrode and responsive jointly to the voltage across said capacitor and the induced voltage in the motor armature for controlling the ignition point of said controlled rectifier in accordance therewith, and circuit means shunting said field winding so as to provide a circulating current path for the energy of said field winding during said non-conductive periods of the controlled rectifier.

3,377,537
ELECTRIC PUMPING SYSTEM CONTROLLED BY R-C LIQUID LEVEL MEASURING DEVICE

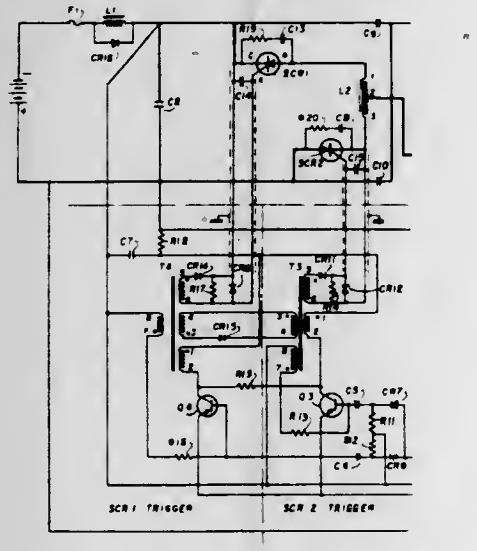
**Harrison D. Brailsford, 670 Milton Road,
Rye, N.Y. 10580
Filed Apr. 6, 1965, Ser. No. 445,968
6 Claims. (Cl. 318—444)**



1. In combination, a motor; a source of electric current to drive said motor; first switching means connected between said motor and said source to control the transmission of driving current to said motor, said switching means comprising a relay and means to control the operation of said relay, said means comprising a capacitor, discharging resistor means, and second switching means to connect said capacitor to said discharging resistor means during at least part of the time that said motor is running and to connect said capacitor to receive an electric charge during at least part of the time that said motor is not running.

3,377,538
REGULATED CONVERTER

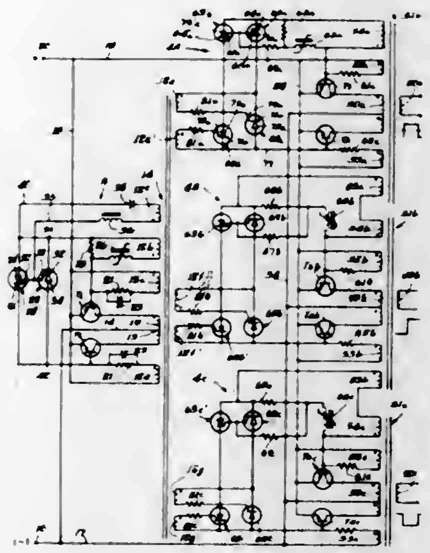
**Frederick A. Stich, Addison, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Mar. 7, 1966, Ser. No. 532,222
11 Claims. (Cl. 321—2)**



1. A power supply for supplying a regulated direct current voltage to a pair of load terminals at a different value than that of a source of direct current comprising: a pair of controlled rectifiers connected in series with a center tapped inductor between said rectifiers and across said direct current source where said direct current source includes a first and a second terminal, a first transformer having a primary and a secondary winding, said primary winding having one terminal capacitively coupled to both terminals of said source and the other terminal connected to said inductor center tap, said secondary winding connected to a rectifier means to supply a DC current to a load, a first saturable reactor having a sense and a control winding, said sense winding of said saturable reactor connected across the load, an oscillator, a binary pulse dividing amplifier arranged to alternately fire each said controlled rectifier means to apply said oscillator output to said amplifier, and means including said control winding of said saturable reactor to block said binary amplifier output.

3,377,539
POLYPHASE INVERTER

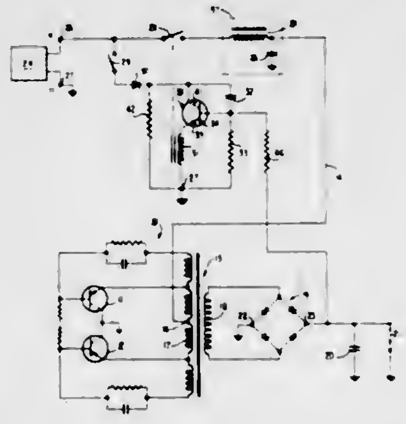
**James W. Bates, Palos Verdes, Calif., assignor to Gulton Industries, Inc., Metuchen, N.J., a corporation of New Jersey
Continuation of application Ser. No. 230,078, Oct. 12, 1962. This application June 29, 1966, Ser. No. 562,937
6 Claims. (Cl. 321—5)**



1. A polyphase inverter system operating from a source of DC voltage for generating a number of signals at a frequency $f1$ having respectively different phases, said circuit comprising: a source of DC voltage; master and slave inverter circuits for respectively generating reference phase and dependent phase signals, each of the inverter circuits including an output transformer having primary and secondary winding means, switch means for alternately coupling current from said source of DC voltage in opposite directions through said primary winding means upon successive actuations thereof, wherein an AC signal is induced in the secondary winding means, the output transformer of each inverter circuit having a saturable core and feedback and additional winding means thereon, said switch means of each inverter circuit comprising electronic switching devices each with control and load terminals, means connecting the feedback winding means of each output transformer with the control terminals of the associated switch means for forming a square wave multivibrator circuit with a free running frequency which is slightly lower than the desired output frequency $f1$ of the inverter circuit and where the switch means are operated in opposite conductive states and reversal of the conductive state of one of the switch means will trigger the multivibrator circuit to reverse the conductive states of the switch means; a common oscillator energized from said source of DC voltage and providing a signal output for synchronizing the actuation of said inverter switch means and having a frequency which is an integral number of times higher than the frequency $f1$; respective switch control means for controlling the actuation of the switch means of the various inverter circuits in a predetermined time sequence at the frequency $f1$, the switch control means of each inverter circuit including reverse parallel connected gated diodes having control and load electrodes, the load electrodes of the gated diodes being coupled to at least part of the additional winding means of the associated output transformer to prepare a different one of the gated diodes for firing each half cycle of the inverter circuit output and coupled to the control terminals of the associated switch means to effect triggering of the multivibrator circuit involved when one of the gates diodes is fired, and means coupling the output of said common oscillator to the control electrodes of the gated diodes of each inverter circuit; said switch control means of each slave inverter circuit including switch operation prepare means responsive to the reversal of the AC signal in the output of the inverter circuit which operates immediately ahead of it for preparing the associated switch means for subsequent actuation by the output of said common oscillator fed thereto, said switch operation prepare means of each slave inverter circuit including means coupling at least part of the additional winding means of the inverter circuit which operates immediately ahead of it to prepare one of the gated diodes of the slave inverter circuit involved for firing by a subsequent half cycle of the common oscillator output; and the switch control means of said master inverter circuit including frequency determining means operating completely independently of the slave inverter circuits for effecting successive actuation of the master inverter switch means independently of the slave inverter circuits at intervals encompassing a predetermined number of half cycles of the output of said common oscillator, said frequency determining means including means for delaying the effect of the voltage in the additional winding means of the master inverter circuit output transformer on the gated diodes of the master inverter circuit for several half cycles of the common oscillator output.

3,377,540
OVERLOAD PROTECTION CIRCUIT FOR SOLID STATE POWER SUPPLIES

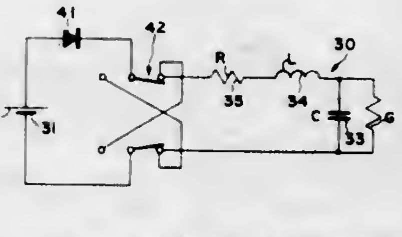
**Karl H. Meyer, Kinnelon, N.J., assignor to Aircraft Radio Corporation, Boonton, N.J., a corporation of New Jersey
Filed Aug. 13, 1965, Ser. No. 479,407
3 Claims. (Cl. 321—11)**



An overload protection circuit in which charging current to a capacitor is utilized to cause a transistor to conduct and energize a relay to close contacts connecting the source to a direct current power supply. A portion of the direct current voltage supplied to a load from the power supply is applied to the transistor to maintain its conduction and hence maintain energization of the relay and supply voltage to the power supply. A switch controlling the charging of the capacitor through a reverse current diode must be opened to allow the capacitor to discharge through a resistor and then reclosed in order to restart the circuit.

3,377,541
VOLTAGE MULTIPLYING INVERTER/ CONVERTER SYSTEM

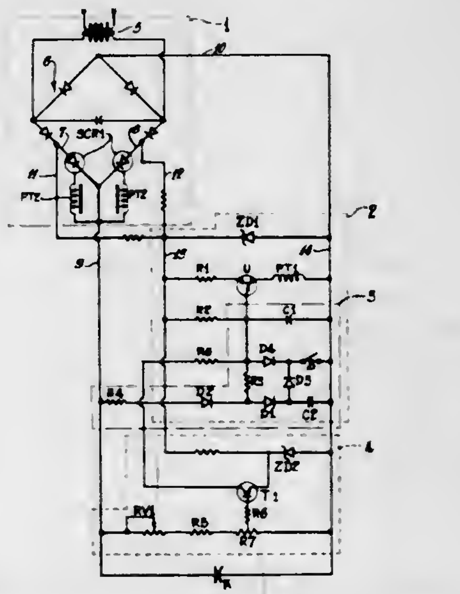
**Zoltan D. Farkas, 2053 Princeton St.,
Palo Alto, Calif. 94306
Filed Mar. 7, 1966, Ser. No. 532,437
2 Claims. (Cl. 321—15)**



1. A high voltage generating apparatus comprising, in combination: a source of unidirectional current; a resonant circuit including a resistor, a capacitor and an inductor connected in series, said circuit having a damped resonance frequency with a given one half cycle period and a double pole double throw means for connecting said source of unidirectional current first across said circuit to direct current in said circuit in one direction for said given period and then after an arbitary time interval across said circuit to direct current in said circuit in a direction opposite to said one direction for said given period whereby high voltage can be built up across the capacitor in said circuit in discrete steps each time the current in said circuit is reversed, ultimately reaching a limiting value which is greater than the voltage of the unidirectional current source by a large factor.

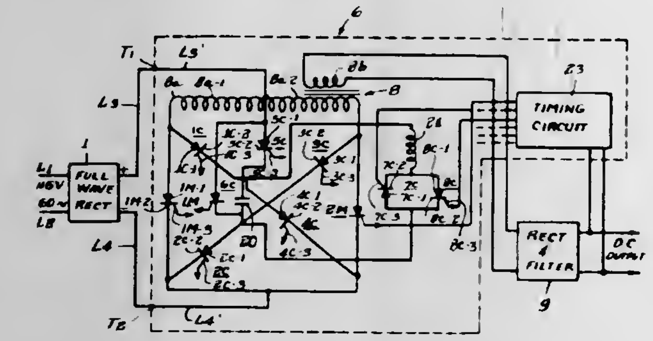
3,377,542
VOLTAGE REGULATION CIRCUIT UTILIZING GRADUAL SLOPE CONTROL

**Paul A. Glorioso, Amherst, Ohio, assignor to Gregory Industries, Inc., Lorain, Ohio, a corporation of Michigan
Filed Apr. 16, 1965, Ser. No. 448,737
14 Claims. (Cl. 321—18)**



A voltage regulation circuit incorporates gradual slope control and limits maximum current in the event of a malfunction. The circuit is particularly useful in charging capacitors for capacitor discharge welding apparatus. An auxiliary circuit including an auxiliary power source uses a control capacitor for controlling the output of the main power source connected to the capacitor to be charged. A second capacitor in series with the control capacitor regulates the time in which the control capacitor reaches its operating charge. The main power source takes over the charging of the control capacitor when its output exceeds the output of the auxiliary power source. In the event of a malfunction, such as a short in the capacitor being charged, the capacitor cannot be charged above the output of the auxiliary power source. Finally, the circuit of the invention utilizes a transistor and a variable resistor for partially draining the control capacitor to control the voltage to which the main capacitor is charged.

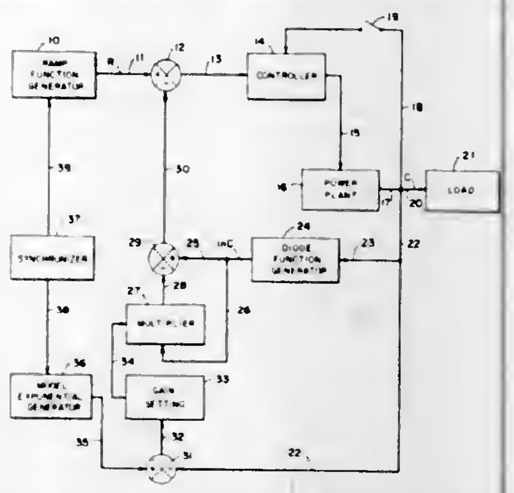
3,377,543
HIGH POWER CONVERTER
Victor Wouk, New York, N.Y., assignor, by mesne assignments, to Gulton Industries, Inc., Metuchen, N.J., a corporation of New Jersey
Filed Dec. 16, 1964, Ser. No. 418,772
11 Claims. (Cl. 321—45)



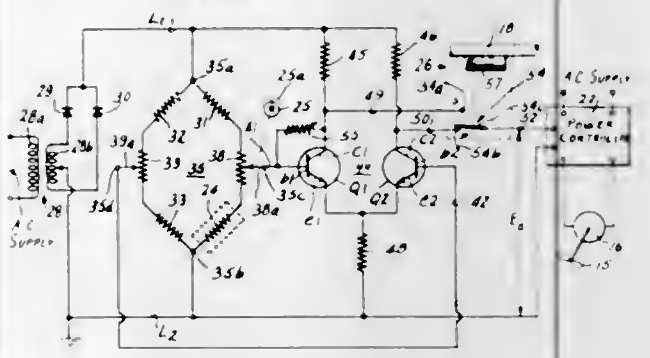
A DC to AC converter circuit having a pair of DC input terminals and a transformer having a center tapped primary winding and a secondary winding, the center tap on said primary winding being connected to one of said DC input terminals, and a pair of unidirectional main load current carrying switch devices each being triggerable into a stable high conductive state where current flows readily only in one direction and which remains in the conductive state until current is interrupted or a DC counter voltage opposing such current flow is applied thereto, is provided with means connecting said main load current carrying switch devices respectively between the ends of said primary winding and the other DC input terminal wherein conduction of one of the devices passes current in one direction through one half of the primary winding and conduction of the other device passes current in the opposite direction through the other half of said primary winding. The switch devices are alternately triggered into conductive states and each conductive switch device is turned-off by means including a capacitor which is periodically charged to said DC counter voltage through switch means which normally isolate the capacitor from load current and periodically connect the charged capacitor across the currently conducting switch device and in series circuit relationship with the associated half of the primary winding and DC terminals, so the capacitor discharges through the winding and is in voltage aiding relationship with the voltage on the DC input terminals.

3,377,544
ADAPTIVE EXPONENTIAL GENERATOR
Loren L. Dickerson, Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Army
Filed May 20, 1965, Ser. No. 457,534
7 Claims. (Cl. 322—28)

A high-power generator capable of delivering an exponential output. The output is generated in response to a linear signal input, by using a logarithmic feedback in controlling the generator.



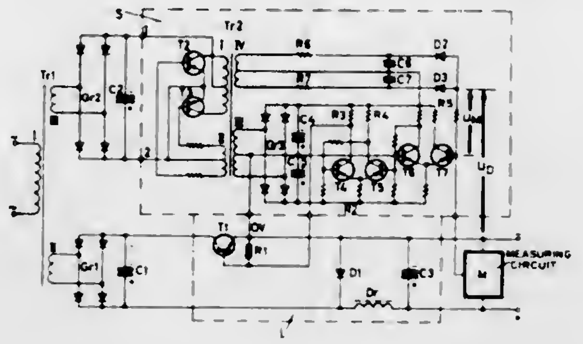
3,377,545
THERMOSTATIC TRANSDUCER FOR WINTER AND SUMMER OPERATION
Theodore J. Tveit, Rockford, Ill., assignor to Barber-Colman Company, Rockford, Ill., a corporation of Illinois
Filed Jan. 17, 1966, Ser. No. 521,196
6 Claims. (Cl. 323—19)



2. In a thermostatic transducer for winter and summer operation, the combination comprising a temperature-sensitive electrical element whose impedance varies according to its environmental temperature, a bridge circuit having two input terminals adapted for connection to a voltage source and having two output terminals, said bridge circuit including three electrical impedance elements and said temperature-sensitive element connected in a bridge configuration between said input and output terminals, a differential amplifier having two input leads and two output leads with the input leads connected respectively to said bridge circuit output terminals, and a single-pole, double-throw changeover switch having two input contacts and a common output contact, said input contacts being connected respectively to said output leads; whereby the sense of the proportional change in the signal at said output contact in response to a change in the said environmental temperature is in one sense or the other when said changeover switch is respectively thrown to one or the other of its two positions.

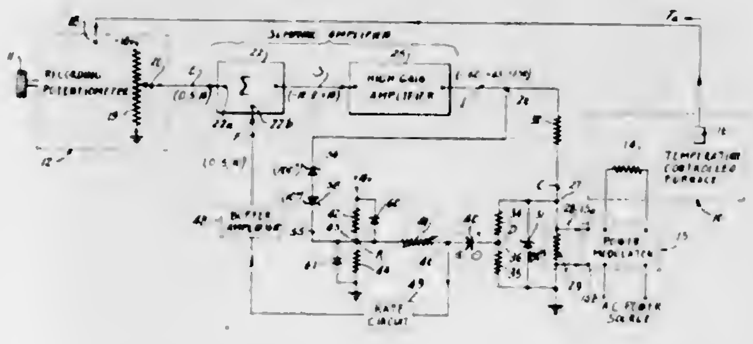
3,377,546
CIRCUIT ARRANGEMENT FOR CONTROLLING A SWITCHING TRANSISTOR IN A D.C. CONTROL CIRCUIT
Heinrich Schott, Munich-Solln, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany
Filed Sept. 16, 1964, Ser. No. 396,982
Claims priority, application Germany, Sept. 19, 1963, S 87,400
2 Claims. (Cl. 323—22)

A method of stabilizing a direct voltage with an adjusting transistor lying in the series branch of the stabilization circuit, a choke serving as energy storage, and a diode arranged in a transverse branch, operative to effect a periodic switching back and forth of the input side of the choke between the two input terminals of the circuit, the adjusting transistor being controlled in dependence on the output voltage, comprising the steps of



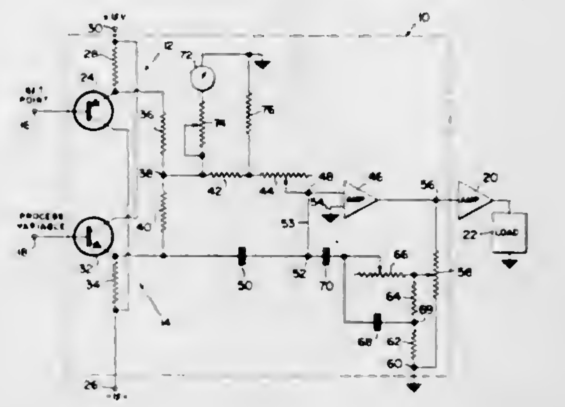
controlling the adjusting transistor by rectangular control oscillations of constant period duration and amplitude generated in a control circuit, and superimposing a triangular auxiliary voltage of constant period duration on a voltage proportional to the stabilized output voltage to alter the keying ratio of such oscillations in dependence on the input voltage of the stabilization circuit.

3,377,547
AUTOMATIC AC POWER CONTROL SYSTEM WITH RESET WINDUP PREVENTION
Gunnar F. Ohlson, Rockford, Ill., assignor to Barber-Colman Company, Rockford, Ill., a corporation of Illinois
Filed Mar. 12, 1965, Ser. No. 439,221
14 Claims. (Cl. 323—100)



An automatic condition-controlling system having reset action (with or without rate action) and wherein "reset windup" is alleviated by lessening or inhibiting the maximum or minimum swing of a reset signal which varies as a time integral function of the error. The inhibiting of the reset signal is made proportional to the amount by which the internal error signal exceeds or falls below first and second fixed threshold values which are established by back-to-back Zener diodes and which lie outside the range through which the internal error signal varies during operation of the system within the proportional band. When either Zener diode conducts, it reduces the maximum magnitude to which a capacitor can charge by changing the value of an anti-reset signal which otherwise has a reference value. Excessive inhibition, which would reverse the polarity of the reset signal, is prevented by clamping diodes which limit further changes in the anti-reset signal if the internal error signal should swing beyond the threshold values by more than predetermined amounts. The alleviation of reset windup is achieved by very simple circuits and circuit components solely in response to the internal error signal.

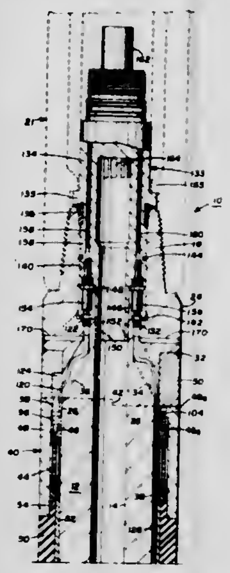
3,377,548
PROCESS CONTROLLER PROVIDING RAPID OR GRADUAL VARIATIONS IN ITS OUTPUT SIGNAL
William F. Newbold, Springfield Township, Montgomery County, Pa., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Mar. 4, 1966, Ser. No. 531,718
12 Claims. (Cl. 323—100)



11. An electronic controller circuit comprising, in combination,
first and second summing junctions,
a high gain electronic direct current amplifier having a signal input circuit including said second summing junction and an output circuit,
a negative feedback network interconnecting said output circuit and said second summing junction in a current summing operational amplifier configuration,
input means for applying a first and a second input signal to said first summing junction thereby balancing one signal against the other,
first impedance means connecting said first and second summing junctions,
second impedance means connecting said input means for said first input signal to said second summing junction, and
said feedback network including impedance means responsive to the time rate of change of signals from said amplifier, whereby the application of said first input signal passes directly to said second summing junction through said second impedance means for establishing a characterized amplifier output whose feedback to said second summing junction is delayed by said feedback network impedance means as a function of the rate of change of the output signal from said amplifier, and wherein the application of said second input signal passing from said first summing junction through said first impedance means to said second summing junction is effective when said first and second input signals are unbalanced to establish a gradually varying amplifier output.

3,377,549
COIL ASSEMBLY STRUCTURE AND MOUNTING FORMING AN ANNULAR CHAMBER TO BE MOUNTED AND SEALED ON A DRILL COLLAR
James L. Newman, Richardson, William F. Osborn, Dallas, Fletcher H. Redwine, Irving, and Paul J. Arnerich, Dallas, Tex., assignors to Arps Corporation, Garland, Tex., a corporation of Delaware
Filed Dec. 23, 1964, Ser. No. 420,544
9 Claims. (Cl. 324—6)

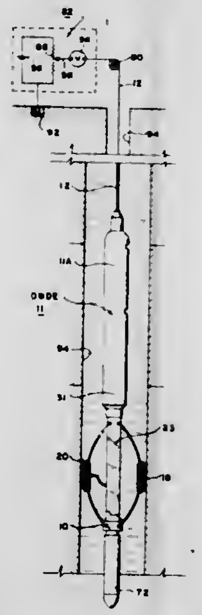
An apparatus for measuring formation resistivity while drilling having coil assemblies in the region of the drilling bit which is enclosed in fluid filled metallic chambers while avoiding a complete metallic electrically conductive path linked to the coil assemblies by employing open-ended annular chambers for the coil assemblies spaced apart with compression applied to resilient closures to retain the integrity of both assemblies while sealing the open-ended chambers.



3,377,550
APPARATUS AND METHOD FOR OBTAINING SELF-POTENTIAL LOGS OF BOREHOLES DRILLED WITH A NON-AQUEOUS DRILLING FLUID

Joseph S. Osoba and Robert C. Rumble, Houston, Tex., assignors, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware

Filed Sept. 14, 1964, Ser. No. 396,215
4 Claims. (Cl. 324—10)

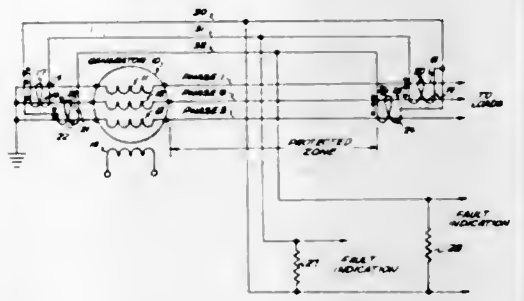


1. A method of producing a self-potential log for locating a hydrocarbon productive earth formation comprising the steps of:
drilling a borehole using the rotary drilling technique with a non-aqueous drilling fluid;
continuously moving through the borehole a reservoir containing an electrolyte solution;
while said reservoir is moving concurrently isolating from the interior of the borehole a portion of the borehole wall proximate to the reservoir;
concurrently flowing said electrolyte solution at a constant flow rate from the reservoir to the isolated portion of the borehole wall and measuring the formation self-potential produced thereby; and
producing a record of the measured self-potential as a function of depths in the borehole at which self-potential measurements are taken.

3,377,551
MULTIPHASE CURRENT TRANSFORMER FAULT INDICATOR

William A. Le Doux, Afton, Va., assignor to General Electric Company, a corporation of New York

Filed June 26, 1964, Ser. No. 378,336
5 Claims. (Cl. 324—51)

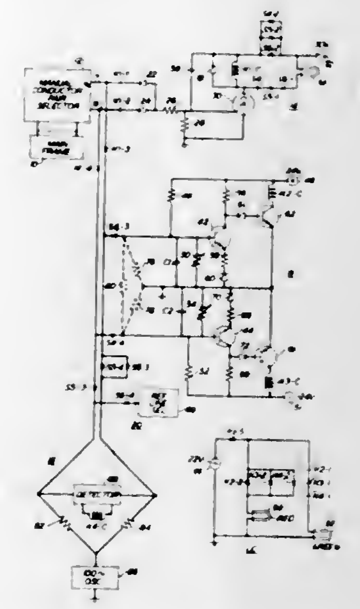


1. A line to line and line to neutral fault detector for a multiphase system, comprising
a plurality of current transformers,
a different pair of system phase lines serving as the primary windings for each transformer, such that one phase line of each of said pairs serves as a primary winding for only one of said transformers and the other phase line of each of said pairs serves as a common primary winding for two of said transformers,
each of said transformers having a secondary winding,
a reference circuit,
and means coupling said secondary windings to said reference circuit to provide an indication of a fault in response to current in said secondary windings that exceeds a magnitude determined by said reference circuit.

3,377,552
MEANS AND METHOD FOR TESTING IMPEDANCES BETWEEN A PLURALITY OF CONDUCTORS

Roger D. Baum, Piscataway Township, Middlesex County, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 17, 1964, Ser. No. 411,733
10 Claims. (Cl. 324—51)

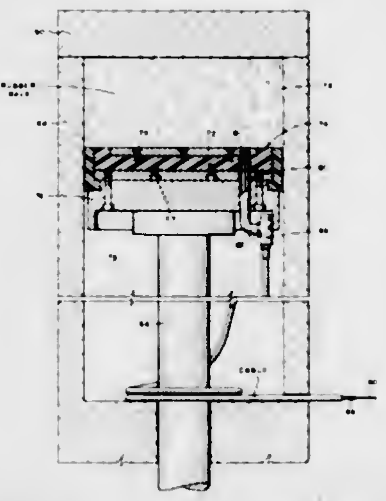


1. A test instrument for testing impedance values between three conductors, comprising engagement means forming three points for establishing connections between each of said conductors and a different one of said three points, first and second impedance means each connected to a different one of two of said points, voltage means having an intermediate-value connection connected to said third point and having two extreme connections each connected to a different one of said impedance means for establishing at said first two points respective voltages one of which is more positive and one more negative than the voltage at said third point, and two measuring means each connected to a different one of said first two points and the third point.

3,377,553
MOISTURE CONTENT DETERMINING DEVICE HAVING A PRESSURE-OPERATED CAPACITOR MEMBER

James G. Lillard and Arnold R. Zubik, Baytown, Tex., assignors, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware

Continuation of application Ser. No. 326,826, Nov. 29, 1963. This application July 20, 1966, Ser. No. 566,713
1 Claim. (Cl. 324—61)



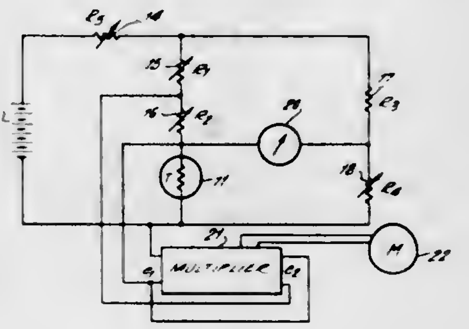
1. A system for use in indicating the moisture content of a particulate material under pressure comprising:
wall means forming a chamber with an open top for receiving the particulate material;
a pressure-operated cover member movable horizontally from a retracted position to a position to close the top of the chamber, said cover member and a portion of said chamber constituting a portion of one plate of a capacitor;
a hydraulic pressure-operated member mounted in the chamber to move vertically which supports the particulate material and applies pressure to the particulate material when actuated;
an insulating dielectric mounted on the pressure-operated member;
a capacitor plate mounted on the insulating dielectric, the dimensions of the capacitor plate and the dimensions of the insulating dielectric being such that the capacitor plate is insulated from the pressure-operated member; and
electrical means operatively connected to each of said capacitor plates for indicating the capacitance of the particulate material under pressure.

3,377,554
DISSIPATION CONSTANT DETERMINING DEVICE INCLUDING A MULTIPLIER CIRCUIT

Meyer Sapoff, West Orange, N.J., assignor to Victory Engineering Corporation, Springfield, N.J., a corporation of Delaware

Filed Aug. 25, 1965, Ser. No. 482,413
8 Claims. (Cl. 324—62)

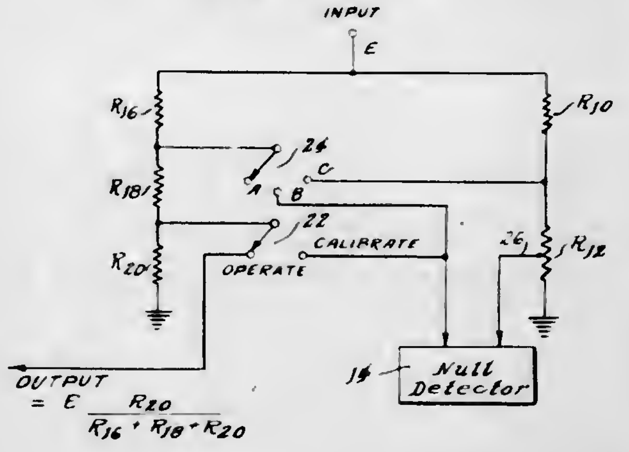
1. A test circuit for determining the dissipation constant of a resistor comprising; a bridge circuit having four arms including the resistor under test as one of the arms, the other three arms each including resistors; a voltage detection means connected between opposite junction points of the bridge for indicating a bridge balance condition; a source of direct current power connected to the other bridge junction points for supplying all the resistors with current; a first adjustable resistor connected in series with said source of power for providing the resistor under test with a predetermined current; a multiplier circuit for producing an output current which is proportional to the product of two input voltages; a first input connection to the multiplier circuit connected across the resistor under test and a second input connection to the multiplier circuit connected across a second adjustable resistor in an adjoining bridge arm; and an electrical indicating meter connected to an output circuit of the multiplier circuit for indicating a product proportional to the dissipation constant.



3,377,555
METHOD OF CALIBRATING HIGH-VOLTAGE PRECISION RESISTANCE POTENTIAL DIVIDERS

Robert N. Lewis, Clarendon Hills, Ill., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed June 4, 1965, Ser. No. 461,564
9 Claims. (Cl. 324—63)



1. A method of in-circuit calibration of a resistance potential divider having a plurality of resistance arms serially connected across an applied input voltage and an output taken across one of said resistance arms comprising series connecting a first resistance and a calibrated potentiometer, connecting the resistance-potentiometer combination across said divider, connecting a null indicating device between the output of said divider and the wiper arm of said potentiometer, adjusting the wiper arm of said potentiometer until said indicating device reads a null value, shorting across the resistance arm of said divider adjacent the output resistance arm thereof, adjusting the wiper arm of said potentiometer until said indicating device reads a null value therefor, removing the resistance arm short, connecting the common terminal of said output-adjacent resistance arm of said divider and

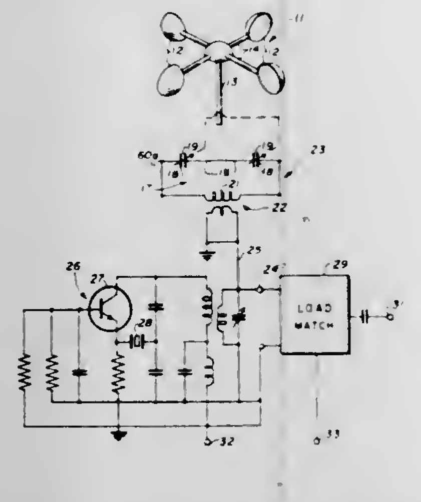
a further resistance arm of said plurality of arms to the common terminal of said resistance-potentiometer combination, adjusting the wiper arm of said potentiometer until said indicating device reads a null value therefor, combining said potentiometer settings required to obtain said null values to obtain therefrom the division ratio and hence the calibration of said divider.

3,377,556
SHAFT SPEED DETECTOR WITH VARIABLE CAPACITIVE COUPLING BETWEEN THE SHAFT AND AN ELECTRICAL SIGNAL GENERATOR

John W. Corcoran, Redwood City, Calif., assignor to Beckman & Whitley, Inc., San Carlos, Calif., a corporation of Delaware

Continuation of application Ser. No. 367,372, May 14, 1964. This application Jan. 30, 1967, Ser. No. 612,735

2 Claims. (Cl. 324—70)



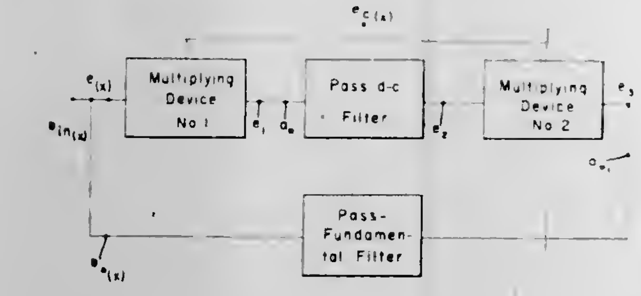
Capacitive elements in the form of radial bands on a disc are carried on a shaft for rotation therewith and interact with adjacent stationary capacitive elements to form a capacitance which varies cyclically as function of the rotary speed of the shaft. The variable capacitance is coupled to an electrical signal generator to modulate the output signal therefrom whereby the signal is indicative of the shaft speed.

3,377,557
DEVICE FOR PHASE-RELATIONSHIP ANALYSIS

Anthony D. Heibel, 6767 Wilson Road, Nunica, Mich. 49448

Filed May 4, 1964, Ser. No. 364,563

2 Claims. (Cl. 324—83)



2. A method of separating an alternating-current input signal into components which are in-phase and out-of-phase, respectively, with a reference alternating-current signal of the same frequency, comprising:

multiplying said signals together and by a gain factor to produce a direct-current term proportional to the in-phase component of said input signal, and another term;

filtering out said other term;

multiplying said direct-current term and a reference alternating-current signal together and by a gain factor to produce an alternating-current term in-phase with and proportional to the in-phase component of said input signal; and

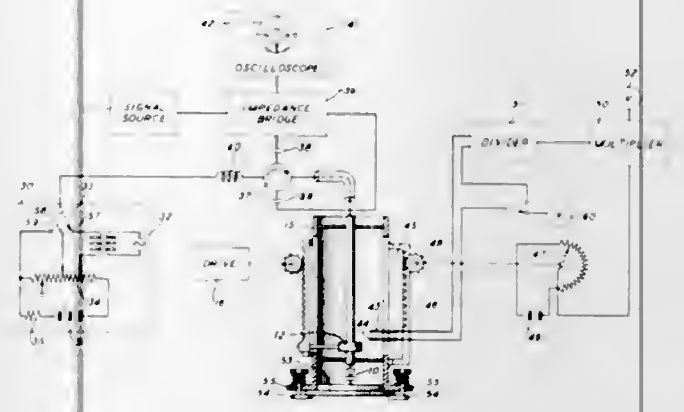
feeding back exclusively that portion of said latter alternating-current term having the frequency of said input signal in opposition to said input signal.

3,377,558
APPARATUS AND METHOD FOR DETERMINING VARACTOR QUALITY FACTOR BY MEASURING THE PHASE SHIFT RESULTING FROM THE APPLICATION OF TWO DIFFERENT VARACTOR BIAS LEVELS

John P. Elward, Jr., Newark, and Michiyuki Uenohara, Scotch Plains, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 23, 1964, Ser. No. 413,237

12 Claims. (Cl. 324—158)



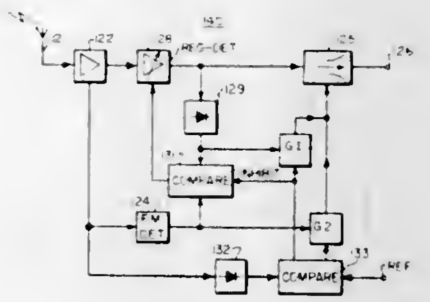
The quality factor Q of a varactor in a transmission line is measured by multiplying a voltage which is a function of the voltage standing wave ratio in the transmission line with the varactor biased at its resonant bias voltage, and a voltage which is a function of the phase difference of a voltage standing wave with the diode biased at its maximum bias voltage and a voltage standing wave with the diode biased at its resonant bias voltage.

3,377,559
COMPANDORING TECHNIQUES FOR HIGH-FREQUENCY RADIO CIRCUITS

James A. Stewart, Redwood City, Calif., assignor, by mesne assignments, to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware

Filed Dec. 30, 1965, Ser. No. 517,692

3 Claims. (Cl. 325—61)



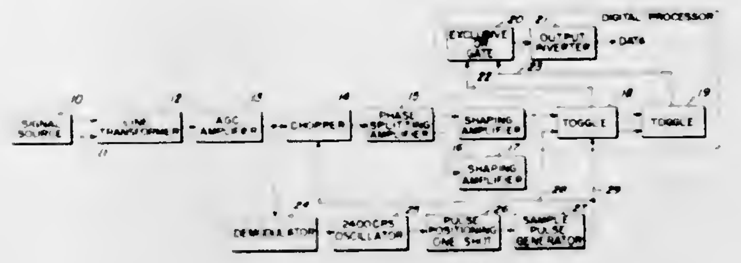
High-frequency radio circuits employ compressor and expandor circuits. The carrier is frequency modulated according to the degree of signal compression and then amplitude modulated with the compressed signals to provide a composite wave which carries not only the compressed signals but also an indication of the degree of expansion necessary to restore the compressed signal to its original form. Singing is prevented in one receiver by circuits which utilize the FM signal for controlling a regulator and an expandor, and for inhibiting regulation when the FM signal falls below a preset level.

3,377,560
DIRECT DATA SAMPLE SINGLE TONE RECEIVER

Kenneth H. Renshaw, Costa Mesa, Calif., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Jan. 13, 1964, Ser. No. 337,478

4 Claims. (Cl. 325—320)



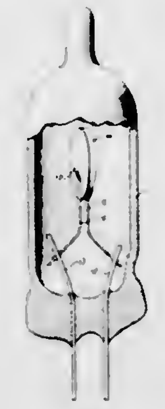
Means for decoding an FSK signal employing one-half cycle frequency f_1 for a space and a full cycle of frequency $2f_1$ for a mark, by sampling the signal at each bit transition time to produce a train of positive and negative samplings.

3,377,561
POSITIVE TEMPERATURE COEFFICIENT TITANATE THERMISTOR

Harold A. Sauer, Hatboro, Pa., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 404,098, Oct. 15, 1964. This application July 13, 1965, Ser. No. 471,572

4 Claims. (Cl. 338—22)



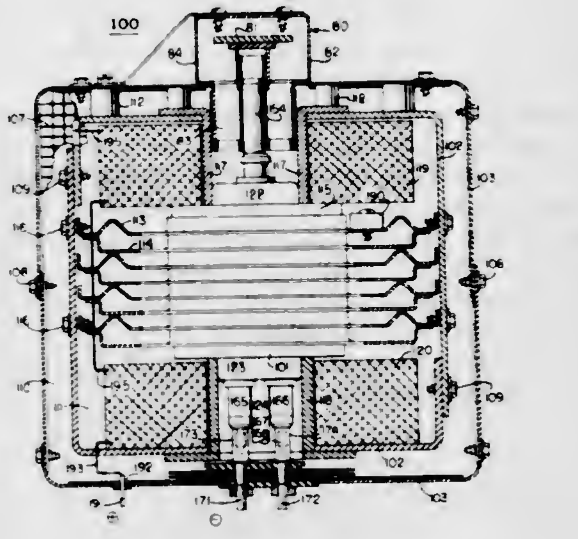
A positive temperature coefficient thermistor of the lanthanum-barium-strontium titanate system fired in accordance with a critical schedule, ground to a specific geometry and encapsulated in air at atmospheric pressure having a partial pressure of oxygen within the range of 3 to 3½ pounds per square inch evidences a current resistance characteristic restricted to the boundaries defined by telephone loop circuitry.

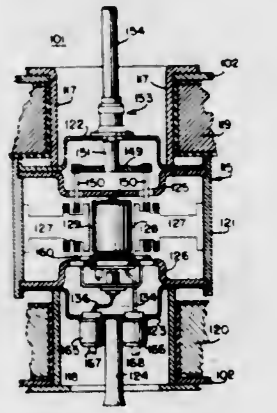
3,377,562
MAGNETRON DEVICE HAVING A COOLING ARRANGEMENT AND CAPACITIVELY COUPLED OUTPUT CIRCUIT

James E. Staats, Louisville, Ky., assignor to General Electric Company, a corporation of New York

Continuation-in-part of application Ser. No. 105,983, Apr. 27, 1961, which is a division of application Ser. No. 181,144, Mar. 20, 1962. This application May 27, 1963, Ser. No. 283,355

19 Claims. (Cl. 328—230)



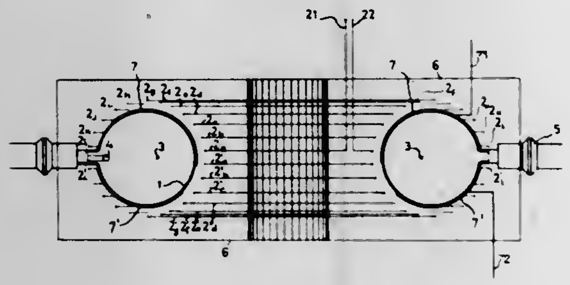


1. In combination, a magnetron device including a hermetically sealed envelope, a pair of electromagnetic coils disposed exteriorly of said envelope and respectively operatively associated with the opposite ends of said envelope, thereby to produce a coaxial magnetic field through said envelope, a first metal box-like construction fitted about said envelope in spaced relation therewith, said first box-like construction being formed of magnetic permeable material and providing a magnetic return path between said coils on opposite sides of said envelope, and a second metal box-like construction surrounding said first box-like construction in spaced relation therewith, said first box-like construction being electrically connected to said envelope, said second box-like construction being a part of said magnetron device but electrically insulated from both said envelope and said first box-like construction and electrically connected to ground potential, whereby said second box-like construction provides a shield for said envelope and said first box-like construction.

8. A crossed-field electric discharge device comprising an anode structure defining both an axially extending space therein and a plurality of resonator cavities opening into said space, whereby said device is arranged to oscillate at a given ultra-high frequency, means for producing a coaxial magnetic field through said anode structure, a generally cylindrical cathode arranged in said space and disposed radially inwardly from said anode

structure, an electric heater arranged within said cathode, a pair of terminals arranged in adjacent spaced-apart relation and electrically insulated from each other, the inner end of one of said terminals being electrically connected both to said cathode and to one extremity of said heater, the inner end of the other of said terminals being electrically connected to the other extremity of said heater, and an assembly of three plates arranged in adjacent spaced-apart stacked relation and electrically insulated mutually from each other, said plates also being arranged in surrounding relation with respect to said terminals, a first of said plates being electrically connected to said one terminal and electrically insulated both from said other terminal and from ground potential, a second of said plates being electrically connected to said other terminal and electrically insulated both from said one terminal and from ground potential, a third of said plates being electrically connected to ground potential and electrically insulated from each of said terminals, each of said first and second plates being substantially disc-shaped and having a diameter that is substantially equal to ⅛ of the wave length of said given ultra-high frequency, whereby said assembly constitutes a capacitive shunt from said terminals to ground potential for the second harmonic of said given ultra-high frequency.

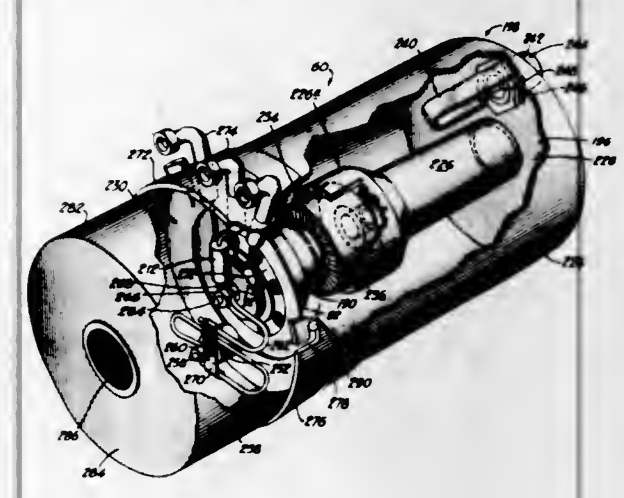
3,377,563
PARTICLE ACCELERATOR HAVING BEAM DEFLECTING MEANS
Pierre J. Gratreau, "Les Dauphins," Rue La Fontaine, Antony, France
Filed June 15, 1964, Ser. No. 375,132
Claims priority, application France, June 14, 1963, 938,177
12 Claims. (Cl. 328—237)



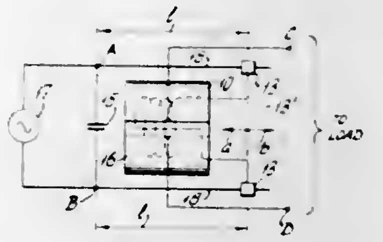
The invention provides means for increasing the beam current in a circular particle accelerator such as a betatron having an annular vacuum chamber, an electron gun and a conventional beam guiding field, said means comprising a toroidal azimuth field winding wound around the vacuum chamber for focusing the beam and means for producing an electric field substantially perpendicular to the central plane of the chamber in the whole circumference thereof for deflecting the focused beam so that it misses the gun during a number of consecutive revolutions.

3,377,564
MICROWAVE OSCILLATOR FOR ELECTRONIC OVEN
Anthony J. Stecca, Wheaton, Louis A. Barnas, Cary, Sophocles J. Dokos, Chicago, and William B. Jarzembski, Riverside, Ill., and Paul C. Norris, Temple City, Calif., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Original application Feb. 3, 1964, Ser. No. 342,199. Divided and this application Jan. 3, 1967, Ser. No. 606,825
7 Claims. (Cl. 331—70)

An electronic oven of small size powered by a vacuum tube microwave oscillator. The oven includes automatically adjustable tuning and coupling mechanisms which maintain proper power transfer for differing loads. The oscillator is a grounded cathode amplifier with a tuned cavity and utilizes a tuned transmission line to couple the grid to the anode cavity. Oscillator cooling is accomplished by forcing air past the vacuum tube and the vacuum tube anode cooling fins.



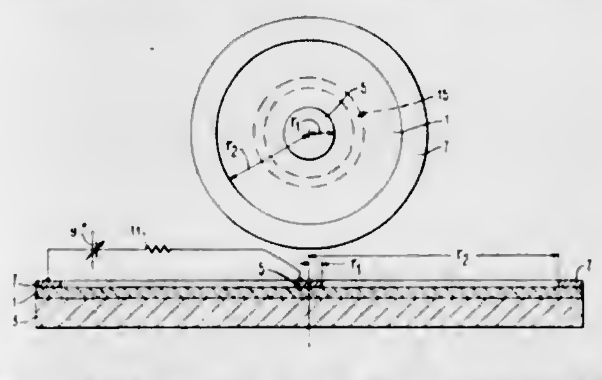
3,377,565
VARIABLE HIGH-FREQUENCY TRANSFORMER
Helmut Denner, Gebenstorf, Switzerland, assignor to "Patelhold" Patentverwertungs- & Electro-Holding AG, Glarus, Switzerland
Filed Dec. 23, 1966, Ser. No. 604,412
Claims priority, application Switzerland, Dec. 24, 1965, 17,820/65
10 Claims. (Cl. 331—74)



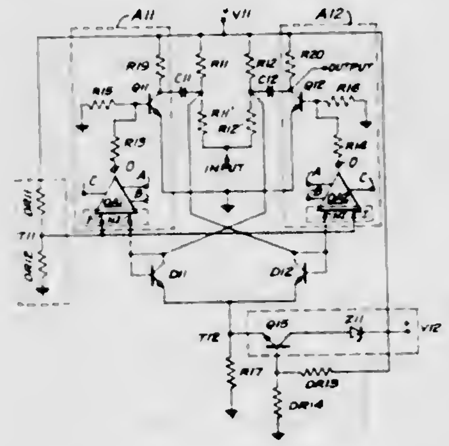
9. A variable high frequency power transformer comprising in combination:
- (1) a first cylindrical stationary winding,
- (2) a second cylindrical movable winding concentric with said first winding,
- (3) connecting terminal means for said second winding constituted by a pair of stationary spaced and electrically conducting elongated members parallel to the axis of said windings,
- (4) a pair of conducting supporting members each rigidly connected to an end of said second winding, and
- (5) means to slidably and adjustably mount said members each in mechanical and electrical contact engagement with one of said rails.

3,377,566
VOLTAGE CONTROLLED VARIABLE FREQUENCY GUNN-EFFECT OSCILLATOR
Conrad Lanza, Putnam Valley, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 13, 1967, Ser. No. 609,031
16 Claims. (Cl. 331—107)

A microwave oscillator comprising a specimen of multivalley semiconductor material and electric field applying means including a voltage source connected to ohmic contacts of concentric geometry attached at one surface of the specimen. The semiconductor material has the innate property of being responsive to electric fields in excess of a critical intensity E_T to cause a redistribution of electric fields so as to nucleate a high electric field region, or domain, and responsive to electric fields in excess of a sustaining intensity E_S, where $E_S < E_T$, to propagate such high electric field region. Due to the concentric geometry of the ohmic contacts, a field sustaining point X_S whereat the electric field intensity is less than a sustaining intensity E_S is defined along an intermediate portion of the specimen. High electric field regions are nucleated and propagated in cyclic fashion such that current through the specimen varies periodically in time in the form of coherent oscillations. The location of the field sustaining point X_S and, therefore, the frequency of the coherent oscillations in the specimen is continuously controlled by the voltage applied across the ohmic contacts.



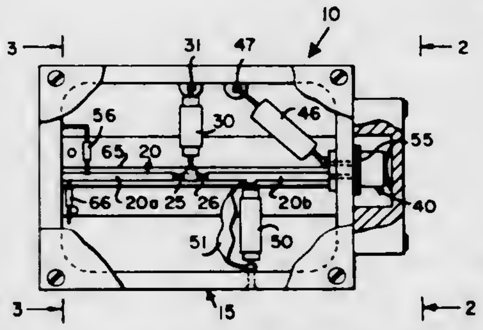
3,377,567
HIGH STABILITY ASTABLE MULTIVIBRATOR OSCILLATOR
Bruce E. Pontius, Riverside, Calif., assignor to Bourns, Inc., a corporation of California
Filed Nov. 21, 1966, Ser. No. 595,807
9 Claims. (Cl. 331—113)



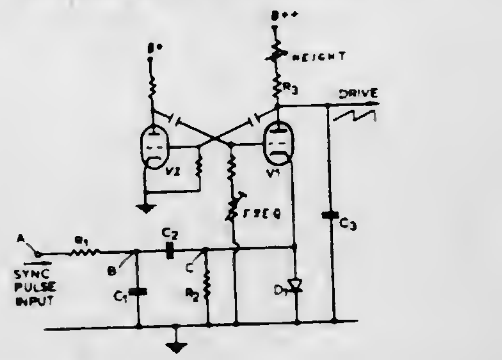
A voltage-controlled astable multivibrator oscillator the oscillation frequency of which varies with variation of an applied control voltage, characterized by insensitivity to changes of ambient temperature and power-supply potential, utilizing high-gain differential amplifier means in the switching circuits to avoid need for temperature compensating means, and potential-clamping means to obviate operational changes incident to fluctuation of power-supply potential.

3,377,568
VOLTAGE TUNED OSCILLATOR
Frederick W. Kruse, Jr., and Frederic P. Storke, Jr., Palo Alto, and Douglas L. Baskins, Cupertino, Calif., assignors to Kruse Storke Electronics, Mountain View, Calif., a corporation of California
Filed Mar. 25, 1966, Ser. No. 537,427
12 Claims. (Cl. 331—117)

The voltage tuned oscillator of the present invention comprises a hollow rectangular transmission line structure. Mounted within the structure is a tuning line which is disposed within the structure end-to-end midway between the sides thereof to form a symmetrical transmission line structure. Back-to-back variable-capacitance diodes are connected in the tuning line midway between the ends thereof. A variable voltage supply is connected to the variable-capacitance diodes for regulating the capacitance thereof to select the frequency generated by the oscillator. A transistor circuit is coupled to the tuning line and the variable-capacitance diodes for employing the same as a resonant load circuit for generating a signal.



3,377,569
SYNCHRONIZED DEFLECTION CIRCUIT HAVING IMPROVED INTERLACE CONTROL
Peter Leonard Mothersole, Horley, England, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Aug. 18, 1965, Ser. No. 480,685
Claims priority, application Great Britain, Aug. 24, 1964, 34,521/64
8 Claims. (Cl. 331—145)

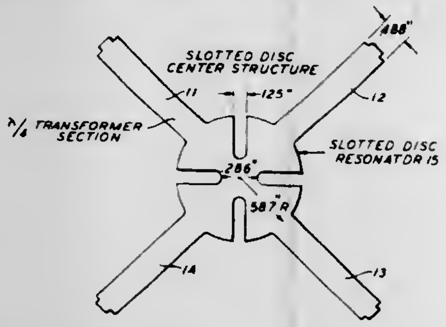


A vertical deflection circuit including a switching diode in series with the vertical oscillator in the discharge path of the timing capacitor. The switching diode is arranged to decouple the integrated synchronized signals from the vertical oscillator during the retrace period and also clamps the synchronized signals during a portion of the scan period.

3,377,570
FOUR PORT FERRITE CIRCULATOR HAVING SLOT SYMMETRICALLY LOCATED BETWEEN ADJACENT CONDUCTING ARMS
William A. Dean, Green Village, and Clifford E. Fay, Chatham Township, Morris County, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 18, 1966, Ser. No. 543,357
3 Claims. (Cl. 333—1.1)

1. A single-junction, four-port circulator comprising:
four lengths of strip transmission line each of which has an inner conductor which is spaced between and parallel to a common pair of outer conductors;
said inner conductors lying in a common plane and terminating 90 degrees apart about the periphery of a conductive circular disc;
said disc having no more than four radial slots of uniform width extending from its outer boundary inward towards its center;

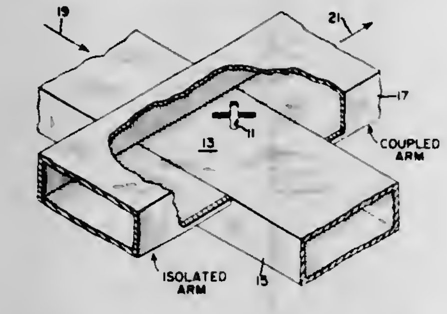
each slot being symmetrically located between pairs of adjacent conductors;



an element of gyromagnetic material located between said disc and at least one of said outer conductors; and means for magnetically biasing said element.

3,377,571
RADIO FREQUENCY DIRECTIONAL COUPLER UTILIZING CROSSED COUPLING SLOTS OF UNEQUAL DIMENSIONS

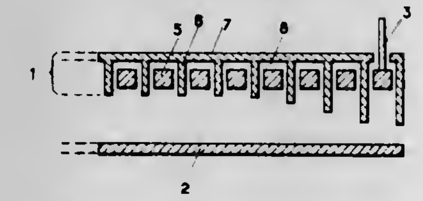
Richard R. Kinsey, Syracuse, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 27, 1965, Ser. No. 516,283
5 Claims. (Cl. 333—10)



1. Means for directionally coupling radio frequency wave energy between waveguides comprising:
- a main waveguide and a coupled waveguide with the latter including a coupled arm extending in the direction of desired wave coupling and an isolated arm extending in the opposed direction, said waveguides being disposed in contiguous relation so as to define a common wall area between said isolated and coupled arms of said coupled waveguide;
- said common wall having a coupling aperture therethrough comprising a pair of crossed slots, said slots being of unequal effective dimensions so proportioned as to provide substantially complete cancellation of wave energy otherwise transmitted by magnetic and electric field coupling through said slots into said isolated arm.

3,377,572
DELAY STRUCTURE

Jacques Arnaud, Paris, France, assignor to CSF—Compagnie Generale de Telegraphie Sans Fil, Paris, France
Filed Oct. 15, 1962, Ser. No. 230,384
Claims priority, application France, Oct. 24, 1961, 876,828
7 Claims. (Cl. 333—31)

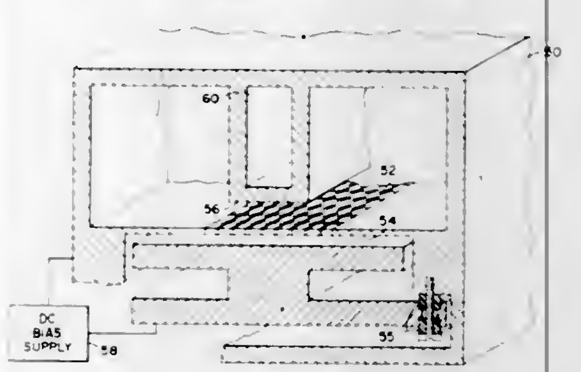


1. In an M-type microwave tube having a delay circuit provided with a geometrically periodical structure including a series of periodically spaced rungs, coupling means between at least one predetermined point of said delay circuit and an external circuit, and a sole electrode located in coupled relationship with said delay circuit and being substantially devoid of delaying properties for microwave energy propagating through the tube,

the improvement essentially consisting of progressive uncoupling means positioned between said delay circuit and said sole electrode for uncoupling said delay circuit from said sole electrode along a portion of said tube including baffles provided between said rungs, said means extending substantially within an area close to said coupling point and being continuously increasingly effective in a direction approaching said point.

3,377,573
HIGH-POWER MULTIPACTOR PHASE SHIFTER

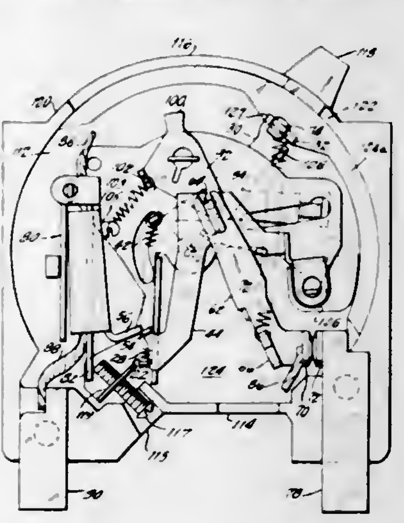
William G. Spaulding, Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Army
Filed Mar. 2, 1966, Ser. No. 533,128
10 Claims. (Cl. 333—98)



1. A multipactor phase shifter for controlling the phase of a microwave signal comprising: a section of evacuated transmission line; a microwave signal source connected to said transmission line for producing a multipactor discharge within said transmission line; and means for controlling the electron density of said multipactor discharge and thereby controlling the propagation constant of said transmission line.

3,377,574
CIRCUIT BREAKER RESETTING AND CLOSING MECHANISM

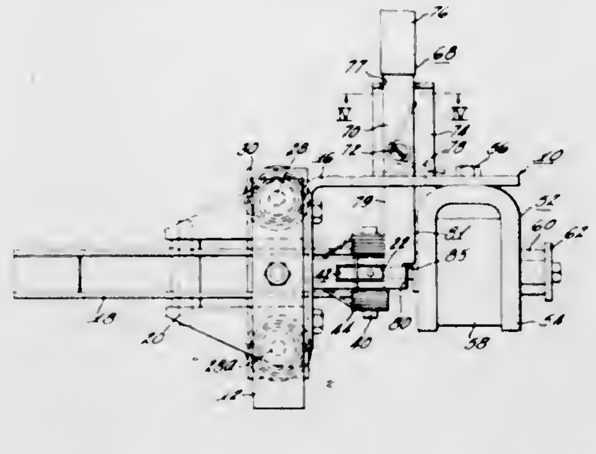
John C. Brumfield, Philadelphia, and Charles T. Robins, Swarthmore, Pa., assignors to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Oct. 19, 1966, Ser. No. 587,709
9 Claims. (Cl. 335—27)



A circuit breaker having "on," "off" and tripped positions whereby manual movement of the operating handle to the "off" position does not operate the tripping means and whereby operation of the tripping means moves the handle to the tripped position but does not reset the latching means. The single movement of the operating handle from its tripped position toward and to its "on" position has the dual function of resetting the latching means and moving the movable contact to its operative position in contact with the fixed contact.

3,377,575
LOW MASS BALANCED LATCH MECHANISM HAVING RESILIENT MANUAL OPERATING LEVER

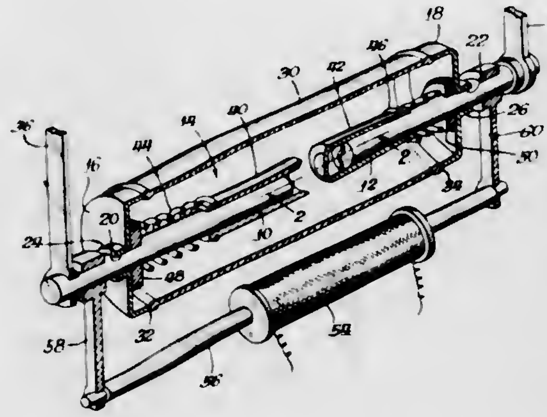
Henry L. Peek, Wellesley, and George K. Benham, Somerville, Mass., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Dec. 22, 1965, Ser. No. 515,575
7 Claims. (Cl. 335—167)



A hydraulic pilot valve which is biased closed is momentarily opened by unlatching of a pivotable reset lever arm. The reset arm is latched by a pivotable low mass balanced latch which is biased to a latched position against a stop. The latch is permitted to rotate to unlatched position wherein it releases the reset arm either by manual means or by a solenoid. These manual means take the form of a lever having a resilient portion for engaging and releasing the latch which is adapted to bend out of the way when the latch snaps back to latched position.

3,377,576
GALLIUM-WETTED MOVABLE ELECTRODE SWITCH

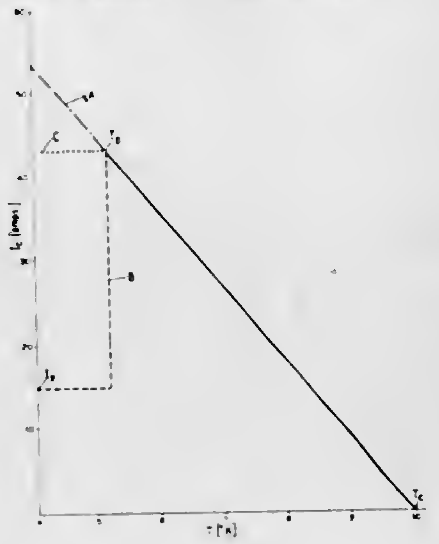
Edwin Langberg, Lexington, and Louis W. Roberts, Boston, Mass., assignors to Metcom, Inc., Salem, Mass., a corporation of Delaware
Filed May 3, 1965, Ser. No. 452,811
6 Claims. (Cl. 335—196)



3. An electrical switch comprised of an evacuated high dielectric material envelope; a first and a second elongated fixed electrode mounted in coaxially aligned spaced relationship within the envelope, the first such fixed electrode being characterized by having a hollow central recess having an aperture opening into the space between the fixed electrodes; a sliding cylindrical electrode slidably mounted within the recess, such sliding electrode being of relatively high magnetically permeable material; a lubricating self-healing film of gallium metal wetting the electrode surfaces; and magnetic means for positioning the sliding electrode along the first fixed electrode and relative to the second fixed electrode, being mounted to the envelope; whereby electrical contact between the fixed electrodes may be made and broken by alternately moving the sliding electrode into and out of contact with the second fixed electrode.

3,377,577
METHOD FOR OPERATING A SUPERCONDUCTING DEVICE

Barrett H. Heise, Kenmore, N.Y., assignor to Union Carbide Corporation, a corporation of New York
Filed Aug. 27, 1964, Ser. No. 392,461
6 Claims. (Cl. 335—216)

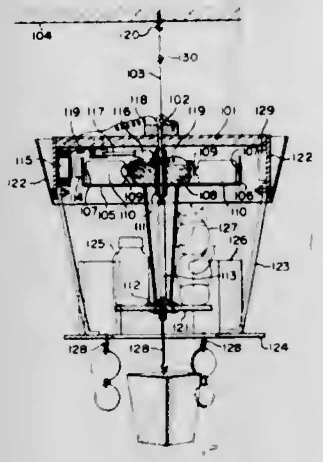


A method for operating a superconducting magnet by activating the magnet at an intermediate temperature above the degradation temperature and below the transition temperature after the magnet has reached thermal equilibrium at the intermediate temperature.

3,377,578
DEVICE FOR IMPARTING HORIZONTALLY OSCILLATORY ROTATING MOVEMENT TO ARTICLES

Reijiro Ito, Tokyo, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Osaka, and Kokusai Display Kogyo Kabushiki Kaisha, Tokyo, Japan
Original application Aug. 30, 1965, Ser. No. 483,404, now Patent No. 3,325,759, dated June 13, 1967. Divided and this application Feb. 1, 1967, Ser. No. 630,160
Claims priority, application Japan, Sept. 4, 1964, 39/70,100; Nov. 24, 1964, 39/90,996; June 16, 1965, 40/48,551; June 30, 1965, 40/39,871
4 Claims. (Cl. 335—229)

A device for imparting horizontal oscillatory movement to display articles including an outer oscillator carrying a display article thereon and suspended from suspension means having poor torque transmitting characteristics, and an inner oscillator rotatably disposed within the outer oscillator. The inner oscillator carrying further display articles thereon. Resilient means disposed coaxially with the suspending means and connecting the inner and outer oscillators. A permanent magnet provided on one of the oscillators and an electromagnet provided on the other oscillator in opposition with said permanent magnet in a rest position and means to selectively energize the electro-



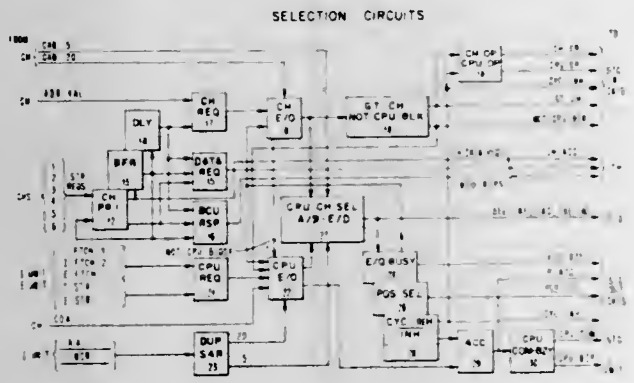
magnet to exert a repulsive force on the permanent magnet to cause relative rotation of the oscillators.

ERRATA

For Classes 336—65 through 340—172.5 see:
Patents Nos. 3,377,601 through 3,377,625, inclusive

3,377,579
PLURAL CHANNEL PRIORITY CONTROL

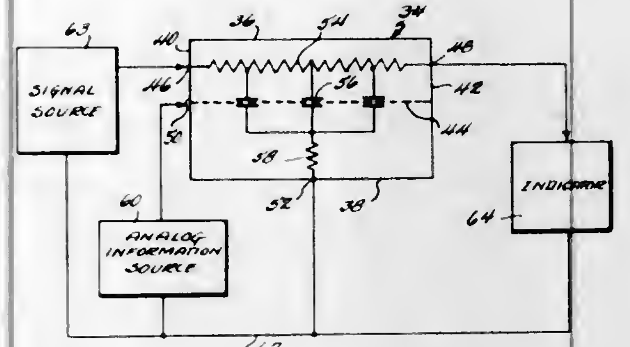
William P. Wissick, Sunnyvale, Calif., and James M. Litz, Kingston, N.Y.; Gladys M. Litz, executrix of said James M. Litz, deceased, assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 445,319, Apr. 5, 1965. This application Jan. 13, 1967, Ser. No. 609,254
2 Claims. (Cl. 340—172.5)



The specification discloses an illustrative embodiment for the invention comprising a large scale data processing system of the type which is composed of a plurality of quasi-independent units. The environmental data processing system includes a central processing unit or portion, which is herein referred to as a CPU, a plurality of storage units, a plurality of input/output control devices referred to herein as channels, as well as control and maintenance facilities which are found in a power distribution unit, herein referred to as a PDU. The CPU of the environmental system includes a control or instruction unit hereinafter referred to as an I unit, and an arithmetic and logic or execution unit, hereinafter referred to as an E unit. The I unit includes controls for instruction fetching, branching, interruption handling, communication with the input/output channels, and other related functions. The E unit of the environmental system can perform algebraic and logical operations, moving, shifting, and other functions.

3,377,580
GRAIN BOUNDARY TRANSISTOR ANALOG MEMORY DEVICE

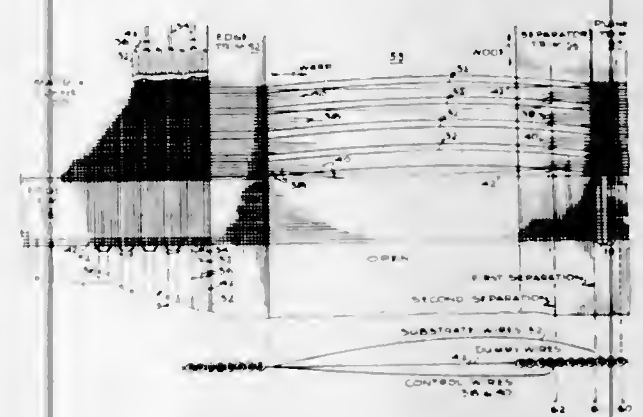
Wallace W. Lindemann, Minneapolis, Minn., assignor to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed May 19, 1965, Ser. No. 456,930
7 Claims. (Cl. 340—173)



An analog memory device using the variable capacitance of a grain boundary semiconductor at low temperatures. An analog information source is connected to control the variable capacitance of the grain boundary semiconductor. The variable capacitance in turn determines the passage of a signal from a signal source connected to one point on the semiconductor to a sensing means joined to another point thereon. The amount of signal sensed is indicative of the analog signal provided by the analog information source. Low temperatures are necessary to develop adequate storage time for the grain boundary semiconductor capacitance.

3,377,581
APPARATUS FOR WOVEN SCREEN MEMORY DEVICES

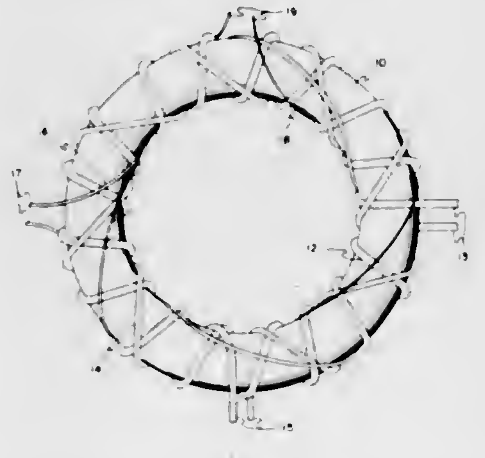
David R. Boles, Van Nuys, John S. Davis, Glendale, and Paul E. Wells, Los Angeles, Calif., assignors, by mesne assignments, to The Bunker-Ramo Coporation, Stamford, Conn., a corporation of Delaware
Filed Nov. 12, 1963, Ser. No. 322,872
23 Claims. (Cl. 340—174)



A woven screen memory weaving method wherein a loom is controlled to provide proper placement and relationship of various wires for the screen substrate and for control conductors. The weave pattern is suitable for a continuous or non-continuous woven stack of severable matrices. The wires, rods or insulating threads are woven around particular matrix peripheries to provide edge trim, open sections, and a plurality of separation sectors for ready separation for further assembly of control wires, dummy wires, and substrate wires. Plane trim also is provided. Planes suitable for cutting and stacking in a complete memory are produced by a continuous weave of a plurality of matrices. Features include a skip weave for cancellation of magnetic shuttle noise, dummy "conductors" to increase cell density and buffer cells between adjacent storage cells to prevent intercellular interference and improve signal to noise ratio in operation.

3,377,582
MAGNETIC TOROIDAL CORE HAVING SUCCESSIVE WINDINGS WITH THE PAIR OF LEAD ENDS OF EACH WINDING SPACED FROM THE PAIR OF LEAD ENDS OF EACH OTHER WINDING

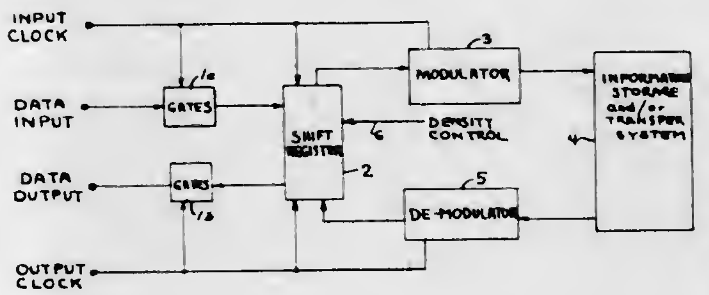
Roland T. Rogers, Butler, N.J., assignor to Elastic Stop Nut Corporation of America, Union, N.J., a corporation of New Jersey
Filed Aug. 21, 1964, Ser. No. 391,104
4 Claims. (Cl. 340—174)



A magnetic memory device having a toroidal core of high permeability, magnetic material having a square hysteresis loop, more than two windings, each of which has a pair of lead ends, wound over substantially all the circumference of the toroidal core so that each of the subsequent windings overlies each of the previous windings, the pair of lead ends of each winding being circumferentially spaced around the toroidal core from the pair of lead ends of each other winding.

3,377,583
VARIABLE DENSITY MAGNETIC BINARY RECORDING AND REPRODUCING SYSTEM

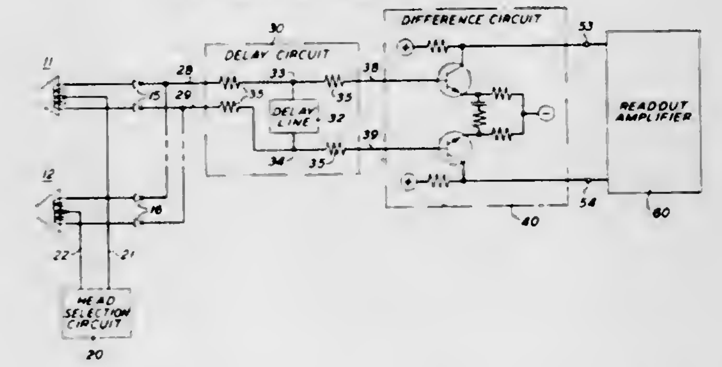
John C. Sims, Jr., Sudbury, Mass., assignor, by mesne assignments, to Mohawk Data Science Corporation, East Herkimer, N.Y., a corporation of New York
Filed Oct. 8, 1964, Ser. No. 402,499
16 Claims. (Cl. 340—174.1)



1. In combination with a sensitized surface, apparatus for recording on said surface a train of data signals, each of which occupies a single cell and manifests one or the other of two distinct values, which comprises, means for interpolating in said train and immediately preceding each group of *n* consecutive data signals, *n* being an integer greater than one, a framing signal having a preselected one of said two values, thereby to develop a modified train, and means for converting all signals of said modified train that are of said preselected value into a transition between two distinct conditions of said surface, whereby framing signals are distinguishable from data signals by virtue of their regularity and data signals of one value are distinguishable from data signals of the other value by virtue of the spacing on said surface between consecutive transitions.

3,377,584
CIRCUITRY FOR ELIMINATING TRANSIENTS IN A MAGNETIC HEAD SWITCHING SYSTEM

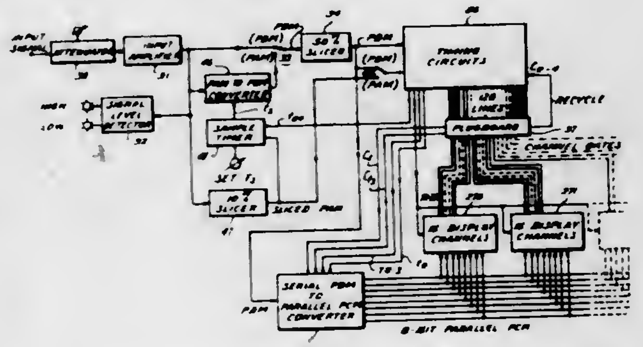
Cyrus F. Ault, Lincroft, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 5, 1965, Ser. No. 423,417
9 Claims. (Cl. 340—174.1)



In the readout circuitry for a plurality of individual transducer heads positioned adjacent a magnetic storage surface, a delay line and difference circuitry are employed to reduce the effects of transients created by the transducer head selection process.

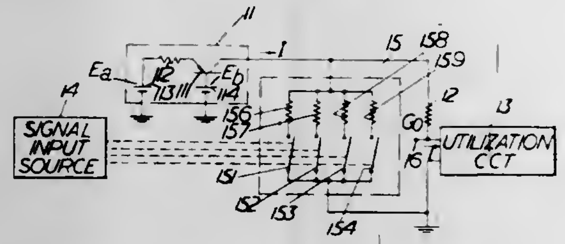
3,377,585
TELEMETERING DECODER SYSTEM

Jean Pierre Magnin, Sarasota, Fla., assignor to Electro-Mechanical Research, Inc., Sarasota, Fla., a corporation of Connecticut
Filed Mar. 17, 1961, Ser. No. 96,413
10 Claims. (Cl. 340—206)



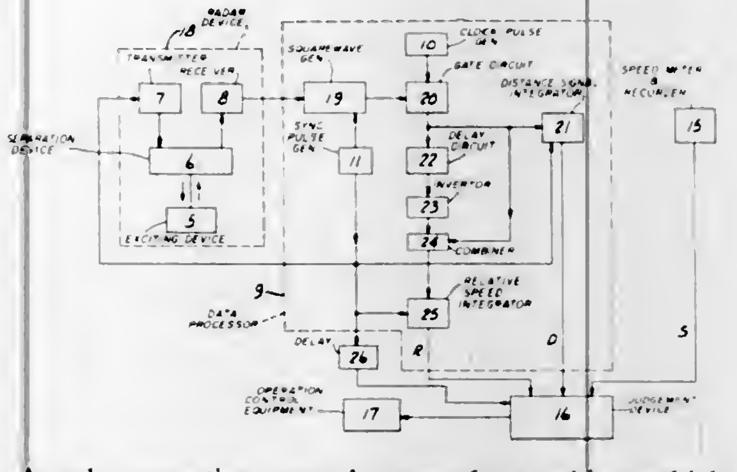
10. In a telemetering decoder system for decoding a pulse train composed of repetitive frames of time-multiplexed signal channels where one signal channel of each frame contains an indication of a full-scale signal value, another channel of each frame contains an indication of a zero-scale signal value and at least one signal channel of each frame contains a frame synchronizing pulse pattern, the combination comprising: circuit means for supplying the pulse train; a clock-pulse generator for generating clock pulses at a rate which is a predetermined number of times greater than the pulse train channel rate; frequency synchronizer circuit means responsive to both the pulse train and the generated clock pulses for controlling the clock-pulse generator to maintain the desired relationship between the clock rate and the channel rate; a first plural-stage binary counter for counting the generated clock pulses; phase synchronizer circuit means responsive to the pulse train for synchronizing the recycling of the first binary counter with the occurrence of the pulse train channel intervals; circuit means coupled to the first binary counter for developing separate sets of channel-rate timing pulses corresponding to different positions within the channel intervals; a second plural-stage binary counter for counting one set of channel-rate timing pulses; frame synchronizer circuit means responsive to the pulse train for synchronizing the recycling of the second binary counter with the occurrence of the frame synchronizing pulse patterns in the pulse train; circuit means coupled to the second binary counter for developing separate sets of frame-rate gating pulses corresponding to different channels within the frame intervals; circuit means for generating counting pulses at a higher rate than the pulse train channel rate and responsive to the pulse value of the pulse train during each channel interval for generating a pulse group having a number of pulses representative of such pulse value; counting circuit means responsive to the pulse group generated for each channel interval for developing a plural-bit pulse code signal representative of the pulse value for the channel interval; circuit means controlled by at least one of the channel-rate timing pulses and the frame-rate gating pulses for the full-scale channels and responsive to the full-scale pulse code signals for adjusting the rate of generation of the counting pulses if such signals depart from a desired predetermined full-scale value; circuit means controlled by at least one of the channel-rate timing pulses and the frame-rate gating pulses for the zero-scale channels and responsive to the zero-scale pulse code signals for adjusting the initial count condition of the counting circuit means if such signals depart from a desired predetermined zero-scale value; a plurality of separate output signal channels; a plurality of individual signal transfer circuit means, each transfer circuit means coupling one of the output channels to the counting circuit means; and means for supplying the frame-rate gating pulses for the different channels to different ones of the signal transfer circuit means for enabling these circuit means to transfer the pulse code signals for the corresponding channels to their respective ones of the output signal channels.

3,377,586
DECODER WITH BIPOLAR-HYPERBOLIC COMPANDING CHARACTERISTICS
Hisashi Kaneko, Tokyo, Japan, assignor to Nippon Electric Company, Limited, Tokyo, Japan, a corporation of Japan
Filed Mar. 3, 1965, Ser. No. 436,882
Claims priority, application Japan, Mar. 12, 1964, 39/13,730
17 Claims. (Cl. 340—347)



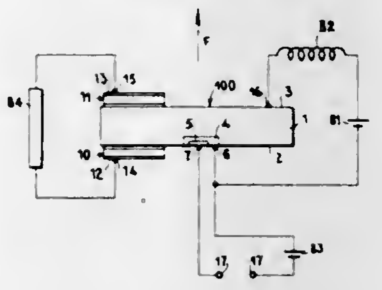
1. A bipolar signal converting device for converting a coded input signal containing polarity data and supplied by an input source into a coded non-linear output signal comprising: a variable admittance network, a branch circuit including a fixed admittance circuit and a utilization circuit connected in series, said branch circuit being connected in shunt with said network; means connecting said input source to said network for controlling the admittance thereof in accordance with the input information; a reversible current source connected to receive said input signals, for supplying a D.C. current to said parallel connected network and branch circuit, said current source supplying a first current flowing in a first sense in response to given polarity data and supplying a second current flowing in a sense opposite said first sense in response to other polarity data.

3,377,587
TRAIN OPERATION CONTROL SYSTEM AND METHOD OF OPERATING THE SAME
Tsuneo Nakahara, Nishinomiya-shi, and Noritaka Kurauchi, Suita-shi, Japan, assignors to Sumitomo Electric Industries, Ltd., Osaka, Japan, a Japanese company
Continuation-in-part of application Ser. No. 333,439, Dec. 26, 1963. This application Oct. 26, 1966, Ser. No. 589,704
12 Claims. (Cl. 343—7)



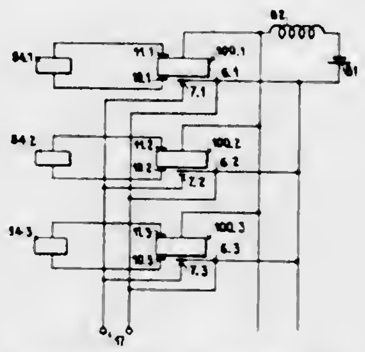
A radar operation control system for a subject vehicle and method of processing the radar data wherein a radar pulse is synchronously transmitted and thereafter received as reflected from an obstacle in the vehicle path to measure off a train of clock pulses proportional in number to the distance between the vehicle and the obstacle. Each clock pulse train is compared with a succeeding pulse train to determine the relative speed of the vehicle in relation to the obstacle by detecting an increase or decrease in pulse number and the difference in pulse number. This information is evaluated along with the distance and the speed of the subject vehicle with reference to predetermined criteria to control the operation of the vehicle accordingly.

3,377,588
SOLID-STATE, FREQUENCY-SELECTIVE AMPLIFYING DEVICE
Jean Edgar Picquendar, St.-Remy-les-Chevreuse, and Olivier Cahen, Gif-sur-Yvette, France, assignors to Compagnie Francaise Thomson-Houston-Hotchkiss Brandt, Paris, France
Filed Dec. 7, 1966, Ser. No. 599,962
Claims priority, application France, Dec. 17, 1965, 42,716; Oct. 11, 1966, 79,514
16 Claims. (Cl. 343—8)

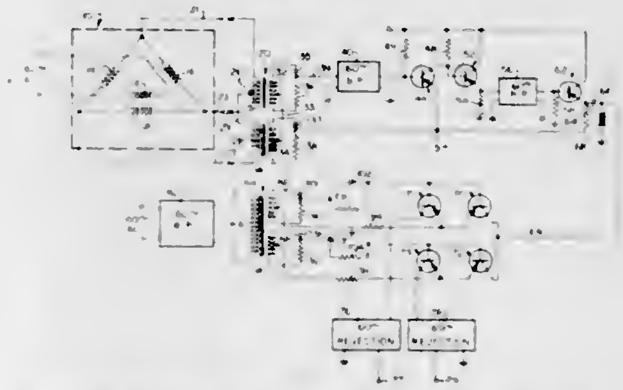


Novel frequency-selective amplifying component in the form of an element such as a single-crystal having both semi-conductive and piezo-electric properties, e.g. GaAs. Input means are provided for injecting charge carriers into the element at a rate controlled by a periodic input

signal. A voltage is applied across the element to accelerate the charge carriers to a speed at least as high as the velocity of sound therein. Output means coupled to the element will then deliver an output signal provided the input signal contains a frequency component corresponding to the natural frequency of the element.

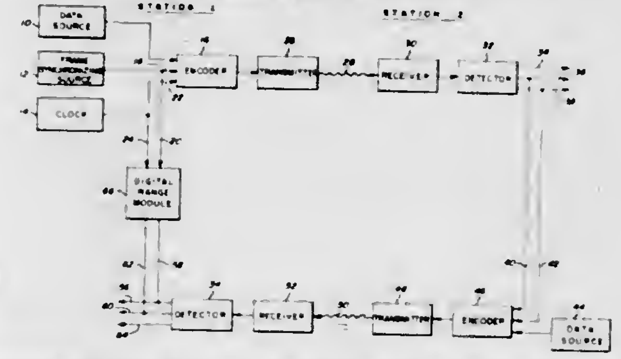


3,377,589
ELECTRONIC AZIMUTH RESOLVER
Donald R. Materer, Chicago, Ill., and Peter G. Bartlett, Bettendorf, Iowa, assignors to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed Sept. 14, 1966, Ser. No. 579,325
6 Claims. (Cl. 343—11)



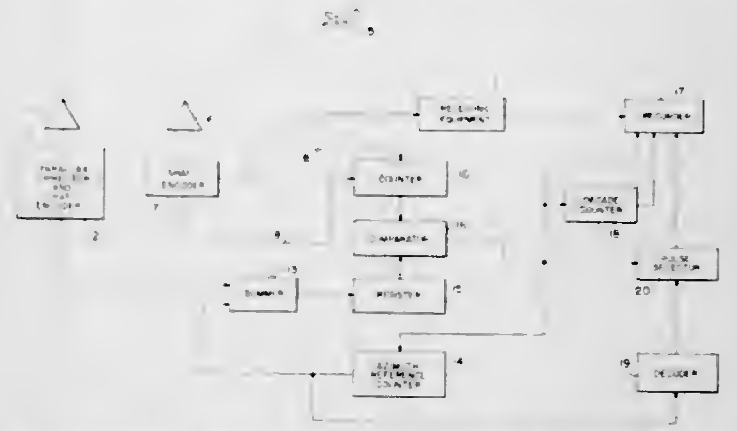
A three-phase synchro output indicative of antenna azimuth is changed to a two-phase signal by a Scott connected transformer. The two secondary windings of the transformer are connected to a phase shifting network to provide carriers 90° out of phase with respect to each other. The phase shifted signals from the transformer secondaries are added to provide a resultant signal. The resultant signal is coupled to a phase sensitive demodulator, and compared to reference signals to provide outputs proportional to the sine and cosine of the antenna azimuth.

3,377,590
RADAR RANGING APPARATUS FOR A COMMUNICATION SYSTEM
Chester A. Wendell, Framingham, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware
Filed Nov. 29, 1966, Ser. No. 597,658
5 Claims. (Cl. 343—12)



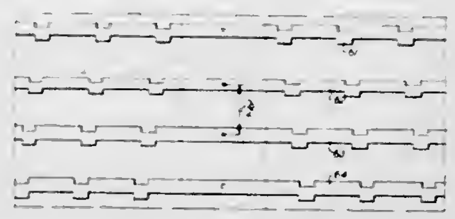
Apparatus for a two-way data communication system which produces an indication of the range between the two communicating stations, the apparatus including one unit which determines fine range by comparing the transmitted communication clock signal with the returned clock signal, and another unit which determines coarse range by measuring the time lapse between the transmission and reception of a communication synchronization signal.

3,377,591
ANTENNA PATTERN CALIBRATOR
Robert E. Mayer, Glen Cove, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Apr. 18, 1967, Ser. No. 632,167
9 Claims. (Cl. 343—100)



A calibration recording system for a test antenna rotating continuously in azimuth. An aircraft carrying a transmitter flies in a spiral about the test antenna and is continuously tracked by a track antenna. The output of the test antenna provides an amplitude input for a recorder, and the parallax-corrected aircraft azimuth from the track antenna provides marks for the recording when the test and track antenna have corresponding azimuths.

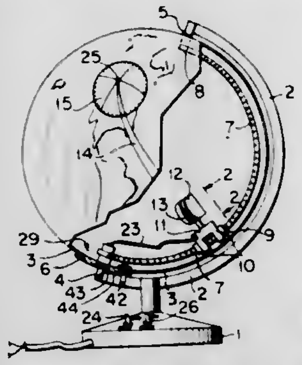
3,377,592
ULTRAHIGH-FREQUENCY AERIALS
Jean Robieux and Roger Dumanchin, Paris, France, assignors to Compagnie Generale de Telegraphie Sans Fil, a corporation of France
Filed Nov. 24, 1959, Ser. No. 855,233
Claims priority, application France, Dec. 5, 1958, 780,930
4 Claims. (Cl. 343—100)



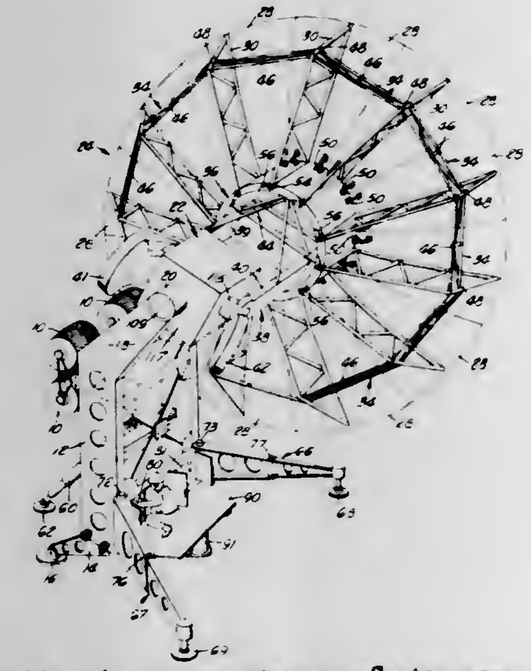
4. An ultrahigh-frequency directional aerial comprising in combination: a first transmission line for propagating wave energy: electrical means for controlling the phase velocity of said energy along said line; a plurality of parallel and equally spaced second transmission lines, coupled to said first transmission line, said second transmission lines having radiating elements equally spaced from each other in each line, the radiating elements of said lines building up rows inclined over said first transmission line.

3,377,593
ANTENNA BEAM DIRECTION INDICATOR
Clarence C. Sansom, 18961 Lynbrook Court, Saratoga, Calif. 95070
Filed June 7, 1967, Ser. No. 644,304
13 Claims. (Cl. 343—115)

A shaped light beam impinging on the interior of a translucent globe provides means for indicating to a radio station operator the great circle path of the center of the radiation pattern of the directional transmitting and receiving antenna as well as the optimum positioning for the antenna to facilitate radio contact with any geographical area on the surface of the earth.



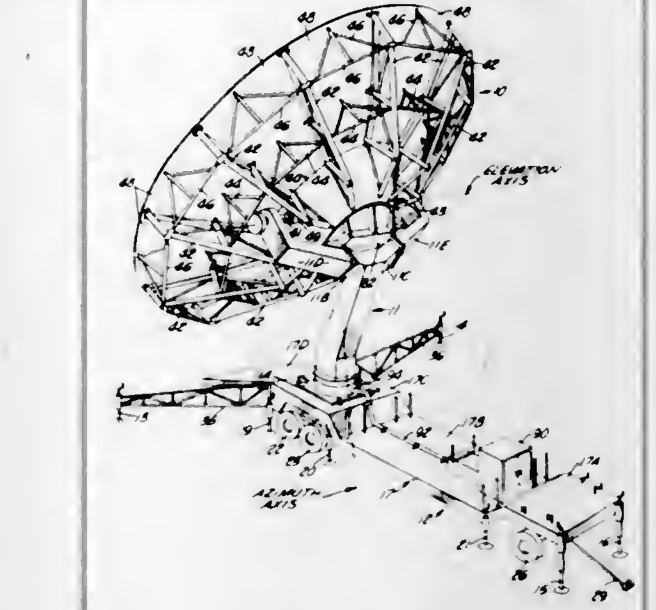
3,377,594
PORTABLE ANTENNA CONSTRUCTION
Donald R. Carr, Lemon Grove, and Alfonso A. Braccini, La Mesa, Calif., assignors to Whittaker Corporation, Los Angeles, Calif., a corporation of California
Filed Oct. 16, 1964, Ser. No. 404,344
2 Claims. (Cl. 343—713)



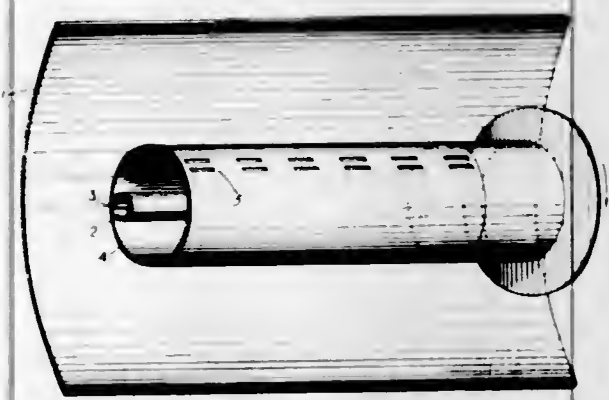
A portable microwave antenna reflector uses a trailer bed for its transport as well as for its tower when the antenna is erected, the trailer bed being raisable from its normal horizontal position to a vertical position and the reflector being collapsible, a drive box is interposed between the trailer bed and the reflector such that the reflector may be pivoted about one of its mutually perpendicular axes to facilitate erection and to allow scanning of the erected reflector in either a horizontal or vertical plane.

3,377,595
DEMOUNTABLE AND PORTABLE ANTENNA CONSTRUCTIONS
Donald R. Carr, Lemon Grove, and Alfonso A. Braccini, La Mesa, Calif., assignors to Whittaker Corporation, Los Angeles, Calif., a corporation of California
Filed Oct. 16, 1964, Ser. No. 404,468
5 Claims. (Cl. 343—713)

A trailer is used to transport an antenna in its disassembled condition and to support the antenna after it is assembled in the form of a large parabolic reflector on the upper end of a tower, the tower being rotatably mounted at its lower end on a plate which, in turn, is pivoted on the trailer bed. The tower at its upper end pivotally mounts a pair of yoke members upon which connected halves of a two-piece center reflector section are pivoted about a horizontal axis to provide adjustment in elevation of the parabolic reflector. Azimuth adjustment is provided by rotating the tower about a vertical axis on such pivoted plate.



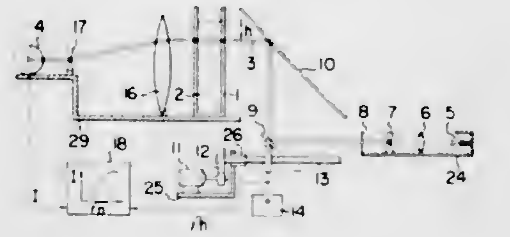
3,377,596
SLOT ANTENNA WITH PROGRAMMED RADIATION PATTERN
Erich Spitz, Paris, France, assignor to CSF—Compagnie Generale de Telegraphie Sans Fil, a corporation of France
Filed Jan. 29, 1963, Ser. No. 254,655
Claims priority, application France, Jan. 31, 1962, 886,464, Patent 1,320,855
5 Claims. (Cl. 343—768)



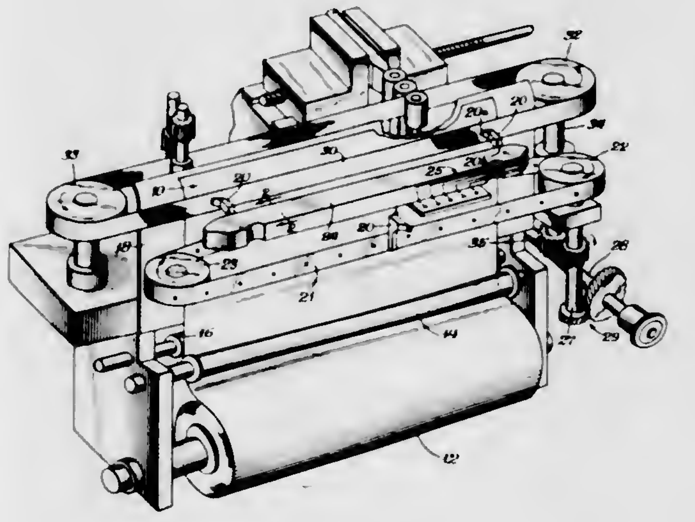
1. Antenna for radiating ultra-high frequency energy, according to a programmed radiation pattern, comprising: a wave guide extending in a predetermined propagation direction, having an elongated aperture extending in said direction; masking means including a wall having a ruled surface having generatrices; means for moving said means, in such a way that one of said generatrices is always applied to said aperture, said wall having a plurality of rows of slots, extending along spaced generatrices thereof, thus unmasking spaced radiating slots in said guide.

3,377,597
RECORDER FOR ANALYZING PARTICLE SIZE DISTRIBUTIONS OF POWDERS
Akinori Muta, Tokyo-to, Japan, assignor to Kabushiki Kaisha Hitachi Seisakusho, Tokyo-to, Japan, a joint-stock company of Japan
Filed Dec. 8, 1965, Ser. No. 512,320
Claims priority, application Japan, Dec. 10, 1964, 39/69,114
1 Claim. (Cl. 346—33)

A particle size distribution curve is obtained from the relationship of I versus $\sqrt{h}$ curve between the transmitted parallel light beam intensity I through cell provided with powder to be analyzed in the liquid and the square root of distance h projected from liquid surface, wherein I versus $\sqrt{h}$ curve is transformed graphically to Log I versus r curve, and the relationship of particle size r versus distribution W(r) is obtained briefly from graphical integrations of Log I versus r curve in the absence of computer or other complicated and expensive means.



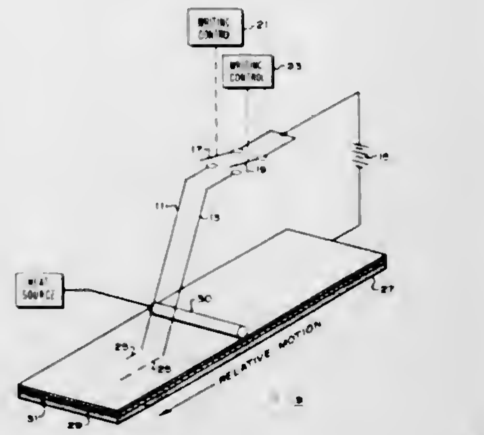
3,377,598
ELECTRICAL PRINTING WITH INK REPLENISHABLE WEB MOVING BETWEEN STYLI AND RECORD
William M. Borman. Niles, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed May 4, 1964, Ser. No. 364,734
3 Claims. (Cl. 346—74)



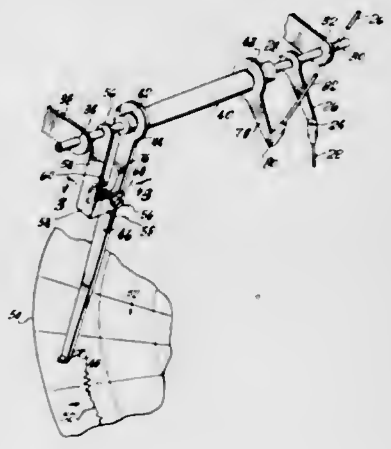
An endless belt is used to convey marking material to scanning electrode assemblies in a printer using ordinary paper. The endless belt is positioned between the electrodes and the paper. Rollers are used to convey the marking material from a supply to the belt to constantly replenish the marking material on the belt. Additional rollers may be used to enhance distribution of the marking material and one or more of the rollers may be heated to reduce the amount of solvent in the marking material after it is deposited on the belt.

3,377,599
ELECTROSENSITIVE RECORDING APPARATUS
Charles S. Reis, Mountain View, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Oct. 22, 1964, Ser. No. 405,800
6 Claims. (Cl. 346—74)

Electrosensitive recording method and means uses diffusion impurities in contiguous conductive layers to provide low ohmic contact therebetween and also uses a local source of heating to preheat or bias the electrosensitive recording medium for producing a contrasting record in response to the application of a small additional amount of energy in the form of an applied electrical writing signal.



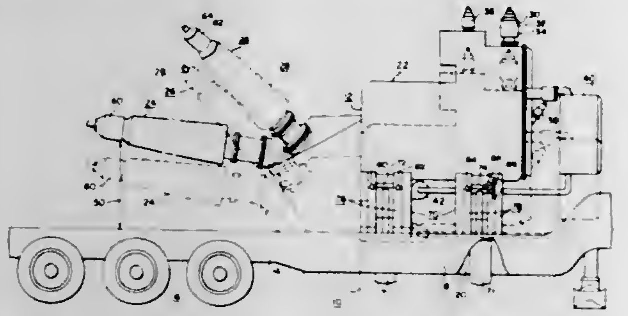
3,377,600
ZERO LINKAGE ADJUSTMENT MECHANISM
Claude B. Nolte, Placentia, Calif., assignor to Kingmann-White, Inc., Placentia, Calif., a corporation of Texas
Filed Sept. 16, 1966, Ser. No. 579,877
3 Claims. (Cl. 346—139)



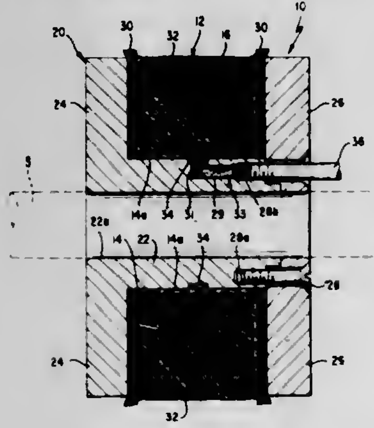
A combination recording meter and integrator unit having the recording pen arm and the integrator drive interconnected for common, relatively fixedly adjusted movement whereby zeroing of the meter pen will at the same time adjust the integrator unit to zero. An adjustable connection is provided between a drive means connected to a condition-responsive transducer and the pen arm and adjustment of this connection to move the pen arm to zero position to compensate for variations in the transducer will, at the same time, bring the integrator drive to its zero position. Both concentric shafts and lever and connecting strut mountings are disclosed.

3,377,601
MOBILE ELECTRICAL TRANSFORMER APPARATUS HAVING MEANS FOR MOVING THE TRANSFORMER BETWEEN OPERATING AND TRANSIT POSITIONS
Howard M. Donegan, Muncie, Ind., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 27, 1966, Ser. No. 590,045
3 Claims. (Cl. 336—65)

Mobile transformer apparatus including a transformer disposed on a carriage, and means for moving the transformer relative to the carriage between operating and transit positions.



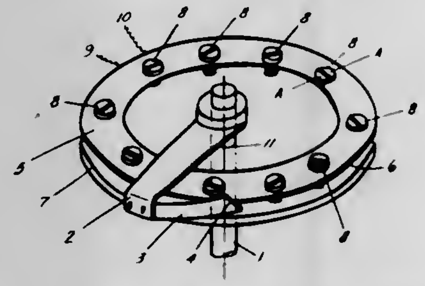
3,377,602
CORE SUPPORTING STRUCTURE HAVING ENCAPSULATED COIL THEREON
Frederick E. Kruse, Toledo, Ohio, assignor to Eltra Corporation, Toledo, Ohio
Filed May 31, 1966, Ser. No. 554,017
6 Claims. (Cl. 336—96)



A method of and structure for unitizing a solenoid coil by injecting a predetermined quantity of hardening resin into the coil from the interior surface from a single passageway and distributing the resin injected throughout the coil until it appears at the outer surface thereof and thereafter hardening the resin.

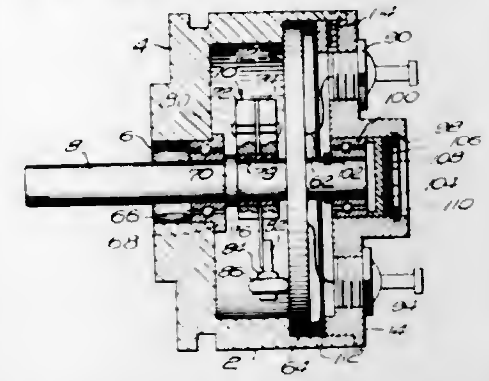
ERRATUM
For Class 338—22 see:
Patent No. 3,377,561

3,377,603
SLIDE RHEOSTAT HAVING LINEARITY ADJUSTMENT
Kazu Suzuki, Tokyo, Japan, assignor to Yokogawa-Hewlett-Packard, Ltd., Tokyo, Japan, a corporation of Japan
Filed June 24, 1966, Ser. No. 560,332
4 Claims. (Cl. 338—121)



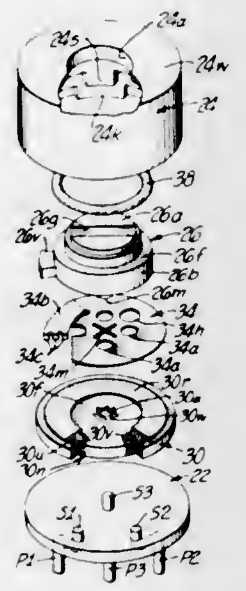
A slide rheostat includes a slanted slidable contactor and a structure for adjusting the relative position of the resistor against the slanted contactor for a given angular position of the sliding contact to provide a highly precise linear relationship between resistance value and angular position of the sliding contactor.

3,377,604
ELECTRICAL DEVICES WITH FRICTIONLESS FLEXIBLE CONTACTS
John W. Forrest, West Acton, Mass., assignor to Acton Laboratories, Inc., Acton, Mass., a corporation of Massachusetts
Filed Apr. 26, 1967, Ser. No. 633,999
14 Claims. (Cl. 338—154)



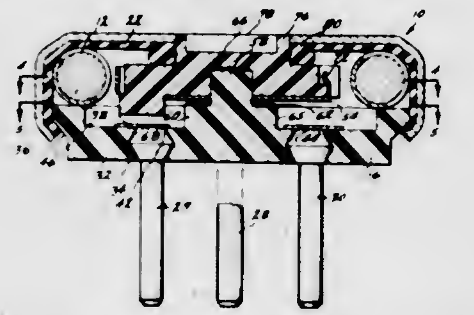
This patent specification describes improvements in devices of the type shown in U.S. Patents 2,862,088, 3,070,768, 3,170,047 and 3,274,350 which essentially comprise a rotating depressor which runs over a flexural contact diaphragm and urges the latter to successively engage a series of switch contacts or successive portions of an electrical resistor. The invention involves changes in how the diaphragm is supported and how the depressor is disposed with respect to the diaphragm, as well as an improved mode of assembling the various parts so as to maximize diaphragm life, stabilize the output signal, and facilitate disassembly for inspection and repair.

3,377,605
MINIATURE POTENTIOMETER
John R. Baskett, Riverside, Calif., assignor to Bourns, Inc., a corporation of California
Filed Apr. 6, 1967, Ser. No. 628,889
11 Claims. (Cl. 338—162)



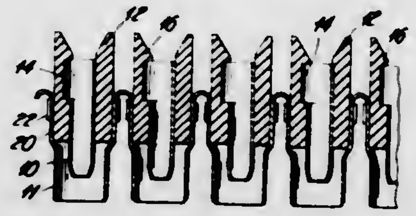
A very small single-turn rotary potentiometer characterized by improved constancy of contact resistance resulting from constant contact cross-section during wear, freedom from lack of uniformity of contact-element force and pressure from instrument to instrument which lack of uniformity is characteristic of prior art potentiometers because of additive or subtractive tolerances of parts dimensions which result in marked variations of spacing of contact base from element surface, the potentiometer having means for maintaining uniform the separation distance between the contact base and the resistance element surface from instrument to instrument with only a single dimensional tolerance involved, the distance being determined by the fixed length of spacers arranged and held in contact with the element base and the contact base, and wear of contact being compensated by concurrent wear of other surfaces including those of the spacers.

3,377,606
POTENTIOMETER APPARATUS
Robert L. Ferrell, Riverside, Calif., assignor to Spectrol Electronics Corporation, San Gabriel, Calif., a corporation of Delaware
Filed Mar. 2, 1964, Ser. No. 348,598
10 Claims. (Cl. 338—174)



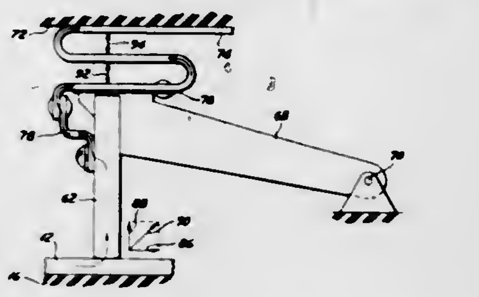
1. A variable resistor comprising: a housing including a base member and a cover member and defining a cavity internally thereof; a resistance element seated within said cavity; contact means disposed within said cavity in sliding contact with said resistance element; adjusting means extending through said housing and adapted upon turning to impart movement to said contact means along said resistance element; terminal means electrically connected to said resistance element and said contact means and extending through said housing; and resiliently compressible rubber-like material molded onto the inner surface of and forming an integral part of said cover member to form a housing closure seal between said cover member and said base member, and extending into surrounding engagement with said adjusting means to form a housing closure seal at the area where said adjusting means extends therethrough, said housing closure seals preventing entrance of foreign contaminants into said housing.

3,377,607
ELECTRIC CIRCUIT SELECTORS
Stanley Thomas Deakin, Farlington, England, assignor to Sealectro Limited, Farlington, Portsmouth, Hampshire, England, a British company
Filed July 6, 1966, Ser. No. 563,188
Claims priority, application Great Britain, July 6, 1965, 28,621/65
9 Claims. (Cl. 339—18)



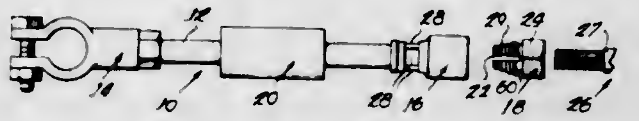
1. An electric circuit selector of the kind having two sets of contacts arranged in parallel rows of electrically connected contacts, the rows of one set of contacts crossing the rows of the other set, there being at each crossing of the rows a pair of contacts one from each set and each pair being arranged for engagement by an electrical connector whereby selected contacts of one set may be electrically connected with the contacts of the other set pairing therewith characterised in that the contacts of each of at least some of the pairs are one within the other and spaced apart.

3,377,608
MOVABLE CONTACT STRUCTURE FOR ABUTTING ENGAGEMENT
Paul M. Christensen and Martin F. Koenig, Milwaukee, Wis., assignors to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed July 1, 1966, Ser. No. 562,303
6 Claims. (Cl. 339—22)



1. An electrical contact assembly for making an abutting engagement with an electrical conductor, the invention comprising, in combination; a housing, a movable contact member extending outwardly and linearly movable of said housing, means for moving said housing and said contact into a circuit making position with said conductor, means for limiting endwise rotational movement of said contact member with respect to said housing to prevent the exterior end of said contact from moving along said conductor, biasing means for biasing said contact outwardly of said housing and into engagement with said conductor comprising a reflexed current carrying member, electrical insulating means interposed between said contact member and said biasing means at the point of biasing engagement, and means electrically connecting said contact member and said biasing means at another point.

3,377,609
REPLACEMENT CONNECTOR
John K. Shannon, 6504 43rd Ave., Kenosha, Wis. 53140, and Owen G. Duncan, 3621 North Bay Drive, Racine, Wis. 53402
Filed Sept. 7, 1965, Ser. No. 485,519
1 Claim. (Cl. 339—28)



A connector which generally comprises a wire cable with a terminal clamp, ground lug or the like affixed to its one end and a threaded splice adapter affixed to its opposite end. An insulation sleeve is adapted to be slid over the splice adapter after it has been affixed to the end of a cable to completely cover and insulate the splice adapter. As explained fully hereinafter, the replacement connector can be affixed to the end of a cable with the use of ordinary tools, such as a wrench or a pliers.

3,377,610
PLUG FOR ELECTRICAL CORD
Albert George Busch, 31 Melrose Lane, Lincolnshire, Deerfield, Ill. 60015, and Eugene J. Majewski, Park Ridge, Ill.; said Majewski assignor to said Busch
Filed Sept. 30, 1966, Ser. No. 583,318
9 Claims. (Cl. 339—95)

1. An electrical connector comprising, in combination, a housing provided with at least one electrical contact terminal accessible from the exterior of said housing,

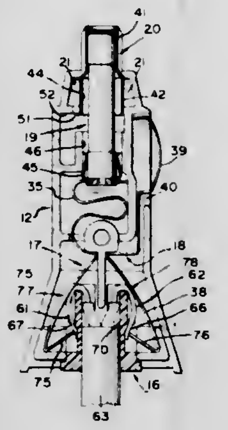
a strain-relief block having first and second enlarged ends defining first and second shoulder surfaces respectively and including a passageway therethrough from said first enlarged end to said second enlarged end,

an electrical conductor inserted through said passageway, an uninsulated end section of said conductor being folded back to overlie said first shoulder surface,

an opening in said housing for receiving said block, said opening being sized to allow the passage therethrough of said first enlarged end but not said second enlarged end such that, when said first block is fully inserted into said opening, said second shoulder abuts at least a portion of the outer surface of said housing which surrounds said opening,

a resilient spring arm mounted within said housing to project into the path of said block as said block is inserted through said opening, said arm being adapted to flex outwardly around said first enlarged end as said block is inserted and thereafter to flex inwardly against the uninsulated end of said conductor to clamp said conductor between said first shoulder surface and the projecting end of said resilient arm, and

means within said housing for connecting said arm to said contact terminal.



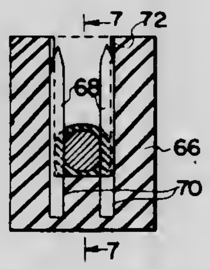
3,377,611
RIGID PARALLEL SIDED SQUEEZE SLOT CONNECTOR

Walter S. Pawl, 2844 Powder Mill Road, Adelphi, Md. 20783

Continuation of application Ser. No. 441,780, Mar. 19, 1965. This application Dec. 12, 1966, Ser. No. 601,209

The portion of the term of the patent subsequent to May 11, 1982, has been disclaimed

9 Claims. (Cl. 339—97)



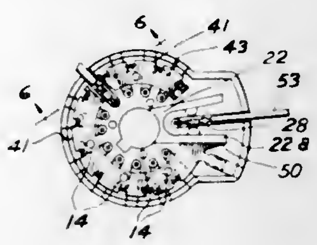
The present invention comprises a solderless, rigid, electrical connector plate of a thickness substantially greater than the diameter of a wire to be received in a parallel sided slot therein, having a width smaller than said diameter, through a flared end portion of said slot sides, so that the wire is compressed as it is forced into said slot to maintain a good pressure contact therein which provides a reliable electrical connection with said plate and therethrough with any other wire connected to said plate in the same or another slot in the plate, the plate being either flat or any other shape, including curved and cylindrical shapes.

3,377,612
ELECTRON TUBE ARC-OVER RING

Lewis Klier, Arlington Heights, Fred P. Manetti, River Forest, and George H. Miller, Bensenville, Ill., assignors to American Plasticraft Company, Chicago, Ill., a corporation of Illinois

Filed Oct. 6, 1966, Ser. No. 584,805

7 Claims. (Cl. 339—143)



1. An electron tube receptacle having spaced pin-receiving contact terminal lead means therein to receive terminal pins of an electron tube,

(a) an electrical conductor ring positioned in said socket to be in spaced relation with said pin contact terminal lead means;

(b) prongs on said ring extending therefrom between selected terminal lead means and providing an edge forming an arc gap with a respective terminal lead means;

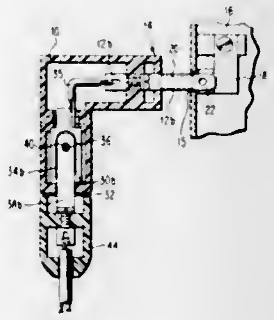
(c) whereby arc gaps having close tolerances relative to the specific voltage to be dissipated thereby may be formed between said prongs and an associated contact terminal lead means to prevent arcing between the contact terminal lead means.

3,377,613
ELECTRICAL CONNECTOR

Andrew M. Archer, Rincon Seaman's Unit, San Francisco, Calif. 94119

Filed Feb. 15, 1966, Ser. No. 527,713

2 Claims. (Cl. 339—154)



A device for converting electrical connector plugs of conventional design into safety plugs comprising a housing of insulating material having contact blade-receiving sockets on one side thereof, connector blades protruding from another side thereof, covers of insulating material enveloping portions of said blades adjacent said housing, and means within said housing for locking contact blades inserted into said sockets in position within the housing and establishing conductive connection between such inserted contact blades and the connector blades of the device.

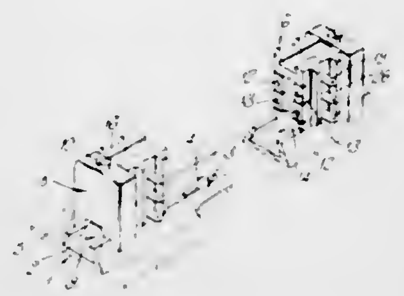
3,377,614
TERMINAL BLOCKS FOR USE IN ELECTRICAL CIRCUITS

Gordon Francis Wellington Powell, Deptford, London, and Stephen Geoffrey Hinton, Seaford, England, assignors to Molins Machine Company Limited, London, England, a corporation of Great Britain

Filed May 5, 1966, Ser. No. 547,861

Claims priority, application Great Britain, May 6, 1965, 19,168/65

2 Claims. (Cl. 339—198)



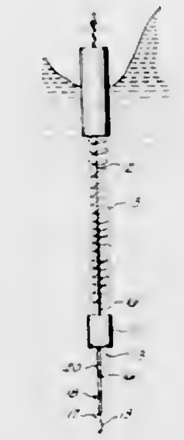
A terminal block is described comprising a plurality of insulating blocks which are slidably assembled and secured to a base member. Opposite faces of each insulating block include corresponding projections and recesses such that each projection on one face of one block fits into a recess on the face of the contiguous block. There are further recesses in opposite faces of the blocks for locating in position the metal electrical contacts between adjacent blocks. The terminal block is provided with an end block at each end of the row of insulating blocks, means being provided for securing the insulating blocks and end blocks together.

3,377,615
COMPLIANT SUSPENSION SYSTEM

James L. Lutes, Jackson, Mich., assignor to Sparton Corporation, Jackson, Mich., a corporation of Ohio

Filed Apr. 25, 1966, Ser. No. 545,128

7 Claims. (Cl. 340—2)



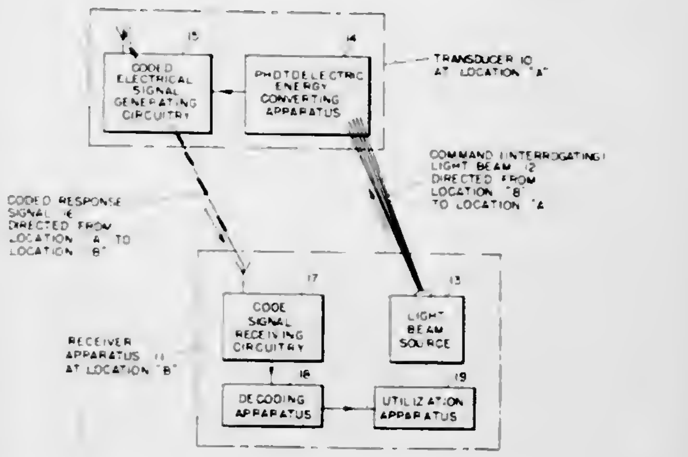
A system for the compliant suspension and electrical connection between a fluid suspended mass and a free floating buoy comprising a compliant rod elastically supporting a fluid suspended mass from the floating buoy with electrical signal cable encircling the compliant rod and being separated by fluid therefrom, the rod and signal cable suspension system being deployed simultaneously into the fluid from the buoy. The instant system provides for functional placement and stabilization of the sensor system so as to minimize vertical movement within a dynamic fluid environment.

3,377,616
VEHICLE IDENTIFICATION SYSTEM

John H. Auer, Jr., Fairport, N.Y., assignor to General Signal Corporation, Rochester, N.Y., a corporation of New York

Filed Apr. 27, 1964, Ser. No. 362,739

40 Claims. (Cl. 340—23)


15
14
CODED ELECTRICAL SIGNAL GENERATING CIRCUITRY
PHOTOELECTRIC ENERGY CONVERTING APPARATUS
TRANSDUCER 10 AT LOCATION "A"
COMMAND (INTERROGATING) LIGHT BEAM 12 DIRECTED FROM LOCATION "B" TO LOCATION "A"
CODED RESPONSE SIGNAL 16 DIRECTED FROM LOCATION "A" TO LOCATION "B"
17
13
CODE SIGNAL RECEIVING CIRCUITRY
LIGHT BEAM SOURCE
RECEIVER APPARATUS 11 AT LOCATION "B"
18
19
DECODING APPARATUS
UTILIZATION APPARATUS

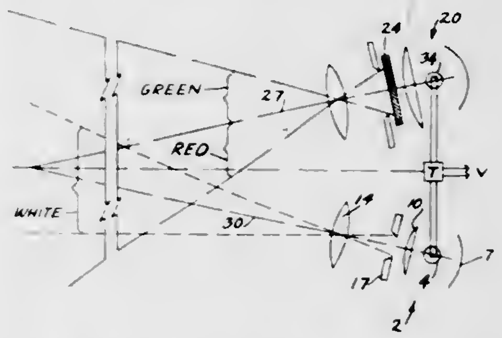
This application discloses a car identification system for transmitting information between the passing cars and wayside apparatus. An energy source, in the form of light projecting apparatus, directs its beam towards the passing cars. A group of solar cells is located on each car in a longitudinal series. A mask fits over the cells with an aperture adjacent to each cell so that the sharp beam of light from the wayside successively activates each cell of the series to produce a series of pulses as the car moves past the wayside location. These pulses are selectively applied to one or the other of two radio frequency transmitters of distinctive character. Thus, a binary radio pulsed type code is transmitted from each passing car. The wayside equipment receives and decodes these binary codes, and thus identifies the successively passing cars.

3,377,617
THREE-COLOR ALTERNATING-SIGNAL SINGLE STATION RANGE LIGHT

Theodore H. Projector, 3304 Edgewood Road, Kensington, Md. 20795

Filed July 28, 1965, Ser. No. 475,457

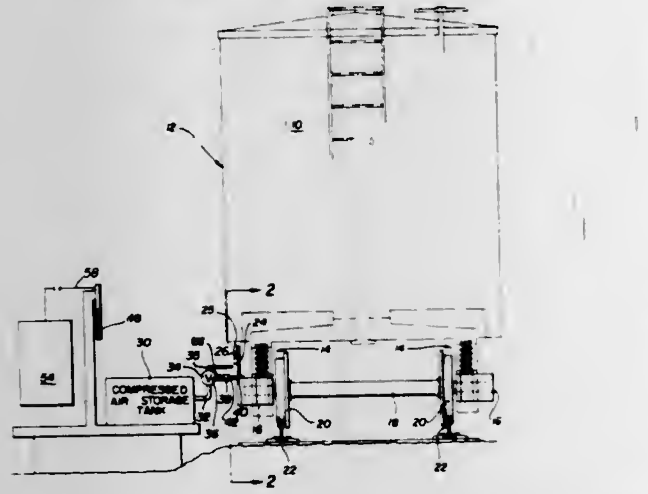
3 Claims. (Cl. 340—29)



1. A single-station range light comprising a white light source and a multi-color light source and means for effecting directing of the beams of said sources in the same general direction wherein the beam from said white light souce determines the desired limits of a course to be followed and wherein the beams from said multi-color light source demarcate respectively the left and right sides of the channel and adjacent areas, and means for darkening the beam of said white light source when the beams from said multi-color source are visible and vice versa.

3,377,618
ARRANGEMENT FOR IDENTIFYING FREIGHT CARS

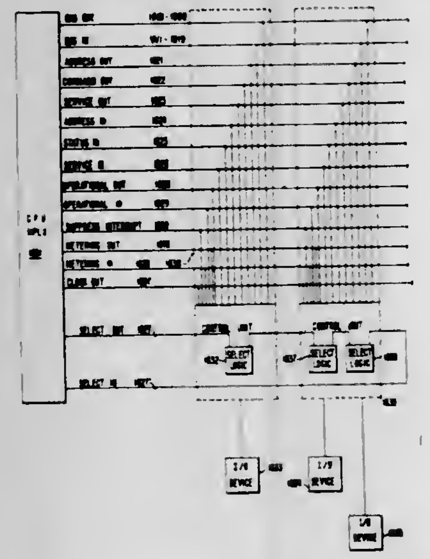
William C. Dersch, Los Gatos, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Sept. 11, 1961, Ser. No. 137,300
2 Claims. (Cl. 340—47)



An arrangement for identifying railroad cars as they pass a predetermined checking point, which comprises the combination of a set of whistles mounted upon the car, with a normally disabled device for producing a blast of air mounted adjacent the track at the checking point in a position wherein it is effective upon activation to sound the whistles on a car passing by, a cam operated valve operative in response to a cam on the car, upon the passage of the car past said blast producing device for activating said blast producing device to sound the whistles on the passing car. The whistles on the car are tuned to a selected combination of frequencies, and located in the vicinity of the blast producing device is a number of sound-responsive current-generating devices tuned to different frequencies. When a car passes the checking point and the blast producing device is set in operation, the sounds produced by the whistles cause corresponding ones of the sound-responsive current-producing devices to generate currents of different frequencies, which are employed to identify the car at a remote control station.

3,377,619
DATA MULTIPLEXING SYSTEM

Elliott R. Marsh, Endicott, and Albert A. Magdall and Francis R. Rausch, Vestal, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Apr. 6, 1964, Ser. No. 357,361
7 Claims. (Cl. 340—172.5)



1. A multiplexing system for transferring data between a data processing system and a plurality of addressable peripheral units, including a storage for data and instructions whereby the latter performs operations on said data within said data processing system, each instruction of said instructions including groups of signal bits for addressing a designated peripheral unit for the transfer of data between the designated peripheral unit and the data processing system, comprising

means responsive to said groups of signal bits for selecting storage address locations identified with said peripheral unit, said storage address locations containing a unit control word and command control words for controlling the activity of a designated peripheral unit, said unit control word including control signal bits, specifying unit activity, derived from a current command control word, and address bits representing the address of a succeeding command control word;

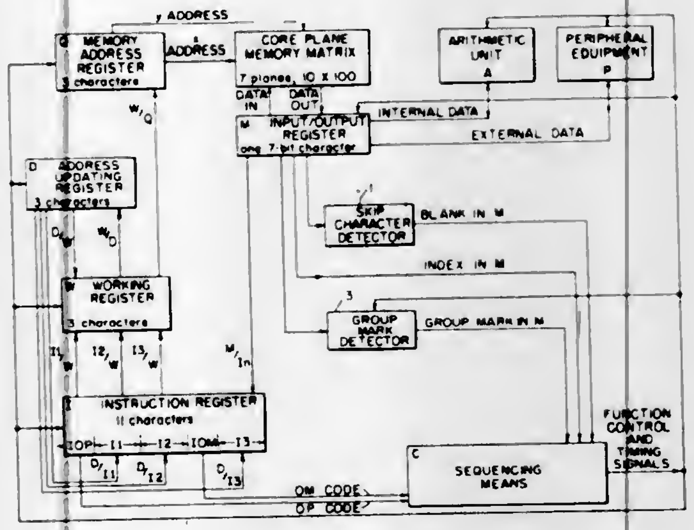
status testing means for testing said unit control word for status bits indicating whether the designated peripheral unit is available or not available for data transfer, and operable in response to the status bit signifying unit availability to cause transfer of the control signal bits from the current command control word into said unit control word to govern the activities of said peripheral unit during data transfer;

means responsive to said control signal bits for effecting the specified unit activity;

and means responsive to the control signal bits in said unit control word upon completion of the activity of the designated peripheral unit as specified by said current command control word, for updating the unit control word with address bits, and control signal bits derived from a command control word succeeding said current control word.

3,377,620
VARIABLE WORD LENGTH INTERNALLY PROGRAMMED INFORMATION PROCESSING SYSTEM

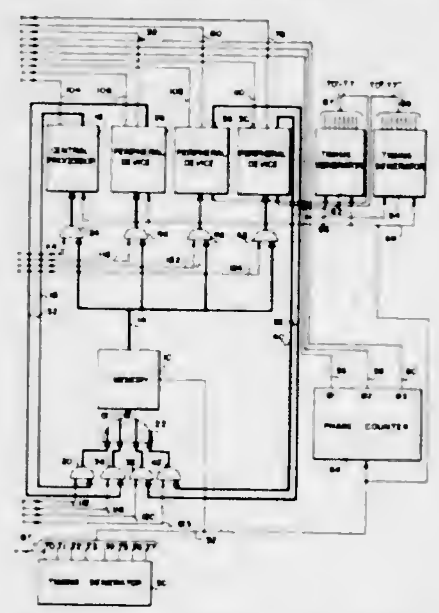
John C. Sims, Jr., Sudbury, Mass., assignor, by mesne assignments, to Mohawk Data Science Corporation, East Herkimer, N.Y., a corporation of New York
Filed Apr. 10, 1964, Ser. No. 358,853
16 Claims. (Cl. 340—172.5)


y ADDRESS
Q MEMORY ADDRESS REGISTER 3 characters
x ADDRESS
CORE PLANE MEMORY MATRIX 7 planes, 10 X 100
ARITHMETIC UNIT A
PERIPHERAL EQUIPMENT P
DATA IN
DATA OUT
M INPUT/OUTPUT REGISTER one 7-bit character
INTERNAL DATA
EXTERNAL DATA
W/Q
D ADDRESS UPDATING REGISTER 3 characters
SKIP CHARACTER DETECTOR
BLANK IN M
INDEX IN M
D/W
W/D
W WORKING REGISTER 3 characters
GROUP MARK DETECTOR
GROUP MARK IN M
I1/W
I2/W
I3/W
M/In
I INSTRUCTION REGISTER 11 characters
IOP I1 I2 IOM I3
D/I1
D/I2
D/I3
C SEQUENCING MEANS
FUNCTION CONTROL AND TIMING SIGNALS
OM CODE
OP CODE

1. In combination with an internally programmed information processing system having an instruction register for storing an instruction word comprising at least two characters, addressable memory means for storing a sequence of characters defining an instruction word, distributing means for sequentially reading the stored sequence of characters from said memory means a character at a time and restoring each character to the address in said memory means from which it was read after a predetermined time, skip character detecting means having first and second states and actuated by a predetermined skip character read by said distributing means from its first to its second state, and means controlled by said distributing means and said skip character detecting means in its first state for entering characters other than skip characters into said instruction register.

3,377,621
ELECTRONIC DATA PROCESSING SYSTEM WITH TIME SHARING OF MEMORY

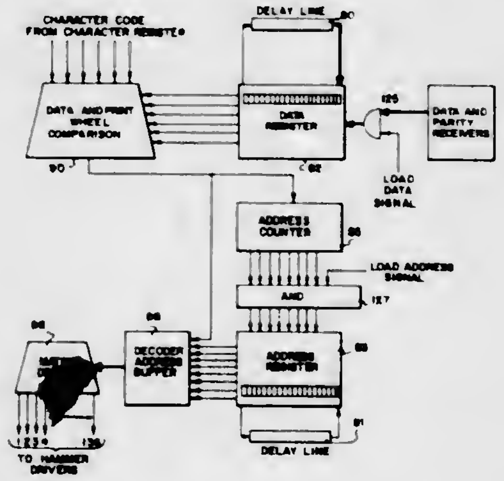
Lorenz A. Hittel and Homer W. Miller, Phoenix, Ariz., assignors to General Electric Company, a corporation of New York
Filed Apr. 14, 1965, Ser. No. 448,052
22 Claims. (Cl. 340—172.5)



An electronic data processing system employing a memory and a plurality of units for input/output functions with respect to the memory further includes means for directing the accessing of the memory by the units.

3,377,622
HIGH SPEED PRINTER SYSTEM INCLUDING RECIRCULATING DATA AND ADDRESS REGISTERS

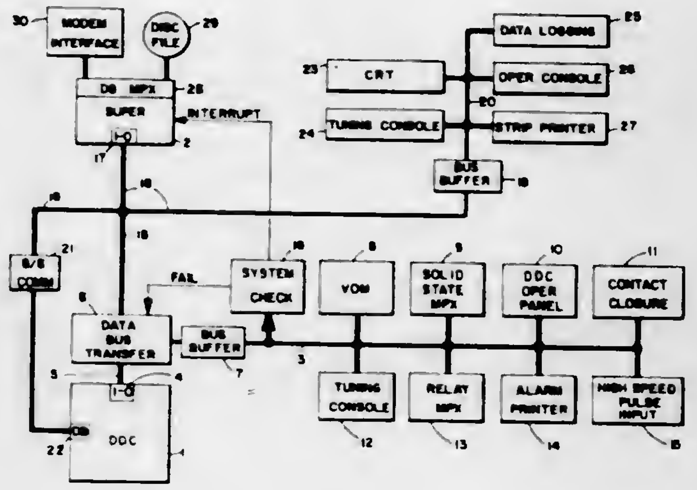
Byron F. Burch, Jr., Scottsdale, and Wesley W. Bradshaw, Jr., Phoenix, Ariz., assignors to General Electric Company, a corporation of New York
Filed Apr. 20, 1965, Ser. No. 449,406
23 Claims. (Cl. 340—172.5)



A printer system adapted for use in electronic data processing systems employing random address buffering of data to be printed further includes means for selectively varying the format of the data print out.

3,377,623
PROCESS BACKUP SYSTEM

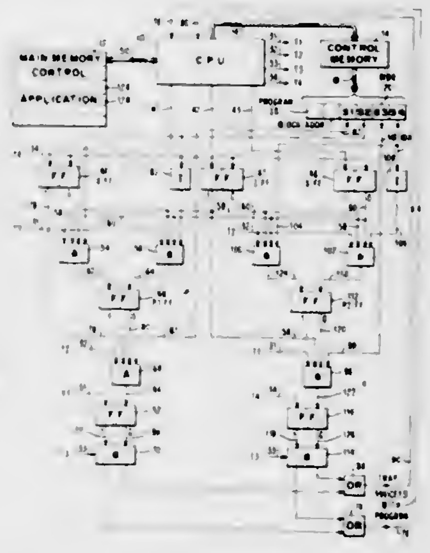
Richard Reut, Medfield, and Bruce H. Baldridge, Natick, Mass., assignors to The Foxboro Company, Foxboro, Mass., a corporation of Massachusetts
Filed Sept. 29, 1965, Ser. No. 491,307
4 Claims. (Cl. 340—172.5)



A dual computer configuration adapted for process control applications utilizes at least one switchable data bus having process control modules interconnected therewith; an external system check device monitors selected computer and peripheral conditions and orders data bus connection to the alternate computer in accordance with fault occurrence; normally, both computers, each servicing its respective data bus, are operational; an alternate configuration provides for critical loop control redundancy, the normal condition finding all computers operational.

3,377,624
MEMORY PROTECTION SYSTEM

Robert A. Nelson, Yorktown Heights, Ira T. Ellis, Jr., Ossining, and Lois M. Haibt, Katonah, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 7, 1966, Ser. No. 519,347
14 Claims. (Cl. 340—172.5)



1. A memory protection system comprising:

first means for indicating whether an instruction which results in said memory being acted upon in a predetermined manner is privileged;

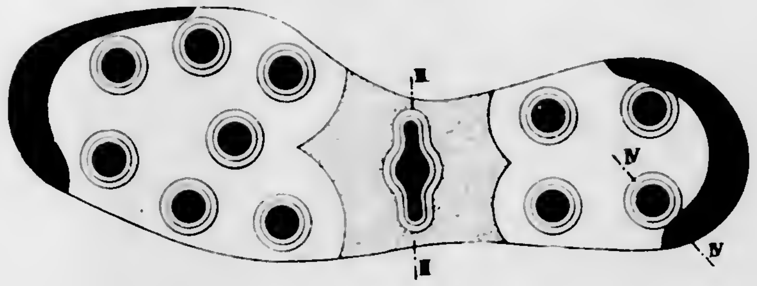
second means for indicating whether the portion of said memory acted upon in said predetermined manner is conditionally protected;

DESIGNS

APRIL 9, 1968

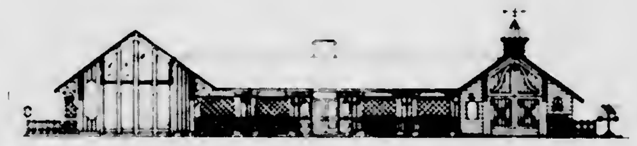
210,714
SHOE SOLE OR SIMILAR ARTICLE

Jean Pradet, Saint Jean-de-la-Ruelle, France
(18 Rue de la Republique, 45 Orleans, France)
Filed Dec. 28, 1966, Ser. No. 5,201
Claims priority, application France June 28, 1966
Term of patent 14 years
(Cl. D2—320)



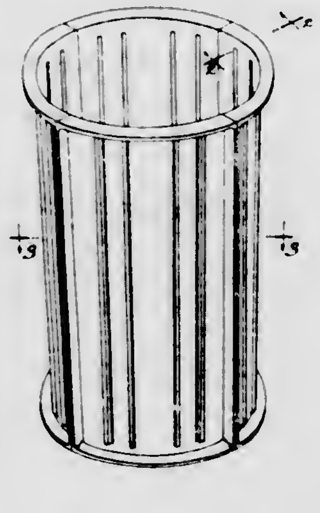
210,715
BUILDING

John P. Garneau, 180 S. 3rd Ave., Clarion, Pa. 16214, and Robert F. Broché, Erie, Pa.; said Broché assignor to said Garneau
Filed July 28, 1966, Ser. No. 3,235
Term of patent 14 years
(Cl. D13—1)



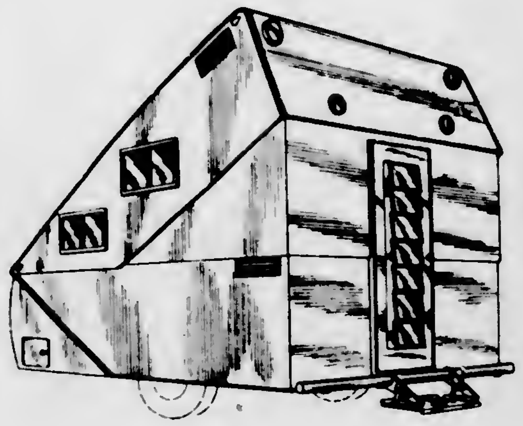
210,716
SUBTERRANEAN TRANSFORMER VAULT

Morris Greitzer, Los Angeles, and Simon Greitzer, Inglewood, Calif., assignors to California Maple, Los Angeles, Calif., a corporation of California
Filed Nov. 14, 1966, Ser. No. 4,633
Term of patent 14 years
(Cl. D13—1)



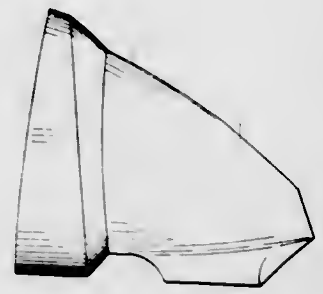
210,717
TRAVEL TRAILER

Richard M. Johnson, Morrison, Ill. 61270
Filed June 5, 1967, Ser. No. 8,939
Term of patent 14 years
(Cl. D14—3)



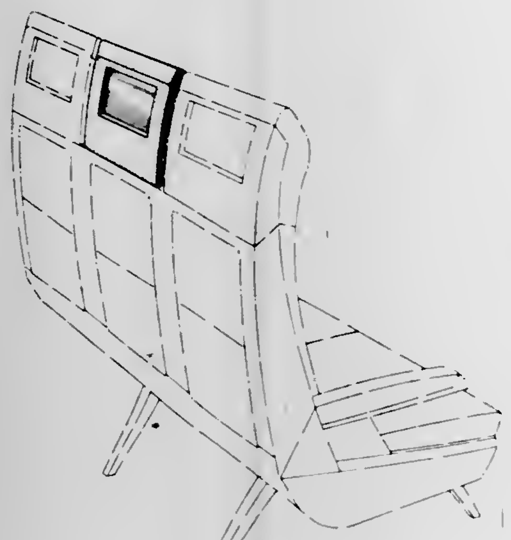
210,718
REAR VIEW MIRROR FOR MOTOR VEHICLES

John Anthony Day, Kinver, England, assignor to Desmo Limited, Birmingham, England, a British company
Filed Nov. 26, 1965, Ser. No. 88,229
Claims priority, application Great Britain June 22, 1965
Term of patent 14 years
(Cl. D14—6)



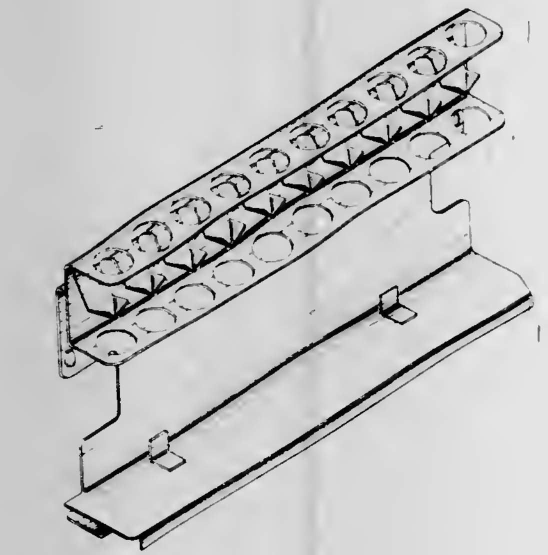
210,719
AIRCRAFT SEAT

Frank J. Del Giudice, Seattle, Wash., assignor to Hardman Tool and Engineering Company, Los Angeles, Calif., a corporation of California
Filed Feb. 13, 1967, Ser. No. 5,781
Term of patent 14 years
(Cl. D15—8)



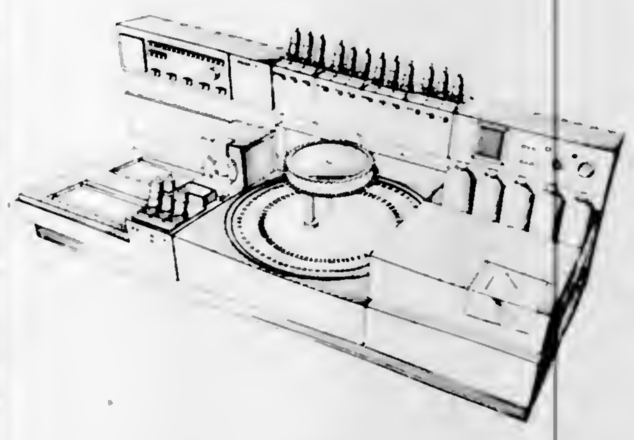
210,720
TEST TUBE RACK

Erik W. Anthon, Kensington, Calif., assignor to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware
Continuation-in-part of design application Ser. No. 5,009, Dec. 12, 1966. This application Oct. 2, 1967, Ser. No. 8,937
Term of patent 14 years
(Cl. D16—1)



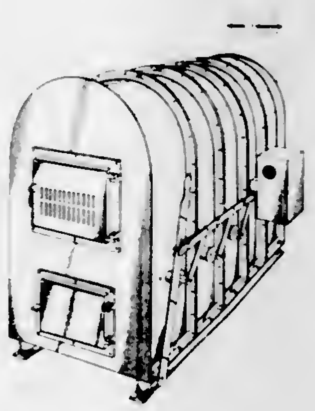
210,721
AUTOMATED UNIT FOR ANALYZING CHEMICAL SAMPLES

Leonard N. Albrecht, Mill Valley, Calif., assignor to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware
Continuation-in-part of design application Ser. No. 4,002, Sept. 23, 1966. This application Oct. 4, 1967, Ser. No. 8,855
Term of patent 14 years
(Cl. D16—2)



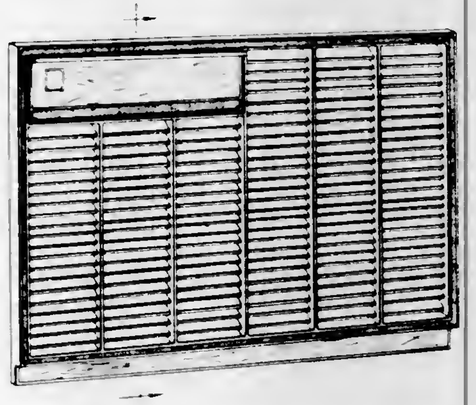
210,722
INCINERATOR

Harry S. McDowell, Cuyahoga County, Ohio, assignor to The Donley Brothers Company, Cleveland, Ohio, a corporation of Ohio
Filed June 7, 1967, Ser. No. 7,387
Term of patent 14 years
(Cl. D23—85)



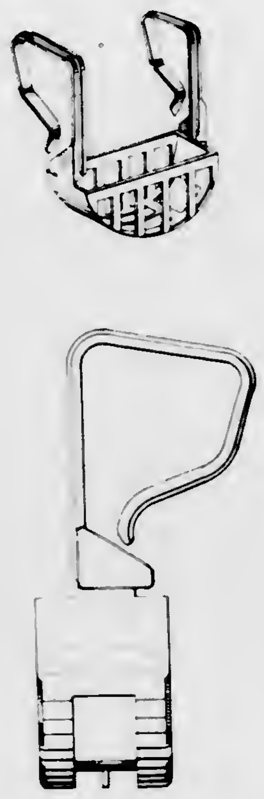
210,723
AIR CONDITIONER FRONT PANEL

Charles F. Schultz, Jefferson County, Ky., assignor to General Electric Company, a corporation of New York
Filed Apr. 24, 1967, Ser. No. 6,816
Term of patent 14 years
(Cl. D23—141)



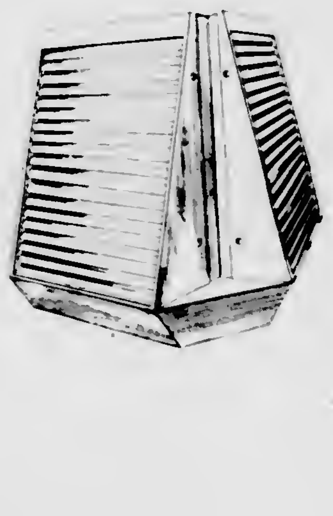
210,724
TOILET BOWL DEODORANT HOLDER

Morton A. Rosenheim, Plandome, N.Y., assignor to Ramo Realty Corp., Plandome, N.Y., a corporation of New York
Filed Dec. 18, 1967, Ser. No. 9,823
Term of patent 14 years
(Cl. D23—150)



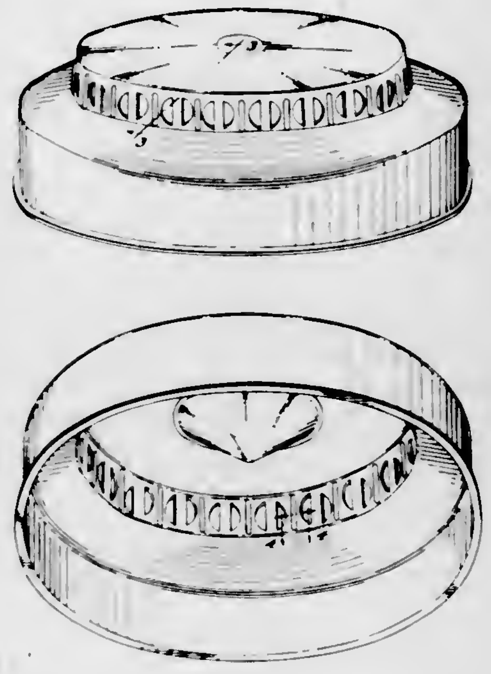
210,725
FLUID HEAT EXCHANGER FOR AIR CONDITIONING AND REFRIGERATION SYSTEMS AND THE LIKE

Raymond A. Lo Turco, Wexford, Pa., assignor to Frick Company, Waynesboro, Pa., a corporation of Pennsylvania
Filed Sept. 1, 1967, Ser. No. 8,459
Term of patent 14 years
(Cl. D23—153)



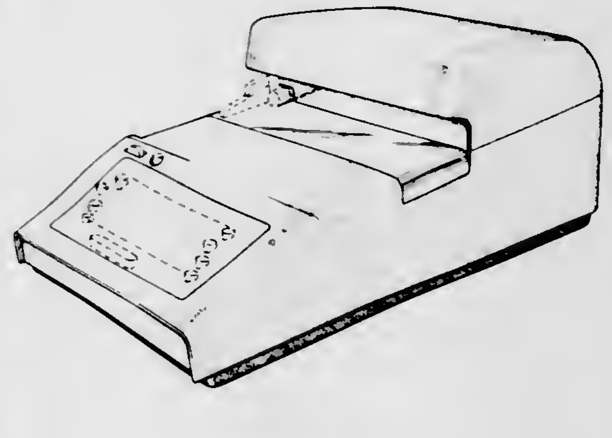
210,726
SUBTERRANEAN TRANSFORMER VAULT BAFFLE

Morris Greitzer, Los Angeles, and Simon Greitzer, Inglewood, Calif., assignors to California Maple, Los Angeles, Calif., a corporation of California
Filed Nov. 14, 1966, Ser. No. 4,635
Term of patent 14 years
(Cl. D23—154)



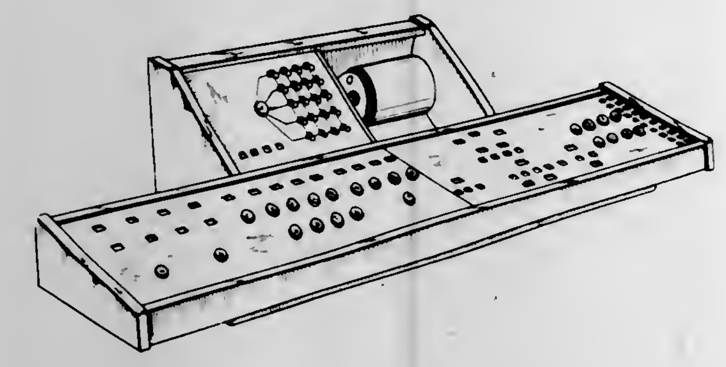
210,727
COMBINED DATA TRANSMITTER AND CARD PUNCH

Walter M. Beusse, Niles, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware
Filed Apr. 1, 1966, Ser. No. 1,725
Term of patent 14 years
(Cl. D26—5)



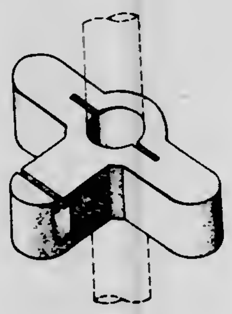
210,728
DATA ENTRY KEYBOARD CONSOLE

Frederick E. Barrett, New York, N.Y. (% Comspace Corp., 2372 Linden Blvd., Brooklyn, N.Y. 11208)
Filed July 20, 1966, Ser. No. 3,138
Term of patent 14 years
(Cl. D26—5)



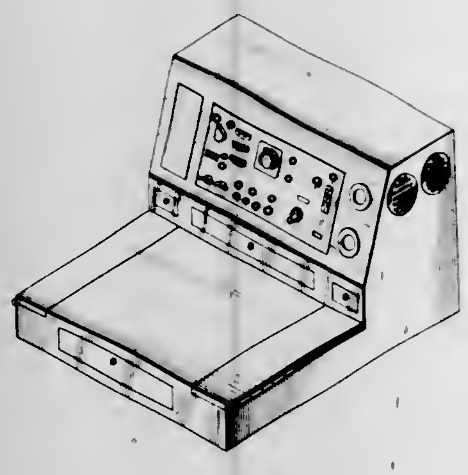
210,729
POST MOUNTED INSULATING SUPPORT FOR ELECTRIC FENCE WIRE

David A. Epp, Henderson, Nebr., assignor to Henderson Manufacturing Co., Inc., a corporation of Nebraska
Filed Mar. 31, 1967, Ser. No. 6,458
Term of patent 14 years
(Cl. D26—10)



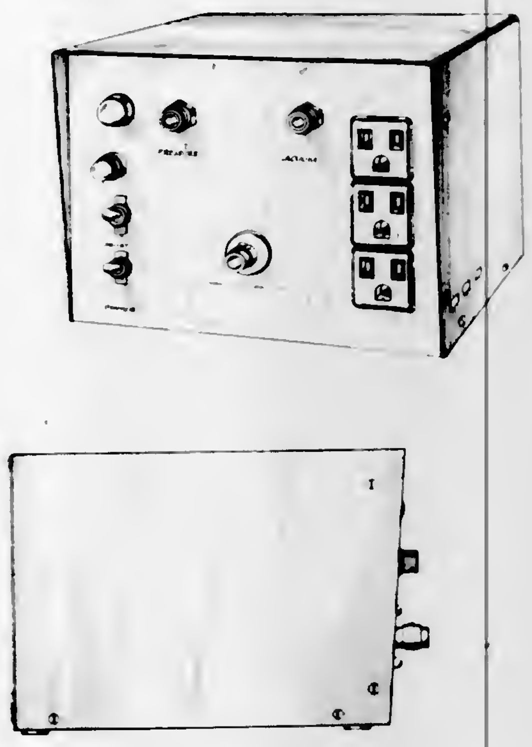
210,730
POWER SUPPLY WORK CENTER FOR MAINTENANCE AND REPAIR OF ELECTRONIC EQUIPMENT

William J. Siegel, 814 E. Franklin Ave., Silver Spring, Md. 20901
Filed May 31, 1966, Ser. No. 2,480
Term of patent 14 years
(Cl. D26—15)



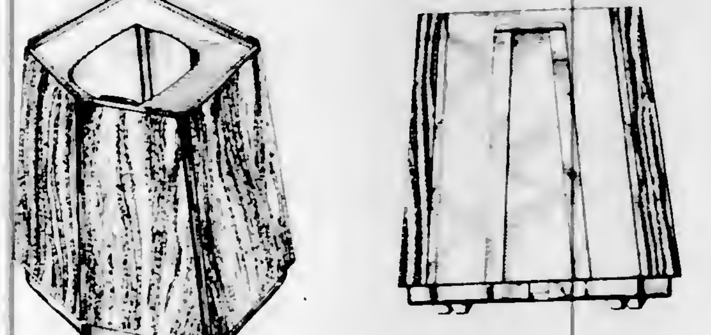
210,731
POWER SUPPLY UNIT FOR MAINTENANCE AND REPAIR OF ELECTRONIC EQUIPMENT

William J. Siegel, 814 E. Franklin Ave., Silver Spring, Md. 20901
Filed May 31, 1966, Ser. No. 2,481
Term of patent 14 years
(Cl. D26—15)



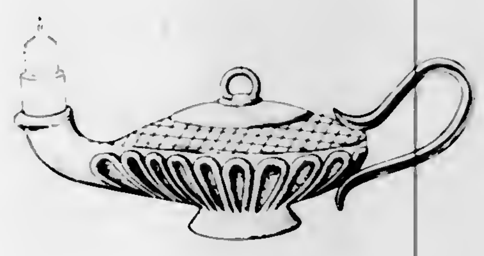
210,732
COMBINATION FLASHLIGHT CHARGER AND STORAGE DEVICE OR SIMILAR ARTICLE

Walter C. Anderson, Redding, Conn., assignor to General Electric Company, a corporation of New York
Filed July 1, 1966, Ser. No. 2,907
Term of patent 14 years
(Cl. D26—15)



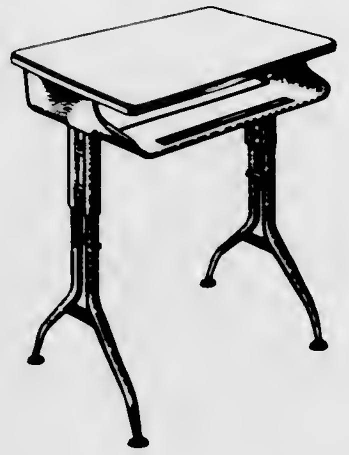
210,733
CHRISTMAS ORNAMENT

Dario Moranduzzo, Via Aretina 161, Florence, Italy
Filed May 9, 1967, Ser. No. 7,027
Term of patent 7 years
(Cl. D29—1)



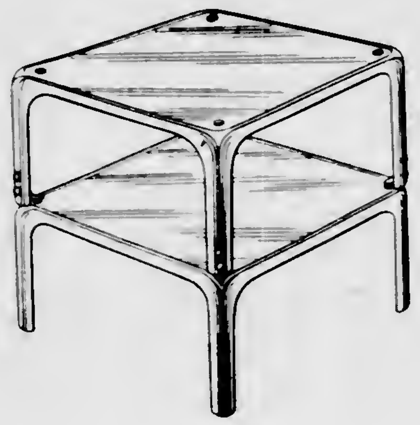
210,734
DESK

Bror W. Henrikson and Chester J. Barecki, Grand Rapids, Mich., assignors to American Seating Company, Grand Rapids, Mich., a corporation of Delaware
Filed Sept. 1, 1966, Ser. No. 3,690
Term of patent 14 years
(Cl. D33—7)



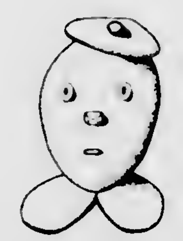
210,735
MULTI-TIERED TABLE UNIT

Lodovico Magistretti, Via Conservatorio 20, Milan, Italy
Filed Sept. 22, 1965, Ser. No. 87,150
Claims priority, application Italy Mar. 23, 1965
Term of patent 14 years
(Cl. D33—14)



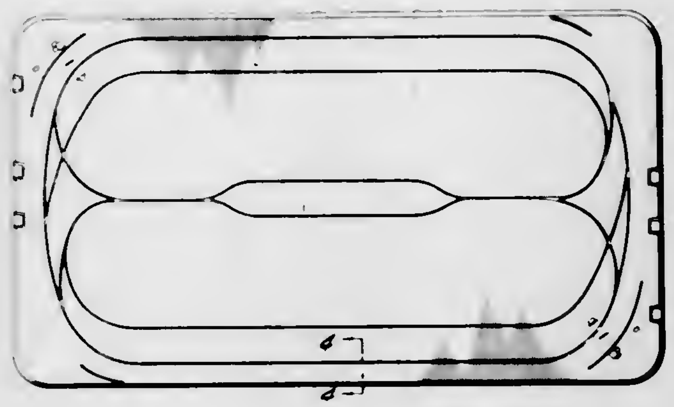
210,736
FIGURINE OR SIMILAR ARTICLE

Charles L. Tomko, 2418 East Blvd., Bethlehem, Pa. 18017
Filed Feb. 1, 1967, Ser. No. 5,652
Term of patent 14 years
(Cl. D34—4)



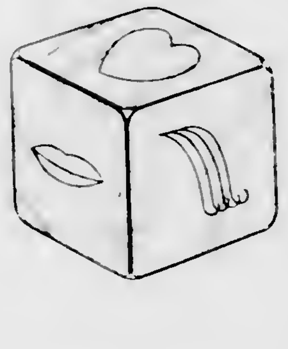
210,737
RACING TRACKWAY GAME BOARD

Leonard H. McRoskey and John W. McRoskey, Los Angeles, Calif., assignors to Republic Tool & Manufacturing Corporation, a corporation of California
Filed Oct. 28, 1966, Ser. No. 4,460
Term of patent 14 years
(Cl. D34—5)



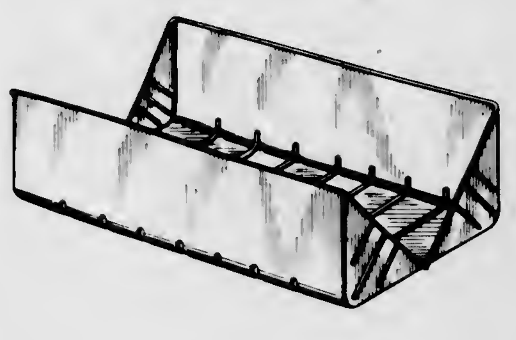
210,738
GAME DIE

Fernandez P. Armand, 222 W. 23rd St., New York, N.Y. 10011
Filed May 25, 1967, Ser. No. 7,259
Term of patent 14 years
(Cl. D34—5)



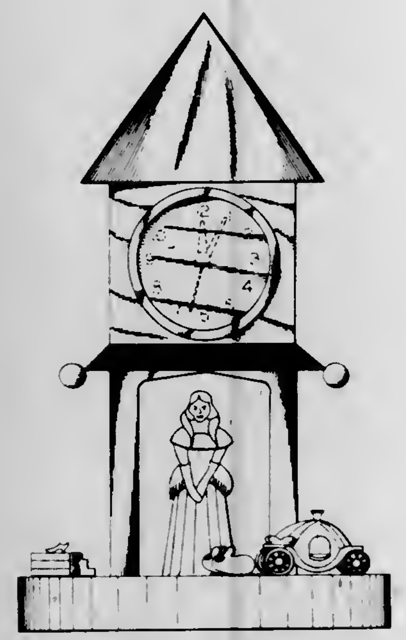
210,739
CONTAINER FOR PLANTS

Arthur Hasselbach, P.O. Box 336, Cranbury, N.J. 08512
Filed Aug. 14, 1967, Ser. No. 8,243
Term of patent 14 years
(Cl. D35—3)



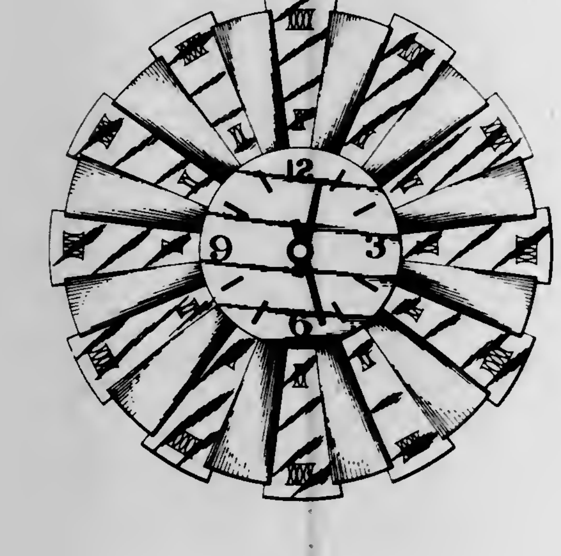
210,740
CLOCK CASING

Mel Appel, Livingston, and Martin Schnur, West Orange, N.J., assignors to General Time Corporation, Stamford, Conn., a corporation of Delaware
Filed May 19, 1967, Ser. No. 7,186
Term of patent 14 years
(Cl. D42—7)



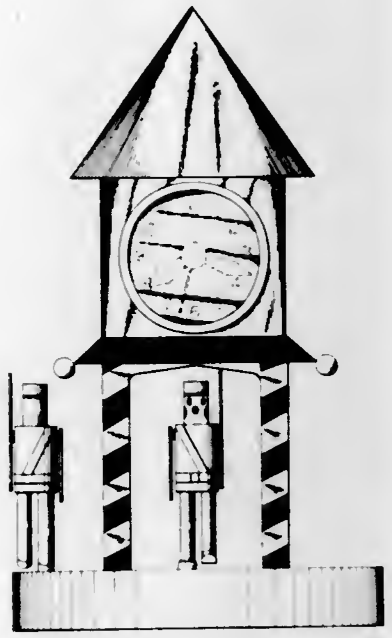
210,741
CLOCK

Giacinco C. D'Ercoli, Park Forest, Ill. (High Ridge Park, Stamford, Conn. 06905), and Roman J. Szalek, 1458 Lafayette St., La Salle, Ill. 61501
Filed May 19, 1967, Ser. No. 7,188
Term of patent 14 years
(Cl. D42—7)



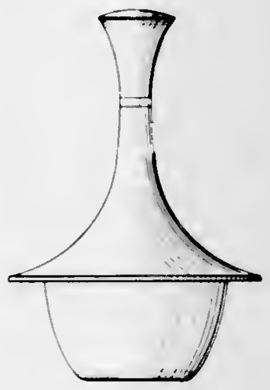
210,742
CLOCK CASING

Mel Appel, Livingston, and Martin Schnur, West Orange, N.J., assignors to General Time Corporation, Stamford, Conn., a corporation of Delaware
Filed May 19, 1967, Ser. No. 7,193
Term of patent 14 years
(Cl. D42—7)



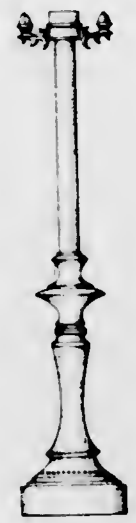
210,743
CONDIMENT DISPENSER

William H. Chaffee, Hinsdale, Ill., assignor to Model Builders, Inc., Oak Park, Ill., a corporation of Illinois
Filed Mar. 22, 1967, Ser. No. 6,338
Term of patent 14 years
(Cl. D44—22)



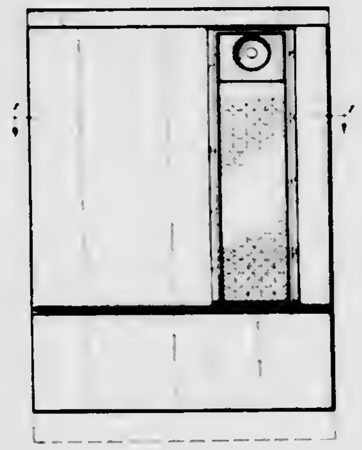
210,744
LAMP POST

Hugh Major McKittrick, Middletown, N.J. (80 Rutledge Drive, Red Bank, N.J. 07701)
Filed Mar. 17, 1966, Ser. No. 1,522
Term of patent 7 years
(Cl. D48—31)



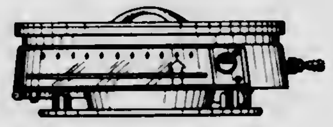
210,745
DISHWASHER

Raymond C. Sandin, Winnetka, Ill., assignor to General Electric Company, a corporation of New York
Original design application June 30, 1966, Ser. No. 2,888, now Patent No. 208,942, dated Oct. 17, 1967. Divided and this application Feb. 3, 1967, Ser. No. 7,046
Term of patent 14 years
(Cl. D49—1)



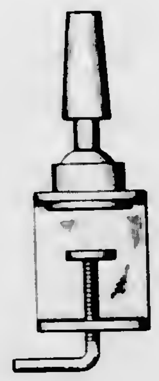
210,746
AIR CLEANER TESTER

Toyoo Yamada, 7–14 Chuo 5-chome, Ohta-ku, Tokyo, Japan
Filed July 28, 1966, Ser. No. 3,238
Term of patent 14 years
(Cl. D52—6)



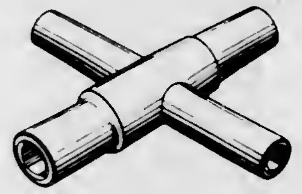
210,747
CLAMP FOR A MANNEQUIN HEAD

William E. Anson, Warren, Mich., assignor to Michigan Wig Products Company, Inc., Grosse Pointe Farms, Mich., a corporation of Michigan
Filed Mar. 20, 1967, Ser. No. 6,303
Term of patent 7 years
(Cl. D54—1)



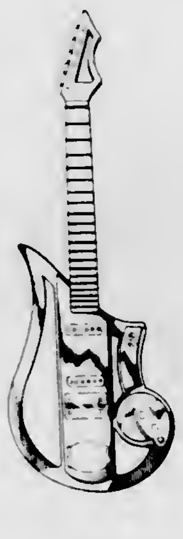
210,748
STOP COCK KEY OR SIMILAR ARTICLE

James M. Sexauer, Harrison, N.Y., assignor to J. A. Sexauer Mfg. Co., Inc., White Plains, N.Y., a corporation of New York
Filed Jan. 3, 1967, Ser. No. 5,265
Term of patent 14 years
(Cl. D54—16)

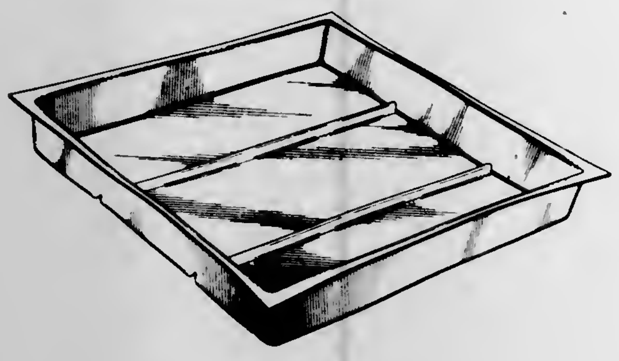


210,749
STRINGED MUSICAL INSTRUMENT

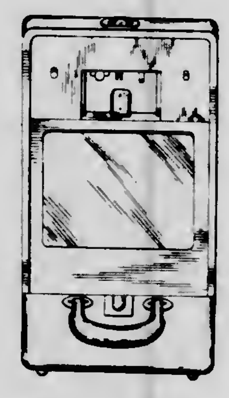
Earl F. Anderson, 264 E. Kimball, Raymondville, Tex. 78580
Filed Jan. 24, 1967, Ser. No. 5,547
Term of patent 7 years
(Cl. D56—1)



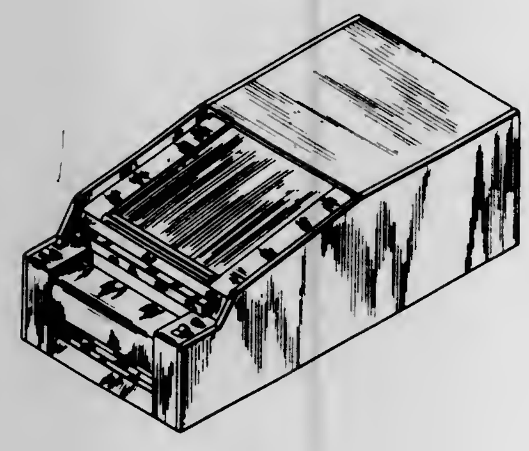
210,750
NURSERY TRAY
Ted L. Paxton, P.O. Box 2006, Magnolia Center Station, Riverside, Calif. 92506
Filed Sept. 1, 1966, Ser. No. 3,678
Term of patent 14 years
(Cl. D58—13)



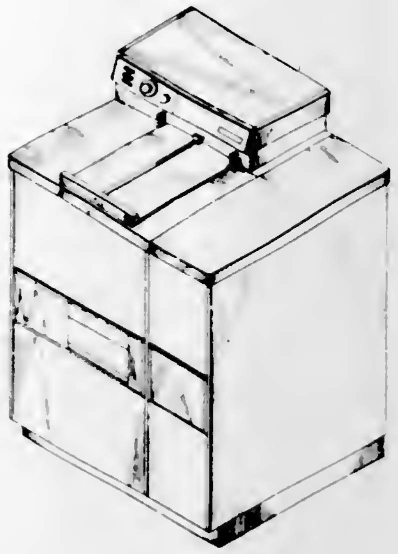
210,751
AUDIO VISUAL DISPLAY UNIT OR SIMILAR ARTICLE
Thomas J. Costa, 1733 79th St., Brooklyn, N.Y. 11214
Filed May 5, 1966, Ser. No. 2,181
Term of patent 3½ years
(Cl. D61—1)



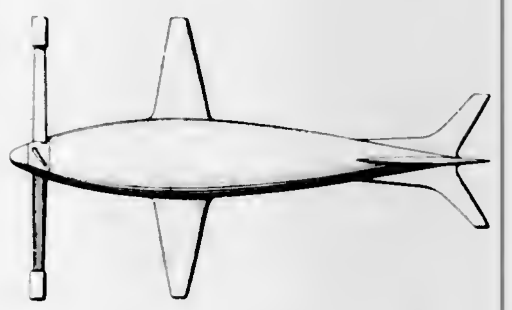
210,752
PHOTOCOPY MACHINE OR SIMILAR ARTICLE
Charles C. Austin, Nashua, N.H., assignor to Dennison Manufacturing Company, Framingham, Mass., a corporation of Nevada
Filed Dec. 7, 1966, Ser. No. 4,964
Term of patent 14 years
(Cl. D61—1)



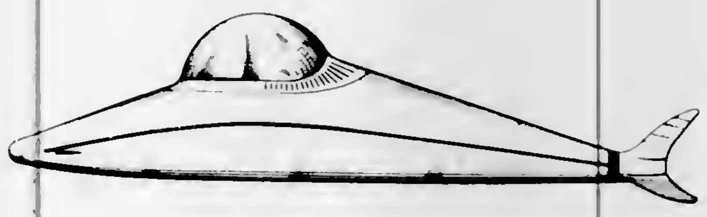
210,753
PHOTOCOPY MACHINE OR SIMILAR ARTICLE
Walter A. Raczynski, Wayland, Mass., assignor to Dennison Manufacturing Company, Framingham, Mass., a corporation of Nevada
Filed Dec. 13, 1966, Ser. No. 5,021
Term of patent 14 years
(Cl. D61—1)



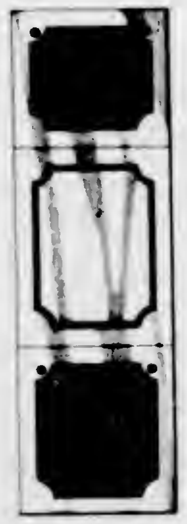
210,754
VERTICAL TAKE-OFF AIRCRAFT
Robert John Lang, 16840 Chatsworth St., Granada Hills, Calif. 91344
Filed Sept. 16, 1966, Ser. No. 3,890
Term of patent 14 years
(Cl. D71—1)



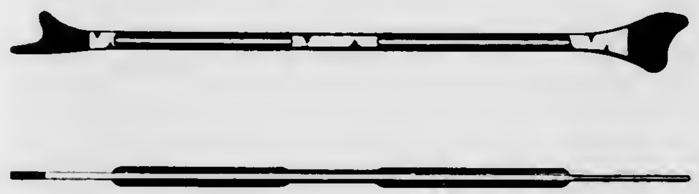
210,755
SUBMERSIBLE WATERCRAFT
Robert J. Lang, 18400 Malden St., Northridge, Calif. 91324
Filed Aug. 21, 1967, Ser. No. 8,329
Term of patent 14 years
(Cl. D71—1)



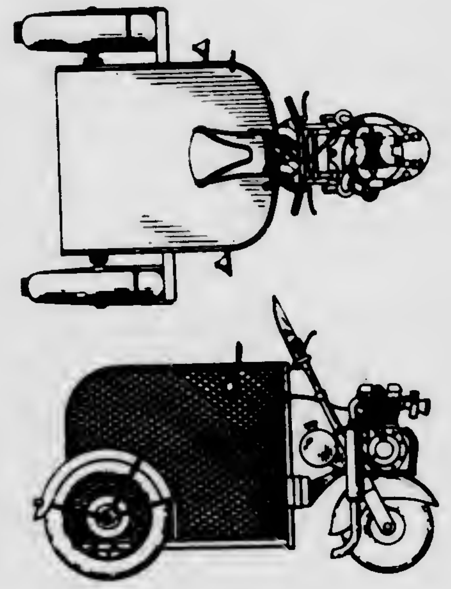
210,756
HEATER CABINET
Robert L. Miller, Centralia, Ill., assignor to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Filed June 23, 1966, Ser. No. 2,784
Term of patent 14 years
(Cl. D81—19)



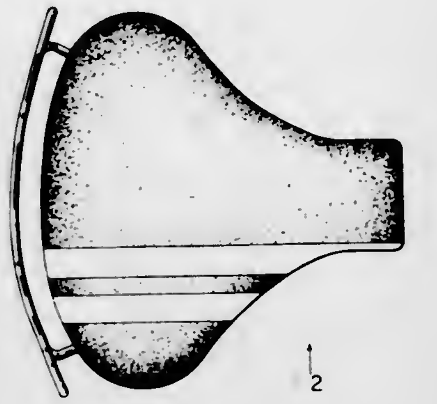
210,757
CERVICAL SPATULA
Raymond S. Michel, Portland, Oreg., assignor to United Medical Laboratories, Inc., Portland, Oreg., a corporation of Oregon
Filed June 23, 1967, Ser. No. 7,574
Term of patent 14 years
(Cl. D83—12)



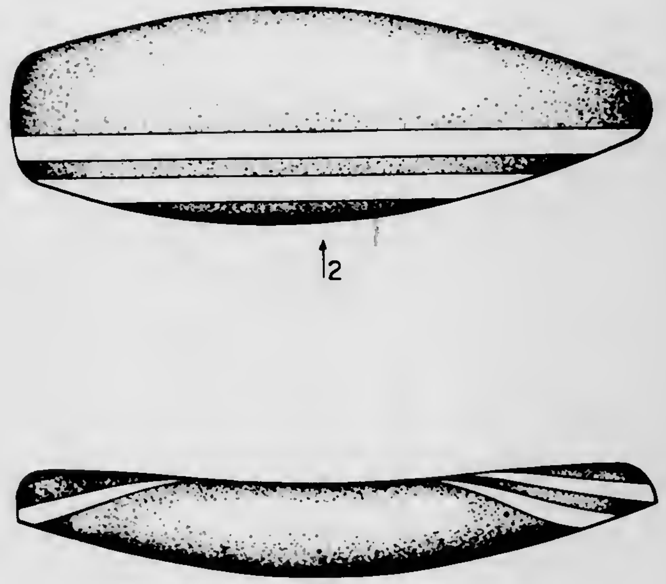
210,758
VEHICLE
Walter E. Binder, 5805 St. John St., Kansas City, Mo. 64123
Filed June 26, 1967, Ser. No. 7,599
Term of patent 14 years
(Cl. D90—8)



210,759
CYCLE SADDLE
Robert C. Persons, 72 Commercial St., Worcester, Mass. 01608
Filed Mar. 17, 1967, Ser. No. 6,270
Term of patent 14 years
(Cl. D90—16)



210,760
CYCLE SADDLE
Robert C. Persons, 72 Commercial St., Worcester, Mass. 01608
Filed Mar. 17, 1967, Ser. No. 6,271
Term of patent 14 years
(Cl. D90—16)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 9TH DAY OF APRIL, 1968

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

- Atwood Vacuum Machine Co.: *See*—
  - Kirk, Joseph R. 26,372.
- Brose, Horace B. Tire repair insert. 26,368, 4-9-68, Cl. 152—370.
- Eklund, Harry N., to Lear Siegler, Inc. North seeking gyroscope. 26,370, 4-9-68, Cl. 33—226.
- Ellis, William R. Clamp for paper rolls and the like. 26,369, 4-9-68, Cl. 214—652.
- Flegel, George J., to Josam Mfg. Co. Interlocking grating and framing system for trench drains. 26,366, 4-9-68, Cl. 94—34.
- Josam Mfg. Co.: *See*—
  - Flegel, George J. 26,366.
- Kirk, Joseph R., to Atwood Vacuum Machine Co. Foot-operated, hand-released parking brake. 26,372, 4-9-68, Cl. 74—540.
- Lear Siegler, Inc.: *See*—
  - Eklund, Harry N. 26,370.
- Sagarin, Philip H., to Valve Corp. of America. Actuator cap for spray dispensers. 26,367, 4-9-68, Cl. 222—182.
- Schultz, Frank L. Continuous form envelopes. 26,371, 4-9-68, Cl. 229—69.
- Valve Corp. of America: *See*—
  - Sagarin, Philip H. 26,367.

LIST OF PLANT PATENTEES

- Armstrong Nurseries, Inc.: *See*—
  - Swim, Herbert C. 2,802.
- Swim, Herbert C., to Armstrong Nurseries, Inc. Camellia plant. 2,802, 4-9-68, Cl. 60.

LIST OF DESIGN PATENTEES

- Albrecht, Leonard N., to Warner-Lambert Pharmaceutical Co. Automated unit for analyzing chemical samples. 210,721, 4-9-68, Cl. D16—2.
- American Seating Co.: *See*—
  - Henrikson, Bror W., and Barecki. 210,734.
- Anderson, Earl F. Stringed musical instrument. 210,749, 4-9-68, Cl. D56—1.
- Anderson, Walter C., to General Electric Co. Combination flashlight charger and storage device or similar article. 210,732, 4-9-68, Cl. D26—15.
- Anson, William E., to Michigan Wig Products Co., Inc. Clamp for a mannequin head. 210,747, 4-9-68, Cl. D54—1.
- Anthon, Erik W., to Warner-Lambert Pharmaceutical Co. Test tube rack. 210,720, 4-9-68, Cl. D16—1.
- Appel, Mel, and M. Schnur, to General Time Corp. Clock casing. 210,740, 4-9-68, Cl. D42—7.
- Appel, Mel, and M. Schnur, to General Time Corp. Clock casing. 210,742, 4-9-68, Cl. D42—7.
- Armand, Fernandez P. Game die. 210,738, 4-9-68, Cl. D34—5.
- Austin, Charles C., to Dennison Mfg. Co. Photocopy machine or similar article. 210,752, 4-9-68, Cl. D61—1.
- Barecki, Chester J.: *See*—
  - Henrikson, Bror W., and Barecki. 210,734.
- Barrett, Frederick E. Data entry keyboard console. 210,728, 4-9-68, Cl. D26—5.
- Beusse, Walter M., to Teletype Corp. Combined data transmitter and card punch. 210,727, 4-9-68, Cl. D26—5.
- Binder, Walter E. Vehicle. 210,758, 4-9-68, Cl. D90—8.
- Broché, Robert F.: *See*—
  - Garneau, John P., and Broché. 210,715.
- California Maple: *See*—
  - Greitzer, Morris, and S. 210,716.
  - Greitzer, Morris, and S. 210,726.
- Chaffee, William H., to Model Builders, Inc. Condiment dispenser. 210,743, 4-9-68, Cl. D44—22.
- Costa, Thomas J. Audio visual display unit or similar article. 210,751, 4-9-68, Cl. D61—1.
- Day, John A., to Desmo Ltd. Rear view mirror for motor vehicles. 210,718, 4-9-68, Cl. D14—6.
- Del Giudice, Frank J., to Hardman Tool and Engineering Co. Aircraft seat. 210,719, 4-9-68, Cl. D15—8.
- Dennison Mfg. Co.: *See*—
  - Austin, Charles C. 210,752.
  - Raczynski, Walter A. 210,753.
- D'Ercoli, Giacinco C., and R. J. Szalek. Clock. 210,741, 4-9-68, Cl. D42—7.
- Desmo Ltd.: *See*—
  - Day, John A. 210,718.
- Donley Brothers Co., The: *See*—
  - McDowell, Harry S. 210,722.
- Epp, David A., to Henderson Mfg. Co., Inc. Post mounted insulating support for electric fence wire. 210,729, 4-9-68, Cl. D26—10.
- Frick Co.: *See*—
  - LoTurco, Raymond A. 210,725.
- Garneau, John P., and R. F. Broché, said Broché assort to said Garneau. Building. 210,715, 4-9-68, Cl. D13—1.
- General Electric Co.: *See*—
  - Anderson, Walter C. 210,732.
  - Sandin, Raymond C. 210,745.
  - Schultz, Charles F. 210,723.
- General Time Corp.: *See*—
  - Appel, Mel, and Schnur. 210,740.
  - Appel, Mel, and Schnur. 210,742.
- Greitzer, Morris and S., to California Maple. Subterranean transformer vault. 210,716, 4-9-68, Cl. D13—1.
- Greitzer, Morris and S., to California Maple. Subterranean transformer vault baffle. 210,726, 4-9-68, Cl. D23—154.
- Greitzer, Simon: *See*—
  - Greitzer, Morris, and S. 210,716.
  - Greitzer, Morris, and S. 210,726.
- Hardman Tool and Engineering Co.: *See*—
  - Del Giudice, Frank J. 210,719.
- Hasselbach, Arthur. Container for plants. 210,739, 4-9-68, Cl. D35—3.
- Henderson Mfg. Co., Inc.: *See*—
  - Epp, David A. 210,729.
- Henrikson, Bror W., and C. J. Barecki, to American Seating Co. Desk. 210,734, 4-9-68, Cl. D33—7.
- Johnson, Richard M. Travel trailer. 210,717, 4-9-68, Cl. D14—3.
- Lang, Robert J. Vertical take-off aircraft. 210,754, 4-9-68, Cl. D71—1.
- Lang, Robert J. Submersible water craft. 210,755, 4-9-68, Cl. D71—1.
- Lear Siegler, Inc.: *See*—
  - Miller, Robert L. 210,756.
- LoTurco, Raymond A., to Frick Co. Fluid heat exchanger for air conditioning and refrigeration systems and the like. 210,725, 4-9-68, Cl. D23—153.
- Magistretti, Lodovico. Multi-tiered table unit. 210,735, 4-9-68, Cl. D33—14.
- McDowell, Harry S., to The Donley Brothers Co. Incinerator. 210,722, 4-9-68, Cl. D23—85.
- McKittrick, Hugh M. Lamp post. 210,744, 4-9-68, Cl. D48—31.
- McRoskey, Leonard H. and J. W., to Republic Tool & Manufacturing. Racing trackway amusement and game board. 210,737, 4-9-68, Cl. D34—5.
- Michel, Raymond S., to United Medical Laboratories, Inc. Cervical spatula. 210,757, 4-9-68, Cl. D83—12.
- Michigan Wig Products Co., Inc.: *See*—
  - Anson, William E. 210,747.
- Miller, Robert L., to Lear Siegler, Inc. Heater cabinet. 210,756, 4-9-68, Cl. D81—19.
- Model Builders, Inc.: *See*—
  - Chaffee, William H. 210,743.
- Moranduzzo, Dario. Christmas ornament. 210,733, 4-9-68, Cl. D29—1.
- Paxton, Ted L. Nursery tray. 210,750, 4-9-68, Cl. D58—13.
- Persons, Robert C. Cycle saddle. 210,759, 4-9-68, Cl. D90—16.
- Persons, Robert C. Cycle saddle. 210,760. 4-9-68, Cl. D90—16.
- Pradet, Jean. Shoe sole or similar article. 210,714, 4-9-68, Cl. D2—320.
- Raczynski, Walter A., to Dennison Mfg. Co. Photocopy machine or similar article. 210,753, 4-9-68, Cl. 61—1.
- Ramo Realty Corp.: *See*—
  - Rosenheim, Morton A. 210,724.
- Republic Tool & Manufacturing: *See*—
  - McRoskey, Leonard H. and J. W. 210,737.
- Rosenheim, Morton A., to Ramo Realty Corp. Toilet bowl deodorant holder. 210,724, 4-9-68, Cl. D23—150.
- Sandin, Raymond C., to General Electric Co. Dishwasher. 210,745, 4-9-68, Cl. D49—1.
- Schnur, Martin: *See*—
  - Appel, Mel, and Schnur. 210,740.
  - Appel, Mel, and Schnur. 210,742.
- Schultz, Charles F., to General Electric Co. Air conditioner front panel. 210,723, 4-9-68, Cl. D23—141.

- Sexauer, J. A., Mfg. Co., Inc.: *See—*
  - Sexauer, James M. 210,748.
- Sexauer, James M., to J. A. Sexauer Mfg. Co., Inc. Stop cock key or similar article. 210,748, 4–9–68, Cl. D54—16.
- Siegel, William J. Power supply work center for maintenance and repair of electronic equipment. 210,730, 4–9–68, Cl. D26—15.
- Siegel, William J. Power supply unit for maintenance and repair of electronic equipment. 210,731, 4–9–68, Cl. D26—15.
- Szalek, Roman J.: *See—*
  - D'Ercoli, Giacinco C., and Szalek. 210,741.
- Teletype Corp.: *See—*
  - Beusse, Walter M. 210,727.
- Tomko, Charles L. Figurine or similar article. 210,736, 4–9–68, Cl. D34—4.
- United Medical Laboratories, Inc.: *See—*
  - Michel, Raymond S. 210,757.
- Warner-Lambert Pharmaceutical Co.: *See—*
  - Albrecht, Leonard N. 210,721.
  - Anthon, Erik W. 210,720.
- Yamada, Toyoo. Air cleaner tester. 210,746, 4–9–68, Cl. D52—6.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 9TH DAY OF APRIL, 1968

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

- A.B. Volvo Penta: *See—*
  - Wynne James R. 3,376,842.
- AGIF S.p.A.: *See—*
  - Moretto, Luciano. 3,376,741.
- AMF Electrica S.p.A.: *See—*
  - Faggiano, Giuseppe. 3,377,454.
- AMP Inc.: *See—*
  - Sitz, Gilbert C. 3,376,627.
  - Trimble, John O., and Mueller. 3,377,422.
- AWB Mfg. Co., Inc.: *See—*
  - Whitlock, Beauford I. 3,377,106.
- Abbott, Henry H., C. J. Fette, and H. A. Meise, Jr., to Bell Telephone Laboratories, Inc. Telephone switching system. 3,377,432, 4–9–68, Cl. 179—18.
- Abbott Laboratories: *See—*
  - Tadanier, John S. 3,377,363.
- Abramson, Hugo, to Forsvarets Fabriksverk Eskilstuna. Spacing member for a recoil-free weapon. 3,376,784, 4–9–68, Cl. 89—1.703.
- Achaya, Kongandra T.: *See—*
  - Pantulu, Amirapu J., Achaya, Sidhu, and Zaheer. 3,377,388.
- Acker, Ellsworth G., to W. R. Grace & Co. Furfural resin coated siliceous material and process of making same. 3,377,189, 4–9–68, Cl. 117—62.
- Acton Laboratories, Inc.: *See—*
  - Forrest, John W. 3,377,604.
- Adams, Betty A. Personalized keepsake case. 3,376,962, 4–9–68, Cl. 190—51.
- Adamson United Co.: *See—*
  - Collins, Donald F., and Domer. 3,376,774.
  - Seanor, Rex C., and Perlberg. 3,376,601.
- Admiral Corp.: *See—*
  - Levin, Nathan D., and Andrews. 3,377,493.
- Aeroquip Corp.: *See—*
  - Wilkison, Kermit L., Headley, Padilla, and Trolinger. 3,377,456.
- Aine, Harry E., to Varian Associates. Glow discharge apparatus having a stacked array of magnets. 3,377,495, 4–9–68, Cl. 313—161.
- Air Control, Inc.: *See—*
  - Frey, Louis O. 3,376,583.
- Air Products and Chemicals, Inc.: *See—*
  - Erby, William A., Flinn, and Walde. 3,377,197.
  - Farkas, Adalbert, and Miller. 3,377,383.
- Air Reduction Co., Inc.: *See—*
  - Benson, Ernest J., Dykstra, and Webster. 3,377,172.
- Aircraft Radio Corp.: *See—*
  - Meyer, Karl H. 3,377,540.
- Aircraft Specialties, Inc.: *See—*
  - Kyser, Smith. 3,376,628.
- Ajem Laboratories, Inc.: *See—*
  - Panzica, Nicholas J. 3,377,058.
- Aktiebolaget Bofors: *See—*
  - Elwin, Tore. 3,376,785.
- Aktiebolaget Svenska Flaktfabriken: *See—*
  - Boye, Ingar. 3,377,056.
- Aktiebolaget Svenska Metalherken Vasteras: *See—*
  - Jansson, Sven A., Johansson, and Mariedahl. 3,377,413.
- Alexander, Guy B., to E. I. du Pont de Nemours and Co. Dispersion-strengthened, low melting point metals. 3,377,143, 4–9–68, Cl. 29—182.5.
- Allen-Bradley Co.: *See—*
  - Stong, Karl K. 3,377,519.
- Allen, Earle F., ¼ to V. E. Macy, Jr. Hydraulic drive cylinder. 3,376,795, 4–9–68, Cl. 92—130.
- Allen, Elmer W. Portable handles for boats. 3,377,095, 4–9–68, Cl. 294—19.
- Allied Chemical Corp.: *See—*
  - Dwyer, Frank J., and Stone. 3,377,296.
  - Elbeck, Richard E. 3,377,237.
  - MacGregor, Rob R., and Moore. 3,377,139.
- Allied Filter Engineering, Inc.: *See—*
  - Bair, Stanley G. 3,376,979.
- Allis-Chalmers Mfg. Co.: *See—*
  - Feller, Thomas R. 3,377,075.
  - Peek, Henry L., and Benham. 3,377,575.
  - Schroeder, James E. 3,377,160.
- Allmänna Svenska Elektriska Aktiebolaget: *See—*
  - Andersson, Nils E., and Lilja. 3,377,523.
- Alpert, Norman: *See—*
  - Eckert, George W., Newman, Dille, and Alpert. 3,377,149.
- Alside, Inc.: *See—*
  - Epstein, George. 3,376,683.
- Altau, Karl, to E. I. du Pont de Nemours and Co. Vinyl terpolymers for imparting cashmere like properties to synthetic fibers. 3,377,199, 4–9–68, Cl. 117—138.8.
- Althaus, Edward J., E. P. Andert, and E. M. Richter, to Hughes Aircraft Co. System effectiveness simulator and computer. 3,377,471, 4–9–68, Cl. 235—152.
- Aluminum Co. of America: *See—*
  - Wallace, Paul F., and Walton. 3,377,145.
- Amada, Sanae, to Fujitsu Ltd. Photomechanical code keyboard unit. 3,377,485, 4–9–68, Cl. 250—229.
- Ambosa, Kurt, and W. E. Kramer, to Hughes Aircraft Co. Pierce-type electron gun with combined modulating and beam-forming electrode array. 3,377,502, 4–9–68, Cl. 315—30.
- Amchem Products, Inc.: *See—*
  - Douty, Alfred, Buczkowski, and Harrison. 3,376,883.
  - Newhard, Nelson J., Jr. 3,377,212.
- American Air Filter Co., Inc.: *See—*
  - Getzin, Allan R. 3,377,089.
  - Mutchler, Paul A. 3,376,833.
  - Sizek, Frank J. 3,376,891.
- American Binder Co. of California, The: *See—*
  - Sutton, Charles O. 3,377,008.
- American Cyanamid Co.: *See—*
  - Cantrall, Edward W., Conrow, and Bernstein. 3,377,362.
  - De Voe, Stanley E., and Mitacher. 3,377,243.
  - Donaldson, Malcolm M., and Sexsmith. 3,377,187.
  - Giddings, Sydney A., and Patella. 3,377,170.
  - Granowitz, Jack M., and Buccino. 3,376,973.
  - Halverson, Frederick. 3,377,292.
  - Lefemine, Donald, Dann, Thomas, and De Voe. 3,377,242.
  - Millson, Henry E., and Dammicci. 3,377,180.
  - Tribit, Samuel W. 3,377,349.
  - Watson, Eugene K., and Witheford. 3,377,350.
  - Whaley, Howard A., Patterson, Hausmann, and Porter. 3,377,244.
- American Enka Corp.: *See—*
  - Cranendonk, Adriaan C. 3,377,179.
  - Franks, Neal E. 3,377,412.
  - Hilferink, Garrit J. 3,377,484.
  - Zoetbrood, Gijsbertus J. 3,377,320.
- American Filtrona Corp.: *See—*
  - Berger, Richard M., and Sproull. 3,377,220.
- American Gas Association, Inc.: *See—*
  - Zielinski, Robert J. 3,377,125.
- American Handling Equipment Co.: *See—*
  - Maurer, Charles J., and Montgomery. 3,376,685.
- American Home Products Corp.: *See—*
  - Bruce, William F. 3,377,353.
  - Davis, Martin A. 3,377,380.
  - Langis, Andre L. 3,377,381.
  - Marder, Herman L. 3,377,005.
- American Optical Co.: *See—*
  - Frigon, Paul A. 3,377,475.
  - MacNeille, Stephen M. 3,377,118.
- American Plasticraft Co.: *See—*
  - Klier, Lewis, Manetti, and Miller. 3,377,612.
- American Seating Co.: *See—*
  - Henrikson, Bror W. 3,377,102.
  - Subocz, Edward F. 3,377,348.
- American Telephone and Telegraph Co.: *See—*
  - Bomar, Howard E., and Cline. 3,377,441.
- Ampex Corp.: *See—*
  - Maxey, Alexander R., and Streets. 3,377,436.
- Amrine, Robert L. Fishing lure. 3,376,663, 4–9–68, Cl. 43—42.02.
- Anaconda Wire and Cable Co.: *See—*
  - McNatt, Ronald J., and Smith. 3,377,036.
- Anazawa, Shinzo: *See—*
  - Tsuji, Shigeru, Anazawa, and Koyama. 3,377,522.
- Ancker, Frede H., to Union Carbide Corp. Water-soluble biaxially oriented poly(ethylene oxide) film. 3,377,261, 4–9–68, Cl. 204—159.14.
- Anderson, Eric W., to Dohm & Nelke, Inc. Meat hanger extractor. 3,376,626, 4–9–68, Cl. 29—200.
- Andersson, Nils E., and G. Lilja, to Allmanna Svenska Elektriska Aktiebolaget. Semiconductor device cooled from one side. 3,377,523, 4–9–68, Cl. 317—234.
- Andert, Edward P.: *See—*
  - Althaus, Edward J., Andert, and Richter. 3,377,471.
- Andrews, Arthur H.: *See—*
  - Levin, Nathan D., and Andrews. 3,377,493.
- Andrews, Peter G., to Walker Mfg. Co. Production machine. 3,376,725, 4–9–68, Cl. 72—311.
- Angelino, Gianfranco. Method for obtaining mechanical energy from a thermal gas cycle with liquid phase compression. 3,376,706, 4–9–68, Cl. 60—73.
- Anger, Wilhelm, OHG: *See—*
  - Hanslik, Wilhelm. 3,376,604.
- Ankerson, Borge R. Rotary hearth metal melting furnaces. 3,377,059, 4–9–68, Cl. 266—33.

- Anthony, Robert C., to Union Brass & Metal Mfg. Co. Adjustable mounting plates for valves. 3,376,888, 4-9-68, Cl. 137—359.
- Anton, Anthony, to E. I. du Pont de Nemours and Co. Stabilized dye receptive polyamide containing copper acetate, potassium iodide and hexamethylenediammonium phenylphosphinate. 3,377,314, 4-9-68, Cl. 260—45.75.
- Aqua Tec Corp.: *See—*
  - Deines, Siegmund. 3,376,606.
- Archer, Andrew M. Electrical connector. 3,377,613, 4-9-68, Cl. 339—154.
- Arizona Chemical Co.: *See—*
  - Ciesielski, Leo F., and Wheelus. 3,377,333.
  - McBride, Joseph J., and Wheelus. 3,377,334.
- Armco Steel Corp.: *See—*
  - Tanczyn, Harry. 3,376,780.
- Arnaud, Jacques to CSF-Compagnie Generale de Telegraphie Sans Fil. Delay structure. 3,377,572, 4-9-68, Cl. 333—31.
- Arnerich, Paul J.: *See—*
  - Newman, James L., Osborn, Redwine, and Arnerich. 3,377,549.
- Arps Corp.: *See—*
  - Newman, James L., Osborn, Redwine, and Arnerich. 3,377.549.
- Asahi Kasei Kogyo Kabushiki Kaisha: *See—*
  - Ioka, Akira, Kato, and Toyoda. 3 377,323.
  - Suzuki, Teruhiko, Kameishi, and Yamamoto. 3,377,010.
- Ashby, Robert M., T. J. La Chapelle, and G. H. Smith, to North American Rockwell Corp. Integrated circuit diode matrix. 3,377,513, 4-9-68, Cl. 317—101.
- Ashfield, Herbert E., and K. Dearnley, to David Brown Tractors Ltd. Hydraulic oscillating power take-off mechanism for tractors. 3,376,791, 4-9-68, Cl. 91—290.
- Ashland Oil and Refining Co.: *See—*
  - Larimer, Victor L. 3,377,367.
- Ashmore, Kenneth M. Paper caps. 3,376,580, 4-9-68, Cl. 2—197.
- Ashton, Stanley, G. H. Rayner, and G. Scott, to Imperial Chemical Industries Ltd. Antioxidants. 3,377,315, 4-9-68, Cl. 260—45.75.
- Asin, Samson, G. T. Maloney, and D. R. Robinson, to C. R. Bard, Inc. Demonstration device. 3,376,659, 4-9-68, Cl. 35—17.
- Audio-Chron, Inc.: *See—*
  - Davis, Clement, and Matteson. 3,376,700.
- Auer, John H., Jr., to General Signal Corp. Vehicle identification system. 3,377,616, 4-9-68, Cl. 340—23.
- Ault, Cyrus F., to Bell Telephone Laboratories, Inc. Circuitry for eliminating transients in a magnetic head switching system. 3,377,584, 4-9-68, Cl. 340—174.1.
- Ausman, John S., to Litton Systems, Inc. Means and method for determining the bearing angle between the direction of motion of a moving craft and a fixed point. 3,377,470, 4-9-68, Cl. 235—150.26.
- Automatic Electric Laboratories, Inc.: *See—*
  - Stewart, James A. 3,377,559.
  - Stich, Frederick A. 3,377,538.
- Autoquip Corporation: *See—*
  - Clarke, Dudley S., and Richards. 3,376,792.
- Babcock & Wilcox, Ltd.: *See—*
  - Woodcock, Melville T., and Whamby. 3,377,490.
- Bach, Carl G., Jr., to General Electric Co. Built-in cooking appliance with side trimming members. 3,376,861, 4-9-68, Cl. 126—37.
- Bachman. Gustave B., and K. G. Strawn, to Purdue Research Foundation. Process for preparing nitro compounds by reacting organic amines with ozone. 3,377,387, 4-9-68, Cl. 260—632.
- Bacon, Robert D., and H. R. Markert, to Sonoco Products Co. Dispensing container. 3,377,003, 4-9-68, Cl. 222—386.
- Bacquart, Jean-Michel, to North American Philips Co., Inc. Electric driving device with controlled speed. 3,377,536, 4-9-68, Cl. 318—246.
- Badische Anilin- & Soda-Fabrik Aktiengesellschaft: *See—*
  - Reicheneder, Franz, Dury, Winter and Fischer. 3.377,154.
- Baguley, Maurice E., to Courtaulds Ltd. Gas-permeable laminated sheet and process for making same. 3,377,190, 4-9-68, Cl. 117—63.
- Bahm. George C. Apparatus for the teeming of molten metals. 3,377.006, 4-9-68, Cl. 222—512.
- Bair, Stanley G., to Allied Filter Engineering, Inc. Pleated filter. 3,376,979, 4-9-68, Cl. 210—457.
- Bajars, Laimonis, to Petro-Tex Chemical Corp. Dehydrogenation process. 3,377,403, 4-9-68, Cl. 260—680.
- Baker, Allister L., W. R. Krause, W. J. Drexler, and F. I. Zener, to Keuffel & Esser Co. Roller bearing assembly. 3,377,112, 4-9-68, Cl. 308—6.
- Baker. Buford M., and J. H. Waugh, Jr., to Texas Instruments Inc. Water hammer marine seismic source. 3,376,949, 4-9-68. Cl. 181—.5.
- Baker, Chester L., and P. W. Holloway, to Philadelphia Quartz Co. Sodium metasilicate pentahydrate product and preparation. 3,377,134, 4-9-68, Cl. 23—110.
- Baker, Eugene E., to Hallihurton Co. Apparatus for use in wells. 3,376,935, 4-9-68, Cl. 166—224.
- Baker, Gerald E., to Westinghouse Electric Corp. Mounting means. 3.376,871, 4-9-68, Cl. 248—27.
- Baker Oil Tools, Inc.: *See—*
  - Crowe. Talmadge L. 3.376,826.
  - Van Winkle, Denzal W. 3,376,942.
- Baker Perkins Inc.: *See—*
  - Cox. Bradley G. 3,377,019.
- Baker, Thomas R., and W. H. Hittenberger, to Kliklok Corp. Conveying device for grouping articles. 3,376,969, 4-9-68, Cl. 198—34.
- Balaguer Golobart. Weft thread aspirating and cutting device for shuttleless looms. 3,376,903, 4-9-68, Cl. 139—302.
- Baldridge, Bruce H.: *See—*
  - Reut, Richard, and Baldridge. 3,377,623.
- Ballass, John T., C. W. Perkins, and B. J. Freedman, to General Dynamics Corp. ARC welding method and coated electrode. 3,377,461, 4-9-68, Cl. 219—130.
- Banas, Conrad M., C. O. Brown, and D. E. Powers, to United Aircraft Corp. Electromagnetic current control for a hollow cathode. 3,377,506, 4-9-68, Cl. 315—107.
- Baney, Ronald H., to Dow Corning Corp. Heat-stabilized siloxane elastomers. 3,377,312, 4-9-68, Cl. 260—37.
- Banks, Harry R., G. R. Sorenson, and H. J. and J. G. Walsh, to Bell Telephone Laboratories, Inc. Switching link. 3,377,434, 4-9-68, Cl. 179—27.
- Baran, John S., to G. D. Searle & Co. (Optionally 17-alkylated) 11β,13β-dialkyl-gona-1,3,5(10)-triene-3,17β - diols, ethers and esters thereof. 3,377,365, 4-9-68, Cl. 260—397.5.
- Baran, John S., to G. D. Searle & Co. 17α-Alkynyl-11,13β-dialkylgon-5(10)-en-3-ones and esters thereof. 3,377,366, 4-9-68, Cl. 260—397.45.
- Barber Colman Co.: *See—*
  - Ohlson, Gunnar F. 3,377,547.
  - Tveit, Theodore J. 3,377,545.
- Barczak. Edward J. Means for retaining selective adjustment of adjustable roller skate truck assemblies. 3,377,079, 4-9-68, Cl. 280—11.28.
- Bard, C. R., Inc.: *See—*
  - Asin, Samson, Maloney, and Robinson. 3,376,659.
- Bardell, Ralph V., to Bennett Industries, Inc. Sealing arrangement for plastic container. 3,376,996, 4-9-68, Cl. 220—24.
- Barenyi, Béla, and H. Haselmann, to Daimler-Benz Aktiengesellschaft. Instrument panel. 3,376,947, 4-9-68, Cl. 180—90.
- Barnas, Louis A.: *See—*
  - Stecca, Anthony J., Barnas, Dokos, Jarzembski, and Norris. 3,377,564.
- Barnes, James R. Tool post and holder assembly. 3,376,771, 4-9-68, Cl. 82—36.
- Barr, Thomas, and F. E. Higginbottom, to Felt Laboratories, Ltd. Carrotting of fibrous materials. 3,377,132, 4-9-68, Cl. 8—112.
- Bartlett. Peter G.: *See—*
  - Materer, Donald R., and Bartlett. 3,377,589.
- Bartley, Keith D., and R. E. Prescott, to Bell Telephone Laboratories. Inc. Telephone booth assembly. 3,377,080, 4-9-68, Cl. 280—43.23.
- Baskett, John R., to Bourns, Inc. Miniature potentiometer. 3,377,605, 4-9-68, Cl. 338—162.
- Baskins, Douglas L.: *See—*
  - Kruse, Frederick W., Jr., Storke, and Baskins. 3,377,568.
- Bates, James W., to Gulyon Industries, Inc. Polyphase inverter. 3,377,539, 4-9-68, Cl. 321—5.
- Bates, Warren H. Tray for holding multiple cartons. 3,377,016, 4-9-68, Cl. 229—31.
- Baum, Roger D., to Bell Telephone Laboratories, Inc. Means and method for testing impedances between a plurality of conductors. 3,377,552, 4-9-68, Cl. 324—51.
- Baumann, John A., and A. R. Tavarozzi, to Union Carbide Corp. Method and means for support of cementitious materials on sloping surfaces during cure. 3,376,629, 4-9-68, Cl. 52—309.
- Baumann, John C.: *See—*
  - Warren, Robert C., and Baumann, 3,377,083.
- Baumbach, Bertram W., to Littelfuse Inc. Thermal responsive miniature fuse. 3,377,448, 4-9-68, Cl. 200—143.
- Baumgartner, Alois, to Thiokol Chemical Corp. Vibration damping apparatus. 3,376,937, 4-9-68, Cl. 188—96.
- Baxendale, Richard H.: *See—*
  - Wells, Alfred J., and Baxendale. 3,376,696.
- Beale, Julian R. A., A. F. Beer, and K. W. Moulding, to North American Philips Co., Inc. Variable gain transistor structure employing base zones of various thicknesses and resistivities. 3,377,526, 4-9-68, Cl. 317—235.
- Beale, Julian R. A., and A. F. Beer, to North American Philips Co., Inc. Low capacity and resistance transistor structure employing a two-conductivity collector region. 3,377,527, 4-9-68, Cl. 317—235.
- Beatenbough, Paul K., G. E. Richards, P. S. Rogers, and C. A. Scherer, to General Motors Corp. Thermo-mechanical automatic control system for heating and cooling air. 3,377,022, 4-9-68, Cl. 236—13.
- Beattie. John H., to E. I. du Pont de Nemours and Co. Extrusion apparatus. 3,376,605, 4-9-68, Cl. 18—14.
- Beck, Albrecht: *See—*
  - Hultsch, Gunther. 3,376,978.
- Beck, Alexander, to National Research Council. Method of making P-N junctions by hydrothermally growing. 3,377,209, 4-9-68, Cl. 148—1.5.
- Beck, Garvin L.: *See—*
  - Borton, Robert O., and Beck. 3,377,103.
- Becker-Ehmck, Klaus. Kettle drum. 3,376,777, 4-9-68, Cl. 84—419.
- Beckett, Donald E. and R. K., to Beckett-Harcum Co. Fluid-operated press. 3,376,808, 4-9-68, Cl. 100—53.
- Beckett-Harcum Co.: *See—*
  - Beckett, Donald E. and R. K. 3,376,808.
- Beckett. Robin K.: *See—*
  - Beckett, Donald E. and R. K. 3,376,808.
- Beckham, Rodney D.: *See—*
  - Davis, George D., Beckham, and Fannin. 3,377,294.
- Beckman Instruments, Inc.: *See—*
  - Sambucetti, Carlos J., and Deuringer. 3,377,256.
- Beckman & Whitley, Inc.: *See—*
  - Corcoran, John W. 3,377,556.
- Beer. Andrew F.: *See—*
  - Beale, Julian R. A., Beer, and Moulding. 3,377,526.
  - Beale, Julian R. A., and Beer. 3,377,527.

- Bell, Cyril O. R., to Monsanto Chemicals Ltd. Production of oil additives. 3,377,282, 4-9-68, Cl. 252—32.7.
- Bell Telephone Laboratories, Inc.: *See—*
  - Abbott, Henry H., Fette, and Meise. 3,377,432.
  - Ault, Cyrus F. 3,377,584.
  - Banks, Harry R., Sorenson, and H. J. and J. G. Walsh. 3,377,434.
  - Bartley, Keith D., and Prescott. 3,377,080.
  - Baum, Roger D. 3,377,552.
  - Chiloni, Peter A., Irish, Kasten, and Seifert. 3,377,455.
  - Dean, William A., and Fay. 3,377, 570.
  - Elward, John P., Jr., and Uenohara. 3,377,558.
  - Sauer, Harold A. 3,377,561.
  - Whitney, Wiley. 3,377,433.
- Bellmore, Raymond E., to United Elastic Corp. Narrow fabric with lateral dimensional stability. 3,376,904, 4-9-68, Cl. 139—423.
- Beloit Corp.: *See—*
  - Daane, Robert A. 3,376,653.
  - Roecker, Alvin C. 3,377,236.
  - Stoeng, Gunnar. 3,376,809.
- Beloit Eastern Corp.: *See—*
  - Jacobs, Robert J., and Prager. 3,377,032.
- Belove, Louis, to Sonotone Corp. Process for producing sintered nickel electrodeplates. 3,377,202, 4-9-68, Cl. 136—29.
- Bender, John R., to The Bendix Corp. Disc element construction for disc brake. 3,376,960, 4-9-68, Cl. 188—218.
- Bender, Ludwig: *See—*
  - Sennewald, Kurt, Bender, Gehrmann, Kallrath, Peantek, Schalius, Stephan, and Strie. 3,377,402.
- Bendix Corp., The: *See—*
  - Bender, John R. 3,376,960.
  - Bosworth, Robert H., and Cohen. 3,376,951.
  - Burnett, Richard T. 3,377,076.
  - Eddy, Robert T. 3,377,108.
  - Holcomb, Orla L., Jr., and Hartman. 3,376,959.
  - Horner, Richard F. 3,376,961.
  - McCombs, Howard L., Jr. 3,376,893.
  - Runkle, Dean E. 3,376,713.
- Benezech, Jacques, to Societe Anonyme dite: Novi-P.B. Magneto-type power supply for vehicular lighting system. 3,377,486, 4-9-68, Cl. 307—10.
- Benham, George K.: *See—*
  - Peek, Henry L., and Benham, 3,377,575.
- Bennett Industries, Inc.: *See—*
  - Bardell, Ralph V. 3,376,996.
- Benson, Ernest J., D. G. Dykstra, and R. C. Webster, to Air Reduction Co., Inc. Quick freezing of raspberries. 3,377,172, 4-9-68, Cl. 99—193.
- Berezin, Gilbert H., and G. H. Harris, to The Dow Chemical Co. Method for preparing esters of hydroxyaromatic thioacids. 3,377,372, 4-9-68, Cl. 260—455.
- Berger, Richard M., and R. C. Sproull, to American Filtrona Corp. Process for making stable elongated elements. 3,377,220, 4-9-68, Cl. 156—62.2.
- Berney, Joseph C. Carton flap opener. 3,376,692, 4-9-68, Cl. 53—382.
- Bernstein, Seymour: *See—*
  - Cantrall, Edward W., Conrow, and Bernstein. 3,377,362.
- Berrill, William H., and R. Hanson, to United Shoe Machinery Corp. Seam forming apparatus. 3,376,594, 4-9-68, Cl. 12—146.
- Berteaux, Henri O., and T. K. Brown, to Chicago Bridge & Iron Co. Buoy with buoyancy produced by liquefied gas vaporization. 3,376,588, 4-9-68, Cl. 9—8.
- Bethlehem Steel Corp.: *See—*
  - Fegan, Lloyd V., Jr. 3,376,877.
- Biffle, Joe L., to Esso Production Research Co. Automatic refill and temperature compensation device for hydraulic systems. 3.376,738, 4-9-68, Cl. 73—141.
- Billesbach, Frederick M.: *See—*
  - Billesbach, Mary D. and F. M. 3,377,121.
- Billesbach, Mary D. and F. M. Soap pouch assembly. 3,377,121, 4-9-68, Cl. 401—7.
- Bingham, Sidney H. Railway vehicle suspension system. 3,376,830, 4-9-68, Cl. 105—133.
- Bird Machine Co.: *See—*
  - Piper, Eric G. 3,377,020.
- Biscow, Edgar B. Rear view mirror assembly including a sleeve having an internal spring to restore the reflector to a given position. 3 377,117, 4-9-68, Cl. 350—97.
- Bishop and Babcock Corp., The: *See—*
  - Munse, Robert A. 3,376,612.
- Bjalme, Bengt G., and A. V. Jonasson, to Reed Mfg. Co. Pipe cutter having half nut guided for movement toward and away from the pressure screw. 3,376,638, 4-9-68, Cl. 30—102.
- Black Products Co.: *See—*
  - Lau, Erwin M. 3,376,905.
- Blackman, George S. Combination folding chair and tackle box. 3,377,114, 4-9-68, Cl. 312—235.
- Blake, Alan F., and C. Green, to Gestetner Ltd. Duplicating stencils. 3,376,810, 4-9-68, Cl. 101—128.2.
- Blake, Ralph K., to E. I. du Pont de Nemours and Co. Copper thallium and lead halide and pseudohalides photosoluble crystals. 3,377.160, 4-9-68, Cl. 96—88.
- Blanch. Frederick D., Jr., and P. E. Hannula, to 3D Studios, Inc. Display lamp. 3,377.478, 4-9-68, Cl. 240—36.
- Bleloch, William, to Rand Mines Ltd. Stainless steel. 3,377,162, 4-9-68, Cl. 75—126.
- Bloch, Herman S., to Universal Oil Products Co. Oxidation catalyst comprising variable density activator. 3,377,269, 4-9-68, Cl. 208—466.
- Bobalek. Francis J.: *See—*
  - Wolf. Paul A., Kent, and Bobalek. 3,377,175.
- Bock, Donald D., and A. L. Gardner, to General Electric Co. Mounting arrangement for semiconductor devices. 3,377,524, 4-9-68, Cl. 317—234.
- Bock, Willy, E. Mutschler, and F. Schreiber, to SWF-Spezialfabrik fur Autozubehor Gustav Rau G.m.b.H. Lighting or illuminating device for switches. 3,377,452, 4-9-68, Cl. 200—167.
- Bodine, Albert G. Sonic trowel. 3,376,798, 4-9-68, Cl. 94—48.
- Boehm, Raymond P.: *See—*
  - Hurt, William C., Jr., and Boehm. 3,377,183.
- Boehringer, C. F., & Soehne G.m.b.H.: *See—*
  - Haack, Erich, Heerdt, Schmidt, Stach, and Weyer. 3,377,351.
- Boehringer, C. H., Sohn: *See—*
  - Sehring, Richard, and Zelle. 3,377,410.
- Boeing Co., The: *See—*
  - Hansen, Richard J. 3,377,040.
- Boggs, Roger L., to Caterpillar Tractor Co. Track pin assembly and bushing. 3,377,110, 4-9-68, Cl. 305—42.
- Boissier, Jacques R., and R. R. E. E. Ratouis, to Societe Industrielle Pour La Fabrication des Antibiotiques (S.I.F.A.). Amino derivatives, comprising heterocycles, their salts and process for preparation. 3,377,359, 4-9-68, Cl. 260—329.
- Boles, David R., J. S. Davis, and P. E. Wells, to The Bunker-Ramo Corp. Apparatus for woven screen memory devices. 3,377,581, 4-9-68, Cl. 340—174.
- Bolt Associates, Inc.: *See—*
  - Chelminski, Stephen V. 3,376,723.
- Bomar, Howard E., and H. A. Cline, to American Telephone and Telegraph Co. Delay equalizer computer. 3,377,441, 4-9-68, Cl. 179—175.3.
- Bombero, Thomas F., to Eversharp, Inc. Safety razor spider. 3,376,637, 4-9-68. Cl. 30—60.5.
- Bontrager, Lloyd J., to Star Tank and Boat Co. Camping trailer. 3,377.098, 4-9-68, Cl. 296—27.
- Boostrum, Roy E: *See—*
  - Staunton. John J. J., and Boostrum. 3,377,467.
- Booth, Anthony J.: *See—*
  - Whittaker, Harold, and Booth. 3,376,698.
- Borman, William M., to Motorola, Inc. Electrical printing with ink replenishable web moving between styli and record. 3,377,598, 4-9-68, Cl. 346—74.
- Borton, Robert O., and G. L. Beck, to United States Rubber Co. Ventilated cushion and method making same. 3,377,103, 4-9-68, Cl. 297—453.
- Borysko, Emil, to Ethicon, Inc. Surgical collagen film formed from random lengths of collagen tapes or strands. 3,376,869, 4-9-68, Cl. 128—334.
- Bossard, Werner: *See—*
  - Wegmuller, Hans E., and Bossard. 3,377,129.
  - Dürig, Rudolf, and Bossard. 3,377,335.
- Bostrom Corp.: *See—*
  - Radki. Arthur O., and Hall. 3,377,101.
- Bosworth, Robert H., and E. A. Cohen, to The Bendix Corp. Means for lubrication of gas vane motors. 3,376,951, 4-9-68, Cl. 184—6.
- Boteler, Henry W., to Grinnell Corp. Diaphragm valves with multi-part compressors. 3,376,887, 4-9-68, Cl. 137—316.
- Boudakian, Max M., to E. R. Squibb & Sons, Inc. Process for preparing 1,1,1,2,2-pentafluoro-3-chloropropane and 1,1,1,2,2-pentafluoro-3-bromopropane. 3,377,392, 4-9-68, Cl. 260—653.
- Boudakian. Max M., M. Lapkin, and E. R. Shipkowski, to Olin Mathieson Chemical Corp. Methyl fluoride and methylene fluoride process. 3,377,394, 4-9-68, Cl. 260—653.
- Bourns, Inc.: *See—*
  - Baskett, John R. 3,377,605.
  - Pontius, Bruce E. 3,377,567.
- Bowden, Kenneth: *See—*
  - Broadbent, John L., Bowden, and Ross. 3,377,241.
- Bowman, Robert L.: *See—*
  - Kolobow, Theodor, and Bowman. 3,376,863.
- Boyd, Clarence. Floor scrubbing machine. 3,376,597, 4-9-68, Cl. 15—320.
- Boye, Ingar, to Aktiebolaget Svenska Flaktfabriken. Drying apparatus. 3,377,056, 4-9-68, Cl. 263—3.
- Braccini, Alfonso A.: *See—*
  - Carr, Donald R., and Braccini. 3,377,594.
  - Carr, Donald R., and Braccini. 3,377,595.
- Bradish, Elliott E., to Crompton & Knowles Corp. Loom picker mechanism. 3,376,902, 4-9-68, Cl. 139—159.
- Bradshaw, Leslie E. B. D.: *See—*
  - Robertson, James S. P., and Bradshaw. 3,377,440.
- Bradshaw, Wesley W., Jr.: *See—*
  - Burch, Byron F., Jr., and Bradshaw. 3,377,622.
- Bradstock, Robert B., to General Electric Co. Electrically insulated mounting bracket for encased semiconductor device. 3,377,525, 4-9-68, Cl. 317—234.
- Brailsford, Harrison D. Electric pumping system controlled by R-C liquid level measuring device. 3,377,537, 4-9-68, Cl. 318—444.
- Brault, Andre R., to Optomechanisms, Inc. Spotting projector-scope. 3,376,762, 4-9-68, Cl. 77—5.
- Brault, Andre R., to Optomechanisms, Inc. Precision coordinate axes table means. 3,377,111, 4-9-68, Cl. 308—3.
- Breeding, Harold A., and R. M. Cheadle, to General Electric Co. Fastener device. 3,377,042, 4-9-68, Cl. 248—316.
- Breeding, Harold A., and H. A. J. de Vos, to General Electric Co. Floodlight. 3,377,473, 4-9-68, Cl. 240—3.
- Breil, Heinz: *See—*
  - Ziegler, Karl, Breil, Holzkamp, and Martin. 3,377,332.
- Brevets Aero-Mecaniques S.A.: *See—*
  - Guerne, William. 3,376,819.
- Brinker, Berton B., Jr.: *See—*
  - Ellett, John A., Brinker, and Love. 3,377,516.

- Brisbane, Alan D., to International Standard Electric Corp. Position control device. 3,377,489, 4-9-68, Cl. 310—8.3.
- Briscoe, James E.: *See*—
  - Briscoe, John B. and J. E. 3,376,747.
- Briscoe, James R. Building blocks with sides converging upwardly. 3,376,682, 4-9-68, Cl. 52—541.
- Briscoe, John B. and J. E. Oil level indicator. 3,376,747, 4-9-68, Cl. 73—313.
- Bristol Siddeley Engines Ltd.: *See*—
  - Guy, Kenneth R. 3,377,050.
- British Nylon Spinners Ltd.: *See*—
  - Meacock, Graham W., and Paterson. 3,377,232.
- Broadbent, John L., K. Bowden, and W. J. Ross, to Smith Kline & French Laboratories. Certain diacyl derivatives of phloroglucinol as anthelmintics. 3,377,241, 4-9-68, Cl. 167—53.
- Broerman, Arthur B., to Phillips Petroleum Co. Valve. 3,376,894, 4-9-68, Cl. 137—625.48.
- Bronze Inc.: *See*—
  - King, Drew. 3,377,043.
- Brosseit, Fritz V., to Western Electric Co., Inc. Methods of and apparatus for punch forming and separating pieces from a strip of material. 3,876,634, 4-9-68, Cl. 29—428.
- Brothers, George V. V. Display holder. 3,376,975, 4-9-68, Cl. 206—78.
- Brown, Clyde O.: *See*—
  - Banas, Conrad M., Brown, and Powers. 3,377,506.
- Brown, David, Tractors Ltd.: *See*—
  - Ashfield, Herbert E., and Dearnley. 3,376,791.
- Brown Fintube Co.: *See*—
  - Brown, John W., Jr., and Kaase. 3,377,459.
  - Samerdyke, Fred J., and Sessions. 3,377,087.
- Brown, Gaylord W., to Brown Machine Co. of Michigan, Inc. Stripper actuating mechanism for differential pressure forming machines. 3,376,607, 4-9-68, Cl. 18—19.
- Brown, Joe R. Pipe cutting apparatus and methods. 3,376,927, 4-9-68, Cl. 166—35.
- Brown, John W., Jr., anl R. W. Kaase, to Brown Fintube Co. Method and apparatus for helically welding strip material. 3,377,459, 4-9-68, Cl. 219—107.
- Brown Machine Co. of Michigan, Inc.: *See*—
  - Brown, Gaylord W. 3,376,607.
- Brown, Robert A., to Commercial Solvents Corp. Gelled ammonium nitrate-nitroethane explosive composition. 3,377,218, 4-9-68, Cl. 149—50.
- Brown, Robert R., and R. C. Ruete, to Elastic Stop Nut Corp. of America. Device for terminating outdoor electric cables. 3,377,420, 4-9-68, Cl. 174—73.
- Brown, Thomas K.: *See*—
  - Berteaux, Henri O., and Brown. 3,376,588.
- Brown, Vada L., Jr.: *See*—
  - Hale, Chapman M., Jr., Brown, and Stanin. 3,377,374.
- Brubaker, Merle W.: *See*—
  - Gordon, Elliott F., Brubaker, and Page. 3,376,977.
- Bruce, William F., to American Home Products Corp. Ethanoanthracene amines. 3,377,353, 4-9-68, Cl. 260—294.
- Bruggeman, William L., to L & A Products, Inc. Self-sealing connector for multiaperture nozzle. 3,377,028, 4-9-68, Cl. 239—394.
- Brumfield, John C., and C. T. Robins, to I-T-E Circuit Breaker Co. Circuit breaker resetting and closing mechanism. 3,377,574, 4-9-68, Cl. 335—27.
- Brunet, Louis, to Society Zuccolo, Rochet & Cie. Locks for bracelets. 3,376,619, 4-9-68, Cl. 24—241.
- Brunswick Corp.: *See*—
  - Rogers, Albert P. 3,376,699.
- Bryan, Leonard T. F., to Detexomat Ltd. Devices for detecting breakage of a thread, more particularly in textile machinery. 3,376,621, 4-9-68, Cl. 28—51.
- Bryan, Luther E., to Gem Clay Forming, Inc. Artificial logs for fireplaces. 3,377,229, 4-9-68, Cl. 161—22.
- Buccino, Gaetano S.: *See*—
  - Granowitz, Jack M., and Buccino. 3,376,973.
- Bucknell, Ernest H., and I. A. Ward, to Modern Faucet Mfg. Co. Anti-siphon diverter unit. 3,376,884, 4-9-68, Cl. 137—119.
- Bucyrus-Erie Co.: *See*—
  - Wilson, Ellis C., and Talley. 3,376,983.
- Buczkowski, Dwight E.: *See*—
  - Douty, Alfred, Buczkowski, and Harrison. 3,376,883.
- Buczynski, Mitchell, to Eaton Yale & Towne Inc. Valving arrangement for hydrostatic transmission. 3,376,703, 4-9-68, Cl. 60—53.
- Bull, Rame W., W. C. Ring, and R. B. Schrecongost, to Hammond Corp. Organ portamento system. 3,376,776, 4-9-68, Cl. 84—1.24.
- Bullard, Billy J., to Shell Oil Co. Underwater well drilling method. 3,376,923, 4-9-68, Cl. 166—.5.
- Bunker-Ramo Corp., The: *See*—
  - Boles, David R., Davis, and Wells. 3,377,581.
- Burch, Byron F., Jr., and W. W. Bradshaw, Jr., to General Electric Co. High speed printer system including recirculating data and address registers. 3,377,622, 4-9-68, Cl. 340—172.5.
- Burckhardt, Manfred H.: *See*—
  - Kamps, Reinhold G., Burckhardt, and Funke. 3,376,955.
- Burdett, Harold D., and M. F. Walling. Guard rail structures for highways. 3,377,053, 4-9-68, Cl. 256—13.1.
- Burke, John T., M. T. Dajani, and T. R. Schuh, Jr., to Nalco Chemical Co. Method of coagulation of low turbidity water. 3,377,274, 4-9-68, Cl. 210—53.
- Burlett, Frederick E. Pipe handling machine. 3,376,933, 4-9-68, Cl. 166—76.
- Burnett, Elmer B., to Ingersoll-Rand Co. Vane spring. 3,376,825, 4-9-68, Cl. 103—136.
- Burnett, Richard T., to The Bendix Corp. Return seal. 3,377,076, 4-9-68, Cl. 277—171.
- Burns, Joseph, to Fairchild Camera and Instrument Corp. Flat cathode-ray display tube. 3,377,500, 4-9-68, Cl. 315—14.
- Burt, F. N., Co., Inc.: *See*—
  - Sace, Arthur B. 3,376,797.
- Busch, Albert G., and E. J. Majewski; said Majewski assor. to said Busch. Plug for electrical cord. 3,377,610, 4-9-68, Cl. 339—95.
- Butterworth, Arthur B. Combined battery lifter and gage. 3,377,205, 4-9-68, Cl. 136—170.
- Buzan, James D., to Sarkes Tarzian, Inc. Aperture correction circuit. 3,377,425, 4-9-68, Cl. 178—7.1.
- CSF-Compagnie Generale de Telegraphie Sans Fil: *See*—
  - Arnaud, Jacques. 3,377,572.
  - Spitz, Erich. 3,377,596.
- Cabauatan, John R.: *See*—
  - Zaphiriou, James G., Cabauatan, and Gagne. 3,376,840.
- Cabot Corp.: *See*—
  - Hardy, John F., and Jordan. 3,377,141.
- Caesar, Philip D., to Mobil Oil Corp. Electrochemical electrode. 3,377,265, 4-9-68, Cl. 204—290.
- Caggia, Vincent P., to Lear Siegler, Inc. Linearized electrical output from pressure actuated airspeed instrument. 3,376,743, 4-9-68, Cl. 73—182.
- Cahen, Olivier: *See*—
  - Picquendar, Jean E., and Cahen. 3,377,588.
- Camco, Inc.: *See*—
  - Davis, Billy E. 3,376,745.
  - Lane, Bobbie R., and Davis. 8,377,532.
- Canepa, Agostino, to Ferrotubi S.p.A. Structure with tubular metal elements for covering or separating two superimposed floors of a building. 3,376,919, 4-9-68, Cl. 165—53.
- Cann, Everett D., 40% to W. T. Neiman. Process for the treatment of waste-containing waters. 3,377,271, 4-9-68, Cl. 210—45.
- Cann, Eeverett D., 40% to W. T. Neiman. Process for the treament of waste-containing waters. 3,377,272, 4-9-68, Cl. 210—45.
- Cannon Camera Co., Inc.: *See*—
  - Takano, Eiichi. 3,377,119.
- Cantor, Paul A.: *See*—
  - Kluge, Herman D. Krug, and Cantor. 3,377,377.
- Cantrall, Edward W., R. B. Conrow, and S. Bernstein, to American Cyanamid Co. 1-haloestra-1,3,5(10)-trienes. 3,377,362, 4-9-68, Cl. 260—397.4.
- Capecci, Joseph R., to Union Tank Car Co. Process of removing impurities with a mixture of cation and anion resins. 3,377,270, 4-9-68, Cl. 210—37.
- Capita, Emil R. Centrifugal furnace. 3,377,417, 4-9-68, Cl. 13—1.
- Caplan, Isadore, ½ to Markin Tubing, Inc. Method for making umbrella tubes. 3,376,632, 4-9-68, Cl. 29—417.
- Carbond Corp.: *See*—
  - Corley, William G., and Sermon. 3,377,150.
- Carey, Eldon W. Insignia positioning device. 3,376,651, 4-9-68, Cl. 33—180.
- Carr, Donald R., and A. A. Braccini, to Whittaker Corp. Portable antenna construction. 3,377,594, 4-9-68, Cl. 343—713.
- Carr, Donald R., and A. A. Braccini, to Whittaker Corp. Demountable and portable antenna constructions. 3,377,595, 4-9-68, Cl. 343—713.
- Carr, Louis E., to Westinghouse Air Brake Co. Hydraulic dampening device. 3,376,958, 4-9-68, Cl. 188—97.
- Carter, Clarence J., and R. F. Stewart, to Texas Instruments Inc. Diode array. 3,377,215, 4-9-68, Cl. 148—33.
- Case, J. I., Co.: *See*—
  - Long, Elton B., and Shumaker. 3,376,984.
- Catalysts and Chemicals, Inc.: *See*—
  - Gutmann, William R., and Mascarich. 3,377,138.
- Caterpillar Tractor Co.: *See*—
  - Boggs, Roger L. 3,377,110.
  - Costa, Philip J., and McCutchen. 3,377,023.
  - Lipp, Charles E., Rakus, and Vicary. 3,377,009.
- Cavallo, Joseph A. Wig jig. 3,376,656, 4-9-68, Cl. 34—90.
- Cavassa, John: *See*—
  - Whitley, Joe B., and Cavassa. 3,376,782.
- Celanese Corp.: *See*—
  - Jupa, Julius A., and Sweeney. 3,377,313.
  - Noether, Herman D., and Singleton. 3,377,329.
- Central Engineering Co., Inc.: *See*—
  - Paulson, Howard E. 3,376,946.
- Centre Electronique Horloger S.A.: *See*—
  - Hetzel, Max. 3,376,786.
- Cerana, Giuseppe, to Roberto Cerana, S.p.A. Process for desizing, scouring and bleaching cotton and polyester fabrics. 3,377,131, 4-9-68, Cl. 8—111.
- Cerana, Roberto, S.p.A.: *See*—
  - Cerana, Giuseppe. 3,377,131.
- Chafetz, Harry, to Texaco Inc. Manufacture of phenolic compounds. 3,377,386, 4-9-68, Cl. 260—621.
- Chalcroft, Charles P. Oar guard. 3,376,589, 4-9-68, Cl. 9—26.
- Chambaut, Henry L., to O.M.N.I.H. Campana & Cie. High speed turbine. 3,376,789, 4-9-68, Cl. 91—92.
- Chamberlin, Rhodes R., and J. S. Skarman, to The National Cash Register Co. Process for activating photoconductive films. 3,377,200, 4-9-68, Cl. 117—201.
- Chance, A. B., Co.: *See*—
  - Hollander, William L., and Lewis. 3,377,077.
- Chandley, George D., to TRW Inc. Method for casting high temperature alloys to achieve controlled grain structure and orientation. 3,376,915, 4-9-68, Cl. 164—61.
- Charles, Michael E.: *See*—
  - Hodgson, Gordon W., Charles, and Roehl. 3,377,107.

- Charvat, Vernon K., to The Osborn Mfg. Co. Method of manufacturing grinding wheels and the like. 3,377,411, 4-9-68, Cl. 264—45.
- Cheadle, Robert M.: *See*—
  - Breeding, Harold A., and Cheadle. 3,377,042.
- Cheeseman, Richard R., Jr., to Honeywell, Inc. Acoustic generator. 3,376,847, 4-9-68, Cl. 116—137.
- Chelminski, Stephen V., to Bolt Associates, Inc. Methods and apparatus for forming material by sudden impulses. 3,376,723, 4-9-68, Cl. 72—56.
- Chemagnetics Controls Corp.: *See*—
  - Klein, Alfred. 3,376,886.
- Chemische Fabrik Pfersee G.m.b.H.: *See*—
  - Sander, Manfred. 3,377,198.
- Chenevert, Martin E.: *See*—
  - Manry, Charles W., and Chenevert. 3,376,921.
- Chepos, Zavody Chemicheho a Potravinarskeho: *See*—
  - Nemessanyi, Ladislav. 3,376,728.
- Chevron Research Co.: *See*—
  - Kirk, Robert S., and Hong. 3,376,928.
  - Spars, Byron G. 3,377,267.
- Chicago Bridge & Iron Co.: *See*—
  - Berteaux, Henri O., and Brown. 3,376,588.
- Chinuki, Takashi: *See*—
  - Sugiyama, Hiroshi, Ikeda, Chinuki, and Otsuka. 3,377,337.
- Chirana Praha, narodni podnik: *See*—
  - Rebicek, Miroslav. 3,377,504.
- Christensen, Paul M., and M. F. Koenig, to Cutler-Hammer, Inc. Movable contact structure for abutting engagement. 3,377,608, 4-9-68, Cl. 339—22.
- Christiansen, Robert G., to Sterling Drug Inc. 1a-cysno steroids and reaction products therefrom. 3,377,341, 4-9-68, Cl. 260—239.55.
- Christoph, Frank J., Jr., to E. I. du Pont de Nemours and Co. Process for diminishing cuprene formation. 3,377,395, 4-9-68, Cl. 260—653.4.
- Chrysler Corp.: *See*—
  - Fristoe, John E., and Smith. 3,376,917.
  - Ruzza Sergio A. 3,377,278.
- Chugai Seiyaku Kabushiki Kaisha: *See*—
  - Sisido, Keiiti, Imai, Hirasaka, and Inoue. 3,377,339.
- Ciba Corp.: *See*—
  - Jennery Erwin F., and Schenker. 3,377,347.
- Ciesielski, Leo F., and C. Wheelus, to Arizona Chemical Co. Method of bleaching and stabilization of tall oil during distillation thereof. 3,377 333, 4-9-68, Cl. 260—97.6.
- Cislak, Francis E., F. A. Karnatz, and G. A. Shaw, to Reilly Tar & Chemical Corp. Fatty acid di-piperidides. 3,377,354, 4-9-68, Cl. 260—294.
- Cities Service Oil Co.: *See*—
  - House, Arthur A. 3,377,305.
  - Zmitrovis, Robert P. 3,377,188.
- Clapsaddle, Victor E., to Kinnear Corp. Hinge and roller carrier assembly. 3,376,913, 4-9-68, Cl. 160—201.
- Clark, Alexander. Locking handle structure for a combination dental mirror and retractor. 3,376,644, 4-9-68, Cl. 32—69.
- Clark Equipment Co.: *See*—
  - Latall, Roy C. 3,376,990.
- Clark, Robert L., A. A. Patchett, and E. F. Rogers, to Merck & Co., Inc. Alkylamino-4-hydroxy quinoline-3-carboxylic esters. 3,377,352, 4-9-68, Cl. 260—286.
- Clarke, Dudley S., and L. Richards, to Autoquip Corp. Constant flow hydraulic controls. 3,376,792, 4-9-68, Cl. 91—443.
- Clausen, Victor H., and A. Zweig, to Simpson Timber Co. Composite wood veneer and means for producing same. 3,377,223, 4-9-68, Cl. 156—166.
- Clement, Warren G.: *See*—
  - Webb, James E. 3,376,730.
- Clift, Robert A.: *See*—
  - Kirk, Mahlon R., and Clift. 3,377,192.
- Cline, Harry A.: *See*—
  - Bomar, Howard E., and Cline. 3,377,441.
- Coats & Clark Inc.: *See*—
  - Williams, Ernest F. 3,376,610.
- Cobler, John G.: *See*—
  - Owens, Elbert G., II, Gill, Hatton, and Cobler. 3,376,694.
- Cockle Ventilator Co., Inc.: *See*—
  - Marks, Ulrich G. 3,376,804.
- Cohen, Edward A.: *See*—
  - Bosworth, Robert H., and Cohen. 3,376,951.
- Cole, Donald W., and R. K. May, to General Dynamics Corp. Double reverse corrugated material. 3,376,684, 4-9-68, Cl. 52—635.
- Cole, Harry G. Mop having a pad of disposable sheets. 3,376,595, 4-9-68, Cl. 15—228.
- Coleman Instruments Corp.: *See*—
  - Staunton, John J. J., and Boostrum. 3,377,467.
- Colgate-Palmolive Co.: *See*—
  - Hansen, Kenneth R. 3,377,250.
  - Robertson, Jerry E. 3,377,248.
- Collins, Donald F., and L. E. Domer, to Adamson United Co. Slitter and adjustable edge trimmer for a continuously moving web. 3,376,774, 4-9-68, Cl. 83—482.
- Collins Radio Co.: *See*—
  - Joyce, Hardin, Jr. 3,376,755.
  - Renshaw, Kenneth H. 3,377,560.
- Colombo, Roberto, to Lavorazione Materie Plastiche L.M.P. S.p.A. Apparatus for manufacturing synthetic textile fibers. 3,376,603, 4-9-68, Cl. 18—8.
- Combustion Engineering, Inc. *See*—
  - Romanos, Nicholas D 3,376,858.
- Comision Nacional de Energia Atomica: *See*—
  - Zappi, Daniel A. 3,377,161.
- Commercial Solvents Corp.: *See*—
  - Brown, Robert A. 3,377,218.
  - Francis, James W. 3,377,217.
- Communications Patents Ltd.: *See*—
  - Thurner, Michael R. L. 3,376,658.
- Compagnie Francaise Thomson-Hotchkiss Brandt: *See*—
  - Picquendar, Jean E., and Cahen. 3,377,588.
- Compagnie Generale de Telegraphie Sans Fil: *See*—
  - Robieux, Jean, and Dumanchin. 3,377,592.
- Compressors Automation Controls Inc.: *See*—
  - Nielsen, Richard H., McCarty, and Wernette. 3,377,018.
- Compur-Werk Gesellschaft mit beschrankter Haftung & Co.: *See*—
  - Fahlenberg, Paul. 3,376,801.
- Concho Petroleum Co.: *See*—
  - Karcher, John C. 3,377,152.
- Conoflow Europa N.V.: *See*—
  - Timmermans, Frederik A. G. 3,376,737.
- Conort, Jean, to Esso Standard Societe Anonyme Francaise. Emulsion pastes of pale hydrocarbon binding agents. 3,377,298, 4-9-68, Cl. 260—8.
- Conrow, Ransom B.: *See*—
  - Cantrall, Edward W., Conrow, and Bernstein. 3,377,362.
- Constellation Steel Mill Equipment Corp.: *See*—
  - Pray, Edwin B. 3,376,895.
- Contigea Societe Anonyme: *See*—
  - Vilbajo, Jean 3,376,817.
- Continental Can Co., Inc.: *See*—
  - Glomb, John D. 3,376,748.
  - Simpson, Justin, and Iverson. 3,376,689.
- Continental Carbon Co.: *See*—
  - Latham, Burton F., Jr. 3,377,137.
- Continental Oil Co.: *See*—
  - Felsenthal, Martin, Quinn, and Jacocks. 3,376,924.
- Control Data Corp.: *See*—
  - Lindemann, Wallace W. 3,377,580.
- Cook, George M. Template. 3,376,650, 4-9-68, Cl. 33—174.
- Cooper, Albert S., Jr.: *See*—
  - Hamalainen, Carl, St. Mard, and Cooper. 3,377,163.
- Coors Porcelain Co.: *See*—
  - Wolkodoff, Vladimir E., and Weaver. 3,377,176.
- Coover, Harry W., Jr.: *See*—
  - McConnell, Richard L., and Coover. 3,377,409.
- Coppel, Claude P., to Marathon Oil Co. Process for the use of emulsions in petroleum recovery. 3,376,925, 4-9-68, Cl. 166—9.
- Corcoran, John W., to Beckman & Whitley, Inc. Shaft speed detector with variable capacitive coupling between the shaft and an electrical signal generator. 3,377,556, 4-9-68, Cl. 324—70.
- Corinaldi, Renato. Hand mirror for women. 3,377,474, 4-9-68, Cl. 240—4.2.
- Corley, William G., and G. T. Sermon, to Carbond Corp. Methods of making electrolytic tools. 3,377,150, 4-9-68, Cl. 51—295.
- Corn Products Co.: *See*—
  - Katzbeck, Walter J., and King. 3,376,623.
- Cornelius Co., The: *See*—
  - Cornelius, Richard T. 3,376,998.
- Cornelius, Richard T., to The Cornelius Co. Molded plastic bottle-carrier. 3,376,998, 4-9-68, Cl. 220—102.
- Costa, Philip J., and R. R. McCutchen, to Caterpillar Tractor Co. Discriminating variable speed control for multiple heat exchanger fan motors. 3,377,023, 4-9-68, Cl. 236—35.
- Costaguta, Giancarlo: *See*—
  - Rinaldi, Gianfranco, Mariani, and Costaguta. 3,376,693.
- Council of Scientific and Industrial Research: *See*—
  - Pantulu, Amirapu J., Achaya, Sidhu, and Zaheer. 3,377,388.
- Courtaulds Ltd.: *See*—
  - Baguley, Maurice E. 3,377,190.
- Cowen, John C. L.: *See*—
  - De Mart, Le Roy S., and Cowen. 3,377,026.
- Cox, Bradley G., to Baker Perkins Inc. Methods and apparatus for maintaining a liquid head in a centrifuge. 3,377,019, 4-9-68, Cl. 233—2.
- Cranendonk, Adriaan C., to American Enka Corp. Process for producing improved rayon threads from viscose and the rayon threads produced thereby. 3,377,179, 4-9-68, Cl. 106—165.
- Cripe, Earnest C. Vertically expandable vehicle. 3,377,100, 4-9-68, Cl. 296—137.
- Crippen, Huston D. Automatic stock feeder. 3,376,856, 4-9-68, Cl. 119—52.
- Crompton & Knowles Corp.: *See*—
  - Bradish, Elliott E. 3,376,902.
  - Payne, Oscar V. 3,376,900.
- Cross, Leonard H., S. Inglefield, and N. Ward, to Imperial Chemical Industries Ltd. Apparatus for collecting fractions separated by gas-chromatography. 3,376,731, 4-9-68, Cl. 73—23.1.
- Crowe, Talmadge L., to Baker Oil Tools, Inc. Sucker rod compensator for subsurface well pumps. 3,376,826, 4-9-68, Cl. 103—202.
- Crownover, Carl F.: *See*—
  - Dickey, Frank H., and Crownover. 3,376,709.
- Cundy, Graeme M. Seals for machine shafts. 3,377,074, 4-9-68, Cl. 277—32.
- Cushman, Robert H., to Western Electric Co., Inc. Apparatus for applying a coating of a fused material to an article. 3,377,012, 4-9-68, Cl. 228—40.
- Cusi, Eduardo L. Steam trap. 3,376,885, 4-9-68, Cl. 137—183.
- Cusic, John W., and P. Yonan, to G. D. Searle & Co. Hydrazones of 1-amino-4-dibenzocycloheptenylpiperazines. 3,377,344, 4-9-68, Cl. 260—240.
- Custom Component Switches, Inc.: *See*—
  - Griffith, Donald L., and Williams. 3,376,794.

Cutler-Hammer, Inc. : *See*—
Christensen, Paul M., and Koenig. 3,377,608.
Cyclops Corp. : *See*—
Schoenfeld, William J. 3,377,211.
Daane, Robert A., to Beloit Corp. Dryer ventilation. 3,376,653, 4–9–68, Cl. 34—23.
Dajani, Mahmoud T. : *See*—
Burke, John T., Dajani, and Schuh. 3,377,274.
Dai Nihon Bungu Co. : *See*—
Matsumoto, Hiroyuki. 3,377,124.
Daimler-Benz Aktiengesellschaft : *See*—
Barenyi, Béla, and Haselmann. 3,376,947.
Kamps, Reinhold G., Burckhardt, and Funke. 3,376,955.
Dalbey, Carl E., to Tektronix, Inc. Latching device. 3,377,116, 4–9–68, Cl. 312—333.
Dalrymple, Donald D. : *See*—
Woodbridge, James O., Spencer, and Dalrymple. 3,377,214.
Dammicci, James : *See*—
Millson, Henry E., and Dammicci. 3,377,130.
Dann, Murray : *See*—
Lefemine, Donald, Dann, Thomas, and De Voe. 3,377,242.
Davies, Hugh K. : *See*—
Tregoning, Geoffrey R., and Davies. 3,376,965.
Davis, Billy E., to Camco, Inc. Flow meter. 3,376,745, 4–9–68, Cl. 73—205.
Davis, Billy E. : *See*—
Lane, Bobbie R., and Davis. 3,377,532.
Davis, Chester, to Scott Paper Co. Arylmethane dye azides and method of forming colored indicia therewith. 3,377,185, 4–9–68, Cl. 117—38.
Davis, Clement, and D. W. Matteson, to Audio-Chron, Inc. Tape recorded chime clock. 3,376,700, 4–9–68, Cl. 58—14.
Davis, George D., R. D. Beckham, and L. W. Fannin, to Monsanto Co. Method for detecting moisture. 3,377,294, 4–9–68, Cl. 252—408.
Davis, Harry S. Timing mechanism. 3,377,446, 4–9–68, Cl. 200—38.
Davis, John S. : *See*—
Boles, David R., Davis, and Wells. 3,377,581.
Davis, Martin A., to American Home Products Corp. Dibenzocycloheptenyl carboxyhydrazides. 3,377,380, 4–9–68, Cl. 260—558.
Deakin, Stanley T., to Sealectro Ltd. Electric circuit selectors. 3,377,607, 4–9–68, Cl. 339—18.
Dean, Earl W., to The Goodyear Tire & Rubber Co. White sidewall tire. 3,377,222, 4–9–68, Cl. 156—116.
Dean, William A., and C. E. Fay, to Bell Telephone Laboratories, Inc. Four port ferrite circulator having slot symmetrically located between adjacent conducting arms. 3 377,570, 4–9–68, Cl. 333—1.1.
Dearnley, Kenneth : *See*—
Ashfield, Herbert E., and Dearnley. 3,376,791.
Deaver, Danny L. Safety closure. 3,376,991, 4–9–68, Cl. 215—9.
De Corso, Serafino M., G. A. Kemeny, and C. B. Wolf, to Westinghouse Electric Corp. Small diameter fluid cooled arc-rotating electrode. 3 377,418, 4–9–68, Cl. 13—9.
Deddo, Daniel G., and S. C. Oakley. Air circulation and filter system. 3,376,805, 4–9–68, Cl. 98—115.
Deering Milliken Research Corp. : *See*—
Marco, Francis W. 3,377,249.
De Frees, Joseph H. Gate valve. 3,377,049, 4–9–68, Cl. 251—329.
De Gray, Richard J., and J. S. Mann, to The Standard Oil Co. Gasoline fuel composition. 3,377,148, 4–9–68, Cl. 44—63.
De Hart, Larry L., and S. J. Speer, to General Dynamics Corp. Packaging, mixing and dispensing apparatus. 3,376,999, 4–9–68, Cl. 222—135.
Deines, Siegmund, to Aqua Tec Corp. Apparatus for forming and bending thermoplastic tubes, rods, and the like. 3,376,606, 4–9–68, Cl. 18—19.
De la Motte, Pierre, to The U. S. Baird Corp. Scrap chopper. 3,376,773, 4–9–68, Cl. 83—441.
Della Rose, Fred S., to United States Steel Corp. Method of operating a blast furnace to produce pig iron and cement slag. 3,377,157, 4–9–68, Cl. 75—41.
Delphenich, John S. : *See*—
Schiefer, Harry M., and Delphenich. 3,377,284.
Demaison, Raymond J., to Quigley Co., Inc. Furnace wall of blocks with embedded fastening elements. 3,376,681, 4–9–68, Cl. 52—508.
De Mart, Le Roy S., and J. C. L. Cowen, to Diamond Power Specialty Corp. Retractable cleaning mechanism for boilers and other heat exchangers. 3,377,026, 4–9–68, Cl. 239—187.
Denley, Robert W. : *See*—
Grohoski, Raymond J., and Denley. 3,376,701.
Denner, Helmut, to "Patelhold" Patentverwertungs- & Electro-Holding A.G. Variable high frequency transformer. 3,377,565, 4–9–68, Cl. 331—74.
Dersch, William C., to International Business Machines Corp. Voiced sound detector circuits and systems. 3,377,428, 4–9–68, Cl. 179—1.
Dersch, William C., to International Business Machines Corp. Arrangement for identifying freight cars. 3,377,618, 4–9–68, Cl. 340—47.
Design & Process Engineering, Inc. : *See*—
Magnusson, Sverrir H. 3,376,806.
Detexomat Ltd. : *See*—
Bryan, Leonard T. F. 3,376,621.
Deuringer, Rudolf : *See*—
Sambucetti, Carlos J., and Deuringer. 3,377,256.
De Voe, Stanley E. : *See*—
Lefemine, Donald, Dann, Thomas, and De Voe. 3,377,242.
De Voe, Stanley E., and L. A. Mitscher, to American Cyanamid Co. Antibiotic RA–6950B and method of production using streptomyces ochrosporus. 3,377,243, 4–9–68, Cl. 167—65.
DeVos, Hendrik A. J. : *See*—
Breeding, Harold A., and DeVos. 3,377,473.
Diamond Power Specialty Corp. : *See*—
De Mart, Le Roy S., and Cowen. 3,377,026.
Diamond Shamrock Corp. : *See*—
Kiss, Kornel D. 3,377,318.
Diassi, Patrick A. : *See*—
Levine, Seymour D., and Diassi. 3,377,360.
Dickerson, Loren L., to United States of America, Army. Adaptive exponential generator. 3,377,544, 4–9–68, Cl. 322—28.
Dickey, Frank H., and C. F. Crownover. Separation of acid gases from natural gas by solidification. 3,376,709, 4–9–68, Cl. 62—12.
Dieterle, Horst : *See*—
Rabe, Peter, Eimecke, Gischel, and Dieterle. 3,377,127.
Di Giovanni, Joseph : *See*—
Papadia, Cosimo S., and Di Giovanni. 3,376,793.
Diletti, Friedhelm : *See*—
Van Rutten, Fernand, Hopper, and Diletti. 3,377,253.
Dille, Kenneth L. : *See*—
Eckert, George W., Newman, Dille, and Alpert. 3,377,149.
Di Pasquale, Renato : *See*—
Wagner, Otto C., and Di Pasquale. 3,377,201.
Ditchfield, Clifford, to Orenda Ltd. Trailer tow-bar damper mechanism. 3,377,086, 4–9–68, Cl. 280—489.
Dock, Clement A., to United States of America, Army. Time fuze test apparatus. 3,376,729, 4–9–68, Cl. 73—5.
Dock, Clement A., to United Staes of America, Army. Escapement mechanism. 3,376,754, 4–9–68, Cl. 74—1.5.
Dohm & Nelke, Inc. : *See*—
Anderson, Eric W. 3,376,626.
Dokos, Sophocles J. : *See*—
Stecca, Anthony J., Barnas, Dokos, Jarzembski, and Norris. 3,377,564.
Dolder, Guido, and N. Meystre, to Escher Wyss Aktiengesellschaft. Pipe branch piece. 3,376,897, 4–9–68, Cl. 138—39.
Domer, Lavern E. : *See*—
Collins, Donald F., and Domer. 3,376,774.
Dommann, Gunther, to Gewerkschaft Eisenhutte Westfalia. Advanceable roof prop arrangement. 3,376,707, 4–9–68, Cl. 61—45.
Donaldson, Malcolm M., and D. R. Sexsmith, to American Cyanamid Co. Glossy, transparent nylon film having an ionically reacted content of a strong acid and method of making same. 3,377,187, 4–9–68, Cl. 117—47.
Donegan, Howard M., to Westinghouse Electric Corp. Mobile electrical transformer apparatus having means for moving the transformer between operating and transmit positions. 3,377,601, 4–9–68, Cl. 336—65.
Dorfman, Edwin : *See*—
Weil, Edward D., Linder, and Dorfman. 3,377,155.
Dorfman, Edwin, to Hooker Chemical Corp. Compositions for controlling plant growth. 3,377,384, 4–9–68, Cl. 260—611.
Dorosz, Adolph S., and A. L. Tardiff, to United Shoe Machinery Corp. Packaging machines. 3,376,691, 4–9–68, Cl. 53—377.
Dorsett Industries, Inc. : *See*—
Dorsett, Loyd G. 3,376,657.
Dorsett, Loyd G., to Dorsett Industries, Inc. Audio-visual teaching machine. 3,376,657, 4–9–68, Cl. 35—9.
Doubt, Ralph A., to Phillips Petroleum Co. Electrical selector switch with improved carriage and dial actuating apparatus. 3,377,444, 4–9–68, Cl. 200—16.
Douty, Alfred, D. E. Buczkowski, and J. W. Harrison, to Amchem Products, Inc. Apparatus for controlling acidulated bath. 3,376,883, 4–9–68, Cl. 137—88.
Dow Chemical Co., The : *See*—
Berezin, Gilbert H., and Harris. 3,377,372.
Eble, John N. 3,377,247.
Ehrenford, Frank A. 3,377,238.
Lowes, Fred J. 3,376,602.
Nault, Joyce D. 3,377,240.
Owens, Elbert G., II, Gill, Hatton, and Cobler. 3,376,694.
Sargent, Roger N., and Wheaton. 3,377,369.
Strycker, Stanley J. 3,377,379.
Trepanier, Donald L., and Harris. 3,377,345.
Wolf, Paul A., Kent, and Bobalek. 3,377,175.
Dow Corning Corp. : *See*—
Baney, Ronald H. 3,377,312.
Harper, Jack R. 3,377,309.
Hyde, James F. 3,377,306.
Quaal, George J. 3,377,371.
Relyea, Elton H., and Sias. 3,376,848.
Renwick, William C. 3,377,226.
Schiefer, Harry M., and Delphenich. 3,377,284.
Weyer, Donald L. 3,377,414.
Dresser Industries, Inc. : *See*—
Harney, Doran B. 3,377,073.
Drexler, William J. : *See*—
Baker, Allister L., Krause, Drexler, and Zener. 3,377,112.
Duke, Bruce W., and C. W. Marshall, to Norton Co. Coated abrasives for electrolytic grinding. 3,377,264, 4–9–68, Cl. 204—290.
Dumanchin, Roger : *See*—
Robieux, Jean, and Dumanchin. 3,377,592.
Duncan, James A., to Grinnell Corp. Overhead loom cleaner. 3,376,596, 4–9–68, Cl. 15—312.
Duncan, Owen G. : *See*—
Shannon, John K., and Duncan. 3,377,609.
Dunlop Rubber Co. Ltd. : *See*—
Press, Carl. 3,376,956.
Smith, John L., and Marriott. 3,377,194.

Du Pont de Nemours, E. I. and Co. : *See*—
Alexander, Guy B. 3,377,143.
Altau, Karl. 3,377,199.
Anton, Anthony. 3,377,314.
Beattie, John H. 3,376,605.
Blake, Ralph K. 3,377,169.
Christoph, Frank J., Jr. 3,377,395.
Harvey, John V. 3,376,740.
Karickhoff, Michael, and Lofland. 3,377,262.
Kvalnes, Donovan E., and Parmelee. 3,377,287.
Rondestvedt, Christian S., Jr. 3,377,390.
Stilmar, Frederic B. 3,377,193.
Winberg, Hilmer E. 3,377,291.
Witsiepe, William K. 3,377,322.
Durham, Philip F. Record jacket. 3,376,872, 4–9–68, Cl. 129—16.7.
Dürig, Rudolf, and W. Bossard, to J. R. Geigy A.G. Reactive disazo dyestuffs. 3,377,335, 4–9–68, Cl. 260—146.
Duris, Rudolph M., to Edwards Co., Inc. Pushbutton switch having a nameplate light signal. 3,377,453, 4–9–68, Cl. 200—167.
Durkoppwerke A.G. : *See*—
Nicolay, Karl. 3,376,836.
Nicolay, Karl. 3,376,837.
Dury, Karl : *See*—
Reicheneder, Franz, Dury, and Fischer. 3,377,154.
Dust Control Equipment Ltd. : *See*—
Wells, Alfred J., and Baxendale. 3,376,696.
Dwyer, Frank J., and H. Stone, to Allied Chemical Corp. Flexible polyurethane foams. 3,377,296, 4–9–68, Cl. 260—2.5.
Dykstra, David G. : *See*—
Benson, Ernest J., Dykstra, and Webster. 3,377,172.
East, Robert D., to General Gas Light Co. Liquid supply system and pump control therefor. 3,376,821, 4–9–68, Cl. 103—25.
Eastern Co., The : *See*—
Pastva, John V. 3,377,091.
Eastland Engineering Ltd. : *See*—
Eastland, Raymond L. 3,377,055.
Eastland, Raymond L., to Eastland Engineering Ltd. Photographic processing apparatus. 3,377,055, 4–9–68, Cl. 259—72.
Eastman Kodak Co. : *See*—
Hale, Chapman M., Jr., Brown, and Stanin. 3,377,374.
Martin, James C. 3,377,358.
McConnell, Richard L., and Coover. 3 377,409.
Weyerts, Walter J., and Salminen. 3,377,166.
Eaton, Lyle E., W. H. Hoerr, J. H. Hyler, and W. H. McGlade, to Westinghouse Air Brake Co. Hydraulically dampened car bogie. 3 376,831, 4–9–68, Cl. 105—199.
Eaton Yale & Towne Inc. : *See*—
Buczynski, Mitchell. 3,376,703.
Johnson, Vernon A., and Oldberg. 3,376,860.
Eble, John N., to The Dow Chemical Co. Antidepressant method. 3,377,247, 4–9–68, Cl. 167—65.
Ebner, Hellmut : *See*—
Lederer, Michael, Kasten, and Ebner. 3,377,373.
Eckert, George W., S. R. Newman, K. L. Dille, and N. Elpert, to Texaco Inc. Motor fuel containing an octane appreciator. 3 377,149, 4–9–68, Cl. 44—69.
Eckert, George W. : *See*—
Newman, Stanley R., Eckert, Hess, and Heisler. 3,377,401.
Eddy, Robert T., to The Bendix Corp. Brake proportioning device. 3,377,108, 4–9–68, Cl. 303—24.
Edmonds, James T., Jr., to Phillips Petroleum Co. Blend of 1-monoolefin and trimethylene sulfide polymers. 3,377,408, 4–9–68 Cl. 260—897.
Edouard Dubied et Cie (Societe Anonyme) : *See*—
Joseph, Pierre. 3,376,716.
Edwards Co., Inc. : *See*—
Duris, Rudolph M. 3,377,453.
Ehrenford, Frank A., to The Dow Chemical Co. Method for controlling gastropods. 3,377,238, 4–9–68, Cl. 167—30.
Eibeck, Richard E., to Allied Chemical Corp. Process for combatting insects with disulfur decafluoride fumigant. 3,377,237, 4–9–68, Cl. 167—20.
Eimecke, Rolf : *See*—
Rabe Peter, Eimecke, Gischel, and Dieterle. 3,377,127.
Eiszner, James R. : *See*—
Van Strien, Richard E., and Eiszner. 3,377,321.
Eitel, Kurt : *See*—
Kolb, Gunter, and Eitel. 3 377,307.
Ekstrom, Regner A., Jr. Slack diaphragm fluid gauge. 3,376,750, 4–9–68, Cl. 73—409.
Elastic Stop Nut Corp. of America : *See*—
Brown, Robert R., and Ruete. 3,377,420.
Rogers, Roland T. 3,377,582.
Elco Corp. : *See*—
Ruehlemann, Herbert E., and Frompovicz. 3,377,514.
Eldon Industries, Inc. : *See*—
Wood, Olen P. 3,376,844.
Electro-Mechanical Research, Inc. : *See*—
Magnin, Jean P. 3,377,585.
Eliason, Raymond E., to Itek Corp. Cutting mechanism. 3,376,775, 4–9–68, Cl. 83—582.
Ellett, John A., B. B. Brinker, Jr., and R. B. Love, to Hughes Aircraft Co. Cordwood package with removable plugs. 3,377,516, 4–9–68, Cl. 317—101.
Elliott & Evans, Inc. : *See*—
Hurley, Frederick A. 3,377,517.
Ellis, Ira T., Jr. : *See*—
Nelson, Robert A., Ellis, and Haibt. 3,377,624.
Elmquist, Lyle F., to General Mills, Inc. Difatty alkyl-dilower-alkyl quaternary ammonium compounds. 3,377,382, 4–9–68, Cl. 260—567.6.
Eltra Corp. : *See*—
Kruse, Frederick E. 3,377,602.
Elward, John P., Jr., and M. Uenohara, to Bell Telephone Laboratories, Inc. Apparatus and method for determining varactor quality factor by measuring the phase shift resulting from the application of two different varactor bias levels. 3,377,558, 4–9–68, Cl. 324—158.
Elwin, Tore, to Aktiebolaget Bofors. Installation for loading the launching tubes of a depth-charge launcher. 3,376,785, 4–9–68, Cl. 89—46.
Emeis, Reimer : *See*—
Hanlein, Walter, and Emeis. 3,377,206.
Emery, Loring D., Jr., to United States of America, Army. Bond strength test apparatus. 3,376,736, 4–9–68, Cl. 73—101.
Emmons, Floyd R., to United Aircraft Corp. Tracking loop for aircraft cabin pressure regulating system. 3,376,802, 4–9–68, Cl. 98—1.5.
Emmons, Floyd R., to United Aircraft Corp. Cabin pressure regulator. 3,376,803, 4–9–68, Cl. 98—1.5.
Emmott, Joseph G., to Foseco International Ltd. Production of metal ingots, slabs and billets. 3,376,914, 4–9–68, Cl. 164—33.
Engle, William H. Emergency lighting system with low, medium and high voltage outputs. 3,377,505, 4–9–68, Cl. 315—86.
Epstein, George, to Alside, Inc. Leveling means for aluminum siding panel. 3,376,683, 4–9–68, Cl. 52—553.
Erb, Peter F., to Potter Instrument Co., Inc. Circuit card cage construction. 3,377,515, 4–9–68, Cl. 317—101.
Erby, William A., R. A. Flinn, and R. A. Walde, to Air Products and Chemicals, Inc. Fluorine-organometallic compounds, process of preparing said compounds and process of treating solid material with said compounds. 3,377,197, 4–9–68, Cl. 117—121.
Ericson, Eric A., to General Electric Co. Electric power busway system with novel connecting means for joining busway sections. 3,377,421, 4–9–68, Cl. 174—84.
Erie Technological Products, Inc. : *See*—
Rouy, Auguste L. M. A. 3,377,439.
Ernesto, Augusto M. Fixture for grinding tools. 3,376,674, 4–9–68, Cl. 51—217.
Ernst-Moritz-Arndt-Universitat : *See*—
Mobius, Hans-Heinrich, and Rohland. 3,377,203.
Escher Wyss Aktiengesellschaft : *See*—
Dolder, Guido, and Meystre. 3,376,897.
Lecher, Walter. 3,377,051.
Esso Production Research Co. : *See*—
Biffle, Joe L. 3,376,738.
Hagedorn, Alton R. 3,376,929.
Hindman, Robert G. 3,376,708.
Kiel, Othar M., and Heilhecker. 3,376,930.
Manry, Charles W., and Chenevert. 3,376,921.
Osoba, Joseph S., and Rumble. 3,377,550.
Willman, Bertram T., and McPhail. 3,376,934.
Esso Research and Engineering Co. : *See*—
Gathman, Albert. 3,377,368.
Griesbaum, Karl. 3,377,389.
Harris, Rano J. 3,376,896.
Kalina, Theodore, and Kivlen. 3,377,156.
Lillard, James G., and Zubik. 3,377,533.
Rowe, Charles A., Jr., Muessig, and Yuhas. 3,377,299.
Esso Standard Societe Anonyme Francaise : *See*—
Conort, Jean. 3,377,298.
Ether, Theodore L., to Uniroyal, Inc. Golf ball hardness tester. 3,376,734, 4–9–68, Cl. 73—78.
Ethicon, Inc. : *See*—
Boryško, Emil. 3,376,869.
European Atomic Energy Community (Euratom) : *See*—
Van Rutten, Fernand, Hopper, and Diletti. 3,377,253.
Everest & Jennings, Inc. : *See*—
Lotz, Benno. 3,376,944.
Eversharp, Inc. : *See*—
Bombero, Thomas F. 3,376,637.
Eves, Joseph R., to United States of America, Army. Lined gun barrel and method of forming same. 3,376,624, 4–9–68, Cl. 29—1.1.
Excel Corp. : *See*—
Jones, Leslie V. 3,376,670.
Fa. Maschinenfabrik Zuckerman Kom. Ges. Wien : *See*—
Schmidt, Erich. 3,376,672.
Faasch, Werner, to Rollei-Werke Franke & Heidecke. Supplementary system for mirror reflex cameras. 3,376,800, 4–9–68, Cl. 95—42.
Faggiano, Giuseppe, to AMF Electrica S.p.A. Threaded quick coupling pushbutton holder for microswitches. 3,377,454, 4–9–68, Cl. 200—168.
Fahlenberg, Paul, to Compur-Werk Gesellschaft mit Beschrankter Haftung & Co. Photographic camera. 3,376,801, 4–9–68, Cl. 95—53.
Fairchild Camera and Instrument Corp. : *See*—
Burns, Joseph. 3,377,500.
Fannin, Loyd W. : *See*—
Davis, George D., Beckham, and Fannin. 3,377,294.
Farbenfabriken Bayer Aktiengesellschaft : *See*—
Kolb, Gunter, and Eitel. 3,377,307.
Oertel, Harald, Rinke, and Thoma. 3,377,308.
Siegel, Edgar, and Sasse. 3,377,336.
Farber, Henry. Detachable garbage can carrier. 3,376,986, 4–9–68, Cl. 214—372.
Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning : *See*—
Hartwimmer, Robert, and Schwiersch. 3,377,340.
Lederer, Michael, and Kasten. 3,377,373.
Fare, Louis R., J. F. Kerwin, and R. W. Kinney, to Smith Kline & French Laboratories. B-norestrogens. 3,377,361, 4–9–68, Cl. 260—345.9.
Farkas, Adalbert, and F. Miller, to Air Products Chemicals, Inc. Method of preparing N,N-bis-(3-aminopropyl)-ethanolamine. 3,377,383, 4–9–68, Cl. 260—584.

Farkas, Zoltan D. Voltage multiplying inverter/converter system. 3,377,541, 4-9-68, Cl. 321—15.
Fay, Clifford E.: *See*—
Dean, William A., and Fay. 3,377,570.
Fegan, Lloyd V., Jr., to Bethlehem Steel Corp. Moist feed mix air permeability control. 3,376,877, 4-9-68, Cl. 134—57.
Feller, Thomas R., to Allis-Chalmers Mfg. Co. Rotating shaft seal retainer. 3,377,075, 4-9-68, Cl. 277—149.
Felsenthal, Martin, J. W. Quinn, and C. L. Jacocks, to Continental Oil Co. Foam drive for secondary recovery. 3,376,924, 4-9-68, Cl. 166—9.
Felt Laboratories, Ltd.: *See*—
Barr, Thomas, and Higginbottom. 3,377,132.
Ferrell, Robert L., to Spectrol Electronics Corp. Potentiometer apparatus. 3,377,606, 4-9-68, Cl. 338—174.
Ferrotubi S.p.A.: *See*—
Canepa, Agostino. 3,376,919.
Fette, Charles J.: *See*—
Abbott, Henry H., Fette, and Meise. 3,377,432.
Fiat Societa per Azioni: *See*—
Valpreda, Luigi. 3,376,705.
Fichter, Harry L., Jr., to Horizons Inc. Fixing agents for photosensitive compositions containing leucotriphenyl methane derivatives; leucoxanthene compounds or leuco anthracene compounds. 3,377,167, 4-9-68, Cl. 96—48.
Fielden, Roy, A. L. Green, and D. W. Hills, to Smith Kline & French Laboratories. Methods and compositions for treating hypertension. 3,377,245, 4-9-68, Cl. 167—65.
Filipowsky, Richard F. J., to International Business Machines Corp. Digital communications system. 3,377,625, 4-9-68, Cl. 340—172.5.
Finley, James, to Hanlo Gage and Engineering Co. Gaging apparatus. 3,377,649, 4-9-68, Cl. 33—147.
Firma Gatag Ltd.: *See*—
Probst, Georg. 3,377,437.
Firma Industrie-Companie Kleinewefers Konstruktions- und Handelsgesellschaft m.bH.: *See*—
Hiller, Walther. 3,377,213.
Fischer, Adolf: *See*—
Reichender, Franz, Dury, and Fischer. 3,377,154.
Fischer, George J. Light sensitive optical control system for a television camera. 3,377,427, 4-9-68, Cl. 178—7.92.
Fischer, John E.: *See*—
Hanson, Rudolph A., and Fischer. 3,376,890.
Fischer, Melvin M.: *See*—
Meyer, Harry W., Porter, and Fischer. 3,377,158.
Fischer, Wilhelm A., to Max-Planck Institut für Eisenforschung. Metallurgical furnace lining. 3,377,177, 4-9-68, Cl. 106—57.
Fitch, John L., and B. J. Patton, to Mobil Oil Corp. Method and apparatus for recordation of the orientation of tools in remote locations. 3,376,941, 4-9-68, Cl. 175—44.
Flinn, Joseph A., Jr. Collapsible box. 3,376,994, 4-9-68, Cl. 220—6.
Flinn, Richard A.: *See*—
Erby, William A., Flinn, and Walde. 3,377,197.
Flowers, Henry F. Torsionally flexible mine car. 3,376,832, 4-9-68, Cl. 105—364.
Ford Motor Co., The: *See*—
Ihnacik, Joseph J., Jr. 3,376,704.
McLean, Arthur F. 3,376,702.
Simko, Aladar. 3,376,889.
Whalen, Thomas J. 3,377,227.
Forrest, John W., to Acton Laboratories, Inc. Electrical devices with frictionless flexible contacts. 3,377,604, 4-9-68, Cl. 338—154.
Forsvarets Fabriksverk Eskilstuna: *See*—
Abramson, Hugo. 3,376,784.
Forsyth, John P. and R. W. Convertible housing structure. 3,376,586, 4-9-68, Cl. 9—1.
Forsyth, Robert W.: *See*—
Forsyth, John P. and R. W. 3,376,586.
Fort Dunlop: *See*—
Press, Carl. 3,376,956.
Fortunato, Louis F. Linkage bar for wrenches. 3,376,768, 4-9-68, Cl. 81—177.
Foseco International Ltd.: *See*—
Emmott, Joseph G. 3,376,914.
Foster, Allen A., Jr. Retention means for telephone handsets. 3,377,442, 4-9-68, Cl. 179—186.
Foster, Stephen F., and H. G. Moore, to Hercules Inc. Explosive container. 3,376,816, 4-9-68, Cl. 102—24.
Foure, Claude D., and C. H. C. Moussez, to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation. Cooling of turbine blades. 3,376,918, 4-9-68, Cl. 165—47.
Fox, Gerald D., J. E. Joyce, and R. C. Leif, to International Equipment Co. Centrifuge rotors, buckets and combinations of such buckets and rotors. 3,377,021, 4-9-68, Cl. 233—26.
Foxboro Co., The: *See*—
Kister, Dale F., and Moore. 3,376,744.
Reut, Richard, and Baldridge. 3 377,623.
Schoppe, Edward, Jr., and Gobhai. 3,376,882.
Fralick, Roy A. Trash cart. 3,377,085, 4-9-68, Cl. 280—408.
Francis, James W., to Commercial Solvents Corp. Gelled ammonium nitrate-nitromethane explosive composition. 3,377,217, 4-9-68, Cl. 149—50.
Frank, Egon. High-frequency stereo decoder containing electronic mono-stereo switching means. 3,377,430, 4-9-68, Cl. 179—15.
Franks, Neal E., to American Enka Corp. Polyvinyl pyrrolidone in viscose and method of producing dye-receptive filaments. 3,377,412, 4-9-68, Cl. 264—78.
Frantz, Virgil L., and B. D. Switzer, Jr., to Graham-White Sales Corp. Solenoid valve and method. 3,377,046, 4-9-68, Cl. 251—139.
Freedman, Bernard J.: *See*—
Ballass, John T., Perkins, and Freedman. 3,377,461.
Frey, Christian, to Suspended Structures, Inc. Framework for suspended inverted arch modules and method. 3,376,677, 4-9-68, Cl. 52—122.
Frey, Louis O., to Air Control, Inc. Sink construction. 3,376,583, 4-9-68, Cl. 4—187.
Fried, John H., to Syntex Corp. 2′,2′-bistrifluoromethyloxetano(3′,4′;16α,17α) derivatives of 4-pregneno[3,2-c]pyrazoles and 4,6-pregnadieno[3,2-c]pyrazoles. 3,377,342, 4-9-68, Cl. 260—239.55.
Fried, John H., to Syntex Corp. 2′,2′-bistrifluoromethyloxetano(3′,4′; 16α,17α) derivatives of the pregnane series. 3,377,343, 4-9-68, Cl. 260—239.55.
Fried, Josef: *See*—
Laskin, Allen I., and Fried. 3,377,255.
Friedrich Deckel Prazisions Mechanik und Maschinenbau: *See*—
Muller, Johann. 3,376,788.
Friedrich Duss Maschinenfabrik: *See*—
Holzapfel, Jakob. 3,376,939.
Frigon, Paul A., to American Optical Co. Illuminated key cases. 3,377,475, 4-9-68, Cl. 240—6.4.
Frisch, Erling, to Westinghouse Electric Corp. Fuel arrangement for a nuclear reactor. 3,377,254, 4-9-68, Cl. 176—78.
Fristoe, John E., and L. R. Smith, to Chrysler Corp. Condenser for two refrigeration systems. 3,376,917, 4-9-68, Cl. 165—39.
Frompovicz, Frank J.: *See*—
Ruehlemann, Herbert E., and Frompovicz. 3,377.514.
Fruengel, Frank, and G. Roeder, to Impulsphysik G.m.b.H. Gas filled envelope for a spark gap or the like. 3,377,496, 4-9-68, Cl. 313—175.
Fujimoto, Keimei: *See*—
Ueda, Kenzo, Horie, Mizutani, Nodera, Fujimoto, and Okuno. 3,377,356.
Fujimoto, Takehiko: *See*—
Kamijo, Tsutomu, Fujimoto, and Saiuchi. 3,377,181.
Fujitsu Ltd.: *See*—
Amada, Sanae. 3,377,485.
Fukunishi, Kozo: *See*—
Sekiguchi, Yasushi, and Funkunishi. 3,376,846.
Fulhorst, George E. Coin and token dispenser. 3,376,967, 4-9-68, Cl. 194—93.
Funke, Gunter: *See*—
Kamps, Reinhold G., Burckhardt, and Funke. 3,376,955.
Furst, Stefan: *See*—
Raasch, Hans, and Furst. 3,377,031.
Gabriel, Richard L., to General Electric Co. Lubrication of chlorobutyl rubber using trichlorosilane. 3,377,327, 4-9-68, Cl. 260—85.3.
Gagne, Arthur L.: *See*—
Zaphiriou, James G., Cabauatan, and Gagne. 3,376,840.
Gainer, Alvis B., and L. E. McMakin, to Mobil Oil Corp. Vapor phase esterification of terephthalic acid in the presence of alkali metal impregnated catalyst. 3,377,376, 4-9-68, Cl. 260—475.
Gamper, Myrtha. Umbilical binder. 3,376,865, 4-9-68, Cl. 128—169.
Garber, Thomas, D. E. Kelch, and N. H. MacNeil, to Hewlett-Packard Co. Pressure measuring apparatus. 3,376,735, 4-9-68, Cl. 73—80.
Garden State Paper Co., Inc.: *See*—
Illingworth, Robert H. 3,377,234.
Gardner, Alvin L.: *See*—
Bock, Donald D., and Gardner. 3,377,524.
Garvin, George L. Clamp means. 3,376,769, 4-9-68, Cl. 82—31.
Gasner, William L., to McCulloch Corp. Router cutter with relieved outer toe surface. 3,376,906, 4-9-68, Cl. 143—135.
Gathman, Albert, to Esso Research and Engineering Co. Castor oil extraction process. 3,377,368, 4-9-68, Cl. 260—412.4.
Gayler, James C., Jr. Sling for surfboard. 3,377,007, 4-9-68, Cl. 224—5.
Gebel, Rudolf, to Siemens Aktiengesellschaft. Magnetohydrodynamic generator. 3,377,491, 4-9-68, Cl. 310—11.
Gebr. Hofmann K.G.: *See*—
Held, Ludwig. 3,376,759.
Gebr. Scheller Textilmaschinenfabrik G.m.b.H.: *See*—
Scheller, Hans and J. 3,376,717.
Gebr. Stork & Co.'s Apparatenfabriek N.V.: *See*—
Van der Windern, Johannes B. 3,377,173.
Gehrmann, Klaus: *See*—
Sennewald, Kurt, Bender, Gehrmann, Kallrath, Peantek, Schalius, Stephan, and Strie. 3,377,402.
Geigy, J. R., A.G.: *See*—
Dürig, Rudolf, and Bossard. 3,377,335.
Rafael, Hans, and Tutsch. 3.377,128.
Wegmuller, Hans E., and Bossard. 3,377,129.
Gelman, Robert, to United States of America, Army. Safety and arming mechanism. 3,376,820, 4-9-68, Cl. 102—83.
Gem Clay Forming, Inc.: *See*—
Bryan, Luther E. 3,377,229.
General Dynamics Corp.: *See*—
Ballass, John T., Perkins, and Freedman. 3,377,461.
Cole, Donald W., and May. 3,376,684.
De Hart, Larry L., and Speer. 3,376,999.
Phillips, Eugene. 3,377,259.
Piper, Thomas E., and Pratt. 3,377,164.
General Electric Co.: *See*—
Bach, Carl G., Jr. 3,376,861.
Bock, Donald D., and Gardner. 3,377,524.
Bradstock, Robert B. 3,377,525.
Breeding, Harold A., and Cheadle. 3,377,042.
Breeding, Harold A., and de Vos. 3,377,473.
Burch, Byron F., Jr., and Bradshaw. 3,377,622.

General Electric Co.: *See*—Continued
Ericson, Eric A. 3,377.421.
Gabriel, Richard L. 3,377,327.
Glenn, William E., Jr., and Henkes. 3,377,424.
Hagendoorn, Willem J., and Kearl. 3,376,711.
Hermann, Benjamin R., and Koch. 3,377,447.
Hewlett, Clarence W., Jr. 3,377,521.
Hittel, Lorenz A., and Miller. 3,377,621.
Hurt, William C., Jr., and Boehm. 3,377,183.
Kinsey, Richard R. 3,377,571.
Le Doux, William A. 3,377,551.
Macolcz, Edward L. 3,377,093.
Marcotte, George M., and Norman. 3,377,520.
Rayno, Glenn D. 3,377,510.
Robertson, Ernest C. 3,377,480.
Staats, James E. 3,377,562.
General Foods Corp.: *See*—
Lanham, Samuel E., and Lamczyk. 3,377,151.
General Gas Light Co.: *See*—
East, Robert D. 3,376,821.
General Mills, Inc.: *See*—
Elmquist, Lyle F. 3,377,382.
Kjelson, Niles A. 3,377,004.
Peerman, Dwight E., and Vertnik. 3,377,303.
General Motors Corp.: *See*—
Beatenbough, Paul K., Richards, Rogers, and Scherer. 3,377,022.
Manoni, Arthur P. 3,376,714.
Podolan, Edward G. 3,377,099.
Sherwood, Frank A. 3,377,060.
Trimble, Philip K., and Walton. 3,376,733.
General Signal Corp.: *See*—
Auer, John H., Jr. 3,377,616.
Gentilini, Augusto. Portable record player. 3,377,072, 4-9-68, Cl. 274—1.
Gestetner Ltd.: *See*—
Blake, Alan F., and Green. 3,376,810.
Gettinger, Lillian L. Cape-type head covering. 3,376,581, 4-9-68, Cl. 2—209.1.
Getzin, Allan R., to American Air Filter Co., Inc. Lock joint for structural members. 3,377,089, 4-9-68, Cl. 287—99.
Gewecke, Theodore H. Method of preparing a packaged parenteral solution. 3,376,687, 4-9-68, Cl. 53—14.
Gewerkschaft Eisenhutte Westfalia: *See*—
Dommann, Gunther. 3,376,707.
Ghiloni, Peter A., C. D. Irish, J. J. Kasten, and J. A. Seifert, to Bell Telephone Laboratories, Inc. Electrical network utilizing a single module in which the circuitry and cross-connection field are part of the same module. 3,377,455, 4-9-68, Cl. 200—175.
Giddings, Sydney A., and L. J. Patella, to American Cyanamid Co. Photochromic cellulose compositions. 3,377,170, 4-9-68, Cl. 96—90.
Gilbride, Andrew J., to United Shoe Machinery Corp. Toe lasting machines. 3,376,591, 4-9-68, Cl. 12—8.8.
Gill, Harold H.: *See*—
Owens, Elbert G., II, Gill, Hatton, and Cobler. 3,376,694.
Gill, Melville K., to Tennessee Corp. Rigid barge. 3,376,841, 4-9-68, Cl. 114—73.
Gischel, Erich: *See*—
Rabe Peter, Elmecke, Gischel, and Dieterle. 3,377,127.
Glenn, William E., Jr., and J. L. Henkes, Jr., to General Electric Co. Information recording and light projection apparatus. 3,377,424, 4-9-68, Cl. 178—6.6
Glomb, John D., to Continental Can Co., Inc. Method and apparatus for radiation pyrometry. 3,376,748, 4-9-68, Cl. 73—355.
Glorioso, Paul A., to Gregory Industries, Inc. Voltage regulation circuit utilizing gradual slope control. 3,377,542, 4-9-68, Cl. 321—18.
Glueckauf Eugen, to United Kingdom Atomic Energy Authority. Process and apparatus for desalination of an aqueous solution containing calcium sulphate. 3,377,273, 4-9-68, Cl. 210—46.
Gobhai, Cavas M.: *See*—
Schoppe, Edward, Jr., and Gobhai. 3,376,882.
Godwin, Carroll B., to United States of America, Army. Piston controlled pure fluid amplifier. 3,376,881, 4-9-68, Cl. 137—81.5.
Goettl, John M.: *See*—
Perry, James W., Goettl, Henderson, and Goettl. 3,376,799.
Goettl, William H.: *See*—
Perry, James W., Goettl, and Henderson. 3,376,799.
Gomonet, Edouard, to Claude Paz et Visseaux. Arrangement for varying the luminosity of at least two electric discharge tubes. 3,377,508, 4-9-68, Cl. 315—185.
Goodrich, B. F., Co., The: *See*—
Swanson, Roger C. 3,377,097.
Goodyear Tire & Rubber Co., The: *See*—
Dean, Earl W. 3,377,222.
Hanlin, James G. 3,377,297.
Hawkes, Joseph S. 3 377,221.
Lal, Joginder, and McGrath. 3,377,328.
Verreault, Robert L. 3,376.593.
Wiener, Maria V. 3,377,319.
Gordanier, Max D., to United States of America, Army. Regenerative steering differential. 3,376,760, 4-9-68, Cl. 74—689.
Gordon Cartons, Inc.: *See*—
Gordon, Samuel. 3,376,796.
Gordon, Elliott F., M. W. Brubaker, and C. B. Page, Jr., to Texaco Inc. System for separating solids from an oil-water fluid mixture. 3,376,977, 4-9-68, Cl. 210—114.
Gordon, Samuel, to Gordon Cartons, Inc. Apparatus for folding, forming and sealing cartons. 3,376,796, 4-9-68, Cl. 93—51.
Gorn Corp.: *See*—
Marquis, Edgar E. 3,377,449.
Gower, Howard D., to Sinclair Research, Inc. Lubricating composition. 3,377,281, 4-9-68, Cl. 252—32.7.
Grace W. R., & Co.: *See*—
Acker, Ellsworth G. 3,377,189.
Legal, Casimer C., Jr., and Richmond. 3,377,153.
Pryor, James N. 3,377,295.
Grady, Charles B., Jr., and M. G. Mendoza. Electric pushbutton leaf spring switch. 3,377,450, 4-9-68, Cl. 200—166.
Graham-White Sales Corp.: *See*—
Frantz, Virgil L., and Switzer. 3,377,046.
Granowitz, Jack M., and G. S. Buccino, to American Cyanamid Co. Package for surgical sutures. 3,376,973, 4-9-68, Cl. 206—63.3.
Grant, Ethan C. Pleated towel holder. 3,377,041, 4-9-68, Cl. 248—314.
Gratreau, Pierre J. Particle accelerator having beam deflecting means. 3,377,563, 4-9-68, Cl. 328—237.
Grau, Theodore H.: *See*—
Greer, Larry J., Grau, McCloskey, McGinty, and Rousser. 3,376,971.
Gray Mountain Iedir, Inc.: *See*—
Groberg, John R. 3,376,937.
Green, Albert L.: *See*—
Fielden, Roy, Green, and Hills. 3,377,245.
Green Cyril: *See*—
Blake, Alan F., and Green. 3,376,810.
Greer, Larry J., T. H. Grau, J. McCloskey, R. J. McGinty, and R. Rousser, to The Wyatt Mfg. Co., Inc. Feed blender and grinder. 3,376,971, 4-9-68, Cl. 198—68.
Gregoire Engineering and Development Co.: *See*—
Gregoire, Resta S. 3,376,679.
Gregoire, Resta S., to Gregoire Engineering and Development Co. Sheet panel wall assembly. 3,376,679, 4-9-68, Cl. 52—288.
Gregory Industries, Inc.: *See*—
Glorioso, Paul A. 3.377,542.
Gresham, James T., and G. D. Thomas, to Kimberly-Clark Corp. Method of embossing differentially creped tissue paper. 3,377,224, 4-9-68, Cl. 156—209.
Gressett, Thomas G. Zone air conditioning apparatus. 3,376,916, 4-9-68, Cl. 165—22.
Griesbaum, Karl, to Esso Research and Engineering Co. Process for the cyclodimerization of unsaturated compounds and products resulting therefrom. 3,377,389, 4-9-68, Cl. 260—648.
Griffith, Donald L., and S. K. Williams, to Custom Component Switches, Inc. Fluid pressure device. 3,376,794, 4-9-68, Cl. 92—63.
Grine, Donald R., to Schlumberger Technology Corp. Acoustical well logging methods and apparatus for determining the dip and other characteristics of earth formations traversed by a borehole. 3,376,950, 4-9-68, Cl. 181—.5.
Grinnell Corp.: *See*—
Boteler, Henry W. 3,376,887.
Duncan, James A. 3,376,596.
Grintz, Joseph J. Label imprinter and dispenser. 3,376,811, 4-9-68, Cl. 101—295.
Groberg, John R., to Gray Mountain Iedir, Inc. Land leveler. 3,376,937, 4-9-68, Cl. 172—780.
Grohoski, Raymond J., and R. W. Denley, to United States Time Corp. Watch crown. 3,376,701, 4-9-68, Cl. 58—90.
Grosjean, Otto A. Rotary piston hydraulic pump. 3,376,823, 4-9-68, Cl. 103—126.
Grubbens & Co. Aktiebolag: *See*—
Wallén, Emil O. L. 3,376,976.
Gruber, Stephen A. Fluid biased flow control means. 3,377,048, 4-9-68, Cl. 251—175.
Guerne, William, to Brevets Aero-Mecaniques S.A. Explosive appliances with a delay mechanism. 3,376,819, 4-9-68, Cl. 102—76.
Gugliemelli, Lewis A., M. O. Weaver, and C. R. Russell, to United States of America, Agriculture. Saponified starch acrylate grafts. 3,377,302, 4-9-68, Cl. 260—17.4.
Gulack, Max A. Abdominal belt and athletic supporter. 3,376,864, 4-9-68, Cl. 128—161.
Gulton Industries, Inc.: *See*—
Wouk, Victor. 3,377,543.
Gulyon Industries, Inc.: *See*—
Bates, James W. 3,377,539.
Gurganious, Joseph T.: *See*—
Kaprelian, Edward K., and Gurganious. 3,376,945.
Gutmann, William R., and R. A. Mascarich, to Catalysts and Chemicals, Inc. Hydrocarbon reforming. 3,377,138, 4-9-68, Cl. 23—213.
Guy, Kenneth R., to Bristol Siddeley Engines Ltd. Shrouded rotor blades. 3,377,050, 4-9-68, Cl. 253—77.
Cyekis, George G., to Miller-Thomas Gyekis Inc. Batten roof system. 3,376,680, 4-9-68, Cl. 52—463.
Haack, Erich, R. Heerdt, F. H. Schmidt, K. Stach, and R. Weyer, to C. F. Boehringer & Soehne G.m.b.H. Benzamidoalkylbenzenesulfonamidopyrimidines and analogues thereof. 3,377,351, 4-9-68, Cl. 260—256.5.
Hagedorn, Alton R., to Esso Production Research Co. Modified in situ combustion well stimulation. 3,376,929, 4-9-68, Cl. 166—39.
Hagen, Jack D. Hand impact wedge means. 3,377,052, 4-9-68, Cl. 254—104.
Hagendoorn, Willem J., and C. M. Kearl, to General Electric Co. Refrigerator cabinet construction. 3,376,711, 4-9-68, Cl. 62—410.
Hager, John L., and C. C. White, to Northfield Equipment and Mfg. Co. Apparatus for dressing beef cattle. 3,376,828, 4-9-68, Cl. 104—91.
Hahne, Siegfried, to Messer Griesheim G.m.b.H. Process and device for welding seams. 3,377,013, 4-9-68, Cl. 228—44.

Halbt, Lois M.: *See—*
  Nelson, Robert A., Ellis, and Halbt. 3,377,624.
Hale, Chapman M., Jr., V. L. Brown, Jr., and T. E. Stanin, to Eastman Kodak Co. 4-(amino-methyl)cyclohexanecarbonitrile. 3,377,374, 4-9-68, Cl. 260—464.
Hale, Warren F.: *See—*
  Reinking, Norman H., and Hale. 3,377,316.
Hall, David W.: *See—*
  Hurley, Edward, Jr., and Hall. 3,377,405.
Hall, Garth O.: *See—*
  Radki, Arthur O., and Hall. 3,377,101.
Hall, Gary M., to Specialties Development Corp. Apparatus for catalytically decomposing hydrazine. 3,377,140, 4-9-68, Cl. 23—288.
Halliburton Co.: *See—*
  Baker, Eugene E. 3,376,935.
  McLaughlin, Homer C., and Koch. 3,376,926.
  Welles, Clifford Y. 3,376,763.
Hallowell, Robert, III: *See—*
  Nottoli, Le Roi. 3,377,069.
  Nottoli, Le Roi. 3,377,070.
Halverson, Frederick, to American Cyanamid Co. Synergized lanthanide chelate photoluminescent composition. 3,377,292, 4-9-68, Cl. 252—301.3.
Hamalainen, Carl, H. H. St. Mard, and A. S. Cooper, Jr., to United States of America, Agriculture. Cotton stretch yarns by graft polymerization with vinyl monomers followed by back-twisting or false-twisting. 3,377,163, 4-9-68, Cl. 57—164.
Hamberg, Edwin S.: *See—*
  Yamamoto, Yujiro, and Hamberg. 3,376,870.
Hammond Corp.: *See—*
  Bull, Rame W., Ring, and Schrecongost. 3,376,776.
Hancock, John T. Tow system for water skiing and the like. 3,376,829, 4-9-68, Cl. 104—173.
Hanlein, Walter, and R. Emeis, to Siemens Aktiengesellschaft. Thermoelectric device with solder-free pressure contacts. 3,377,206, 4-9-68, Cl. 136—212.
Hanlin, James G., to The Goodyear Tire & Tubber Co. Method for producing polyurethane foams. 3,377,297, 4-9-68, Cl. 260—2.5.
Hanlo Gage and Engineering Co.: *See—*
  Finley, James. 3,376,649.
Hannula, Paul E.: *See—*
  Blanch, Frederick D., Jr., and Hannula. 3,377,478.
Hansen, Francis W., and R. H. Nulf, to Simmons Co. Drawer construction. 3,377,115, 4-9-68, Cl. 312—330.
Hansen, Kenneth R., to Colgate-Palmolive Co. Water-in-oil emulsions containing sulfonium copolymers. 3,377,250, 4-9-68, Cl. 167—87.
Hansen, Richard J., to The Boeing Co. Retractable cargo securing device. 3,377,040, 4-9-68, Cl. 248—119.
Hanslik, Wilhelm, to Wilhelm Anger OHG. Multi-screw extruders. 3,376,604, 4-9-68, Cl. 18—12.
Hanson, Raymond: *See—*
  Berrill, William H., and Hanson. 3,376,594.
Hanson, Rudolph A., and J. E. Fischer, to Yard-Man, Inc. Carburetor-mounted throttle control. 3,376,890, 4-9-68, Cl. 137—544.
Hanthorn, Howard E., and H. Harty, to United States of America, Atomic Energy Commission. Nuclear reactor for use in space. 3,377,251, 4-9-68, Cl. 176—29.
Harbison-Walker Refractories Co.: *See—*
  Miller, Eldon D., Jr., and Pavlica. 3,377,178.
Hardy, John F., and M. E. Jordan, to Cabot Corp. Process for producing metal carbides utilizing a solution treatment prior to reaction. 3,377,141, 4-9-68, Cl. 23—345.
Harnett, Stephen J., and M. A. Olstein, to United States of America, Army. Rocket motor. 3,376,818, 4-9-68, Cl. 102—49.3.
Harney, Doran B., to Dresser Industries, Inc. Shaft seal. 3,377,073, 4-9-68, Cl. 277—27.
Harper, Jack R., to Dow Corning Corp. Primer compositions and a method of making them. 3,377,309, 4-9-68, Cl. 260—32.8.
Harris, Albert J. Spreading fishhook. 3,376,662, 4-9-68, Cl. 43—36.
Harris, Guy H.: *See—*
  Trepanier, Donald L., and Harris. 3,377,345.
  Berezin, Gilbert H., and Harris. 3,377,372.
Harris, Rano J., to Esso Research and Engineering Co. Three in one high temperature valve. 3,376,896, 4-9-68, Cl. 137—637.2.
Harrison, James W.: *See—*
  Douty, Alfred Buczkowski, and Harrison. 3,376,883.
Hartman, Frank F.: *See—*
  Holcomb, Orla L., Jr., and Hartman. 3,376,959.
Hartshorn, Robert G., and F. L. Prescott, to National Sanitizer, Inc. Washing machine sterilization. 3,376,720, 4-9-68, Cl. 68—12.
Hartwimmer, Robert, and W. Schwiersch, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Process for preparing N-vinyl amides and N-vinyl lactams. 3,377,340, 4-9-68, Cl. 260—239.3.
Harty, Harold: *See—*
  Hanthorn, Howard E., and Harty. 3,377,251.
Harvey, John V., to E. I. du Pont de Nemours and Co. Tension transducer. 3,376,740, 4-9-68, Cl. 73—144.
Haselmann, Heinrich: *See—*
  Bafenyi, Béla, and Haselmann. 3,376,947.
Haselwood, George W. Vise attachment. 3,377,062, 4-9-68, Cl. 269—265.
Hatcher, Cecil W.: *See—*
  Metzger, Leopold H., Hatcher, and Simms. 3,376,673.
Hatton, William E.: *See—*
  Owens, Elbert G., II, Gill, Hatton, and Cobler. 3,376,694.
Hausmann, Werner K.: *See—*
  Whaley, Howard A., Patterson, Hausmann, and Porter. 3,377,244.
Hawkes, Joseph S., to The Goodyear Tire & Rubber Co. Method of making a tire with run-flat warning device. 3,377,221, 4-9-68, Cl. 156—110.
Hayes, Alex, to United States of America, Army. Tiedown anchor. 3,377,039, 4-9-68, Cl. 248—119.
Hazard, James E., to Scott Paper Co. Metering and dispensing device for viscous liquids. 3,377,001, 4-9-68, Cl. 222—263.
Headley, Charles A.: *See—*
  Wilkison, Kermit L., Headley, Padilla, and Trolinger. 3,377,456.
Heckman, Thomas P. Magnetic fastener. 3,376,615, 4-9-68, Cl. 24—201.
Heerdt, Ruth: *See—*
  Haack, Erich, Heerdt, Schmidt, Stach, and Weyer. 3,377,351.
Heibel, Anthony D. Device for phase-relationship analysis. 3,377,557, 4-9-68, Cl. 324—83.
Heil, Friedrich, and W. Muller, to Telefonbau und Normalzeit G.m.b.H. Porous printing-ink-containing roller for making printing plates. 3,376,813, 4-9-68, Cl. 101—348.
Heilhecker, Joe K.: *See—*
  Kiel, Othar M., and Heilhecker. 3,376,930.
Heinrich Malter G.m.b.H.: *See—*
  Rabe, Peter, Eimecke, Gischel, and Dieterle. 3,377,127.
Heise, Barrett H., to Union Carbide Corp. Method for operating a superconducting device. 3,377,577, 4-9-68, Cl. 335—216.
Heisler, Robert Y.: *See—*
  Newman, Stanley R., Eckert, Hess, and Heisler. 3,377,401.
Held, Ludwig, to Hofmann Gebr. K.G. Device for compensating unbalances of revolving axially symmetrical parts. 3,376,759, 4-9-68, Cl. 74—573.
Heller, Isaac, to Remco Industries, Inc. Doll with movable head and sound-producing means. 3,376,665, 4-9-68, Cl. 46—118.
Hellstrom, Eric R.: *See—*
  Jonsson, Harry C. A., Sigurdsson, Hellstrom, and Linnander. 3,377,460.
Henderson, Emery L.: *See—*
  Perry, James W., W. M. Goettl, Henderson, and J. M. Goettl. 3,376,799.
Henkel & Cie, G.m.b.H.: *See—*
  Stein, Werner, Weiss, and Neuhausen. 3,377,289.
  Stein, Werner, Koch, and Weiss. 3,377,290.
Henkes, John L., Jr.: *See—*
  Glenn, William E., Jr., and Henkes. 3,377,424.
Henning, Robert W., to Olin Mathieson Chemical Corp. Fastener. 3,376,911, 4-9-68, Cl. 151—41.73.
Henrikson, Bror W., to American Seating Co. Vehicle seat belt anchorage. 3,377,102, 4-9-68, Cl. 297—385.
Herbsthofer, Franz, to Massey-Ferguson G.m.b.H. Threshing mechanism. 3,376,873, 4-9-68, Cl. 130—27.
Hercules Inc.: *See—*
  Foster, Stephen F., and Moore. 3,376,816.
  Oppenlander, George C. 3,377,415.
Hermann, Benjamin R., and R. E. Koch, to General Electric Co. Loadbreak for open type cutouts. 3,377,447, 4-9-68, Cl. 200—114.
Hernandez, Luis A., Jr. Low temperature freeze drying process and apparatus therefor. 3,376,652, 4-9-68, Cl. 34—5.
Hertog, Martinus: *See—*
  Wright, Esmond P. G., and Hertog. 3,377,431.
Hess, Howard V.: *See—*
  Newman, Stanley R., Eckert, Hess, and Heisler. 3,377,401.
Hetzel, Max, to Centre Electronique Horloger S.A. Machine for cutting toothed wheels. 3,376,786, 4-9-68, Cl. 90—1.
Hewlett, Clarence W., Jr., to General Electric Co. Solion cells having electrolyte for low-temperature operation. 3,377,521, 4-9-68, Cl. 317—231.
Hewlett-Packard Co.: *See—*
  Garber, Thomas, Kelch, and MacNeil. 3,376,735.
  Reis, Charles S. 3,377,599.
Higginbottom, Frank E.: *See—*
  Barr, Thomas, and Higginbottom. 3,377,132.
Hilbun, James S. Truck body loader. 3,376,989, 4-9-68, Cl. 214—517.
Hilferink, Garrit J., to American Enka Corp. Optical fluff detecting apparatus employing dual light paths. 3,377,484, 4-9-68, Cl. 250—219.
Hill, Roy K., to Sperry Rand Corp. Brushless D.C. motor. 3,377,534, 4-9-68, Cl. 318—138.
Hiller, Walther, to Firma Industrie-Companie Kleinewefers Kinstruktions- und Handelsgesellschaft m.b.H. Method for oxidizing the surface of recuperator tubes. 3,377,213, 4-9-68, Cl. 148—6.35.
Hilliard, Xenia P. Combination carrying tray, placemat and utensil holder. 3,376,974, 4-9-68, Cl. 206—72.
Hills, Derek W.: *See—*
  Fielden, Roy, Green, and Hills. 3,377,245.
Hinden, Milton. Rivet setting device. 3,376,727, 4-9-68, Cl. 72—391.
Hindman, Robert G., to Esso Production Research Co. Pipeline riser installation. 3,376,708, 4-9-68, Cl. 61—72.3.
Hinton, Stephen G.: *See—*
  Powell, Gordon F. W., and Hinton. 3,377,614.
Hirasaka, Yoshinobu: *See—*
  Sisido, Keiiti, Imai, Hirasaka, and Inoue. 3,377,339.
Hirtensteiner, Walter E. Food freezing apparatus. 3,376,710, 4-9-68, Cl. 62—374.

Hitachi, Ltd.: *See—*
  Inuzuka, Isao, and Watanabe. 3,376,952.
  Inuzuka, Isao, and Watanabe. 3,376,953.
Hittel, Lorenz A., and H. W. Miller, to General Electric Co. Electronic data processing system with time sharing of memory. 3,377,621, 4-9-68, Cl. 340—172.5.
Hittenberger, William H.: *See—*
  Baker, Thomas R., and Hittenberger. 3,376,969.
Hodgson, Gordon W., M. E. Charles, and A. A. Roehl, to Research Council of Alberta. Method and apparatus for transporting material in a pipeline. 3,377,107, 4-9-68, Cl. 302—15.
Hoerr, William H.: *See—*
  Eaton, Lyle E., Hoerr, Hyler, and McGlade. 3,376,831.
Holan, George, to Monsanto Chemicals (Australia) Ltd. Method for controlling or eradicating insect pests by chemosterilization with 2-azolin-2′-yl benzimidazoles. 3,377,239, 4-9-68, Cl. 167—33.
Holcomb, Orla L., Jr., and F. F. Hartman, to The Bendix Corp. Automatic brake adjuster mechanism. 3,376,959, 4-9-68, Cl. 188—196.
Hollander, William L., and P. E. Lewis, to A. B. Chance Co. Power installed screw anchor wrench. 3,377,077, 4-9-68, Cl. 279—1.
Holloway, Paul W.: *See—*
  Baker, Chester L., and Holloway. 3,377,134.
Holmes, Frank C., to The U. S. Baird Corp. Wire guide having fluid supply means. 3,376,722, 4-9-68, Cl. 72—43.
Holophane Co., Inc.: *See—*
  Odle, Herbert A. 3,377,477.
Holzapfel, Jakob, to Friedrich Duss Maschinenfabrik. Power drill with lubricator. 3,376,939, 4-9-68, Cl. 173—116.
Holzkamp, Erhard: *See—*
  Ziegler, Karl, Breil, Holzkamp, and Martin. 3,377,332.
Honeywell Inc.: *See—*
  Cheeseman, Richard R., Jr. 3,376,847.
  Newbold, William F. 3,377,548.
Hong, Ki C.: *See—*
  Kirk, Robert S., and Hong. 3,376,928.
Hooker Chemical Corp.: *See—*
  Dorfman, Edwin. 3,377,384.
  Weil, Edward D., Linder, and Dorfman. 3,377,155.
Hopper, Meinolf: *See—*
  Van Rutten, Fernand, Hopper, and Diletti. 3,377,253.
Horie, Sadao: *See—*
  Ueda, Kenzo, Horie, Mizutani, Nodera, Fujimoto, and Okuno. 3,377,356.
Horizons Inc.: *See—*
  Fichter, Harry L., Jr. 3,377,167.
Horner, Richard F., to The Bendix Corp. Disc brake stator construction. 3,376,961, 4-9-68, Cl. 188—218.
House, Arthur A., to Cities Service Oil Co. Heat sealable coating composition. 3,377,305, 4-9-68, Cl. 260—27.
Howard, Bernard, to Mite Corp. Throat plate for sewing machine. 3,376,839, 4-9-68, Cl. 112—260.
Howe Sound Co.: *See—*
  Mondiadis, Dimitri G. 3,376,868.
Hoxie, Lowell E. Flame resistant compositions and methods of making same, said compositions comprising the reaction product of a phenol-aldehyde resol and a phosphoric acid ester. 3,377,317, 4-9-68, Cl. 260—59.
Huddle, Carl F. Portable shelter. 3,376,879, 4-9-68, Cl. 135—1.
Hudson, Thomas H., E. L. Watson, and C. B. Skates, Jr. Football trainer. 3,377,064, 4-9-68, Cl. 273—55.
Huff, Thomas R. Demonstration device. 3,376,645, 4-9-68, Cl. 32—71.
Hughes Aircraft Co.: *See—*
  Althaus, Edward J., Andert, and Richter. 3,377,471.
  Amboss, Kurt, and Kramer. 3,377,502.
  Ellett, John A., Brinker, and Love. 3,377,516.
  Oess, Frederick G. 3,377,492.
Hugley, Dale G., to Koehring Co. Flexible membrane. 3,376,898, 4-9-68, Cl. 138—137.
Hulett, John G. Multiple company credit card. 3,376,661, 4-9-68, Cl. 40—2.2.
Hultsch, Gunther, and A. Beck, to Krauss-Maffei A.G. Extraction centrifuge. 3,376,978, 4-9-68, Cl. 210—375.
Hunt, Elton B., to Pan American Petroleum Corp. Catalytic heater. 3,376,932, 4-9-68, Cl. 166—59.
Hunt, Roger A., to Norton Co. Universal cover for containers. 3,376,995 4-9-68, Cl. 220—24
Hurley, Edward, Jr., and D. W. Hall, to Marathon Oil Co. Preparation of polyenes. 3,377,405, 4-9-68, Cl. 260—681.
Hurley, Frederick A., to Elliott & Evans, Inc. Relay computer circuits. 3,377,517, 4-9-68, Cl. 317—140.
Hurt, William C., Jr., and R. P. Boehm, to General Electric Co. Electrostatic powder coating on heated parts. 3,377,183, 4-9-68, Cl. 117—17.
Hutchins, Alma A. Quick-change rotary tool. 3,376,675, 4-9-68, Cl. 51—376.
Hutchinson, Robert O. Conveyor system with coded operational elements. 3,376,982, 4-9-68, Cl. 214—11.
Hutchinson, Seymour M., and F. Krause. Film dryer with clamp for multiple frame holder. 3,376,655, 4-9-68, Cl. 34—58.
Hutley, Robert E. Hollow decorative containers. 3,377,230, 4-9-68, Cl. 161—32.
Hycalog, Inc.: *See—*
  Scott, Paul J. 3,376,938.
Hyde, James F., to Dow Corning Corp. Storable silicone composition. 3,377,306, 4-9-68, Cl. 260—29.2.
Hyler, John H.: *See—*
  Eaton, Lyle E., Hoerr, Hyler, and McGlade. 3,376,831.
I-T-E Circuit Breaker Co.: *See—*
  Brumfield, John C., and Robins. 3,377,574.
  Rodeselke, Sigurd O. 3,377,443.
Igarashi, Isoji: *See—*
  Maehara, Shigeru, Igarashi, and Ito. 3,377,057.
Ihnacik, Joseph J., Jr., to The Ford Motor Co. Dual master cylinder for brake system. 3,376,704, 4-9-68, Cl. 60—54.6.
Ikeda, Takuo: *See—*
  Sugiyama, Hiroshi, Ikeda, Chinuki, and Otsuka. 3,377,337.
Illingsworth, Robert H., to Garden State Paper Co., Inc. Deinking printed waste cellulosic stock utilizing an admixture of alkyl sulfates and alkyl aryl sulfonates. 3,377,234, 4-9-68, Cl. 162—5.
Imai, Yuji: *See—*
  Sisido, Keiiti, Imai, Hirasaka, and Inoue. 3,377,339.
Imperial Chemical Industries Ltd.: *See—*
  Ashton, Stanley, Rayner, and Scott. 3,377,315.
  Cross, Leonard H., Inglefield, and Ward. 3,376,731.
Impulsphysik G.m.b.H.: *See—*
  Fruengel, Frank, and Roeder. 3,377,496.
Industrial Timer Corp.: *See—*
  Papa, Frank J., Jr. 3,376,757.
Ingersoll-Rand Co.: *See—*
  Burnett, Elmer B. 3,376,825.
Inglefield, Samuel: *See—*
  Cross, Leonard H., Inglefield, and Ward. 3,376,731.
Inland Steel Co.: *See—*
  Rocher, Heinz. 3,377,014.
Inoue, Kiyoshi: *See—*
  Sisido, Keiiti, Imai, Hirasaka, and Inoue. 3,377,339.
Intermountain Research & Development Corp.: *See—*
  Miller, Warren S. 3,377,133.
International Business Machines Corp.: *See—*
  Dersch, William C. 3,377,428.
  Dersch, William C. 3,377,618.
  Filipowsky, Richard F. J. 3,377,625.
  Lanza, Conrad. 3,377,566.
  Marsh, Elliott R., Magdall, and Rausch. 3,377,619.
  Nelson, Robert A., Ellis, and Halbt. 3,377,624.
  Radcliffe, Jerry K. 3,377,518.
  Schaefer, John O. 3,376,963.
  Wissick, William P., Litz, J. M. and G. M. 3,377,579.
International Equipment Co.: *See—*
  Fox, Gerald D., Joyce, and Leif. 3,377,021.
International Standard Electric Corp.: *See—*
  Brisbane, Alan D. 3,377,489.
  Robertson, James S. P., and Bradshaw. 3,377,440.
  Wright, Esmond P. G., and Hertog. 3,377,431.
International Telephone and Telegraph Corp.: *See—*
  Lippert, Anthony H. 3,377,435.
International Vulcanizing Corp.: *See—*
  Wilcox, William L. 3,376,608.
Inuzuka, Isao, and K. Watanabe, to Litachi, Ltd. Elevator "wild car" system in which one car is always the wild car. 3,376,952, 4-9-68, Cl. 187—29.
Inuzuka, Isao, and K. Watanbe, to Hitachi, Ltd. Elevator plural car system including means to select one of group of cars as the active group. 3 376,953, 4-9-68, Cl. 187—29.
Ioka, Akira, T. Kato, and Y. Toyoda, to Asahi Kasei Kogyo Kabushiki Kaisha. Method for pulverizing polymers. 3,377,323, 4-9-68, Cl. 260—78.
Ireland, James D.: *See—*
  Von Stroh, Gerald F. H. 3,377,146.
Irish, Carleton D.: *See—*
  Ghiloni, Peter A., Irish, Kasten, and Seifert. 3,377,455.
Itek Corp.: *See—*
  Eliason, Raymond E. 3,376,775.
Ito, Akira: *See—*
  Maehara, Shigeru, Igarashi, and Ito. 3,377,057.
Ito, Reijiro, to Matsushita Electric Industrial Co., Ltd. and Kokusai Display Kogyo Kabushiki Kaisha. Device for imparting horizontally oscillatory rotating movement to articles. 3 377 578. 49-68. Cl. 335—229.
Ivanhoe Research Corp.: *See—*
  Schiffmacher, Fred J., and Roman. 3,376,838.
Iverson, Bjarne J.: *See—*
  Simpson, Justin, and Iverson. 3,376,689.
Jackson, Clarence E. Patient support. 3,370,078, 4-9-68, Cl. 280—7.1.
Jackson, John G. Coated glass thread. 3,377,233, 4-9-68, Cl. 161—174.
Jackson, Martin A., and E. S. Knochel, to Van Zelm Associates, Inc. Cargo tie-down apparatus. 3,377,044, 4-9-68, Cl. 248—361.
Jacobs, Robert J., and G. J. Prager, to Beloit Eastern Corp. Core enveloper. 3,377,032, 4-9-68, Cl. 242—56.
Jacocks, Claude L.: *See—*
  Felsenthal, Martin, Quinn, and Jacocks. 3,376,924.
Jaksha, John B., to Robertshaw Controls Co. Washing machine system or the like. 3,377,719, 4-9-68, Cl. 68—12.
James, Keith E., to The Proctor & Gamble Co. Soil stabilization product. 3,377,180, 4-9-68, Cl. 106—287.
Janeschitz-Kriegl, Hermann R. K. N., and J. Schijf, to Nederlandse Organisatie Voor Toegepast-Natuurweten-Schappelijk Onderzoek ten Behoeve van Nijverheid, Handel en Verkeer. Pressure gauge. 3,376,749, 4-9-68, Cl. 73—406.
Janssen, Peter J. H., to North American Philips Co., Inc. Line deflection circuit for use in television receivers with a frequency-dependent network connecting the feedback control circuit with the control electrode of the output amplifier. 3,377,501, 4-9-68, Cl. 315—27.
Jansson, Sven A., J. I. Johansson, and E. J. Mariedahl, to Aktiebolaget Svenska Metalberken Vasteras. Process in the extrusion of films of thermoplastic material in tubular form and an arrangement for carrying out the process. 3,377,418, 4-9-68, Cl. 264—95.
Jarzembski, William B.: *See—*
  Stecca, Anthony J., Barnas, Dokos, Jarzembski, and Norris. 3,377,564.

- Javner, John B. Cover device for ear of electrical box. 3,376,993. 4-9-68, Cl. 220—3.4.
- Jennings Radio Mfg. Corp.: *See—*
  - Lindsay, Wesley N. 3,377,531.
- Jenny, Erwin F., and K. Schenker, to Ciba Corp. Cyclobutene derivatives. 3,377,347, 4-9-68. Cl. 260—247.
- Jianas, Gus G. Bag sealing apparatus. 3,376,690, 4-9-68, Cl. 53—112.
- Johansson, John I.: *See—*
  - Jansson Sven A., Johansson, and Mariedahl. 3,377,413.
- Johnson & Johnson: *See—*
  - Kalwaites, Frank. 3,376,609.
- Johnson, Vernon A., and S. Oldberg, to Eaton Yale & Towne Inc. Mechanical lash adjuster. 3,376,860, 4-9-68, Cl. 123—90.
- Johnston, William F., to Rex Chainbelt Inc. Access door. 3,376,669, 4-9-68, Cl. 49—382.
- Jonasson, Axel V.: *See—*
  - Bjalme, Bengt G., and Jonasson. 3,376,638.
- Jones, John F., to The Standard Oil Co. Manufacture of esters from carboxylic acid nitriles. 3,377,378, 4-9-68, Cl. 260—486.
- Jones & Laughlin Steel Corp.: *See—*
  - Meyer, Harry W., Porter, and Fischer. 3,377,158.
- Jones, Leslie V., to Excel Corp. Window sash and method for making same. 3,376,670, 4-9-68, Cl. 49—501.
- Jonsson, Harry C. A., O. Sigurdsson, E. R. Hellstrom, and C. E. Linnander, to Kockums Mekaniska Verkstads AB. Methods of welding stiffening members to plates and installations therefor. 3,377,460, 4-9-68, Cl. 219—125.
- Jordan, Merrill E.: *See—*
  - Hardy, John F., and Jordan. 3 377,141.
- Joseph, Pierre, to Edouard Dubied et Cie (Societe Anonyme). Draw-off devices for flat knitting machines. 3,376,716, 4-9-68, Cl. 66—150.
- Joyce, Hardin, Jr., to Collins Radio Co. Mechanical movement. 3,376,755, 4-9-68, Cl. 74—110.
- Joyce, John. Automatic control for trains and other vehicles. 3,377,483, 4-9-68, Cl. 246—63.
- Joyce, John E.: *See—*
  - Fox, Gerald D., Joyce, and Leif. 3,377,021.
- Juhász, Béla: *See—*
  - Takács, Géza, Nyitrai, Láng, Pandula, Juhász, and Pungor. 3,376,688.
- Jungner, Olof G. H., to Medicinsk-Kemiska Automationslaboratoriet AB-Mekalab. Speed controlled suction tube for automatically repeated suctions. 3,376,751, 4-9-68, Cl. 73—423.
- Jupa, Julius A., and J. J. Sweeney, Celanese Corp. Dispersion of carbon black in a thermoplastic polymer in admixture and with separately prepared oxymethylene polymer. 3,377,313, 4-9-68, Cl. 260—41.
- Kaase, Robert W.: *See—*
  - Brown, John W., Jr., and Kaase. 3,377,459.
- Kabushiki Kaisha Hitachi Seisakusho: *See—*
  - Muta, Akinori. 3,377,597.
- Kaczorowski, John. In-line buckle. 3,376,616, 4-9-68, Cl. 24—201.
- Kahn, Leo M. Vertical washer and dryer. 3,376,718, 4-9-68, Cl. 68—4.
- Kalina, Theodore, and J. A. Kivlen, to Esso Research and Engineering Co. Process of reducing iron oxide ores with gases containing carbon monoxide. 3,377,156, 4-9-68, Cl. 75—26.
- Kallrath, Heinrich: *See—*
  - Sennewald, Kurt, Bender, Gehrmann, Kallrath, Peantek, Schallus, Stephan, and Strie. 3,377,402.
- Kalwaites, Frank, to Johnson & Johnson. Method for spreading tows of continuous filaments into sheets. 3,376,609, 4-9-68, Cl. 19—66.
- Kameishi, Masayuki: *See—*
  - Suzuki, Teruhiko, Kameishi, and Yamamoto. 3,377,010.
- Kamijo, Tsutomu, T. Fujimoto, and T. Saiuchi, to Toyo Rayon Kabushiki Kaisha and Sanyo Kasei Kogyo Kabushiki Kaisha. Method for producing webs including polypropylene fibers. 3,377,181, 4-9-68, Cl. 117—4.
- Kamola, Roman C., to Xerox Corp. Automatic toner dispensing control. 3,376,854, 4-9-68, Cl. 118—637.
- Kamps, Reinhold G., M. H. Burckhardt, and G. Funke, to Daimler-Benz Aktiengesellschaft. Mounting means for brake block and actuating piston. 3,376,955, 4-9-68, Cl. 188—73.
- Kanbar, Maurice S., and R. D. Sudarsky. Lint-free medical applicator. 3,376,867, 4-9-68, Cl. 128—269.
- Kandel, Edward J. Method of making liner for artificial limb. 3,377,416, 4-9-68, Cl. 264—222.
- Kaneko, Hisashi, to Nippon Electric Co., Ltd. Decoder with bipolar-hyperbolic companding characteristics. 3,377,586, 4-9-68, Cl. 340—347.
- Kaprelian, Edward K., and J. T. Gurganious. Dual-mode vehicle. 3,376,945, 4-9-68, Cl. 180—6.48.
- Karcher, John C., to Concho Petroleum Co. Phenolics-enrichment of humus plant nutrient. 3,377,152, 4-9-68, Cl. 71—24.
- Karickhoff, Michael, and J. C. Lofland, to E. I. du Pont de Nemours and Co. Process of improving the printability of a polyester drafting film using an electric discharge and heat. 3,377,262, 4-9-68, Cl. 204—165.
- Karnatz, Frank A.: *See—*
  - Cislak, Francis E., Karnatz, and Shaw. 3,377,354.
- Karp, Edward C., to Sanitary Scale Co. Weighing scale with optical readout system. 3,376,943, 4-9-68, Cl. 177—173.
- Kasten, Joseph J.: *See—*
  - Ghiloni, Peter A., Irish, Kasten, and Seifert. 3,377,455.
- Kasten, Karl-Heinz: *See—*
  - Lederer, Michael, Kasten, and Ebner. 3,377,373.
- Kato, Tsuneyuki: *See—*
  - Ioka, Akira, Kato, and Toyoda. 3,377,323.
- Katzbeck, Walter J., and E. G. King, to Corn Products Co. Process for sizing textiles. 3,376,623, 4-9-68, Cl. 28—72.6.
- Kearl, Cyril M.: *See—*
  - Hagendoorn, Willem J., and Kearl. 3,376,711.
- Keith, Clifford H., and K. H. Lillis, to The Mead Corp. Connection for resilient deformable panels. 3,377,090, 4-9-68, Cl. 287—189.36.
- Kelch, David E.: *See—*
  - Garber, Thomas, Kelch, and MacNeil. 3,376,735.
- Keller, Charles H., to Pek Labs., Inc. Self-starting arc lamp. 3,377,497, 4-9-68, Cl. 313—184.
- Kelly, Robert J.: *See—*
  - Loveless, Frederick C., Kelly, and Matthews. 3,377,326.
- Kemeny, George A.: *See—*
  - De Corso, Serafino M., Kemeny, and Wolf. 3,377,418.
- Kemlite Corp.: *See—*
  - Menzer, Alfred B. 3,377,228.
- Kendall Co., The: *See—*
  - Newman, Nicholas S. 3,377,231.
- Kent, Millard M.: *See—*
  - Wolf, Paul A., Kent, and Bobalek. 3,377,175.
- Kenyon, Albert R., to United Kingdom Atomic Energy Authority. Deuterium concentration processes. 3,377,135, 4-9-68, Cl. 23—193.
- Kerwin, James F.: *See—*
  - Fare, Louis R., Kerwin, and Kinney. 3,377,361.
- Keuffel & Esser Co.: *See—*
  - Baker, Allister L., Krause, Drexler, and Zener. 3,377,112.
- Keusch, Andreas, to Northern Electric Co. Ltd. Percussion welding apparatus. 3,377,458, 4-9-68, Cl. 219—95.
- Kiel, Othar M., and J. K. Hellhecker, to Esso Production Research Co. Method for fracturing subterranean formations. 3,376,930, 4-9-68, Cl. 166—42.
- Kim, Jeonsik: *See—*
  - Kim, Yunil, N., Y., and J. 3,376,874.
- Kim, Namsik: *See—*
  - Kim, Yunil, N., Y., and J. 3,376,874.
- Kim, Yongsik: *See—*
  - Kim, Yunil, N., Y., and J. 3,376,874.
- Kim, Yunil, N., Y., and J. Adjustable cigarette filters. 3,376,874, 4-9-68, Cl. 131—207.
- Kimberly-Clark Corp.: *See—*
  - Gresham, James T., and Thomas. 3,377,224.
  - Link, Peter J. 3,377,033.
  - Miller, Charles E. 3,376,620.
- King, Drew, to Bronze Inc. Vase locking device. 3,377,043, 4-9-68, Cl. 248—346.
- King, Earl G.: *See—*
  - Katzbeck, Walter J., and King. 3,376,623.
- Kingmann-White, Inc.: *See—*
  - Nolte, Claude B. 3,377,600.
- Kinnear Corp.: *See—*
  - Clapsaddle, Victor E. 3,376,913.
- Kinney, Roland W.: *See—*
  - Fare, Louis R., Kerwin, and Kinney. 3,377,361.
- Kinsey, Richard R., to General Electric Co. Radio frequency directional coupler utilizing crossed coupling slots of unequal dimensions. 3,377,571, 4-9-68, Cl. 333—10.
- Kirby, Keith R. T., to Kirby's (Engineers) Ltd. Apparatus for feeding blanks of cardboard or analogous sheet material to machinery for operating on the blanks so fed. 3,377,063, 4-9-68, Cl. 271—14.
- Kirby's (Engineers) Ltd.: *See—*
  - Kirby, Keith R. T. 3,377,063.
- Kirk, Mahlon R., and R. A. Clift, to Scott Paper Co. Process for coating paper with a heat flocculatable latex-based composition and the resultant product. 3,377,192, 4-9-68, Cl. 117—64.
- Kirk, Robert S., and K. C. Hong, to Chevron Research Co. Method and apparatus for igniting underground formations. 3,376,928, 4-9-68, Cl. 166—38.
- Kirshner, Howard A.: *See—*
  - Stiefel, Ludwig, and Kirshner. 3,377,219.
- Kiss, Kornel D., to Diamond Shamrock Corp. Preparation of formaldehyde-diketene copolymers with organic nitrogen compounds as catalyst. 3,377,318, 4-9-68, Cl. 260—73.
- Kister, Dale F., and J. E. Moore, to The Foxboro Co. Flow measurement system. 3,376,744, 4-9-68, Cl. 73—195.
- Kitchen, Earl M. Bow tie construction. 3,376,579, 4-9-68, Cl. 2—154.
- Kivlen, John A.: *See—*
  - Kalina, Theodore, and Kivlen. 3,377,156.
- Kjelson, Niles A., to General Mills, Inc. Metered dispensing container. 3,377,004, 4-9-68, Cl. 222—402.2.
- Klapp, Frank O., Sr. Safety container. 3,376,992, 4-9-68, Cl. 215—9.
- Klein, Alfred, to Chemagnetics Controls Corp. 3,376,886, 4-9-68, Cl. 137—268.
- Klier, Lewis, F. P. Manetti, and G. H. Miller, to American Plasticraft Co. Electron tube arc-over ring. 3,377,612, 4-9-68, Cl. 339—143.
- Kliklok Corp.: *See—*
  - Baker, Thomas R., and Hittenberger. 3,376,969.
  - Pierce, Chester J., Jr. 3,376,850.
- Klosk, Lawrence. Materials handling assembly. 3,376,988, 4-9-68, Cl. 214—515.
- Kluge, Herman D., R. H. Krug, and P. A. Cantor, to Texaco Inc. Complex ester lubricant. 3,377,377, 4-9-68, Cl. 260—485.
- Knappwost, Adolf, to Molykote Produktions G.m.b.H. Method of preparing graphite-metal halide compounds. 3,377,280, 4-9-68, Cl. 252—30.
- Knapsack Aktiengesellschaft: *See—*
  - Sennewald, Kurt, Bender, Gehrmann, Kallrath, Peantek, Schallus, Stephan, and Strie. 3,377,402.

- Knights, Herbert C., to United Kingdom Atomic Energy Authority. Nuclear reactors. 3,377,252, 4-9-68, Cl. 176—36.
- Knochel, Edward S.: *See—*
  - Jackson, Martin A., and Knochel. 3,377,044.
- Koch, Otto: *See—*
  - Stein, Werner, Koch, and Weiss. 3,377,290.
- Koch, Robert E.: *See—*
  - Hermann, Benjamin R., and Koch. 3,377,447.
- Koch, Ronney R.: *See—*
  - McLaughlin, Homer C., and Koch. 3,376,926.
- Kockums Mekaniska Verkstads AB: *See—*
  - Jonsson, Harry C. A., Sigurdsson, Hellstrom, and Linnander. 3,377,460.
- Koehring Co.: *See—*
  - Hugley, Dale G. 3,376,898.
- Koenig, Martin F.: *See—*
  - Christensen, Paul M., and Koenig. 3,377,608.
- Koester, Norman C., to Scott Industries, Inc. Manometer. 3,376,732, 4-9-68, Cl. 73—401.
- Kogan, Lawrence: *See—*
  - Ryan, William J., and Kogan. 3,377,171.
- Kokusai Display Kogyo Kabushiki Kaisha: *See—*
  - Ito, Reijiro. 3,377,578.
- Kolb, Gunter, and K. Eitel, to Farbenfabriken Bayer Aktiengesellschaft. Process for the dressing of leather. 3,377,307, 4-9-68, Cl. 260—29.7.
- Kolobow, Theodor, and R. L. Bowman, to United States of America, Department of Health, Education and Welfare. Biventricular cardiac assister. 3,376,863, 4-9-68, Cl. 128—64.
- Kolodney, Morris, to United States of America, Atomic Energy Commission. Electrolytic process for cleaning plutonium metal. 3,377,257, 4-9-68, Cl. 204—1.5.
- Kongpricha, Santad, and W. C. Preusse, to Olin Mathieson Chemical Corp. Phosphozophosphoryl difluorides and methods of preparation. 3,377,142, 4-9-68, Cl. 23—357.
- Koury, Frederic, and J. F. Waymouth, to Sylvania Electric Products Inc. In a high pressure lamp, protective metal oxide layers on the inner wall of the quartz envelope. 3,377,498, 4-9-68, Cl. 313—221.
- Koutsonicolas, Konstantinos. Portable washer. 3,377,120, 4-9-68, Cl. 401—4.
- Koyama, Tsukasa: *See—*
  - Tsuji, Shigeru, Anazawa, and Koyama. 3,377,522.
- Kramer, Alfred S., and M. J. Sondell. Combined knife and fork. 3,376,640, 4-9-68, Cl. 30—148.
- Kramer, William E.: *See—*
  - Amboss, Kurt, and Kramer. 3,377,502.
- Krause, Franz: *See—*
  - Hutchinson, Seymour M., and Krause. 3,376,655.
- Krause William R.: *See—*
  - Baker, Allister L., Krause, Drexler, and Zener. 3,377,112.
- Krauss-Maffei A.G.: *See—*
  - Holtsch, Gunther, and Beck. 3,376,978.
- Kreuter, Kenneth G., to Robertshaw Controls Co. Switching and indicating mechanism. 3,377,451, 4-9-68, Cl. 200—167.
- Krieger, Friedrich: *See—*
  - Toussaint, Hans-Norbert, and Krieger. 3,377,528.
- Krug, Robert H.: *See—*
  - Kluge, Herman D., Krug, and Cantor. 3,377,377.
- Kruse, Frederick E., to Eltra Corp. Core supporting structure having encapsulated coil thereon. 3,377,602, 4-9-68, Cl. 336—96.
- Kruse, Frederick W., Jr., F. P. Storke, Jr., and D. L. Baskins, to Kruse Storke Electronics. Voltage tuned oscillator. 3,377,568, 4-9-68, Cl. 331—117.
- Kruse Storke Electronics: *See—*
  - Kruse, Frederick W., Jr., Storke, and Baskins. 3,377,568.
- Kuester, Frank E., and P. H. Rhodes, to Swift & Co. High oxirane fatty esters. 3,377,304, 4-9-68, Cl. 260—23.
- Kukoff, Milton. Decorative fabric. 3,377,184, 4-9-68, Cl. 117—25
- Kurauchi, Noritaka: *See—*
  - Nakahara, Tsuneo, and Kurauchi. 3,377,587.
- Kusakawa, Haruki: *See—*
  - Ubukata, Susumu, Mizutani, Kusakawa, and Yoshida. 3,377,455.
- Kutka, Vincent C., to National Can Corp. Can and can end unit. 3,376,997, 4-9-68, Cl. 220—48.
- Kvalnes, Donovan E., and H. M. Parmelee, to E. I. du Pont de Nemours and Co. Refrigerant compositions. 3,377,287, 4-9-68, Cl. 252—967.
- Kyser, Smith, to Aircraft Specialties, Inc. Ratchet arm piston ring compressor. 3,376,628, 4-9-68, Cl. 29—222.
- L & A Products, Inc.: *See—*
  - Bruggeman, William L. 3,377,028.
- La Chapelle, Theodore J.: *See—*
  - Ashby, Robert M., La Chapelle, and Smith. 3,377,513.
- Lal, Joginder, and J. E. McGrath, to The Goodyear Tire & Rubber Co. Polymerization of vinyl alkyl ether in the presence of a metal hydrosulfate and an organo-metallic promoter. 3,377,328, 4-9-68, Cl. 260—91.1.
- Lameczyk, Robert J.: *See—*
  - Lanham, Samuel E., and Lameczyk. 3,377,151.
- Landreth, Orville H. Socketing machine. 3,376,590, 4-9-68, Cl. 10—15.
- Lane, Bobbie R., and B. E. Davis, to Camco Inc. Time cycle controller. 3,377,532, 4-9-68, Cl. 317—262.
- Láng, Félix: *See—*
  - Takács, Géza, Nyitrai, Láng, Pandula, Juhász, and Pungor. 3,376,688.
- Langberg, Edwin, and L. W. Roberts, to Metcom, Inc. Gallium-wetted movable electrode switch. 3,377,576, 4-9-68, Cl. 335—196.
- Langis, Andre L., to American Home Products Corp. N′-(1-naphthylmethyl)-N^{3}-aminoguanidine and salt thereof. 3,377,381, 4-9-68, Cl. 260—564.
- Langwell, John D., to Waldes Kohinoor, Inc. Slide-fastener cut-apart means controlled by work sensing means. 3,376,772, 4-9-68, Cl. 83—154.
- Lanham, Samuel E., and R. J. Lameczyk, to General Foods Corp. Method for making a cleansing aid. 3,377,151, 4-9-68, Cl. 51—295.
- Lannert, Melvin R., to Paragon Die Casting Co. Speaker grill. 3,377,144, 4-9-68, Cl. 29—183.
- Lanza, Conrad, to International Business Machines Corp. Voltage controlled variable frequency gunn-effect oscillator. 3,377,566, 4-9-68, Cl. 331—107.
- Lapkin, Milton: *See—*
  - Boudakian, Max M., Lapkin, and Shipkowski. 3,377,394.
- Lapointe Machine Tool Co., The: *See—*
  - Stiff, Bernard G. E. 3,377,260.
- Larimer, Victor L., to Ashland Oil and Refining Co. Process for isomerizing unsaturated fatty acids or derivatives thereof. 3,377,367, 4-9-68, Cl. 260—405.6.
- Lasker, Martin L., to Moldcast Mfg. Co. Lighting fixture. 3,377,481, 4-9-68, Cl. 240—78.
- Laskin, Allen I., and J. Fried, to E. R. Squibb & Sons, Inc. Fermentation of eburicoic acid. 3,377,255, 4-9-68, Cl. 195—51.
- Latall, Roy C., to Clark Equipment Co. Drive assembly and mast mounting means for an industrial vehicle. 3,376,990, 4-9-68, Cl. 214—671.
- Latham, Burton F., Jr., to Continental Carbon Co. Production of carbon black and chlorinated hydrocarbons. 3,377,137, 4-9-68, Cl. 23—209.1.
- Lau, Erwin M., to Black Products Co. Bag settler for bag filling machine. 3,376,905, 4-9-68, Cl. 141—76.
- Lavender, John S., Jr.: *See—*
  - Schwartzopf, Lewis J., and Lavender. 3,377,429.
- Lavin, Edward: *See—*
  - Serlin, Irving, Lavin, and Markhart. 3,377,310.
- Lavorazione Materie Plastiche L.M.P. S.p.A.: *See—*
  - Colombo, Roberto. 3,376,603.
- Lazarus, Jerome B., and E. G. Trunk, to The Staver Co. Inc. Combination shield can and heat dissipator for electronic circuitry using a transistor. 3,376,920, 4-9-68, Cl. 165—80.
- Lea, Norman S.: *See—*
  - Webster, George R., Lea, and Oshetsky. 3,377,235.
- Lear Siegler, Inc.: *See—*
  - Caggia, Vincent P. 3,376,743.
- Leber, Jean-Pierre, and K. Lutz, to Sandoz Ltd. (also known as Sandoz A.G.). Novel parasiticides and their production. 3,377,346, 4-9-68, Cl. 260—246.
- Lecher, Walter, to Escher Wyss Aktiengesellschaft. Guide apparatus for a hydraulic machine. 3,377,051, 4-9-68, Cl. 253—122.
- Lederer, Michael, K. H. Kasten, and H. Ebner, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Process for the continuous manufacture of peroxydicarbonates. 3,377,373, 4-9-68, Cl. 260—463.
- Le Doux, William A., to General Electric Co. Multiphase current transformer fault indicator. 3,377,551, 4-9-68, Cl. 324—51.
- Leduc, Gerard: *See—*
  - Leduc, Rene and G. 3,376,822.
- Leduc, Rene and G. Variable-delivery hydraulic pump. 3,376,822, 4-9-68, Cl. 103—173.
- Leeson, George J. W. Cleaning device. 3,377,123, 4-9-68, Cl. 401—139.
- Lefemine, Donald, M. Dann, S. O. Thomas, and S. E. De Voe, to American Cyanamid Co. Neutramycin and a method for producing by using streptomyces rimosus. 3,377,242, 4-9-68, Cl. 167—65.
- Legal, Casimer C., Jr., and A. Richmond, to W. R. Grace & Co. Process of ammoniating an acidulated phosphate rock to prepare a slurry fertilizer. 3,377,153, 4-9-68, Cl. 71—37.
- Legge, Walter G. Body grounding device. 3,377,509, 4-9-68, Cl. 317—2.
- Leif, Robert C.: *See—*
  - Fox, Gerald D., Joyce, and Leif. 3,377,021.
- Lempka, Paul A. Method of boring away bearing material integral with a frame containing a journal. 3,376,630, 4-9-68, Cl. 29—401.
- Lenk, Peter: *See—*
  - Schiller, Siegfried, and Lenk. 3,377,419.
- Lenz, Charles E., to North American Rockwell Corp. Control system for positioning a shaft in response to an incremental digital input signal. 3,377,533, 4-9-68, Cl. 318—18.
- Leonard, William H. Packages for bunches of flowers. 3,376,666, 4-9-68, Cl. 47—41.
- Leonhardt, Ernst, Jr., to Mobil Oil Corp. Jet string and weight can assembly. 3,376,922, 4-9-68, Cl. 166—.5.
- Levin, Nathan D., and A. H. Andrews, to Admiral Corp. Clip for mounting peripheral electron shield on shadow mask of color television tube, provided with contact spring to tube inner coating. 3,377,493, 4-9-68, Cl. 313—92.
- Levine, Seymour. Electro-mechanical combination lock. 3,376,721 4-9-68, Cl. 70—277.
- Levine, Seymour D., and P. A. Diassi, to E. R. Squibb & Sons, Inc. Ketals of Δ^{2}-A-norandrostene-17β-ol-2-one and Δ^{2}-A-norpregnene-2,20-dione and their 3,5-dihydroxy derivatives. 3,377 360, 4-9-68, Cl. 260—340.9.
- Lewis-Howe Co.: *See—*
  - Pitkin, Courtney G., and Mitra. 3,376,753.
- Lewis, Paul E.: *See—*
  - Hollander, William L., and Lewis. 3,377,077.
- Lewis, Robert N., to United States of America, Atomic Energy Commission. Method of calibrating high-voltage precision resistance potential dividers. 3,377,555, 4-9-68, Cl. 324—63.
- Li, Tao P., and R. J. Rosscup, to Standard Oil Co. Demetallization of petroleum fractions. 3,377,268, 4-9-68, Cl. 208—252.

- Licentia Patent-Verwaltungs-G.m.b.H. : *See—*
  - Petzold, Dieter. 3,377,468.
- Life-Rollway Corp. : *See—*
  - Root, Robert S. 3,376,964.
- Lilja, Göran : *See—*
  - Andersson, Nils E., and Lilja. 3,377,523.
- Lillard, James G., and A. R. Zubik to Esso Research and Engineering Co. Moisture content determining device having a pressure operated capacitor member. 3,377,553, 4–9–68, Cl. 324—61.
- Lillis, Kenneth H. : *See—*
  - Keith, Clifford H., and Lillis. 3,377,090.
- Lilly, Eli, and Co. : *See—*
  - Traverso, John J. 3,377,357.
- Lincoln Mfg. Co., Inc. : *See—*
  - MacKay, Robert H. 3,376,758.
- Lindblad, Oskar L. Buckles for safety belts and the like. 3,376,613, 4–9–68, Cl. 24—74.
- Lindemann, Wallace W., to Control Data Corp. Grain boundary transistor analog memory device. 3,377,580, 4–9–68, Cl. 340—173.
- Linder, Jerome : *See—*
  - Weil, Edward D., Linder, and Dorfman. 3,377,155.
- Lindsay, Wesley N., to Jennings Radio Mfg. Corp. Vacuum capacitor. 3,377,531, 4–9–68, Cl. 317—244.
- Link, Peter J., to Kimberly-Clark Corp. Papermaking machine. 3,377,033, 4–9–68, Cl. 242—56.2.
- Linnander, Carl E. : *See—*
  - Jonsson, Harry C. A., Sigurdsson, Hellstrom, and Linnander. 3 377,460.
- Lipp, Charles E., A. Rakus, and G. W. Vicary, to Caterpillar Tractor Co. Bonding machines. 3,377,009, 4–9–68, Cl. 228—2.
- Lippell, Bernard. to United States of America, Army. Reduced bandwidth binary picture transmission. 3,377,423, 4–9–68, Cl. 178—6.
- Lippert, Anthony H., to International Telephone and Telegraph Corp. Land-to-mobile telephone link. 3,377,435, 4–9–68, Cl. 179—41.
- Liska, Erich. Cutter head for dry shavers. 3,376,642, 4–9–68, Cl. 30—346.
- Littelfuse Inc. : *See—*
  - Baumbach, Bertram W. 3,377,448.
- Litton Systems, Inc. : *See—*
  - Ausman, John S. 3,377,470.
- Litz, James M. : *See—*
  - Wissick, William P., and Litz. 3,377,579.
- Ljungberg, Ture A. Measuring devices. 3,376,648, 4–9–68, Cl. 33—138.
- Lloyd, William A., to Varian Associates. Relatively large consumable pelletized getter source element for sublimation type getter vacuum pumps. 3,377.499, 4–9–68, Cl. 313—354.
- Loev, Bernard, and E. Macko, to Smith Kline & French Laboratories. Antidepressant compositions and methods employing 7-N azaindoles. 3,377,246.
- Lohse, Vernon G. Bale stack transfer device. 3,376,987, 4–9–68, Cl. 214—505.
- London, Heinz, to United Kingdom Atomic Energy Authority. Refrigerators operating at very low temperatures. 3,376,-712, 4–9–68, Cl. 62—467.
- Long, Elton B., and J. F. Shumaker, to J. I. Case Co. Backhoe. 3,376,984, 4–9–68, Cl. 214—138.
- Lorenzo, Albert A. Power supply circuitry for lighting fixtures or the like. 3,377,488, 4–9–68, Cl. 307—157.
- Lott, George T. Loading fixture. 3,376,968, 4–9–68, Cl. 198—19.
- Lotz, Benno, to Everest & Jennings, Inc. Self-propelled wheel chair. 3,376,944, 4–9–68, Cl. 180—6.5.
- Loudon, James, to Mineralac Electric Co. Clamp for securing conduit to a support rod or drop wire. 3,377,038, 4–9–68, Cl. 248—59.
- Love, Robert B. : *See—*
  - Ellett, John A. Brinker, and Love. 3,377,516.
- Loveless, Frederick C., to Uniroyal, Inc. Process of copolymerizing olefins utilizing vanadium oxytrichloride, alkyl aluminum sesquihalide and sulfur as the catalyst. 3,377,325, 4–9–68, Cl. 260—80.78.
- Loveless, Frederick C., R. J. Kelly, and D. N. Matthews, to Uniroyal, Inc. Process for copolymerizing olefins utilizing vanadium oxytrichloride, alkyl aluminum sesquichloride phosphorus trichloride and 2-nitro-propane as catalyst. 3,377,326 4–9–68, Cl. 260—80.78.
- Lowes, Fred J., to The Dow Chemical Co. Apparatus for the preparation of elliptical structures. 3,376,602, 4–9–68, Cl. 18—5.
- Lubrizol Corp., The :*See—*
  - McMillen, Richard L. 3,377,283.
- Lutes, James L. to Sparton Corp. Compliant suspension system. 3,377,615, 4–9–68, Cl. 340—2.
- Lutz, Karl : *See—*
  - Leber, Jean-Pierre, and Lutz. 3,377,346.
- M. T. & D. Co., The : *See—*
  - Musichuk, Alexander B. 3,377,084.
- Mac/Bee Engineering Inc. : *See—*
  - McCulloch, Doyle W. 3,376,625.
- MacGregor, Rob R., and W. P. Moore, Jr., to Allied Chemical Corp. Apparatus for preparing low density urea-formaldehyde foams. 3,377,139, 4–9–68, Cl. 23—285.
- MacKay Robert H., to Lincoln Mfg. Co., Inc. Drive for rotating drum. 3,376,758, 4–9–68, Cl. 74—421.
- Macko, Edward : *See—*
  - Loev, Bernard, and Macko. 3,377,246.
- Macnair, Alan K., to West Virginia Pulp and Paper Co. Methods of coating with phase separation coatings, and resultant coated articles. 3,377,191, 4–9–68, Cl. 117—63.
- MacNeil, Norman H. : *See—*
  - Garber, Thomas, Kelch, and MacNeil. 3,376,735.
- MacNeille, Stephen M., to American Optical Co. Optical strain pattern suppressors for high altitude aircraft windshields. 3,377,118, 4–9–68. Cl. 350—157.
- Macolcz, Edward L., to General Electric Co. Latch mechanism. 3,377,093, 4–9–68, Cl. 292—241.
- Macy, Valentine E., Jr. : *See—*
  - Allen, Earle F. 3,376,795.
- Maehara, Shigeru, I. Igarashi, and A. Ito, to Yawata Iron & Steel Co., Ltd., and Yokoyama Engineering Co., Ltd. Apparatus for recovering waste gas from oxygen top blowing converter in unburnt state. 3,377,057, 4–9–68. Cl. 266—15.
- Maekawa, Hiroshi : *See—*
  - Torgigai, Eiichi, Okuno, and Maekawa. 3,377,174.
- Magdall, Albert A. : *See—*
  - Marsh, Elliott R., Magdall, and Rausch. 3,377,619.
- Magell, Orville L. : *See—*
  - Kressin, Donald M., Westbrook, and Magell. 3,377,407.
- Magnin, Jean P., to Electro-Mechanical Research, Inc. Telemetering decoder system. 3,377,585, 4–9–68, Cl. 340—206.
- Magnusson, Sverrir H., to Design & Process Engineering, Inc. Frying apparatus. 3,376,806, 4–9–68, Cl. 99—408.
- Majewski, Eugene J. : *See—*
  - Busch, Albert G., and Majewski. 3,377,610.
- Mally, John P., and J. R. Nussbaum, to Powers Chemco, Inc. Photographic stripping film. 3,377,168, 4–9–68, Cl. 96—88.
- Malone, Eugene E. Gravel sampling machine. 3,376,752, 4–9–68, Cl. 73—423.
- Maloney, George T. : *See—*
  - Asin, Samson, Maloney, and Robinson. 3,376,659.
- Mandonas, Nicholas J., W. T. Nowell, and E. T. Stocker, to Western Electric Co., Inc. Apparatus for assembling electrical devices. 3,377,011, 4–9–68, Cl. 228—18.
- Manetti, Fred P. : *See—*
  - Klier, Lewis, Manetti, and Miller. 3,377,612.
- Manitowoc Engineering Corp. : *See—*
  - Morrow, James G. 3,376,981.
- Mann, John S. : *See—*
  - De Gray, Richard J., and Mann. 3,377,148.
- Manoni, Arthur P., to General Motors Corp. Clutch assembly. 3,376,714, 4–9–68, Cl. 64—30.
- Manry, Charles W., and M. E. Chenevert, to Esso Production Research Co. Completion of wells. 3,376,921, 4–9–68, Cl. 166—4.
- Marathon Oil Co. : *See—*
  - Coppel, Claude P. 3,376,925.
  - Hurley, Edward, Jr., and Hall. 3,377,405.
  - Schwartzopf, Lewis J., and Lavender. 3 377,429.
- Marco, Francis W., to Deering Milliken Research Corp. Soil release of polyester containing textiles through treatment with aminoplast resins in conjunction with acrylic emulsion polymers containing at least twenty percent acid calculated as acrylic acid. 3,377,249, 4–9–68, Cl. 8—115.6.
- Marcotte, George M., and R. S. Norman, to General Electric Co. Low drift, high temperature solion cells. 3,377,520, 4–9–68, Cl. 317—231.
- Marder, Herman L., to American Home Products Corp. Aerosol container overcap with oozeproof valve-actuating means. 3,377,005, 4–9–68, Cl. 222—402.13.
- Markin Tubing, Inc. : *See—*
  - Caplan, Isadore. 3,376,632.
- Marks, Ulrich G., to Cockle Ventilator Co., Inc. Dripless grease extractor for kitchen hoods. 3,376,804, 4–9–68, Cl. 98—115.
- Mariani, Eduardo : *See—*
  - Rinaldi, Gianfranco, Mariani, and Costaguta. 3,376,693.
- Marledahl, Erik J. : *See—*
  - Jansson, Sven A., Johansson, and Marledahl. 3,377,413.
- Markert, Herman R. : *See—*
  - Bacon, Robert D., and Markert. 3,377,003.
- Markhart, Albert H. : *See—*
  - Serlin, Irving, Lavin, and Markhart. 3,377,310.
- Marquis, Edgar E., to Gorn Corp. High frequency relay switch. 3,377,449, 4–9–68, Cl. 200—153.
- Marriott, Anthony G. : *See—*
  - Smith, John L., and Marriott. 3,377,194.
- Marsh, Elliott R., A. A. Magdall, and F. R. Rausch, to International Business Machines Corp. Data multiplexing system. 3,377 619, 4–9–68, Cl. 340—172.5.
- Marshall, Charles W. : *See—*
  - Duke, Bruce W., and Marshall. 3,377,264.
- Martin, Heinz : *See—*
  - Ziegler, Karl, Brell, Holzkamp, and Martin. 3,377,332.
- Martin, James C., to Eastman Kodak Co. 3,3-dialkoxythietane-1,1-dioxides and their preparation. 3,377,358, 4–9–68, Cl. 260—327.
- Marvin, Orrin F. Process for the concentration of beryllium and aluminum minerals. 3,377,159, 4–9–68, Cl. 75—101.
- Maryska, Oldrich : *See—*
  - Tlusty, Jiri, Polacek, Pluhar, and Maryska. 3,376,770.
- Mascarich, Richard A. : *See—*
  - Gutmann, William R., and Mascarich. 3,377,138.
- Mason, Walter R., Jr., to Hoge Warren Zimmermann Co. Continuous volumetric delivering and metering apparatus. 3,377,000, 4–9–68, Cl. 222—227.
- Massey-Ferguson G.m.b.H. : *See—*
  - Herbsthofer, Franz. 3,376,873.
- Materer, Donald R., and P. G. Bartlett, to Motorola, Inc. Electronic azimuth resolver. 3,377,589, 4–9–68, Cl. 343—11.
- Mather, William B., Jr., and R. M. Suggitt, to Texaco Inc. Method of incorporating platinum in carbon. 3,377,204, 4–9–68, Cl. 136—122.
- Matson, Carl G., to Vibrator Mfg. Co., Inc. Piston vibrator. 3,376,790, 4–9–68, Cl. 91—234.
- Matsumoto, Hiroyuki, to Dai Nihon Bungu Co. Fiber-tip pen. 3,377,124, 4–9–68, Cl. 401—198.

- Matsushita Electric Industrial Co., Ltd. : *See—*
  - Ito, Reijiro. 3,377,578.
  - Yasuoka, Shine, Tanaka, and Nagasaki. 3,377,535.
- Matteson, Donald W. : *See—*
  - Davis, Clement, and Matteson. 3,376,700.
- Matthews, Demetreos N. : *See—*
  - Loveless, Frederick C., Kelly, and Matthews. 3,377,326.
- Mattson, Charles A., and G. W. Schleicher, to Sunbeam Corp. Traveling sprinkler. 3,377,027, 4–9–68, Cl. 239—189.
- Maurer, Charles J., and R. S. Montgomery, to American Handling Equipment Co. Bin cap. 3,376,685, 4–9–68, Cl. 52—656.
- Max-Planck-Institut fur Eisenforschung : *See—*
  - Fischer, Wilhelm A. 3,377,177.
- Maxey, Alexander R., and J. H. Streets, to Ampex Corp. Tape transport for driving both in-going and out-going portions of a tape loop with a single capstan. 3,377,436, 4–9–68, Cl. 179—100.2.
- Maxfield, Perry L., to Phillips Petroleum Co. Dimerization of diolefins. 3,377,397, 4–9–68, Cl. 260—666.
- May, Clayton A. : *See—*
  - Newey, Herbert A., and May. 3,377,406.
- May, Richard K. : *See—*
  - Cole, Donald W., and May. 3,376,684.
- Mayer, Robert E., to United States of America, Army. Antenna pattern calibrator. 3,377,591, 4–9–68, Cl. 343—100.
- McBride, Joseph J., and C. G. Wheelus, to Arizona Chemical Co. Disproportionation of rosin. 3,377,334, 4–9–68, Cl. 260—98.
- McCarty, Charles L. : *See—*
  - Nielsen, Richard H., McCarty, and Wernette. 3,377,018.
- McCloskey, John : *See—*
  - Greer, Larry J., Grau, McCloskey, McGinty, and Rousser. 3,376,971.
- McCombs, Howard L., Jr., to The Bendix Corp. Emergency fuel shutoff valve. 3,376,893, 4–9–68, Cl. 137—599.2.
- McConnell, Richard L., and H. W. Coover, Jr., to Eastman Kodak Co. Polymers derived from diamines or aminoalcohols and trialkyl or triaryl phosphites. 3,377,409, 4–9–68, Cl. 260—926.
- McCulloch Corp. : *See—*
  - Gasner, William L. 3,376,906.
- McCulloch, Doyle W., to Mac/Bee Engineering Inc. Method of making fluid pulsation dampeners. 3,376,625, 4–9–68, Cl. 29—157.
- McCutchen, Robert R. : *See—*
  - Costa, Philip J., and McCutchen. 3,377,023.
- McGee, Harold B. Method of applying adhesive strips to bags. 3,377,186, 4–9–68, Cl. 117—44.
- McGinnis, Gerald E., to Westinghouse Electric Corp. Circulatory system simulator. 3,376,660, 4–9–68, Cl. 35—17.
- McGinty, Ralph J. : *See—*
  - Greer, Larry J., Grau, McCloskey, McGinty, and Rousser. 3,376,971.
- McGlade, Wayne H. : *See—*
  - Eaton, Lyle E., Hoerr, Hyler, and McGlade. 3,376,831.
- McGrath, James E. : *See—*
  - Lal, Joginder, and McGrath. 3,377,328.
- McGraw-Edison Co. : *See—*
  - Meyers, Ralph C. 3,377,530.
  - McNulty, Lyle E. 3,377,487.
  - Riebs, Richard E. 3,377,507.
- McLaughlin, Homer C., and R. R. Koch, to Halliburton Co. Methods of placement of low pH silicic acid in carbonaceous geological formations. 3,376,926, 4–9–68, Cl. 166—29.
- McLean, Arthur F., to Ford Motor Co. Gas turbine power turbine nozzle control for providing vehicle braking. 3,376,-702, 4–9–68, Cl. 60—39.25.
- McLeod, James W., Jr., to Radio Corp. of America. Unitary beam convergence magnet structure and control apparatus. 3,377,512, 4–9–68, Cl. 317—101.
- McMakin, Laurence E. : *See—*
  - Gainer, Alvis B., and McMakin. 3,377,376.
- McManimie, Robert J., to Monsanto Co. Production of polymers. 3,377,331, 4–9–68, Cl. 260—94.9.
- McMillen, Richard L., to The Lubrizol Corp. Process for preparing thickened compositions. 3,377,283, 4–9–68, Cl. 252—33.
- McNatt, Ronald J., and L. C. Smith, to Anaconda Wire and Cable Co. Tensioning apparatus. 3,377,036, 4–9–68, Cl. 242—156.2.
- McNeal, Hugh E. Tree stump removing apparatus. 3,376,907, 4–9–68, Cl. 144—2.
- McNulty, Lyle E., to McGraw-Edison Co. Underground residential power distribution construction. 3,377,487, 4–9–68, Cl. 307—17.
- McPhail, James F. : *See—*
  - Williman, Bertram T., and McPhail. 3,376,934.
- Meacock, Graham W., and W. G. Paterson, to British Nylon Spinners Ltd. Nonwoven fabrics and the method of manufacture thereof. 3,377,232, 4–9–68, Cl. 161—155.
- Mead Corp., The : *See—*
  - Keith, Clifford H., and Lillis. 3,377,090.
- Medicinsk-Kemiska Automationslaboratoriet AB- Mekalab : *See—*
  - Jungner, Olof G. H. 3,376,751.
- Meise, Henry A., Jr. : *See—*
  - Abbott, Henry H., Fette, and Meise. 3,377,432.
- Melin, Thomas N. Method of aligning the ends of a stack of lumber. 3,376,985, 4–9–68, Cl. 214—152.
- Mendoza, Miguel G. : *See—*
  - Grady, Charles B., Jr., and Mendoza. 3,377,450.
- Menzer, Alfred B., to Kemlite Corp. Method of manufacturing a structural panel. 3,377,228, 4–9–68, Cl. 156—301.
- Merck & Co., Inc. : *See—*
  - Clark, Robert L., Patchett, and Rogers. 3,377,352.
- Mescher, Arthur L. Animal control device. 3,376,855, 4–9–68, Cl. 119—29.
- Messenger, Joseph U., to Mobil Oil Corp. Method of treating sour reservoirs. 3,376,931, 4–9–68, Cl. 166—42.
- Messer Griesheim G.m.b.H. : *See—*
  - Hahne, Siegfried. 3,377,013.
- Mesta Machine Co. : *See—*
  - Wolfendale, Ray A., and Stover. 3,376,724.
- Metcom, Inc. : *See—*
  - Langberg, Edwin, and Roberts. 3,377,576.
- Metzger, Leopold H., C. W. Hatcher, and G. E. Simms, to Super-Cut, Inc. Rotary cutter assembly for concrete leveler. 3,376,673, 4–9–68, Cl. 51—168.
- Meyer, Harry W., W. F. Porter, and M. M. Fischer, to Jones & Laughlin Steel Corp. Converter control systems and methods. 3,377,158, 4–9–68, Cl. 75—60.
- Meyer, Karl H., to Aircraft Radio Corp. Overload protection circuit for solid state power supplies. 3,377,540, 4–9–68, Cl. 321—11.
- Meyers, Ralph C., to McGraw-Edison Co. High potential capacitor. 3,377,530, 4–9–68, Cl. 317—242.
- Meystre, Noel : *See—*
  - Dolder, Guido, and Meystre. 3,376,897.
- Michalski, Raymond J., M. S. Sapienza, and L. L. Wolfson, to Nalco Chemical Co. Treatment for aqueous industrial process fluids. 3,377,275, 4–9–68, Cl. 210—64.
- Midland Silicones Ltd. : *See—*
  - Roch, Kenneth M. 3,377,311.
- Milam, Dennis W., and F. W. Tracy. Illuminating unit for compacts. 3,377,476, 4–9–68, Cl. 240—6.45.
- Millay, Arthur B., and G. W. Wilkie, to Newport News Shipbuilding and Dry Dock Co. Universal boom support. 3,377,-088, 4–9–68, Cl. 287—87.
- Miller, Charles E., to Kimberly-Clark Corp. Drive mechanism for bowed rolls. 3,376,620, 4–9–68, Cl. 26—63.
- Miller, Eldon D., Jr., and S. R. Pavlica, to Harbison-Walker Refractories Co. High alumina brick. 3,377,178, 4–9–68, Cl. 106—66.
- Miller,. Frank : *See—*
  - Farkas, Adalbert, and Miller. 3,377,383.
- Miller, George H. : *See—*
  - Klier, Lewis, Manetti, and Miller. 3,377,612.
- Miller, Homer W. : *See—*
  - Hittel, Lorenz A., and Miller. 3,377,621.
- Miller-Thomas Gyekis Inc. : *See—*
  - Gyekis, George G. 3,376,680.
- Miller, Warren S., to Intermountain Research & Development Corp. Preparation of soda ash. 3,377,133, 4–9–68, Cl. 23—63.
- Millson, Henry E., and J. Dammicci, to American Cyanamid Co. Dyed nitrogenous fibers and anionic dye composition therefore. 3,377,130, 4–9–68, Cl. 8—54.
- Minerallac Electric Co. : *See—*
  - Loudon, James. 3,377,038.
- Minnesota Mining and Mfg. Co. : *See—*
  - Stricklin, Buck. 3,377,286.
  - Workman, Wesley R. 3,377,165.
- Miszak, Pawel, to Sulzer Brothers, Ltd. Pipe lining for a steam generator. 3,376,859, 4–9–68, Cl. 122—235.
- Mite Corp. : *See—*
  - Howard, Bernard. 3,376,839.
- Mitra, Arun K. : *See—*
  - Pitkin, Courtney G., and Mitra. 3,376,753.
- Mitscher, Lester A. : *See—*
  - De Voe, Stanley E., and Mitscher. 3,377,248.
- Mizutani, Toshio : *See—*
  - Ueda, Kenzo, Horie, Mizutani, Nodera, Fujimoto, and Okuno. 3,377,356.
- Mizutani, Yasukazu : *See—*
  - Ubukata, Susumu, Mizutani, Kusakawa, and Yoshida. 3,377,445.
- Mobil Oil Corp. : *See—*
  - Caesar, Philip D. 3,377,265.
  - Fitch, John L., and Patton. 3,376,941.
  - Gainer, Alvis B., and McMakin. 3,377,376.
  - Leonhardt, Ernst, Jr. 3,376.922.
  - Messenger, Joseph U. 3,376,931.
  - Wise, John J. 3,377,400.
- Mobius, Hans-Heinrich, and B. Rohland, . Ernst-Moritz-Arndt-Universitat. Method of producing fuel cells with solid electrolytes and ceramic oxide electrode layers. 3,377,-203, 4–9–68, Cl. 136—86.
- Modern Faucet Mfg. Co. : *See—*
  - Bucknell, Ernest H., and Ward. 3,376,884.
- Moesker, Gerard, to North American Philips Co., Inc. Method of preparing electrodes for bonding to a semiconductive body. 3,376,635, 4–9–68, Cl. 29—471.1.
- Mohawk Data Science Corp. : *See—*
  - Sims, John C., Jr. 3 377,583.
  - Sims, John C., Jr. 3,377,620.
- Moldcast Mfg. Co. : *See—*
  - Lasker, Martin L. 3,377,481.
- Molin, Charles : *See—*
  - Rouyer, Georges, and Molin. 3,376,726.
- Molins Machine Co., Ltd. : *See—*
  - Powell, Gordon F. W., and Hinton. 3,377,614.
- Molykote Produktions G.m.b.H. : *See—*
  - Knappwost, Adolf. 3,377,280.
  - Sibert, Wilhelm. 3,377,279.
- Mondiadis, Dimitri G., to Howe Sound Co. Surgical evacuator device. 3,376,868, 4–9–68, Cl. 128—278.
- Monsanto Chemicals Ltd. : *See—*
  - Bell, Cyril O. R. 3,377 282.
  - Shepherd, Eric J. 3,377,293.
- Monsanto Chemicals (Australia) Ltd. : *See—*
  - Holan, George. 3,377,239.

- Monsanto Co.: *See—*
  - Davis, George D., Beckham, and Fannin. 3,377,294.
  - McManimie, Robert J. 3,377,331.
  - Mortimer, George A. 3,377,330.
  - Serlin, Irving, Lavin, and Markhart. 3,377,310.
  - Stephens, John A. 3,377,375.
- Montecatini Edison S.p.A.: *See—*
  - Rinaldi, Gianfranco, Mariani, and Costaguta. 3,376,693.
  - Sartori, Guido, and Turba. 3,377,399.
- Montgomery, George R. Slotted, frictionally-held sleeve surrounding a nozzle organization. 3,377,029, 4–9–68, Cl. 239—458.
- Montgomery, Robert S.: *See—*
  - Maurer, Charles J., and Montgomery. 3,376,685.
- Moore, Homer G.: *See—*
  - Foster, Stephen F., and Moore. 3,376,816.
- Moore, James E.: *See—*
  - Kister, Dale F., and Moore. 3,376,744.
- Moore, William P., Jr.: *See—*
  - MacGregor, Rob R., and Moore. 3,377,139.
- Moreno, Oscar. Six-sided foldable box construction. 3,377,015, 4–9–68, Cl. 229—16.
- Moretto, Luciano, to AGIP S.p.A. Electro-optical device for recording variable physical quantities. 3,376,741, 4–9–68, Cl. 73—152.
- Morganson, Peter H., to The Stanley Works. Guide attachment. 3,367,787, 4–9–68, Cl. 90—12.
- Mori, Kiichi, and M. Nakamura, to Zenza Bronica Kogyo Kabushiki Kaisha. Gas lighter. 3,377,122, 4–9–68, Cl. 431—131.
- Morrow, Donald E., to Texas Instruments Inc. Streamer coupler. 3,376,948, 4–9–68, Cl. 181—.5.
- Morrow, James G., to Manitowoc Engineering Corp. Crane drive system. 3,376,981, 4–9–68, Cl. 212—38.
- Morrow, Scott I., to Thiokol Chemical Corp. Process for making radon and xenon di- and tetrafluorides. 3,377,136, 4–9–68, Cl. 23—205.
- Mortimer, George A., to Monsanto Co. Ethylene polymerization in the presence of a free-radical catalyst and as a chain-transfer agent a minor mount of phosphine. 3,377,330, 4–9–68, Cl. 260—94.9.
- Mostert, Simon, to Shell Oil Co. Method for preparing polysulfones. 3,377,324, 4–9–68, Cl. 260—79.3.
- Mothersole, Peter L., to North American Philips Co., Inc. Synchronized deflection circuit having improved interlace control. 3,377,569, 4–9–68, Cl. 331—145.
- Motorola, Inc.: *See—*
  - Borman, William M. 3,377,598.
  - Materer, Donald R., and Bartlett. 3,377,589.
- Moulding, Kenneth W.: *See—*
  - Beale, Julian R. A., Beer, and Moulding. 3,377,526.
- Moussez, Claude H. C.: *See—*
  - Foure, Claude D., and Moussez. 3,376,918.
- Muckley, Michael. Exhaust filters. 3,376,695, 4–9–68, Cl. 55—310.
- Mueller, Arthur L.: *See—*
  - Trimble, John O., and Mueller. 3,377,422.
- Muessig, Clifford W.: *See—*
  - Rowe, Charles A., Jr., Muessig, and Yubas. 3,377,299.
- Muller, Johann, to Friedrich Deckel Prazsions Mechanik und Maschinenbau. Work table mounting for machine tools. 3,376,788, 4–9–68, Cl. 90—58.
- Muller, Wilhelm: *See—*
  - Hell, Friedrich, and Muller. 3,376,813.
- Munse, Robert A., to The Bishop and Babcock Corp. Device for separating arms of C-clip. 3,376,612, 4–9–68, Cl. 24—73.
- Munters, Carl G. Method for the manufacture of gas conditioning packing. 3,377,225, 4–9–68, Cl. 156—210.
- Murphy, Herbert S. Vegetable-slicing apparatus. 3,376,909, 4–9–68, Cl. 146—169.
- Musichuk, Alexander B., to The M. T. & D. Co. Seat for velocipede. 3,377,084, 4–9–68, Cl. 280—274.
- Musser, Clair O. Electrical musical instrument with conductive tune sheet. 3,376,778, 4–9–68, Cl. 84—483.
- Muta, Akinori, to Kabushiki Kaisha Hitachi Seisakuho. Recorder for analyzing particle size distributions of powders. 3,377,597, 4–9–68, Cl. 346—33.
- Mutchler, Paul A., to American Air Filter Co., Inc. Refuse incinerator. 3,376,833, 4–9–68, Cl. 110—14.
- Mutschler, Erich: *See—*
  - Bock, Willy, Mutschler, and Schreiber. 3,377,452.
- Mazaurieta, Jose E. Musical mattress apparatus. 3,376,585, 4–9–68, Cl. 5—345.
- N.V. Machinenfabriek L. Te Strake: *See—*
  - Te Strake, Lambertus. 3,376,901.
- Nagasaki, Sakon: *See—*
  - Yasuoka, Shine, Tanaka, and Nagasaki. 3,377,535.
- Nakahara, Tsuneo, and N. Kurauchi, to Sumitomo Electric Industries, Ltd. Train operation control system and method of operating the same. 3,377,587, 4–9–68, Cl. 343—7.
- Nakamura, Mutsumi: *See—*
  - Mori, Kiichi, and Nakamura. 3,377,122.
- Nalco Chemical Co.: *See—*
  - Burke, John T., Dajani, and Schuh. 3,377,274.
  - Michalski, Raymond J., Sapienza, and Wolfson. 3,377,275.
- National Aeronautics and Space Administration: *See—*
  - Webb, James E. 3,376,730.
  - Webb, James E. 3,377,208.
- National Can Corp.: *See—*
  - Kutka, Vincent C. 3,376,997.
- National Cash Register Co., The: *See—*
  - Chamberlin, Rhodes R., and Skarman. 3,377,200.
  - Sterling, Robert E. 3,376,812.
- National Forge Co.: *See—*
  - Woodbridge, James O., Spencer, and Dalrymple. 3,377,214.
- National Mfg. Co., Inc.: *See—*
  - Stahl, Otto, Jr. 3,376,614.
- National Research Council: *See—*
  - Beck, Alexander. 3,377,209.
- National Sanitizer, Inc.: *See—*
  - Hartshorn, Robert G., and Prescott. 3,376,720.
- Nault, Joyce D., to The Dow Chemical Co. Nematocidal 4-halopyridines, their oxides and hydrohalides. 3,377,240, 4–9–68, Cl. 167—33.
- Nealon, Frank H., to The J. M. Ney Co. Method of restorative dentistry. 3,376,643, 4–9–68, Cl. 32—67.
- Nederlandse Organisatie Voor Toegepast-Natuurweten-Schappelijk Onderzoek ten Behoeve van Nijverheid, Handel en Verkeer: *See—*
  - Janeschitz-Kriegl, Hermann R. K. N., and Schijf. 3,376,749.
- Neiman, William T.: *See—*
  - Cann, Everett D. 3,377,271.
  - Cann, Everett D. 3,377,272.
- Nelson, Robert A., I. T. Ellis, Jr., and L. M. Halbt, to International Business Machines Corp. Memory protection system. 3,377,624, 4–9–68, Cl. 340—172.5.
- Nemessanyi, Ladislav, to Chepos, Zavody Chemickeho a Potravinarskeho. Percussion press. 3,376,728, 4–9–68, Cl. 72—454.
- Neptune, Herman P. Wheel brake for shopping carts. 3,376,954, 4–9–68, Cl. 188—69.
- Neuhausen, Peter: *See—*
  - Stein, Werner, Weiss, and Neuhausen. 3,377,289.
- Newbold, William F., to Honeywell Inc. Process controller providing rapid or gradual variations in its output signal. 3,377,548, 4–9–68, Cl. 323—100.
- Newey, Herbert A., and C. A. May, to Shell Oil Co. Process of esterification of polyepoxides with ethylenically unsaturated monocarboxylic acids in the presence of onium salts of inorganic acids. 3,377,406, 4–9–68, Cl. 260—837.
- Newhard, Nelson J., Jr., to Amchem Products, Inc. Method for coating tortuous aluminum shapes. 3,377,212, 4–9–68, Cl. 148—6.16.
- Newman, James L., W. F. Osborn F. H. Redwine, and P. J. Arnerich, to Arps Corp. Coil assembly structure and mounting forming an annular chamber to be mounted and sealed on a drill collar. 3,377,549, 4–9–68, Cl. 324—6.
- Newman, Nicholas S., to The Kendall Co. Needled textile laminates and method for producing same. 3,377,231, 4–9–68, Cl. 161—80.
- Newman, Stanley R.: *See—*
  - Eckert, George W., Newman, Dille, and Alpert. 3,377,149.
- Newman, Stanley R., G. W. Eckert, H. V. Hess, and R. Y. Heisler, to Texaco Inc. Process for separating isobutylene from a hydrocarbon stream. 3,377,401, 4–9–68, Cl. 260—677.
- Newport News Shipbuilding and Dry Dock Co.: *See—*
  - Millay, Arthur B., and Wilkie. 3,377,088.
- Ney, J. M., Co., The: *See—*
  - Nealon, Frank H. 3,376,643.
- Nicolay, Karl, to Durkoppwerke A.G. Sewing apparatus with contour cutting device. 3,376,836, 4–9–68, Cl. 112—124.
- Nicolay, Karl, to Durkoppwerke G.m.b.H. Double-chain stitch zigzag sewing machine. 3,376,837, 4–9–68, Cl. 112—158.
- Nielsen, Richard H., C. L. McCarty, and H. G. Wernette, to Compressors Automation Controls Inc. System and apparatus for affording fire protection to compressors pumping combustible fluids. 3,377,018, 4–9–68, Cl. 230—2.
- Nijland, Louis M., and J. Schroder, to North American Philips Co., Inc. Combustion flash bulb lamp. 3,377,126, 4–9–68, Cl. 431—94.
- Nippon Electric Co., Ltd.: *See—*
  - Kaneko, Hisashi. 3,377,586.
  - Tsuji, Shigeru, Anazawa, and Koyama. 3,377,522.
- Nodera Katsuji: *See—*
  - Ueda, Kenzo, Horie, Mizutani, Nodera, Fujimoto, and Okuno. 3,377,356.
- Noether, Herman D., and R. W. Singleton, to Celanese Corp. High melting polyolefin filamentary materials. 3,377,329, 4–9–68, Cl. 260—93.7.
- Nolte, Claude B., to Kingmann-White, Inc. Zero linkage adjustment mechanism. 3,377,600, 4–9–68, Cl. 346—139.
- Nord-Aviation Societe Nationale de Constructions Aeronautiques: *See—*
  - Rouyer, Georges, and Molin. 3,376,726.
- Norman, Robert S.: *See—*
  - Marcotte, George M., and Norman. 3,377,520.
- Norris, Paul C.: *See—*
  - Stecca Anthony J., Barnas, Dokos, Jarzembski, and Norris. 3,377,564.
- North American Philips Co., Inc.: *See—*
  - Bacquart, Jean-Michel. 3,377,536.
  - Beale, Julian R. A., Beer, and Moulding. 3,377,526.
  - Beale, Julian R. A., and Beer. 3,377,527.
  - Janssen, Peter J. H. 3,377,501.
  - Moesker, Gerard. 3,376,635.
  - Mothersole, Peter L. 3,377,569.
  - Nijland, Louis M., and Schroder. 3,377,126.
- North American Rockwell Corp.: *See—*
  - Ashby, Robert M., La Chapelle, and Smith. 3,377,513.
  - Lenz, Charles E. 3,377,533.
  - Sneesby, George V. 3,377,195.
  - Sneesby, George V. 3,377,196.
- Northern Electric Co. Ltd.: *See—*
  - Keusch, Andreas. 3,377,458.
- Northfield Equipment and Mfg. Co.: *See—*
  - Hager, John L., and White. 3,376,828.
- Norton Co.: *See—*
  - Duke, Bruce W., and Marshall. 3,377,264.
  - Hunt, Roger A. 3,376,995.
  - Somerville, Daniel W. B., and Tervo. 3,377,210.

- Nottoli, Le Roi, to R. Hallowell III. Magnetically operative selective card distributing device. 3,377,069, 4–9–68, Cl. 273—149.
- Nottoli, Le Roi, to R. Hallowell III. Selective card distributing device. 3,377,070, 4–9–68, Cl. 273—149.
- Nowell, Winford T.: *See—*
  - Mandonas, Nicholas J., Nowell, and Stocker. 3,377,011.
- Nulf, Richard H.: *See—*
  - Hansen, Francis W., and Nulf. 3,377,115.
- Nussbaum, Jacob R.: *See—*
  - Mally, John P., and Nussbaum. 3,377,168.
- Nutten, Warren D., and B. C. Phillips, to The Tillotson Mfg. Co. Liquid fuel burner system and fuel control. 3,377,024, 4–9–68, Cl. 239—8.
- Nye, Norman H. Water aeration apparatus. 3,377,025, 4–9–68, Cl. 239—16.
- Nyitrai, Istvan: *See—*
  - Takács, Géza, Nyitrai, Láng, Pandula, Juhász, and Pungor. 3,376,688.
- O.M.N.I.H. Campana & Cie: *See—*
  - Chambaut, Henry L. 3,376,789.
- Oakley, Shirley C.: *See—*
  - Deddo, Daniel G., and Oakley. 3,376,805.
- Odle, Herbert A., to Holophane Co., Inc. Street lighting luminaire. 3,377,477, 4–9–68, Cl. 240—25.
- Oertel, Harald, H. Rinke, and W. Thoma, to Farbenfabriken Bayer Aktiengesellschaft. Two-step process for the production of solution of segmented polyurethane polymers. 3,377,308, 4–9–68, Cl. 260—32.6.
- Oess, Frederick G., to Hughes Aircraft Co. Flood gun for storage tubes having a dome-shaped cathode and dome-shaped grid electrodes. 3,377,492, 4–9–68, Cl. 313—71.
- Ogino, Katushiko: *See—*
  - Turumaru, Takesi, Yotsuzuka, and Ogino. 3,377,385.
- Ogle, Robert W. Medicament injector with attached vial. 3,376,866, 4–9–68, Cl. 128—220.
- Ohlson, Gunnar F., to Barber-Colman Co. Automatic AC power control system with reset windup prevention. 3,377,547, 4–9–68, Cl. 323—100.
- Okuno, Giichi: *See—*
  - Torigai, Eiichi, Okuno, and Maekawa. 3,377,174.
- Okuno, Yoshitosi: *See—*
  - Ueda, Kenzo, Horie, Mizutani, Nodera, Fujimoto, and Okuno. 3,377,356.
- Oldberg, Sidney: *See—*
  - Johnson, Vernon A., and Oldberg. 3,376,860.
- Olin Mathieson Chemical Corp.: *See—*
  - Boudakian, Max M., Lapkin, and Shipkowski. 3,377,394.
  - Henning, Robert W. 3,376,011.
  - Kongpricha, Santad, and Preusse. 3,377,142.
  - Papetti, Stelvio. 3,377,370.
  - Sawyer, Arthur W. 3,377,288.
- Olsen, Charles R. Rotary actuator. 3,376,783, 4–9–68, Cl. 89—1.
- Olstein, Myron A.: *See—*
  - Harnett, Stephen J., and Olstein. 3,376,818.
- Oppenlander, George C., to Hercules Inc. Elastic polypropylene yarn and process. 3,377,415, 4–9–68, Cl. 264—210.
- Optomechanisms, Inc.: *See—*
  - Brault, Andre R. 3,376,762.
  - Brault, Andre R. 3,377,111.
- O'Quinn, Harry D. Clutch-bar means for an adjustable wrench. 3,376,767, 4–9–68, Cl. 81—145.
- Orenda Ltd.: *See—*
  - Ditchfield, Clifford. 3,377,086.
- Organon Inc.: *See—*
  - Panneman, Harm J., and van Bakel. 3,377,338.
- Osborn Mfg. Co., The: *See—*
  - Charvat, Vernon K. 3,377,411.
- Osborn, William F.: *See—*
  - Newman, James L., Osborn, Redwine, and Arnerich. 3,377,549.
- Oshetsky, Edmund S.: *See—*
  - Webster, George R., Lea, and Oshetsky. 3,377,235.
- Osoba, Joseph S., and R. C. Rumble, to Esso Production Research Co. Apparatus and method for obtaining self-potential logs of boreholes drilled with a non-aqueous drilling fluid. 3,377,550, 4–9–68, Cl. 324—10.
- Osterhout, Joseph C., to Westinghouse Electric Corp. Lightning arrester gap and grading means. 3,377,503, 4–9–68, Cl. 315—36.
- Otsuka, Hideo: *See—*
  - Sugiyama, Hiroshi, Ikeda, Chinuki, and Otsuka. 3,377,337.
- Owens, Elbert G., II, H. H. Gill, W. E. Hatton, and J. G. Cobler, to The Dow Chemical Co. Method and apparatus for gel permeation chromatography. 3,376,694, 4–9–68, Cl. 55—67.
- Padilla, Victor E.: *See—*
  - Wilkison, Kermit L., Headley, Padilla, and Trolinger. 3,377,456.
- Page, Charles B., Jr.: *See—*
  - Gordon, Elliott F., Brubaker, and Page. 3,376,977.
- Pan American Petroleum Corp.: *See—*
  - Hunt, Elton B. 3,376,932.
  - Vincent, Renic P. 3,376,742.
- Pandula, Egon: *See—*
  - Takács, Géza, Nyitrai, Láng, Pandula, Juhász, and Pungor. 3,376,688.
- Panneman, Harm J., and F. H. A. A. van Bakel, to Organon Inc. Process for preparing NE-tertiary butyloxy-carbonyl-lysine and its derivatives. 3,377,388, 4–9–68, Cl. 260—207.1.
- Pantulu, Amirapu J., K. T. Achaya, G. S. Sidhu, and S. H. Zaheer, to Council of Scientific and Industrial Research. Preparation of saturated, unsaturated and hydroxy fatty alcohols by hydrogenation. 3,377,388, 4–9–68, Cl. 260—638.
- Panzica, Nicholas J., to Ajem Laboratories, Inc. Cupola furnace installations having a safety bypass. 3,377,058, 4–9–68, Cl. 266—15.
- Papa, Frank J., Jr., to Industrial Timer Corp. Variable time cycle device for timer. 3,376,757, 4–9–68, Cl. 74—370.
- Papadia, Cosimo S., and J. Di Giovanni; said Di Giovanni assor. to said Papadia. Hydraulic flow regulating apparatus. 3,376,793, 4–9–68, Cl. 91—468.
- Papetti, Stelvio, to Olin Mathieson Chemical Corp. Bis-diorganoallylamine carboranes. 3,377,370, 4–9–68, Cl. 260—448.2.
- Paraffin Tool & Equipment Co.: *See—*
  - Tomlin, Dave R. 3,376,936.
- Paragon Die Casting Co.: *See—*
  - Lannert, Melvin R. 3,377,144.
- Parker-Hannifin Corp.: *See—*
  - Stacey, Hugh J. 3,376,892.
- Parker, Harry W., to Phillips Petroleum Co. Drilling fluids and additives therefor. 3,377,276, 4–9–68, Cl. 252—8.5.
- Parmelee, Howard M.: *See—*
  - Kvaines, Donovan E., and Parmelee. 3,377,287.
- Parr, Edward L., to W. L. Thompson. One-way roller barrier for parking lot. 3,376,667, 4–9–68, Cl. 49—49.
- Pastva, John V., to The Eastern Co. Roll-up door lock. 3,377,091, 4–9–68, Cl. 292—65.
- Patchett, Arthur A.: *See—*
  - Clark, Robert L., Patchett, and Rogers. 3,377,352.
- "Patelhold" Patentverwertungs- & Electro-Holding A.G.: *See—*
  - Denner, Helmut. 3,377,565.
- Patella, Lawrence J.: *See—*
  - Giddings, Sydney A., and Patella. 3,377,170.
- Paterson, William G.: *See—*
  - Meacock, Graham W., and Paterson. 3,377,232.
- Patterson, Ernest L.: *See—*
  - Whaley, Howard A., Patterson, Hausmann, and Porter. 3,377,244.
- Patton, Bobbie J.: *See—*
  - Fitch, John L., and Patton. 3,376,941.
- Paulsen, Hans C., to United Shoe Machinery Corp. Apparatus for handling thermoplastic material. 3,377,466, 4–9–68, Cl. 219—421.
- Paulson, Howard E., to Central Engineering Co., Inc. Automatic coupling mechanism mounting means. 3,376,946, 4–9–68, Cl. 180—89.
- Pavlica, Stanley R.: *See—*
  - Miller, Eldon D., Jr., and Pavlica. 3,377,178.
- Pawl, Walter S. Rigid parallel sided squeeze slot connector. 3,377,611, 4–9–68, Cl. 339—97.
- Payne, Oscar V., to Crompton & Knowles Corp. Looms operating with multi-color stationary weft supplies. 3,376,900, 4–9–68, Cl. 139—122.
- Peantek, Gunter: *See—*
  - Sennewald, Kurt, Bender, Gehrmann, Kallrath, Peantek, Schallus, Stephan, and Strie. 3,377,402.
- Peek, Henry L., and G. K. Benham, to Allis-Chalmers Mfg. Co. Low mass balanced latch mechanism having resilient manual operating lever. 3,377,575, 4–9–68, Cl. 335—167.
- Peerman, Dwight E., and L. R. Vertnik, to General Mills, Inc. Polyamide composition. 3,377,303, 4–9–68, Cl. 260—18.
- Pek Labs, Inc.: *See—*
  - Keller, Charles H. 3,377,497.
- Pelszynski, John. Pineapple mine. 3,376,815, 4–9–68, Cl. 102—8.
- Pennell, Kit E., to The Vendo Co. Inclined shelf dispenser having coin actuated control mechanism. 3,376,966, 4–9–68, Cl. 194—63.
- Pennsalt Chemicals Corp.: *See—*
  - Soulen, John R. 3,377,277.
  - Soulen, John R., and Schwartz. 3,377,391.
- Pentapco, Inc.: *See—*
  - Snyder, Benjamin L. 3,376,617.
- Perkins, Carl W., Jr.: *See—*
  - Ballass, John T., Perkins, and Freedman. 3,377,461.
- Perlberg, S. Everett: *See—*
  - Seanor, Rex C., and Perlberg. 3,376,601.
- Perold, Louis, to South African Farm Implement Manufacturers Ltd. Agricultural implements. 3,376,697, 4–9–68, Cl. 56—400.
- Perry, James W., W. H. Goettl, E. L. Henderson, and J. M. Goettl; said Perry, Henderson and J. M. Goettl assors. to said W. H. Goettl. Impact machine. 3,376,799, 4–9–68, Cl. 94—49.
- Petro-Tex Chemical Corp.: *See—*
  - Bajars, Laimonis. 3,377,403.
- Petzold, Dieter, to Licentia Patent-Verwaltungs-G.m.b.H. Counter equipped with signal sorting out and suppressing means. 3,377,468, 4–9–68, Cl. 235—92.
- Pferschy, Herbert. Device for heating surfaces subject to strong mechanical stresses or considerably varying atmospheric conditions. 3,377,462, 4–9–68, Cl. 219—213.
- Philadelphia Quartz Co.: *See—*
  - Baker, Chester L., and Holloway. 3,377,134.
- Philco-Ford Corp.: *See—*
  - Springer, Joseph F., Jr 3,377,263.
- Phillips, Bernard C.: *See—*
  - Nutten, Warren D., and Phillips. 3,377,024.
- Phillips, Eugene, to General Dynamics Corp. Method for preventing oxidation degradation of copper by interposing barrier between copper and polypropylene. 3,377,259, 4–9–68, Cl. 204—20.
- Phillips Petroleum Co.: *See—*
  - Broerman, Arthur B. 3,376,894.
  - Doubt, Ralph A. 3,377,444.
  - Edmonds, James T., Jr. 3,377,408.
  - Maxfield, Perry L. 3,377,397.
  - Parker, Harry W. 3,377,276.
  - Zelinski, Robert P. 3,377,404.

Picquendar, Jean E., and O. Caben, to Compagnie Francaise Thomson-Hotchkiss Brandt. Solid-state, frequency-selective amplifying device. 3,377,588, 4–9–68, Cl. 343—8.

Pierce, Chester J., Jr., to Kliklok Corp. Applicators for molten thermoplastic adhesive. 3,376,850, 4–9–68, Cl. 118—202.

Pietro Rosa & Figli S.n.C.: *See—*
  Pompini, Smeraldo. 3,376,639.

Piper, Eric G., to Bird Machine Co. Calcium sulphate centrifuging. 3,377,020, 4–9–68, Cl. 233—11.

Piper, Thomas E., and W. N. Pratt, to General Dynamics Corp. Method for powdered metal forming. 3,377,164, 4–9–68, Cl. 75—214.

Pitkin, Courtney G., and A. K. Mitra, to Lewis-Howe Co. Particulate flow meter apparatus. 3,376,753, 4–9–68, Cl. 73—432.

Pluhar, Lubor: *See—*
  Tlusty, Jiri, Polacek, Pluhar, and Maryska. 3,376,770.

Plummer, Aaron P., to Hall Stein & Co., Inc. Non-aqueous back gum and window adhesive for envelopes. 3,377,300, 4–9–68, Cl. 260—15.

Podany, Oldrich. Reflector assembly for fluorescent tubes. 3,377,482 4–9–68, Cl. 240—103.

Podolan, Edward G., to General Motors Corp. Compartment closure for vehicle body. 3,377,099, 4–9–68, Cl. 296—136.

Polacek, Milos: *See—*
  Tlusty, Jiri, Polacek, Pluhar, and Maryska. 3,376,770.

Pompini, Smeraldo, to Pietro Rosa & Figli S.n.C. Pinching knife. 3,376,639, 4–9–68, Cl. 30—124.

Pontius, Bruce E., to Bourns, Inc. High stability astable multivibrator oscillator. 3,377,567, 4–9–68, Cl. 331—113.

Popeil, Samuel J. Food processor. 3,376,910, 4–9–68, Cl. 146—185.

Porter, Alfred E.: *See—*
  Scott, Augustus R. 3,377,109.

Porter, John N.: *See—*
  Whaley, Howard A., Patterson, Hausmann, and Porter. 3,377,244.

Porter, W. Fergus: *See—*
  Meyer, Harry W., Porter, and Fischer. 3,377,158.

Potter Instrument Co., Inc.: *See—*
  Erb, Peter F. 3,377,515.

Potter, James A. Logic circuit switching by interconnected series of electrical latches. 3,377,472, 4–9–68, Cl. 235—152.

Powell, Gordon F. W., and S. G. Hinton, to Molins Machine Co. Ltd. Terminal blocks for use in electrical circuits. 3,377,614, 4–9–68, Cl. 339—198.

Powers Chemco, Inc.: *See—*
  Mally, John P., and Nussbaum. 3,377,168.

Powers, Donald E.: *See—*
  Banas, Conrad M., Brown, and Powers. 3,377,506.

Prager, George J.: *See—*
  Jacobs, Robert J., and Prager. 3,377,032.

Pratt, Chapin A., to Thermal Dynamics Corp. Electric arc torches. 3,377,457, 4–9–68, Cl. 219—75.

Pratt, Wilson N.: *See—*
  Piper, Thomas E., and Pratt. 3,377,164.

Pray, Edwin B., to Constellation Steel Mill Equipment Corp. Valve. 3,376,895, 4–9–68, Cl. 137—625.66.

Prescott, Ford L.: *See—*
  Hartshorn, Robert G., and Prescott. 3,376,720.

Prescott, Robert E.: *See—*
  Bartley, Keith D., and Prescott. 3,377,080.

Press, Carl, to Dunlop Rubber Co. Ltd., and Fort Dunlop. Hydraulic disc brake with manual actuation device and wear compensating means. 3,376,956, 4–9–68, Cl. 188—73.

Preusse, William C.: *See—*
  Kongpricha, Santad, and Preusse. 3,377,142.

Probst, Georg, to Firma Gatag Ltd. Miniature magnetic tape recorder with removable tape cartridge. 3,377,437, 4–9–68, Cl. 179—100.2.

Prochazka, Karel: *See—*
  Richtr, Josef, and Prochazka. 3,377,511.

Procter & Gamble Co., The: *See—*
  James, Keith E. 3,377,180.

Proctor & Schwartz, Inc.: *See—*
  Thygeson, John R., Sr. 3,376,678.

Proietti, Giovacchino. Miniature race course. 3,377,067, 4–9–68, Cl. 273—86.

Projector, Theodore H. Three-color alternating-signal single station range light. 3,377,617, 4–9–68, Cl. 340—29.

Pryor, James N., to W. R. Grace & Co. Process for making high strength molecular sieve nodules and extrudates. 3,377,295, 4–9–68, Cl. 252—455.

Pugh, Bobby O. Dry cleaner machine drive assembly. 3,376,654, 4–9–68, Cl. 34—53.

Pungor, Ernö: *See—*
  Takács, Géza, Nyitrai, Láng, Pandula, Juhász, and Pungor. 3,376,688.

Purdue Research Foundation: *See—*
  Bachman, Gustave B., and Strawn. 3,377,387.

Quaal, George J., to Dow Corning Corp. Tris-siloxy acrylic silanes. 3,377,371, 4–9–68, Cl. 260—448.2.

Quigley Co., Inc.: *See—*
  Demaison, Raymond J. 3,376,681:

Quinn, John W.: *See—*
  Felsenthal, Martin, Quinn, and Jacocks. 3,376,924.

Raasch, Hans, and S. Furst, to W. Reiners. Device for pulling the leading end of yarn from a textile coil. 3,377,031, 4–9–68, Cl. 242—35.6.

Rabe, Peter, R. Eimecke, E. Gischel, and H. Dieterle, to Heinrich Malter G.m.b.H. Lighter casing structure. 3,377,127, 4–9–68, Cl. 431—256.

Radcliffe, Jerry K., to International Business Machine Corp. Magnetostrictive delay line driver. 3,377,518, 4–9–68, Cl. 317—148.5.

Radio Corp. of America: *See—*
  McLeod, James W., Jr. 3,377,512.
  Thomas, Lucius P. 3,377,426.

Radke, Herman E. Template tracer. 3,376,646, 4–9–68, Cl. 33—25.

Radki, Arthur O., and G. O. Hall, to Bostrom Corp. Pivotally adjustable seat back. 3,377,101, 4–9–68, Cl. 297—283.

Rafael, Hans, and E. Tutsch, to J. R. Geigy A.G. Process for the production of colored cellulose triacetate material and blends thereof with polyacrylonitrile. 3,377,128, 4–9–68, Cl. 8—21.

Raithel, Kurt, to Siemens-Aktiengesellschaft. Method for indiffusion of foreign material into a monocrystalline semiconductor member. 3,377,216, 4–9–68, Cl. 148—189.

Rand Mines Ltd.: *See—*
  Bleloch, William. 3,377,162.

Randles, James H., to Shell Oil Co. Non-thickening oil concentrates. 3,377,285, 4–9–68, Cl. 252—51.5.

Ratouis, Roger R. E. E.: *See—*
  Boissier, Jacques R., and Ratouis. 3,377,359.

Rausch, Francis R.: *See—*
  Marsh, Elliott R., Magdall, and Rausch. 3,377,619.

Rayner, Graham H.: *See—*
  Ashton, Stanley, Rayner, and Scott. 3,377,315.

Rayno, Glenn D., to General Electric Co. Electrical apparatus. 3,377,510, 4–9–68, Cl. 317—12.

Raytheon Co.: *See—*
  Wendell, Chester A. 3,377,590.

Rebicek, Miroslav, to Chirana Praha, narodni podnik. X-ray image intensifier tube with magnetically shielding mounting sleeve secured to envelope. 3,377,504, 4–9–68, Cl. 315—85.

Rebollido, Terry. Anti-glare shield for a spectrophotometer. 3,376,845, 4–9–68, Cl. 116—114.

Redwine, Fletcher H.: *See—*
  Newman, James L., Osborn, Redwine, and Arnerich. 3,377,549.

Reed Mfg. Co.: *See—*
  Bjalme, Bengt G., and Jonasson. 3,376,638.

Reicheneder, Franz, K. Dury, deceased (by F. Winter, representative), and A. Fischer, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Pyridazone derivatives containing a tartronic ester radical and method for controlling undesirable vegetation with same. 3,377,154, 4–9–68, Cl. 71—92.

Reilly Tar & Chemical Corp.: *See—*
  Cislak, Francis E., Karnatz, and Shaw. 3,377,354.

Reiners, Walter: *See—*
  Raasch, Hans, and Furst. 3,377,031.

Reinking, Norman H., and W. F. Hale, to Union Carbide Corp. Polyhydroxyaminoureas and method of making same. 3,377,316, 4–9–68, Cl. 260—47.

Reis, Charles S., to Hewlett-Packard Co. Electrosensitive recording apparatus. 3,377,599, 4–9–68, Cl. 346—74.

Relyea, Elton H., and L. H. Sias, to Dow Corning Corp. Coating apparatus for application of liquids. 3,376,848, 4–9–68, Cl. 118—8.

Remco Industries, Inc.: *See—*
  Heller, Isaac. 3,376,665.

Remines, Oscar J. Charcoal starting device. 3,377,147, 4–9–68, Cl. 44—38.

Remington, Edward P.: *See—*
  Stewart, Walter N. 3,377,037.

Renshaw, Kenneth H., to Collins Radio Co. Direct data sample single tone receiver. 3,377,560, 4–9–68, Cl. 325—320.

Renwick, William C., to Dow Corning Corp. Method of waterproofing joints. 3,377,226, 4–9–68, Cl. 156—250.

Repsher, Robert W., to Westinghouse Electric Corp. Fluorescent lamp envelope with transparent protective coatings. 3,377,494, 4–9–68, Cl. 313—109.

Research Council of Alberta: *See—*
  Hodgson, Gordon W., Charles, and Roehl. 3,377,107.

Reut, Richard, and B. H. Baldridge, to The Foxboro Co. Process back-up system. 3,377,623, 4–9–68, Cl. 340—172.5.

Rex Chainbelt Inc.: *See—*
  Johnston, William F. 3,376,669.

Rheinstahl Huettenwerke AG.: *See—*
  Stepputtis, Harald. 3,376,761.

Rhodes, Philip H.: *See—*
  Kuester, Frank E., and Rhodes. 3,377,304.

Richards, Gary E.: *See—*
  Beatenbough, Paul K., Richards, Rogers, and Scherer. 3,377,022.

Richards, Lawrence: *See—*
  Clarke, Dudley S., and Richards. 3,376,792.

Richmond, Alvin: *See—*
  Legal, Casimer C., Jr., and Richmond. 3,377,153.

Richter, Ernest M.: *See—*
  Althaus, Edward J., Andert, and Richter. 3,377,471.

Richtr, Josef, and K. Prochazka, to Vyzkummy Ustav energeticky. Quick-acting switch arrangement for a high tension transformer. 3,377,511, 4–9–68, Cl. 317—15.

Riebs, Richard E., to McGraw-Edison Co. Photoelectric latching circuit for signal lamps. 3,377,507, 4–9–68, Cl. 315—159.

Riehl, Fred, to Robertshaw Controls Co. Double burner fuel control system. 3,376,862, 4–9–68, Cl. 126—39.

Rinaldi, Gianfranco, E. Mariani, and G. Costaguta, to Montecatini Edison S.p.A. Process for the recovery of acetylene from gaseous mixtures containing same. 3,376,693, 4–9–68, Cl. 55—65.

Ring, William C.: *See—*
  Bull, Rame W., Ring, and Schrecongost. 3,376,776.

Rinke, Heinrich: *See—*
  Oertel, Harald, Rinke, and Thoma. 3,377,308.

Roberton, James S. P., and L. E. B. D. Bradshaw, to International Standard Electric Corp. Rocking armature receivers. 3,377,440, 4–9–68, Cl. 179—115.

Roberts, Gordon A., to Charles F. Warrick Co. Electrical circuit for capacitor probe. 3,376,746, 4–9–68, Cl. 73—304.

Roberts, Louis W.: *See—*
  Langberg, Edwin, and Roberts. 3,377,576.

Robertshaw Controls Co.: *See—*
  Jaksha, John B. 3,376,719.
  Kreuter, Kenneth G. 3,377,451.
  Riehl, Fred. 3,376,862.

Robertson, Ernest C., to General Electric Co. Luminaire. 3,377,480, 4–9–68, Cl. 240—47.

Robertson, Jerry E., to Colgate-Palmolive Co. Methods and compositions of ferrocene cyclic ethers in the treatment of iron deficiency anemia. 3,377,248, 4–9–68, Cl. 167—68.

Robieux, Jean, and R. Dumanchin, to Compagnie Generale de Telegraphie Sans Fil. Ultra high frequency aerials. 3,377,592, 4–9–68, Cl. 343—100.

Robins, Charles T.: *See—*
  Brumfield, John C., and Robins. 3,377,574.

Robinson, Danforth R.: *See—*
  Asin, Samson, Maloney, and Robinson. 3,376,659.

Roch, Kenneth M., to Midland Silicones Ltd. Preparing silicone rubber. 3,377,311, 4–9–68, Cl. 260—37.

Rocher, Heinz, to Inland Steel Co. Closure for shipping containers. 3,377,014, 4–9–68, Cl. 229—5.5.

Rodeseike, Sigurd O., to I-T-E Circuit Breaker Co. Electrical conductor clamping means for rapid transit electrification. 3,377,443, 4–9–68, Cl. 191—29.

Roecker, Alvin C., to Beloit Corp. Drainage element. 3,377,236, 4–9–68, Cl. 162—263

Roeder, Gert: *See—*
  Fruengel, Frank, and Roeder. 3,377,496.

Roehl, Alfred A.: *See—*
  Hodgson, Gordon W., Charles, and Roehl. 3,377,107.

Rogers, Albert P., to Brunswick Corp. Roller type travelers and flyers. 3,376,699, 4–9–68, Cl. 57—125.

Rogers, Edward F.: *See—*
  Clark, Robert L., Patchett, and Rogers. 3,377,352.

Rogers, Philip S.: *See—*
  Beatenbough, Paul K., Richards, Rogers, and Scherer. 3,377,022.

Rogers, Roland T., to Elastic Stop Nut Corp. of America. Magnetic toroidal core having successive windings with the pair of lead ends of each winding spaced from the pair of lead ends of each other winding. 3,377,582, 4–9–68, Cl. 340—174.

Röhland, Bernd: *See—*
  Möbius, Hans-Heinrich, and Röhland. 3,377,203.

Rohman, Clarence L. Electrically controlled lock. 3,377,092, 4–9–68, Cl. 292—201.

Rolfes, Hans, to Trans Continental Electronics Corp. Prefabricated electric resistance pipe heating system. 3,377,463, 4–9–68, Cl. 219—300.

Rolfes, Hans, to Trans Continental Electronics Corp. Electric resistance heating and insulating system for elongated pipes. 3,377,464, 4–9–68, Cl. 219—301.

Rollei-Werke Franke & Heidecke: *See—*
  Faasch, Werner. 3,376,800.

Roman, Walter A.: *See—*
  Schiffmacher, Fred J., and Roman. 3,376,838.

Romanos, Nicholas D., to Combustion Engineering, Inc. Steam generator with spherical steam generating chamber. 3,376,858, 4–9–68, Cl. 122—32.

Rondestvedt, Christian S., Jr., to E. I. du Pont de Nemours and Co. Iodoperfluoroalkane fluorides and their use to promote telomerization of iodoperfluoroalkanes with olefins. 3,377,390, 4–9–68, Cl. 260—653.

Roney, Norbert J.: *See—*
  Schmidt, Paul F., and Roney. 3,377,258.

Ronk, Richard G., to Westinghouse Electric Corp. Oscillating electric heater. 3,377 465, 4–9–68, Cl. 219—366.

Root, Robert S., to Life-Rollway Corp. Self-adjusting clutch. 3,376,964, 4–9–68, Cl. 192—111.

Rosán, José. Hair curler with removable rotating means. 3,376,875, 4–9–68, Cl. 132—34.

Roseberg, Harry G. Article separating and dispensing apparatus. 3,376,970, 4–9–68, Cl. 198—40.

Rosenfield, Arthur M. Tapered box with self-locking cover. 3,377,017, 4–9–68, Cl. 229—43.

Ross, William J.: *See—*
  Broadbent, John L., Bowden, and Ross. 3,377,241.

Rosscup, Robert J.: *See—*
  Li, Tao P., and Rosscup. 3,377,268.

Rotron Mfg. Co., Inc.: *See—*
  Wilson Donald S. 3,377,113.

Rousser Robert: *See—*
  Greer, Larry J., Grau, McCloskey, McGinty, and Rousser. 3,376,971.

Rouy, Auguste L. M. A., to Erie Technological Products, Inc. Binaural piezoelectric pickup. 3,377,439, 4–9–68, Cl. 179—100.4.

Rouyer, Georges, and C. Molin, to Nord-Aviation Societe Nationale de Constructions Aeronautiques. Sheet material folding method and machine for carrying out said method. 3,376,726, 4–9–68 Cl. 72—379.

Rowe, Charles A., Jr., C. W. Muessig, and S. A. Yuhas Jr., to Esso Research and Engineering Co. Lacquer compositions of nitrocellulose and xylene-formaldehyde polymers. 3,377,299, 4–9–68, Cl. 260—13.

Ruby, Victor L. Detent wrench. 3,376,765, 4–9–68, Cl. 81—121.

Ruehlemann, Herbert E., and F. J. Frompovicz, to Elco Corp. Microelectronic circuit carrier. 3,377,514, 4–9–68, Cl. 317—101.

Ruete, Robert C.: *See—*
  Brown, Robert R., and Ruete. 3,377,420.

Rumble, Robert C.: *See—*
  Osoba, Joseph S., and Rumble. 3,377,550.

Runkle, Dean E., to The Bendix Corp. Universal joint. 3,376,713, 4–9–68, Cl. 64—17.

Russell, Charles R.: *See—*
  Gugliemelli, Lewis A., Weaver, and Russell. 3,377,302.

Ruzza, Sergio A., to Chrysler Corp. Drawing lubricant. 3,377,278, 4–9–68, Cl. 252—23.

Ryan, William J., and L. Kogan, to Standard Brands Inc. Dusting starch and method using the same. 3,377,171, 4–9–68, Cl. 99—90.

SWF-Spezialfabrik fur Autozubehor Gustav Rau G.m.b.H.: *See—*
  Mutschler, Erich, and Schreiber. 3,377,452.

Sace, Arthur B., to F. N. Burt Co., Inc. Carton setting-up machine. 3,376,797, 4–9–68, Cl. 93—51.

St. Mard, Hubert H.: *See—*
  Hamalainen, Carl, St. Mard, and Cooper. 3,377,163.

Saiuchi, Toshio: *See—*
  Kamijo, Tsutomu, Fujimoto, and Saiuchi. 3,377,181.

Salm, Mathias. Spacer bar for concrete reinforcing irons. 3,376,686, 4–9–68, Cl. 52—687.

Salminen, Wilho M.: *See—*
  Weyerts, Walter J., and Salminen. 3,377,166.

Salnikov, Ivan S. Electrothermal pyrolysis of oil shale. 3,337,266, 4–9–68, Cl. 208—11.

Sambucetti, Carlos J., and R. Deuringer, to Beckman Instruments, Inc. Alkali analysis. 3,377,256, 4–9–68, Cl. 204—1.

Samerdyke, Fred J., and W. C. Sessions, to Brown Fintube Co. Union for connecting conduits. 3,377,087, 4–9–68, Cl. 285—14.

Sampson, Sidney O. Tape reel for parallel tracks tape recorders. 3,377,034, 4–9–68, Cl. 242—074.

Samuels, Jack S., to Trim Molded Products Co., Inc. Dispensing nozzle for liquid dispenser. 3,376,582, 4–9–68, Cl. 222—488.

Samuels, Ralph J.: *See—*
  Schroter, Richard E. 3,377,438.

Sander, Manfred, to Chemische Fabrik Pfersee G.m.b.H. Oil and water repellent surfaces containing fluorinated metal chelates. 3,377,198, 4–9–68, Cl. 117—121.

Sandoz Ltd. (also known as Sandoz A.G.): *See—*
  Leber, Jean-Pierre, and Lutz. 3,377,346.

Sanitary Scale Co.: *See—*
  Karp, Edward C. 3,376,943.

Sanko Kiki Kabushiki Kaisha: *See—*
  Yasue, Setsuo. 3,376,756.

Sansom, Clarence C. Antenna beam direction indicator. 3,377,593, 4–9–68, Cl. 343—115.

Sanyo Kasei Kogyo Kabushiki Kaisha: *See—*
  Kamijo, Tsutomu, Fujimoto, and Saiuchi. 3,377,181.

Sapienza, Michael S.: *See—*
  Michalski, Raymond J., Sapienza, and Wolfson. 3,377,275.

Sapoff, Meyer, to Victory Engineering Corp. Dissipation constant determining device including a multiplier circuit. 3,377,554, 4–9–68, Cl. 324—62.

Sargent, Roger N., and R. M. Wheaton, to The Dow Chemical Co. Repetitive process for the removal and/or recovery of organic acidic compounds from solution. 3,377,369, 4–9–68 Cl. 260—412.5.

Sarkes Tarzian, Inc.: *See—*
  Buzan, James D. 3,377,425.

Sartori, Guido, and V. Turba, to Montecatini Edison S.p.A. Exo and endo 7-vinyl-bicyclo (3.2.0)-heptene-2. 3,377,399, 4–9–68 Cl. 260—666.

Sasse, Klaus: *See—*
  Siegel, Edgar, and Sasse. 3,377,336.

Sauer, Alfred. Mobile. 3,376,664. 4–9–68, Cl. 46—53.

Sauer, Harold A., to Bell Telephone Laboratories, Inc. Positive temperature coefficient titanate thermistor. 3,377,561, 4–9–68, Cl. 338—22.

Saunders, Harvey R. Passenger protective device. 3,377,082, 4–9–68, Cl. 280—150.

Sawyer, Arthur W., to Olin Mathieson Chemical Corp. Hydraulic pressure transmission fluid. 3,377,288, 4–9–68, Cl. 252—75.

Schaefer, John O., to International Business Machines Corp. Clutch with impact inertia brake. 3,376,963, 4–9–68, Cl. 192—12.

Schallus, Erich: *See—*
  Sennewald, Kurt, Bender, Gehrmann, Kallrath, Peantek, Schallus, Stephan, and Strie. 3,377,402.

Schardt, Rudolf. Pneumatic positoning table. 3,376,764, 4–9–68, Cl. 77—64.

Scheller, Hans and J., to Gebr. Scheller Textilmaschinenfabrik G.m.b.H. Connection between plain and ribbed fabrics. 3,376,717, 4–9–68, Cl. 66—199.

Scheller, Joachim: *See—*
  Scheller, Hans and J. 3,376,717.

Schenker, Karl: *See—*
  Jenny, Erwin F., and Schenker. 3,377,347.

Scherer, Carl A.: *See—*
  Beatenbough, Paul K., Richards, Rogers, and Scherer. 3,377,022.

Schiefer, Harry M., and J. S. Delphenich, to Dow Corning Corp. Solvent-resistant greases for high speed bearings. 3,377,284, 4–9–68, Cl. 252—49.6.

Schiffmacher, Fred J., and W. A. Roman, to Ivanhoe Research Corp. Bobbin changer for sewing machines. 3,376,838, 4–9–68, Cl. 112—186.

Schijf, Johannes: *See—*
  Janeschitz-Kriegl, Hermann R. K. N., and Schijf. 3,376,749.

- Schiller, Siegfried, and P. Lenk, to VEB Lokomotivbau-Elektrotechnische Werke "Hans Beimler." Electron beam multichamber high vacuum furnace. 3,377,419, 4-9-68, Cl. 13—31.
- Schindler, Herbert, and K. Stein. Machines for tensioning shoe uppers on lasts. 3,376,592, 4-9-68, Cl. 12—11.3.
- Schleicher, George W.: *See—*
  - Mattson, Charles A., and Schleicher. 3,377,027.
- Schlemm, William A., and J. E. Sorbo, to Western Electric Co., Inc. Apparatus for handling articles having paramagnetic portions. 3,376,851, 4-9-68, Cl. 118—321.
- Schlick Electric Inc.: *See—*
  - Shoemaker, Richard E. 3,376,878.
- Schlumberger Technology Corp.: *See—*
  - Grine, Donald R. 3,376,950.
- Schmidt, Erich, to Fa. Maschinenfabrik Zuckerman Kom. Ges. Wien. Abrading machine with a plurality of abrasive wheels. 3,376,672, 4-9-68, Cl. 51—76.
- Schmidt, Felix H.: *See—*
  - Haack, Erich, Heerdt, Schmidt, Stach, and Weyer. 3,377,351.
- Schmidt, Paul F., and N. J. Roney, to Westinghouse Electric Corp. Anodic oxidation. 3,377,258, 4-9-68, Cl. 204—15.
- Schnellpressenfabrik Aktiengesellschaft Heidelberg: *See—*
  - Schollenberger, Ludwig. 3,376,814.
- Schoen, Carl E. Baseball game with batting element movable through a vertical arc. 3,377,068, 4-9-68, Cl. 273—89.
- Schoenfeld, William J., to Cyclops Corp. Tungsten base alloy treatment. 3,377,211, 4-9-68, Cl. 148—4.
- Schöll, Günter. Rotary gate valve for fluid channels. 3,377,047, 4-9-68, Cl. 251—175.
- Schollenberger, Ludwig, to Schnellpressenfabrik Aktiengesellschaft Heidelberg. Printing cylinder assembly. 3,376,814, 4-9-68, Cl. 101—384.
- Schoppe, Edward, Jr., and C. M. Gobhai, to The Foxboro Co. Fluid logic anti-coincidence device by cancellation. 3,376,882, 4-9-68, Cl. 137—81.5.
- Schott, Heinrich, to Siemens Aktiengesellschaft. Circuit arrangement for controlling a switching transistor in a D.C. control circuit. 3,377,546, 4-9-68, Cl. 323—22.
- Schrecongost, Ray B.: *See—*
  - Bull, Rame W., Ring, and Schrecongost. 3,376,776.
- Schreiber, Franz: *See—*
  - Bock, Willy, Mutschler, and Schreiber. 3,377,452.
- Schreiber, Gunter, to Sendlinger Optische Glaswerke G.m.b.H. Signal searchlight with end plate carrying optical directional means and with diaphragms arranged in the inner path of rays to eliminate phantom light caused by inner reflection. 3,377,479, 4-9-68, Cl. 240—41.3.
- Schroeder, James E., to Allis-Chalmers Mfg. Co. Process of making a high surface area silver catalyst. 3,377,160, 4-9-68, Cl. 75—118.
- Schroder, Johann: *See—*
  - Nijland, Louis M., and Schroder. 3,377,126.
- Schroter, Richard E., to R. J. Samuels. Pivotally mounted capstans. 3,377,438, 4-9-68, Cl. 179—100.2.
- Schuessler, Francis J., to Sunbeam Corp. Shaving head for electric dry shaver. 3,376,636, 4-9-68, Cl. 30—34.1.
- Schuh, Theodore R., Jr.: *See—*
  - Burke, John T., Dajani, and Schuh. 3,377,274.
- Schuman, Seymour C. Reaction of ethane, hydrogen chloride and sulfur. 3,377,396, 4-9-68, Cl. 260—656.
- Schwartz, William F.: *See—*
  - Soulen, John R., and Schwartz. 3,377,391.
- Schwartzopf, Lewis J., and J. S. Lavender, Jr., to Marathon Oil Co. Audio readout of remotely located meter. 3,377,429, 4-9-68, Cl. 179—6.
- Schwarzkopf, August, to Windmöller & Hölscher. Snap fastener. 3,376,618, 4-9-68, Cl. 24—208.
- Schwiersch, Wolfram: *See—*
  - Hartwimmer, Robert, and Schwiersch. 3,377,340.
- Scott, Augustus R., ½ to A. E. Porter. Control valve. 3,377,109, 4-9-68, Cl. 303—84.
- Scott, Gerald: *See—*
  - Ashton, Stanley, Rayner, and Scott. 3,377,315.
- Scott Industries, Inc.: *See—*
  - Koester, Norman C. 3,376,732.
- Scott Paper Co.: *See—*
  - Davis, Chester. 3,377,185.
  - Hazard, James E. 3,377,001.
  - Kirk, Mahlon R., and Clift. 3,377,192.
  - Webster, George R., Lea, and Oshetsky. 3,377,235.
- Scott, Paul J., to Hycalog, Inc. Adjustable drilling mast having spaced swivel and traveling block guides. 3,376,938, 4-9-68, Cl. 173—44.
- Sealectro Ltd.: *See—*
  - Deakin, Stanley T. 3,377,607.
- Seanor, Rex C., and S. E. Perlberg, to Adamson United Co. Mixing mill with independent drive means for each cooperating mill roll. 3,376,601, 4-9-68, Cl. 18—2.
- Searle, G. D., & Co.: *See—*
  - Baran, John S. 3,377,365.
  - Baran, John S. 3,377,366.
  - Cusic, John W., and Yonan. 3,377,344.
- Sehring, Richard, and K. Zeile, to C. H. Boehringer, Sohn. O,O-di-lower alkyl-S-[(p-lower alkylmercaptophenyl)-lower alkoxycarbonyl-methyl]-dithiophosphates. 3,377,410, 4-9-68, Cl. 260—941.
- Seifert, Joseph A.: *See—*
  - Ghiloni, Peter A., Irish, Kasten, and Seifert. 3,377,455.
- Sekiguchi, Yasushi, and K. Fukunishi, to Victor Co. of Japan, Ltd. Indicating apparatus. 3,376,846, 4-9-68, Cl. 116—124.1.
- Selby, Jack H., to The Warner & Swasey Co. Textile apparatus. 3,376,611, 4-9-68, Cl. 19—129.
- Sendlinger Optische Glaswerke G.m.b.H.: *See—*
  - Schreiber, Gunter. 3,377,479.
- Sennewald, Kurt, L. Bender, K. Gehrmann, H. Kallrath, G. Peantek, E. Schallus, H.-W. Stephan, and L. Strie, to Knapsack Aktiengesellschaft. Process for cracking hydrocarbons with an electric arc. 3,377,402, 4-9-68, Cl. 260—679.
- Serlin, Irving, E. Lavin, and A. H. Markhart, to Monsanto Co. Coating compositions containing crosslinkable polyamides dissolved in phenolic solvents. 3,377,310, 4-9-68, Cl. 260—33.4.
- Sermon, George T.: *See—*
  - Corley, William G., and Sermon. 3,377,150.
- Serra, Max S. Dismountable structures. 3,376,980, 4-9-68, Cl. 211—148.
- Sessions, William C.: *See—*
  - Samerdyke, Fred J., and Sessions. 3,377,087.
- Sexsmith, David R.: *See—*
  - Donaldson, Malcolm M., and Sexsmith. 3,377,187.
- Shadley, George R. Mechanical discharge shackle for fowls and the like. 3,376,600, 4-9-68, Cl. 17—44.1.
- Shannon, John K., and O. G. Duncan. Replacement connector. 3,377,609, 4-9-68, Cl. 339—28.
- Shaw, Gray A.: *See—*
  - Cislak, Francis E., Karnatz, and Shaw. 3,377,354.
- Shell Oil Co.: *See—*
  - Bullard, Billy J. 3,376,923.
  - Mostert, Simon. 3,377,324.
  - Newey, Herbert A., and May. 3,377,406.
  - Randles, James H. 3,377,285.
  - Williams, Paul H., and Sobolev. 3,377,301.
  - Zoche, Günter. 3,377,398.
- Shelton, William E. A. Knitting instruments. 3,376,715, 4-9-68, Cl. 66—64.
- Shepherd, Eric J., to Monsanto Chemicals Ltd. Production of fluid compositions. 3,377,293, 4-9-68, Cl. 252—309.
- Sherman, Theldon F. Accessory pickup truck bed. 3,377,104, 4-9-68, Cl. 298—19.
- Sherwood, Frank A., to General Motors Corp. Spring construction and clamp locating means therefor. 3,377,060, 4-9-68, Cl. 267—52.
- Sherwood, John F., and A. W. Zmuda, to Thermal Hydraulics Corp. Method of making a thermally responsive device. 3,376,631, 4-9-68, Cl. 29—405.
- Shipkowski, Eugene R.: *See—*
  - Boudakian, Max M., Lapkin, and Shipkowski. 3,377,394.
- Shoemaker, Richard E., to Schlick Electric Inc. Cleaning bath. 3,376,878, 4-9-68, Cl. 134—188.
- Shumaker, John F.: *See—*
  - Long, Elton B., and Shumaker. 3,376,984.
- Sias, Laurence H.: *See—*
  - Relyea, Elton H., and Sias. 3,376,848.
- Sibert, Wilhelm, to Molykote Produktions G.m.b.H. Method of preparing lubricants. 3,377,279, 4-9-68, Cl. 252—30.
- Sidhu, Gurbachan S.: *See—*
  - Pantulu, Amirapu J., Achaya, Sidhu, and Zaheer. 3,377,388.
- Siegel, Edgar, and K. Sasse, to Farbenfabriken Bayer Aktiengesellschaft. Metallized azo dyestuffs containing 2,3-dichloroquinoxaline carboxamide or sulfonamide groups. 3,377,336, 4-9-68, Cl. 260—146.
- Siemens Aktiengesellschaft: *See—*
  - Gebel, Rudolf. 3,377,491.
  - Hanlein, Walter, and Emels. 3,377,206.
  - Raithel, Kurt. 3,377,216.
  - Schott, Heinrich. 3,377,546.
  - Toussaint, Hans-Norbert, and Krieger. 3,377,528.
  - Von Bernuth, Gotz. 3,377,182.
  - Weiss, Herbert. 3,377,529.
- Signode Corp.: *See—*
  - Sterner, Olle P. 3,376,807.
- Sigurdsson, Olafur: *See—*
  - Jonsson, Harry C. A., Sigurdsson, Helistrom, and Linnander. 3,377,460.
- Simko, Aladar, to Ford Motor Co. Flow control valve. 3,376,889, 4-9-68, Cl. 137—540.
- Simmons Co.: *See—*
  - Hansen, Francis W., and Nulf. 3,377,115.
- Simms, Glen E.: *See—*
  - Metzger, Leopold H., Hatcher, and Simms. 3,376,673.
- Simpson, Justin, and B. J. Iverson, to Continental Can Co., Inc. Packaging apparatus and method of utilizing the same. 3,376,689, 4-9-68, Cl. 53—38.
- Simpson Timber Co.: *See—*
  - Clausen, Victor H., and Zweig. 3,377,223.
- Sims, John C., Jr., to Mohawk Data Science Corp. Variable density magnetic bearing recording and reproducing system. 3,377,583, 4-9-68, Cl. 340—174.1.
- Sims, John C., Jr., to Mohawk Data Science Corp. Variable word length internally programmed information processing system. 3,377,620, 4-9-68, Cl. 340—172.5.
- Sinclair Research, Inc.: *See—*
  - Gower, Howard D. 3,377,281.
- Singer Co., The: *See—*
  - Watkins, Charles W. 3,376,835.
- Singer, Isadore, to Singer Safety Products, Inc. Mounting arrangement for insulated bulkhead or the like. 3,376,599, 4-9-68, Cl. 16—87.6.
- Singer Safety Products, Inc.: *See—*
  - Singer, Isadore. 3,376,599.
- Singleton, Robert W.: *See—*
  - Noether, Herman D., and Singleton. 3,377,329.
- Sisido, Keiiti, Y. Imai, Y. Hirasaka, and K. Inoue, to Chugai Seiyaku Kabushiki Kaisha. Oxidized starch and methods for preparing the same. 3,377,339, 4-9-68, Cl. 260—233.3.
- Sitz, Gilbert C., to AMP Inc. Wire stripping apparatus. 3,376,627, 4-9-68, Cl. 29—203.

- Sizek, Frank J., to American Air Filter Co., Inc. Damper seal arrangement. 3,376,891, 4-9-68, Cl. 137—594.
- Skarman, John S.: *See—*
  - Chamberlin, Rhodes R., and Skarman. 3,377,200.
- Skates, Chester B., Jr.: *See—*
  - Hudson, Thomas H., Watson, and Skates. 3,377,064.
- Slemmons, John W. Braking system for miniature vehicles. 3,376,827, 4-9-68, Cl. 104—60.
- Smedstad, Kenneth M. Roll up closures for vehicles. 3,376,668, 4-9-68, Cl. 49—197.
- Smith, Gordon H.: *See—*
  - Ashby, Robert M., La Chapelle, and Smith. 3,377,513.
- Smith Industries International, Inc.: *See—*
  - Wallers, Richard A. 3,377,105.
- Smith Kline & French Laboratories: *See—*
  - Broadbent, John L., Bowden, and Ross. 3,377,241.
  - Fare, Louis R., Kerwin, and Kinney. 3,377,361.
  - Fielden, Roy, Green, and Hills. 3,377,245.
  - Loev, Bernard, and Macko. 3,377,246.
- Smith, John L., and A. G. Marriott, to Dunlop Rubber Co. Ltd. Coatings for surfaces consisting at least in part of a rubber composition. 3,377,194, 4-9-68, Cl. 117—76.
- Smith, Lambert C.: *See—*
  - McNatt, Ronald J., and Smith. 3,377,036.
- Smith, Lewis R.: *See—*
  - Fristoe, John E., and Smith. 3,376,917.
- Smith, Robert J. S. Steam condensers. 3,376,857, 4-9-68, Cl. 122—1.
- Sneesby, George V., to North American Rockwell Corp. Diffusion coating for metals. 3,377,195, 4-9-68, Cl. 117—114.
- Sneesby, George V., to North American Rockwell Corp. Chromium-containing diffusion coatings for metals. 3,377,196, 4-9-68, Cl. 117—114.
- Snyder, Benjamin L., to Pentapco, Inc. Separable slider for slide fasteners. 3,376,617, 4-9-68, Cl. 24—205.15.
- Sobel Industries, Inc.: *See—*
  - Sobel, Morton. 3,376,972.
- Sobel, Morton, to Sobel Industries, Inc. Plastic receptacles for containing solid cakes of paint cast therein. 3,376,972, 4-9-68, Cl. 206—1.8.
- Sobolev, Igor: *See—*
  - Williams, Paul H., and Sobolev. 3,377,301.
- Societe Anonyme dite: Novi-P.B.: *See—*
  - Benezech, Jacques. 3,377,486.
- Societe Industrielle pour la Fabrication des Antibiotiques (S.I.F.A.): *See—*
  - Boissier, Jacques R., and Ratouis. 3,377,359.
- Societe Nationale d'Etude et de Construction de Moteurs d'Aviation: *See—*
  - Foure, Claude D., and Moussez. 3,376,918.
- Society Zuccolo, Rochet & Cie: *See—*
  - Brunet, Louis. 3,376,619.
- Sol, Jack. Self-locking pin. 3,376,779, 4-9-68, Cl. 85—5.
- Solomon, Bertram D. Electronic counting apparatus. 3,377,469, 4-9-68, Cl. 235—92.
- Somerville, Daniel W. B., and R. O. Tervo, to Norton Co. Process of forming silicon carbide diode by growing separate P and N layers together. 3,377,210, 4-9-68, Cl. 148—1.5.
- Sondell, Milton J.: *See—*
  - Kramer, Alfred S., and Sondell. 3,376,640.
- Sorbo, John E.: *See—*
  - Schlemm, William A., and Sorbo. 3,376,851.
- Sonoco Products Co.: *See—*
  - Bacon, Robert D., and Markert. 3,377,003.
- Sonotone Corp.: *See—*
  - Belove, Louis. 3,377,202.
- Sorenson, Gerald R.: *See—*
  - Banks, Harry R., Sorenson, and J. H. and J. G. Walsh. 3,377,434.
- Soulen, John R., to Pennsalt Chemicals Corp. Lubricating compositions containing a complex sulfide of arsenic and antimony. 3,377,277, 4-9-68, Cl. 252—12.
- Soulen, John R., and W. F. Schwartz, to Pennsalt Chemicals Corp. High temperature, short-contact time pyrolysis of chlorotrifluoromethane. 3,377,391, 4-9-68, Cl. 260—653.
- South African Farm Implement Manufacturers Ltd.: *See—*
  - Perold, Louis. 3,376,697.
- Sparr, Rosaline. Yarn holder. 3,377,035, 4-9-68, Cl. 242—139.
- Spars, Byron G., to Chevron Research Co. Vapor-liquid phase separation of hydroconversion process effluent with the use of hydrogen and steam. 3,377,267, 4-9-68, Cl. 208—108.
- Sparton Corp.: *See—*
  - Lutes, James L. 3,377,615.
- Spaulding, William G., to United States of America, Army. High-power multipactor phase shifter. 3,377,573, 4-9-68, Cl. 333—98.
- Specialties Development Corp.: *See—*
  - Hall, Gary M. 3,377,140.
- Spectrol Electronics Corp.: *See—*
  - Ferrell, Robert L. 3,377,606.
- Speer, Spencer J.: *See—*
  - De Hart, Larry L., and Speer. 3,376,999.
- Spencer, Robert M.: *See—*
  - Woodbridge, James O., Spencer, and Dalrymple. 3,377,214.
- Spero, George B., to The Upjohn Co. 6-Methyl-17α-hydroxyprogesterone, the lower fatty acid of 17-acylates and methods for producing the same. 3,377,364, 4-9-68, Cl. 260—397.4.
- Sperry Rand Corp.: *See—*
  - Hill, Roy K. 3,377,534.
- Spitz, Erich, to CSF Compagnie Generale de Telegraphie Sans Fil. Slot antenna with programmed radiation pattern. 3,377,596, 4-9-68, Cl. 343—768.

- Springer, Joseph F., Jr., to Philco-Ford Corp. Electrical system for etching a tunnel diode. 3,377,263, 4-9-68, Cl. 204—224.
- Sproull, Reavis C.: *See—*
  - Berger, Richard M., and Sproull. 3,377,220.
- Squibb, E. R., & Sons, Inc.: *See—*
  - Boudakian, Max M. 3,377,392.
  - Laskin, Allen I., and Fried. 3,377,255.
  - Levine, Seymour D., and Diassi. 3,377,360.
  - Yale, Harry L. 3,377,393.
- Squier, William H., to J. P. Stevens & Co., Inc. Apparatus for the distribution of granular material. 3,376,849, 4-9-68, Cl. 118—68.
- Staats, James E., to General Electric Co. Magnetron devices having a cooling arrangement and capacitively coupled output circuit. 3,377,562, 4-9-68, Cl. 328—230.
- Stacey, Hugh J., to Parker-Hannifin Corp. Directional control valve. 3,376,892, 4-9-68, Cl. 137—596.12.
- Stach, Kurt: *See—*
  - Haack, Erich, Heerdt, Schmidt, Stach, and Weyer. 3,377,351.
- Stahl, Otto, Jr., to National Mfg. Co., Inc. Fishing rod holder. 3,376,614, 4-9-68, Cl. 24—81.
- Standard Brands Inc.: *See—*
  - Ryan, William J., and Kogan. 3,377,171.
- Standard Oil Co., The (Ohio): *See—*
  - DeGray, Richard J., and Mann. 3,377,148.
  - Jones, John F. 3,377,378.
- Standard Oil Co. (Indiana): *See—*
  - Li, Tao P., and Rosscup. 3,377,268.
  - Van Strien, Richard E., and Siszner. 3,377,321.
- Stanin, Theodore E.: *See—*
  - Hale, Chapman M., Jr., Brown, and Stanin. 3,377,374.
- Stanley, Robert K., to Techniservice Corp. Strand treatment. 3,376,622, 4-9-68, Cl. 28—72.
- Stanley Works, The: *See—*
  - Morganson, Peter H. 3,376,787.
- Star Tank and Boat Co.: *See—*
  - Bontrager, Lloyd J. 3,377,098.
- Stark, Walter. Nonskid attachment for the ground-engaging ends of canes, crutches and the like. 3,376,880, 4-9-68, Cl. 135—59.
- Staron, Edward A. Folding seat and locker arrangement for a boat hull. 3,376,587, 4-9-68, Cl. 9—7.
- Stathoplos, Anthony, to United Nuclear Corp. Space heat reactor. 3,377,207, 4-9-68, Cl. 136—202.
- Staunton, John J. J., and R. E. Boostrum, to Coleman Instruments Corp. Photometric readout system. 3,377,467, 4-9-68, Cl. 235—92.
- Staver Co. Inc., The: *See—*
  - Lazarus, Jerome B., and Trunk. 3,376,920.
- Stecca, Anthony J., L. A. Barnas, S. J. Dokos, W. B. Jarzembski, and P. C. Norris, to Sunbeam Corp. Microwave oscillator for electronic oven. 3,377,564, 4-9-68, Cl. 331—70.
- Stein, Hall & Co., Inc.: *See—*
  - Plummer, Aaron P. 3,377,300.
- Stein, Karl: *See—*
  - Schindler, Herbert, and Stein. 3,376,592.
- Stein, Werner, H. Weiss, and P. Neuhausen, to Henkel & Cie, G.m.b.H. Liquid or paste soap preparation having sulfo fatty acid salts as viscosity reducing agents. 3,377,289, 4-9-68, Cl. 252—109.
- Stein, Werner, O. Koch, and H. Weiss, to Henkel & Cie, G.m.b.H. Liquid or paste detergent preparations having sulfo fatty acid salts as viscosity reducing agents. 3,377,290, 4-9-68, Cl. 252—152.
- Stephan, Hans-Werner: *See—*
  - Sennewald, Kurt, Bender, Gehrmann, Kallrath, Peantek, Schallus, Stephan, and Strie. 3,377,402.
- Stephens, John A., to Monsanto Co. N-aralkylsulfonyl carbamates. 3,377,375, 4-9-68, Cl. 260—470.
- Stepputtis, Harald, to Rheinstahl Huettenwerke AG. Planetary gear transmission. 3,376,761, 4-9-68, Cl. 74—801.
- Sterling Drug Inc.: *See—*
  - Christiansen, Robert G. 3,377,341.
  - Surrey, Alexander R. 3,377,355.
- Sterling, Robert E., to The National Cash Register Co. Reciprocal porous printing member with ink reservoir feed. 3,376,812, 4-9-68, Cl. 101—324.
- Sterner, Olle P., to Signode Corp. Apparatus for strapping loaded pallets. 3,376,807, 4-9-68, Cl. 100—26.
- Stevens, J. P., & Co., Inc.: *See—*
  - Squier, William H. 3,376,849.
- Stewart, James A., to Automatic Electric Laboratories, Inc. Compandoring techniques for high-frequency radio circuits. 3,377,559, 4-9-68, Cl. 325—61.
- Stewart, Richard F.: *See—*
  - Carter, Clarence J., and Stewart. 3,377,215.
- Stewart, Walter N., ½ to E. P. Remington. Aircraft emergency ejection arrangement. 3,377,037, 4-9-68, Cl. 244—17.15.
- Stich, Frederick A., to Automatic Electric Laboratories, Inc. Regulated converter. 3,377,538, 4-9-68, Cl. 321—2.
- Stiefel, Ludwig, and H. A. Kirshner, to United States of America, Army. Nitrated organic liquid propellant composition having improved spark ignition. 3,377,219, 4-9-68, Cl. 149—88.
- Stiff, Bernard G. E., to The Lapointe Machine Tool Co. Electrochemical machining using a sheel electrode having a slotted periphery. 3,377,260, 4-9-68, Cl. 204—143.
- Stillings, William K.: *See—*
  - Weiler, Ernest A., and Stillings. 3,376,853.
- Stilmar, Frederic B., to E. I. du Pont de Nemours and Co. Corrosion-resistant coating composition of zinc and fluorocarbon resin and ferrous metal article coated therewith. 3,377,193, 4-9-68, Cl. 117—75.

- Stocker, Edward T.: *See—*
  - Mandonas, Nicholas J., Nowell, and Stocker. 3,377,011.
- Stoeng, Gunnar, to Beloit Corp. Arrangements for a baling press. 3,376,809, 4–9–68, Cl. 100—215.
- Stone, Herman: *See—*
  - Dwyer, Frank J., and Stone. 3,377,296.
- Stong, Karl K., to Allen-Bradley Co. Magnetically latched switch. 3,377,519, 4–9–68, Cl. 317—157.
- Storke, Frederic P., Jr.: *See—*
  - Kruse, Frederick W., Jr., Storke, and Baskins. 3,377,568.
- Stover, William L.: *See—*
  - Wolfendale, Ray A., and Stover. 3,376,724.
- Strawn, Kenneth G.: *See—*
  - Bachman, Gustave B., and Strawn. 3,377,387.
- Streets, John H.: *See—*
  - Maxey, Alexander R., and Streets. 3,377,436.
- Stricklin, Buck, to Minnesota Mining and Mfg. Co. Developer powder containing black magnetic iron oxide. 3,377,286, 4–9–68, Cl. 252—62.1.
- Strie, Lothar: *See—*
  - Sennewald, Kurt, Bender, Gehrmann, Kallrath, Peantek, Schallus, Stephan, and Strie. 3,377,402.
- Strycker, Stanley J., to The Dow Chemical Co. Nitrosulfonamides. 3,377,379, 4–9–68, Cl. 260—556.
- Subocz, Edward F., to American Seating Co. Welding of plastic panels. 3 377,348, 4–9–68, Cl. 264—248.
- Sudarsky, Raymond D.: *See—*
  - Kanbar, Maurice S., and Sudarsky. 3,376,867.
- Suggitt, Robert M.: *See—*
  - Mather, William B., Jr., and Suggitt. 3,377 204.
- Sugiyama, Hiroshi, T. Ikeda, T. Chinuki, and H. Otsuka, to Sumitomo Chemical Co., Ltd. Monoazo dyes for metal-modified polyolefin materials. 3,377,337, 4–9–68, Cl. 260—155.
- Sulzer Bros., Ltd.: *See—*
  - Miszak, Pawel. 3,376,859.
- Sumitomo Chemical Co., Ltd.: *See—*
  - Sugiyama, Hiroshi, Ikeda, Chinuki, and Otsuka. 3,377,337.
  - Ueda, Kenzo, Horie, Mizutani, Nodera, Fujimoto, and Okuno. 3 377,356.
- Sumitomo Electric Industries, Ltd.: *See—*
  - Nakahara, Tsuneo, and Kurauchi. 3,377,587.
- Sunbeam Corp.: *See—*
  - Mattson, Charles A., and Schleicher. 3,377,027.
  - Schuessler, Francis J. 3,376,636.
  - Stecca, Anthony J., Barnas, Dokos, Jarzembski, and Norris. 3 377,564.
  - Wolter, Gilbert R. 3,376,671.
- Super-Cut, Inc.: *See—*
  - Metzger, Leopold H., Hatcher, and Simms. 3,376,673.
- Surrey, Alexander R., to Sterling Drug Inc. 4-thiazolidones and oxide derivatives thereof. 3,377,355, 4–9–68, Cl. 260—301.
- Suspended Structures, Inc.: *See—*
  - Frey Christian. 3,376,677.
- Sutton, Charles O., to The American Binder Co. of California. Laterally adjustable web feeding means. 3,377,008, 4–9–68, Cl. 226—100.
- Suzuki, Kazu, to Yokogawa-Hewlett-Packard, Ltd. Slide rheostat having linearity adjustment. 3,377,603, 4–9–68, Cl. 338—121.
- Suzuki, Teruhiko M. Kameishi, and K. Yamamoto, to Asahi Kasei Kogyo Kabushiki Kaisha. Apparatus for spot welding a plurality of metal plates by detonation of an explosive. 3 377,010, 4–9–68, Cl. 228—3.
- Swanson, Bernard H. Shell reloader. 3,376,781, 4–9–68, Cl. 86—25.
- Swanson, Roger C., to The B. F. Goodrich Co. Vibration damped railway wheel. 3,377,097, 4–9–68, Cl. 295—7.
- Sweeney, John J.: *See—*
  - Jupa, Julius A., and Sweeney. 3,377,313.
- Swenson, Eskil W., to Swenson Spreader & Mfg. Co. Plural compartment apparatus. 3,377,030, 4–9–68, Cl. 239—656.
- Swenson Spreader & Mfg. Co.: *See—*
  - Swenson, Eskil W. 3,377,030.
- Swift & Co.: *See—*
  - Kuester, Frank E., and Rhodes. 3,377,304.
- Switzer, Brantley D., Jr.: *See—*
  - Frantz, Virgil L., and Switzer. 3 377,046.
- Sylvania Electric Products Inc.: *See—*
  - Koury, Frederic, and Waymouth. 3,377,498.
- Syntex Corp.: *See—*
  - Fried, John H. 3,377,342.
  - Fried, John H. 3,377,343.
- T. M. M. (Research) Ltd.: *See—*
  - Whittaker, Harold, and Booth. 3,376,698.
- TRW Inc.: *See—*
  - Chandley, George D. 3,376,915.
- Tadanier, John S., to Abbott Laboratories. Δ5(10)-6-hydroxymethyl-estrene compounds. 3,377,363, 4–9–68, Cl. 260—397.4.
- Takács, Géza, I. Nyitrai, F. Láng, E. Pandula, B. Juhász, and E. Pungor. Method and equipment for the automatic preparation of sterile and fibre-free liquid pharmaceutical products of high stability filled in ampoules, in a protective atmosphere. 3,376,688, 4–9–68, Cl. 53—21.
- Takano, Eiichi, to Canon Camera Co., Inc. Mechanically compensated zoom lens system. 3,377,119, 4–9–68, Cl. 350—184.
- Takeda Chemical Industries, Ltd.: *See—*
  - Turumaru, Takesi, Yotsuzuka, and Ogino. 3,377,385.
- Talley, Robert E.: *See—*
  - Wilson, Ellis C., and Talley. 3,376,983.
- Tanaka, Yutaka: *See—*
  - Yasuoka, Shine, Tanaka, and Nagasaki. 3,377,535.
- Tanczyn, Harry, to Armco Steel Corp. Stainless steel, products and method. 3,376,780, 4–9–68, Cl. 85—48.
- Tardiff, Armand L.: *See—*
  - Dorosz, Adolph S., and Tardiff. 3,376,691.
- Tatevossian, Leon. Prefabricated aluminum building. 3,376,676, 4–9–68, Cl. 52—90.
- Tavarozzi, Alfred R.: *See—*
  - Baumann, John A., and Tavarozzi. 3,376,629.
- Techniservice Corp.: *See—*
  - Stanley, Robert K. 3,376,622.
- Tektronix, Inc.: *See—*
  - Dalbey, Carl E. 3,377,116.
- Telefonbau und Normalzeit G.m.b.H.: *See—*
  - Heil, Friedrich, and Muller. 3,376,813.
- Tennessee Corp.: *See—*
  - Gill, Melville K. 3,376,841.
- Tervo, Reino O.: *See—*
  - Somerville, Daniel W. B., and Tervo. 3,377,210.
- Te Strake, Lambertus, to N. V. Machinefabriek L. Te Strake. Device for making up a weft to be used in connection with a loom. 3,376,901, 4–9–68, Cl. 139—127.
- Texaco Inc.: *See—*
  - Chafetz, Harry. 3,377,386.
  - Eckert, George W., Newman, Dille, and Alpert. 3,377,149.
  - Gordon, Elliott F., Brubaker, and Page. 3,376,977.
  - Kluge, Herman D., Krug, and Cantor. 3,377,377.
  - Mather, William B., Jr., and Suggitt. 3,377,204.
  - Newman, Stanley R., Eckert, Hess, and Heisler. 3,377,401.
- Texas Instruments Inc.: *See—*
  - Baker, Buford M., and Waugh. 3,376,949.
  - Carter, Clarence J., and Stewart. 3,377,215.
  - Morrow, Donald E. 3,376,948.
- Thermal Dynamics Corp.: *See—*
  - Pratt, Chapin A. 3,377,457.
- Thermal Hydraulics Corp.: *See—*
  - Sherwood, John F., and Zmuda. 3,376,631.
- Thiokol Chemical Corp.: *See—*
  - Baumgartner, Alois. 3,376,957.
  - Morrow, Scott I. 3,377,136.
- Thoma, Wilhelm: *See—*
  - Oertel, Harald, Rinke, and Thoma. 3,377,308.
- Thomas, Gordon D.: *See—*
  - Gresham, James T., and Thomas. 3,377,224.
- Thomas, Lucius P., to Radio Corp. of America. Amplitude limiting signal translating circuit utilizing a voltage dependent resistor in the output circuit. 3,377,426, 4–9–68, Cl. 178—7.3.
- Thomas, Samuel O.: *See—*
  - Lefemine, Donald, Dann, Thomas, and De Voe. 3,377,242.
- Thompson, Eugene L. Reversible lock guard for out-swinging doors. 3,377,094, 4–9–68, Cl. 292—346.
- Thompson, Wendell L.: *See—*
  - Parr, Edward L. 3,376,667.
- Thoren, Torgny A. Heat insulating structure and a heat generating apparatus including such a heat insulating structure. 3,376,834, 4–9–68, Cl. 110—56.
- Thornton, Marshall B., to United Aircraft Corp. Hydraulic load limiter. 3,376,739, 4–9–68, Cl. 73—141.
- 3D Studios, Inc.: *See—*
  - Blanch, Frederick D., Jr., and Hannula. 3,377,478.
- Thron, Louis J. Wire securing device. 3,377,054, 4–9–68, Cl. 256—47.
- Thurner, Michael R. L., to Communications Patents Ltd. Ground-based aircraft flight simulating apparatus. 3,376,658, 4–9–68, Cl. 35—12.
- Thygeson, John R., Sr., to Proctor & Schwartz, Inc. Insulated building panel assembly. 3,376,678, 4–9–68, Cl. 52—204.
- Tiborcz, Michael. Tire tread for special use tire. 3,376,912, 4–9–68, Cl. 152—209.
- Tillotson Mfg. Co., The: *See—*
  - Nutten, Warren D., and Phillips. 3,377,024.
- Timmermans, Frederik A. G., to Conoflow Europa N.V. Electronic fuel consumption instrument. 3,376,737, 4–9–68, Cl. 73—114.
- Tlustý, Jiří, M. Polacek, L. Pluhař, and O. Maryška, to Vyzkumny ustav obrabecich stroju a obrabeni. Tailstock for machine tool. 3,376,770, 4–9–68, Cl. 82—31.
- Tobolewski, Maximilian. Equipment for the ventilation of beds. 3 376,584, 4–9–68, Cl. 5—317.
- Tomlin, Dave R., to Paraffin Tool & Equipment Co. Bypass valve for removing paraffin in oil wells. 3,376,936, 4–9–68, Cl. 166—226.
- Torgigai, Eiichi, G. Okuno, and H. Maekawa. Method and bath for chemically plating copper. 3,377,174, 4–9–68, Cl. 106—1.
- Toussaint, Hans-Norbert, and F. Krieger, to Siemens Aktiengesellschaft. Field-effect pressure transducer. 3,377,528, 4–9–68, Cl. 317—235.
- Toyo Rayon Kabushiki Kaisha: *See—*
  - Kamiio, Tsutomu, Fujimoto, and Saiuchi. 3,377,181.
- Toyoda, Yutaka: *See—*
  - Ioka, Akira, Kato, and Toyoda. 3,377,323.
- Tracy, Floyd W.: *See—*
  - Milam, Dennis W., and Tracy. 3,377,476.
- Trans Continental Electronics Corp.: *See—*
  - Rolfes, Hans. 3,377,463.
  - Rolfes, Hana. 3,377,464.
- Traverso, John J., to Eli Lilly and Co. 1,2-benzothiazepine-1,1-dioxides and their preparation. 3,377,357, 4–9–68, Cl. 260—327.
- Tregoning, Geoffrey R., and H. K. Davies, to Westinghouse Brake and Signal Co., Ltd. Conveyor. 3,376,965, 4–9–68, Cl. 193—35.
- Treinis, Leonard R. Sliding strip puzzle game. 3,377,071, 4–9–68, Cl. 273—155.

- Trepanier, Donald L., and G. H. Harris, to The Dow Chemical Co. Substituted 3,4,5,6-tetrahydro-2H-1,3,4-oxadiazin-2-one compounds and method of preparation thereof. 3,377,345, 4–9–68, Cl. 260—244.
- Tribit, Samuel W., to American Cyanamid Co. Preparation of melamine. 3,377,349, 4–9–68, Cl. 260—249.7.
- Trim Molded Products Co., Inc.: *See—*
  - Samuels, Jack S. 3,376,582.
- Trimble, John O., and A. L. Mueller, to AMP Inc. Splice assembly to connect cable ends together. 3,377,422, 4–9–68, Cl. 174—88.
- Trimble, Philip K., and E. D. Walton, to General Motors Corp. Vibration analyzer. 3,376,733, 4–9–68, Cl. 73—71.4.
- Trolinger, Jerry D.: *See—*
  - Wilkison, Kermit L., Headley, Padilla, and Trolinger. 3,377,456.
- Trowbridge, Jeffrey J. Ball-striking implement and method for making same. 3,377,066, 4–9–68, Cl. 273—72.
- Trunk, Edmund G.: *See—*
  - Lazarus, Jerome B., and Trunk. 3,376,920.
- Tsuji, Shigeru, S. Anazawa, and T. Koyama, to Nippon Electric Co. Ltd. Glass molded type semiconductor device. 3,377,522, 4–9–68, Cl. 317—234.
- Tubau Quintana, Juan. Selvedge forming means in looms weaving two fabrics simultaneously. 3,376,899, 4–9–68, Cl. 139—54.
- Turba, Vittorio: *See—*
  - Sartori, Guido, and Turba. 3,377,399.
- Turner, Richard C.: *See—*
  - Webb, James E. 3,377,208.
- Turolla, Marco. Gear pump. 3,376,824, 4–9–68, Cl. 103—126.
- Turumaru, Takesi, M. Yotsuzuka, and K. Ogino, to Takeda Chemical Industries, Ltd. Stabilized polyoxyalkylene polyols. 3 377,385, 4–9–68, Cl. 260—611.5.
- Tutsch, Erhard: *See—*
  - Rafael, Hans, and Tutsch. 3,377,128.
- Tveit, Theodore J., to Barber-Colman Co. Thermostatic transducer for winter and summer operation. 3,377,545, 4–9–68, Cl. 323—19.
- U.S. Baird Corp., The: *See—*
  - De la Motte, Pierre. 3,376,773.
  - Holmes, Frank C. 3,376,722.
- Ubukata, Susumu, Y. Mizutani, H. Kusakawa, and I. Yoshida, to S. Ubukata. Time delay switches utilizing conductive liquids. 3,377,445, 4–9–68, Cl. 200—33.
- Ude, Vernon R. Hand truck. 3,377,081, 4–9–68, Cl. 280—47.27.
- Ueda, Kenzo, S. Horie, T. Mizutani, K. Nodera, K. Fujimoto, and Y. Okuno, to Sumitomo Chemical Co., Ltd. Cyclopropanecarboxylic acid esters. 3,377,356, 4–9–68, Cl. 260—326.3.
- Uenohara, Michiyuki: *See—*
  - Elward, John P., Jr., and Uenohara. 3,377,558.
- Union Brass & Metal Mfg. Co.: *See—*
  - Anthony, Robert C. 3,376,888.
- Union Carbide Corp.: *See—*
  - Ancker, Frede H. 3,377,261.
  - Baumann, John A., and Tavarozzi. 3,376,629.
  - Heise, Barrett H. 3,377,577.
  - Reinking, Norman H., and Hale. 3,377,316.
- Union Tank Car Co.: *See—*
  - Capecci, Joseph R. 3,377,270.
- Uniroyal, Inc.: *See—*
  - Ether, Theodore L. 3,376,734.
  - Loveless, Frederick C. 3,377,325.
  - Loveless, Frederick C., Kelly, and Matthews. 3,377,326.
- United Aircraft Corp.: *See—*
  - Banas, Conrad M., Brown, and Powers. 3,377,506.
  - Emmons, Floyd R. 3,376,802.
  - Emmons, Floyd R. 3,376,803.
  - Thornton, Marshall B. 3,376,739.
- United Elastic Corp.: *See—*
  - Bellmore, Raymond E. 3,376,904.
- United Kingdom Atomic Energy Authority: *See—*
  - Glueckauf, Eugen. 3,377,273.
  - Kenyon, Albert R. 3,377,135.
  - Knights, Herbert C. 3,377,252.
  - London, Heinz. 3,376,712.
- United Nuclear Corp.: *See—*
  - Stathoplos, Anthony. 3,377,207.
- United Shoe Machinery Corp.: *See—*
  - Berrill, William H., and Hanson. 3,376,594.
  - Dorosz, Adolph S., and Tardiff. 3,376,691.
  - Gilbride, Andrew J. 3,376,591.
  - Paulsen, Hans C. 3,377,466.
- United States of America
  - Agriculture: *See—*
    - Gugliemelli, Lewis A., Weaver, and Russell. 3,377,302.
    - Hamalainen, Carl, St. Mard, and Cooper. 3,377,163.
  - Army: *See—*
    - Dickerson, Loren L. 3,377 544.
    - Dock, Clement A. 3,376,729.
    - Dock, Clement A. 3,376,754.
    - Emery, Loring D., Jr. 3,376,736.
    - Eves, Joseph R. 3,376,624.
    - Gelman, Robert. 3,376,820.
    - Godwin, Carroll B. 3,376,881.
    - Gordanier, Max D. 3,376,760.
    - Harnett Stephen J., and Olstein. 3,376,818.
    - Hayes, Alex. 3,377,039.
    - Lippel, Bernard. 3,377,423.
    - Mayer, Robert E. 3,377,591.
    - Spaulding, William G. 3,377,573.
    - Stiefel, Ludwig, and Kirshner. 3,377,219.
- United States of America
  - Atomic Energy Commission: *See—*
    - Hanthorn, Howard E., and Harty. 3,377,251.
    - Kolodney, Morris. 3,377,257.
    - Lewis, Robert N. 3,377,555.
  - Department of Health, Welfare, and Education: *See—*
    - Kolobow, Theodor, and Bowman. 3,376,863.
- United States Rubber Co.: *See—*
  - Borton, Robert O., and Beck. 3,377,103.
- United States Steel Corp.: *See—*
  - Della Rose, Fred S. 3,377,157.
- United States Time Corp.: *See—*
  - Grohoski, Raymond J., and Denley. 3,376,701.
- Universal Oil Products Co.: *See—*
  - Bloch, Herman S. 3,377,269.
- Upjohn Co., The: *See—*
  - Spero, George B. 3,377,364.
- Usborne, Andrew C. Scissors and shears. 3,376,641, 4–9–68, Cl. 30—266.
- VEB Lokomotivbau-Elektrotechnische Werke "Hans Beimler": *See—*
  - Schiller, Siegfried, and Lenk. 3,377,419.
- Valpreda, Luigi, to Fiat Societa per Azioni. Hydraulic pressure generating cylinder. 3,376,705, 4–9–68, Cl. 60—54.6.
- Van Bakel, Franciscus H. A. A.: *See—*
  - Panneman, Harm J., and Van Bakel. 3,377,338.
- Van der Windern, Johannes B., to Gebr. Stork & Co.'s Apparatenfabriek N.V. Method and device for the heating under pressure of commodities packed in containers. 3,377,173, 4–9–68, Cl. 99—214.
- Van Rutten, Fernand, M. Hopper, and F. Diletti, to European Atomic Energy Community (Euratom). Method for reducing fouling on surfaces coming into contact with organic cooling and/or moderator fluids. 3,377,253, 4–9–68, Cl. 176—38.
- Van Sickle, Don C. Automatic contour cutting. 3,376,908, 4–9–68, Cl. 144—242.
- Van Strien, Richard E., and J. R. Elszner, to Standard Oil Co. Polyester-imide polymers and a process for preparing polyester-imide polymers from aromatic carboxylic acid. 3,377,321, 4–9–68, Cl. 260—75.
- Van Winkle, Denzal W., to Baker Oil Tools, Inc. Large hole vertical drilling apparatus. 3,376,942, 4–9–68, Cl. 175—81.
- Van Zelm Associates, Inc.: *See—*
  - Jackson, Martin A., and Knochel. 3,377,044.
- Varian Associates: *See—*
  - Alue, Harry E. 3,377,495.
  - Lloyd, William A. 3,377,499.
- Vendo Co., The: *See—*
  - Pennell, Kit E. 3,376,966.
- Verreault, Robert L., to The Goodyear Tire & Rubber Co. Shoe sole edge wheeling machine. 3,376,593, 4–9–68, Cl. 12—32.
- Vertnik, Leonard R.: *See—*
  - Peerman, Dwight E., and Vertnik. 3,377,303.
- Vibrator Mfg. Co., Inc.: *See—*
  - Matson, Carl G. 3,376,790.
- Victor Co. of Japan, Ltd.: *See—*
  - Sekiguchi, Yasushi, and Fukunishi. 3,376,846.
- Victory Engineering Corp.: *See—*
  - Sapoff, Meyer. 3,377,554.
- Vietnat, Dominique. Speedily adjustable clamping wrench. 3,376,766, 4–9–68, Cl. 81—138.
- Vilbajo, Jean, to Contigea Societe Anonyme. Electrical spark detonators. 3,376,817, 4–9–68, Cl. 102—28.
- Vincent, Renic P., to Pan American Petroleum Corp. Ocean current measuring device. 3,376,742, 4–9–68, Cl. 73—170.
- Visseaux, Claude Paz et: *See—*
  - Gomonet, Edouard. 3,377,508.
- Von Bernuth, Gotz, to Siemens Aktiengesellschaft. Method of producing monocrystalline semiconductor bodies. 3,377,182, 4–9–68, Cl. 117—4.
- Von Stroh, Gerald F. H., 50% to J. D. Ireland. Process for pelleting and extruding materials. 3,377,146, 4–9–68, Cl. 44—10.
- Vyzkumny Ustav energeticky: *See—*
  - Richtr, Josef, and Prochazka. 3,377,511.
- Vyzkumny ustav obrabecich stroju a obrabeni: *See—*
  - Tlustý, Jiří, Polacěk, Pluhař, and Maryška. 3,376,770.
- Wagner, Otto C., and R. Di Pasquale, to Yardney International Corp. Spiral battery cell. 3,377,201, 4–9–68, Cl. 136—13.
- Walde, Robert A.: *See—*
  - Erby, William A., Flinn, and Walde. 3,377,197.
- Waldes Kohinoor, Inc.: *See—*
  - Langwell, John D. 3,376,772.
- Walker Mfg. Co.: *See—*
  - Andrews, Peter G. 3,376,725.
- Wallace, Paul F., and C. J. Walton, to Aluminum Co. of America. Enamelled aluminum composite base. 3,377,145, 4–9–68, Cl. 29—195.
- Wallace & Tiernan, Inc.: *See—*
  - Kressin, Donald M., Westbrook, and Magell. 3,377,407.
- Wallen, Emil O. L., to Grubbens & Co. Aktiebolag. Screen. 3,376,976, 4–9–68, Cl. 209—273.
- Wallers, Richard A., to Smith Industries International, Inc. Protective overhead shield for tunneling machine and method. 3,377,105, 4–9–68, Cl. 299—11.
- Walling, Milton F.: *See—*
  - Burdett, Harold D., and Walling. 3,377,053.
- Walsh, Henry J.: *See—*
  - Banks, Harry R., Sorenson, and H. J. and J. G. Walsh. 3,377,434.
- Walsh, John G.: *See—*
  - Banks, Harry R., Sorenson, and Walsh. 3,377,434.

Walton, Charles J.: *See—*
  Wallace, Paul F., and Walton. 3,377,145.
Walton, Edgar D.: *See—*
  Trimble, Philip K., and Walton. 3,376,733.
Ward, Irving A.: *See—*
  Bucknell, Ernest H., and Ward. 3,376,884.
Ward, Norman: *See—*
  Cross, Leonard H., Inglefield, and Ward. 3,376,731.
Warner & Swasey Co., The: *See—*
  Selby, Jack H. 3,376,611.
Warren, Robert C., and J. C. Baumann. Car weights. 3,377,083. 4-9-68, Cl. 280—150.
Warrick, Charles F., Co.: *See—*
  Roberts, Gordon A. 3,376,746.
Watanabe, Kikuo: *See—*
  Inuzuka, Isao, and Watanabe. 3,376,952.
  Inuzuka, Isao, and Watanabe. 3,376,953.
Watkins, Charles W., to The Singer Co. Tufting machines and methods for producing terry-like fabrics and fabrics produced thereby. 3,376,835, 4-9-68, Cl. 112—79.
Watson, Eugene K., and J. M. Witheford, to American Cyanamid Co. Melamine production. 3,377,350, 4-9-68, Cl. 260—249.7.
Watson, Eugene L.: *See—*
  Hudson, Thomas H., Watson, and Skates. 3,377,064.
Watson, Jerry J., to Wilton Corp. Adjustably mountable woodworker's vise. 3,377,061, 4-9-68, Cl. 269—101.
Waymouth, John F.: *See—*
  Koury, Frederic, and Waymouth. 3,377,498.
Weaver, Mary O.: *See—*
  Gugliemelli, Lewis A., Weaver, and Russell. 3,377,302.
Weaver, Robert E.: *See—*
  Wolkodoff, Vladimir E., and Weaver. 3,377,176.
Webb, James E., Administrator of the National Aeronautics and Space Administration with respect to an invention of W. G. Clement. Friction measuring apparatus. 3,376,730, 4-9-68, Cl. 73—9.
Webb, James E., Administrator of the National Aeronautics and Space Administration with respect to an invention of R. C. Turner. Thermocouple assembly. 3,377,208, 4-9-68, Cl. 136—230.
Weber, Milton N., to Barry Wright Corp. Constant pressure fluid systems. 3,377,002, 4-9-68, Cl. 222—333.
Webster, George R., N. S. Lea, and E. S. Oshetsky, to Scott Paper Co. Process for bleaching multi-colored broke with hypochlorites. 3,377,235, 4-9-68, Cl. 162—6.
Webster, Robert C.: *See—*
  Benson, Ernest J., Dykstra, and Webster. 3,377,172.
Wegmuller, Hans E., and W. Bossard, to J. R. Geigy A.G. Process for the dyeing of polyethylene glycol terephthalate-type polyester fibers. 3,377,129, 4-9-68, Cl. 8—41.
Weil, Edward D., J. Linder, and E. Dorfman, to Hooker Chemical Corp. 2,3,6-trichloromandelic acid derivatives as herbicides. 3,377,155, 4-9-68, Cl. 71—105.
Weiler, Ernest A., to Xerox Corp. Dielectric belt developing. 3,376,852, 4-9-68, Cl. 118—637.
Weiler, Ernest A., and W. K. Stillings, to Xerox Corp. Electrostatic toner control. 3,376,853, 4-9-68, Cl. 118—637.
Weiss, Herbert: *See—*
  Stein, Werner, Weiss, and Neuhausen. 3,377,289.
  Stein, Werner, Koch, and Weiss. 3,377,290.
Weiss, Herbert, to Siemens Aktiengesellschaft. Semiconductor device with anisotropic inclusions for producing electromagnetic radiation. 3,377,529. 4-9-68, Cl. 317—237.
Welcker, Friedrich. Rotary field-controlled spring valve. 3,377,045, 4-9-68, Cl. 251—48.
Welles, Clifford Y., to Halliburton Co. Boring tools. 3,376,763, 4-9-68, Cl. 77—58.
Wells, Alfred J., and R. H. Baxendale, to Dust Control Equipment Ltd. Gas filtering apparatus. 3,376,696, 4-9-68, Cl. 55—302.
Wells, Paul E.: *See—*
  Boles, David R., Davis, and Wells. 3,377,581.
Wendell, Chester A., to Raytheon Co. Radar ranging apparatus for a communication system. 3,377,590, 4-9-68, Cl. 343—12.
Wernette, Herman G.: *See—*
  Mielsen, Richard H., McCarty, and Wernette. 3,377,018.
Wesley, Richard H. Ball joint forming methods. 3,376,633, 4-9-68, Cl. 29—421.
Wessel, Hans. Cleaning appliance for attachment to a vacuum cleaner. 3,376.598, 4-9-68, Cl. 15—382.
West Virginia Pulp and Paper Co.: *See—*
  Macnair, Alan K. 3,377,191.
Westbrook, Solomon C., Jr.: *See—*
  Kressin, Donald M., Westbrook, and Magell. 3,377,407.
Western Electric Co., Inc.: *See—*
  Brosseit, Fritz V. 3,376 634.
  Cushman, Robert H. 3,377,012.
  Mandonas, Nicholas J., Nowell, and Stocker. 3,377,011.
  Schlemm, William A., and Sorbo. 3,376,851.
Westinghouse Air Brake Co.: *See—*
  Carr Louis E. 3,376,958.
  Eaton, Lyle E., Hoerr, Hyler, and McGlade. 3,376,831.
Westinghouse Brake and Signal Co., Ltd.: *See—*
  Tregoning, Geoffrey R., and Davies. 3,376,965.
Westinghouse Electric Corp.: *See—*
  Baker, Gerald E. 3,376,871.
  De Corso, Serafino M., Kemeny, and Wolf. 3,377,418.
  Donegan, Howard M. 3,377,601.
  Frisch, Erling. 3,377,254.
  McGinnis, Gerald E. 3,376,660.
  Osterhout, Joseph C. 3,377,503.
  Rensher, Robert W. 3,377 494.
  Ronk, Richard G. 3,377,465.
  Schmidt, Paul F., and Roney. 3,377,258.
Weyer, Donald E., to Dow Corning Corp. Method of applying electrical insulation. 3,377,414, 4-9-68, Cl. 264—135.
Weyer, Rudi: *See—*
  Haack, Erich, Heerdt, Schmidt, Stach, and Weyer. 3,377,351.
Weyerts, Walter J., and W. M. Salminen, to Eastman Kodak Co. Photographic image transfer process utilizing imidazole. 3,377,166, 4-9-68, Cl. 96—29.
Whalen, Thomas J., to Ford Motor Co. Process of trowelling sticky organic solder into a body surface joint. 3,377,227, 4-9-68, Cl. 156—242.
Whaley, Howard A., E. L. Patterson, W. K. Hausmann, and J. N. Porter, to American Cyanamid Co. Antibiotic AO-341 and production thereof. 3,377,244, 4-9-68, Cl. 167—65.
Whamby, John S.: *See—*
  Woodcock, Melville T., and Whamby. 3,377,490.
Wheaton, Robert M.: *See—*
  Sargent, Roger N., and Wheaton. 3,377,369.
Wheelus, Charles G.: *See—*
  Cieslelski, Leo F., and Wheelus. 3,377,333.
Wheelus, Charles G.: *See—*
  McBride, Joseph J., and Wheelus. 3,377,334.
White, Clyde C.: *See—*
  Hager, John L., and White. 3,376,828.
White, Thomas P., Sr. Hockey stick road adapter. 3,377,065, 4-9-68, Cl. 273—67.
Whitley, Joe B., and J. Cavassa. Optical viewer with means for comparing dual images. 3,376,782, 4-9-68, Cl. 88—24.
Whitlock, Beauford I., to AWB Mfg. Co., Inc. Dual rim spacer band wheel balancer installation. 3,377,106, 4-9-68, Cl. 301—5.
Whitney, Wiley, to Bell Telephone Laboratories, Inc. Switching system arrangement for providing multiple switching network line appearances without preassignment. 3,377,433, 4-9-68, Cl. 179—18.
Whittaker Corp.: *See—*
  Carr, Donald R., and Braccini. 3,377,594.
  Carr, Donald R., and Braccini. 3,377,595.
Whitaker, Harold, and A. J. Booth, to T. M. M. (Research) Ltd. Production of stretch or bulked textile yarns. 3,376,698, 4-9-68, Cl. 57—34.
Wicklund, Roy C. Article for dental hygiene. 3,376,876, 4-9-68, Cl. 132—92.
Wiener, Maria V., to The Goodyear Tire & Rubber Co. Method of preparing polytetramethylene naphthalene dicarboxylate polyesters. 3,377,319, 4-9-68, Cl. 260—75.
Wilcox, William L., to International Vulcanizing Corp. Check valve for injection molding apparatus. 3,376,608, 4-9-68, Cl. 18—42.
Wilkie, George W.: *See—*
  Millay, Arthur B., and Wilkie. 3,377,088.
Wilkison, Kermit L., C. A. Headley, V. E. Padilla, and J. D. Trolinger, to Aeroquip Corp. Automatic heat controlled tube union removal tool. 3,377,456, 4-9-68, Cl. 219—7.5.
Williams, Ernest F., to Coats & Clark Inc. Waste removal for carding machines. 3,376,610, 4-9-68, Cl. 19—107.
Williams, Paul H., and I. Sobolev, to Shell Oil Co. Viscose solutions modified with unsaturated aldehydes, and derivatives thereof. 3,377,301, 4-9-68, Cl. 260—17.
Williams, Starr K.: *See—*
  Griffith, Donald L., and Williams. 3,376,794.
Willis, Richard K. Powered hand hammer. 3,376,940, 4-9-68, Cl. 173—117.
Willman, Bertram T., and J. F. McPhail, to Esso Production Research Co. Perforation sealer. 3,376,934, 4-9-68, Cl. 166—193.
Wilson, Donald S., to Rotron Mfg. Co., Inc. Hydrodynamic bearing. 3,377,113, 4-9-68, Cl. 308—10.
Wilson, Ellis C., and R. E. Talley, to Bucyrus-Erie Co. Rope crowd for a knee action shovel. 3,376,983, 4-9-68, Cl. 214—136.
Wilson, Leon R. Marine propulsion device. 3,376,843, 4-9-68, Cl. 115—70.
Wilton Corp.: *See—*
  Watson, Jerry J. 3,377,061.
Winberg, Hilmer E., to E. I. du Pont de Nemours and Co. Thickened chemiluminescent gels based on peraminoethylenes. 3 377.291, 4-9-68, Cl. 252—188.3.
Windmöller & Hölscher: *See—*
  Schwarzkopf, August. 3,376,618.
Wise, John J., to Mobil Oil Corp. Isomerization and disproportionation of alkyl aromatics. 3,377,400, 4-9-68, Cl. 260—668.
Wissick, William P., and J. M. Litz, deceased. G. M. Litz (executrix) to International Business Machines Corp. Plural channel priority control. 3,377,579, 4-9-68, Cl. 340—172.5.
Witheford, John M.: *See—*
  Watson, Eugene K., and Witheford. 3,377,350.
Witsiene, William K., to E. I. du Pont de Nemours and Co. Thermoplastic polyurethane elastomers suitable for injection molding. 3,377,322, 4-9-68, Cl. 260—77.5.
Wolf, Charles B.: *See—*
  De Corso, Serafino, M. Kemenev, and Wolf. 3,377,418.
Wolf, Paul A., M. M. Kent, and F. J. Bobalek, to The Dow Chemical Co. Preservation of coatings. 3,377,175, 4-9-68, Cl. 106—15.
Wolfendale, Ray A., and W. L. Stover, to Mesta Machine Co. Automatic roll changing means and methods or roll changing. 3,376,724, 4-9-68. Cl. 72—239.
Wolfson, Leonard L.: *See—*
  Michalski, Raymond J., Sapienza, and Wolfson. 3,377,275.
Wolkodoff, Vladimir E., and R. E. Weaver, to Coors Porcelain Co. Alumina ceramic. 3,377,176, 4-9-68, Cl. 106—46.
Wolter, Gilbert R., to Sunbeam Corp. Knife sharpener. 3,376,671, 4-9-68, Cl. 51—5.
Wood, Howard L., to Wood's Powr-Grip Co., Inc. Vacuum gripping pad. 3,377,096, 4-9-68, Cl. 294—64.

Wood, Olen P., to Eldon Industries, Inc. Finish indicating device. 3,376,844, 4-9-68, Cl. 116—114.
Woodbridge, James O., M. Spencer, and D. D. Dalrymple, to National Forge Co. Method for hardening crankshaft. 3,377,214, 4-9-68, Cl. 148—16.6.
Woodcock, Melville T., and J. S. Whamby, to Babcock & Wilcox, Ltd. Magnetoplasmadynamic electric generators. 3,377,490, 4-9-68, Cl. 310—11.
Wood's Powr-Grip Co., Inc.: *See—*
  Wood, Howard L. 3,377,096.
Wooley, Marl T. Drafting machine. 3,376,647, 4-9-68, Cl. 33—30.
Workman, Wesley R., to Minnesota Mining and Mfg. Co. Process of copying utilizing a blush lacquer coating and a photo decomposable progenitor of a plasticizer. 3,377,165, 4-9-68, Cl. 96—29.
Wouk, Victor, to Gulton Industries, Inc. High power converter. 3,377,543, 4-9-68, Cl. 321—45.
Wright, Barry, Corp.: *See—*
  Weber, Milton N. 3,377,002.
Wright, Esmond P. G., and M. Hertog, to International Standard Electric Corp. Telephone systems with separate signalling circuits. 3,377,431, 4-9-68, Cl. 179—18.
Wyatt Mfg. Co., Inc., The: *See—*
  Greer, Larry J., Grau, McCloskey, McGinty, and Rousser. 3,376,971.
Wynne, James R., to A. B. Volvo Penta. Boat propulsion mechanism. 3,376,842, 4-9-68, Cl. 115—35.
Xerox Corp.: *See—*
  Kamola, Roman C. 3,376,854.
  Weller, Ernest A. 3,376,852.
  Weller, Ernest A., and Stillings. 3,376,853.
Yale, Harry L., to E. R. Squibb & Sons, Inc. 1,1,1,2,2-pentafluoro-3-chloro-3,3-dibromopropane. 3,377,393, 4-9-68, Cl. 260—653.
Yamamoto, Kazumoto: *See—*
  Suzuki, Teruhiko, Kameishi, and Yamamoto. 3,377,010.
Yamamoto, Yujiro, and E. S. Hamberg. Cranial electrode construction for sleep inducing machine. 3,376,870, 4-9-68, Cl. 128—410.
Yard-Man, Inc.: *See—*
  Hanson, Rudolph A., and Fischer. 3,376,890.
Yardney International Corp.: *See—*
  Wagner, Otto C., and Di Pasquale. 3,377,201.
Yasue, Setsuo, to Sanko Kiki Kabushiki Kaisha. Chain drive and housing arrangement. 3,376,756, 4-9-68, Cl. 74—116.
Yasuoka, Shine, Y. Tanaka, and S. Nagasaki, to Matsushita Electric Industrial Co. Ltd. Method and appartus for controlling speed of a DC motor of brushless type. 3,377,535, 4-9-68, Cl. 318—138.
Yawata Iron & Steel Co., Ltd.: *See—*
  Maehara, Shigeru, Igarashi, and Ito. 3,377,057.
Yokogawa-Hewlett-Packard, Ltd.: *See—*
  Suzuki, Kazu. 3,377,603.
Yokoyama Engineering Co., Ltd.: *See—*
  Maehara, Shigeru, Igarashi, and Ito. 3,377,057.
Yonan, Peter: *See—*
  Cusic, John W., and Yonan. 3,377,344.
Yoshida, Isao: *See—*
  Ubukata, Susumu, Mizutani, Kusakawa, and Yoshida. 3,377,445.
Yotsuzuka, Masaru: *See—*
  Turumaru, Takesi, Yotsuzuka, and Ogino. 3,377,385.
Yuhas, Stephen A., Jr.: *See—*
  Rowe, Charles A., Jr., Muessig, and Yuhas. 3,377,299.
Zaheer, Syed H.: *See—*
  Pantulu, Amirapu J., Achaya, Sidhu, and Zaheer. 3,377,388.
Zaphiriou, James G., J. R. Cabauatan, and A. L. Gagne; said Gagne assor. to said Zaphiriou and said Cabauatan. Marine hull. 3,376,840, 4-9-68, Cl. 114—66.5.
Zappi, Daniel A., to Comision Nacional de Energia Atomica. Process for the production of an aluminum-uranium alloy. 3,377,161, 4-9-68, Cl. 75—122.5.
Zeile, Karl: *See—*
  Sehring, Richard, and Zeile. 3,377,410.
Zelinski, Robert P., to Phillips Petroleum Co. Polymerization method. 3,377,404, 4-9-68, Cl. 260—680.
Zener, Frederick I.: *See—*
  Baker, Allister L., Krause, Drexler, and Zener. 3,377,112.
Zenza Bronica Kogyo Kabushiki Kaisha: *See—*
  Mori, Kiichi, and Nakamura. 3,377,122.
Ziegler, Karl, H. Breil, E. Holzkamp, and H. Martin; said Breil, Holzkamp, and Martin, assors. to said Ziegler. Purification of olefin polymers with methanol. 3,377,332, 4-9-68, Cl. 260—94.9.
Zielinski, Robert J., to American Gas Assn., Inc. Electrical ignition system for gaseous fuel burners and the like. 3,377,125, 4-9-68, Cl. 431—74.
Zimmermann, Hoge Warren, Co.: *See—*
  Mason, Walter R., Jr. 3,377,000.
Zmitrovis, Robert P., to Cities Service Oil Co. Method for painting wax surfaces. 3,377,188, 4-9-68, Cl. 117—47.
Zmuda, Andrew W.: *See—*
  Sherwood, John F., and Zmuda. 3,376,631.
Zoehe, Günter, to Shell Oil Co. Dimerization process. 3,377,398, 4-9-68, Cl. 260—666.
Zoetbrood, Gijsbertus J., to American Enka Corp. Process of using germanium dioxide as a polyester condensation catalyst. 3,377,320, 4-9-68, Cl. 260—75.
Zubik, Arnold R.: *See—*
  Lillard, James G., and Zubik. 3,377,553.
Zweig, Arnold: *See—*
  Clausen, Victor H., and Zweig. 3,377,223.

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NOTE.—First number, class; second number, subclass; third number, patent number

2 – 154 : 3,376,579
197 : 3,376,580
209.1 : 3,376,581
4 – 187 : 3,376,583
5 – 317 : 3,376,584
345 : 3,376,585
8 – 21 : 3,377,128
41 : 3,377,129
54 : 3,377,130
111 : 3,377,131
112 : 3,377,132
115.6 : 3,377,249
9 – 1 : 3,376,586
7 : 3,376,587
8 : 3,376,588
26 : 3,376,589
10 – 15 : 3,376,590
12 – 8.8 : 3,376,591
11.3 : 3,376,592
32 : 3,376,593
146 : 3,376,594
13 – 1 : 3,377,417
9 : 3,377,418
31 : 3,377,419
15 – 228 : 3,376,595
312 : 3,376,596
320 : 3,376,597
382 : 3,376,598
16 – 87.6 : 3,376,599
17 – 44.1 : 3,376,600
18 – 2 : 3,376,601
5 : 3,376,602
8 : 3,376,603
12 : 3,376,604
14 : 3,376,605
19 : 3,376,606
3,376,607
42 : 3,376,608
19 – 66 : 3,376,609
107 : 3,376,610
129 : 3,376,611
23 – 63 : 3,377,133
110 : 3,377,134
193 : 3,377,135
205 : 3,377,136
209.1 : 3,377,137
213 : 3,377,138
285 : 3,377,139
288 : 3,377,140
345 : 3,377,141
357 : 3,377,142
24 – 73 : 3,376,612
74 : 3,376,613
81 : 3,376,614
201 : 3,376,615
3,376,616
205.15: 3,376,617
208 : 3,376,618
241 : 3,376,619
26 – 63 : 3,376,620
28 – 51 : 3,376,621
72 : 3,376,622
.6 : 3,376,623
29 – 1.1 : 3,376,624
157 : 3,376,625
182.5 : 3,377,143
183 : 3,377,144
195 : 3,377,145
200 : 3,376,626
203 : 3,376,627
222 : 3,376,628
401 : 3,376,630
405 : 3,376,631
417 : 3,376,632
421 : 3,376,633
428 : 3,376,634
471.1 : 3,376,635
30 – 34.1 : 3,376,636
60.5 : 3,376,637
102 : 3,376,638
124 : 3,376,639
148 : 3,376,640
266 : 3,376,641
346.51: 3,376,642
32 – 67 : 3,376,643
69 : 3,376,644
71 : 3,376,645
33 – 25 : 3,376,646
30 : 3,376,647
138 : 3,376,648

33 – 147 : 3,376,649
174 : 3,376,650
180 : 3,376,651
226 : RE.26,370
34 – 5 : 3,376,652
23 : 3,376,653
53 : 3,376,654
58 : 3,376,655
90 : 3,376,656
35 – 9 : 3,376,657
12 : 3,376,658
17 : 3,376,659
3,376,660
40 – 2.2 : 3,376,661
43 – 36 : 3,376,662
42.02: 3,376,663
44 – 10 : 3,377,146
38 : 3,377,147
63 : 3,377,148
69 : 3,377,149
46 – 53 : 3,376,664
118 : 3,376,665
47 – 41 : 3,376,666
49 – 49 : 3,376,667
197 : 3,376,668
382 : 3,376,669
501 : 3,376,670
51 – 5 : 3,376,671
76 : 3,376,672
168 : 3,376,673
217 : 3,376,674
293 : 3,377,150
295 : 3,377,151
376 : 3,376,675
52 – 90 : 3,376,676
122 : 3,376,677
204 : 3,376,678
288 : 3,376,679
309 : 3,376,629
463 : 3,376,680
508 : 3,376,681
541 : 3,376,682
553 : 3,376,683
635 : 3,376,684
656 : 3,376,685
687 : 3,376,686
53 – 14 : 3,376,687
21 : 3,376,688
38 : 3,376,689
112 : 3,376,690
377 : 3,376,691
382 : 3,376,692
55 – 65 : 3,376,693
67 : 3,376,694
302 : 3,376,696
310 : 3,376,695
56 – 400 : 3,376,697
57 – 34 : 3,376,698
125 : 3,376,699
164 : 3,377,163
58 – 14 : 3,376,700
90 : 3,376,701
60 – 39.25: 3,376,702
53 : 3,376,703
54.6 : 3,376,704
3,376,705
73 : 3,376,706
61 – 45 : 3,376,707
72.3 : 3,376,708
62 – 12 : 3,376,709
374 : 3,376,710
410 : 3,376,711
467 : 3,376,712
64 – 17 : 3,376,713
30 : 3,376,714
66 – 64 : 3,376,715
150 : 3,376,716
199 : 3,376,717
68 – 4 : 3,376,718
12 : 3,376,719
3,376,720
70 – 277 : 3,376,721
71 – 24 : 3,377,152
37 : 3,377,153
92 : 3,377,154
105 : 3,377,155
72 – 43 : 3,376,722
56 : 3,376,723
239 : 3,376,724
311 : 3,376,725

72 – 379 : 3,376,726
391 : 3,376,727
454 : 3,376,728
73 – 5 : 3,376,729
9 : 3,376,730
23.1 : 3,376,731
71.4 : 3,376,733
78 : 3,376,734
80 : 3,376,735
101 : 3,376,736
114 : 3,376,737
141 : 3,376,738
3,376,739
144 : 3,376,740
152 : 3,376,741
170 : 3,376,742
182 : 3,376,743
195 : 3,376,744
205 : 3,376,745
304 : 3,376,746
313 : 3,376,747
355 : 3,376,748
401 : 3,376,732
406 : 3,376,749
409 : 3,376,750
423 : 3,376,751
3,376,752
432 : 3,376,753
74 – 1.5 : 3,376,754
110 : 3,376,755
116 : 3,376,756
370 : 3,376,757
421 : 3,376,758
540 : RE.26,372
573 : 3,376,759
689 : 3,376,760
801 : 3,376,761
75 – 26 : 3,377,156
41 : 3,377,157
60 : 3,377,158
101 : 3,377,159
118 : 3,377,160
122.5 : 3,377,161
125 : 3,377,162
214 : 3,377,164
77 – 5 : 3,376,762
58 : 3,376,763
64 : 3,376,764
81 – 15.6 : 3,377,249
121 : 3,376,765
138 : 3,376,766
145 : 3,376,767
177 : 3,376,768
82 – 31 : 3,376,769
3,376,770
36 : 3,376,771
83 – 154 : 3,376,772
441 : 3,376,773
482 : 3,376,774
582 : 3,376,775
84 – 1.24: 3,376,776
419 : 3,376,777
483 : 3,376,778
85 – 5 : 3,376,779
48 : 3,376,780
86 – 25 : 3,376,781
88 – 24 : 3,376,782
89 – 1 : 3,376,783
.703 3,376,784
46 : 3,376,785
90 – 1 : 3,376,786
12 : 3,376,787
58 : 3,376,788
91 – 92 : 3,376,789
234 : 3,376,790
290 : 3,376,791
443 : 3,376,792
468 : 3,376,793
92 – 63 : 3,376,794
130 : 3,376,795
93 – 51 : 3,376,796
3,376,797
94 – 34 : RE.26,366
48 : 3,376,798
49 : 3,376,799
95 – 42 : 3,376,800
53 : 3,376,801
96 – 29 : 3,377,165
3,377,166
48 : 3,377,167

96 – 83 : 3,377,168
88 : 3,377,169
90 : 3,377,170
98 – 1.5 : 3,376,802
3,376,803
115 : 3,376,804
3,376,805
99 – 90 : 3,377,171
193 : 3,377,172
214 : 3,377,173
408 : 3,376,806
100 – 26 : 3,376,807
53 : 3,376,808
215 : 3,376,809
101 – 128.2 : 3,376,810
295 : 3,376,811
324 : 3,376,812
348 : 3,376,813
384 : 3,376,814
102 – 8 : 3,376,815
24 : 3,376,816
28 : 3,376,817
49.3 : 3,376,818
76 : 3,376,819
83 : 3,376,820
103 – 25 : 3,376,821
38 : 3,376,822
126 : 3,376,823
3,376,824
136 : 3,376,825
202 : 3,376,826
104 – 60 : 3,376,827
91 : 3,376,828
173 : 3,376,829
105 – 133 : 3,376,830
199 : 3,376,831
364 : 3,376,832
106 – 1 : 3,377,174
15 : 3,377,175
46 : 3,377,176
57 : 3,377,177
66 : 3,377,178
165 : 3,377,179
287 : 3,377,180
110 – 14 : 3,376,833
56 : 3,376,834
112 – 79 : 3,376,835
124 : 3,376,836
158 : 3,376,837
186 : 3,376,838
260 : 3,376,839
114 – 66.5 : 3,376,840
73 : 3,376,841
115 – 35 : 3,376,842
70 : 3,376,843
116 – 114 : 3,376,844
3,376,845
124.1 : 3,376,846
137 : 3,376,847
117 – 4 : 3,377,181
3,377,182
17 : 3,377,183
25 : 3,377,184
38 : 3,377,185
44 : 3,377,186
47 : 3,377,187
3,377,188
62 : 3,377,189
63 : 3,377,190
3,377,191
64 : 3,377,192
75 : 3,377,193
76 : 3,377,194
114 : 3,377,195
3,377,196
121 : 3,377,197
3,377,198
138.8 : 3,377,199
201 : 3,377,200
118 – 8 : 3,376,848
68 : 3,376,849
202 : 3,376,850
321 : 3,376,851
637 : 3,376,852
3,376,853
3,376,854
119 – 29 : 3,376,855
52 : 3,376,856
122 – 1 : 3,376,857
32 : 3,376,858

122 – 235 : 3,376,859
123 – 90 : 3,376,860
126 – 37 : 3,376,861
39 : 3,376,862
128 – 64 : 3,376,863
161 : 3,376,864
169 : 3,376,865
220 : 3,376,866
269 : 3,376,867
278 : 3,376,868
334 : 3,376,869
410 : 3,376,870
129 – 16.7 : 3,376,872
130 – 27 : 3,376,873
131 – 207 : 3,376,874
132 – 34 : 3,376,875
92 : 3,376,876
134 – 57 : 3,376,877
188 : 3,376,878
135 – 1 : 3,376,879
59 : 3,376,880
136 – 13 : 3,377,201
29 : 3,377,202
86 : 3,377,203
122 : 3,377,204
170 : 3,377,205
202 : 3,377,207
212 : 3,377,206
230 : 3,377,208
137 – 81.5 : 3,376,881
3,376,882
88 : 3,376,883
119 : 3,376,884
183 : 3,376,885
268 : 3,376,886
316 : 3,376,887
359 : 3,376,888
540 : 3,376,889
544 : 3,376,890
594 : 3,376,891
596.12: 3,376,892
599.2 : 3,376,893
625.48: 3,376,894
.66: 3,376,895
637.2 : 3,376,896
138 – 39 : 3,376,897
137 : 3,376,898
139 – 54 : 3,376,899
122 : 3,376,900
127 : 3,376,901
159 : 3,376,902
302 : 3,376,903
423 : 3,376,904
141 – 76 : 3,376,905
143 – 135 : 3,376,906
144 – 2 : 3,376,907
242 : 3,376,908
146 – 169 : 3,376,909
185 : 3,376,910
148 – 1.5 : 3,377,209
3,377,210
4 : 3,377,211
6.16: 3,377,212
.35: 3,377,213
16.6 : 3,377,214
33 : 3,377,215
189 : 3,377,216
149 – 50 : 3,377,217
3,377,218
88 : 3,377,219
151 – 41.73: 3,376,911
152 – 209 : 3,376,912
370 : RE.26,368
156 – 62.2 : 3,377,220
110 : 3,377,221
116 : 3,377,222
166 : 3,377,223
209 : 3,377,224
210 : 3,377,225
242 : 3,377,227
250 : 3,377,226
301 : 3,377,228
160 – 201 : 3,376,913
161 – 22 : 3,377,229
32 : 3,377,230
80 : 3,377,231
155 : 3,377,232
174 : 3,377,233
162 – 5 : 3,377,234
6 : 3,377,235

162 – 263 : 3,377,236
164 – 33 : 3,376,914
51 : 3,376,915
165 – 22 : 3,376,916
39 : 3,376,917
47 : 3,376,918
53 : 3,376,919
80 : 3,376,920
166 – .5 : 3,376,922
3,376,923
4 : 3,376,921
9 : 3,376,924
3,376,925
29 : 3,376,926
35 : 3,376,927
38 : 3,376,928
39 : 3,376,929
42 : 3,376,930
3,376,931
59 : 3,376,932
76 : 3,376,933
193 : 3,376,934
224 : 3,376,935
226 : 3,376,936
167 – 20 : 3,377,237
30 : 3,377,238
33 : 3,377,239
3,377,240
53 : 3,377,241
65 : 3,377,242
3,377,243
3,377,244
3,377,245
3,377,246
3,377,247
68 : 3,377,248
87 : 3,377,250
172 – 780 : 3,376,937
173 – 44 : 3,376,938
116 : 3,376,939
117 : 3,376,940
174 – 73 : 3,377,420
84 : 3,377,421
88 : 3,377,422
175 – 44 : 3,376,941
81 : 3,376,942
176 – 29 : 3,377,251
36 : 3,377,252
38 : 3,377,253
78 : 3,377,254
177 – 173 : 3,376,943
178 – 6 : 3,377,423
.6 : 3,377,424
7.1 : 3,377,425
.3 : 3,377,426
.92: 3,377,427
179 – 1 : 3,377,428
6 : 3,377,429
15 : 3,377,430
18 : 3,377,431
3,377,432
3,377,433
27 : 3,377,434
41 : 3,377,435
100.2 : 3,377,436
3,377,437
3,377,438
.41: 3,377,439
115 : 3,377,440
175.3 : 3,377,441
186 : 3,377,442
180 – 6.48: 3,376,945
.5 : 3,376,944
89 : 3,376,946
90 : 3,376,947
181 – .5 : 3,376,948
3,376,949
3,376,950
184 – 6 : 3,376,951
187 – 29 : 3,376,952
3,376,953
188 – 69 : 3,376,954
73 : 3,376,955
3,376,956
96 : 3,376,957
97 : 3,376,958
196 : 3,376,959
218 : 3,376,960
3,376,961
190 – 51 : 3,376,962

191– 29 : 3,377,443
192– 12 : 3,376,963
111 : 3,376,964
193– 35 : 3,376,965
194– 63 : 3,376,966
93 : 3,376,967
195– 51 : 3,377,255
198– 19 : 3,376,968
34 : 3,376,969
40 : 3,376,970
68 : 3,376,971
200– 16 : 3,377,444
33 : 3,377,445
38 : 3,377,446
114 : 3,377,447
143 : 3,377,448
153 : 3,377,449
166 : 3,377,450
167 : 3,377,451
3,377,452
3,377,453
168 : 3,377,454
175 : 3,377,455
204– 1 : 3,377,256
.5 : 3,377,257
15 : 3,377,258
20 : 3,377,259
143 : 3,377,260
159.14: 3,377,261
165 : 3,377,262
224 : 3,377,263
290 : 3,377,264
3,377,265
206– 1.8 : 3,376,972
63.3 : 3,376,973
72 : 3,376,974
78 : 3,376,975
208– 11 : 3,377,266
108 : 3,377,267
252 : 3,377,268
466 : 3,377,269
209–273 : 3,376,976
210– 37 : 3,377,270
45 : 3,377,271
3,377,272
46 : 3,377,273
53 : 3,377,274
64 : 3,377,275
114 : 3,376,977
375 : 3,376,978
457 : 3,376,979
211–148 : 3,376,980
212– 38 : 3,376,981
214– 11 : 3,376,982
136 : 3,376,983
138 : 3,376,984
152 : 3,376,985
372 : 3,376,986
505 : 3,376,987
515 : 3,376,988
517 : 3,376,989
652 : Re.26,369
671 : 3,376,990
215– 9 : 3,376,991
3,376,992
219– 7.5 : 3,377,456
75 : 3,377,457
95 : 3,377,458
107 : 3,377,459
125 : 3,377,460
146 : 3,377,461
213 : 3,377,462
300 : 3,377,463
301 : 3,377,464
366 : 3,377,465
421 : 3,377,466
220– 3.4 : 3,376,993
6 : 3,376,994
24 : 3,376,995
3,376,996
48 : 3,376,997
102 : 3,376,998
222–135 : 3,376,999
182 : Re.26,367
227 : 3,377,000
263 : 3,377,001

222–333 : 3,377,002
386 : 3,377,003
402.13: 3,377,005
.2 : 3,377,004
488 : 3,376,582
512 : 3,377,006
224– 5 : 3,377,007
226–100 : 3,377,008
228– 2 : 3,377,009
3 : 3,377,010
18 : 3,377,011
40 : 3,377,012
44 : 3,377,013
229– 5.5 : 3,377,014
16 : 3,377,015
31 : 3,377,016
43 : 3,377,017
69 : Re.26,371
230– 2 : 3,377,018
233– 2 : 3,377,019
11 : 3,377,020
26 : 3,377,021
235– 92 : 3,377,467
3,377,468
3,377,469
150.26: 3,377,470
152 : 3,377,471
3,377,472
236– 13 : 3,377,022
35 : 3,377,023
239– 8 : 3,377,024
16 : 3,377,025
187 : 3,377,026
189 : 3,377,027
394 : 3,377,028
458 : 3,377,029
656 : 3,377,030
240– 3 : 3,377,473
4.2 : 3,377,474
6.45: 3,377,475
3,377,476
25 : 3,377,477
36 : 3,377,478
41.3 : 3,377,479
47 : 3,377,480
78 : 3,377,481
103 : 3,377,482
242– 35.6 : 3,377,031
56 : 3,377,032
.2 : 3,377,033
74 : 3,377,034
139 : 3,377,035
156.2 : 3,377,036
244– 17.15: 3,377,037
246– 63 : 3,377,483
248– 27 : 3,376,871
59 : 3,377,038
119 : 3,377,039
3,377,040
314 : 3,377,041
316 : 3,377,042
346 : 3,377,043
361 : 3,377,044
250–219 : 3,377,484
229 : 3,377,485
251– 48 : 3,377,045
139 : 3,377,046
175 : 3,377,047
3,377,048
329 : 3,377,049
252– 8.5 : 3,377,276
12 : 3,377,277
23 : 3,377,278
30 : 3,377,279
3,377,280
32.7 : 3,377,281
3,377,282
33 : 3,377,283
49.6 : 3,377,284
51.5 : 3,377,285
62.1 : 3,377,286
67 : 3,377,287
75 : 3,377,288
109 : 3,377,289
152 : 3,377,290
188.3 : 3,377,291

252–301.3 : 3,377,292
309 : 3,377,293
408 : 3,377,294
455 : 3,377,295
253– 77 : 3,377,050
122 : 3,377,051
254–104 : 3,377,052
256– 13.1 : 3,377,053
47 : 3,377,054
259– 72 : 3,377,055
260– 2.5 : 3,377,296
3,377,297
8 : 3,377,298
13 : 3,377,299
15 : 3,377,300
17 : 3,377,301
.4 : 3,377,302
18 : 3,377,303
23 : 3,377,304
27 : 3,377,305
29.2 : 3,377,306
.7 : 3,377,307
32.6 : 3,377,308
.8 : 3,377,309
33.4 : 3,377,310
37 : 3,377,311
3,377,312
41 : 3,377,313
45.75: 3,377,314
3,377,315
47 : 3,377,316
59 : 3,377,317
73 : 3,377,318
75 : 3,377,319
3,377,320
3,377,321
77.5 : 3,377,322
78 : 3,377,323
79.3 : 3,377,324
80.78: 3,377,325
3,377,326
85.3 : 3,377,327
91.1 : 3,377,328
93.7 : 3,377,329
94.9 : 3,377,330
3,377,331
3,377,332
97.6 : 3,377,333
98 : 3,377,334
146 : 3,377,335
3,377,336
155 : 3,377,337
207.1 : 3,377,338
233.3 : 3,377,339
239.3 : 3,377,340
.55: 3,377,341
3,377,342
3,377,343
240 : 3,377,344
244 : 3,377,345
246 : 3,377,346
247 : 3,377,347
249.7 : 3,377,349
3,377,350
256.5 : 3,377,351
286 : 3,377,352
294 : 3,377,353
3,377,354
301 : 3,377,355
326.3 : 3,377,356
327 : 3,377,357
3,377,358
329 : 3,377,359
340.9 : 3,377,360
345.9 : 3,377,361
397.4 : 3,377,362
3,377,363
3,377,364
.45: 3,377,366
.5 : 3,377,365
405.6 : 3,377,367
412.4 : 3,377,368
.5 : 3,377,369
448.2 : 3,377,370
3,377,371
455 : 3,377,372

260–463 : 3,377,373
464 : 3,377,374
470 : 3,377,375
475 : 3,377,376
485 : 3,377,377
486 : 3,377,378
556 : 3,377,379
558 : 3,377,380
564 : 3,377,381
567.6 : 3,377,382
584 : 3,377,383
611 : 3,377,384
.5 : 3,377,385
621 : 3,377,386
632 : 3,377,387
638 : 3,377,388
648 : 3,377,389
653 : 3,377,390
3,377,391
3,377,392
3,377,393
3,377,394
.4 : 3,377,395
656 : 3,377,396
666 : 3,377,397
3,377,398
3,377,399
668 : 3,377,400
677 : 3,377,401
679 : 3,377,402
680 : 3,377,403
3,377,404
681 : 3,377,405
837 : 3,377,406
863 : 3,377,407
897 : 3,377,408
926 : 3,377,409
941 : 3,377,410
263– 3 : 3,377,056
264– 45 : 3,377,411
78 : 3,377,412
95 : 3,377,413
135 : 3,377,414
210 : 3,377,415
222 : 3,377,416
248 : 3,377,348
266– 15 : 3,377,057
3,377,058
33 : 3,377,059
267– 52 : 3,377,060
269–101 : 3,377,061
265 : 3,377,062
271– 14 : 3,377,063
273– 55 : 3,377,064
67 : 3,377,065
72 : 3,377,066
86 : 3,377,067
89 : 3,377,068
149 : 3,377,069
3,377,070
155 : 3,377,071
274– 1 : 3,377,072
277– 27 : 3,377,073
32 : 3,377,074
149 : 3,377,075
171 : 3,377,076
279– 1 : 3,377,077
280– 7.1 : 3,377,078
11.28: 3,377,079
43.23: 3,377,080
47.27: 3,377,081
150 : 3,377,082
3,377,083
274 : 3,377,084
408 : 3,377,085
489 : 3,377,086
285– 14 : 3,377,087
287– 87 : 3,377,088
99 : 3,377,089
189.36: 3,377,090
292– 65 : 3,377,091
201 : 3,377,092
241 : 3,377,093
346 : 3,377,094
294– 19 : 3,377,095
64 : 3,377,096

295– 7 : 3,377,097
296– 27 : 3,377,098
136 : 3,377,099
137 : 3,377,100
297–283 : 3,377,101
385 : 3,377,102
453 : 3,377,103
298– 19 : 3,377,104
299– 11 : 3,377,105
301– 5 : 3,377,106
302– 15 : 3,377,107
303– 24 : 3,377,108
84 : 3,377,109
305– 42 : 3,377,110
307– 10 : 3,377,486
17 : 3,377,487
157 : 3,377,488
308– 3 : 3,377,111
6 : 3,377,112
10 : 3,377,113
310– 8.3 : 3,377,489
11 : 3,377,490
3,377,491
312–235 : 3,377,114
330 : 3,377,115
333 : 3,377,116
313– 71 : 3,377,492
92 : 3,377,493
109 : 3,377,494
161 : 3,377,495
175 : 3,377,496
184 : 3,377,497
221 : 3,377,498
354 : 3,377,499
315– 14 : 3,377,500
27 : 3,377,501
30 : 3,377,502
36 : 3,377,503
85 : 3,377,504
86 : 3,377,505
107 : 3,377,506
159 : 3,377,507
185 : 3,377,508
317– 2 : 3,377,509
12 : 3,377,510
15 : 3,377,511
101 : 3,377,512
3,377,513
3,377,514
3,377,515
3,377,516
140 : 3,377,517
148.5 : 3,377,518
157 : 3,377,519
231 : 3,377,520
3,377,521
234 : 3,377,522
3,377,523
3,377,524
3,377,525
235 : 3,377,526
3,377,527
3,377,528
237 : 3,377,529
242 : 3,377,530
244 : 3,377,531
262 : 3,377,532
318– 18 : 3,377,533
138 : 3,377,534
3,377,535
246 : 3,377,536
444 : 3,377,537
321– 2 : 3,377,538
5 : 3,377,539
11 : 3,377,540
15 : 3,377,541
18 : 3,377,542
45 : 3,377,543
322– 28 : 3,377,544
323– 19 : 3,377,545
22 : 3,377,546
100 : 3,377,547
3,377,548
324– 6 : 3,377,549
10 : 3,377,550
51 : 3,377,551

324– 51 : 3,377,552
61 : 3,377,553
62 : 3,377,554
63 : 3,377,555
70 : 3,377,556
83 : 3,377,557
158 : 3,377,558
325– 61 : 3,377,559
320 : 3,377,560
328–230 : 3,377,562
237 : 3,377,563
331– 70 : 3,377,564
74 : 3,377,565
107 : 3,377,566
113 : 3,377,567
117 : 3,377,568
145 : 3,377,569
333– 1.1 : 3,377,570
10 : 3,377,571
31 : 3,377,572
98 : 3,377,573
335– 27 : 3,377,574
167 : 3,377,575
196 : 3,377,576
216 : 3,377,577
229 : 3,377,578
336– 65 : 3,377,601
96 : 3,377,602
338– 22 : 3,377,561
121 : 3,377,603
154 : 3,377,604
162 : 3,377,605
174 : 3,377,606
339– 18 : 3,377,607
22 : 3,377,608
28 : 3,377,609
95 : 3,377,610
97 : 3,377,611
143 : 3,377,612
154 : 3,377,613
198 : 3,377,614
340– 2 : 3,377,615
23 : 3,377,616
29 : 3,377,617
47 : 3,377,618
172. 3,377,579
3,377,619
3,377,620
3,377,621
3,377,622
3,377,623
3,377,624
3,377,625
173 : 3,377,580
174 : 3,377,581
3,377,582
3,377,583
3,377,584
206 : 3,377,585
347 : 3,377,586
343– 7 : 3,377,587
8 : 3,377,588
11 : 3,377,589
12 : 3,377,590
100 : 3,377,591
3,377,592
115 : 3,377,593
713 : 3,377,594
3,377,595
768 : 3,377,596
346– 33 : 3,377,597
74 : 3,377,598
3,377,599
139 : 3,377,600
350– 97 : 3,377,117
157 : 3,377,118
184 : 3,377,119
401– 4 : 3,377,120
7 : 3,377,121
139 : 3,377,123
198 : 3,377,124
431– 74 : 3,377,125
94 : 3,377,126
131 : 3,377,122
256 : 3,377,127

CLASSIFICATION OF DESIGNS

D 2–320 : 210,714
D13– 1 : 210,715
210,716
D14– 3 : 210,717
6 : 210,718
D15– 8 : 210,719
D16– 1 : 210,720
2 : 210,721

D23– 85 : 210,722
93 : 210,756
141 : 210,723
150 : 210,724
153 : 210,725
154 : 210,726
D26– 5 : 210,727
210,728

D26– 10 : 210,729
15 : 210,730
210,731
210,732
D29– 1 : 210,733
D33– 7 : 210,734
14 : 210,735
D34– 4 : 210,736

D34– 5 : 210,737
210,738
D35– 3 : 210,739
D42– 7 : 210,740
210,741
210,742
D44– 22 : 210,743
D48– 31 : 210,744

D49– 1 : 210,745
D52– 6 : 210,746
D54– 1 : 210,747
16 : 210,748
D56– 1 : 210,749
D58– 13 : 210,750
D61– 1 : 210,751
210,752

D61– : 210,753
D71– : 210,754
210,755
D83– 12 : 210,757
D90– 8 : 210,758
16 : 210,759
210,760

CLASSIFICATION OF PLANTS

P. – 60 : 2,802

GEOGRAPHICAL INDEX OF RESIDENCE OF INVENTORS

(U.S. States, Territories and Armed Forces, the Commonwealth of Puerto Rico, and the Canal Zone)

(NOTE.–CODES ARE CHANGED AS OF JANUARY 1, 1967)

Alabama	1
Alaska	2
American Samoa	3
Arizona	4
Arkansas	5
California	6
Canal Zone	7
Colorado	8
Connecticut	9
Delaware	10
District of Columbia	11
Florida	12
Georgia	13
Guam	14
Hawaii	15
Idaho	16
Illinois	17
Indiana	18
Iowa	19
Kansas	20
Kentucky	21
Louisiana	22
Maine	23
Maryland	24
Massachusetts	25
Michigan	26
Minnesota	27
Mississippi	28
Missouri	29
Montana	30
Nebraska	31
Nevada	32
New Hampshire	33
New Jersey	34
New Mexico	35
New York	36
North Carolina	37
North Dakota	38
Ohio	39
Oklahoma	40
Oregon	41
Pennsylvania	42
Puerto Rico	43
Rhode Island	44
South Carolina	45
South Dakota	46
Tennessee	47
Texas	48
Utah	49
Vermont	50
Virginia	51
Virgin Islands	52
Washington	53
West Virginia	54
Wisconsin	55
Wyoming	56
U.S. Air Force	57
U.S. Army	58
U.S. Navy	59

(First number in listing denotes location according to above key. Refer to patent number in body of the Official Gazette to obtain details as to inventor name, location, etc.)

PATENTS

1 : 3,376,881
3,377,064
3,377,222
3,377,544
3,377,573
3,377,625
4 : 3,376,799
3,376,866
3,377,053
3,377,159
3,377,621
3,377,622
6 : Re.26,370
3,376,579
3,376,586
3,376,647
3,376,652
3,376,654
3,376,667
3,376,668
3,376,675
3,376,677
3,376,692
3,376,709
3,376,710
3,376,719
3,376,744
3,376,778
3,376,783
3,376,794
3,376,798
3,376,827
3,376,844
3,376,845
3,376,850
3,376,870
3,376,875
3,376,884
3,376,906
3,376,907
3,376,908
3,376,928
3,376,942
3,376,954
3,376,957
3,376,967
3,376,969
3,376,970
3,376,982
3,376,985

6 : 3,376,991
3,376,994
3,376,999
3,377,008
3,377,054
3,377,073
3,377,085
3,377,092
3,377,094
3,377,104
3,377,105
3,377,109
3,377,121
3,377,133
3,377,164
3,377,195
3,377,196
3,377,215
3,377,240
3,377,259
3,377,267
3,377,301
3,377,342
3,377,343
3,377,406
3,377,428
3,377,436
3,377,438
3,377,441
3,377,442
3,377,469
3,377,470
3,377,471
3,377,476
3,377,492
3,377,495
3,377,497
3,377,499
3,377,502
3,377,513
3,377,516
3,377,531
3,377,533
3,377,539
3,377,541
3,377,556
3,377,559
3,377,560
3,377,567
3,377,568

6 : 3,377,579
3,377,581
3,377,593
3,377,594
3,377,595
3,377,599
3,377,600
3,377,605
3,377,606
3,377,613
3,377,618
8 : 3,376,606
3,376,631
3,376,666
3,376,787
3,376,829
3,376,916
3,377,176
3,377,266
3,377,405
9 : Re.26,367
3,376,637
3,376,646
3,376,701
3,376,722
3,376,723
3,376,739
3,376,773
3,376,802
3,376,803
3,376,838
3,376,839
3,376,911
3,376,950
3,376,973
3,377,118
3,377,142
3,377,170
3,377,288
3,377,292
3,377,370
3,377,392
3,377,394
3,377,421
3,377,449
3,377,453
3,377,472
3,377,506
10 : 3,377,143
3,377,193

10 : 3,377,291
3,377,314
3,377,372
3,377,390
11 : 3,376,597
3,376,730
3,377,208
12 : Re.26,368
3,376,588
3,376,656
3,376,720
3,376,841
3,376,842
3,376,905
3,377,003
3,377,015
3,377,029
3,377,333
3,377,334
3,377,446
3,377,509
3,377,517
3,377,585
13 : 3,376,610
3,376,687
16 : 3,376,752
17 : 3,376,580
3,376,599
3,376,615
3,376,623
3,376,626
3,376,636
3,376,640
3,376,653
3,376,671
3,376,673
3,376,689
3,376,748
3,376,750
3,376,776
3,376,790
3,376,792
3,376,804
3,376,805
3,376,807
3,376,815
3,376,831
3,376,891
3,376,910
3,376,943

17 : 3,376,958
3,376,979
3,376,996
3,376,997
3,377,009
3,377,023
3,377,027
3,377,030
3,377,038
3,377,043
3,377,061
3,377,110
3,377,115
3,377,144
3,377,151
3,377,157
3,377,217
3,377,218
3,377,228
3,377,269
3,377,271
3,377,272
3,377,274
3,377,275
3,377,302
3,377,304
3,377,344
3,377,363
3,377,365
3,377,366
3,377,435
3,377,448
3,377,467
3,377,493
3,377,538
3,377,545
3,377,547
3,377,555
3,377,564
3,377,589
3,377,598
3,377,610
3,377,612
18 : Re.26,366
3,376,682
3,376,713
3,376,758
3,376,769
3,376,872
3,376,893

18 : 3,376,959
3,376,960
3,376,961
3,377,036
3,377,076
3,377,080
3,377,098
3,377,100
3,377,103
3,377,108
3,377,238
3,377,247
3,377,281
3,377,321
3,377,345
3,377,354
3,377,357
3,377,387
3,377,425
3,377,426
3,377,451
3,377,503
3,377,512
3,377,601
19 : 3,376,600
3,376,755
3,376,984
20 : 3,376,971
3,377,106
21 : 3,376,711
3,376,861
3,376,963
3,377,089
3,377,138
3,377,185
3,377,562
22 : 3,376,708
3,376,896
3,376,938
3,377,018
3,377,163
23 : 3,376,593
3,377,192
24 : 3,376,581
3,376,595
3,376,765
3,376,780
3,376,796
3,376,863
3,376,945

24 : 3,377,044
3,377,153
3,377,189
3,377,295
3,377,395
3,377,611
3,377,617
25 : 3,376,591
3,376,608
3,376,624
3,376,650
3,376,691
3,376,735
3,376,795
3,376,882
3,376,902
3,376,904
3,376,925
3,376,975
3,376,995
3,377,011
3,377,020
3,377,021
3,377,141
3,377,183
3,377,231
3,377,260
3,377,310
3,377,400
3,377,447
3,377,466
3,377,475
3,377,483
3,377,498
3,377,520
3,377,575
3,377,576
3,377,583
3,377,590
3,377,604
3,377,620
3,377,623
26 : Re.26,372
3,376,602
3,376,607
3,376,649
3,376,694
3,376,699
3,376,700
3,376,702
3,376,703
3,376,704
3,376,733
3,376,746
3,376,760
3,376,779
3,376,821
3,376,840
3,376,848
3,376,860
3,376,879
3,376,889
3,376,890
3,376,990
3,377,002
3,377,019
3,377,024
3,377,035
3,377,039
3,377,058
3,377,059
3,377,060
3,377,099
3,377,102
3,377,150
3,377,175
3,377,226
3,377,233
3,377,278
3,377,284
3,377,306
3,377,309
3,377,312
3,377,348
3,377,364
3,377,369

26 : 3,377,371
3,377,379
3,377,414
3,377,416
3,377,557
3,377,615
27 : 3,376,781
3,376,828
3,376,847
3,376,876
3,376,880
3,376,888
3,376,993
3,376,998
3,377,004
3,377,028
3,377,095
3,377,165
3,377,248
3,377,286
3,377,303
3,377,367
3,377,382
3,377,478
28 : 3,376,989
29 : 3,376,630
3,376,634
3,376,690
3,376,753
3,376,833
3,376,966
3,377,068
3,377,077
3,377,294
3,377,375
3,377,427
3,377,456
30 : 3,376,843
3,377,081
3,377,096
32 : 3,376,767
33 : 3,376,900
3,377,327
3,377,457
3,377,521
34 : 3,376,609
3,376,611
3,376,614
3,376,616
3,376,617
3,376,629
3,376,659
3,376,665
3,376,674
3,376,721
3,376,743
3,376,757
3,376,768
3,376,771
3,376,816
3,376,818
3,376,869
3,376,909
3,376,951
3,376,962
3,377,005
3,377,007
3,377,012
3,377,037
3,377,112
3,377,130
3,377,136
3,377,140
3,377,156
3,377,169
3,377,188
3,377,234
3,377,237
3,377,244
3,377,255
3,377,261
3,377,265
3,377,299
3,377,305
3,377,313
3,377,316

34 : 3,377,317
3,377,325
3,377,326
3,377,329
3,377,352
3,377,360
3,377,361
3,377,368
3,377,389
3,377,393
3,377,396
3,377,403
3,377,417
3,377,420
3,377,423
3,377,432
3,377,434
3,377,450
3,377,455
3,377,481
3,377,494
3,377,500
3,377,540
3,377,552
3,377,554
3,377,558
3,377,570
3,377,582
3,377,584
36 : 3,376,628
3,376,632
3,376,655
3,376,676
3,376,681
3,376,695
3,376,714
3,376,718
3,376,727
3,376,732
3,376,762
3,376,772
3,376,775
3,376,793
3,376,830
3,376,852
3,376,853
3,376,854
3,376,864
3,376,867
3,376,868
3,376,886
3,376,913
3,376,920
3,376,934
3,376,940
3,376,964
3,376,986
3,376,988
3,377,017
3,377,022
3,377,034
3,377,069
3,377,070
3,377,071
3,377,111
3,377,113
3,377,117
3,377,149
3,377,155
3,377,166
3,377,168
3,377,171
3,377,184
3,377,187
3,377,201
3,377,202
3,377,204
3,377,207
3,377,227
3,377,242
3,377,243
3,377,250
3,377,256
3,377,257
3,377,264
3,377,270

36 : 3,377,296
3,377,300
3,377,341
3,377,349
3,377,355
3,377,362
3,377,377
3,377,384
3,377,386
3,377,401
3,377,407
3,377,424
3,377,439
3,377,463
3,377,464
3,377,482
3,377,510
3,377,515
3,377,518
3,377,537
3,377,543
3,377,566
3,377,571
3,377,577
3,377,591
3,377,616
3,377,619
3,377,624
37 : 3,376,644
3,377,042
3,377,473
3,377,480
3,377,580
38 : 3,376,987
39 : 3,376,587
3,376,601
3,376,612
3,376,620
3,376,643
3,376,662
3,376,663
3,376,664
3,376,683
3,376,685
3,376,774
3,376,808
3,376,812
3,376,855
3,376,871
3,376,892
3,376,895
3,376,912
3,376,915
3,376,917
3,376,968
3,376,992
3,377,000
3,377,025
3,377,026
3,377,048
3,377,079
3,377,084
3,377,087
3,377,090
3,377,091
3,377,097
3,377,125
3,377,148
3,377,167
3,377,200
3,377,221
3,377,229
3,377,262
3,377,283
3,377,297
3,377,318
3,377,319
3,377,328
3,377,331
3,377,378
3,377,411
3,377,412
3,377,429
3,377,433
3,377,459
3,377,461

39 : 3,377,465
3,377,477
3,377,542
3,377,602
40 : 3,376,625
3,376,657
3,376,742
3,376,747
3,376,763
3,376,894
3,376,923
3,376,924
3,376,926
3,376,932
3,376,935
3,377,062
3,377,276
3,377,397
3,377,404
3,377,408
3,377,444
41 : 3,376,589
3,377,041
3,377,116
42 : 3,376,583
3,376,622
3,376,627
3,376,638
3,376,645
3,376,660
3,376,678
3,376,679
3,376,680
3,376,724
3,376,729
3,376,736
3,376,754
3,376,806
3,376,811
3,376,820
3,376,825
3,376,851
3,376,862
3,376,877
3,376,878
3,376,883
3,376,885
3,376,972
3,377,001
3,377,006
3,377,032
3,377,049
3,377,083
3,377,088
3,377,134
3,377,145
3,377,158
3,377,178
3,377,197
3,377,211
3,377,212
3,377,214
3,377,219
3,377,230
3,377,246
3,377,249
3,377,254
3,377,258
3,377,263
3,377,277
3,377,287
3,377,353
3,377,383
3,377,391
3,377,415
3,377,418
3,377,422
3,377,443
3,377,488
3,377,505
3,377,514
3,377,524
3,377,525
3,377,548
3,377,561
3,377,574

43 : 3,376,585
44 : 3,376,596
3,376,734
3,376,887
45 : 3,376,605
3,376,849
47 : Re.26,369
3,376,835
3,376,858
3,377,358
3,377,374
3,377,409
3,377,534
48 : Re.26,371
3,376,590
3,376,633
3,376,661
3,376,684
3,376,745
3,376,764
3,376,782
3,376,826
3,376,832
3,376,898
3,376,921
3,376,927
3,376,929
3,376,930
3,376,931
3,376,936
3,376,941
3,376,948
3,376,949
3,376,977
3,377,016
3,377,078
3,377,114
3,377,137
3,377,152
3,377,180
3,377,268
3,377,330
3,377,376
3,377,532
3,377,549
3,377,550
3,377,553
49 : 3,376,937
50 : 3,376,933
51 : 3,376,856
3,377,046
3,377,082
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56 : 3,377,224

Design Patents

6 : 210,716
210,720
210,721
210,726
210,737
210,750
210,754

6 : 210,755
9 : 210,732
17 : 210,717
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29 : 210,758
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34 : 210,739
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36 : 210,724
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210,751

39 : 210,722
41 : 210,757
42 : 210,715
210,725
210,736
48 : 210,749
53 : 210,719

Plant Patents

6 : 2,802

U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
April 9, 1968 Volume 849 Number 2

TRADEMARKS

NOTICES

Notice of Daylight Saving Time

The Patent Office will operate on Daylight Saving Time from April 29, 1968 through October 27, 1968.

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 397,903 (PD MEDICAMENTA VERA), Parke, Davis & Company, Alkalizers, allergens, alteratives, amebicides, analgesics, anesthetics, anodynes, antacids, anthelmintics, anti-absortives, antiarthritics, antiasthmatics, antibacterial agents, anticoagulants, anticonvulsants, antidotes, antigens, antihemorrhagic agents, antiluetics, antinauseants, antipruritics, antipyretics, antiseptics, antispasmodics, antitoxins, antitubercular agents, astringents, bacterial cultures, burn treatment preparations, cardiac depressions, cardiac stimulants, carminatives, cathartics, cerebral depressants, cerebral stimulants, chemotherapeutic agents, cholagogues, choleretics, counterirritants, culture media, demulcents, deodorants, desensitizing agents, diagnostic agents, digestants, disinfectants, diuretics, ecbolics, emetics, emollients, endocrine principles, estrogenic preparations, expectorants, fungicides, galactagogues, gastric sedatives, gastric stimulants, germicides, glandular preparations, gonococcicides, hematinics, hematopoietics, hemostatics, hepatic stimulants, hormones, hypertensives, hypnotics, hypotensives, inhalants, insecticides, irritants, laxatives, mouth washes, mydriatics, narcotics, nerve depressants, nerve stimulants, nutrients, organotherapeutic preparations, oxytocics, parasiticides, purgatives, reagents, respiratory stimulants, restoratives, rubbing compound, rubefacients, scabicides, sclerosing agents, sedatives, serum products, skin creams, skin powders, soporifics, stomachics, cold cream, talcum powder, tonics, toxoids, urinary acidifiers, vaccines, vasoconstrictors, vasodilators, vasomotor depressants, vasomotor stimulants, vermifuge, vesicants, veterinary vaccine and vitamins, **filed** Dec. 7, 1967, D.C., S.D.N.Y., Doc. 67–C–4808, *Parke, Davis & Company* v. *Emil Pollak, doing business as Best Drug Co.*

Reg. No. 397,912 (PARKE, DAVIS & CO.), same, Absorbents, alkalizers, allergens, alteratives, amebicides, analgesics, anaphrodisiacs, anesthetics, anhidrotics, anodynes, antacids, anthelmintics, antiabortives, antiarthritics, antiasthmatics, antibacterial agents, antibacterial serums, anticoagulents, anticonvulsants, antidotes, antigens, antihemorrhagic agents, antiluetics, antinauseants, antiperiodics, antiphlogistics, antipruritics, antipyretics, antiseptics, antisialagogues, antispasmodics, antitoxins, antitubercular agents, antizymotics, aperients, aphrodisiacs, astringents, bacterial cultures, blood substitutes, burn treatment preparations, cardiac depressants, cardiac stimulants, carminatives, cathartics, caustics, cerebral depressants, cerebral stimulants, chemotherapeutic agents, cholagogues, choleretics, counter-irritants, culture

CONDITION OF TRADEMARK APPLICATIONS AS OF FEBRUARY 29, 1968

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	17, 790
Date of oldest new application	Apr. 4, 1967
Date of oldest amended application (filing date)	Oct. 11, 1963

C. M. WENDT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	4–10–67	10–20–65
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	4–25–67	10–11–63
(III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 36	4–4–67	6–30–65
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	4 5–67	1–5–65
Renewals (All Classes)	1–29–68	--------
Sec. 12(c) Publications (All Classes)	2–5–68	--------

Applications filed during the month of February 1968—2,340

Registrations Issued	315—No. 847,201 to No. 847,515
Renewals Issued	80

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media, demulcents, dentifrices, deodorants, desensitizing agents, diagnostic agents, diaphoretics, digestants, disinfectants, diuretics, ecbolics, emetics, emmenogogues, emollients, endocrine principles, escharotics, estrogenic preparations, exfoliatives, expectorants, fungicides, galactagogues, gastric sedatives, gastric stimulants, germicides, glandular preparations, gonococcicides, menatinics, hematopoietics, hemostatics, hepatic stimulants, hormones, hypertensives, hypnotics, hypotensives, inhalants, insecticides, irritants, laxatives, ligatures, mouth washes, mydriatics, myotics, narcotics, nerve depressants, nerve stimulants, non-specific protein preparations, nutrients, organo-therapeutic preparations, oxytocics, parasiticides, proliferants, protein extracts, purgatives, reagents, reconstructives, respiratory stimulants, restoratives, roborants, rubbing compound, rufefacients, scabicides, sclerosing agents, sedatives, serum products, shock treatment preparations, sialagogues, skin creams, skin powders, soporifics, spirillicides, stomachics, styptics, sudorifics, taenifuges, tineacides, toiletries comprising almond cream, cold cream, talcum powder, and tooth paste; tonics, toxoids, urinary acidifiers, vaccines, vasoconstrictors, vasodilators, vasomotor depressants, vasomotor stimulants, vermifuge, vesicants, veterinary vaccine and vitamins, **filed** Dec. 7, 1967, D.C., S.D.N.Y., Doc. 67–C–4809, *Parke, Davis & Company* v. *David Reifman, doing business as Reifman's Pharmacy and Stitelman's Pharmacy.*

Reg. No. 504,342 (KEYSTONE KITCHENS, THE SIGN OF A MODERN HOME), Keystone Cabinet Company, Kitchen cabinets; **Reg. No. 576,095** (KEYSTONE), same, **filed** Dec. 15, 1967, D.C., S.D.N.Y., Doc. 67–C–4931, *Keystone Cabinet Company* v. *Keystone Cabinet Company, Inc.*

Reg. No. 529,088 (GARLAND), Garland Knitting Mills, Women's and girls' sweaters made principally of knitted material; **Reg. No. 529,089** (GARLANDER), same, **filed** Jan. 8, 1968, D.C., S.D.N.Y., Doc. No. 68–C–76, *Garland Corporation* v. *Garland Blouse Co.*

Reg. No. 529,089. (See Reg. No. 529,088.)

Reg. No. 547,321 (AAA WITHIN A DESIGN), American Automobile Association, Services rendered to motor vehicle owners, motorists and travelers generally—namely, disseminating travel information, making travel arrangements, rating tourist accommodations, providing emergency road service, adjusting damage claims, recovering stolen motor vehicles, apprehending motor vehicle thieves and so-called hit and run drivers; obtaining insurance, legal service, bail and other bond, motor vehicle license plates, and title certificates; teaching motor vehicle operation, arranging for discount purchases, sponsoring school safety patrols, conducting traffic and pedestrian safety campaigns and giving traffic safety lessons, advocating legislation favorable to safe and economical motor vehicle travel, operation and maintenance; conducting motor vehicle speed trials and endurance tests and making tests of automotive and related products; **Reg. No. 829,265** (AAA), The American Automobile Association, Automobile association services rendered to motor vehicle owners, motorists, and travelers generally—namely, obtaining motor vehicle license plates and title certificates; sponsoring school safety patrols; advocating legislation favorable to safe and economical motor vehicle travel, operation, and maintenance; conducting motor vehicle tests and making tests of automotive and related products; and rating tourist accommodations; arranging for discount purchases, collecting damage claims; offering rewards for information leading to arrest and conviction of persons stealing members' automobiles; and placing insurance with underwriters, **filed** Dec. 11, 1967, D.C Calif. (San Francisco), Doc. 48368, *American Automobile Association* v. *Gerald M. Anderson.*

Reg. No. 570,912 (OK AND DESIGN), General Motors Corporation, Used automobiles and trucks, **filed** Dec. 18, 1967, D.C.N.J. (Newark), Doc. 1281–67, *General Motors Corporation* v. *Somerset OK Motor Sales, Inc.*

Reg. No. 576,095. (See Reg. No. 504,342.)

Reg. No. 603,047 (LONDON FOG), The Londontown Manufacturing Company, Raincoats for men, women and children, **filed** Oct. 5, 1967, D.C. Mass. (Boston), Doc. 67–741–FCA, *Londontown Manufacturing Company* v. *Stone Discount Department Store of Methuen, doing business as Stone Discount City.* Consent judgment; defendants permanently enjoined, Oct. 25, 1967.

Reg. No. 670,135 (SLIM MINT), Thompson Medical Company, Inc., Medicated chewing gum for aiding appetite control, **filed** Nov. 8, 1967, D.C., S.D.N.Y., Doc. 67–C–4382, *Thompson Medical Company, Inc.* v. *Hall's Albany Drug Corp. and Adams Drug Company, Inc.*

Reg. No. 685,404 (680), Eutectic Welding Alloys Corporation, Metallic welding electrode for dissimilar alloy steels, **filed** Dec. 22, 1967, D.C., N.D. Calif. (San Francisco), Doc. 48428, *Eutectic Welding Alloys Corp.* v. *Universal Alloys Inc.*

Reg. No. 706,588 (ECI), Electronic Communications, Inc., Radio transmitting and receiving equipment and component parts therefor, electronic circuitry, electrical motors, facsimile recording equipment and component parts therefor, and electronic circuit components, **filed** Dec. 27, 1967, D.C., E.D. Mo. (St. Louis), Doc. 67C440(2), *Electronic Communications, Inc. (Formerly Air Associates, Inc.)* v. *Electronic Components for Industry Co. and ECI Semiconductors, Inc.*

Reg. No. 707,631 (SEE-ALL TELE-TECTOR), Norman Industries, Inc., Dummy cameras for mounting on a wall or ceiling in a store for the purpose of deterring shoplifting and reducing pilferage losses, **filed** Oct. 20, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c1813, *Norman Industries, Inc.* v. *Se-Kure Controls, Inc.*

Reg. No. 708,531 (WELLS FARGO), Wells Fargo & Company, Transportation of money and valuables; **Reg. No. 708,532**, (THE PONY EXPRESS, ETC. AND DESIGN), same, **filed** Jan. 15, 1968, D.C., C.D. Calif. (Los Angeles), Doc. 68–53–JWC, *Baker Industries, Inc.* v. *Wells Fargo Bank.*

Reg. No. 708,532. (See Reg. No. 708,531.)

Reg. No. 829,265. (See Reg. No. 547,321.)

PROPOSED INTERNATIONAL NON–PROPRIETARY NAMES (PROP. INN) LIST 19[1]

In accordance with article 3 of the Procedure for the Selection of Recommended International Non-Proprietary Names for Pharmaceutical Preparations,[2] notice is hereby given that the following names are under consideration by the World Health Organization as Proposed International Non-Proprietary Names.

Comments on, or formal objections to the proposed names may be forwarded by any person to the Pharmaceuticals Unit of the World Health Organization within four months of the date of their publication in *WHO Chronicle*.

The inclusion of a name in the lists of proposed international non-proprietary names does not imply any recommendation for the use of the substance in medicine or pharmacy.

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA
acidum fepentolicum fepentolic acid	α-butyl-α-hydroxy-4,3-cresotic acid $C_{12}H_{16}O_4$
alprenololum alprenolol	1-(*o*-allylphenoxy)-3-(isopropylamino)-2-propanol $C_{15}H_{23}NO_2$
ambusidum ambuside	*N*¹-allyl-4-chloro-6-[(3-hydroxy-2-butenylidene)amino]-*m*-benzenedisulfonamide $C_{13}H_{16}ClN_3O_5S_2$
aprotininum aprotinin	Arg-Pro-Asp(tentative)-Phe-HCys-Leu-Glu(tentative)-Pro-Pro-Tyr-Thr-Gly-Pro-HCys-Lys-Ala-Arg-Ileu-Ileu-Arg-Tyr-Phe-Tyr-AspN-Ala-Lys-Ala-Gly-Leu-HCys-GluN-Thr-Phe-Val-Tyr-Gly-Gly-HCys-Arg-Ala-Lys-Arg-AspN-AspN-Phe-Lys-Ser-Ala-Glu-AspN-HCys-Met-Arg-Thr-HCys-Gly-Gly-Ala $C_{284}H_{440}N_{88}O_{77}S_7$ (tentative)
atolidum atolide	2-amino-4′-(diethylamino)-o-benzotoluidide $C_{18}H_{23}N_3O$
azaribinum azaribine	2-β-D-ribofuranosyl-*as*-triazine-3,5(2*H*,4*H*)-dione 2′,3′,5′-triacetate $C_{14}H_{17}N_3O_9$
azidocillinum azidocillin	6-(2-azido-2-phenylacetamido)-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid $C_{16}H_{17}N_5O_4S$
benzoctaminum benzoctamine	*N*-methyl-9,10-ethanoanthracene-9(10*H*)-methylamine $C_{18}H_{19}N$
bepiastinum bepistine	6-[2-(dimethylamino)ethyl]pyrido[2,3-*b*][1,5]benzothiazepin-5(6*H*)-one $C_{16}H_{17}N_3OS$
bevonii metilsulfas bevonium metilsulfate	2-(hydroxymethyl)-1,1-dimethylpiperidinium methyl sulfate benzilate $C_{22}H_{29}NO_7S$
bitoscanatum bitoscanate	*p*-phenylene bis(isothiocyanate) $C_8H_4N_2S_2$
bolenolum bolenol	19-nor-17α-pregn-5-en-17-ol $C_{20}H_{32}O$
calcitoninum calcitonin	hormone from the thyroid gland, a polypeptide of molecular weight less than 10,000
carbadoxum carbadox	methyl 3-(2-quinoxalinylmethylene)carbazate *N*¹,*N*⁴-dioxide $C_{11}H_{10}N_4O_4$
ciclonii bromidum ciclonium bromide	diethylmethyl[2-[(α-methyl-α-5-norbornen-2-ylbenzyl)oxy]ethyl]ammonium bromide $C_{22}H_{34}BrNO$
cinnamedrinum cinnamedrine	α-[1-(cinnamylmethylamino)ethyl]benzyl alcohol $C_{19}H_{23}NO$
clioxanidum clioxanide	4′-chloro-2-hydroxy-3,5-diiodobenzanilide acetate $C_{15}H_{10}ClI_2NO_3$
clobutinolum clobutinol	*p*-chloro-α-[2-(dimethylamino)-1-methylethyl]-α-methylphenethyl alcohol $C_{14}H_{22}ClNO$
clomacranum clomacran	2-chloro-9-[3-(dimethylamino)propyl]acridan $C_{18}H_{21}ClN_2$
decloxizinum decloxizine	2-[2-[4-(diphenylmethyl)-1-piperazinyl]ethoxy]ethanol $C_{21}H_{28}N_2O_2$
diacetamatum diacetamate	4-acetamidophenyl acetate $C_{10}H_{11}NO_3$
diclometidum diclometide	3,5-dichloro-*N*-[2-(diethylamino)ethyl]-o-anisamide $C_{14}H_{20}Cl_2N_2O_2$
dimabefyllinum dimabefylline	7-[p-(dimethylamino)benzyl]theophylline $C_{16}H_{19}N_5O_2$
dimetacrinum dimetacrine	9,9-dimethyl-10[3-(dimethylamino)propyl]acridan $C_{20}H_{26}N_2$
etafenonum etafenone	2′-[2-(diethylamino)ethoxy]-3-phenylpropiophenone $C_{21}H_{27}NO_2$
fenclexonii bromidum fenclexonium bromide	1-(3,3-diphenylpropyl)-1-methylpiperidinium bromide $C_{21}H_{28}BrN$
fludorexum fludorex	β-methoxy-*N*-methyl-*m*-(trifluoromethyl)phenethylamine $C_{11}H_{14}F_3NO$
fluprednidenum fluprednidene	9-fluoro-11β,17,21-trihydroxy-16-methylenepregna-1,4-diene-3,20-dione $C_{22}H_{27}FO_5$
fructosum ferricum ferric fructose	fructose iron complex, compound with potassium (2 :1) $(C_6H_{10}FeO_7)_nK_{n/2}$ (tentative)
furidaronum furidarone	2,5-dimethyl-3-furyl 4-hydroxy-3,5-diiodophenyl ketone $C_{13}H_{10}I_2O_3$
indrilinum indriline	*N*,*N*-dimethyl-1-phenylindene-1-ethylamine $C_{19}H_{21}N$
kebuzonum kebuzone	4-(3-oxobutyl)-1,2-diphenyl-3,5-pyrazolidinedione $C_{19}H_{18}N_2O_3$

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[1] Other lists of proposed international non-proprietary names can be found in *Chron. Wld Hlth Org.*, 1953, *7*, 299; 1954, *8*, 216, 313; 1956, *10*, 28; 1957, *11*, 231; 1958, *12*, 102; 1959, *13*, 105; *WHO Chronicle*, 1959, *13*, 152; 1960, *14*, 168, 244; 1961, *15*, 314; 1962, *16*, 385; 1963, *17*, 389; 1964, *18*, 433; 1965, *19*, 446; 1966, *20*, 216; 1967, *21*, 70, 478.
Lists of recommended international non-proprietary names were published in *Chron. Wld Hlth Org.*, 1955, *9*, 185; 1959, *13*, 106; *WHO Chronicle*, 1959, *13*, 463; 1962, *16*, 101; 1965, *19*, 165, 206, 249; 1966, *20*, 421; 1967, *21*, 538.

[2] *Off Rec. Wld Hlth Org.*, *60*, 3 and 55 (resolution EB15.R7).

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA
kellofyllinum kellofylline	[2-[(9-methoxy-7-methyl-5-oxo-5*H*-furo[3,2-*g*][1]benzopyran-4-yl)oxy]ethyl]trimethylammonium theophylline derivative $C_{25}H_{29}N_5O_7$
mefenorexum mefenorex	*N*-(3-chloropropyl)-α-methylphenethylamine $C_{12}H_{18}ClN$
menoctonum menoctone	2-(8-cyclohexyloctyl)-3-hydroxy-1,4-naphthoquinone $C_{24}H_{32}O_3$
mequidoxum mequidox	3-methyl-2-quinoxalinemethanol 1,4-dioxide $C_{10}H_{10}N_2O_3$
mitomalcinum mitomalcin	an antibiotic obtained from cultures of *Streptomyces malayensis*, or the same substance obtained by any other means
monometacrinum monometacrine	9,9-dimethyl-10-[3-(methylamino)propyl]acridan $C_{19}H_{24}N_2$
nadidum nadide	3-carbamoyl-1-β-D-ribofuranosylpyridinium hydroxyde, 5′-ester with adenosine 5′-pyrophosphate, inner salt $C_{21}H_{27}N_7O_{14}P_2$
nalmexonum nalmexone	7,7a,8,9-tetrahydro-3,7a-dihydroxy-12-(3-methyl-2-buten-6*H*-8,9c-iminoethanophenanthro[4,5-*bcd*]furan-5(4*aH*)-one *or* 7,8-dihydro-14-hydroxy-N-(3-methyl-2-butenyl)-normorphinone $C_{21}H_{25}NO_4$
nebramycinum nebramycin	an antibiotic obtained from cultures of *Streptomyces tenebrarius*, or the same substance obtained by any other means
nitroxinilum nitroxinil	4-hydroxy-3-iodo-5-nitrobenzonitrile $C_7H_3IN_2O_3$
octodrinum octodrine	1,5-dimethylhexylamine $C_8H_{19}N$
oxogestonum oxogestone	20β-hydroxy-19-norpregn-4-en-3-one $C_{20}H_{30}O_2$
pancuronii bromidum pancuronium bromide	(3α,17β-dihydroxy 5α-androstan-2β,16β-ylene)bis[1-methylpiperidinium]dibromide diacetate $C_{35}H_{60}Br_2N_2O_4$
parbendazolum parbendazole	methyl 5-butyl-2-benzimidazolecarbamate $C_{13}H_{17}N_3O_2$
penoctonii bromidum penoctonium bromide	diethyl(2-hydroxyethyl)octyl ammonium bromide diphenylacetate $C_{28}H_{50}BrNO_2$
piprozolinum piprozolin	ethyl 3-ethyl-4-oxo-5-piperidino-$\Delta^{2,\alpha}$-thiazolidineacetate $C_{14}H_{22}N_2O_3S$
pirralkonii bromidum pirralkonium bromide	bis[3-(2,5-dimethyl-1-pyrrolidinyl)propyl]hexadecylmethylammonium bromide $C_{35}H_{72}BrN_3$
prazitonum prazitone	5-phenyl-5-(2-piperidylmethyl)barbituric acid $C_{16}H_{19}N_3O_3$
propizepinum propizepine	6,11-dihydro-6-[2-(dimethylamino)-2-methylethyl]-5*H*-pyrido[2,3-*b*][1,5]benzodiazepin-5-one $C_{17}H_{20}N_4O$
sulbentinum sulbentine	3,5-dibenzyltetrahydro-2*H*-1,3,5-thiadiazine-2-thione $C_{17}H_{18}N_2S_2$
taloximinum taloximine	4-[2-(dimethylamino)ethoxy]-1(2*H*)phthalazinone oxime $C_{12}H_{16}N_4O_2$
tilidinum tilidine	ethyl 2-(dimethylamino)-1-phenyl-3-cyclohexene-1-carboxylate $C_{17}H_{23}NO_2$
triclofyllinum triclofylline	7-[2-(2,2,2-trichloro-1-hydroxyethoxy)ethyl]theophylline $C_{11}H_{13}Cl_3N_4O_4$
volazocinum volazocine	*cis*-3-(cyclopropylmethyl)-1,2,3,4,5,6-hexahydro-6,11-dimethyl-2,6-methano-3-benzazocine $C_{18}H_{25}N$

MARKS PUBLISHED FOR OPPOSITION

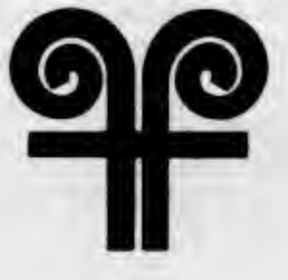
SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 209,503. Finger Furniture Co., Inc., Houston, Tex. Filed Jan. 7, 1965.



Class 20—Linoleum and Oiled Cloth

For Linoleum, Linoleum and Plastic Tile (Int. Cls. 19 and 27).

Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Lamps, Television Sets, and Radios (Int. Cls. 9 and 11).

Class 24—Laundry Appliances and Machines

For Domestic Washers and Dryers (Int. Cl. 7).

Class 32—Furniture and Upholstery

For Sofas, Chairs, Tables, Dressers, Chests, Adult and Children's Beds and Appurtenances Thereof Including Pillows, Mattresses and Springs, and Mirrors (Int. Cl. 20).

Class 34—Heating, Lighting, and Ventilating Apparatus

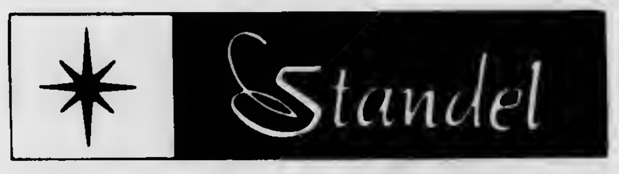
For Ranges, Stoves, and Air Conditioners (Int. Cl. 11).

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Carpeting and Rugs (Int. Cl. 27).

First use Nov. 21, 1964.

SN 244,054. Standel Co., Temple City, Calif. Filed Apr. 22, 1966.



Owner of Reg. No. 681,480.

Class 21—Electrical Apparatus, Machines, and Supplies

For Public Address System (Int. Cl. 9).

First use June 3, 1964.

Class 36—Musical Instruments and Supplies

For Electric Guitars, Instrument Amplifiers for Use With Such Instruments as Stringed Instruments, Pianos, Accordions, and Drums, Musical Electronic Accessories, Such as Pick-Ups or Sensing Devices, Tremolos, Echo Systems, and Special Effects Equipment (Int. Cls. 9 and 15).

First use Jan. 22, 1966.

SN 248,028. Elco Electronic Instrument Co., Inc., Flushing, N.Y. Filed June 14, 1966.

CORTINA

Class 21—Electrical Apparatus, Machines, and Supplies

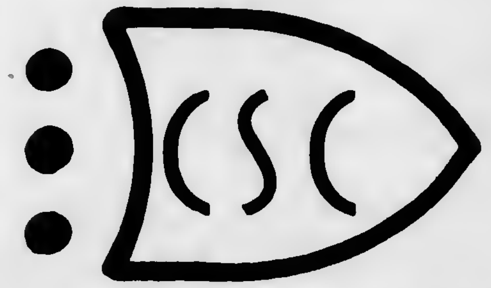
For High Fidelity Mono- and Stereo-Phonic Components—Namely, AM and FM Radio Tuners and Speaker Systems (Int. Cl. 9).

Class 36—Musical Instruments and Supplies

For Tape Recorders and Tape Decks (Int. Cl. 9).

First use May 17, 1966.

SN 255,694. California Systems Components, Inc., Northridge, Calif. Filed Oct. 4, 1966.



Class 21—Electrical Apparatus, Machines, and Supplies

For Power Supplies, and Integrated Circuit Logic Cards (Int. Cl. 9).

Class 26—Measuring and Scientific Appliances

For Analog to Digital and Digital to Analog Converters (Int. Cl. 9).

First use Mar. 16, 1966.

SN 260,286. Tobishi Electronic Industries, Ltd., Ohta-ku, Tokyo, Japan. Filed Dec. 7, 1966.

TobiSonic

Class 21—Electrical Apparatus, Machines, and Supplies

For Radios (Int. Cl. 9).

Class 36—Musical Instruments and Supplies

For Tape Recorders (Int. Cl. 9).

First use in or about March 1966; in commerce in or about March 1966.

SN 263,072. Jaime Fernandez Diestro, S.A., Jerez de la Frontera, Cadiz, Spain. Filed Jan. 23, 1967.

DIESTRO

The English Translation of the word "Diestro" is a skillful fencer or halter or bridle for horses. Owner of Spanish Reg. Nos. 398,042 and 398,043, dated Sept. 17, 1962.

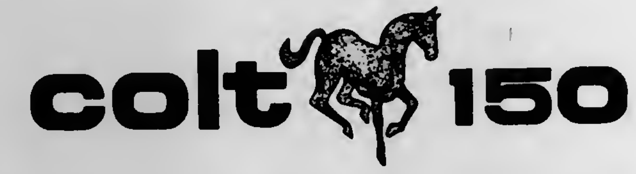
Class 47—Wines

For Wines (Int. Cl. 33).

Class 49—Distilled Alcoholic Liquors

For Brandies (Int. Cl. 33).

SN 266,139. The Bates Manufacturing Company, Orange, N.J. Filed Mar. 7, 1967.



The stippling on the drawing is for shading purposes and contrast only and does not represent color.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

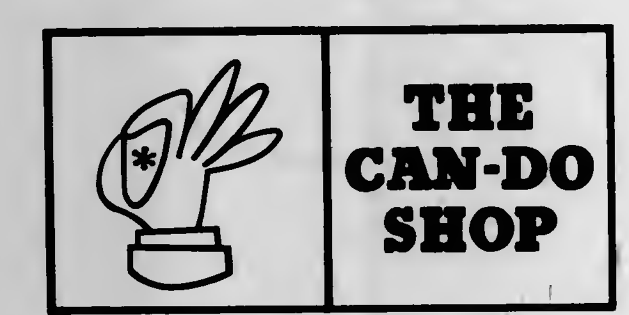
For Staples for Use in Desk-Type Staplers (Int. Cl. 16).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Desk-Type Staplers (Int. Cl. 16).

First use Feb. 1, 1967.

SN 266,201. Cole National Corporation, Cleveland, Ohio. Filed Mar. 8, 1967.



The word "Shop" is disclaimed apart from the mark as shown.

Class 103—Construction and Repair

For Rendering of Consumer-Type Personal Services—Namely, Rubber Stamp Making, Key Making, Watch Repairing, and Electric Shaver Servicing (Int. Cl. 37).

Class 106—Material Treatment

For Photo Copying, Embossing, Laminating, Engraving, and Monogramming (Int. Cl. 40).

First use on or about Sept. 17, 1966.

SN 267,780. John Meyer of Norwich, Inc., Norwich, Conn. Filed Mar. 29, 1967.

JOHN MEYER OF NORWICH

The words "of Norwich" are disclaimed apart from the mark as shown. The name "John Meyer" is that of the president of applicant corporation. Owner of Reg. No. 758,874.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Ladies' Handbags (Int. Cl. 18).
First use March 1964.

Class 26—Measuring and Scientific Appliances

For Sunglasses (Int. Cl. 9).
First use Feb. 17, 1967.

Class 28—Jewelry and Precious-Metal Ware

For Costume Jewelry of Semi-Precious Metals and Materials (Int. Cl. 14).
First use March 1966.

Class 39—Clothing

For Articles of Wearing Apparel, Particularly for Women and Young Women—Namely, Sweaters, Jackets, Skirts, Walk Shorts, Slacks, Blouses, Shirts, Shells, Suits (Skirt and Pants), Coats and Raincoats, Dresses, Jeans, Bathing Suits, Beach Robes and Coats, Lingerie, Hats, Head Scarves, and Hose (Int. Cl. 25).
First use March 1960.

SN 269,844. B. Freudenberg Inc., New York, N.Y. Filed Apr. 24, 1967.

Class 100—Miscellaneous

For Engineering and Consulting Services in the Field of Electronics (Int. Cl. 42).

Class 101—Advertising and Business

For Distributorship Services in the Field of Electronic Equipment (Int. Cl. 35).

Class 103—Construction and Repair

For Servicing of Electronic Equipment (Int. Cl. 37).

First use July 1963.

SN 272,990. The Tanglefoot Company, Grand Rapids, Mich. Filed June 5, 1967.

TANGLEFOOT

Owner of Reg. No. 57,566.

Class 6—Chemicals and Chemical Compositions

For Insecticides, Fungicides, Herbicides, Rodenticides, Pesticides, Residual Insect Spray, Bird Repellent, a Sticky Preparation for Application to Trees, Vines and Shrubs Adapted To Catch and Hold Insects or To Repel Them, and Tree Wound Dressing and Grafting Compound (Int. Cls. 1 and 5).
First use January 1888.

Class 10—Fertilizers

For Plant Hormones (Int. Cl. 1).
First use 1959.

SN 277,324. Juvare, Inc., Salisbury, N.C. Filed Aug. 2, 1967.

Class 51—Cosmetics and Toilet Preparations

For Preparations for the Hair—Namely, Hair Spray, Hair Rinse, and Hair Setting Lotion (Int. Cl. 3).

Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 3).

First use May 8, 1944.

SN 282,231. Diamond Laboratories, Inc., Des Moines, Iowa. Filed Oct. 11, 1967.

DIA-GLO S.A.

Class 18—Medicines and Pharmaceutical Preparations

For Pharmaceutical Feed Additive for Food for Dogs, Cats, and Other Pets (Int. Cl. 5).

Class 46—Foods and Ingredients of Foods

For Food for Dogs, Cats, and Other Pets (Int. Cl. 31).

First use July 1965.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1 — Raw or Partly Prepared Materials

SN 255,702. Gallagher Corporation, Glenview, Ill. Filed Oct. 4, 1966.

CHEMGIN

For Urethane Elastomers Sold in the Form of Blocks of Standard or Special Shapes and Dimensions (Int. Cl. 17).
First use Feb. 25, 1965.

SN 264,787. American Cyanamid Company, Wayne, N.J. Filed Feb. 16, 1967.

ACCOBOND

Owner of Reg. Nos. 634,265 and 675,406.
For Synthetic Resin and Catalyst Therefor, Sold as a Two-Part Package for Use in Preparing an Adhesive Composition (Int. Cl. 1).
First use Sept. 9, 1966.

SN 270,910. Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany. Filed May 8, 1967.

TROVIPOR

Owner of German Reg. No. 770,954, dated Jan. 25, 1963.
For Foamy Synthetic Plastic in the Form of Blocks, Tracks, Plates, Foils, and Rods (Int. Cl. 17).

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 269,463. Sirco Products Co., Inc., Mount Vernon, N.Y. Filed Apr. 18, 1967.

BUENO

The word "Bueno" is a Spanish word meaning, "good or perfect in its kind."
For Purses, Clutch Bags, Wallets, Key Cases, and Cosmetic Bags Sold Empty (Int. Cl. 18).
First use Feb. 1, 1967.

Class 4 — Abrasives and Polishing Materials

SN 273,493. Ex/Static Chemical Corporation, Columbus, Ohio. Filed June 9, 1967.

No claim is made to the word "Shine" apart from the mark as shown. Owner of Reg. No. 605,653.
For Liquid Preparation for Cleaning and Polishing Plastic, Porcelain, Metal, and Enamel Surfaces (Int. Cl. 3).
First use Jan. 16, 1957.

Class 5 — Adhesives

SN 273,016. Amicon Corporation, Lexington, Mass. Filed June 5, 1967.

UNISET

For Curable Adhesive Composition (Int. Cl. 1).
First use Mar. 3, 1967.

Class 6 — Chemicals and Chemical Compositions

SN 266,332. India Arts, San Francisco, Calif. Filed Mar. 9, 1967.

YOGA

For Incense (Int. Cl. 3).
First use Jan. 22, 1967.

SN 269,397. Buckman Laboratories, Inc., Memphis, Tenn. Filed Apr. 18, 1967.

BUFLEX

For Chemical Composition Used as a Low Temperature Polymeric Plasticizer for Use With Polyvinyl Chloride and Other Thermoplastic Resins (Int. Cl. 1).
First use Apr. 5, 1967.

SN 269,540. H. Kohnstamm & Co., Inc., New York, N.Y. Filed Apr. 19, 1967.

SOLV-FINISH

For Synthetic Chemical Preparation Used To Give Dry Cleaned Fabrics the Starch-Like Effect Normally Acquired in Laundering (Int. Cl. 3).
First use Sept. 26, 1966.

SN 270,163. The Selig Chemical Industries, Inc., Atlanta, Ga. Filed Apr. 27, 1967.

SUN DROPS

The word "Drops" is disclaimed apart from its use in the mark as a whole.
For Highly Concentrated Deodorant for Institutional, Industrial, and Household Use (Int. Cl. 5).
First use not later than Jan. 22, 1964.

SN 274,013. Witco Chemical Company, Inc., New York, N.Y. Filed June 15, 1967.

SONO JELL

The word "Jell" is disclaimed apart from the mark as shown.
For Prepared Composition Consisting of White Mineral Oil, Petrolatum, and Paraffin Wax, Used in the Manufacture of Cosmetic Cleansing Creams of the Waterless, Non-Emulsion Type, and as a Base for Making Hair Dressings and Skin Ointments (Int. Cl. 4).
First use Aug. 1, 1925.

SN 274,092. Requa Manufacturing Co., Inc., Brooklyn, N.Y. Filed June 16, 1967.

CHARO

For Refrigerator and Ice Box Deodorizers (Int. Cl. 5).
First use April 1912.

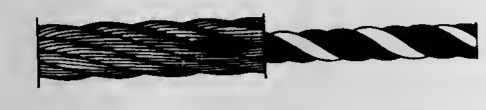
SN 288,465. Diamond Shamrock Corporation, Cleveland, Ohio. Filed Jan. 10, 1968.

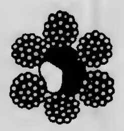
KINSOFT

For Fabric Softener for Use in Professional Laundries (Int. Cl. 3).
First use Oct. 27, 1967.

Class 7 — Cordage

SN 238,930. CF & I Steel Corporation, Denver, Colo., by change of name from The Colorado Fuel and Iron Corporation, Denver, Colo. Filed Feb. 16, 1966.





The trademark consists of red, white, and blue colored strands forming a structural part of the core or wire rope. The drawing is lined for the colors red and blue. No claim is made to the representation of the goods. Owner of Reg. No. 831,310.
For Wire Rope, Including Plastic Core Forming a Part Thereof (Int. Cl. 6).
First use in or about December 1965.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 275,526. Holland & Holland Limited, London, England. Filed July 7, 1967.

HOLLAND & HOLLAND

Owner of British Reg. No. 644,631, dated Feb. 7, 1946.
For Sporting Guns and Sporting Rifles (Int. Cl. 13).
First use May 28, 1885; in commerce Nov. 23, 1921.

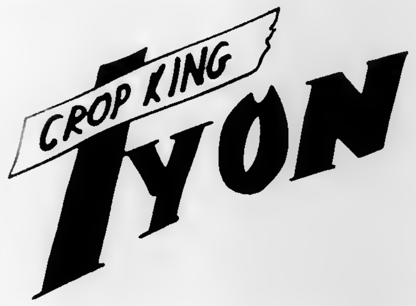
Class 10 — Fertilizers

SN 268,457. Diamond Alkali Company, Cleveland, Ohio. Filed Apr. 6, 1967.

"ONE STEP"

For Combination Plant Food-Insecticide (Int. Cl. 1).
First use Jan. 16, 1967.

SN 272,657. Woods Industries, Inc., d.b.a. Crop King Company, Yakima, Wash. Filed May 29, 1967.



For Hormone Spray for the Prevention of Premature Drop of Apples and Pears (Int. Cl. 1).
First use August 1945.

SN 285,418. W. R. Grace & Co., New York, N.Y. Filed Nov. 22, 1967.

BIO-GRO

For Combinations of Essential Secondary and Micro Plant Foods Added to General Purpose Plant Foods (Int. Cl. 1).
First use Mar. 30, 1967.

Class 11 — Inks and Inking Materials

SN 273,072. Interchemical Corporation, New York, N.Y. Filed June 5, 1967.

POLYTUF

For Screen Process Inks (Int. Cl. 2).
First use Mar. 13, 1967.

Class 12 — Construction Materials

SN 250,531. Textron, Inc., Providence, R.I. Filed July 18, 1966.

PARKERSBURG

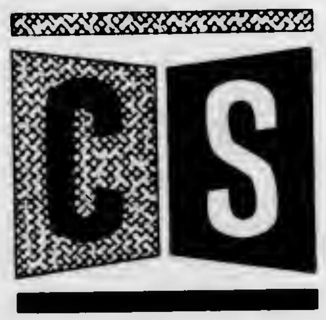
For Pre-Engineered Metal Building for Industrial, Commercial, Farm, Civic, and Recreational Use (Int. Cl. 6).
First use October 1946.

SN 267,993. The Standard Products Company, Cleveland, Ohio. Filed Mar. 30, 1967.

STANSTRIP

For Resilient Sealing Strips, Particularly for Sealing the Lower Edges of Vertically Movable Doors (Int. Cl. 17).
First use as early as Jan. 1, 1955.

SN 268,942. Carolina Steel Corporation, Greensboro, N.C. Filed Apr. 12, 1967.



The drawing is lined for the color orange.
For Structural Steel Including I-Beams, Channel Members, Angle Irons, Bar Joists, Roof Decking, Sheet Iron and Plates, Among Other Steel Structural Members (Int. Cl. 6).
First use June 1959.

SN 269,703. Tombill Corporation, Franklin Park, Ill. Filed Apr. 20, 1967.

FLOW-STONE

For Dry Cement Mix (Int. Cl. 19).
First use Mar. 30, 1967.

SN 270,361. Daryl Industries, Inc., Miami, Fla. Filed May 1, 1967.

ROLL-A-GLIDE

For Sliding Glass and Aluminum Windows (Int. Cl. 19).
First use on or about Jan. 13, 1967.

SN 271,330. Allied Compositions Co., Inc., Maspeth, N.Y. Filed May 12, 1967.

DURALOX

For Floor Patching and Finishing Material. (Int. Cl. 19).
First use Nov. 22, 1953.

SN 271,512. Practical Products Corp., Dallas, Tex. Filed May 15, 1967.

Instant
UTILITY

For Folding Shelters—Namely, Dog Houses (Int. Cl. 20).
First use May 5, 1967.

SN 271,951. Marine Barriers, Inc., Avalon, Calif. Filed May 19, 1967.

SNAP-WRAP

For Synthetic Plastic Enclosures for Wooden Piles To Prevent Marine Borer Attack on Such Piles (Int. Cl. 19).
First use Mar. 3, 1967.

SN 272,176. J. Ralph Duncan, Abilene, Tex. Filed May 23, 1967.

For Prefabricated Cornices (Int. Cl. 19).
First use June 5, 1964.

SN 272,195. Logan Co., Louisville, Ky. Filed May 23, 1967.

CHAN-A-LINE

For Channel Framed Woven Wire Partition Units (Int. Cl. 6).
First use Apr. 14, 1967.

SN 273,223. Burnham Corporation, Irvington-on-Hudson, N.Y. Filed June 5, 1967.

ORLYT IMPERIAL

Owner of Reg. No. 376,487.
For Greenhouses (Int. Cl. 19).
First use May 24, 1967.

SN 273,409. Penn Valley Polymers Company, Phoenixville, Pa. Filed June 8, 1967.

ULTRATITE

For Sealing and Caulking Compounds (Int. Cl. 17).
First use at least as early as Nov. 31, 1960.

SN 273,850. C & B Silo Company, Charlotte, Mich. Filed June 14, 1967.

HYDRO-PRESSED

For Concrete Staves (Int. Cl. 19).
First use Mar. 7, 1966.

SN 273,851. C & B Silo Company, Charlotte, Mich. Filed June 14, 1967.

HYDRA-CRETE

For Concrete Slabs (Int. Cl. 19).
First use Dec. 5, 1966.

SN 273,957. The B. F. Goodrich Company, Akron, Ohio. Filed June 15, 1967.

LOK-RIB

For Waterstop Strips for Embedment in Adjoining Masses of Concrete (Int. Cl. 19).
First use June 1, 1967.

SN 274,049. Concrete Plank Co., Inc., Arlington, N.J. Filed June 16, 1967.

POREX

For Cement Bound Wood Fiber Slab (Int. Cl. 19).
First use May 1937.

SN 274,453. North American Aluminum Corporation, Kalamazoo, Mich. Filed June 21, 1967.

NAARCOLOR

For Aluminum Architectural Products—Namely, Windows, Vents, Fascia, Louvers, Sheet Panels, Panel Frames, and Curtain Walls (Int. Cl. 6).
First use May 1, 1965.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 232,782. Karl Hinz, Solingen-Wald, Germany. Filed Nov. 16, 1965.

HEIMSYPHON

For Syphons for Dispensing Soda Water (Int. Cl. 21).
First use 1927; in commerce June 1963.

SN 251,435. JMJ Corporation, Portland, Oreg. Filed Aug. 1, 1966.

BAC 2 BAC

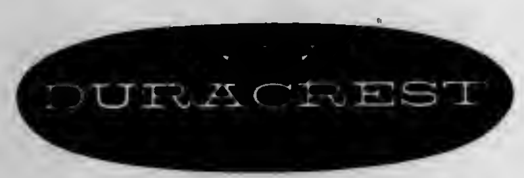
For Plumbing Fixtures—Namely, Manifolds (Int. Cl. 6).
First use Aug. 14, 1964.

SN 252,220. Thornhill-Craver Company, Houston, Tex. Filed Aug. 11, 1966.

PLUGLOK

For Pipe Line Closures, Pipe Line Blowdowns, Adjustable Chokes, Positive Chokes, Long Nose Heater Chokes, Wing Valves, Couplings, Christmas Tree Caps, Crosses, and T's (Int. Cl. 6).
First use Dec. 16, 1965.

SN 257,288. Metro Wholesale Corporation, New York, N.Y. Filed Oct. 26, 1966.



Owner of Reg. Nos. 811,624, 761,169, and others.
For Wood and Plastic Toilet Seats, Lawn Sprinklers, Fry Pans, Griddles, Sauce Pans, Mixing Bowls, Tea Kettles, Muffin Pans, Loaf Pans, Cake Pans, Cookie Pans, Cookie Sheets, and Aluminum Step and Extension Ladders (Int. Cls. 6, 11, 20, and 21).
First use October 1960.

SN 257,510. Dan Polos Industries, Inc., Addison, Ill. Filed Oct. 28, 1966.

RED DOT DOLLY

For Fastening Device Used in the Construction, Hardware, and Kindred Fields—Namely, Self-Drilling Anchor Bolt Assembly for Hollow-Wall Fastening (Int. Cl. 6).
First use Dec. 20, 1965.

SN 269,879. G.K.N. Screws & Fasteners Limited, Birmingham, England. Filed Apr. 24, 1967.

AEROTIGHT

For Nuts (Int. Cl. 6).
First use 1947; in commerce 1947.

SN 270,758. Crawford Fitting Company, Solon, Ohio. Filed May 5, 1967.

THEY WORK

For Tube Fittings, Quick Connect Couplings, and Valves (Int. Cl. 6).
First use Feb. 28, 1967.

SN 273,316. Senco Products, Inc., Cincinnati, Ohio. Filed June 7, 1967.

SENCOTE

Owner of Reg. Nos. 582,027 and 582,028.
For Staples (Int. Cl. 6).
First use June 1962.

SN 273,317. Senco Products, Inc., Cincinnati, Ohio. Filed June 7, 1967.

SEN-NAILS

Owner of Reg. Nos. 582,027 and 582,028.
For Nails (Int. Cl. 6).
First use Jan. 21, 1967.

SN 273,393. The Gould-Mersereau Co., Inc., New York, N.Y. Filed June 8, 1967.

SPECTRACK

For Drapery Track (Int. Cl. 6).
First use June 2, 1965.

SN 273,764. Robert A. Gilmour, d.b.a. Gilmour Manufacturing Co., Somerset, Pa. Filed June 13, 1967.

AQUA-WHIRL

For Lawn Sprinklers (Int. Cl. 21).
First use Sept. 9, 1966.

SN 273,996. D. B. Smith & Company, Inc., Utica, N.Y. Filed June 15, 1967.

AQUAMATIC

Owner of Reg. No. 234,732.
For Hoze Nozzles and Spray Nozzles (Int. Cl. 11).
First use January 1932.

SN 287,783. Eastern Products Corporation, Baltimore, Md. Filed Dec. 29, 1967.

DUOTRAX

For Traverse Rods for Hanging Drapery (Int. Cl. 20).
First use Apr. 16, 1954.

Class 14 — Metals and Metal Castings and Forgings

SN 265,742. Nathaniel E. Slavin, d.b.a. N. E. Slavin & Co., Cambridge, Mass. Filed Mar. 1, 1967.

ROBLINGER

For Steel in Raw Form, Strips, Bars, and Tubing (Int. Cl. 6).
First use Jan. 4, 1960.

Class 15 — Oils and Greases

SN 273,161. Bel-Art Products, Pequannock, N.J. Filed June 6, 1967.

FLUO-KEM

For Anti-Stick Spray, Dry Film Lubricant (Int. Cl. 4).
First use Aug. 2, 1965.

Class 16 — Protective and Decorative Coatings

SN 255,483. The Valspar Corporation, Rockford, Ill. Filed Sept. 29, 1966.

ROCK-TAR

Owner of Reg. Nos. 366,643, 555,210, and 722,980.
For Epoxy-Type Coatings in the Nature of Paint Intended Primarily for Heavy Duty Exterior Use (Int. Cl. 2).
First use on or about Dec. 24, 1957.

SN 257,091. Rust-Oleum Corporation, Evanston, Ill. Filed Oct. 24, 1966.

STOPS RUST

Owner of Reg. Nos. 632,437, 734,800, and others.
For Surface Coating Compositions—Namely, Rust-Preventive Paint and Enamel Surface Coating Compositions for the Protection of Metal Surfaces, Including Ferrous Metal Surfaces, From Corrosion; Rust-Preventive, Chemical-Resistant Paint and Enamel Surface Coatings, Rust-Preventive Heat Resistant Paint and Enamel Surface Coatings; Rust-Preventive Water-Resistant Paint and Enamel Surface Coatings; and Rust-Preventive Acid-Resisting Paint and Enamel Surface Coatings (Int. Cl. 2).
First use on or about Apr. 30, 1951.

SN 268,114. Ziebart Process Corp., Detroit, Mich. Filed Mar. 31, 1967.

ZIEBART XL5

For Rustproofing Compounds in the Nature of a Coating (Int. Cl. 2).
First use on or about Oct. 1, 1965.

Class 17 — Tobacco Products

SN 275,082. Snug Harbour Tobacconists, Ltd., New York, N.Y. Filed June 29, 1967.

SNUG HARBOUR

For Pipe Tobacco (Int. Cl. 34).
First use June 8, 1967.

Class 18 — Medicines and Pharmaceutical Preparations

SN 238,859. Geigy Chemical Corporation (New York corporation), Ardsley, N.Y., by merger from Geigy Chemical Corporation (Delaware corporation), Ardsley, N.Y. Filed Feb. 15, 1966.

IMNEX

For Anti-Tussive Preparation (Int. Cl. 5).
First use Jan. 28, 1966.

SN 252,847. Edward H. Greenwood, Saginaw, Mich. Filed Aug. 22, 1966.

E. H. GREENWOOD

For Ointment for Ereatment of Psoriasis (Int. Cl. 5).
First use February 1966.

SN 261,124. Zirin Veticeuticals, Inc., Hialeah, Fla. Filed Dec. 19, 1966.

VETICEUTICALS

For Veterinary Medicines and Health Aids—Namely, Vitamins, Hormones, Blood Building Tonics, and Mineral Supplements for Treating Various Animal Ailments (Int. Cl. 5).
First use Jan. 16, 1957.

SN 263,469. M. R. Leclerc & Co., Schaffhouse, Switzerland. Filed Jan. 27, 1967.

TA-RO

Owner of Swiss Reg. No. 191,041, dated Mar. 19, 1962; and U.S. Reg. No. 777,262.
For Contraceptive and Local Disinfectant (Int. Cl. 5).

SN 265,170. Ciba Corporation, d.b.a. The Gland-O-Lac Company, New York, N.Y. Filed Feb. 21, 1967.

TEE-34

Owner of Reg. Nos. 628,974, 636,368, and others.
For Wormer Preparation for Chickens, Turkeys, and Swine (Int. Cl. 5).
First use May 1965.

SN 268,576. Central Soya Company, Inc., Fort Wayne, Ind. Filed Apr. 7, 1967.

GILT EDGE

Owner of Reg. Nos. 719,010 and 824,047.
For Medicated Feed Supplement for Treatment of Sows Before and After Farrowing for Prevention of Bacterial Scours in Baby Pigs (Int. Cl. 5).
First use on or before Mar. 16, 1967.

SN 268,617. Rexall Drug and Chemical Company, d.b.a. Riker Laboratories, Los Angeles, Calif. Filed Apr. 7, 1967.

ARTHRIN

For Analgesic (Int. Cl. 5).
First use Mar. 16, 1967.

SN 269,164. Bristol-Myers Company, New York, N.Y. Filed Apr. 14, 1967.

dura max

Owner of Reg. No. 811,263.
For Analgesic (Int. Cl. 5).
First use Sept. 6, 1966.

SN 270,558. Dirucap Corporation, Chicago, Ill. Filed May 3, 1967.

DIURCAPS

For Reducing Aid Capsules Containing Preparations Providing a Mild Diuretic Action and Constituting an Aid in Appetite Depression for Weight Reduction When Used in Conjunction With Specified Dieting Plans (Int. Cl. 5).
First use Jan. 10, 1967.

SN 270,826. Vit-A-Way, Inc., Fort Worth, Tex. Filed May 5, 1967.

LOT-O-LASS

For Protein, Mineral, and Vitamin Feed Supplement for Livestock, Containing Molasses and Other Medicinal Ingredients (Int. Cl. 5).
First use Apr. 1, 1967.

SN 270,885. Bristol-Myers Company, New York, N.Y. Filed May 8, 1967.

PROGRAM

For Antacid Tablet (Int. Cl. 5).
First use Feb. 10, 1967.

SN 272,696. Chatham Pharmaceuticals, Inc., Newark, N.J. Filed May 31, 1967.

KOAGAMIN

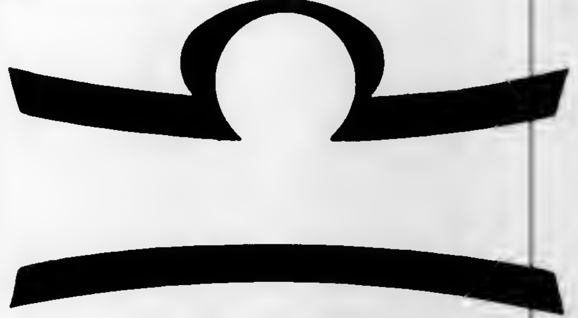
Owner of Reg. Nos. 387,469 and 393,080.
For Hemostatic Preparation (Int. Cl. 5).
First use May 1938.

SN 272,697. Chatham Pharmaceuticals, Inc., Newark, N.J. Filed May 31, 1967.

CHATHAM

Owner of Reg. No. 508,448.
For Hemostatics, Medicinal Preparations for Treatment of Hyperacidity and for Ointments for Treatment of Burns and Skin Diseases (Int. Cl. 5).
First use Oct. 28, 1942.

SN 272,700. Chemie Grünenthal G.m.b.H., Stolberg im Rhineland, Germany. Filed May 31, 1967.



Owner of German Reg. No. 798,303, dated Dec. 11, 1964; and U.S. Reg. No. 599,566.
For Antibiotics, Chemotherapeutics, Cytostatics, Circulation Remedies, Sedatives, Hypnotics, Antineuralgics, Antirheumatics, Antipyretics, Antigens, Vaccines, Sera, Antitoxins and Toxoids, Metabolism Remedies (Liver, Bile, Kidneys), Vitamins and Vitamin Preparations, Disinfectants, Roentgen Contrast Preparations, Diagnostics, Asthma Remedies, Tonics, Hormones, and Hormone Preparations (Int. Cl. 5).

SN 273,012. Abbott Laboratories, d.b.a. Ross Laboratories, North Chicago, Ill. Filed June 5, 1967.

PEDIAFLOR

Owner of Reg. Nos. 567,787 and 567,788.
For Fluoride Preparation for Pediatric Use (Int. Cl. 5).
First use Sept. 2, 1965.

SN 282,268. Chesebrough-Pond's Inc., New York, N.Y. Filed Oct. 11, 1967.

MATCHMAKERS

For Medicated Face Powders To Inhibit Growth of Skin Bacteria and To Help Prevent Future Blemishes (Int. Cl. 5).
First use Sept. 27, 1967.

SN 282,484. Syntex Laboratories, Inc., Palo Alto, Calif. Filed Oct. 13, 1967.

NORIDAY

For Steroid Hormones (Int. Cl. 5).
First use Sept. 22, 1967.

SN 289,452. Mead Johnson & Company, Evansville, Ind. Filed Jan. 24, 1968.

FENTRINAL

Owner of Reg. Nos. 690,434 and 810,386.
For Topical Nasal Decongestant (Int. Cl. 5).
First use on or prior to Aug. 9, 1967.

SN 289,453. Mead Johnson & Company, Evansville, Ind. Filed Jan. 24, 1968.

LOTYROGEN

Owner of Reg. Nos. 397,676, 830,280, and others.
For Special Dietary Product of Specific Amino Acid Composition for the Treatment of Metabolic Disorders (Int. Cl. 5).
First use on or prior to Dec. 28, 1967.

SN 289,454. Mead Johnson & Company, Evansville, Ind. Filed Jan. 24, 1968.

CELAGEN

Owner of Reg. Nos. 397,676, 830,280, and others.
For Special Dietary Product of Specific Amino Acid Composition for the Treatment of Metabolic Disorders (Int. Cl. 5).
First use on or prior to Dec. 28, 1967.

SN 289,455. Mead Johnson & Company, Evansville, Ind. Filed Jan. 24, 1968.

LOTYROLAC

Owner of Reg. Nos. 219,116, 829,214, and others.
For Special Dietary Product of Specific Amino Acid Composition for the Treatment of Metabolic Disorders (Int. Cl. 5).
First use on or prior to Dec. 28, 1967.

SN 289,641. Miles Laboratories, Inc., Elkhart, Ind. Filed Jan. 26, 1968.

ALKA-2

For Antacid (Int. Cl. 5).
First use on or before Nov. 30, 1967.

SN 289,645. Richardson-Merrell Inc., New York, N.Y. Filed Jan. 26, 1968.

VANTAGE

For Antacid (Int. Cl. 5).
First use Jan. 3, 1968.

Class 19—Vehicles

SN 249,701. The Glastic Corporation, Cleveland, Ohio. Filed June 23, 1966.

GLASTIC

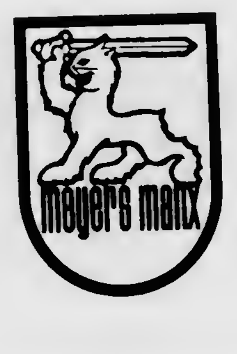
Owner of Reg. Nos. 423,453, 694,392, and others.
For Glass Fiber Reinforced Plastic Members—Namely, Doors and Exterior Panels for Motor Vehicles, and Sail Battens for Boats (Int. Cl. 12).
First use in or about May 1963.

SN 251,295. Jefferey L. Fried, d.b.a. Walton-March, Highland, Park, Ill. Filed July 29, 1966.

WHIPPET

For Movable Maintenance Units Consisting of a Cart Mounted on Wheels and Carrying One or More Trays and a Bag (Int. Cl. 12).
First use July 1965.

SN 258,564. B. F. Meyers & Company, Newport Beach, Calif. Filed Nov. 14, 1966.



For Automobiles, Components Thereof and Accessories for Use Therewith—Namely, Automobile Bodies and Body Shells, Hoods, Dashboards, Tops, Bumpers, Rollbars, Skid Plates, and Towbars (Int. Cl. 12).
First use Oct. 31, 1964.
Subj. to Intf. with SN 256,364.

SN 259,676. Railroad Dynamics, Inc., Newtown Square, Pa. Filed Nov. 29, 1966.

MDA

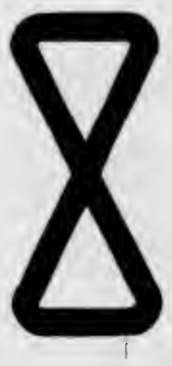
For Damping Mechanisms for Use Between the Trucks and Body of a Railroad Car To Dampen the Motion of Said Body (Int. Cl. 12).
First use Feb. 15, 1966.

SN 267,346. New Frontier Corporation, Grand Rapids, Mich. Filed Mar. 22, 1967.

SCATMOBILE

For Multiple Terrain Land Vehicles (Int. Cl. 12).
First use on or about Sept. 24, 1966.

SN 272,794. Aluminum Company of America, Pittsburgh, Pa. Filed June 1, 1967.



For Wheels for Autos and Trucks (Int. Cl. 12).
First use Oct. 1, 1955.

SN 272,937. John E. Mitchell Company, Dallas, Tex. Filed June 2, 1967.

COLDSTREAM

For Air Conditioners for Vehicles, and Parts Thereof (Int. Cl. 11).
First use Mar. 23, 1966.

SN 273,024. D. K. Barnes, Inc., Spokane, Wash. Filed June 5, 1967.

Fiberform

For Boats (Int. Cl. 12).
First use June 21, 1957.

SN 274,826. Nu-Way Manufacturing Company, Inc., Barnard, Kans. Filed June 26, 1967.

MAT-TRUC

For Self-Propelled Agricultural Type Wagon (Int. Cl. 12).
First use Mar. 1, 1967.

SN 274,991. Schwinn Bicycle Company, Chicago, Ill. Filed June 28, 1967.

"ORANGE CRATE"

For Bicycles (Int. Cl. 12).
First use June 12, 1967.

Class 20—Linoleum and Oiled Cloth

SN 255,403. American Biltrite Rubber Co., Inc., Trenton, N.J. Filed Sept. 29, 1966.

CHATEAU

Owner of Reg. Nos. 385,013 and 809,187.
For Vinyl Flooring (Int. Cl. 27).
First use July 1965.

SN 260,651. Congoleum-Nairn Inc., Kearny, N.J. Filed Dec. 13, 1966.

SPRING LAWN

For Plastic Composition Coverings of the Solid Surface, Resilient Type for Surfaces Such as Floors, Walls, Countertops, and the Like, in the Form of Rolls, Rugs, and Tiles (Int. Cl. 27).
First use Nov. 22, 1966.

SN 270,897. Congoleum-Nairn Inc., Kearny, N.J. Filed May 8, 1967.

THE WONDERFUL WORLD OF CONGOLEUM-NAIRN

For Plastic Coverings of the Smooth Surface, Resilient Type for Surfaces Such as Floors, Walls, Countertops, and the Like, in the Form of Rolls, Rugs, and Tiles (Int. Cl. 27).
First use Apr. 19, 1967.

SN 270,900. Congoleum-Nairn Inc., Kearny, N.J. Filed May 8, 1967.

HAWAIIAN CORAL

For Plastic Coverings of the Smooth Surface, Resilient Type for Surfaces Such as Floors, Walls, Countertops, and the Like, in the Form of Rolls, Rugs, and Tiles (Int. Cl. 27).
First use Apr. 19, 1967.

SN 275,239. Congoleum-Nairn Inc., Kearny, N.J. Filed July 3, 1967.

PERSIAN TILE

For Plastic Coverings of the Smooth Surface, Resilient Type for Surfaces Such as Floors, Walls, Countertops, and the Like, in the Form of Rolls, Rugs, and Tiles (Int. Cl. 27).
First use June 13, 1967.

SN 286,977. Stix Products, Inc., New York, N.Y. Filed Dec. 15, 1967.

CARESSE

For Plastic Wall, Shelf, and Table Top Covering (Int. Cl. 27).
First use Dec. 13, 1967.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 240,982. Telemation, Inc., Salt Lake City, Utah. Filed Mar. 14, 1966.

TELECTERN

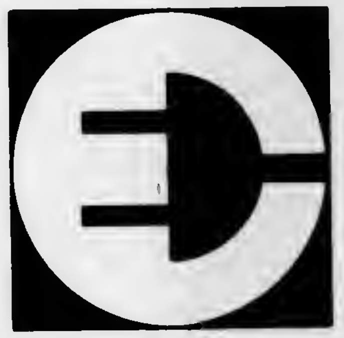
For Television Systems Comprising a Lectern With Television Monitor Equipment, Overhead Televising Apparatus, and Associated Switch Control Circuitry (Int. Cl. 9).
First use during October 1964.

SN 243,439. Gould-National Batteries, Inc., St. Paul, Minn. Filed Apr. 14, 1966.

SOLAR

For Automotive Wet-Cell Storage Batteries (Int. Cl. 9).
First use 1954.

SN 253,292. Elgar Electronics Corporation, San Diego, Calif. Filed Aug. 29, 1966.



The representation of the electric plug is disclaimed apart from the mark as shown.
For A.C. Line Conditioners Comprising Feed Back Control Systems Which Continuously Compare the Instantaneous Values of Output Voltages to Stable Internal Harmonic Free A.C. Reference Voltages (Int. Cl. 9).
First use June 29, 1965.

SN 253,974. Lafayette Radio Electronics Corporation, Syosset, N.Y. Filed Sept. 7, 1966.

DYNA-COM 5

For Transceivers (Int. Cl. 9).
First use Aug. 26, 1966.

SN 258,660. American Hospital Supply Corporation, Evanston, Ill. Filed Nov. 15, 1966.

TOMAC

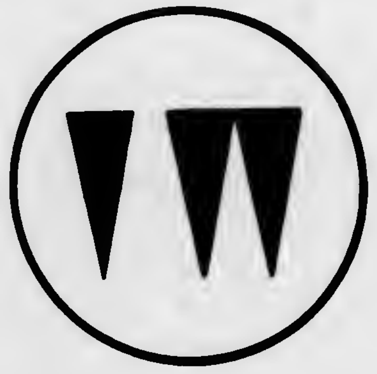
For Floor and Wall Lamps, Bed Lamps, Flashlights, and Fans (Int. Cl. 11).
First use in or before June 1924.

SN 267,600. Associated Importers, San Francisco, Calif. Filed Mar. 27, 1967.

MIKADO

For Stereo Receiver (Int. Cl. 9).
First use Mar. 17, 1966.

SN 267,693. Van Wyck International Corporation, New York, N.Y. Filed Mar. 27, 1967.



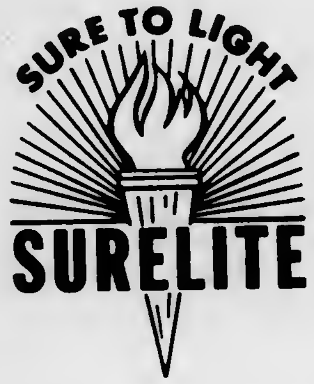
For Electrical Appliances—Namely, Can Openers, Hand Mixers, and Combination Can Opener With Knife Sharpener (Int. Cl. 7).
First use Dec. 8, 1966.

SN 268,245. Ultra-Violet Products, Inc., San Gabriel, Calif. Filed Apr. 3, 1967.

BLAK-RAY

Owner of Reg. Nos. 643,531, 772,340, and others.
For Fluorescent Lamp Lighting Fixtures for General Purpose Outside Lighting, Floodlighting, Accent Lighting, and Illuminating Large Areas (Int. Cl. 11).
First use July 26, 1966.

SN 270,013. Surelite Products Company, Inc., Bronx, N.Y. Filed Apr. 25, 1967.



For Electric Starter for Fluorescent Lights (Int. Cl. 11).
First use March 1953.

SN 272,113. Sunbeam Lighting Company, Los Angeles, Calif. Filed May 22, 1967.

SUNWOOD

For Electrical Lighting Fixtures (Int. Cl. 11).
First use on or about June 1, 1966.

SN 272,249. AMP Incorporated, Harrisburg, Pa. Filed May 24, 1967.

COMBO LINE

No claim is made to the word "Line" apart from the mark as shown.
For Electrical Connectors (Int. Cl. 9).
First use May 1, 1967.

SN 274,201. Genisco Technology Corporation, Compton, Calif. Filed June 19, 1967.

R-LITE

Applicant disclaims the word "Lite" apart from the mark as shown.
For Miniature Lamps, Lamp Holders, and Lamp Sockets (Int. Cl. 11).
First use Oct. 15, 1965.

SN 274,202. Genisco Technology Corporation, Compton, Calif. Filed June 19, 1967.

C-LITE

Applicant disclaims the word "Lite" apart from the mark as shown.
For Miniature Lamps, Lamp Holders, and Lamp Sockets (Int. Cl. 11).
First use July 1, 1961.

SN 275,506. Bell Hospital Systems, Inc., Bridgeport, Conn. Filed July 7, 1967.

STERIREGISTER

For Electronic Signaling System Connecting a Plurality of Stations To Indicate the Presence or Absence of a Person (Int. Cl. 9).
First use June 22, 1967.

SN 275,562. The Thomas & Betts Co., Elizabeth, N.J. Filed July 7, 1967.

ELIPTI-GRIP

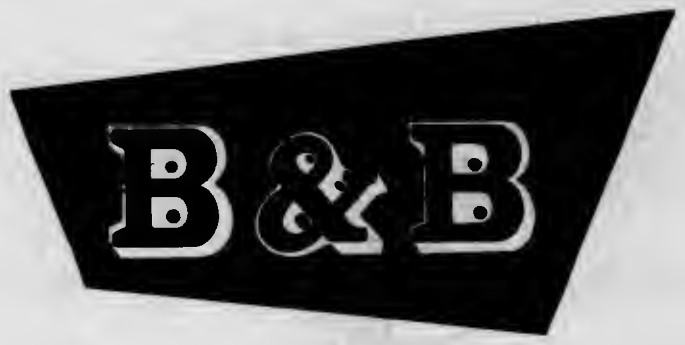
For Electrical Connecting Lugs, Solderless Electrical Connectors and Terminals, Taps, Slicers, Couplers, and Block Disconnectors (Int. Cl. 9).
First use in or about July 1964.

SN 275,564. The Thomas & Betts Co., Elizabeth, N.J. Filed July 7, 1967.

PIGGY

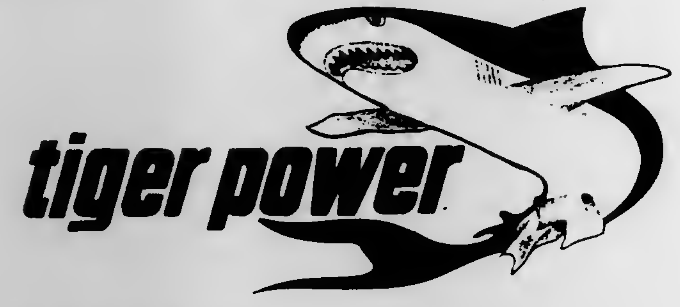
For Electrical Wire Connectors (Int. Cl. 9).
First use in or about January 1965.

SN 275,740. B & B Electronics Corp., Gardena, Calif. Filed July 11, 1967.



For Electrical Cables (Int. Cl. 9).
First use May 1, 1958.

SN 275,816. ESB Incorporated, Philadelphia, Pa. Filed July 12, 1967.



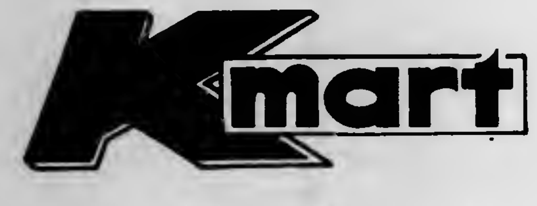
For Marine Batteries (Int. Cl. 9).
First use Feb. 28, 1966.

SN 276,872. The Ruby Lighting Corporation, New York, N.Y. Filed July 26, 1967.

LIGHTYEAR

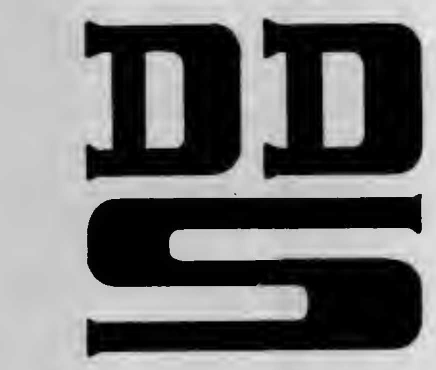
For Electrical Lighting Fixtures (Int. Cl. 11).
First use on or about June 21, 1967.

SN 277,921. S. S. Kresge Company, Detroit, Mich. Filed Aug. 9, 1967.



Owner of Reg. Nos. 743,912, 808,543, and others.
For Batteries (Int. Cl. 9).
First use on or before May 24, 1964.

SN 278,198. Digital Data Systems, Inc., Houston, Tex. Filed Aug. 14, 1967.



For Electrical Apparatus, Including Electrical Amplifiers, Converters, and Registers (Int. Cl. 9).
First use on or before Mar. 29, 1967.

SN 278,877. Crane Co., New York, N.Y. Filed Aug. 23, 1967.

HYDRO-AIRE

For Electric Motors, Electric Power Supplies, Electronically and Hydraulically Operated Actuators, Electro-Hydraulic Servo Actuators, Time Delay Relays and Parts Controls, and Components of the Foregoing (Int. Cls. 7 and 9).
First use June 21, 1967.

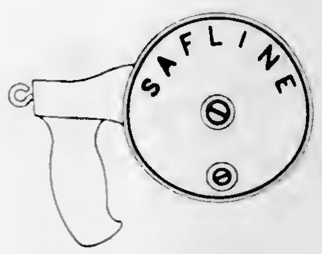
SN 287,407. TRW, Inc., New York, N.Y. Filed Dec. 22, 1967.

PIL

For Miniature Transformers Primarily Used in Transistor Circuitry (Int. Cl. 9).
First use Oct. 1, 1964.

Class 22 — Games, Toys, and Sporting Goods

SN 268,469. George E. Beiderwell, Paducah, Ky. Filed Apr. 6, 1967.



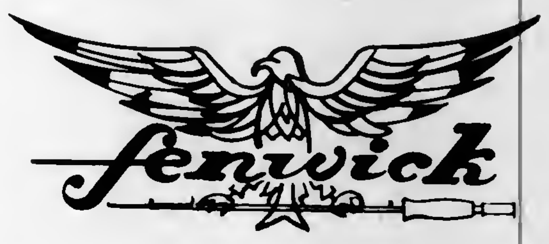
The representation of the goods, apart from the mark as shown, is hereby disclaimed.
For Life Saving Equipment Comprising a Reel and a Guide Line for Use by Firemen, Scuba Divers, Cave Explorers, and the Like in Situations Where Visibility Is Low or Non-Existent (Int. Cl. 9).
First use September 1966.

SN 269,044. Alexander Doll Company, Inc., d.b.a. Madame Alexander, New York, N.Y. Filed Apr. 13, 1967.

"KITTEN KRIES"

Owner of Reg. Nos. 726,215, 763,835, and 782,752.
For Dolls (Int. Cl. 28).
First use Mar. 14, 1967.

SN 271,698. Fenwick Products, Inc., Long Beach, Calif. Filed May 17, 1967.



No claim of exclusive right is made to the representation of the fishing pole for the goods recited.
For Fishing Rods (Int. Cl. 28).
First use Feb. 1, 1961.

SN 272,424. J. Swedlin, Inc., d.b.a. Gund Manufacturing Company, Brooklyn, N.Y. Filed May 25, 1967.

PROFESSOR POOK

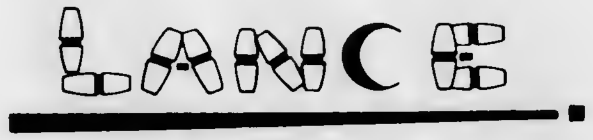
For Dolls (Int. Cl. 28).
First use May 12, 1967.

SN 272,567. Bel-Air Pools, Inc., Southfield, Mich. Filed May 29, 1967.

DUKE

For Pool Tables, Billiard Tables, Tennis Tables, and Accessories Used With These Tables Such as Cue Sticks, Pool Balls, Billiard Balls, Racks, Table Tennis Balls, Table Tennis Paddles, and Table Tennis Nets (Int. Cl. 28).
First use Sept. 1, 1965.

SN 272,863. The Soraba Corporation, Healdsburg, Calif. Filed June 1, 1967.



No claim is made to the representation of a pool cue and chalk apart from the mark.
For Apparatus for Playing a Ball and Pin Game Which Simulates a Combination of Pool and Bowling (Int. Cl. 28).
First use Apr. 20, 1967.

SN 273,166. Milton Bradley Company, Springfield, Mass. Filed June 6, 1967.

STRATEGY POKER

The term "Poker" is disclaimed apart from the mark as shown.
For Equipment Sold as a Unit for Accomplishing the Playing of a Game of Poker (Int. Cl. 28).
First use Mar. 1, 1967.

SN 273,168. Milton Bradley Company, Springfield, Mass. Filed June 6, 1967.

WORD OUT

The term "Word" is disclaimed apart from the mark as shown.
For Equipment Sold as a Unit for Playing a Solitaire Word Game (Int. Cl. 28).
First use Mar. 1, 1967.

SN 273,169. Milton Bradley Company, Springfield, Mass. Filed June 6, 1967.

WORD WILD

The term "Word" is disclaimed apart from the mark as shown.
For Equipment Sold as a Unit for Playing a Game Involving Words With Opposing Players Challenging and Bluffing Each Other in the Use of Words (Int. Cl. 28).
First use Mar. 1, 1967.

SN 273,468. Atlantic Lures, Inc., Providence, R.I. Filed June 9, 1967.

MAGIC-MINNOW

For Fishing Lures (Int. Cl. 28).
First use November 1945.

SN 275,222. Big Boy Manufacturing Co., Inc., Burbank, Calif. Filed July 3, 1967.

MOON WAGON

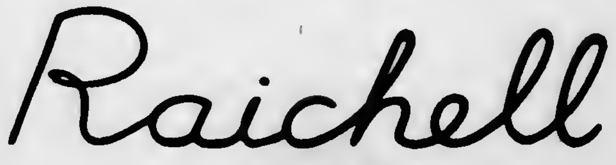
Applicant disclaims the exclusive use of the word "Wagon" apart from the mark as shown.
For Toy Wagons (Int. Cl. 28).
First use June 13, 1967.

SN 275,954. Omico Plastics Inc., Owensboro, Ky. Filed July 13, 1967.

SWAT-A-SHOT

For Toy Guns (Int. Cl. 28).
First use at least as early as Apr. 29, 1967.

SN 276,056. Bruck Tackle & Manufacturing Co., Portland, Oreg. Filed June 26, 1967.



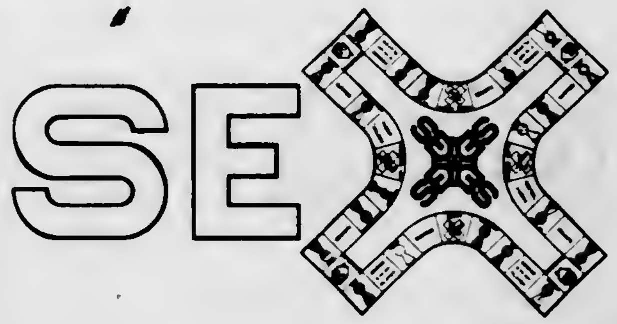
The mark "Raichell" is a coined name.
For Fishing Tackle—Namely, Reels (Int. Cl. 28).
First use November 1963.

SN 276,076. Alexander Doll Company, Inc., d.b.a. Madame Alexander, New York, N.Y. Filed July 17, 1967.

"REBECCA"

For Dolls (Int. Cl. 28).
First use July 6, 1967.

SN 282,532. Donald A. E. Beer, d.b.a. Essex Game Company, New York, N.Y. Filed Oct. 16, 1967.



The representation of the game board appearing in the letter "X" of the mark is disclaimed apart from the mark as shown.
For Equipment Sold as a Unit for Playing a Board Game (Int. Cl. 28).
First use Sept. 25, 1967.

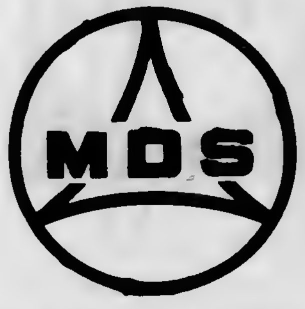
Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 231,376. Bearfoot Airway Corporation, Wadsworth, Ohio. Filed Oct. 23, 1965.

BEARFOOT CHOX

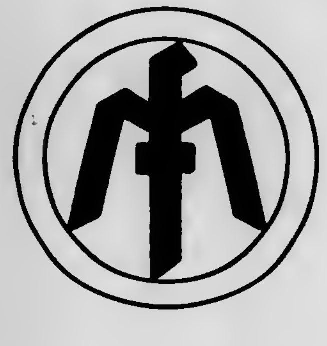
The word "Chox" is disclaimed except as part of the mark as shown.
For Rubber or Plastic Chocks for Use in the Maintenance or Service of Vehicles by Providing Positive Chocking Action for Vehicle Wheels (Int. Cl. 12).
First use June 1, 1965.

SN 237,854. Marine Drive Systems, Inc., Decatur, Ga. Filed Feb. 2, 1966.



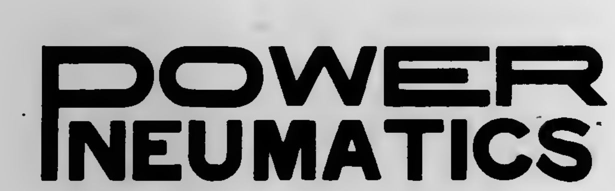
For Inboard-Outboard Marine Engine and Propulsion Units and Parts Therefor (Int. Cl. 7).
First use Nov. 24, 1965.

SN 241,911. Mannheimer Maschinenfabrik Mohr & Federhaff AG, Mannheim-Rheinau, Germany. Filed Mar. 25, 1966.



Owner of German Reg. No. 503,904 dated July 18, 1938.
For Material Handling Equipment—Namely, Cranes and Passenger and Freight Elevators (Int. Cl. 7).

SN 252,537. Albert Ray Bowers, d.b.a. Power Pneumatics Company, Bristol, Tenn. Filed Aug. 17, 1966.



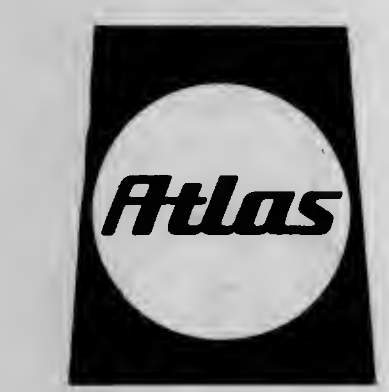
For Pneumatic Thread Choppers; Pneumatic Cylinders; Pneumatic Stopping Devices; and Pneumatic Actuated Ball Valves (Int. Cl. 7).
First use June 23, 1966.

SN 254,357. United Engineering and Foundry Company, Pittsburgh, Pa. Filed Sept. 13, 1966.

F-12

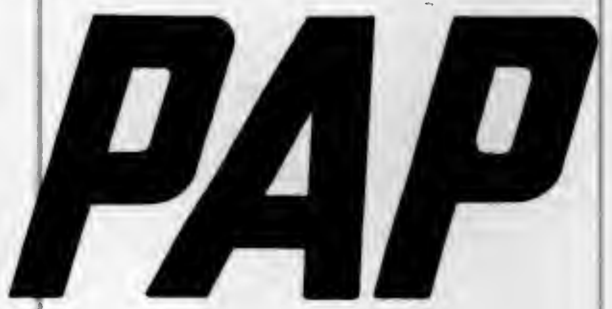
For Metal Rolls for Use in Rolling Mills for Metal, Paper, Plastic, and Rubber (Int. Cl. 7).
First use Aug. 26, 1966.

SN 254,430. Atlas Tool & Manufacturing Co., St. Louis, Mo. Filed Sept. 14, 1966.



Owner of Reg. Nos. 719,950 and 755,889.
For Lawn Power Mowers and Rotary Earth Tillers (Int. Cl. 7).
First use Sept. 1, 1966.

SN 255,776. Carrier Corporation, Syracuse, N.Y. Filed Oct. 5, 1966.



For Air Compressor and Parts Therefor (Int. Cl. 7).
First use Sept. 16, 1966.

SN 257,622. Hahn, Inc., Evansville, Ind. Filed Oct. 31, 1966.

POW-R-PRO

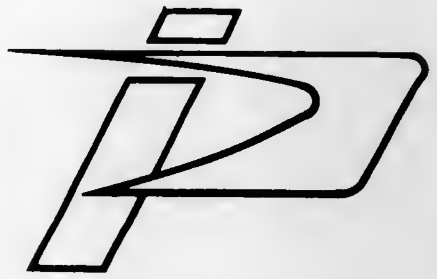
For Power Lawn Mower (Int. Cl. 7).
First use during October 1962.

SN 258,486. Pyro Foam Corp., Oakland, Calif., assignee of Bramley Barnes, Daly City, Calif. Filed Nov. 14, 1966.

PYRO FOAM

No claim is made to exclusive appropriation of the word "Foam" apart from the mark as shown.
For Fire Extinguishers (Int. Cl. 9).
First use Sept. 3, 1966.

SN 259,021. Pumps Incorporated, Bedford, Ohio. Filed Nov. 18, 1966.



The mark consists of the fanciful representation of the combination of the letters "P" and "I."
For Fluid Pumps (Int. Cl. 7).
First use Aug. 10, 1966.

SN 259,449. Missouri-Rogers Corporation, Joplin, Mo. Filed Nov. 25, 1966.

WHALEBACK

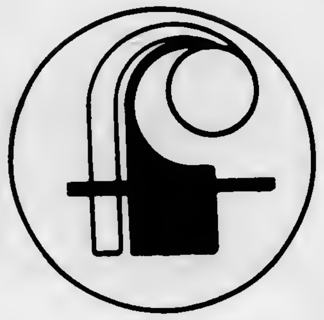
For Apron Feeders (Int. Cl. 7).
First use December 1959.

SN 260,326. Filper Corporation, San Ramon, Calif. Filed Dec. 8, 1966.

FILPER

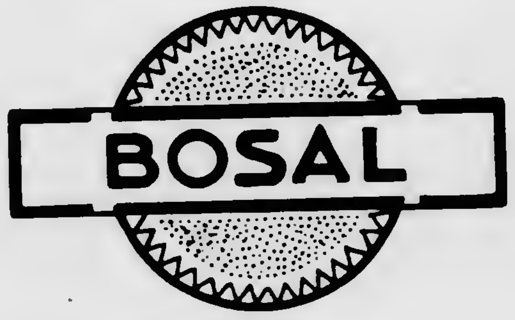
Owner of Reg. No. 591,350.
For Food Processing Equipment—Namely, Fruit Pitters, Repitters, Conveyors, Aligners, Feeders, and Related Fruit Processing Equipment, and Parts Therefor (Int. Cl. 7).
First use June 1954.

SN 260,327. Filper Corporation, San Ramon, Calif. Filed Dec. 8, 1966.



Owner of Reg. No. 725,158.
For Food Processing Equipment—Namely, Fruit Pitters, Repitters, Conveyors, Aligners, Feeders, and Related Fruit Processing Equipment, and Parts Therefor (Int. Cl. 7).
First use Jan. 8, 1960.

SN 264,259. Vennootschap Onder de Firma Karel Bos, Alkmaar, Netherlands. Filed Feb. 8, 1967.



Owner of Dutch Reg. No. 73,640, dated Jan. 4, 1939.
For Mufflers and Exhaust Pipes and Accessories Thereto (Int. Cl. 12).

SN 265,732. Precision Systems Company, Inc., Bound Brook, N.J. Filed Mar. 1, 1967.

PRESCO

For Screen Printers and Parts Thereof for Manufacturing Electrical Circuits and Circuit Components (Int. Cl. 7).
First use January 1966.

SN 267,479. United Mattress Machinery Company, Quincy, Mass. Filed Mar. 22, 1967.

PAY-O-TROL

For Automatically Operating Reel for Feeding Wire and the Like (Int. Cl. 7).
First use Mar. 9, 1959.

SN 269,992. Kingsley Dryer Corporation, Cherry Hill, N.J. Filed Apr. 25, 1967.

THERM-OR-SET

For Textile Machines for Dyestuff Fixation and/or Heat Setting Material, Cloth, or Fabric (Int. Cl. 7).
First use Feb. 3, 1967.

SN 270,877. The Bendix Corporation, Dayton, Ohio. Filed May 8, 1967.

ROTAIRE

For Rotary Tables for Holding and/or Positioning Work Pieces (Int. Cl. 7).
First use June 17, 1966.

SN 271,978. Wayne Manufacturing Co., Pomona, Calif. Filed May 19, 1967.

STUMP KING

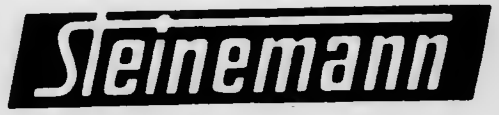
The word "Stump" is disclaimed apart from the mark as shown.
For Stump Chipper Machines (Int. Cl. 7).
First use Oct. 29, 1964.

SN 272,206. A. B. Chance Company, Centralia, Mo., assignee of Pitman Manufacturing Company, Grandview, Mo. Filed May 23, 1967.

SYNER/POST

For Center Post Assembly for Rotatable Turrets Used in Hydraulic Booms (Int. Cl. 7).
First use Feb. 10, 1967.

SN 273,291. George Koch Sons, Inc., Evansville, Ind. Filed June 7, 1967.



Owner of Reg. No. 722,708.
For Machine for Coating Articles (Int. Cl. 7).
First use May 7, 1958.

SN 273,312. Sackner Products, Inc., Grand Rapids, Mich. Filed June 7, 1967.

HOT LINE

For Machinery for Use in Making Boxing for Upholstered Furniture (Int. Cl. 7).
First use on or about Jan. 7, 1967.

SN 273,540. Gertrude C. van Pelt, d.b.a. Van Pelt Electric Company, Pittsburgh, Pa. Filed June 9, 1967.

VPRY

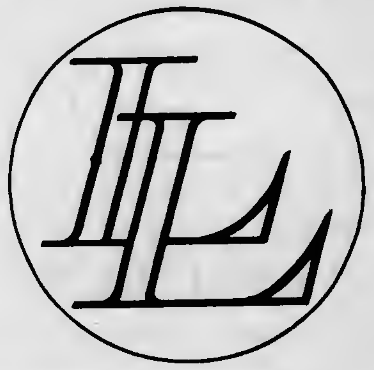
For Roller Bearings (Int. Cl. 7).
First use Aug. 10, 1951.

SN 273,542. Washington Forge, Incorporated, Englishtown, N.J. Filed June 9, 1967.

WESTWOOD

For Kitchen Knives, Steak Knives, Carving Sets; and Kitchen Utensils—Namely, Forks, Ladles, Spoons, Mashers, and Spatulas (Int. Cls. 8 and 21).
First use on or about Mar. 1, 1967.

SN 274,096. Sanco Corporation, Winston-Salem, N.C. Filed June 16, 1967.



For Street Vacuum Cleaners (Int. Cl. 7).
First use May 17, 1967.

SN 274,371. The Union Fork and Hoe Company, Columbus, Ohio. Filed June 20, 1967.

FARMERS PRIDE

For Hand Operated Lawn and Garden Tools—Namely, Drags, Forks, Grass Trimmers, Hoes, Hoe-Type Cultivators, Hooks, Lawn Edgers, Lawn Shears, Rakes, Scoops, Scrapers, Shovels, Spades, Weeders, and Weed Cutters (Int. Cl. 8).
First use Feb. 17, 1967.

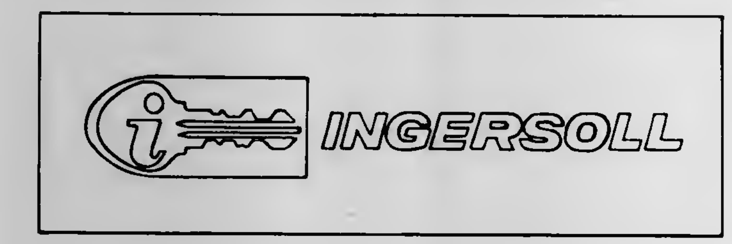
SN 283,075. Western Sewing Machine Distributors, Inc., St. Louis, Mo. Filed Oct. 23, 1967.

CENTENNIAL

For Sewing Machines, and Parts Thereof (Int. Cl. 7).
First use Mar. 10, 1965.

Class 25—Locks and Safes

SN 263,578. Ingersoll Locks Limited, London, England. Filed Jan. 30, 1967.



Priority claimed under Sec. 44(d) on British Reg. No. B901,861, dated Nov. 21, 1966. Owner of British Reg. No. B674,048, dated Nov. 1, 1948.
For Locks, Including Padlocks and Other Security Aids, and Parts Thereof (Int. Cl. 6).

Class 26—Measuring and Scientific Appliances

SN 231,467. The Nason Company, Clarkston, Mich. Filed Oct. 23, 1965.

THERMO CLIX

For Thermally Activated Electrical Switches for Activating Alarm Systems (Int. Cl. 9).
First use 1945.

SN 231,468. The Nason Company, Clarkston, Mich. Filed Oct. 23, 1965.

PRESSURE CLIX

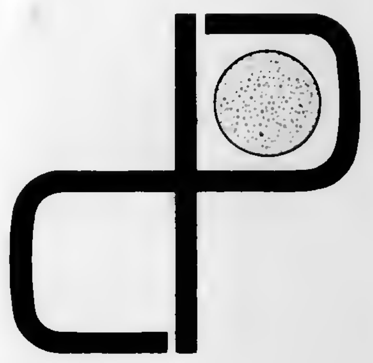
The word "Pressure" is disclaimed apart from the mark as a whole, without prejudice to any comomn law property rights acquired.
For Pressure Activated Electrical Switches for Activating Alarm Systems (Int. Cl. 9).
First use 1945.

SN 231,879. Ansitron, Inc., Huntington, N.Y., by change of name from ANS, Inc., Huntington, N.Y. Filed Nov. 1, 1965.

ANSITRON

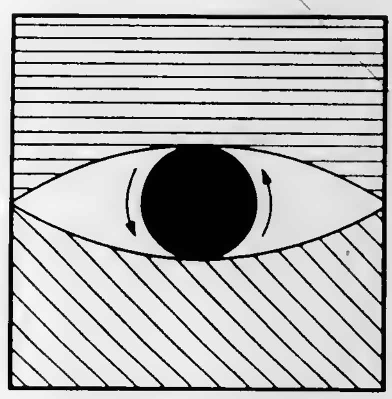
For Spectrometers, Liquid Scintillation Spectrometers, and Components Used for Read-Out and Print-Out of Spectrometer Calculations (Int. Cl. 9).
First use Apr. 30, 1965.

SN 255,227. Precision-Cosmet Company, Inc., Minneapolis, Minn. Filed Sept. 27, 1966.



The stippling on the mark is for shading purposes only.
For Contact Lenses (Int. Cl. 9).
First use May 1966.

SN 255,781. Cool-Ray, Inc., Chelsea, Mass. Filed Oct. 5, 1966.



The mark is used in two, three, and four colors as well as in different shades of such colors; the colors blue, green, black, and white being indicated by the lines and different shades upon the drawing of record; specific colors and combinations of colors, however, being disclaimed.
For Sunglasses (Int. Cl. 9).
First use Feb. 17, 1966.

SN 258,364. American Hospital Supply Corporation, Evanston, Ill., assignee of Dade Reagents, Inc., Miami, Fla. Filed Nov. 10, 1966.

ULTRAPETTE

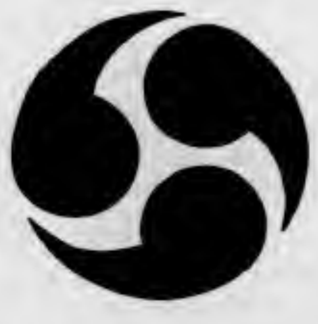
For Glass Pipettes (Int. Cl. 9).
First use in or before June 1960.

SN 258,365. American Hospital Supply Corporation, Evanston, Ill., assignee of Dade Reagents, Inc., Miami, Fla. Filed Nov. 10, 1966.

MULTIPETTE

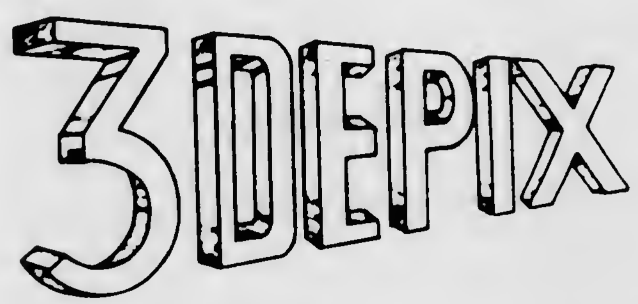
For Glass Pipettes (Int. Cl. 9).
First use in or before August 1960.

SN 259,276. Tomoe Soroban Kabushiki Kaisha, Chiyoda-ku, Tokyo, Japan. Filed Nov. 22, 1966.



The mark is a design depicted in three commas in a circular arrangement. Owner of Japanese Reg. No. 89545-2, dated Dec. 5, 1917.
For Educational Instruments and Apparatus—Namely, Abacuses and Other Comptometers, and Parts Thereof (Int. Cl. 9).

SN 260,261. Marks Polarized Corporation, Whitestone, N.Y. Filed Dec. 7, 1966.



Owner of Reg. No. 598,489.
For Light Filtering Viewers in the Form of Spectacles for Observing Three Dimensional Pictures (Int. Cl. 9).
First use Aug. 22, 1966.

SN 262,046. Macbeth Corporation, Newburgh, N.Y. Filed Jan. 6, 1967.

WHITERLITE

For Light Filters (Int. Cl. 9).
First use Dec. 7, 1928.

SN 264,457. Vaughan Contact Lens Lab., Inc., Raleigh, N.C. Filed Feb. 10, 1967.

ACCRALETTE

For Optical Lenses—Namely, Contact Lenses (Int. Cl. 9).
First use Sept. 1, 1966.

SN 265,471. Jayark Instruments Corporation, New York, N.Y. Filed Feb. 27, 1967.

JAYARK SUPER/8

The term "Super 8" is disclaimed except as used in conjunction with the remainder of the mark and without prejudice to any common law rights in the mark.
For Motion Picture Projectors (Int. Cl. 9).
First use in or about May 1965.

SN 266,237. Keystone Mfg. Corp., Boston, Mass. Filed Mar. 8, 1967.

AUTO-INSTANT

For Photographic Equipment—Namely, Motion Picture Cameras, Motion Picture Projectors, and Still Cameras (Int. Cl. 9).
First use Mar. 2, 1966.

SN 268,882. Kono Manufacturing Co. Inc., Woodside, N.Y. Filed Apr. 11, 1967.

DURATATE

For Eyeglass Frames and Parts Thereof (Int. Cl. 9).
First use during April 1965.

SN 269,757. Fletcher Paper Company, Alpena, Mich. Filed Apr. 21, 1967.

DOCUFAX

For Sensitized Paper for Use in Electrostatic Copying Machines (Int. Cl. 1).
First use at least as early as Nov. 5, 1966.

SN 270,176. Wilhelm Anger O.H.G., Traun, Austria. Filed Apr. 27, 1967.

CARRERA

Owner of Austrian Reg. No. 50,267, dated May 29, 1963.
For Ski Goggles and Sun Glasses (Int. Cl. 9).
First use Sept. 30, 1960; in commerce Sept. 14, 1961.
Subj. to Intf. with SN 265,348.

SN 271,428. Baldwin-Gegenheimer Corporation, Stamford, Conn. Filed May 15, 1967.

BALCONTROL

For Hydrometer Controlled Alcohol Dampening Unit Used in Connection With a Lithographic Press To Maintain the Proper Percentage of Alcohol in a Fountain Solution (Int. Cl. 9).
First use in or about January 1966.

SN 271,720. Photo Research Corporation, Hollywood, Calif. Filed May 17, 1967

OPTOLINER

For Optical-Electrical Instruments for Testing and Measuring Television Camera and Image Tube Parameters (Int. Cl. 9).
First use Oct. 8, 1963.

SN 271,906. Audiscan Incorporated, Bellevue, Wash. Filed May 19, 1967

AUDISCAN

For Film Strip Projector and Coordinated Sound Mechanism (Int. Cl. 9).
First use July 8, 1966.

SN 273,364. Charles Beseler Company, East Orange, N.J. Filed June 8, 1967.

NEGATRANS

For Photographic Apparatus—Namely, Photographic Film, Holding and Positioning Devices, and Photographic Enlarger Equipment (Int. Cl. 9).
First use on or before May 3, 1967.

SN 273,756. Fuji Film Co., Ltd., Ashigara-kamigun, Kanagawa Prefecture, Japan. Filed June 13, 1967

FUJICA COMPACT 35

Applicant disclaims "Compact 35" apart from the mark applied for. Owner of Reg. Nos. 689,862, 811,006, and 815,824.
For Cameras (Int. Cl. 9).
First use at least as early as Aug. 31, 1966; in commerce at least as early as Aug. 31, 1966.

SN 275,490. Rinn Corporation, Elgin, Ill. Filed July 5, 1967.

+LIGHT

For Sensitized Photographic Film, Specifically, Dental X-Ray Film Packs (Int. Cl. 1).
First use Jan. 27, 1966.

SN 275,491. Rinn Corporation, Elgin, Ill. Filed July 5, 1967.

+LITE

For Sensitized Photograph Film, Specifically, Dental X-Ray Film Packs (Int. Cl. 1).
First use Jan. 27, 1966.

SN 278,200. Digital Data Systems, Inc., Houston, Tex. Filed Aug. 14, 1967.

DD
S

For Electrical Seismic Appliances—Namely, Seismic Data Compositors and Recorders (Int. Cl. 9).
First use on or before Mar. 29, 1967.

SN 281,883. General Aniline & Film Corporation, New York, N.Y. Filed Oct. 5, 1967.

GAF-X

For Light-Sensitive Photographic Film—Namely, X-Ray Film (Int. Cl. 1).
First use Sept. 8, 1967.

Class 27 — Horological Instruments

SN 265,760. Bulova Watch Company, Inc., Flushing, N.Y. Filed Mar. 2, 1967.

UNITRON

For Watches and Parts Therefor (Int. Cl. 14).
First use Feb. 23, 1967.

SN 278,040. Sheffield Watch of New York, Inc., New York, N.Y. Filed Aug. 10, 1967.

Tic Tocketbooks

For Watches and Clocks (Int. Cl. 14).
First use July 6, 1967.

Class 28 — Jewelry and Precious-Metal Ware

SN 261,316. Mylu Design Co., New York, N.Y. Filed Dec. 22, 1966.

MYLU

For Costume Jewelry—Namely, Pins, Earrings, Bracelets, Key Rings, and Tie-Tacks (Int. Cl. 14)
First use before 1946 on earrings.

SN 275,346. Lanvin-Charles of the Ritz, Inc., New York, N.Y. Filed July 5, 1967.

YVES SAINT LAURENT

"Yves Saint Laurent" is the name of a living individual, whose consent is of record. Owner of Reg. Nos. 766,417 and 767,211.
For Earrings, Necklaces, Bracelets, Finger Rings, and Pins, All of Which Are Costume Jewelry (Int. Cl. 14).
First use on or about Sept. 21, 1966.

SN 279,174. Coro, Inc., Providence, R.I. Filed Aug. 28, 1967.

ICE GOLD

Applicant disclaims the word "Gold" from the mark as shown.
For Jewelry (Int. Cl. 14).
First use on or about Aug. 17, 1967.

SN 280,621. Oneida Ltd., Oneida, N.Y. Filed Sept. 18, 1967.

FROM GENERATION
TO GENERATION

For Sterling Silver and Silver Plated Flatware, Holloware, and Tableware (Int. Cls. 8 and 14).
First use Apr. 13, 1945.

Class 29 — Brooms, Brushes, and Dusters

SN 274,342. Polychem Corporation, New Haven, Conn. Filed June 20, 1967.

T.L.C.

Owner of Reg. Nos. 684,664 and 698,619.
For Toothbrushes (Int. Cl. 21).
First use at least as early as May 17, 1967.

Class 30 — Crockery, Earthenware, and Porcelain

SN 260,594. Shenango Ceramics, Inc., New Castle, Pa. Filed Dec. 12, 1966.

CITATION

Owner of Reg. No. 555,636.
For China Dinnerware (Int. Cl. 21).
First use Nov. 2, 1966.

Class 31 — Filters and Refrigerators

SN 243,061. Universal Oil Products Company, Des Plaines, Ill. Filed Mar. 23, 1966.

UNISIV

For Crystalline Zeolite, Being Molecular Sieves for Gas and Liquid Separation Uses (Int. Cl. 1).
First use Oct. 11, 1965.

SN 267,146. General Motors Corporation, Detroit, Mich. Filed Mar. 20, 1967.

FOOD-LIFE PRESERVER

No claim is made under the statute to the word "Preserver" apart from the mark.
For Refrigerators (Int. Cl. 11).
First use Oct. 5, 1966.

SN 267,650. Neptune Microfloc, Incorporated, Corvallis, Oreg. Filed Mar. 27, 1967.

WATER BOY

The word "Water" is disclaimed apart from the mark as shown.
For Self-Contained Water Treatment Plants (Int. Cl. 11).
First use Jan. 29, 1967.

SN 279,806. Clark Equipment Company, Buchanan, Mich. Filed Sept. 7, 1967.

CLARK
EQUIPMENT

Owner of Reg. Nos. 642,533 and 716,772.
For Commercial Refrigerators (Int. Cl. 11).
First use in or about January 1964.

SN 279,987. Millipore Corporation, Bedford, Mass. Filed Sept. 11, 1967.

FILTERJET

For Combination Solvent Filtering and Dispensing Units (Int. Cl. 11).
First use Aug. 15, 1967.

Class 32 — Furniture and Upholstery

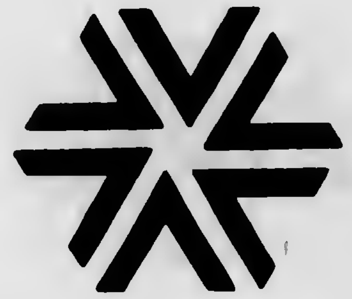
SN 279,807. Clark Equipment Company, Buchanan, Mich. Filed Sept. 7, 1967.

CLARK
EQUIPMENT

Owner of Reg. Nos. 642,533 and 716,772.
For Non-Refrigerated Store Fixtures (Int. Cl. 20).
First use in or about June 1965.

Class 33 — Glassware

SN 254,821. Vetreria di Vernante S.p.A., Cuneo-Spinetta, Cuneo, Italy. Filed Sept. 20, 1966.



Priority claimed under Sec. 44(d) on Italian application filed Mar. 23, 1966; Reg. No. 181,090, dated Sept. 13, 1966.
For Glass Sections, Melted Glass, Laminated Glass, Molded Glass, Blown Glass, Toughened Glass, Stained Glass, Safety Glass, Sound-Absorbing Glass, Structural Glass, and Multicellular Glass (Int. Cls. 19 and 21).

SN 254,822. Vetreria di Vernante S.p.A., Cuneo-Spinneta, Cuneo, Italy. Filed Sept. 20, 1966.

VERNANTE

Priority claimed under Sec. 44(d) on Italian application filed Mar. 23, 1966; Reg. No. 181,088, dated Sept. 13, 1966.
For Glass Sections, Melted Glass, Laminated Glass, Molded Glass, Blown Glass, Toughened Glass, Stained Glass, Safety Glass, Sound-Absorbing Glass, Structural Glass, and Multicellular Glass (Int. Cls. 19 and 21).

SN 260,730. Cory Corporation, Chicago, Ill. Filed Dec. 14, 1966.

CORY ROD

Applicant disclaims the word "Rod" apart from the mark.
Owner of Reg. Nos. 425,394, 826,246, and others.
For Coffee Brewer Filters Made of Glass (Int. Cl. 11).
First use Aug. 24, 1938.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 212,051. Repco Products Corporation, Philadelphia, Pa. Filed Feb. 15, 1965.

TAB-LOC

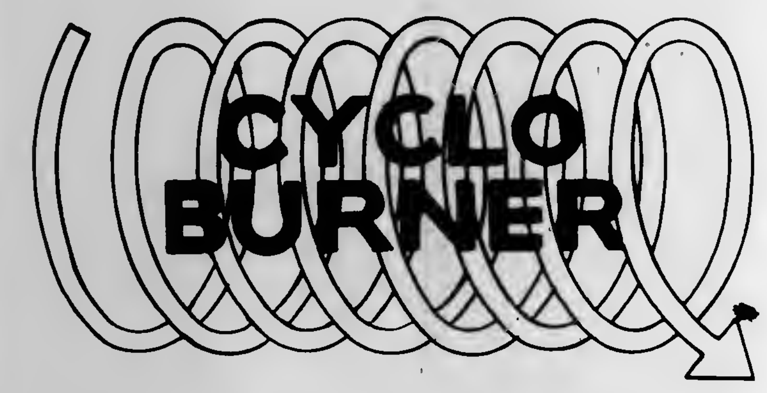
For Metallic Baseboard Connection Fittings for Baseboard Radiators (Int. Cl. 11).
First use June 12, 1961.

SN 255,634. M.K. Products, Inc., Santa Ana, Calif. Filed Oct. 3, 1966.

COBRAMATIC

For Electric Welding Equipment and Control Therefor, Sold as a Unit (Int. Cl. 9).
First use Nov. 8, 1965.

SN 258,416. Sargent Building Specialties Inc., Kearny, N.J. Filed Nov. 10, 1966.



The word "Burner" is disclaimed apart from the mark as shown.
For Incinerators (Int. Cl. 11).
First use June 2, 1963.

SN 258,515. Emerson Electric Co., St. Louis, Mo. Filed Nov. 14, 1966.

Owner of Reg. No. 231,327 and others.
For Gaseous Fuel Burners for Use in Connection With Heating Apparatus (Int. Cl. 11).
First use July 1957.

SN 268,895. Radiant Oven Corp., Fort Lee, N.J. Filed Apr. 11, 1967.

RADIANTQUARTZ

Owner of Reg. No. 805,200.
For Ovens (Int. Cl. 11).
First use Nov. 25, 1966.

SN 283,751. Kleer-Vu Industries, Inc., New York, N.Y. Filed Oct. 31, 1967.

Applicant disclaims the word "Water" apart from the mark as shown.
For Portable Stills Using Heat and/or Solar Energy for the Distillation of Impure Water and Sea Water (Int. Cl. 11).
First use Sept. 2, 1966.

Class 36 — Musical Instruments and Supplies

SN 256,328. Womack Electronics, Inc., Danville, Va. Filed Oct. 12, 1966.

For Guitars, and Chords and Amplifiers Used in Connection Therewith (Int. Cls. 9 and 15).
First use Aug. 30, 1966.

SN 260,023. Richard A. Craft, d.b.a. Amrawco, Lyons, Ill. Filed Dec. 5, 1966.

AMRAWCO

For Drum and Banjo Heads (Int. Cl. 15).
First use June 12, 1934.

SN 264,693. Strum & Drum Inc., Chicago, Ill. Filed Feb. 14, 1967.

TROYE

For Guitars, Ukeleles, Mandolins, Strings and Picks for Stringed Instruments, Amplifiers for Guitars, Straps for Musical Instruments, Carrying Cases for Guitars and Mandolins, Drums and Drum Sets, and Harmonicas (Int. Cl. 15).
First use on or about Dec. 14, 1966.

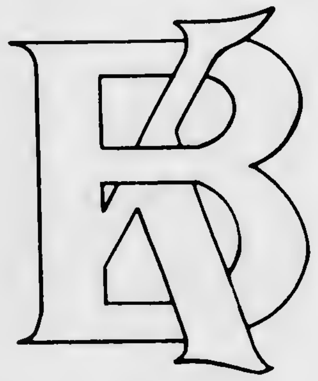
SN 286,481. Natural Sound Studios, Sudbury, Mass. Filed Dec. 8, 1967.

NATURAL SOUND

Applicant disclaims the word "Sound" apart from the mark as shown.
For Phonograph Records (Int. Cl. 9).
First use Oct. 14, 1965.

Class 37 — Paper and Stationery

SN 255,099. Kurtz Bros., Clearfield, Pa. Filed Sept. 26, 1966.



Owner of Reg. No. 219,420.
For Scratch Pads and Doodle Pads (Int. Cl. 16).
First use Sept. 14, 1966.

SN 271,236. Dermik Laboratories, Inc., Syosset, N.Y. Filed May 11, 1967.

DERMASCRIPT

For Partially Printed Prescription Pad Used by a Physician in Prescribing a Dermatological Medication (Int. Cl. 16).
First use Jan. 9, 1967.

SN 272,100. St. Regis Paper Company, New York, N.Y. Filed May 22, 1967.

Owner of Reg. Nos. 377,917, 824,262, and others.
For Printed and Fine Papers; Kraft Papers; Specialty Papers; Boxboard; Packaging Materials — Namely, Polyethylene-Coated Papers, Paper and Foil Laminations, and Reinforced, Cohesive and Waxed Papers; Food Wrapping Paper and Labels; Envelopes and Tags, School Supply Stationery, Tablets, and Notebook Fillers and Binders (Int. Cl. 16).
First use in or about April 1964.

SN 273,770. Hassenfeld Bros. Inc., Pawtucket, R.I. Filed June 13, 1967.

For Notebooks, Assignment Pads, and Looseleaf Binders (Int. Cl. 16).
First use on or about Apr. 5, 1967.

SN 273,771. Hassenfeld Bros. Inc., Pawtucket, R.I. Filed June 13, 1967.

TRA-PAK

For Pencils (Int. Cl. 16).
First use on or about Jan. 11, 1967.

SN 274,745. International Paper Company, New York, N.Y. Filed June 26, 1967.

INCENTIVE

For Business Papers—Namely, Bond Paper, Duplicate Paper, and Mimeograph Paper (Int. Cl. 16).
First use May 8, 1967.

SN 275,793. E. Errett Smith, Inc., New York, N.Y. Filed July 11, 1967.

SOPHISTI-NOTES

For Stationery—Namely, Personal Note Paper and Personal Stationery, and Envelopes (Int. Cl. 16).
First use June 5, 1967.

SN 276,663. Hamersley Paper Mills, Inc., Garfield, N.J. Filed July 24, 1967.

ALUMI-PAK

For Bleached Sulphate Paper Bearing a Coating Containing Aluminum (Int. Cl. 16).
First use June 20, 1967.

SN 276,737. Curwood, Inc., New London, Wis. Filed July 25, 1967.

CURLAM

For Laminated Packaging Film (Int. Cl. 16).
First use June 30, 1967.

SN 276,944. Noland Paper Company, Inc., Buena Park, Calif. Filed July 27, 1967.

BUENA

For Writing Paper, Printing Paper, and Duplication Papers (Int. Cl. 16).
First use as early as July 1965.

SN 278,350. Federal Intermediate Credit Bank of St. Paul, St. Paul, Minn. Filed Aug. 16, 1967.

For Blank Bookkeeping Forms (Int. Cl. 16).
First use Aug. 7, 1967.

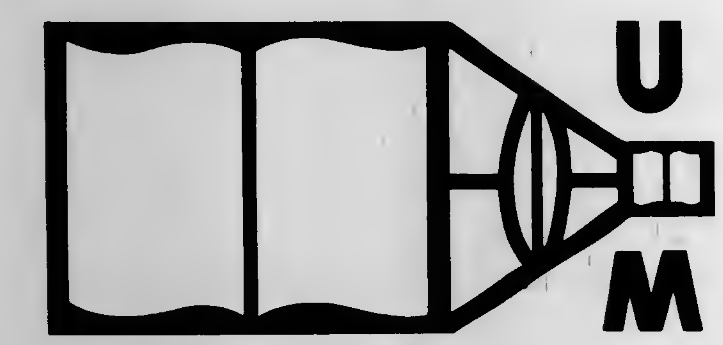
Class 38 — Prints and Publications

SN 191,358. Buffalo Courier-Express, Inc., Buffalo, N.Y. Filed Apr. 17, 1964.

FOCUS

For TV and Entertainment Newspaper Supplement (Int. Cl. 16).
First use Mar. 21, 1964.

SN 240,991. Xerox Corporation, Rochester, N.Y., assignee of University Microfilms, Inc., Ann Arbor, Mich. Filed Mar. 14, 1966.



For Catalogs of Literature, Published Periodically; Xerographic Reprints and Microfilm Made From Master Microfilm (Int. Cl. 16).
First use Jan. 26, 1939.

SN 264,264. Walther League, Chicago, Ill. Filed Feb. 8, 1967.

LUTHERAN WHEAT RIDGE

For Stamps and Seals Sold and Distributed in Connection With Applicant's Fund Raising Activities (Int. Cl. 16).
First use Aug. 1, 1962.

SN 267,251. Hallmark Cards, Incorporated, Kansas City, Mo. Filed Mar. 21, 1967.

GARDEN CHATTER

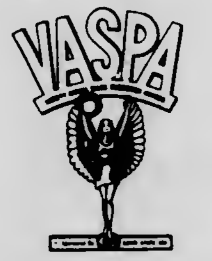
For Memoranda Calendars (Int. Cl. 16).
First use Feb. 15, 1967.

SN 268,932. American Society for Metals, Metals Park, Ohio. Filed Apr. 12, 1967.

METALS/MATERIALS TODAY

For Monthly Engineering Magazine Designed for Applicant's Members and for Engineers, Designers, Processors, Manufacturers, and Other Persons and Organizations Concerned With Metals and Related Engineering Materials and Products Made Thereof (Int. Cl. 16).
First use on or about Dec. 21, 1966; February 1966 as to the mark "Materials Today."

SN 270,396. Lebhar-Friedman Publications, Inc., New York, N.Y. Filed May 1, 1967.



No claim is made to the words "Variety Annual Sales Promotion Awards" and "Sponsored by" apart from the mark as shown.
For Annual Trade Magazine Issued in Conjunction With Granting of Awards for Merchandising Products (Int. Cl. 16).
First use December 1961.

SN 270,447. Xerox Corporation, Rochester, N.Y. Filed May 1, 1967.

KNOW YOUR WORLD

For Newspaper-Type Publication for Children of School Age (Int. Cl. 16).
First use Apr. 3, 1967.

SN 272,818. Douglas-Van Dorn, Ltd., Baltimore, Md. Filed June 1, 1967.

Douglas
VAN DORN

For Greeting Cards (Int. Cl. 16).
First use Apr. 12, 1967.

SN 273,705. Western Blue Print Company, Kansas City, Mo. Filed June 12, 1967.

OPTI-COPY

For Photographic Prints and Processed Photographic Film (Int. Cls. 9 and 16).
First use on or about Mar. 11, 1966.

SN 274,122. Industrial Research, Inc., Beverly Shores, Ind. Filed June 2, 1967.

INDUSTRIAL RESEARCH

For Magazine, Published Monthly (Int. Cl. 16).
First use Jan. 10, 1959.

SN 274,547. Third Order of St. Dominic, Chicago, Ill. Filed June 22, 1967.

CHALLENGE

For Magazine (Int. Cl. 16).
First use May 1, 1967.
Subj. to Intf. with SN 283,518.

SN 276,085. Bantam Books, Inc., New York, N.Y. Filed July 17, 1967.

BANTAM MATRIX

For Books, Published From Time to Time in Series (Int. Cl. 16).
First use Aug. 12, 1964.

SN 277,320. United Grocers, Ltd., Richmond, Calif. Filed Aug. 1, 1967.

UG
GROCERS
UNITED

Owner of Reg. No. 702,593.
For Printed Newspaper, Published From Time to Time (Int. Cl. 16).
First use about April 1966.

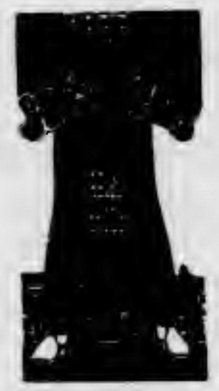
SN 283,518. Foundation for Christian Theology, Victoria, Tex. Filed Oct. 27, 1967.

THE CHRISTIAN CHALLENGE

For Periodical Newsletter for Episcopalians (Int. Cl. 16).
First use January 1962.
Subj. to Intf. with SN 274,547.

Class 39 — Clothing

SN 263,623. Stadium Manufacturing Co., Inc., New York, N.Y. Filed Jan. 30, 1967.



No registration rights are claimed for the word "Jeans," the representation of the Jeans, and/or the expression "Lean Western Style," apart from the mark as shown.
For Pants, Jeans, and Slacks (Int. Cl. 25).
First use Jan. 19, 1967.

SN 267,211. Elayne A. Wieder and Beatrice S. Wieder (partnership), New York, N.Y. Filed Mar. 20, 1967.

Elayne

For Ladies' Gloves (Int. Cl. 25).
First use Mar. 19, 1960.

SN 268,295. Consolidated Cellulose Products, Inc., New York, N.Y., assignee of Doeskin Products, Inc., New York, N.Y. Filed Apr. 4, 1967.

DOESKIN

Owner of Reg. Nos. 509,697, 651,754, and others.
For Disposable Diapers and Disposable Examination Gowns (Int. Cl. 25).
First use Mar. 27, 1967.

SN 269,470. Sunshine Originals of Miami, Inc., Hialeah, Fla. Filed Apr. 18, 1967.

DON MANUEL

The name "Don Manuel" is fictitious, and is not the name of any particular living individual.
For Women's and Girls' Dresses, Blouses, Hosiery, Skirts, Brassieres, Girdles, Coats, Suits, and Lingerie (Int. Cl. 25).
First use Sept. 12, 1966.

SN 269,803. Elbert C. Stepp, 2nd, d.b.a. Bill Bruce Shoes, Shenandoah, Va. Filed Apr. 21, 1967.

BILL BRUCE Shoes

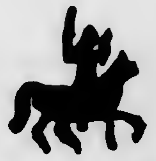
Applicant disclaims the word "Shoes" apart from the mark as shown. The name "Bill Bruce" identifies William Henry Bruce, now deceased.
For Shoes (Int. Cl. 25).
First use Nov. 7, 1963.

SN 271,369. Howard Stores Corporation, Brooklyn, N.Y. Filed May 12, 1967.

De Manuso

For Men's and Young Men's Suits, Coats, Slacks, Pants, Vests, Top Coats, Overcoats, Sport Coats, Raincoats, Suburban Coats, Outer-Wear Coats, Ties, Sweaters, and Shirts; and Ladies' and Girls' Dresses, Skirts, Coats, Suits, Slacks, Pants, and Sweaters (Int. Cl. 25).
First use Mar. 30, 1967.

SN 271,542. Styles by Seymour, Inc., New York, N.Y. Filed May 15, 1967.



federico pio

The word "Pio" means "religious" in Italian.
For Men's Outer Shirts (Int. Cl. 25).
First use Apr. 30, 1965.

SN 272,220. Seaton Hall, Inc., Boston, Mass. Filed May 23, 1967.

TUCCI

Owner of Reg. No. 742,777.
For Women's Slacks (Int. Cl. 25).
First use June 25, 1961.

SN 272,387. Macshore Marketing, Inc., New York, N.Y. Filed May 25, 1967.

SHORE-NUF

For Women's Dungare Pants (Int. Cl. 25).
First use Feb. 9, 1966.

SN 272,716. Factory Outlet Shoes of Kansas, Inc., Wichita, Kans. Filed May 31, 1967.

mr. andrew

For Shoes (Int. Cl. 25).
First use on or about Apr. 20, 1967.

SN 273,509. Levoy's Inc., Salt Lake City, Utah. Filed June 9, 1967.

TRULÉURS

For Brassieres (Int. Cl. 25).
First use Mar. 2, 1967.

SN 273,751. Facelle Company Limited, Toronto, Ontario, Canada. Filed June 13, 1967.

Flushabye

Owner of U.S. Reg. No. 775,433.
For Disposable Diapers (Int. Cl. 25).
First use on or about Apr. 15, 1967; in commerce on or about Apr. 15, 1967.

SN 280,509. Blue Bell, Inc., Greensboro, N.C., assignee of J. W. Carter Company, Nashville, Tenn. Filed Sept. 18, 1967.

MAVERICK

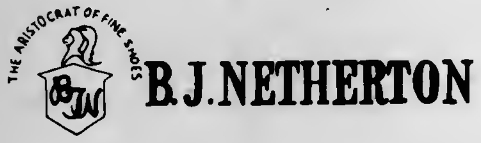
Owner of Reg. Nos. 393,715, 608,371, and 818,312.
For Wellington Boots, Cowboy Boots, and Work Boots (Int. Cl. 25).
First use December 1940.

SN 284,612. Chadbourn Gotham, Inc., Charlotte, N.C. Filed Nov. 13, 1967.

B-X

For Hosiery (Int. Cl. 25).
First use Nov. 3, 1967.

SN 284,982. A. S. Beck Shoe Corporation, New York, N.Y. Filed Nov. 16, 1967.


THE ARISTOCRAT OF FINE SHOES
BJN
B.J.NETHERTON

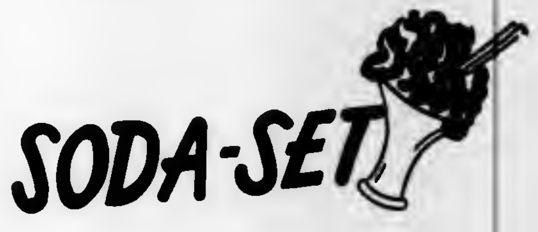
The name "B. J. Netherton" is fanciful. The words "Fine Shoes" are disclaimed apart from the mark as shown.
For Men's Shoes (Int. Cl. 25).
First use July 11, 1967.

SN 288,154. International Playtex Corporation, Dover, Del. Filed Dec. 26, 1967.

PLAYTEX

Owner of Reg. Nos. 381,682, 834,427, and others.
For Brassieres (Int. Cl. 25).
First use November 1953.

SN 288,908. Aimcee Wholesale Corporation, New York, N.Y. Filed Jan. 16, 1968.



Owner of Reg. No. 436,406.
For Shoes (Int. Cl. 25).
First use December 1956.

Class 40—Fancy Goods, Furnishings, and Notions

SN 274,340. Polychem Corporation, New Haven, Conn. Filed June 20, 1967.

T.L.C.

Owner of Reg. Nos. 684,664 and 698,619.
For Combs (Int. Cl. 21).
First use at least as early as Nov. 21, 1966.

SN 278,811. Mathews Hair Products, Inc., New York, N.Y. Filed Aug. 22, 1967.

LARRY MATHEWS

"Larry Mathews" is the name of a living individual whose consent is of record.
For Wigs (Int. Cl. 26).
First use Oct. 21, 1966.

Class 41—Canes, Parasols, and Umbrellas

SN 273,967. The Londontown Manufacturing Company, Baltimore, Md. Filed June 15, 1967.

LONDON FOG

Owner of Reg. No. 603,047.
For Umbrellas (Int. Cl. 18).
First use May 25, 1967.

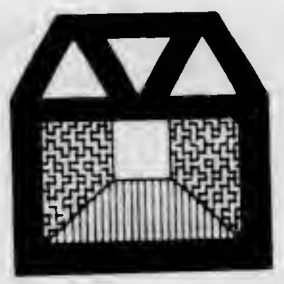
Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 262,473. Joseph Bancroft & Sons Co., Wilmington, Del. Filed Jan. 13, 1967.

MICROTEX

For Compressively Shrunk Fabric for Use by the Garment Trade for Manufacture of Wearing Apparel (Int. Cl. 24).
First use on or about July 12, 1966.

SN 265,286. E'Con Mills, Inc., Chattanooga, Tenn. Filed Feb. 23, 1967.



The drawing is lined for yellow and red, but these colors are not claimed as an essential feature of the mark.
For Textile Floor Coverings—Namely, Carpeting; Carpeting for Walls and Ceilings; Carpet Padding; and Draperies (Int. Cls. 24 and 27).
First use Dec. 23, 1966.

SN 274,172. Beaunit Corporation, New York, N.Y. Filed June 19, 1967.

SOIL-OUT

For Fabrics Treated With Soil Release Finish for Use in Outer Garments, Such as Shirts, and for Dress Fabrics for Use in Men's, Women's, and Children's Wear (Int. Cl. 24).
First use on or about May 6, 1967.

SN 275,987. Abney Mills, Greenwood, S.C. Filed July 14, 1967.

TRAVEL SHRUNK

The word "Shrunk" is disclaimed apart from the mark as shown. Owner of Reg. No. 829,520.
For Pre-Shrunk Woven Fabrics for Making Varied Items, Such as Shirts, Underwear, and Drapery Linings (Int. Cl. 24).
First use June 16, 1967.

SN 278,296. Glen Mfg. Inc., Milwaukee, Wis. Filed Aug. 15, 1967.

SOFTEE

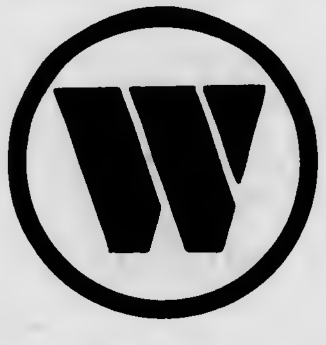
Owner of Reg. No. 739,425.
For Textile Bathroom Accessories—Namely, Shower Curtains, Window Drapes, and Textile-Covered Vainity Trays (Int. Cl. 24).
First use Aug. 31, 1964.

SN 279,218. Ruson Davco, Inc., Chelsea, Mass. Filed Aug. 28, 1967.

TUFFRAN

For Webbing Woven of Polypropylene Yarn (Int. Cl. 24).
First use Feb. 17, 1967.

SN 279,428. Wyandotte Industries Corporation, New York, N.Y. Filed Aug. 30, 1967.



For Woolen Fabrics (Int. Cl. 24).
First use May 1967.

SN 280,380. Triplex Fabrics Corp., New York, N.Y. Filed Sept. 15, 1967.

TRIPLEX

For Fabrics in the Piece Made of Synthetic and Non-Synthetic Yarn and Combinations Thereof, for Making Into Wearing Apparel, Especially Women's Dresses and Men's Shirts (Int. Cl. 24).
First use Sept. 1, 1967.

Class 43—Thread and Yarn

SN 278,659. Bemberg S.p.A., Milan, Italy. Filed Aug. 21, 1967.

ORTALION

Owner of Italian Reg. No. 129,466, dated June 13, 1956.
For Yarns and Threads (Int. Cl. 23).

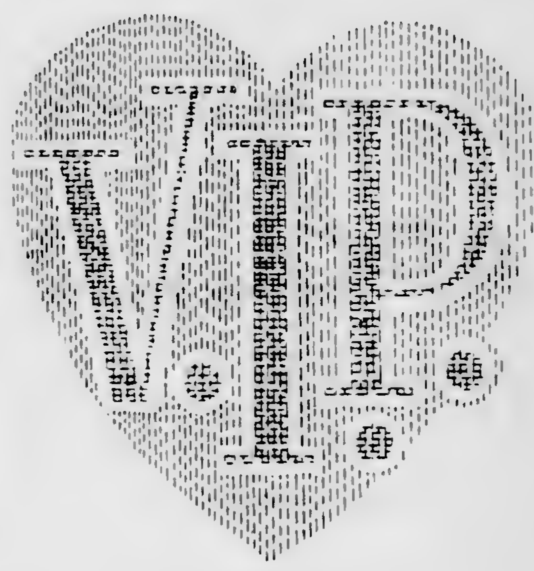
SN 279,230. Talon, Inc., Meadville, Pa. Filed Aug. 28, 1967.

Talon

Owner of Reg. No. 501,982.
For Thread (Int. Cl. 23).
First use Mar. 3, 1964.

Class 44—Dental, Medical, and Surgical Appliances

SN 245,755. Profit-Mor Equipment Co., Inc., d.b.a. P-M Products, Indianapolis, Ind. Filed May 16, 1966.



The drawing is lined for purple and gold, but no claim is made to color.
For Prophylactics, Rubber Articles for the Prevention of Contagious Diseases (Int. Cl. 5).
First use Jan. 25, 1966.

SN 256,983. Edmond Bordeaux Szekely, d.b.a. Twenty-First Century Products Co., San Diego, Calif. Filed Oct. 21, 1966.

21ST CENTURY MASSAGE

The word "Massage" is disclaimed apart from the mark as shown.

For Body Massaging Equipment Employing a Combination Electric Air Heater and Electrically Actuated Air Blower, the Air Being Impregnated With a Cosmetic and the Blower Being Connected by a Flexible Hose Whereby User Can Direct Cosmetic Impregnated Air to the Body (Int. Cl. 10).
(Int. Cl. 10).

First use Sept. 15, 1966.

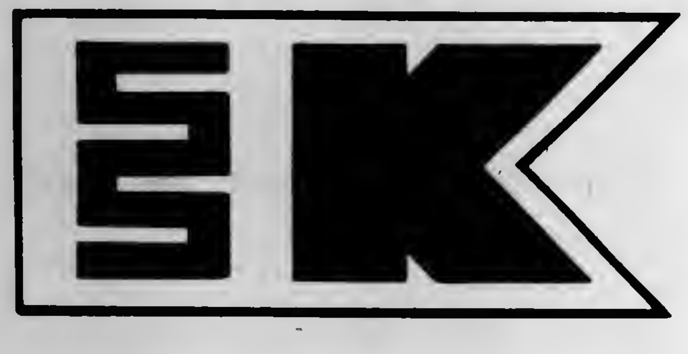
SN 258,311. Manifatture Enzo Bernucci & Fratelli, Milan, Italy. Filed Nov. 9, 1966.

retelast

Owner of Italian Reg. No. 165,096, dated Jan. 5, 1963.

For Tubular Net To Be Employed as Bandage for Medication (Int. Cl. 5).

SN 274,070. S. S. Kresge Company, Detroit, Mich. Filed June 16, 1967.



For Sanitary Napkins (Int. Cl. 5).

First use in or before March 1967.

SN 275,705. Taiyo Electronics Corporation, Shinagawa-ku, Tokyo, Japan. Filed July 10, 1967.

APOLLO

For Hearing Aids (Int. Cl. 10).

First use May 14, 1959; in commerce May 14, 1959.

SN 276,343. Orthoband Company, Inc., St. Louis, Mo. Filed July 19, 1967.

ORTHOTUBE

For Shrink Tubing for Use as a Protective Sleeve for Orthodontic Wire Appliances (Int. Cl. 10).

First use May 9, 1967.

SN 277,194. Medco Products Company, Inc., Tulsa, Okla. Filed July 31, 1967.

MINALATOR

For Electrical Treatment Machine for the Stimulation of Muscles by an Electric Current Applied Through Pad Electrodes (Int. Cl. 10).

First use July 14, 1965.

Class 45 — Soft Drinks and Carbonated Waters

SN 237,820. Cottee's Limited, Leichhardt, New South Wales, Australia. Filed Feb. 2, 1966.

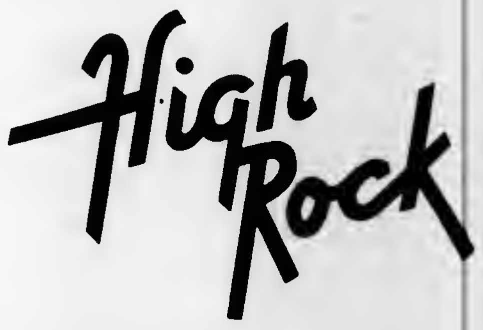
PASSIONA

Owner of Australian Reg. No. A201,366, dated Apr. 12, 1966.

For Soft Drink (Int. Cl. 32).

First use on or about Nov. 30, 1924; in commerce on or about July 24, 1930.

SN 278,694. High Rock Ginger Ale Co., Norfolk, Va. Filed Aug. 21, 1967.



Owner of Reg. No. 231,852.

For Non-Alcoholic, Non-Cereal, Maltless Beverages Sold as Soft Drinks and Syrups for Making the Same (Int. Cl. 32).

First use May 5, 1924.

SN 279,303. V. & E. Kohnstamm, Inc., Brooklyn, N.Y. Filed Aug. 29, 1967.

QUIN-JIN

For Flavoring or Concentrate for Quinine Water (Int. Cl. 32.)

First use January 1953.

SN 279,308. J. F. Lazier Manufacturing Co., d.b.a. J. F. Lazier Mfg. Co., St. Louis, Mo. Filed Aug. 29, 1967.

RED RIDING HOOD

For Flavoring Concentrates and Extracts Adapted for Use in Making Soft Drink Beverages (Int. Cl. 32).

First use Dec. 2, 1924.

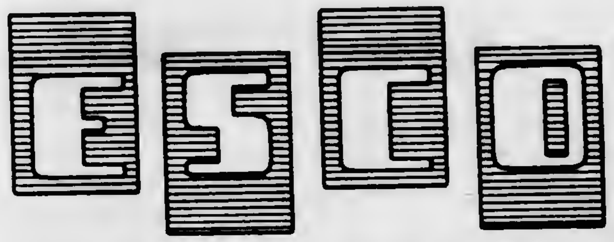
SN 279,409. Pola-Roma, Inc., Altadena, Calif. Filed Aug. 30, 1967.

SPLURGE

For Non-Alcoholic, Maltless Soft Drinks and Syrups Therefor (Int. Cl. 32).

First use Sept. 27, 1947.

SN 284,133. Eng-Skell Company, San Francisco, Calif. Filed Nov. 6, 1967.



The drawing is lined for blue, but no claim is made as to color.

For Syrup Concentrate for Preparation of Soft Drinks (Int. Cl. 32).

First use as early as Dec. 30, 1965.

SN 284,135. Eng-Skell Company, San Francisco, Calif. Filed Nov. 6, 1967.

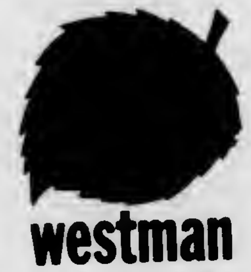
SNO-POP

For Syrup Concentrate for Preparation of Non-Alcoholic Slush Drinks (Int. Cl. 32).

First use as early as Sept. 1, 1967.

Class 46 — Foods and Ingredients of Foods

SN 215,149. Westman Commission Company, Denver, Colo. Filed S.R. Mar. 29, 1965; Am. P.R. Oct. 31, 1966.



For Canned Vegetables, Canned Fruits, Vegetable Juices, Flour, and Flour Mixes (Int. Cls. 30 and 32).

First use on or about Feb. 15, 1962.

SN 243,134. Hirsch Bros. & Co., Inc., Louisville, Ky. Filed Apr. 11, 1966.

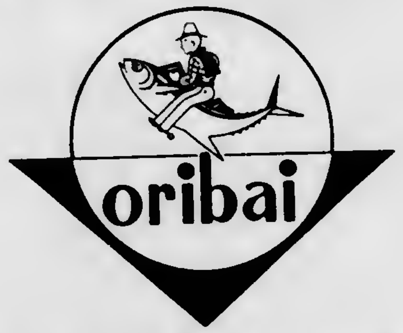
PARAMOUNT

Owner of Reg. Nos. 218,498 and 556,632.

For Canned and Bottled Pickles and Pickle Relishes, Shrimp Sauce, Tamales, Mayonnaise Spread, Tartar Sauce, Slaw Mix, Thousand Island Dressing, Roquefort Dressing, Mustard Sandwich Spread, Vinegar, Including Apple Cider Vinegar and Distilled Vinegar, and Mincemeat (Int. Cls. 29 and 30).

First use January 1922.

SN 244,292. Jose Maria Legarda Alonso, Bilbao, Spain. Filed Apr. 26, 1966.

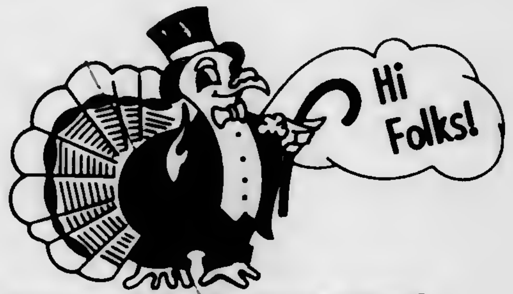


No claim is made to the representation of a fish per se.

Owner of Spanish Reg. No. 477,594, dated Mar. 15, 1966.

For Canned Seafood, Salted Fish, and Oils of Seafood Origin (Int. Cl. 29).

SN 245,431. Uebelhack Turkey Farm, Mt. Vernon, Ind. Filed May 11, 1966.



"THE BEST DRESSED TURKEY IN TOWN"

Applicant disclaims the words "The Best Dressed Turkey in Town" apart from the mark as shown.

For Fresh Dressed Turkey (Int. Cl. 29).

First use Sept. 15, 1963.

SN 247,613. National Molasses Company, Willow Grove, Pa. Filed June 8, 1966.

SUPER-MOL

For Liquid Livestock Feed (Int. Cl. 31).

First use May 25, 1966.

SN 250,131. Bendicks (Mayfair) Limited, Winchester, Hampshire, England. Filed July 13, 1966.

BENDICKS BITTERMINTS

For Mint Flavored Chocolates (Int. Cl. 30).

First use in or about 1919; in commerce in or before September 1960.

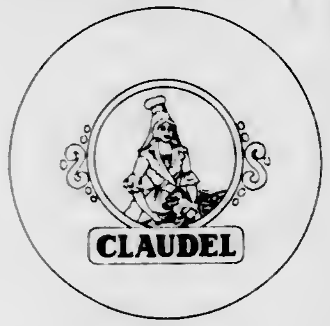
SN 251,593. Anderson, Clayton & Co., Dallas, Tex. Filed Aug. 3, 1966.

COACH-HOUSE

For Salad Dressings (Int. Cl. 29).

First use June 29, 1966.

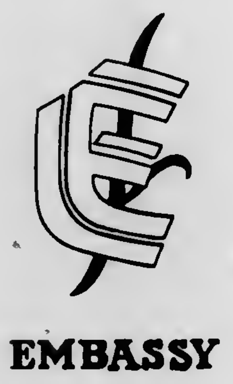
SN 254,674. Claudel, Paris, France. Filed Sept. 19, 1966.



The female figure shown in the drawing does not represent any particular living individual. Owner of French Reg. No. 530,146, dated Apr. 9, 1965 (Paris); Natl. Inst. No. 245,530.

For Cheese, Butter, Condensed Milk, Bottled Milk, Milk in Containers, Powdered Milk, Flavored Milk; and Cake and Cookies (Int. Cls. 29 and 30).

SN 259,480. The Southland Corporation, Dallas, Tex. Filed Nov. 25, 1966.



Owner of Reg. Nos. 677,078 and 688,800.
For Loaf Breads and Buns (Int. Cl. 30).
First use at least as early as May 1, 1961.

SN 260,332. W. R. Grace & Co., New York, N.Y. Filed Dec. 8, 1966.

BANQUET

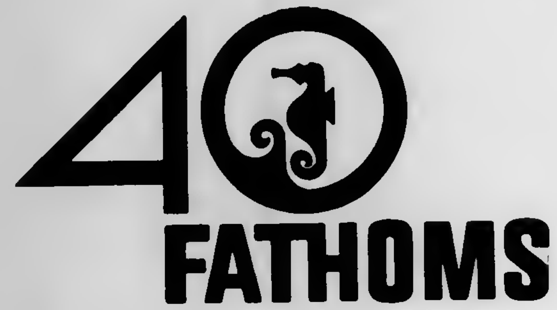
For Pickles (Int. Cl. 29).
First use 1943.
Subj. to Intf. with SN 262,118.

SN 262,118. Beatrice Foods Co., Chicago, Ill. Filed Jan. 9, 1967.

BANQUET

For Pickles, Jams, Jellies, Preserves, and Fruit Butters (Int. Cl. 29).
First use 1887.
Subj. to Intf. with SN 260,332.

SN 262,780. 40-Fathom Seafoods, Inc., Chestnut Hill, Mass. Filed Jan. 18, 1967.



Owner of Reg. No. 231,162.
For Frozen Fish Fillets, Specifically Haddock, Perch, and Flounder (Int. Cl. 29).
First use Aug. 18, 1966.

SN 263,286. C. Pappas Company, Inc., Boston, Mass. Filed Jan. 25, 1967.

GLORIA

Owner of Reg. No. 715,511.
For Canned, Bottled, or Packaged Foods—Namely, Pickled Peppers, Olives, Mixed Garden Salad, Vinegar, Onions, Maraschino Cherries, Fruits, Vegetables, Fish, and Grated Cheese (Int. Cl. 29).
First use prior to 1920 on canned or bottled tomatoes.

SN 264,208. Anthony Guerriero, d.b.a. A. Guerriero, Fresno, Calif. Filed Feb. 8, 1967.

For Fresh Grapes (Int. Cl. 31).
First use Aug. 1, 1966.

SN 265,323. National Sea Products Limited, Halifax, Nova Scotia, Canada, by merger from National Sea Products Limited, Halifax, Nova Scotia, Canada. Filed Feb. 23, 1967.

CONLEY'S

For Seafood Products—Namely, Canned, Fresh and Frozen Lobsters (Int. Cl. 29).
First use in or about 1940; in commerce in or about 1940.

SN 265,353. Sumter Dairies, Inc., Sumter, S.C. Filed Feb. 23, 1967.

Bimini

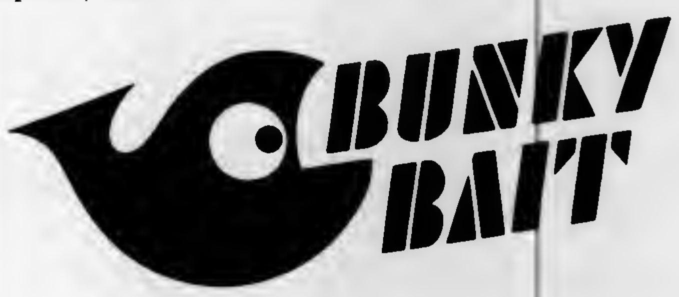
For Homogenized Milk Packaged in Cartons and Ice Cream (Int. Cls. 29 and 30).
First use Nov. 15, 1966.

SN 266,599. Sta-Whip, Inc., Los Angeles, Calif. Filed Mar. 13, 1967.

Stā-wip

Owner of Reg. No. 653,853.
For Vegetable Derived, Sweetened, Cream-Like Liquid for Use as a Whip Topping (Int. Cl. 30).
First use Feb. 24, 1967.

SN 268,737. Haynie Products, Inc., Baltimore, Md. Filed Apr. 10, 1967.



No exclusive claim is made to the word "Bait" apart from the mark as shown.
For Fresh and Frozen Menhaden (Int. Cl. 28).
First use Feb. 15, 1967.

SN 269,348. Rhodia Inc., New York, N.Y. Filed Apr. 17, 1967.

MERRYBERRY

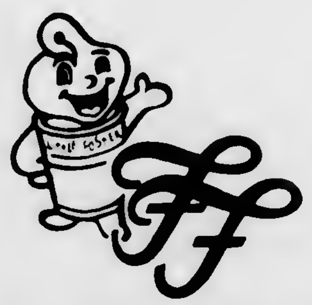
For Artificial Food Flavoring (Int. Cl. 30).
First use Mar. 9, 1967.

SN 269,447. The Pillsbury Company, Minneapolis, Minn. Filed Apr. 18, 1967.

BALLARD

Owner of Reg. Nos. 94,865 and 595,284.
For Wheat Flour and Corn Bread Mix (Int. Cl. 30).
First use September 1880.

SN 270,739. Meyenberg Milk Products, Inc., San Francisco, Calif. Filed May 5, 1967.



Owner of Reg. Nos. 734,637 and 750,936.
For Ice Cream, Ice Milk; Hot Dog Sandwiches, Hamburger, Sandwiches, Fish Sandwiches, Steak Sandwiches, Barbecue Beef Sandwiches, Cheese Sandwiches, Ham Sandwiches; Tacos, and Burritos (Int. Cls. 29 and 30).
First use April 1958.

SN 270,990. Wessanen's Koninklijke Fabrieken N.V., Wormerveer, Netherlands. Filed May 8, 1967.

WESSA

Owner of Dutch Reg. No. 157,443, dated Aug. 2, 1965.
For Chocolate Pellets for Eating or for Use as a Spread, and Rice (Int. Cl. 30).

SN 271,366. Forrest D. Hill, d.b.a. Hereford Produce Company, Hereford, Tex. Filed May 12, 1967.

Mineral Kist

The drawing is lined for red and blue. Owner of Reg. No. 549,475.
For Whole Raw Potatoes (Int. Cl. 31).
First use in or before 1951.

SN 271,703. Hales & Hunter Co., Chicago, Ill. Filed May 17, 1967.

WHITE FENCE FARMS

For Fresh and Frozen Poultry and Fresh Eggs (Int. Cl. 29).
First use Aug. 30, 1965.

SN 272,073. Harry Krier, d.b.a. The 7 Seas Restaurant, Virginia Beach, Va. Filed May 22, 1967.

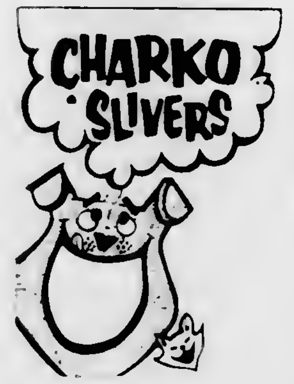
For Frozen Hush Puppies (Int. Cl. 30).
First use Jan. 1, 1954.

SN 272,179. Thomas Fanos, d.b.a. Bingham Farms Co., Southfield, Mich. Filed May 23, 1967.

BINGHAM FARMS

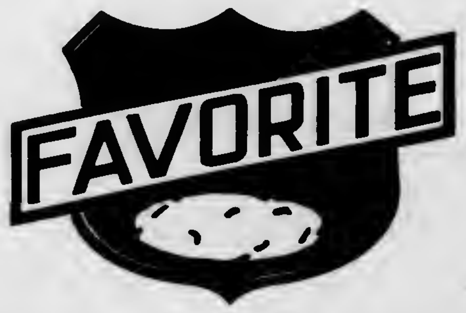
For Canned Fruits and Vegetables (Int. Cl. 29).
First use Apr. 28, 1967.

SN 272,722. Gro-Kote I, Inc., d.b.a. Gro-Kote, Inc., Santa Rosa, Calif. Filed May 31, 1967.



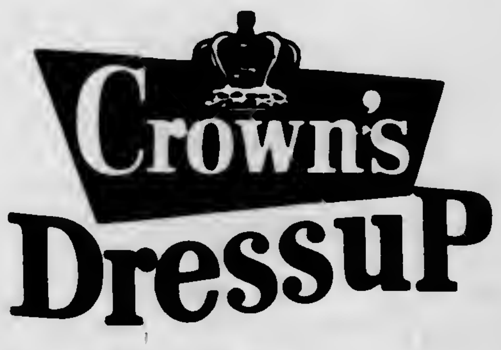
Owner of Reg. No. 789,813.
For Packaged Dog and Cat Food (Int. Cl. 31).
First use May 15, 1967.

SN 272,799. A. Bertolla & Sons, Loxley, Ala. Filed June 1, 1967.



The representation of a potato is disclaimed apart from the mark as shown.
For Fresh Potatoes in Wholesale Lots (Int. Cl. 31).
First use on or about May 8, 1937.

SN 272,812. Crown Food Products, Inc., Atlanta, Ga. Filed June 1, 1967.



For Salad Dressing (Int. Cl. 29).
First use May 19, 1967.

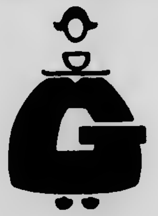
SN 273,278. Hershey Chocolate Corporation, Hershey, Pa. Filed June 7, 1967.

Mr.Goodbar

Owner of Reg. No. 211,531.
For Chocolate Bar (Int. Cl. 30).
First use on or about Nov. 20, 1925.

SN 273,396. Guittard Chocolate Co., Burlingame, Calif. Filed June 8, 1967.

GUITTARD



Owner of Reg. Nos. 374,611 and 699,086.

For Cocoa and Chocolate, and Mixtures of Cocoa, Chocolate, and/or Other Edible Materials for Eating and Cooking Purposes, Sold in Powdered and Solid Form (Int. Cl. 30).

First use about January 1959; January 1892 as to "Guittard"; about Sept. 23, 1958, as to G-Maid design.

SN 273,515. Mille-Lacs M-P Co., d.b.a. Mille Lacs Maple Products, Mille Lacs Maple Corp., and Mille Lacs Maple Products Corporation, Madison, Wis. Filed June 9, 1967.

FOREST FRUIT

Applicant disclaims the word "Fruit" apart from the mark as shown.

For Jams, Jellies, Food Syrups, and Pancake Mixes (Int. Cls. 29 and 30).

First use Jan. 1, 1954.

SN 273,601. Central Soya Company, Inc., Fort Wayne, Ind. Filed June 12, 1967.

FLOW COATED

For Soybean Meal and Added Kaolin Used in Livestock and Poultry Feed (Int. Cl. 31).

First use on or before Nov. 1, 1965.

SN 273,812. The E. M. Todd Company, Richmond, Va. Filed June 13, 1967.

TODD'S OLD VIRGINIA

Owner of Reg. Nos. 184,702, 229,411, and others.

For Bacon, Cured, Smoked, Cooked, and Uncooked Ham, Smoked Pork Jowl, and Smoked Pork Shoulder (Int. Cl. 29).

First use 1800 on hams and bacon.

SN 273,929. Tetra Kraft Werke, Melle, Germany. Filed June 15, 1967.

TetraKraft

For Growth Food for Tropical Fish (Int. Cl. 31).

First use Sept. 23, 1963; in commerce Jan. 10, 1964.

SN 274,798. Wessanen's Koninklijke Fabrieken N.V., Wormerveer, Netherlands. Filed June 26, 1967.

WESSANEN

Owner of Dutch Reg. No. 158,291, dated Jan. 3, 1966.

For Cocoa Butter Used as an Ingredient of Food; and Animal Feeds—Namely, Artificial Milk for Calves and Breeding Foods and Fattening Foods for Calves (Int. Cls. 29 and 31).

SN 276,964. Swizzels, Inc., Hoboken, N.J. Filed July 27, 1967.

SUNCRUSH

For Candies (Int. Cl. 30).

First use on or about July 3, 1967.

SN 277,374. M. Pagano & Sons, Inc., Brooklyn, N.Y. Filed Aug. 2, 1967.

SWEETHEART

For Watermelons (Int. Cl. 31).

First use June 1950.

SN 277,386. Helen Saatzer, St. Cloud, Minn. Filed Aug. 2. 1967.

TAILSPINNERS

For Dog Food in the Form of a Cookie or Wafer (Int. Cl. 31).

First use Jan. 6, 1965.

SN 277,436. Carnation Company, d.b.a. Albers Milling Company, Los Angeles, Calif. Filed Aug. 3, 1967.

ALLEVE

For Horse Feed (Int. Cl. 31).

First use Mar. 17, 1967.

SN 279,542. Duffy-Mott Company, Inc., New York, N.Y. Filed Sept. 1, 1967.

TJ

For Canned Tomato Juice and Tomato Juice Cocktail (Int. Cl. 32).

First use Aug. 17, 1967.

SN 279,696. Weight Watchers International, Inc., Forest Hills, N.Y. Filed Sept. 5, 1967.

WEIGHT WATCHERS

Owner of Reg. Nos. 715,515, 826,163, and 828,532.

For Frozen Prepared Meals Consisting of Fish, Vegetables, Sauces, Seasonings, and Spices (Int. Cl. 29).

First use Mar. 1, 1966.

SN 282,331. Jerome Foods, Inc., Barron, Wis. Filed Oct. 12, 1967.

GOLDEN T-BIRD

For Frozen Breaded Turkey Steak (Int. Cl. 29).

First use on or about May 5, 1967.

SN 282,332. Jerome Foods, Inc., Barron, Wis. Filed Oct. 12, 1967.

GOLDEN CHEF

For Pre-Cooked Turkey Rolls, and More Particularly, Frozen Precooked Turkey Rolls (Int. Cl. 29).

First use on or about June 1, 1967.

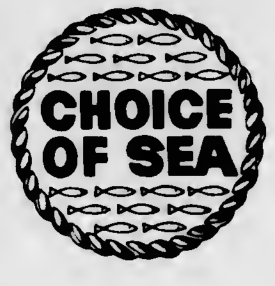
SN 283,072. The Quaker Oats Company, Chicago, Ill. Filed Oct. 23, 1967.

CRUNCH BERRIES

For Breakfast Cereal (Int. Cl. 30).

First use Oct. 5, 1967.

SN 284,878. Prospect Enterprises, Inc., d.b.a. Prospect Enterprises, Los Angeles, Calif. Filed Nov. 15, 1967.



Applicant disclaims any exclusive right to the use of the representation of the design of a fish.

For Fresh, Frozen, and Smoked Fish, Frozen Breaded Shrimp, Frozen Breaded Fish Sticks, Vacuum Packed Fresh Cooked Shrimp, Rainbow Trout, and Canned Abalone (Int. Cl. 29).

First use at least as early as 1958.

SN 285,170. A. M. Macheca & Co., St. Louis, Mo. Filed Nov. 20, 1967.

REGAL RED

The word "Red" is disclaimed apart from the mark as shown.

For Fresh Potatoes (Int. Cl. 31).

First use Oct. 10, 1963.

SN 287,210. Ralston Purina Company, St. Louis, Mo. Filed Dec. 19, 1967.

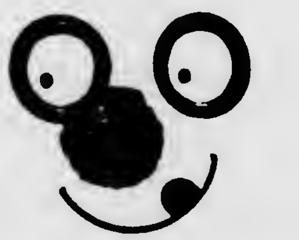
SWEET BREW

Applicant disclaims the word "Sweet" apart from the mark as shown, however, it waives none of its common law rights thereto. Owner of Reg. No. 659,583.

For Livestock Feed (Int. Cl. 31).

First use Nov. 20, 1967.

SN 288,254. Campbell Soup Company, Camden, N.J. Filed Jan. 8, 1968.

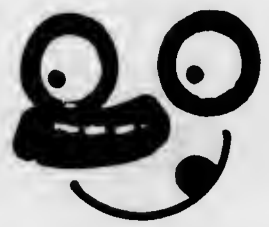


No claim is made to the representation of the meatball apart from the mark as shown. Owner of Reg. No. 837,601.

For Canned Prepared Spaghetti With Meatballs (Int. Cl. 29).

First use Aug. 15, 1966.

SN 288,255. Campbell Soup Company, Camden, N.J. Filed Jan. 8, 1968.

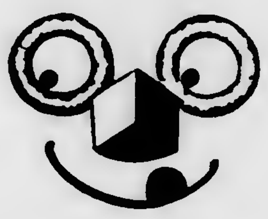


No claim is made to the representation of the sliced frankfurters apart from the mark as shown. Owner of Reg. No. 837,601.

For Canned Prepared Spaghetti With Frankfurters (Int. Cl. 29).

First use Sept. 23, 1966.

SN 288,256. Campbell Soup Company, Camden, N.J. Filed Jan. 8, 1968.



No claim is made to the representation of cheese apart from the mark as shown. Owner of Reg. No. 837,601.

For Canned Prepared Macaroni (Int. Cl. 29).

First use Feb. 21, 1967.

SN 289,056. General Mills, Inc., Minneapolis, Minn. Filed Jan. 18, 1968.

SUGARAINS

For Ready To Eat Breakfast Cereal (Int. Cl. 30).

First use on or prior to Oct. 30, 1967.

SN 289,227. Lever Brothers Company, New York, N.Y. Filed Jan. 18, 1968.

MISS DIETWORTH

Owner of Reg. Nos. 722,714 and 831,942.

For Table Syrup (Int. Cl. 30).

First use Jan. 11, 1968.

SN 289,451. Maywood Packing Company, Corning, Calif. Filed Jan. 24, 1968.

Maywood

Owner of Reg. No. 66,177.

For Canned and Bottled Olives (Int. Cl. 29).

First use at least as early as 1907.

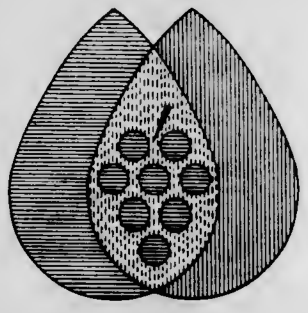
Class 47 — Wines

SN 277,583. Michigan Wineries, Inc., Paw Paw, Mich. Filed July 6, 1967.

Sting Ray

For Wine (Int. Cl. 33).
First use Sept. 30, 1965.

SN 277,584. Michigan Wineries, Inc., Paw Paw, Mich. Filed July 6, 1967.



The drawing is lined for blue, purple, and magenta (the latter being a purplish shade of red), and color is claimed.
For Still Wines (Int. Cl. 33).
First use December 1966.

Class 49 — Distilled Alcoholic Liquors

SN 272,916. Coates & Co. (Plymouth) Limited, Plymouth, England. Filed June 2, 1967.

PLYMOUTH

Owner of Reg. Nos. 358,958, 808,632, and others.
For Prepared Alcoholic Cocktails (Int. Cl. 33).
First use Dec. 10, 1965; in commerce Dec. 10, 1965; 1882 with respect to related goods.

SN 273,066. John Gross & Co., Baltimore, Md. Filed June 5, 1967.

EL GORDO

The English translation of "El Gordo" is "the highest prize."
For Vodka (Int. Cl. 33).
First use Apr. 4, 1967.

SN 273,067. John Gross & Co., Baltimore, Md. Filed June 5, 1967.

SOUR BELLY

For Vodka (Int. Cl. 33).
First use Apr. 4, 1967.

SN 277,981. Canadian Schenley Distilleries, Ltd., Montreal, Quebec, Canada. Filed Aug. 10, 1967.

CANADIAN PRIDE

The word "Canadian" is disclaimed apart from the mark as shown. Owner of Canadian Reg. No. 150,510, dated Apr. 28, 1967.
For Canadian Whisky (Int. Cl. 33).

Class 50 — Merchandise Not Otherwise Classified

SN 245,815. Ebnersons Associates, Chelmsford, Mass. Filed May 17, 1966.

FOTO CUBE

For Rigid Block for Supporting Pictures or Photographs (Int. Cl. 20).
First use Mar. 17, 1966.

SN 256,374. Raven Industries, Inc., Sioux Falls, S. Dak. Filed Oct. 13, 1966.

EXTRUDO

For Seals Sold as a Component of Tarps (Int. Cl. 22).
First use Aug. 24, 1966.

SN 268,336. Reeves Brothers, Inc., New York, N.Y. Filed Apr. 4, 1967.

VULCAN 714

Owner of Reg. No. 128,892.
For Printing Equipment, Particularly Printing Blankets Used in Conjunction With Offset Printing Presses (Int. Cl. 16).
First use Jan. 12, 1966.

SN 279,667. Morgan Adhesives Company, Stow, Ohio. Filed Sept. 5, 1967.

VY-GUARD

For Vinyl Material Coated With a Pressure Sensitive Adhesive and Adapted for Use as a Decorative Covering (Int. Cl. 27).
First use Mar. 16, 1967.

Class 51 — Cosmetics and Toilet Preparations

SN 243,055. Yardley of London, Inc., d.b.a. Yardley, Totowa, N.J. Filed Apr. 8, 1966.

SNAPPER

For Foundation Cream, Pressed Powder, Eye Shadow, and Lipstick (Int. Cl. 3).
First use Mar. 4, 1966.

SN 243,056. Yardley of London, Inc., d.b.a. Yardley, Totowa, N.J. Filed Apr. 8, 1966.

LATE LATE

For Foundation Cream, Pressed Powder, Eye Shadow, and Lipstick (Int. Cl. 3).
First use Mar. 4, 1966.

SN 258,052. Clairol Incorporated, New York, N.Y. Filed Nov. 7, 1966.

FOREVER YOUNG

For Hair Tinting, Dyeing, and Coloring Preparation (Int. Cl. 3).
First use Aug. 11, 1966.

SN 264,024. Chadbourn Gotham, Inc., Charlotte, N.C. Filed Feb. 6, 1967.

DOUBLE HELPING

For Leg Cosmetic and Skin Softener (Int. Cl. 3).
First use Jan. 9, 1967.

SN 266,681. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Mar. 14, 1967.

HOSHI

The English translation of the mark "Hoshi" is "star."
For Perfume and Toilet Water (Int. Cl. 3).
First use Feb. 21, 1967.

SN 266,682. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Mar. 14, 1967.

HITARI

The English translation of the mark "Hitari" is "star."
For Perfume and Toilet Water (Int. Cl. 3).
First use Feb. 21, 1967.

SN 266,683. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Mar. 14, 1967.

MASUMI

The English translation of the mark "Masumi" is "clear/pure" (pertaining to the sky).
For Perfume and Toilet Water (Int. Cl. 3).
First use Feb. 21, 1967.

SN 267,254. Laboratoires de Beaute Simon, Lyon (Rhone), France. Filed Mar. 21, 1967.

CREME SIMON

Without waiving its common law rights herein, applicant makes no claim to the word "Creme," apart from the mark as shown. Owner of Reg. No. 443,148.
For All-Purpose Skin Cream (Int. Cl. 3).
First use 1860; in commerce 1889.

SN 269,134. The J. B. Williams Company, Inc., New York, N.Y. Filed Apr. 13, 1967.

FROST LIME

The word "Lime" is disclaimed apart from the mark as shown.
For After Shave Preparation (Int. Cl. 3).
First use Apr. 12, 1967.

SN 269,748. Del Laboratories, Inc., Farmingdale, N.Y. Filed Apr. 21, 1967.

WHIPPED PEARL

The word "Pearl" is disclaimed apart from the mark as shown.
For Nail Coloring (Int. Cl. 3).
First use Jan. 6, 1967.

SN 272,927. Helene Curtis Industries, Inc., Chicago, Ill. Filed June 2, 1967.

THE MISTY BLONDES

Applicant disclaims the word "Blondes" apart from the mark as shown.
For Hair Coloring Preparations (Int. Cl. 3).
First use on or about Aug. 18, 1965.

SN 274,343. Polychem Corporation, New Haven, Conn. Filed June 20, 1967.

T.L.C.

Owner of Reg. Nos. 684,664 and 698,619.
For Toothpaste (Int. Cl. 3).
First use at least as early as Jan. 26, 1967.

SN 280,427. Lancome S.A., Paris, France. Filed Sept. 15, 1967.

CLIMATS de LANCÔME

Priority claimed under Sec. 44(d) on French Reg. No. 720,277, dated Mar. 15, 1967. Owner of U.S. Reg. Nos. 425,129, 679,012, and others. The English translation of "Climats de Lancome" is ambience of Lancome."
For Perfumes (Int. Cl. 3).

SN 281,977. Henry M. Finn, Boston, Mass. Filed Oct. 6, 1967.

RAZOR/EASE

For Pre-Shave Skin Conditioner (Int. Cl. 3).
First use at least as early as Dec. 7, 1966.

SN 285,806. Wolff Freres, Inc., New York, N.Y. Filed Nov. 29, 1967.

WOLFF FRERES

The translation of the mark "Wolff Freres" into English is "Wolff Brothers."
For After Shave Lotion and Cologne (Int. Cl. 3).
First use Jan. 2, 1948.

SN 285,890. Lanvin-Charles of the Ritz, Inc., New York, N.Y. Filed Nov. 30, 1967.

LANVINETTE

Owner of Reg. Nos. 556,672, 823,756, and others.
For Perfume (Int. Cl. 3).
First use Nov. 15, 1967.

SN 288,990. Ar. Winarick, Inc., New York, N.Y. Filed Jan. 17, 1968.

IF YOU DARE

For Lipstick and Nail Enamel (Int. Cl. 3).
First use May 17, 1965.

Class 52 — Detergents and Soaps

SN 271,344. Clairol Incorporated, New York, N.Y. Filed May 12, 1967.

TAKE OVER

For Dandruff Shampoo (Int. Cl. 3).
First use Feb. 8, 1967.

SN 276,754. Manufacturers Marketing Co., U.S.A., Inc., New York, N.Y. Filed July 25, 1967.

ITALIAN MARBLE

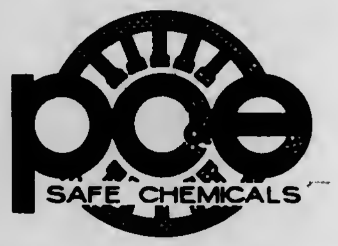
For Toilet Soaps (Int. Cl. 3).
First use Dec. 15, 1966.

SN 276,755. Manufacturers Marketing Co., U.S.A., Inc., New York, N.Y. Filed July 25, 1967.

SARI

For Toilet Soaps (Int. Cl. 3).
First use Apr. 27, 1967.

SN 277,293. Photofabrication Chemical and Equipment Company, Pennsauken, N.J. Filed Aug. 1, 1967.



Applicant disclaims the words "Safe Chemicals" apart from the mark as shown.
For Stripper for Photo Resists and a Cleaner and Deoxidizer for Preparing Copper Alloy for the Application of Photo Resist (Int. Cl. 1).
First use Jan. 20, 1967.

SN 277,294. Photofabrication Chemical and Equipment Company, Pennsauken, N.J. Filed Aug. 1, 1967.

92

For Stripper for Photo Resists (Int. Cl. 1).
First use Jan. 20, 1967.

SN 277,295. Photofabrication Chemical and Equipment Company, Pennsauken, N.J. Filed Aug. 1, 1967.

13/LS

For Stripper for Photo Resists (Int. Cl. 1).
First use Jan. 20, 1967.

SN 277,296. Photofabrication Chemical and Equipment Company, Pennsauken, N.J. Filed Aug. 1, 1967.

909

For Stripper for Photo Resists (Int. Cl. 1).
First use Jan. 20, 1967.

SN 283,389. The Hewitt Soap Company, Inc., Dayton, Ohio. Filed Oct. 26, 1967.

ROMANA

For Toilet Soap (Int. Cl. 3).
First use Sept. 18, 1967.

SERVICE MARKS

Class 100 — Miscellaneous

SN 242,732. W. H. Keland, Racine, Wis. Filed Apr. 5, 1966.

SHINING BROW

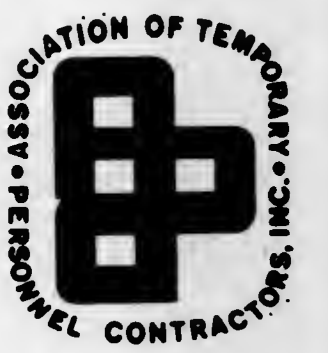
For Providing Restaurant Facilities and Transient and Permanent Guest Residences (Int. Cl. 42).
First use Feb. 26, 1966.

SN 250,683. Petty Geophysical Engineering Company, San Antonio, Tex. Filed July 20, 1966.

CRP

For Seismic Exploration for Others To Discover Oil, Gas, and Mineral Deposits, Including Field Work, Bedrock Mapping, and Data Processing in Connection Therewith (Int. Cl. 42).
First use June 1960.

SN 251,990. Association of Temporary Personnel Contractors, Inc., New York, N.Y. Filed Aug. 9, 1966.


ASSOCIATION OF TEMPORARY PERSONNEL CONTRACTORS, INC.

Applicant disclaims the words "Association of Temporary Personnel Contractors, Inc." except in conjunction with the mark as shown.
For Association Services to Members—Namely, Advising on Operational Methods, Setting Standards of Conduct, Advertising for Their Benefit, and Providing Membership Plaques and General Association Service (Int. Cl. 42).
First use June 9, 1966.

SN 254,528. Digicom Inc., Roslyn, N.Y. Filed Sept. 15, 1966.

DIGICOM

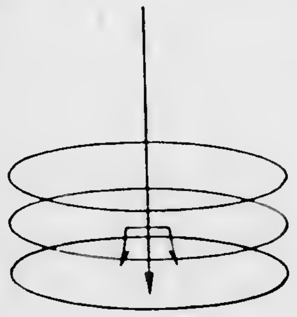
For Consulting and Design Services in the Fields of Computer and Electronic Systems (Int. Cl. 42).
First use June 17, 1966.

SN 256,712. The Architects Collaborative, Inc., Cambridge, Mass. Filed Oct. 19, 1966.

TAC

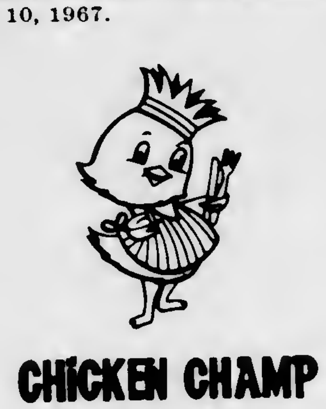
For Architectural, Engineering, and City Planning Services (Int Cl. 42).
First use Jan. 1, 1946.

SN 266,222. General Oceanographics, Inc., Northridge, Calif. Filed Mar. 8, 1967.



For Oceanographic Surveys (Int. Cl. 42).
First use Oct. 6, 1961.

SN 268,702. Chicken Champ International, Inc., New York, N.Y. Filed Apr. 10, 1967.



For Restaurant Services (Int. Cl. 42).
First use Mar. 23, 1967.

SN 273,399. Holiday Inns of America, Inc., Memphis, Tenn. Filed June 8, 1967.

HOLIDAY INN OF AMERICA

Owner of Reg. Nos. 592,539, 742,490, and others.
For Motel Services—Namely, Providing Lodging and Restaurant Services in Motels (Int. Cl. 42).
First use as early as 1957.

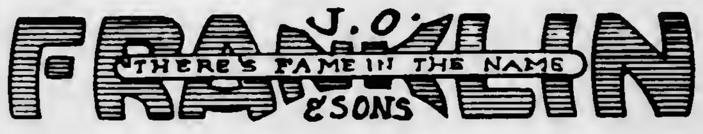
SN 273,400. Holiday Inns of America, Inc., Memphis, Tenn. Filed June 8, 1967.

HOLIDAY INNS OF AMERICA

Owner of Reg. Nos. 592,539, 742,490, and others.
For Motel Services—Namely, Providing Lodging and Restaurant Services in Motels (Int. Cl. 42).
First use as early as 1957.

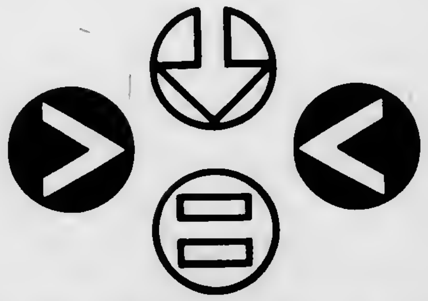
Class 101 — Advertising and Business

SN 242,123. J. O. Franklin, Jr., d.b.a. J. O. Franklin & Sons, Milwaukee, Wis. Filed Mar. 29, 1966.


J. O.
FRANKLIN
THERE'S FAME IN THE NAME
& SONS

The mark is not lined for color, but contains stippling for shading. Owner of Reg. Nos. 196,814 and 198,413.
For Food Brokerage Service, Particularly for Fresh Fruits and Produce (Int. Cl. 35).
First use June 27, 1922.

SN 245,563. Capcomp, Inc., Washington, D.C. Filed May 13, 1966.



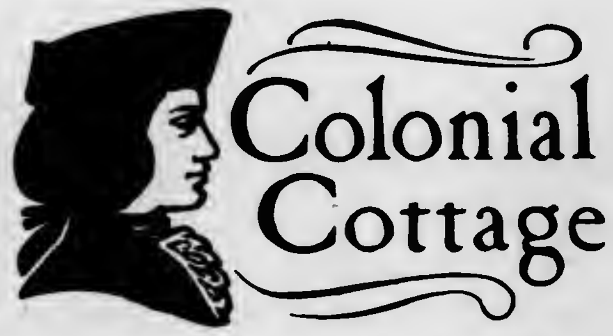
For Data Processing and Related Services Including Management Consultation, Programming, Key Punching of Information, and Clerical Labor (Int. Cl. 35).
First use May 5, 1966.

SN 252,561. James J. Foltz, d.b.a. Franchise-All Company, Pittsburgh, Pa. Filed Aug. 17, 1966.

FRANCHISE-ALL

For Advising and Counseling Those Wishing To Obtain Franchises or To Franchise Their Products or Services, Acting as a Clearinghouse and Marketing Center for Franchises, Training and Advising in the Various Methods and Techniques of Franchising, Promoting Franchises and Providing Franchise Opportunities for Franchise Investors (Int. Cl. 35).
First use July 16, 1966.

SN 253,230. Minute Man Dairy Stores, Inc., Atlantic City, N.J. Filed Aug. 26, 1966.



For Retail Dairy Food Store Services (Int. Cl. 35).
First use Jan. 25, 1966.

SN 255,231. Recording Materials & Supplies Corporation, New York, N.Y. Filed Sept. 27, 1966.

POPCAST

For Advertising the Goods of Others in Wholesale Stores Through the Broadcast of Musical and Commercial Announcements on Radio and Television Stations (Int. Cl. 35).
First use July 4, 1966.

SN 258,102. Greater North Dakota Association, North Dakota State Chamber of Commerce, Fargo, N. Dak. Filed Nov. 7, 1966.

"TOGETHER WE BUILD A GREATER NORTH DAKOTA!"

For Promotional and Informational Services to Business and Industry in Connection With Establishment of Business and Industrial Developments in the State of North Dakota (Int. Cl. 35).
First use Apr. 12, 1957.

SN 263,614. Security Dynamics Investment Corporation, Chicago, Ill. Filed Jan. 30, 1967.

SD

For Management of Retirement and Insurance Programs for Business Firms (Int. Cl. 35).
First use May 17, 1965.

SN 263,935. National Dividend Club, Inc., Minneapolis, Minn. Filed Feb. 3, 1967.

For Promotion of Goods and Services of Others by Means of Dividend Receipts Which Are Redeemable by Cash or Credit (Int. Cl. 35).
First use August 1964.

SN 265,848. Satterwhite Printing Company, Inc., Richmond, Va. Filed Mar. 2, 1967.

SP

The drawing is lined for yellow, red, and blue.
For Printing Services (Int. Cl. 35).
First use June 1966.

SN 267,002. Blockade Runners, Inc., Atlanta, Ga. Filed Mar. 17, 1967.

BLOCKADE RUNNERS

For Mail Order Services, Specializing in Antiques and Relics (Int. Cl. 35).
First use May 27, 1966.

SN 267,348. New York State Nurserymen's Association, Inc., New York, N.Y. Filed Mar. 22, 1967.

THE GARDEN LIVING INDUSTRIES OF THE EASTERN UNITED STATES

Applicant disclaims the term "of the Eastern United States" except as used with the mark as shown, applicant reserving any and all common law rights therein.
For Organizing, Planning and Operating Trade Exhibitions and Trade Conventions (Int. Cl. 35).
First use Jan. 1, 1966.

SN 274,077. Marquette Corporation, Minneapolis, Minn. Filed June 16, 1967.

MARQUETTE

Owner of Reg. Nos. 505,250, 598,422, and others.
For Services in Planning and Assisting in the Operation of Automobile Diagnostic Facilities for Others (Int. Cl. 35).
First use August 1964.

Class 102 — Insurance and Financial

SN 266,551. Keystone Custodian Funds, Inc., Boston, Mass. Filed Mar. 13, 1967.

KEYCHECKS

For Investing Funds of Its Subscribers or Certificate Holders, Automatically Using Preauthorized Checks (Int. Cl. 36).
First use Sept. 1, 1966.

SN 274,506. Equitable Life Insurance Company, Washington, D.C. Filed June 22, 1967.

EQUILIFE

For Insured Savings Accountings; Acident and Life Insurance Brokerage; and Mortgage and Construction Loans (Int. Cl. 36).
First use Nov. 8, 1958.

SN 286,794. Harris Trust and Savings Bank, Chicago, Ill. Filed Dec. 13, 1967.

CONVENIENCE CORNER

For Expedited Personal Banking Services (Int. Cl. 36).
First use Feb. 1, 1966.

Class 103 — Construction and Repair

SN 254,825. Walker Manufacturing Company, Racine, Wis. Filed Sept. 20, 1966.

QUALIFIED
SERVICE CENTER

The term "Qualified Service Center" is disclaimed apart from the mark.
For Services in Connection With the Maintenance and Repair of Automotive Type Vehicles Wherein Customers Are Reminded of Necessary General Maintenance and Records Are Kept of Such Maintenance (Int. Cl. 37).
First use Aug. 2, 1966.

SN 256,335. AAA Pipe Cleaning Corp., Cleveland, Ohio. Filed Oct. 13, 1966.

A A A

For Inspection, Cleaning, and Repairing of Sewer Lines, Water Mains, and Conduits (Int. Cl. 37).
First use at least as early as 1961.

SN 267,264. Perry Manufacturing Corporation, Trenton, N.J. Filed Mar. 21, 1967.

DREAM FOOLS

The word "Pools" is disclaimed as part of the mark.
For Installation of Swimming Pools (Int. Cl. 37).
First use December 1958.

Class 104 — Communication

SN 272,125. The Western Union Telegraph Company, New York, N.Y. Filed May 22, 1967.

INFO-COM

For Computer Controlled Communication Services (Int. Cl. 38).
First use on or about Apr. 17, 1967.

Class 105 — Transportation and Storage

SN 232,051. Airways Rent-A-Car System, Los Angeles, Calif. Filed Nov. 3, 1965.

AIRWAYS LEASING

No registration rights are claimed for the word "Leasing," apart from the mark shown in the drawing, but the applicant waives none of its common law rights in the mark shown or any feature thereof. Owner of Reg. Nos. 713,970, 757,918, and 795,363.
For Leasing and Rental of Cars and Trucks (Int. Cl. 39).
First use July 1961.

SN 262,075. Trans Caribbean Airways, Inc., New York, N.Y. Filed Jan. 6, 1967.

Owner of Reg. No. 823,515.
For Air Transportation Provided for Passengers (Int. Cl. 39).
First use Oct. 19, 1966.

SN 270,759. Crouch Bros., Inc., Elwood, Kans. Filed May 5, 1967.

SHIP VIA
CB
CROUCH BROS. Inc.
FASTEST
BY LAND

No claim is made to the wording "Ship Via" and "Fastest by Land," apart from the mark as shown, without waiving any common law rights therein. Owner of Reg. No. 765,243.
For Transportation of Goods by Motor Truck (Int. Cl. 39).
First use Feb. 25, 1967; 1930 as to "Crouch Bros., Inc." and "CB."

SN 275,608. Atlas Van-Lines, Inc., Evansville, Ind. Filed July 10, 1967.

A VL

For Transporting Household and Other Goods by Motor Van (Int. Cl. 39).
First use June 1, 1960.

Class 106 — Material Treatment

SN 260,453. Rochester Spraycoating Corp., Rochester, N.Y. Filed Dec. 9, 1966.

PLASMA-PLATING

For Applying Coatings of Metal or Ceramic Material to the Components of Others (Int. Cl. 40).
First use on or before Feb. 1, 1965.

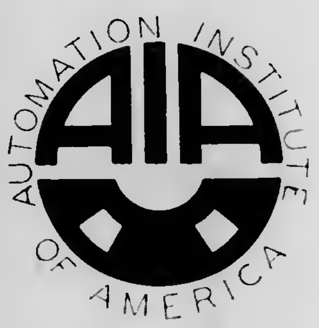
Class 107 — Education and Entertainment

SN 243,730. The Robert A. Taft Institute of Government, New York, N.Y. Filed Apr. 18, 1966.

THE ROBERT A. TAFT INSTITUTE OF GOVERNMENT

The name of which the mark consists is that of the noted Senator Robert A. Taft of Ohio, now deceased. Applicant disclaims the words "Institute of Government," apart from the mark as shown.
For Providing Educational Materials and Assisting in the Creation of Courses Related to Political Science and Government (Int. Cl. 41).
First use June 1961.

SN 243,772. C-E-I-R, Inc., Washington, D.C. Filed Apr. 19, 1966.



The words "Automation Institute of America," apart from the mark as shown, are disclaimed. Owner of Reg. No. 676,136.
For Education and Training Services in Connection With the Automation Data Processing Systems (Int. Cl. 41).
First use Feb. 2, 1966.

SN 246,983. Kepner-Tregoe and Associates, Inc., Princeton, N.J. Filed June 1, 1966.

GENCO

For Educational Services—Namely, Conducting Management Training Courses (Int. Cl. 41).
First use in or about January 1964.

SN 249,975. Charles L. Getz, Jr., Cleveland, Ohio. Filed July 11, 1966.

PIGSKIN PLAYBACK

Without waiving its common law rights applicant disclaims "Playback" apart from the mark as shown.
For Title of a Radio Sports-Type Quiz Program (Int. Cl. 41).
First use Sept. 19, 1965.

SN 254,376. Continental Football Club of Philadelphia, Inc., d.b.a. Philadelphia Bulldogs, Philadelphia, Pa. Filed Sept. 13, 1966.

BULLDOGS

For Entertainment Services—Namely, Football Exhibitions (Int. Cl. 41).
First use on or about Sept. 1, 1961.

SN 255,840. Your Father's Mustache International, Inc., New Haven, Conn., by change of name from Warrenton Restaurant, Inc., New Haven, Conn. Filed Oct. 5, 1966.

WHERE THE TIME OF YOUR LIFE IS RIGHT UNDER YOUR NOSE

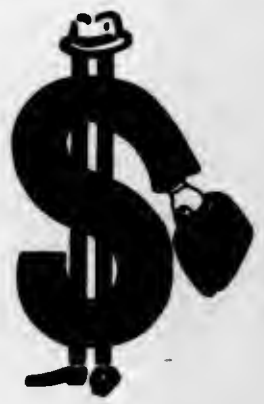
For Night Club Services (Int. Cl. 41).
First use Aug. 15, 1964.

SN 273,703. William H. Wachter, Cullman, Ala. Filed June 12, 1967.

STRAWBERRY BOWL

For Promotion of Bowling Through Tournaments (Int. Cl. 41).
First use Jan. 15, 1962.

SN 287,485. Leadership Techniques Institute, Inc., Chicago, Ill. Filed Dec. 26, 1967.



For Educational Services—Namely, Instruction in Sales Techniques (Int. Cl. 41).
First use Aug. 31, 1966.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

847,201. ERTALON. Firma Robert Tavernier. MULTIPLE CLASS (Classes 1 and 23). SN 259,415. Pub. 1–23–68. Filed 11–25–66.

847,202. 57. L. Teweles Seed Co. SN 263,081. Pub. 11–7–67. Filed 1–23–67.

847,203. SEEDCRAFT. George Warner Seed Company, Inc. SN 264,458. Pub. 1–23–68. Filed 2–10–67.

847,204. RESOPLAC. Pioneer Plastics Corporation. SN 265,101. Pub. 1–23–68. Filed 2–20–67.

847,205. UNIVERSAL. George Warner Seed Company, Inc. SN 265,575. Pub. 1–23–68. Filed 2–28–67.

847,206. HERCUVIT. Pittsburgh Plate Glass Company. SN 283,396. Pub. 1–23–68. Filed 10–26–67.

Class 2 — Receptacles

847,207. THE HAMILTON LINE. Lerner Manufacturing, Inc. SN 225,875. Pub. 5–30–67. Filed 8–17–65.

847,208. NUTRI SEAL. Nutri Seal Storage Systems, Inc. SN 231,198. Pub. 1–23–68. Filed 10–22–65.

847,209. GROOVSTAK. United Steel and Wire Company. SN 235,363. Pub. 1–23–68. Filed 12–27–65.

847,210. SEW-GUARD. Arkell Safety Bag Company. SN 249,295. Pub. 1–23–68. Filed 6–30–66.

847,211. STANLEY ETC. AND DESIGN. Aladdin Industries, Incorporated. SN 255,272. Pub. 1–23–68. Filed 9–28–66.

847,212. ADJUSTABLE PROPER PACKER. Proper Folding Box Corporation. SN 257,796. Pub. 1–23–68. Filed 11–2–66.

847,213. DIAMOND. Cadillac Steel Products Corporation. SN 265,979. Pub. 1–23–68. Filed 3–6–67.

847,214. BOATANK. The Bettcher Manufacturing Corporation. SN 266,640. Pub. 1–23–68. Filed 3–14–67.

847,215. VCD VITARINE CONTROLLED DISPENSER. The Vitarine Co. Inc. SN 267,364. Pub. 1–23–68. Filed 3–22–67.

847,216. DOUBLE-QUAD. Weyerhaeuser Company. SN 267,777. Pub. 10–31–67. Filed 3–28–67.

847,217. SAPOR. August Belz. SN 268,375. Pub. 1–23–68. Filed 4–5–67.

847,218. FONDA. Fonda Container Company, Inc. SN 268,488. Pub. 1–23–68. Filed 4–6–67.

847,219. UDIP. Marion Laboratories, Inc. SN 268,968. Pub. 1–23–68. Filed 4–12–67.

847,220. WIZ BAGS. Lion Packaging Products Co., Inc. SN 269,994. Pub. 1–23–68. Filed 4–25–67.

847,221. FACILIBIN. Oehler's Welding & Fabrication Corp. SN 270,266. Pub. 1–23–68. Filed 4–28–67.

847,222. STERI-LOK. Minnesota Mining and Manufacturing Company. SN 271,318. Pub. 10–24–67. Filed 5–12–67.

847,223. VAC-TITE. GTI Corporation. SN 271,362. Pub. 1–23–68. Filed 5–12–67.

847,224. RED TYE. Chase Bag Company. SN 271,595. Pub. 1–23–68. Filed 5–16–67.

847,225. JEL-ETTE. Rexall Drug and Chemical Company, d.b.a. Tupperware. SN 275,688. Pub. 1–23–68. Filed 7–10–67.

847,226. MONOX. Litewate Transport Equipment Corp. SN 275,856. Pub. 1–23–68. Filed 7–12–67.

847,227. METRO-BASKET. Metropolitan Wire Goods Corporation. SN 276,155. Pub. 1–23–68. Filed 7–17–67.

847,228. CUT-RITE. Scott Paper Company. SN 276,477. Pub. 1–23–68. Filed 7–20–67.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

847,229. K.J.L. Kenneth Jay Lane, Inc. MULTIPLE CLASS (Classes 3 and 28). SN 272,988. Pub. 1–23–68. Filed 6–5–67.

Class 4 — Abrasives and Polishing Materials

847,230. DEALERS CHOICE. Auto Wax Company, Inc. SN 265,885. Pub. 1–23–68. Filed 3–3–67.

847,231. AMERICAN AND DESIGN. American Steel Wool Mfg. Co. Inc. SN 284,130. Pub. 1–23–68. Filed 11–6–67.

Class 5 — Adhesives

847,232. J-LAR. Johnson & Johnson, d.b.a. Permacel. SN 270,137. Pub. 1–23–68. Filed 4–27–67.

Class 6 — Chemicals and Chemical Compositions

847,233. BRY-KLEEN. Pennsalt Chemicals Corporation. SN 247,952. Pub. 1–23–68. Filed 6–13–66.

847,234. UNILUBE AND DESIGN. Southern Petroleum Company, Inc. SN 259,978. Pub. 11–7–67. Filed 12–2–66.

847,235. TOXOL. SCM Corporation, assignee of The Glidden Company. SN 265,061. Pub. 1–23–68. Filed 2–20–67.

847,236. KALINE. American Aniline Products, Inc. SN 268,677. Pub. 12–5–67. Filed 4–10–67.

847,237. OSMOBAND. Osmose Wood Preserving Co. of America Inc. SN 272,202. Pub. 1–23–68. Filed 5–23–67.

847,238. 6·12. Union Carbide Corporation. SN 272,229. Pub. 1–23–68. Filed 5–23–67.

847,239. TOPCIDE. Gulf Oil Corporation. SN 272,830. Pub. 1–23–68. Filed 6–1–67.

847,240. MODSOL. Hess Oil & Chemical Corporation. SN 272,928. Pub. 1–23–68. Filed 6–2–67.

847,241. CARDINAL. Hooker Chemical Corporation. SN 273,068. Pub. 1–23–68. Filed 6–5–67.

847,242. S25. National Lead Company. SN 273,300. Pub. 1–23–68. Filed 6–7–67.

847,243. AEROFLOAT. American Cyanamid Company. SN 273,841. Pub. 1–23–68. Filed 6–14–67.

847,244. DIRTGARD. Faultless Starch Company. SN 273,881. Pub. 1–23–68. Filed 6–14–67.

847,245. VICONTINE. Sandoz, Inc. SN 273,904. Pub. 1–23–68. Filed 6–14–67.

847,246. CARDINAL (DESIGN). Hooker Chemical Corporation. SN 274,066. Pub. 1–23–68. Filed 6–16–67.

847,247. AROGEN. J. M. Huber Corporation. SN 274,741. Pub. 1–23–68. Filed 6–26–67.

847,248. LASSO. Monsanto Company. SN 275,067. Pub. 1–23–68. Filed 6–29–67.

847,249. ROUNDUP. Monsanto Company. SN 275,068. Pub. 1–23–68. Filed 6–29–67.

847,250. MIRA-QUIK. A. E. Staley Manufacturing Company. SN 275,795. Pub. 1–23–68. Filed 7–11–67.

847,251. CAPTAFOL. Chevron Chemical Company. SN 275,917. Pub. 1–23–68. Filed 7–13–67.

847,252. PLASTILUBE. Price's (Bromborough) Limited. SN 276,506. Pub. 1-23-68. Filed 7-21-67.

847,253. CLEAROX. Chas. Pfizer & Co., Inc. SN 279,601. Pub. 1-23-68. Filed 9-5-67.

Class 7 — Cordage

847,254. STOCKMANS DE LUX. N.V. Lankhorst Touwfabrieken. SN 266,064. Pub. 1-23-68. Filed 3-6-67.

Class 8 — Smokers' Articles, Not Including Tobacco Products

847,255. MASTERCRAFT. Mastercraft Pipes. SN 271,634. Pub. 1-16-68. Filed 5-16-67.

847,256. SKINS. Olympian King Company. SN 274,761. Pub. 1-23-68. Filed 6-26-67.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

847,257. BLUE MALLARD. J. L. Galef & Son, Inc. SN 257,849. Pub. 1-23-68. Filed 11-3-66.

Class 10 — Fertilizers

847,258. GCC. Hysan Products Company. SN 272,190. Pub. 1-23-68. Filed 5-23-67.

Class 11 — Inks and Inking Materials

847,259. STOP-DRI. Sun Chemical Corporation. SN 266,943. Pub. 1-23-68. Filed 3-16-67.

Class 12 — Construction Materials

847,260. DURALUN. Lunn Laminates, Incorporated. SN 248,715. Pub. 11-14-67. Filed 6-22-66.

847,261. MONTEREY. Doughboy Industries, Inc. MULTIPLE CLASS (Classes 12 and 22). SN 250,421. Pub. 1-23-68. Filed 7-18-66.

847,262. CHASEMOLD. Chase & Sons, Inc. SN 253,729. Pub. 1-23-68. Filed 9-2-66.

847,263. SEALTOP. Acorn Chemical Company. SN 255,270. Pub. 1-23-68. Filed 9-28-66.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

847,264. NEOMIX. Aktiengesellschaft Karrer, Weber & Cie., Armaturenfabrik und Metallgiesserei. SN 246,992. Pub. 1-23-68. Filed 6-1-66.

847,265. ACCENT AND DESIGN. Regal Ware, Inc. MULTIPLE CLASS (Classes 13 and 21). SN 249,388. Pub. 1-23-68. Filed 7-1-66.

847,266. TORX. Textron Industries, Inc. SN 261,117. Pub. 1-23-68. Filed 12-19-66.

847,267. YOUR FIRST FAMILY IN HYDRAULICS. Racine Hydraulics & Machinery, Inc. MULTIPLE CLASS (Classes 13 and 23). SN 265,671. Pub. 1-23-68. Filed 3-1-67.

847,268. GASFLEX. Gaslite Illinois, Inc. SN 272,181. Pub. 1-23-68. Filed 5-23-67.

847,269. MISCELLANEOUS DESIGN. Hana Corporation. SN 272,182. Pub. 1-23-68. Filed 5-23-67.

847,270. HAMMER HAMMOCK. Fred W. Barrowcliff, d.b.a. Hammer Hammock. SN 284,273. Pub. 1-23-68. Filed 11-7-67.

Class 15 — Oils and Greases

847,271. LUBAID AND DESIGN. Vanda Sauerborn, d.b.a. Lubaid Company. SN 236,012. Pub. 1-23-68. Filed 1-7-66.

847,272. HOT-AIR. North American Service Co., Inc. SN 261,674. Pub. 1-23-68. Filed 12-29-66.

847,273. WITH A KICK. Sam F. Giannette. SN 264,281. Pub. 1-23-68. Filed 2-9-67.

847,274. KAL·GARD. James E. Swett, d.b.a. California Coatings Co. SN 271,660. Pub. 1-23-68. Filed 5-16-67.

Class 16 — Protective and Decorative Coatings

847,275. SKYKOTE. The Flintkote Company. SN 253,518. Pub. 1-23-68. Filed 8-31-66.

847,276. G. SCM Corporation, assignee of The Glidden Company. SN 254,534. Pub. 1-23-68. Filed 9-15-66.

847,277. GALVAZOL. Bee Chemical Company. SN 254,858. Pub. 1-23-68. Filed 9-21-66.

847,278. AMCRYL. Mobil Oil Corporation. SN 257,640. Pub. 1-23-68. Filed 10-31-66.

847,279. SURFACENE. SCM Corporation, assignee of The Glidden Company. SN 259,107. Pub. 1-23-68. Filed 11-21-66.

847,280. EMPIRE. SCM Corporation, assignee of The Glidden Company. SN 267,147. Pub. 1-23-68. Filed 3-20-67.

847,281. Q/M #2. W. R. Grace & Co. SN 267,241. Pub. 1-23-68. Filed 3-21-67.

Class 17 — Tobacco Products

847,282. ROYAL HOUSE. Samuel B. Jacobs. SN 251,927. Pub. 11-14-67. Filed 8-8-66.

847,283. MAGNATES. House of Windsor, Inc. SN 262,335. Pub. 1-23-68. Filed 1-12-67.

847,284. CAMARO. Universal Cigar Corporation. SN 262,826. Pub. 1-23-68. Filed 1-18-67.

847,285. FIRESIDE AND DESIGN. Fireside Tobacco Corp. SN 269,653. Pub. 1-23-68. Filed 4-20-67.

Class 18 — Medicines and Pharmaceutical Preparations

847,286. SERENASE. Janssen Pharmaceutica NV. SN 227,202. Pub. 10-25-66. Filed 8-30-65.

847,287. SOSOL. Foremost-McKesson, Inc., by change of name from McKesson & Robbins, Incorporated, d.b.a. McKesson Laboratories. SN 252,744. Pub. 8-8-67. Filed 8-19-66.

847,288. CENSOR. Bristol-Myers Company. SN 262,677. Pub. 12-12-67. Filed 1-17-67.

847,289. NERRAMYCIN. Chas. Pfizer & Co., Inc. SN 266,170. Pub. 10-17-67. Filed 3-7-67.

847,290. MERAMYCIN. Chas. Pfizer & Co., Inc. SN 266,448. Pub. 10-17-67. Filed 3-10-67.

847,291. TRILIAN. American Home Products Corporation. SN 277,407. Pub. 10-17-67. Filed 8-3-67.

Class 19 — Vehicles

847,292. HOLIDAY RAMBLER. Holiday Rambler Corporation, by change of name from Klingler Products Corporation. SN 145,945. Pub. 4-16-63. Filed 6-1-62.

847,293. IEC AND DESIGN. Interstate Engineering Corporation. MULTIPLE CLASS (Classes 19, 21, 23, 26, 31, and 36). SN 229,708. Pub. 8-15-67. Filed 10-11-65.

847,294. PORTA-HELM. Gold Coast Industries, Inc. SN 261,837. Pub. 1-23-68. Filed 1-3-67.

847,295. SNUG BUG AND DESIGN. Robert H. Shotwell, Jr., d.b.a. R. H. Shotwell Co. SN 262,206. Pub. 1-23-68. Filed 1-9-67.

847,296. D AND DESIGN. The Dunlop Company Limited. SN 266,515. Pub. 1-23-68. Filed 3-13-67.

847,297. BEACHWAGON. Wheel Camper Corp. SN 266,957. Pub. 1-23-68. Filed 3-16-67.

847,298. LODGEWAGON. Wheel Camper Corp. SN 266,959. Pub. 1-23-68. Filed 3-16-67.

847,299. PACKWAGON. Wheel Camper Corp. SN 266,960. Pub. 1-23-68. Filed 3-16-67.

847,300. SURVEYOR. The Roberk Company. SN 267,183. Pub. 1-23-68. Filed 3-20-67.

847,301. SPORT GRIP. Superior Industries. SN 267,451. Pub. 1-23-68. Filed 3-23-67.

847,302. COACHMEN. Coachmen Industries, Inc. SN 267,505. Pub. 1-23-68. Filed 3-24-67.

847,303. TORINO. Ford Motor Company. SN 267,825. Pub. 1-23-68. Filed 3-29-67.

Class 21 — Electrical Apparatus, Machines, and Supplies

847,265. (See Class 13 for this trademark.)

847,293. (See Class 19 for this trademark.)

847,304. FUTRONICS. Futronics, Incorporated. SN 116,719. Pub. 5-14-63. Filed 3-29-61.

847,305. RSVP SECRETARY AND DESIGN. RSVP Manufacturing, Inc. SN 231,853. Pub. 5-10-66. Filed 10-29-65.

847,306. FROST AID. Chemtronics Inc. SN 241,034. Pub. 1-23-68. Filed 3-15-66.

847,307. SLIDEPOT. Elliott Industries. SN 250,142. Pub. 1-23-68. Filed 7-13-66.

847,308. SONO-CAD. Sonotone Corporation. SN 250,189. Pub. 1-23-68. Filed 7-13-66.

847,309. RACAL AND DESIGN. Racal Communications Limited. MULTIPLE CLASS (Classes 21 and 26). SN 252,415. Pub. 1-23-68. Filed 8-15-66.

847,310. VOLTAMATIC. Textron Inc. SN 253,694. Pub. 1-23-68. Filed 9-1-66.

847,311. A NEW WONDERFUL WORLD OF SOUND! Fedtro, Inc. SN 256,276. Pub. 1-23-68. Filed 10-12-66.

847,312. Q-LAC. Transene Company, Incorporated. SN 263,855. Pub. 1-23-68. Filed 2-2-67.

847,313. FRY KING. Barbecue King, Inc. SN 264,184. Pub. 1-23-68. Filed 2-8-67.

847,314. U AND DESIGN. Maxson Electronics Corporation. SN 266,056. Pub. 1-23-68. Filed 3-6-67.

847,315. AVID AND DESIGN. PM & E Electronics, Inc. SN 267,179. Pub. 1-23-68. Filed 3-20-67.

847,316. C (DESIGN). The Budd Company. SN 267,804. Pub. 1-23-68. Filed 3-29-67.

847,317. VIBRANTO. The Muter Company. SN 268,516. Pub. 1-23-68. Filed 4-6-67.

847,318. MICROMAG. Conductron Corporation. SN 271,448. Pub. 1-23-68. Filed 5-15-67.

847,319. HAND/COMMAND. The Hallicrafters Co. SN 275,896. Pub. 1-23-68. Filed 7-13-67.

Class 22 — Games, Toys, and Sporting Goods

847,261. (See Class 12 for this trademark.)

847,320. STYLIZED L. Loral Corporation. SN 224,221. Pub. 5-3-66. Filed 7-26-65.

847,321. SILLY SAND. Funtastic, Inc. SN 252,090. Pub. 5-16-67. Filed 8-10-66.

847,322. TIGERINO. Marden-Kane Inc. SN 253,325. Pub. 12-19-67. Filed 8-29-66.

847,323. SNO BALL AND DESIGN. Hassenfeld Bros. Inc. SN 269,886. Pub. 1-23-68. Filed 4-24-67.

847,324. KLIKIES. Continental Electronics, Inc. SN 283,953. Pub. 1-23-68. Filed 11-2-67.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

847,201. (See Class 1 for this trademark.)

847,267. (See Class 13 for this trademark.)

847,293. (See Class 19 for this trademark.)

847,325. PRESSURE-FLO. Construction Machinery Company. SN 203,649. Pub. 4-12-66. Filed 10-9-64.

847,326. MAGNA-KING. Helmlich Brothers, Inc. SN 235,299. Pub. 12-12-67. Filed 12-27-65.

847,327. BOMAG. Bopparder Maschinenbaugesellschaft m.b.H. (Bomag). SN 238,162. Pub. 12-12-67. Filed 2-7-66.

847,328. POUCHMASTER. Sta-Hi Corporation. SN 248,372. Pub. 1-23-68. Filed 6-17-66.

847,329. BOWER AND DESIGN. Federal-Mogul Corporation. SN 248,451. Pub. 1-23-68. Filed 6-20-66.

847,330. EQUIPCO. Unarco Industries, Inc. SN 251,021. Pub. 12-19-67. Filed 7-25-66.

847,331. HUSKY AND DESIGN. FMC Corporation. SN 251,403. Pub. 1-23-68. Filed 8-1-66.

847,332. POWER MATE. Omark Industries, Inc. SN 255,714. Pub. 8-1-67. Filed 10-4-66.

847,333. BIMBA AND DESIGN. Bimba Manufacturing Company. SN 258,478. Pub. 1-23-68. Filed 11-14-66.

847,334. MONOPAK. Bata Shoe Company of Canada Limited. SN 260,917. Pub. 1-23-68. Filed 12-16-66.

847,335. LETCO. Letco Limited, assignee of Leonard E. Toews. SN 265,222. Pub. 1-9-68. Filed 2-21-67.

847,336. FLEX-RITE. Fawick Corporation. SN 267,027. Pub. 1-23-68. Filed 3-17-67.

847,337. RUSTLER. Wain-Roy Corporation. SN 267,776. Pub. 1-23-68. Filed 3-28-67.

847,338. RAPAT. Precision Valve Corporation. SN 267,846. Pub. 1-23-68. Filed 3-29-67.

847,339. CARPET-MATE. General Floorcraft, Inc. SN 267,936. Pub. 1-23-68. Filed 3-30-67.

847,340. BOOTH. The Booth Company, Inc. SN 269,163. Pub. 1-23-68. Filed 4-14-67.

847,341. SONODRAW. Aeroprojects Incorporated. SN 277,243. Pub. 1-23-68. Filed 8-1-67.

Class 25 — Locks and Safes

847,342. TREND. Schlage Lock Company. SN 256,239. Pub. 1-23-68. Filed 10-11-66.

Class 26—Measuring and Scientific Appliances

847,293. (See Class 19 for this trademark.)

847,309. (See Class 21 for this trademark.)

847,343. MISCELLANEOUS DESIGN. Baxter Laboratories, Inc. SN 241,421. Pub. 1–23–68. Filed 3–21–66.

847,344. ELECTROSCAN 30. Beckman Instruments, Inc. SN 242,526. Pub. 1–23–68. Filed 12–27–65.

847,345. LABMASTER. Houston Fearless Corporation. SN 247,925. Pub. 1–23–68. Filed 6–13–66.

847,346. CSI. Custom Scientific Instruments, Inc. SN 248,781. Pub. 1–23–68. Filed 6–23–66.

847,347. FACT. Hughes Aircraft Company. SN 248,808. Pub. 1–23–68. Filed 6–23–66.

847,348. CSI AND DESIGN. Custom Scientific Instruments, Inc. SN 249,413. Pub. 1–23–68. Filed 7–1–66.

847,349. MICROSPEC. Beckman Instruments, Inc. SN 249,720. Pub. 1–23–68. Filed 7–7–66.

847,350. GEOCRAFT. The Denoyer-Geppert Company. MULTIPLE CLASS (Classes 26 and 38). SN 256,531. Pub. 1–23–68. Filed 10–17–66.

847,351. DANY. Ryo Takasaki. SN 260,096. Pub. 1–23–68. Filed 12–5–66.

847,352. YOUNG HOSTESS AND DESIGN. Mid-Continent Manufacturing Co. SN 263,099. Pub. 1–23–68. Filed 1–23–67.

847,353. CABLE HOUND AND DESIGN. Universal Controls Corporation. SN 263,630. Pub. 1–23–68. Filed 1–30–67.

847,354. BULLARD. E. D. Bullard Company. SN 265,491. Pub. 1–23–68. Filed 2–27–67.

847,355. PAILRED. Philips Electronics and Pharmaceutical Industries Corp. SN 269,211. Pub. 1–23–68. Filed 4–14–67.

847,356. LUNA-PRO. Kling Photo Corp. SN 271,373. Pub. 1–23–68. Filed 5–12–67.

847,357. FRASCA AVIATION AND DESIGN. Frasca Aviation Inc. SN 271,409. Pub. 1–23–68. Filed 5–15–67.

847,358. VAC. Butler Company. SN 271,440. Pub. 1–23–68. Filed 5–15–67.

847,359. MAGNEPULSE. Conductron Corporation. SN 271,449. Pub. 1–23–68. Filed 5–15–67.

847,360. CONGO. Air Photo Supply Corporation. SN 271,900. Pub. 1–23–68. Filed 5–19–67.

847,361. COLLIMIZOR. Materials Research Corporation. SN 274,078. Pub. 1–23–68. Filed 6–16–67.

Class 28—Jewelry and Precious-Metal Ware

847,229. (See Class 3 for this trademark.)

847,362. IMPERIAL DIAMOND RINGS AND DESIGN. Joe Green, Inc. SN 254,784. Pub. 1–23–68. Filed 9–20–66.

847,363. LOVE KNOT. Uncas Manufacturing Company. SN 277,868. Pub. 10–17–67. Filed 8–9–67.

Class 29—Brooms, Brushes, and Dusters

847,364. RUFF-RIDER. H & G Industries, Inc. SN 269,759. Pub. 1–23–68. Filed 4–21–67.

Class 30—Crockery, Earthenware, and Porcelain

847,365. JOY JUG. Beverly H. Craft. SN 231,549. Pub. 1–23–68. Filed 10–24–65.

847,366. DIPSYDISH. Robert E. Lovett. SN 249,244. Pub. 1–23–68. Filed 6–29–66.

847,367. FLOWER OF THE MONTH. Schmid Brothers, Inc. SN 256,143. Pub. 1–23–68. Filed 10–10–66.

Class 31—Filters and Refrigerators

847,293. (See Class 19 for this trademark.)

847,368. KORV-AIR. Spartans Industries, Inc., by merger and change of name from E. J. Korvette, Inc. SN 245,203. Pub. 1–23–68. Filed 5–9–66.

847,369. BIO-REX. Bio-Rad Laboratories. SN 265,488. Pub. 1–23–68. Filed 2–27–67.

Class 34—Heating, Lighting, and Ventilating Apparatus

847,370. INSUL-TRAP. Birma Products Corporation. SN 247,886. Pub. 1–23–68. Filed 6–13–66.

847,371. AAF. American Air Filter Company, Inc. SN 249,480. Pub. 1–23–68. Filed 7–5–66.

847,372. CIRCUITEER. Electric Cleaner Company, Inc. SN 249,743. Pub. 1–23–68. Filed 7–7–66.

847,373. FASER. Time Research Laboratories, Inc. SN 265,127. Pub. 1–23–68. Filed 2–20–67.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

847,374. POWER CUSHION RADIAL PLY. The Goodyear Tire & Rubber Company. SN 263,053. Pub. 1–23–68. Filed 1–23–67.

Class 36—Musical Instruments and Supplies

847,293. (See Class 19 for this trademark.)

847,375. GERRI. Rosco Robinson, d.b.a. Gerri Record Co. SN 246,368. Pub. 1–23–68. Filed 5–23–66.

847,376. SWINGIN CAT. Emenee Industries, Inc. SN 247,206. Pub. 1–23–68. Filed 6–3–66.

847,377. SEKOVA AND DESIGN. U.S. Musical Merchandise Corp. SN 247,651. Pub. 4–25–67. Filed 6–8–66.

847,378. VENTURA. C. Bruno & Son, Incorporated. SN 253,419. Pub. 1–23–68. Filed 8–30–66.

847,379. BLESSING. E. K. Blessing Co., Inc. SN 260,401. Pub. 1–23–68. Filed 12–9–66.

847,380. FLEUR DE LYS AND DESIGN. Lucien Donati, d.b.a. Ets. Honorat Donati. SN 261,365. Pub. 1–23–68. Filed 12–23–66.

Class 37—Paper and Stationery

847,381. THIS IS MY LIFE AND DESIGN. Greet Our Babies, Inc. SN 257,383. Pub. 1–23–68. Filed 10–27–66.

847,382. FINE-STIK. Micropoint, Inc. SN 260,266. Pub. 1–23–68. Filed 12–7–66.

847,383. MEAD TERRA. The Mead Corporation. SN 269,769. Pub. 1–23–68. Filed 4–21–67.

847,384. ROUGHTEX. Winsted Precision Ball Corp. SN 270,306. Pub. 1–23–68. Filed 4–28–67.

Class 38—Prints and Publications

847,350. (See Class 26 for this trademark.)

847,385. THE MONKEES. Screen Gems, Inc. SN 241,935. Pub. 1–23–68. Filed 3–25–66.

847,386. AI. C-E-I-R, Inc., assignee of Automation Institute of America, Inc. SN 242,539. Pub. 1–23–68. Filed 4–4–66.

847,387. THE FUTURIST. Edward S. Cornish. SN 258,505. Pub. 1–23–68. Filed 11–14–66.

847,388. AIPR. Indprop Publishing Co., Inc. SN 261,847. Pub. 1–23–68. Filed 1–3–67.

847,389. HANDI-CAL. Robert A. Drake, d.b.a. The Drake Company. SN 262,776. Pub. 1–23–68. Filed 1–18–67.

847,390. LFC. Violet Priestley, d.b.a. Library Filmstrip Center. SN 266,581. Pub. 1–23–68. Filed 3–13–67.

847,391. USAS. United States of America Standards Institute, Incorporated. SN 267,469. Pub. 1–23–68. Filed 3–13–67.

847,392. MISCELLANEOUS DESIGN. Electric Heating Association, Inc. SN 278,347. Pub. 1–23–68. Filed 8–16–67.

847,393. MOLYCORP. Molybdenum Corporation of America. SN 283,394. Pub. 1–23–68. Filed 10–26–67.

Class 39—Clothing

847,394. E-X-P-A-N-D-E-X-9. De Luxe Girdlecraft Co., Inc. SN 222,832. Pub. 1–23–68. Filed 7–7–65.

847,395. PETITES BY J.P. Puritan Fashions Corporation. SN 230,287. Pub. 1–23–68. Filed 10–15–65.

847,396. BUMBEL-BEE ZZZZZZ AND DESIGN. Imperial Reading Corporation. SN 235,548. Pub. 9–13–66. Filed 12–30–65.

847,397. LANI BIRD. Gladstone-Arcuni, Inc. SN 263,760. Pub. 1–23–68. Filed 2–1–67.

847,398. BULLARD. E. D. Bullard Company. SN 264,723. Pub. 1–23–68. Filed 2–15–67.

847,399. FOX RUN AND DESIGN. Huntwood International, Ltd. SN 265,766. Pub. 1–23–68. Filed 3–2–67.

847,400. GAMEKEEPER. Kayser-Roth Corporation, assignee of F. Jacobson & Sons, Inc. SN 266,046. Pub. 12–12–67. Filed 3–6–67.

847,401. MINEE MUFF AND DESIGN. Lee Begman, Inc. SN 266,280. Pub. 1–23–68. Filed 3–9–67.

847,402. SPORT KING. M. Fine & Sons Manufacturing Company, Inc. SN 268,484. Pub. 1–23–68. Filed 4–6–67.

847,403. BREEZE-COOL. M. Fine & Sons Manufacturing Company, Inc. SN 268,485. Pub. 1–23–68. Filed 4–6–67.

847,404. WUNDURA, MCI. Miller Bros. Hat Co., Inc. SN 268,511. Pub. 1–23–68. Filed 4–6–67.

847,405. GUNTOWNER. All-American Sportswear, Inc. SN 268,668. Pub. 1–23–68. Filed 4–10–67.

847,406. BEACH BUM. W. Arthur Fielden, d.b.a. Art/Co. SN 269,526. Pub. 1–23–68. Filed 4–19–67.

847,407. CHEMIGUM. The Goodyear Tire & Rubber Company. SN 269,532. Pub. 1–23–68. Filed 4–19–67.

847,408. COAST-WIDE. M. Fine & Sons Manufacturing Company, Inc. SN 270,775. Pub. 1–23–68. Filed 5–5–67.

847,409. CORSAIR AND DESIGN. Camp and McInnes, Inc. SN 284,423. Pub. 1–23–68. Filed 11–9–67.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

847,410. TERITEX AND DESIGN. Colonial Process Supply Co., Inc. SN 251,798. Pub. 3–21–67. Filed 8–5–66.

Class 44—Dental, Medical, and Surgical Appliances

847,411. TOPOSCOPE. State of Israel. SN 236,298. Pub. 1–23–68. Filed 1–12–66.

847,412. BABY-SIP. Creative Craft Co., Inc. SN 263,659. Pub. 1–23–68. Filed 1–31–67.

Class 46—Foods and Ingredients of Foods

847,413. COUNTRY GARDEN. Country Gardens Inc. SN 226,517. Pub. 11–29–66. Filed 8–26–65.

847,414. EARLY BIRD AND DESIGN. The Cotton Producers Association, d.b.a. Gold Kist Pecan Growers. SN 235,278. Pub. 1–23–68. Filed 12–27–65.

847,415. FRUIT BREAD HOUSE AND DESIGN. Jean Gerhard, d.b.a. Appl-Q Products. SN 238,867. Pub. 1–23–68. Filed 2–15–66.

847,416. MISCELLANEOUS DESIGN. Topps Chewing Gum, Incorporated. SN 240,216. Pub. 1–23–68. Filed 3–4–66.

847,417. BUILD-UP. Jack E. Delinger, d.b.a. Delinger's Figure & Physique Health Products. SN 247,340. Pub. 1–23–68. Filed 6–6–66.

847,418. WIP-TREME. Beatrice Foods Co. SN 247,567. Pub. 1–23–68. Filed 6–8–66.

847,419. BEALITE. Beatrice Foods Co. SN 247,568. Pub. 1–23–68. Filed 6–8–66.

847,420. BONNY LASS. Michigan Fruit Canners, Inc. SN 253,541. Pub. 1–23–68. Filed 8–31–66.

847,421. REED'S. P. Lorillard Company. SN 256,455. Pub. 1–23–68. Filed 10–14–66.

847,422. THE COOKIES IN THE PASSIONATE PURPLE PACKAGE. Mother's Cake & Cookie Co. SN 257,720. Pub. 1–23–68. Filed 11–1–66.

847,423. GOLDEN BEST. Piggly Wiggly Corporation. SN 259,154. Pub. 10–10–67. Filed 11–21–66.

847,424. BIT-OF-DIXIE. Dixie Kitchens, Inc., d.b.a. Bit-of-Dixie. MULTIPLE CLASS (Classes 46 and 100). SN 262,733. Pub. 11–14–67. Filed 12–29–66.

847,425. KREEMIT AND DESIGN. Reddi-Wip, Inc. SN 264,585. Pub. 12–12–67. Filed 2–13–67.

847,426. BUG-JUICE. Edwin W. A. Cheng, d.b.a. Exotic Foods Company. SN 265,889. Pub. 1–23–68. Filed 3–3–67.

847,427. DAINTY LUNCH. Beatrice Foods Co. SN 272,566. Pub. 1–23–68. Filed 5–29–67.

847,428. PLAYBOX. Gerber Products Company. SN 274,126. Pub. 12–12–67. Filed 6–16–67.

847,429. SALAD BOWL AND DESIGN. Valley Packing Company of California, d.b.a. Valley Packing Co. SN 275,357. Pub. 11–28–67. Filed 7–5–67.

847,430. BIG CHIEFS. General Mills, Inc. SN 277,860. Pub. 12–5–67. Filed 8–9–67.

847,431. KEN L RATION DINNER PAIL AND DESIGN. The Quaker Oats Company. SN 279,904. Pub. 1–23–68. Filed 9–8–67.

Class 47—Wines

847,432. HERMAN JANSEN. Herman Jansen N.V. SN 258,909. Pub. 1–23–68. Filed 11–17–66.

847,433. BV. Beaulieu Vineyard. SN 285,167. Pub. 1–23–68. Filed 11–20–67.

Class 49—Distilled Alcoholic Liquors

847,434. KENTUCKY BEAM. James B. Beam Distilling Co., assignee of James B. Beam Distilling Co. SN 225,397. Pub. 4–19–66. Filed 8–10–65.

Class 50—Merchandise Not Otherwise Classified

847,435. VOCATOR. Vomar Products, Inc. SN 261,604. Pub. 1–23–68. Filed 12–28–66.

847,436. KWIKBRIDGE. American Dockbridge, Inc. SN 268,371. Pub. 1–23–68. Filed 4–5–67.

847,437. ACTION MAILERS. Christopher S. Crowell, d.b.a. Chris Crowell & Co. SN 269,862. Pub. 1–23–68. Filed 4–24–67.

847,438. POSABLES. Eldon Industries, Inc., d.b.a. Danlee Company. SN 272,553. Pub. 10–3–67. Filed 5–29–67.

847,439. CHARLIE CHIMP. Eldon Industries, Inc., d.b.a. Danlee Company. SN 272,555. Pub. 10–3–67. Filed 5–29–67.

847,440. LYDEL. E. I. du Pont de Nemours and Company. SN 278,759. Pub. 1–23–68. Filed 8–22–67.

Class 51—Cosmetics and Toilet Preparations

847,441. THE SEVEN SWINGERS. Elizabeth Hartley, Inc. SN 266,647. Pub. 1–23–68. Filed 3–14–67.

847,442. BLOOM DUST ON. Richard Hudnut. SN 266,661. Pub. 1–23–68. Filed 3–14–67.

847,443. MAHARAJAH. Rexall Drug and Chemical Company, d.b.a. Vanda Cosmetics Company. SN 266,967. Pub. 11–14–67. Filed 3–16–67.

847,444. MISTERIA. E. Hampton Shannon, d.b.a. Eve Shannon. SN 268,996. Pub. 1–23–68. Filed 4–12–67.

847,445. MATCHMAKERS. Chesebrough-Pond's Inc. SN 282,266. Pub. 1–23–68. Filed 10–11–67.

Class 52—Detergents and Soaps

847,446. COLONIAL AND DESIGN. Carolina Company, Inc., d.b.a. The Carolina Soap & Candle Makers. SN 206,514. Pub. 5–18–65. Filed 11–19–64.

847,447. CHEMTRONICS. Chemtronics Inc. SN 241,031. Pub. 12–5–67. Filed 3–15–66.

847,448. STARLITE. Roy Kenneth Monson, d.b.a. The Diamon Products Company. SN 254,176. Pub. 5–30–67. Filed 9–9–66.

847,449. WHISK AND DESIGN. The Metalife Company. SN 266,436. Pub. 12–5–67. Filed 3–10–67.

847,450. YOU'LL FIND THE WOMAN'S TOUCH IN EVERY PUREX PRODUCT. Purex Corporation, Ltd. SN 285,095. Pub. 1–23–68. Filed 11–17–67.

Service Marks

Class 100—Miscellaneous

847,424. (See Class 46 for this trademark.)

847,451. PLAYMATE BAR. HMH Publishing Co. Inc. SN 226,054. Pub. 8–2–66. Filed 8–19–65.

847,452. QUALITY AND DESIGN OF A NURSE. Quality Nursing Centers, Inc. SN 239,659. Pub. 1–23–68. Filed 2–25–66.

847,453. UNIMARK INTERNATIONAL. Unimark International Corporation for Design and Marketing. SN 252,603. Pub. 11–28–67. Filed 8–17–66.

847,454. HORN OF PLENTY AND DESIGN. Melvin L. SHAFFER. SN 252,689. Pub. 1–23–68. Filed 8–18–66.

847,455. ATLANTIC RESEARCH AND DESIGN. Atlantic Research Corporation. SN 253,718. Pub. 8–15–67. Filed 9–2–66.

847,456. MISCELLANEOUS DESIGN. Norman and Ethel Staton (joint owners), d.b.a. Pioneer Grill. SN 253,920. Pub. 1–23–68. Filed 9–6–66.

847,457. BIRD 'N BASKET. B.T.S. Franchising Systems, Inc. SN 254,224. Pub. 1–23–68. Filed 9–12–66.

847,458. WDTA. Walter Dorwin Teague Associates, Incorporated, assignee of Walter Dorwin Teague Associates. SN 254,346. Pub. 1–23–68. Filed 9–12–66.

847,459. "ALWAYS TREATED LIKE A KING." Royal Inns of America, Inc. SN 257,512. Pub. 1–23–68. Filed 10–28–66.

847,460. MISCELLANEOUS DESIGN. Electric Heating Association, Inc. SN 278,348. Pub. 1–23–68. Filed 8–16–67.

Class 101—Advertising and Business

847,461. SERVICES RENDERED. Services Rendered, Inc. SN 242,054. Pub. 1–23–68. Filed 3–28–66.

Class 103—Construction and Repair

847,462. ON-GUARD. Westinghouse Electric Corporation. SN 265,758. Pub. 1–23–68. Filed 3–1–67.

Class 106—Material Treatment

847,463. HYDRONAIR/PLUS. Botany GMR Corp. SN 263,811. Pub. 1–23–68. Filed 2–2–67.

Class 107—Education and Entertainment

847,464. ICE CAPADES. Ice Capades, Inc. SN 264,744. Pub. 1–23–68. Filed 2–15–67.

847,465. WHITE SOX. Artnell Company. SN 266,849. Pub. 1–23–68. Filed 3–16–67.

847,466. UNIVERSITY-AT-LARGE. Lochsley Hall, Inc. SN 270,198. Pub. 1–23–68. Filed 4–28–67.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

SECTION 1

(Combined Certificates)

847,477. Frank P. Alduk, d.b.a. Newcastle Company, New Castle, Pa. SN 250,990. Filed P.R. 7–25–66; Am. S.R. 10–3–67.

Newcastle

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Glass Container Labeler, Bottle Case Packer, Can Conveyor, and Plate Glass Cutting Bridge (Int. Cl. 7).
First use Feb. 11, 1964.

Class 44—Dental, Medical, and Surgical Appliances

For Surgical Operating Room Table (Int. Cl. 10).
First use Feb. 11, 1964.

SECTION 2

Class 2—Receptacles

847,467. A. O. Smith Corporation, Milwaukee, Wis. SN 235,532. Filed P.R. 12–29–65; Am. S.R. 1–8–68.

FLO-JUG

For Deliming Can-Like Container (Int. Cl. 20).
First use Nov. 9, 1965.

847,468. Gott Manufacturing Company, Inc., Winfield, Kans. SN 244,705. Filed P.R. 5–2–66; Am. S.R. 1–26–68.

LID-LOK

For Portable Insulated Jugs or Cans To Keep Fluids Hot or Cold and Having a Special Sealing and Carrying Lid (Int. Cl. 21).
First use on or about June 1, 1965.

Class 10—Fertilizers

847,469. American Plant Food Corporation, Galena Park, Tex. SN 257,349. Filed P.R. 10–27–66; Am. S.R. 1–29–68.

CROP FORMULA

For Fertilizers (Int. Cl. 1).
First use Mar. 4, 1966.

Class 12—Construction Materials

847,470. H. J. Scheirich Co., Louisville, Ky. SN 261,907. Filed P.R. 1–4–67; Am. S.R. 12–20–67.

MEDALLION

For Decorative Trim for Cabinets and Vanities (Int. Cl. 19).
First use Dec. 5, 1966.

847,471. Jack Willson, Downey, Calif. SN 265,939. Filed 3–3–67.

CUSTOMHOUSE

For Prebuilt Portable Buildings and Prefabricated Knock Down Buildings (Int. Cl. 19).
First use Nov. 5, 1965.

Class 16—Protective and Decorative Coatings

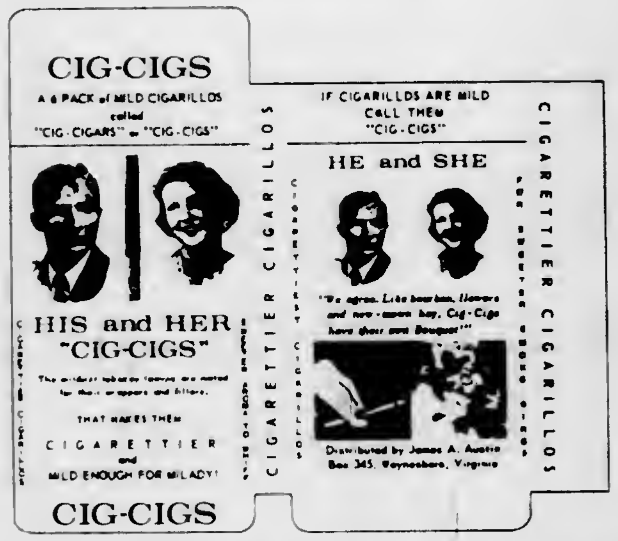
847,472. The Coricone Corporation, Chicago, Ill. SN 255,756. Filed P.R. 10–5–66; Am. S.R. 12–13–67.

THE DEPOSITION COATING

For Single Component Fast Air Dry Coating Compound for Use on Non-Ferrous Metal Surfaces To Seal and Prevent Corrosion and Metal Deterioration, and To Repel Moisture and Prevent Fungus (Int. Cl. 2).
First use Aug. 26, 1966.

Class 17—Tobacco Products

847,473. James A. Austin, Waynesboro, Va. SN 256,813. Filed P.R. 10–20–66; Am. S.R. 12–5–67.


CIG-CIGS
A 6 PACK of MILD CIGARILLOS called "CIG-CIGARS" or "CIG-CIGS"
HIS and HER "CIG-CIGS"
THAT MAKES THEM
CIGARETTIER and MILD ENOUGH FOR MILADY!
CIG-CIGS
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CIGARETTIER CIGARILLOS

The portraits are those of James C. Austin and Patricia S. Austin whose consents are of record.
For Cigarillos (Int. Cl. 34).
First use Oct. 8, 1966.

Class 19—Vehicles

847,474. Barcraft Homes, Inc., Laurens, S.C. SN 256,422. Filed P.R. 10–14–66; Am. S.R. 2–8–68.

WINTHROP

For Mobile Homes (Int. Cl. 12).
First use June 3, 1965.

847,475. Barcraft Homes, Inc., Laurens, S.C. SN 256,423. Filed P.R. 10–14–66; Am. S.R. 2–8–68.

CLEMSON

For Mobile Homes (Int. Cl. 12).
First use Oct. 5, 1962.

Class 21—Electrical Apparatus, Machines, and Supplies

847,476. Ristance Corporation, Wakarusa, Ind. SN 237,518. Filed P.R. 12–2–65; Am. S.R. 2–1–68.

heat-R-wrap

For Electric Heater Tape To Prevent Freezing of Plumbing Lines (Int. Cl. 17).
First use Oct. 1, 1965.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

847,477. See Section 1 (Combined Certificate).

Class 26—Measuring and Scientific Appliances

847,478. Pierre André Marly, Melun, France. SN 259,554. Filed 11-28-66.

MARLY

Owner of French Reg. No. 1,491, dated Nov. 25, 1958 (Melun); Natl. Inst. No. 117,147.

For Spectacles and Accessories—Namely, Eyeglass Cases and Chamois, and Optical Instruments—Namely, Lenses, Prisms, Objectives, Reflectors, Refractors, Eyeglasses for Use in Astronomy, Visors, Telescopes, Stereoscopes, Binoculars, and Opera Glasses (Int. Cl. 9).

First use Dec. 31, 1948; in commerce May 1965.

847,479. Morrison Laboratories, Inc., Harrisburg, Pa. SN 269,333. Filed P.R. 4-17-67; Am. S.R. 1-30-68.

Vari•focal

For Contact Lenses (Int. Cl. 9).

First use at least as early as Nov. 26, 1966.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

847,480. Pac-Seal, Inc., La Grange Park, Ill. SN 266,249. Filed P.R. 3-8-67; Am. S.R. 1-12-68.

PAC-SEAL

For Shaft Seals of a Mechanical Nature (Int. Cl. 7).

First use in or about October 1966.

847,481. The Goodyear Tire & Rubber Company, Akron, Ohio. SN 266,323. Filed P.R. 3-9-67; Am. S.R. 2-5-68.

MILEAGE BELT

For Tires (Int. Cl. 12).

First use Jan. 16, 1967.

Class 38—Prints and Publications

847,482. Broadcasting Publications, Inc., Washington, D.C. SN 249,218. Filed P.R. 6-29-66; Am. S.R. 9-29-67.

PLAYBACK PLAYBACK

For Section Appearing in a Monthly Publication Devoted to the Field of Television (Int. Cl. 16).

First use Jan. 1, 1961; May 21, 1956, as to the mark "Playback."

847,483. McGraw-Hill, Inc., New York, N.Y. SN 267,967. Filed P.R. 3-30-67; Am. S.R. 1-19-68.

MODERN HOSPITAL NEWS

For Monthly Magazine (Int. Cl. 16).

First use Jan. 10, 1967.

Class 39—Clothing

847,484. I. C. Isaacs & Company, Inc., Baltimore, Md. SN 239,911. Filed P.R. 3-1-66; Am. S.R. 1-12-68.

LORD ISAACS

The name "Lord Isaacs" is fanciful and does not refer to the name of any individual.

For Men's, Boys', and Ladies' Slacks and Shorts (Int. Cl. 25).

First use Feb. 16, 1966.

847,485. Blue Bell Boots, Inc., Nashville, Tenn., assignee of J. W. Carter Company, Nashville, Tenn. SN 250,638. Filed P.R. 7-20-66; Am. S.R. 1-4-68.

THE OLD SOFT SHOE

Applicant disclaims any exclusive rights in the word "Shoe" apart from the mark as shown.

For Men's Shoes (Int. Cl. 25).

First use Mar. 1, 1966.

847,486. Wembley, Inc., New Orleans, La. SN 255,937. Filed P.R. 10-6-66; Am. S.R. 2-8-68.

Liebert

For Men's Neckwear (Int. Cl. 25).

First use Mar. 7, 1966.

847,487. Ritter Brothers, Inc., New York, N.Y. SN 263,328. Filed P.R. 1-26-67; Am. S.R. 2-7-68.

MISS RITTER

For Ladies' and Misses' Fur Garments—Namely, Fur Coats (Int. Cl. 25).

First use Jan. 23, 1967.

847,488. Berkshire Apparel Corporation, Malden, Mass. SN 264,385. Filed P.R. 2-10-67; Am. S.R. 2-7-68.

Designers' CHOICE

For Ladies' Dresses (Int. Cl. 25).

First use Jan. 25, 1967.

847,489. Sunshine Originals of Miami, Inc., Hialeah, Fla. SN 269,469. Filed P.R. 4-18-67; Am. S.R. 2-5-68.

MR. RAMOS

For Women's and Girls' Dresses, Blouses, Hosiery, Skirts, Brassieres, Girdles, Coats, Suits, and Lingerie (Int. Cl. 25).

First use Sept. 12, 1966.

Class 40—Fancy Goods, Furnishings, and Notions

847,490. Abbott Tresses, Inc., Pittsburgh, Pa. SN 258,203. Filed P.R. 11-8-66; Am. S.R. 1-15-68.

BOBETTE HAND FASHIONED

For Wigs (Int. Cl. 26).

First use Oct. 13, 1965.

847,491. Thomas H. Eickhoff, d.b.a. Mr. T. Enterprises, Cincinnati, Ohio. SN 265,290. Filed P.R. 2-23-67; Am. S.R. 12-26-67.

Stand-ette

For Wig Form Holder (Int. Cl. 26).

First use June 22, 1965.

847,492. De Ronde & Co., Inc., Montpelier, Vt. SN 266,866. Filed P.R. 3-16-67; Am. S.R. 1-26-68.

DE RONDE

For Diaper Pins (Int. Cl. 26).

First use at least as early as Sept. 4, 1963.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

847,493. Westwood Textile Manufacturing, Inc., Southbridge, Mass. SN 256,616. Filed P.R. 10-17-66; Am. S.R. 2-8-68.

EVERY SEASON

For Textile Fabric Used in Women's Wear Such as Dresses, Coats, Suits, and Sportswear (Int. Cl. 24).

First use July 1, 1966.

Class 44—Dental, Medical, and Surgical Appliances

847,477. See Section 1 (Combined Certificate).

Class 46—Foods and Ingredients of Foods

847,494. Reames Foods, Inc., Clive, Iowa. SN 213,045. Filed P.R. 3-1-65; Am. S.R. 8-12-66.

THE ORIGINAL FROZEN NOODLE

For Frozen Noodles (Int. Cl. 30).

First use at least by Dec. 31, 1956.

847,495. Oscar Mayer & Co., Inc., Chicago, Ill. SN 254,318. Filed P.R. 9-12-66; Am. S.R. 1-24-68.

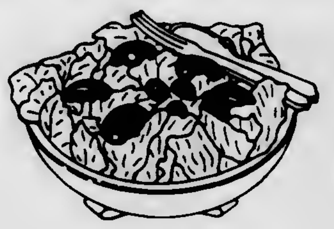
SERVE 'N SEAL

For Food Products—Namely, Sliced Luncheon Meats (Int. Cl. 29).

First use Aug. 25, 1966.

847,496. Sona Food Products Co., Los Alamitos, Calif. SN 255,729. Filed P.R. 10-4-66; Am. S.R. 1-22-68.

"BEST OF OILS"



For Salad Dressing (Int. Cl. 29).

First use Aug. 5, 1966.

847,497. Ph. Orth Co., Milwaukee, Wis. SN 267,973. Filed P.R. 3-30-67; Am. S.R. 12-20-67.

CHOLMONDLEY'S

For Muffin Loaf Base (Int. Cl. 30).

First use Dec. 13, 1966.

847,498. Willard T. Russell, d.b.a. Oklahoma Egg Co., Tulsa, Okla. SN 270,086. Filed P.R. 4-26-67; Am. S.R. 1-2-68.

Bailey's

For Fresh Eggs (Int. Cl. 29).

First use June 1, 1965.

847,499. National Dairy Products Corporation, New York, N.Y. SN 271,167. Filed P.R. 5-10-67; Am. S.R. 1-19-68.

NEWE-FRYE

For Vegetable Shortening (Int. Cl. 29).

First use May 17, 1966.

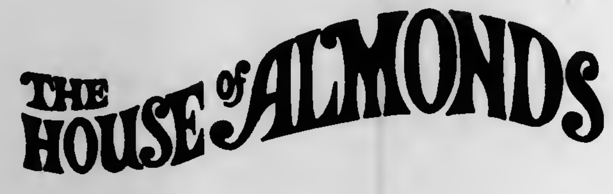
847,500. General Foods Corporation, White Plains, N.Y. SN 271,462. Filed P.R. 5-15-67; Am. S.R. 2-1-68.

TASTI-FRIES

For Frozen French Fried Potatoes (Int. Cl. 29).

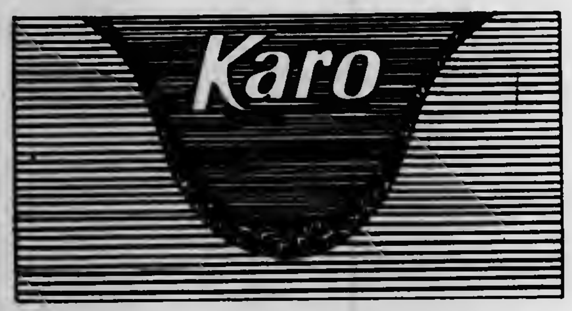
First use Apr. 7, 1965.

847,501. California Almond Orchards, Inc., Paso Robles, Calif. SN 274,028. Filed P.R. 6-16-67 ; Am. S.R. 1-29-68.



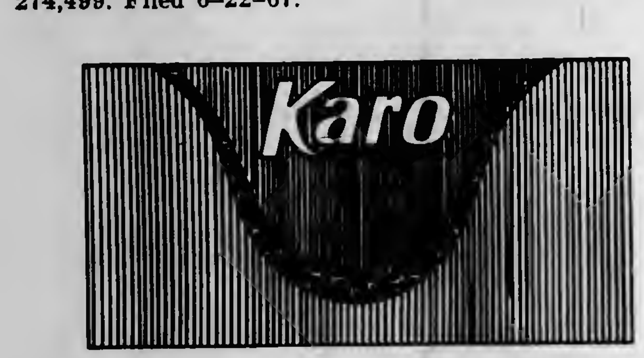
For Almonds (Int. Cl. 29.)
First use as early as Oct. 31, 1966.

847,502. Corn Products Company, New York, N.Y. SN 274,498. Filed 6-22-67.



The drawing is lined for light blue, gold, and dark blue.
For Table Syrups (Int. Cl. 30).
First use at least as early as Feb. 15, 1965.

847,503. Corn Products Company, New York, N.Y. SN 274,499. Filed 6-22-67.



The drawing is lined for light red, gold, and dark red.
For Table Syrups (Int. Cl. 30).
First use at least as early as Feb. 15, 1965.

847,504. Castle & Cooke, Inc., d.b.a. Hawaiian Pineapple Company, Honolulu, Hawaii. SN 285,371. Filed P.R. 11-22-67 ; Am. S.R. 1-29-68.

ORCHARD RIPE

For Canned Fruits (Int. Cl. 29).
First use Nov. 11, 1933.

Class 51 — Cosmetics and Toilet Preparations

847,505. Bonne Bell, Inc., Cleveland, Ohio. SN 250,735. Filed P.R. 7-21-66 ; Am. S.R. 1-29-68.

FROSTY BLUSH

For Make-Up Cream (Int. Cl. 3).
First use July 5, 1966.

847,506. Marengo of Paris, Inc., Beverly Hills, Calif. SN 254,610. Filed P.R. 9-16-66 ; Am. S.R. 12-26-67.

MARENGO

For Hair Spray, Night Cream, Cleansing Cream, Facial Mask, Moisturizing Lotion, Skin Freshener, Lipstick, Eye Shadow, Mascara, Face Powder, Nail Polish, and Astringent (Int. Cl. 3).
First use May 21, 1966.

847,507. Clairol Incorporated, New York, N.Y. SN 261,634. Filed P.R. 12-29-66 ; Am. S.R. 1-25-68.

JUST A BIT BLONDER

For Hair Lightener (Int. Cl. 3).
First use Sept. 26, 1966.

847,508. Clairol Incorporated, New York, N.Y. SN 262,314. Filed P.R. 1-11-67 ; Am. S.R. 1-31-68.

LEMON RINSE PLUS

For Hair Rinse (Int. Cl. 3).
First use Sept. 26, 1966.

847,509. Aloe Creme Laboratories, Inc., Fort Lauderdale, Fla. SN 278,077. Filed P.R. 8-11-67 ; Am. S.R. 1-26-68.

MOON SAND

For Lipstick (Int. Cl. 3).
First use Nov. 28, 1962.

Class 52 — Detergents and Soaps

847,510. American Cyanamid Company, Wayne, N.J. SN 263,803. Filed P.R. 2-2-67 ; Am. S.R. 2-6-68.

THE DIRT DESTROYER

For Household Cleaner (Int. Cl. 3).
First use Jan. 23, 1967.

Service Marks

Class 101 — Advertising and Business

847,511. David Avery, Ticonderoga, N.Y. SN 248,289. Filed P.R. 6-17-66 ; Am. S.R. 11-7-67.

AVERY'S "WORLD RENOWNED FIREARMS"

The words "World Renowned Firearms" are disclaimed apart from the mark as shown.
For Operating a Retail Firearms Store (Int. Cl. 35).
First use Nov. 1, 1965.

847,512. Great Designs in Jewelry, Inc., New York, N.Y. SN 251,680. Filed P.R. 8-4-66 ; Am. S.R. 1-10-68.

GREAT DESIGNS IN JEWELRY

For Promotion of the Sale of Products of Others by Means of Arranging, Conducting, and Publicizing Contests (Int. Cl. 35).
First use at least as early as March 1966.

Class 103 — Construction and Repair

847,513. George A. Yerina, d.b.a. Greensburg Waterproofing Co., Greensburg, Pa. SN 254,417. Filed P.R. 9-13-66 ; Am. S.R. 2-9-68.

GREENSBURG

For General Contracting Services of Construction, Restoration, and Waterproofing of Masonry Buildings (Int. Cl. 37)
First use Jan. 1, 1964.

Class 107 — Education and Entertainment

847,514. Stefan Ansbacher, Marion, Ind. SN 260,216. Filed P.R. 12-7-66 ; Am. S.R. 1-31-68.

NEW AND TRUE

For Title of a News Commentary Program Broadcast Over Radio and Television (Int. Cl. 41).
First use Dec. 2, 1963.

847,515. John S. Anderson, d.b.a. Anderson Enterprises Unlimited, Atlanta, Ga. SN 265,247. Filed P.R. 2-23-67 ; Am. S.R. 1-15-68.

A LINE ON SPORTS

For Title of a Sports Program (Int. Cl. 41).
First use Jan. 2, 1967.

TRADEMARK REGISTRATIONS RENEWED

31,572. KOH-I-NOOR. Cls. 11, 23, 26, 29, and 37 (Int. Cl. 16). 5-24-1898.
68,000. "NITEDALS SEAHORSE" ETC. AND DESIGN. Cl. 9 (Int. Cl. 34). 3-3-08.
68,085. SOLIDGEN. Cl. 6 (Int. Cl. 1). 3-10-08.
68,408. "RED CORD" AND REPRESENTATION OF A CORD LINED FOR RED. Cl. 46 (Int. Cl. 29). 4-7-08.
68,630. GOLDEN POPPY. Cl. 46 (Int. Cl. 29). 4-21-08.
68.651. DUPLEX. Cl. 26 (Int. Cl. 9). 4-21-08.
68,652. PARAGON. Cl. 26 (Int. Cls. 9 and 16). 4-21-08.
69 283. POST TOASTIES. Cl. 46 (Int. Cl. 30). 6-2-08.
69,668. CAKEBOX. Cl. 17 (Int. Cl. 34). 6-30-08.
145,013. WESSON. Cl. 46 (Int. Cl. 29). 7-19-21.
235,764. VI-DEX. Cl. 37 (Int. Cl. 16). 11-22-27.
237,301. "THREE MINUTE" AND DESIGN. Cl. 46 (Int. Cl. 30). 1-3-28.
237,469. HANDIREF. Cl. 37 (Int. Cl. 16). 1-10-28.
237,470. REDIREF. Cl. 37 (Int. Cl. 16). 1-10-28.
238,331. LOMA. Cl. 10 (Int. Cl. 1). 2-7-28.
238,620. INCOR. Cl. 12 (Int. Cl. 19). 2-14-28.
239,095. DURALITE. Cl. 26 (Int. Cl. 9). 2-21-28.
239,279. DIANIL. Cl. 6 (Int. Cl. 2). 2-28-28.
240,642. "THE NATIONAL SYSTEM" AND DESIGN. Cl. 34 (Int. Cl. 11). 4-3-28.
240,767. THE FLORSHEIM SHOE FOR THE MAN WHO CARES AND DESIGN. Cl. 39 (Int. Cl. 25). 4-10-28.
240,820. TISSUE FLAKE. Cl. 46 (Int. Cl. 30). 4-10-28.
241,115. "HAINES THE SHOE WIZARD" AND PORTRAIT. Cl. 39 (Int. Cl. 25). 4-17-28.
241,404. "NO-MAR" ETC. AND RECTANGULAR OUTLINE. Cl. 29 (Int. Cl. 21). 4-24-28.
241,416. CURRENT EVENTS. Cl. 38 (Int. Cl. 16). 4-24-28.
241,713. NAYADEEN. Cl. 42 (Int. Cl. 24). 5-8-28.
241,916. FLAVOPHOSPHINE. Cl. 6 (Int. Cl. 2). 5-8-28.
242,378. RUNNING HORSE. Cl. 9 (Int. Cl. 34). 5-22-28.
242,962. ACIDULIN. Cl. 18 (Int. Cl. 5). 6-5-28.
243,230. BUCKEYE. Cl. 34 (Int. Cl. 11). 6-12-28.
243,380. M.B. Cl. 14 (Int. Cl. 6). 6-19-28.
244,074. TRUEWORTH. Cl. 42 (Int. Cl. 24). 7-10-28.
244,275. ALTIVA. Cl. 42 (Int. Cl. 24). 7-17-28.
244,332. HAKONA. Cl. 42 (Int. Cl. 24). 7-17-28.
244,408. SHADOWGLEAM. Cl. 42 (Int. Cl. 24). 7-17-28.
244,902. PASTIME. Cl. 16 (Int. Cl. 2). 7-31-28.
244,982. FAIRENNA. Cl. 42 (Int. Cl. 24). 7-31-28.
433,627. TAMPO. Cl. 23 (Int. Cl. 7). 10-21-47.
433,982. PROCEL. Cl. 1 (Int. Cls. 1 and 17). 11-4-47.
434,045. CHEN YU. Cl. 44 (Int. Cl. 8). 11-4-47.
435,331. IRVIN S. COBB AND DESIGN. Cl. 17 (Int. Cl. 34). 12-16-47.
435,565. HABANITA. Cl. 51 (Int. Cl. 3). 12-30-47.
436,178. HEIESKELL'S OINTMENT. Cl. 18 (Int. Cl. 5). 1-27-48.
436,197. T AND DESIGN. Cl. 19 (Int. Cl. 12). 1-27-48.
436,198. DIAMOND T. Cl. 19 (Int. Cl. 12). 1-27-48.
436,308. BINGHAM ETC. AND DESIGN. Cl. 23 (Int. Cl. 7). 2-3-48.
436,527. ROSE TOPAZ. Cl. 51 (Int. Cl. 3). 2-10-48.
436,541. MEKON. Cl. 6 (Int. Cl. 4). 2-10-48.
436,545. TRIPLE-SEC. Cl. 6 (Int. Cl. 1). 2-10-48.
436,765. REGISTRITE AND DESIGN. Cl. 26 (Int. Cl. 1). 2-17-48.
436,810. LUBRICAP. Cl. 23 (Int. Cl. 7). 2-24-48.
436,853. SEVENTEEN. Cl. 39 (Int. Cl. 25). 3-2-48.
436,920. BROGRAIN. Cl. 39 (Int. Cl. 25). 3-2-48.
437,335. THERMOTEX. Cl. 42 (Int. Cl. 24). 3-16-48.
437,441. HARVEST CHIEF. Cl. 23 (Int. Cl. 8). 3-23-48.
438,323. POLO. Cl. 52 (Int. Cl. 3). 4-13-48.
438,508. PURIT. Cl. 6 (Int. Cl. 1). 4-27-48.
438,661. UNITEK. Cl. 44 (Int. Cl. 10). 5-11-48.
438,685. CRYSTODIGIN. Cl. 18 (Int. Cl. 5). 5-11-48.
438,997. VANITY KOOLMAN. Cl. 39 (Int. Cl. 25). 6-1-48.
439,367. MAC. Cl. 23 (Int. Cl. 8). 6-22-48.
439,511. TRAVELITE. Cl. 42 (Int. Cl. 24). 7-6-48.
439,621. PACIFIC. Cl. 28 (Int. Cl. 8). 7-6-48.
439,622. PARAMOUNT. Cl. 28 (Int. Cl. 8). 7-6-48.
439,623. PARK LANE. Cl. 28 (Int. Cl. 8). 7-6-48.
439,624. PENDANT. Cl. 28 (Int. Cl. 8). 7-6-48.
439,625. SENECA. Cl. 28 (Int. Cl. 8). 7-6-48.
439,626. THOR. Cl. 28 (Int. Cl. 8). 7-6-48.
439,691. BIG INCH. Cl. 9 (Int. Cl. 13). 7-13-48.
439,974. OLD DOBBIN. Cl. 48 (Int. Cl. 32). 8-3-48.
500,205. WOMAN'S DAY. Cl. 38 (Int. Cl. 16). 5-11-48.
500,226. STEELOX. Cl. 14 (Int. Cl. 6). 5-11-48.
500,338. PLANTSWEAR. Cl. 39 (Int. Cl. 25). 5-11-48.
500,428. MM. Cl. 11 (Int. Cl. 16). 5-18-48.
500,503. ARMCO. Cl. 14 (Int. Cl. 6). 6-1-48.
500,534. HC. Cl. 35 (Int. Cl. 7). 6-1-48.
500,554. TAYCO. Cl. 12 (Int. Cl. 12). 6-1-48.
500,607. INDALLOY. Cl. 21 (Int. Cl. 9). 6-8-48.
500,696. PLAWEAR. Cl. 42 (Int. Cl. 24). 6-15-48.
500,942. "O-T" OPEN TRUSS. Cl. 12 (Int. Cl. 6). 7-6-48.
501,060. STERISEAL. Cl. 23 (Int. Cl. 7). 7-20-48.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

745,587. WOODMEN OF THE WORLD W.O.W. AND DESIGN. Cl. 102. 2-19-63.
774,540. VOGUE. Cl. 37. 8-4-64.

Section 8

The following registrations issued Feb. 20, 1962

727,593. FLOSEAL. Cl. 1.
727,595. "S-69." Cl. 1.

727,596. DESIGN OF TWO TRIANGLES AND A VERTICAL BAR. Cl. 1.
727,600. GRASTURE. Cl. 1.
727,605. PERM-BASE. Cl. 1.
727,608. MIPOR. Cl. 1.
727,611. EXPANDO. Cl. 1.
727,614. PEERLESS. Cl. 2.
727,618. CLOSET FRESH. Cl. 6.
727,619. IPCO. Cl. 6.
727,624. DURACOID. Cl. 6.
727,625. DRILLTEX. Cl. 6.
727,629. MIMI AND DESIGN. Cl. 6.
727,631. CLEAR VISION ALWAYS AND CVA (DESIGN). Cl. 6.
727,633. URI-PAK. Cl. 6.
727,634. CHOLE-TECH. Cl. 6.
727,635. COLACET. Cl. 6.
727,638. RADI-AID. Cl. 6.
727,641. VYNA-SHIELD. Cl. 6.
727,646. PYRONOL. Cl. 6.
727,650. VOID. Cl. 6.
727,662. GYPSIES. Cl. 18.
727,663. SAPACILLIN. Cl. 18.
727,664. METASPAS. Cl. 18.
727,665. THERAGEXIN. Cl. 18.
727,666. GERINAL-PLUS. Cl. 18.
727,670. C-LECT. Cl. 18.
727,672. THIAZIDE PRE-MENS. Cl. 18.
727,674. PACIFIC TIDES OCEANTRATE AND DESIGN. Cl. 18.
727,675. SURIV PRONOUNCED "SERVE" AND DESIGN. Cl. 18.
727,684. PACK-MULE AND DESIGN. Cl. 19.
727,687. SIPOWID. Cls. 21 and 26.
727,691. SEA BEE. Cl. 22.
727,692. FUN-WAY. Cl. 22.
727,693. CORBETA. Cl. 22.
727,694. SATELLITE. Cl. 22.
727,695. M AND SHAMROCK (DESIGN). Cl. 22.
727,698. SIMPLE PRECISION. Cl. 23.
727,699. TWO TIMER. Cl. 23.
727,710. JOY. Cl. 37.
727,711. PLAS-TA-CARD. Cl. 37.
727,712. KALAKORK. Cl. 37.
727,713. SPELL-RITE. Cl. 37.
727,721. RITE-ALL. Cl. 37.
727,725. THE HOTEL GREETER. Cl. 38.
727,730. NUTSHELL BOOKS AND DESIGN. Cl. 38.
727,731. UNITED BUSINESS SERVICE AND DESIGN. Cl. 38.
727,732. DAIRY GOAT JOURNAL. Cl. 38.
727,735. AMATEUR ROCKETEER. Cl. 38.
727,736. INSIDE YOU AND YOURS. Cl. 38.
727,743. WESTIKES ETC. AND DESIGN. Cl. 39.
727,746. JUDY RHODES. Cl. 39.
727,748. DUKE OF JAMAICA AND DESIGN. Cl. 39.
727,752. STURDILINE. Cl. 39.
727,754. THE MODERNAIRE AND DESIGN. Cl. 39.
727,765. CARICATURE OF WOMAN. Cl. 46.
727.766. DOCTOR'S ORDERS. Cl. 46.
727,768. ROYAL PRIDE AND DESIGN. Cl. 46.
727,769. WOOSH. Cl. 46.
727,770. CHEEZE-INGER. Cl. 46.
727,771. FORTI-CAL. Cl. 46.
727,772. BIG CAT AND DESIGN. Cl. 46.
727 774. 5 GRAND. Cl. 46.
727,789. STAR BRAND AND DESIGN. Cl. 50.
727,795. RINSAL. Cl. 51.
727,796. BON DENT AND DESIGN. Cl. 51.
727,800. SOAP DE CENTA. Cl. 52.
727,805. U-ZIT AND DESIGN. Cl. 52.
727,808. THRIFT COURTS OF AMERICA. Cl. 100.
727,816. STOR-TITE. Cl. 2.
727,818. REDI KOTE ETC. AND DESIGN. Cl. 13.
727,819. TENNESSEE AND DESIGN. Cl. 13.
727,826. BEBE NOBEL AND DESIGN. Cl. 22.
727,827. ASTELL. Cl. 26.
727,829. THROWAY. Cl. 37.
727,831. HAWAIIAN SUN HAT AND DESIGN. Cl. 39.
727,835. BASSETTS ETC. AND DESIGN. Cl. 46.
727,837. SAILA ETC. AND DESIGN. Cl. 46.
727,839. SUPA SAFE. Cl. 52.

Section 18

436,439. CONQUEST. Cl. 46. 2–10–48.
508,014. BILTMORE. Cl. 21. 3–22–49.
737,437. EYE-OPENER. Cl. 18. 9–11–62.
775,473. PUNCH 'N JUICY AND DESIGN. Cl. 46. 8–18–64.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

67,495. HALCYON. Cl. 46. 2–4–08. Geneva Preserving Company. The Borden Company, New York, N.Y. Amended to appear:

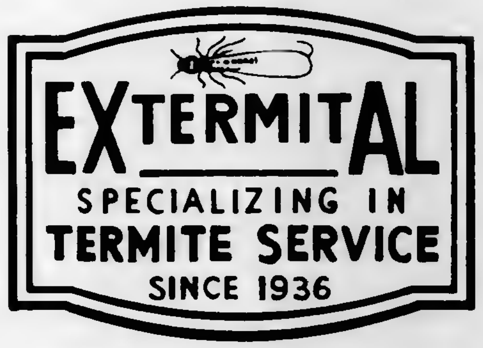
HALCYON

154,632. ARTCRAFT CRAVATS AND DESIGN. Cl. 39. 4–18–22. Meyer-Mueller-Goodman Company, Inc., St. Louis, Mo. Corrected: In the certificate, lines 5 and 20, in the heading, signature and in the statement, column 1, line 2, "Co." should be deleted and *Company, Inc.* should be inserted.

237,956. INOVATION. Cl. 39. 1–24–28. Meyer-Mueller-Goodman Company, Inc., St. Louis, Mo. Corrected: In the certificate, lines 3 and 17, in the heading, signature and in the statement, column 1, line 2, "Co." should be deleted and *Company, Inc.* should be inserted.

349,997. BALI BRA AND DESIGN. Cl. 39. 9–14–37. Fay-Miss Brassiere Co., Inc., New York, N.Y. Amended: In the statement, column 1, line 9, "corsets," is deleted and in line 10 before "corselets" *and* is inserted and ", and girdles" is deleted.

524,253. EXTERMITAL SPECIALIZING IN TERMITE SERVICE, ETC. AND DESIGN. Cl. 103. 4–18–50. Extermital Chemicals, Inc., Dayton, Ohio. Corrected: In the statement, column 1, line 27, after "1937" and in column 2, line 3, after "1938" *by applicant's predecessor* should be inserted.



524,253. EXTERMITAL SPECIALIZING IN TERMITE SERVICE, ETC. AND DESIGN. Cl. 103. 4–18–50. Extermital Chemicals, Inc., Dayton, Ohio. Amended: In the statement, column 2, line 4, "term" is deleted and *terms* is inserted, in line 5, before "or", *specializing in and Since 1936* is inserted, and the drawing is amended to appear:

727,272. WEVENIT. Cl. 42. 2–6–62. Edouard Dubied & Cie., Societe Anonyme, Couvet-Neuchatel, Switzerland. Corrected: In the statement, column 2, line 4, "1960" should be deleted and *1950* should be inserted.

738,086. DECANOX. Cl. 6. 9–25–62. Wallace & Tiernan Inc., Belleville, N.J. Corrected: In the statement, column 2, line 1, "decanoy" should be deleted and *decanoyl* should be inserted.

769,589. AUDUBON MAGAZINE. Cl. 38. 5–12–64. National Audubon Society, Inc., New York, N.Y. Amended: In the statement, column 2, lines 5 and 6 are deleted, and the drawing is amended to appear:

AUDUBON

831,030. LEXINGTON. Cl. 32. 6–27–67. Formco, Inc., Cincinnati, Ohio. Corrected: In the statement, column 1, line 1, "Formoco" should be deleted and *Formco* should be inserted.

831,031. ROYAL PROVINCIAL. Cl. 32. 6–27–67. Formco, Inc., Cincinnati, Ohio. Corrected: In the statement, column 1, line 1, "Formoco" should be deleted and *Formco* should be inserted.

838,147. VAN-AMID. Cl. 1. 11–7–67. R. T. Vanderbilt Company, Inc., New York, N.Y. Corrected: In the statement, column 1, line 1, before ", Inc." *Company* should be inserted.

839,257. ST. ELMO. Cl. 49. 11–21–67. Bohemian Distributing Company, doing business as International Distilleries Co. Safeway Stores, Incorporated, Oakland, Calif. Corrected: In the statement, column 1, line 1, "California" should be deleted and *Maryland* should be inserted, line 2 should be deleted and *210 Fourth St.* should be inserted, and in line 3, "94604" should be deleted and *94607* should be inserted.

843,091. DIAD. Cl. 6. 1–30–68. General Mills, Inc., Minneapolis, Minn. Corrected: In the heading, "834,091" should be deleted and *843,091* should be inserted.

844,582. SOCK-O. Cl. 36. 2–20–68. The Total Sound, Inc., New York, N.Y. Corrected to appear:

SOCK·O

INDEX OF REGISTRANTS

APRIL 9, 1968

(Registered ; Renewed ; Canceled ; Amended, Disclaimed, Corrected, etc. ; New Certificates ; 12c Publications.)

Abbott Tresses, Inc., Pittsburgh, Pa. 847,490. Cl. 40.
Acerola Corp., The : *See—*
  Cerojel Products, Inc.
Acorn Chemical Co., Cleveland, Ohio. 847,263, pub. 1–23–68. Cl. 12.
Adair Sales Co., Adair, Iowa. 727,675, canc. Cl. 18.
Aeroprojects Inc., West Chester, Pa. 847,341, pub. 1–23–68. Cl. 23.
Air Photo Supply Corp., Yonkers, N.Y. 847,360, pub. 1–23–68. Cl. 26.
Aktiengesellschaft Karrer, Weber & Cie, Unterkulm, Aargau, Switzerland. 847,264, pub. 1–23–68. Cl. 13.
Aladdin Industries, Inc., Chicago, Ill. 847,211, pub. 1–23–68. Cl. 2.
Albudon Products Co. : *See—*
  Robinson, A., Inc. of Altoona.
Alduk, Frank P., d.b.a. Newcastle Co., New Castle, Pa. 847,477. Multiple Class (Classes 23 and 44).
All-American Sportswear, Inc., Amory, Miss. 847,405, pub. 1–23–68. Cl. 39.
Allen, W. P., d.b.a. Irvin S. Cobb Cigar Co., Paducah, Ky., to Moses Liverant, d.b.a. Yorkana Cigar Co., York, Pa. 435,331, ren. 4–9–68. Cl. 17.
Allied Old English, Inc., Newark, N.J. 727,765, canc. Cl. 46.
Aloe Creme Laboratories, Inc., Fort Lauderdale, Fla. 847,509. Cl. 51.
Amateur Rocketeer, Inc., Rochester, Ind. 727,735, canc. Cl. 38.
American Air Filter Co., Inc., Louisville, Ky. 847,371, pub. 1–23–68. Cl. 34.
American Aniline Products, Inc., Paterson, N.J. 847,236, pub. 12–5–67. Cl. 6.
American Cyanamid Co., Wayne, N.J. 847,243, pub. 1–23–68. Cl. 6.
American Cyanamid Co., Wayne, N.J. 847,510. Cl. 52.
American Dockbridge, Inc., Cudahy, Wis. 847,436, pub. 1–23–68. Cl. 50.
American Education Press, Inc., Columbus, Ohio, to Xerox Corp., Rochester, N.Y. 241,416, ren. 4–9–68. Cl. 38.
American Greetings Corp., Cleveland, Ohio. 774,540, canc. Cl. 37.
American Home Products Corp., New York, N.Y. 847,291, pub. 10–17–67. Cl. 18.
American Optical Co., to American Optical Corp., Southbridge, Mass. 239,095, ren. 4–9–68. Cl. 26.
American Optical Corp. : *See—*
  American Optical Co.
American Plant Food Corp., Galena Park, Tex. 847,469. Cl. 10.
American Rolling Mill Co., The, to Armco Steel Corp., Middletown, Ohio. 500,226, ren. 4–9–68. Cl. 14.
American Rolling Mill Co., The, to Armco Steel Corp., Middletown, Ohio. 500,503, ren. 4–9–68. Cl. 14.
American Steel Wood Mfg. Co. Inc., Long Island City, N.Y. 847,231, pub. 1–23–68. Cl. 4.
Anchor Hocking Glass Corp., Lancaster, Ohio. 501,060, ren. 4–9–68. Cl. 23.
Anderson Enterprises Unlimited : *See—*
  Anderson, John S.
Anderson, John S., d.b.a. Anderson Enterprises Unlimited, Atlanta, Ga. 847,515. Cl. 107.
Angelica Corp. : *See—*
  Angelica Jacket Co.
Angelica Jacket Co., to Angelica Corp., St. Louis, Mo. 500,338, ren. 4–9–68. Cl. 39.
Ansbacher, Stefan, Marion, Ind. 847,514. Cl. 107.
Appl-Q Products : *See—*
  Gerhard, Jean.
Arkell Safety Bag Co., New York, N.Y. 847,210, pub. 1–23–68. Cl. 2.
Armco Steel Corp. : *See—*
  American Rolling Mill Co., The.
Armour Alliance Industries : *See—*
  Armour and Co.
Armour and Co., d.b.a. Armour Alliance Industries, Chicago, Ill. 727,596, canc. Cl. 1.
Armsby, J. K., Co., The, Chicago, Ill., and San Francisco, to Del Monte Corp., San Francisco, Calif. 68,408, ren. 4–9–68. Cl. 46.
Armsby Preserving Co., to Del Monte Corp., San Francisco, Calif. 68,630, ren. 4–9–68. Cl. 46.
Art/Co : *See—*
  Fielden, W. Arthur.
Artnell Co., Chicago, Ill. 847,465, pub. 1–23–68. Cl. 107.
Associated Products, Inc., Chicago, Ill., to Richard Hudnut, Morris Plains, N.J. 434,045, ren. 4–9–68. Cl. 44.
Astell Laboratory Service Co. Ltd., London, England. 727,827, canc. Cl. 26.
Atkinson, Guy F., Co. : *See—*
  Bingham Pump Co., Inc.
Atlantic Research Corp., Alexandria, Va. 847,455, pub. 8–15–67. Cl. 100.
Austin, James A., Waynesboro, Va. 847,473. Cl. 17.
Auto Wax Co., Inc., Dallas, Tex. 847,230, pub. 1–23–68. Cl. 4.
Automation Institute of America, Inc. : *See—*
  C-E-I-R, Inc.
Avery, David, Ticonderoga, N.Y. 847,511. Cl. 101.
B.T.S. Franchising Systems, Inc., New Haven, Conn. 847,457, pub. 1–23–68. Cl. 100.
Barbecue King, Inc., Greenville, S.C. 847,313, pub. 1–23–68. Cl. 21.
Barcraft Homes, Inc., Laurens, S.C. 847,474–5. Cl. 19.
Barrowcliff, Fred W., d.b.a. Hammer Hammock, Smithville Flats, N.Y. 847,270, pub. 1–23–68. Cl. 13.
Bassett, Geo., & Co. Ltd., Sheffield, England. 727,835, canc. Cl. 46.
Bata Shoe Co. of Canada Ltd., Ottawa, Ontario, Canada. 847,334, pub. 1–23–68. Cl. 23.
Baxter Laboratories, Inc., Morton Grove, Ill. 847,343, pub. 1–23–68. Cl. 26.
Beam, James B., Distilling Co., from James B. Beam Distilling Co., Chicago, Ill. 847,434, pub. 4–19–66. Cl. 49.
Beatrice Foods Co., Chicago, Ill. 847,418–19, pub. 1–23–68. Cl. 46.
Beatrice Foods Co., Chicago, Ill. 847,427, pub. 1–23–68. Cl. 46.
Beaulieu Vineyard, San Francisco, Calif. 847,433, pub. 1–23–68. Cl. 47.
Beautron Corp., Dallas, Tex. 727,800, canc. Cl. 52.
Beckman Instruments, Inc., Fullerton, Calif. 847,344, pub. 1–23–68. Cl. 26.
Beckman Instruments, Inc., Fullerton, Calif. 847,349, pub. 1–23–68. Cl. 26.
Bee Chemical Co., Lansing, Ill. 847,277, pub. 1–23–68. Cl. 16.
Beecham Research Laboratories Ltd., Brentford, England. 727,663, canc. Cl. 18.
Begman, Lee, Inc., New York, N.Y. 847,401, pub. 1–23–68. Cl. 39.
Belz, August, St. Gall, Switzerland. 847,217, pub. 1–23–68. Cl. 2.
Berkshire Apparel Corp., Malden, Mass. 847,488. Cl. 39.
Bettcher Mfg. Corp., The, Cleveland, Ohio. 847,214, pub. 1–23–68. Cl. 2.
Bigler, S. H., Co. : *See—*
  Bigler, Sam H.
Bigler, Sam H., d.b.a. S. H. Bigler Co., Pittsburgh, Pa. 727,772, canc. Cl. 46.
Bimba Mfg. Co., Monee, Ill. 847,333, pub. 1–23–68. Cl. 23.
Bingham Pump Co. : *See—*
  Bingham Pump Co., Inc.
Bingham Pump Co., Inc., Portland, Oreg., to Guy F. Atkinson Co., d.b.a. Bingham Pump Co., South San Francisco, Calif. 436,308, ren. 4–9–68. Cl. 23.
Bio-Rad Laboratories, Richmond, Calif. 847,369, pub. 1–23–68. Cl. 31.
Birma Products Corp., Sayreville, N.J. 847,370, pub. 1–23–68. Cl. 34.
Bit-O-Dixie : *See—*
  Dixie Kitchens, Inc.
Blessing, E. K., Co., Inc., Elkhart, Ind. 847,379, pub. 1–23–68. Cl. 36.
Blue Bell Boots, Inc., from J. W. Carter Co., Nashville, Tenn. 847,485. Cl. 39.
Bohemian Distributing Co., d.b.a. International Distilleries Co. Safeway Stores Inc., Oakland, Calif. 839,257, cor. Cl. 49.
Bon Ami Co., The, New York, N.Y. 727,796, canc. Cl. 51.
Bonne Bell, Inc., Cleveland, Ohio. 847,505. Cl. 51.
Booth Co., Inc., The, Salt Lake City, Utah. 847,340, pub. 1–23–68. Cl. 23.
Bopparder Maschinenbaugesellschaft m.b.H., Boppard (Rhine), Germany. 847,327, pub. 12–12–67. Cl. 23.
Botany GMR Corp., New York, N.Y. 847,463, pub. 1–23–68. Cl. 106.
Bristol-Myers Co., New York, N.Y. 847,288, pub. 12–12–67. Cl. 18.
Broadcasting Publications, Inc., Washington, D.C. 847,482. Cl. 38.
Brownell Stoker & Combustion Co. : *See—*
  Magirl, P. H., Foundry & Furnace Works.
Bruno, C., & Son, Inc., New York, N.Y. 847,378, pub. 1–23–68. Cl. 36.
Bryn-Halden & Nitedals Taendstikfabrik A/S : *See—*
  Nitedals Taendstikfabrik.
Buckeye Water Heater Co., The, to Mor-Flo Industries, Inc., Cleveland, Ohio. 243,230, ren. 4–9–68. Cl. 34.
Budd Co., The, Philadelphia, Pa. 847,316, pub. 1–23–68. Cl. 21.
Bullard, E. D., Co., Sausalito, Calif. 847,354, pub. 1–23–68. Cl. 26.
Bullard, E. D., Co., Sausalito, Calif. 847,398, pub. 1–23–68. Cl. 39.
Butler Co., Oak Brook, Ill. 847,358, pub. 1–23–68. Cl. 26.
Butler Mfg. Co., Kansas City, Mo. 727,816, canc. Cl. 2.
C-E-I-R, Inc., Washington, D.C., from Automation Institute of America, Inc., San Francisco, Calif. 847,386, pub. 1–23–68. Cl. 38.
Cadillac Steel Products Corp., Detroit, Mich. 847,213, pub. 1–23–68. Cl. 2.
California Almond Orchards, Inc., Paso Robles, Calif. 847,501. Cl. 46.
California Coatings Co. : *See—*
  Swett, James E.
Callaway Mills Co. : *See—*
  Hillside Cotton Mills.
Camp & McInnes, Inc., Reading, Pa. 847,409, pub. 1–23–68. Cl. 39.

Carolina Co., Inc., d.b.a. The Carolina Soap & Candle Makers, Southern Pines, N.C. 847,446, pub. 5-18-65. Cl. 52.
Carolina Soap & Candle Makers, The: *See—*
  Carolina Co., Inc.
Carter, J. W., Co.: *See—*
  Blue Bell Boots, Inc.
Castle & Cooke, Inc., d.b.a. Hawaiian Pineapple Co., Honolulu, Hawaii. 847,504. Cl. 46.
Catz American Co., Inc., New York, N.Y. 727,721, canc. Cl. 37.
Celanese Corp.: *See—*
  Celanese Corp. of America.
Celanese Corp. of America, to Celanese Corp., New York, N.Y. 433,982, ren. 4-9-68. Cl. 1.
Cerojel Products, Inc., from The Acerola Corp., Lakeland, Fla. 727,670, canc. Cl. 18.
Chase Bag Co., New York, N.Y. 847,224, pub. 1-23-68. Cl. 2.
Chase & Sons, Inc., Randolph, Mass. 847,262, pub. 1-23-68. Cl. 12.
Chemtronics Inc., Brooklyn, N.Y. 847,306, pub. 1-23-68. Cl. 21.
Chemtronics Inc., Brooklyn, N.Y. 847,447, pub. 12-5-67. Cl. 52.
Cheng, Edwin W. A., d.b.a. Exotic Foods Co., San Francisco, Calif. 847,426, pub. 1-23-68. Cl. 46.
Chesebrough-Pond's Inc., New York, N.Y. 847,445, pub. 1-23-68. Cl. 51.
Chevron Chemical Co., San Francisco, Calif. 847,251, pub. 1-23-68. Cl. 6.
Ciba Ltd., Basel, Switzerland. 727,635, canc. Cl. 6.
Clairol Inc., New York, N.Y. 847,507-8. Cl. 51.
Coachmen Industries, Inc., Middlebury, Ind. 847,302, pub. 1-23-68. Cl. 19.
Cobb, Irvin S., Cigar Co.: *See—*
  Allen, W. P.
Cohen, Joseph H., & Sons, Inc., to Rapid-American Corp., New York, N.Y. 438,997, ren. 4-9-68. Cl. 39.
Colonial Process Supply Co., Inc., East Rutherford, N.J. 847,410, pub. 3-21-67. Cl. 42.
Commercial Solvents Corp.: *See—*
  Olin Industries, Inc.
Conductron Corp., Ann Arbor, Mich. 847,318, pub. 1-23-68. Cl. 21.
Conductron Corp., Ann Arbor, Mich. 847,359, pub. 1-23-68. Cl. 26.
Consolidated Engineering Corp., Pasadena, to Unitek Corp., Monrovia, Calif. 438,661, ren. 4-9-68. Cl. 44.
Consolidated Research and Mfg. Corp., New Haven, Conn. 727,631, canc. Cl. 6.
Construction Machinery Co., Waterloo, Iowa. 847,325, pub. 4-12-66. Cl. 23.
Continental Electronics, Inc., Minneapolis, Minn. 847,324, pub. 1-23-68. Cl. 22.
Continental Enterprises, Inc., Jacksonville, Fla. 727,769, canc. Cl. 46.
Cordell, Eugene V., d.b.a. Pacific Tide Enterprises, Salem, Oreg. 727,674, canc. Cl. 18.
Coricone Corp., The, Chicago, Ill. 847,472. Cl. 16.
Corn Products Co., New York, N.Y. 847,502-3. Cl. 46.
Cornish, Edward S., Bethesda, Md. 847,387, pub. 1-23-68. Cl. 38.
Cotton Producers Assn., The, d.b.a. Gold Kist Pecan Growers, Atlanta, Ga. 847 414, pub. 1-23-68. Cl. 46.
Country Gardens Inc., Milwaukee, Wis. 847,413, pub. 11-29-66. Cl. 46.
Craft, Beverly H., Omaha, Nebr. 847,365, pub. 1-23-68. Cl. 30.
Crane Co., Chicago, Ill. 727,819, canc. Cl. 13.
Creative Craft Co., Inc., Dania, Fla. 847,412, pub. 1-23-68. Cl. 44.
Crisp, Inc., Upper Darby, Pa. 727,629, canc. Cl. 6.
Crowell, Chris, & Co.: *See—*
  Crowell, Christopher S.
Crowell, Christopher S., d.b.a. Chris Crowell & Co., Darien, Conn. 847,437, pub. 1-23-68. Cl. 50.
Curry-Trol Oil Corp., Hubbard, Iowa. 727,646, canc. Cl. 6.
Custom Scientific Instruments, Inc., Whippany, N.J. 847,346, pub. 1-23-68. Cl. 26.
Custom Scientific Instruments, Inc., Whippany, N.J. 847,348, pub. 1-23-68. Cl. 26.
Danlee Co.: *See—*
  Eldon Industries, Inc.
Delinger, Jack E., d.b.a. Delinger's Figure & Physique Health Products, Oakland, Calif. 847,417, pub. 1-23-68. Cl. 46.
Delinger's Figure & Physique Health Products: *See—*
  Delinger, Jack E.
Del Monte Corp.: *See—*
  Armsby, J. K., Co., The.
  Armsby Preserving Co.
De Luxe Girdlecraft Co., Inc., New York, N.Y. 847,394, pub. 1-23-68. Cl. 39.
Denoyer-Geppert Co., The, Chicago, Ill. 847,350, pub. 1-23-68. Multiple Class (Classes 26 and 38).
DeRonde & Co., Inc., Montpelier, Vt. 847,492. Cl. 40.
Diamon Products Co., The: *See—*
  Monson, Roy K.
Diamond National Corp., New York, N.Y. 727,614, canc. Cl. 2.
Diamond T Motor Car Co., Chicago, Ill., to White Motor Corp., Cleveland, Ohio. 436,197-8, ren. 4-9-68. Cl. 19.
Dixie Kitchens, Inc., d.b.a. Bit-of-Dixie, Omaha, Nebr. 847,424, pub. 11-14-67. Multiple Class (Classes 46 and 100).
Doctor's Orders Products: *See—*
  Wohl, Sidney.
Donati, Lucien, d.b.a. Ets. Honorat Donati, Carqueiranne, (Var), France. 847,380, pub. 1-23-68. Cl. 36.
Doughboy Industries, Inc., New Richmond, Wis. 847,261, pub. 1-23-68. Multiple Class (Classes 12 and 22).
Drake Co., The: *See—*
  Drake, Robert A.
Drake, Robert A., d.b.a. The Drake Co., Austin, Tex. 847,389, pub. 1-23-68. Cl. 38.
Drivex Co., Madrid, Iowa. 727,684, canc. Cl. 19.
Dubied, Edouard, & Cie., Societe Anonyme, Couvet-Neuchatel, Switzerland. 727,272, cor. Cl. 42.
Duche, T. M., & Sons, Inc., Clifton, N.J. 727,624-5, canc. Cl. 6.
Duncan, Donald F., Inc., Evanston, Ill. 727,694, canc. Cl. 22.
Dunlop Co., Ltd., The, Birmingham, England. 847,296, pub. 1-23-68. Cl. 19.
Du Pont de Nemours, E. I., & Co., Wilmington, Del. 847,440, pub. 1-23-68. Cl. 50.
Eickhoff, Thomas H., d.b.a. Mr. T. Enterprises, Cincinnati, Ohio. 847,491. Cl. 40.
Elbon, Inc.: *See—*
  Johnston, Holloway & Co., Inc.
Eldon Industries, Inc., d.b.a. Danlee Co., Hawthorne, Calif. 847,438-9, pub. 10-3-67. Cl. 50.
Electric Cleaner Co., Inc., Osseo, Wis. 847,372, pub. 1-23-68. Cl. 34.
Electrc Heating Assn., Inc., New York, N.Y. 847,392, pub. 1-23-68. Cl. 38.
Electric Heating Association, Inc., New York, N.Y. 847,460, pub. 1-23-68. Cl. 100.
Electric Storage Battery Co., The, Philadelphia, Pa. 727,608, canc. Cl. 1.
Elliott Industries, Calabasas, Calif. 847,307, pub. 1-23-68. Cl. 21.
Emenee Industries, Inc., New York, N.Y. 847,376, pub. 1-23-68. Cl. 36.
Enoz Corp., Chicago, Ill. 727,618, canc. Cl. 6.
Erie Brewing Co., The, Erie, Pa. 439,974, ren. 4-9-68. Cl. 48.
Ets. Honorat Donati: *See—*
  Donati, Lucien.
Exotic Foods Co.: *See—*
  Cheng, Edwin W. A.
Extermital Chemicals, Inc., Dayton, Ohio. 524,253. Am. 7(d). Cl. 103.
FMC Corp., San Jose, Calif. 847,331, pub. 1-23-68. Cl. 23.
Fabric Leather Corp., New Hyde Park, N.Y. 727,611, canc. Cl. 1.
Faultless Starch Co., Kansas City, Mo. 847,244, pub. 1-23-68. Cl. 6.
Fawcett Publications, Inc.: *See—*
  Stores Publishing Co. Inc.
Fawick Corp., Cleveland, Ohio. 847,336, pub. 1-23-68. Cl. 23.
Fay-Miss Brassiere Co., Inc., New York, N.Y. 349,997. Am. 7(d). Cl. 39.
Federal-Mogul Corp., Southfield, Mich. 847,329, pub. 1-23-68. Cl. 23.
Fedtro, Inc., Rockville Centre, N.Y. 847,311, pub. 1-23-68. Cl. 21.
Fielden, W. Arthur, d.b.a. Art/Co, Key Biscayne, Fla. 847,406, pub. 1-23-68. Cl. 39.
Fine, M., & Sons Mfg. Co., Inc., New York, N.Y. 847,402-3, pub. 1-23-68. Cl. 39.
Fine, M., & Sons Mfg. Co., Inc., New York, N.Y. 847,408, pub. 1-23-68. Cl. 39.
Fireside Tobacco Corp., New York, N.Y. 847,285, pub. 1-23-68. Cl. 17.
Flintkote Co., The, New York, N.Y. 847,275, pub. 1-23-68. Cl. 16.
Florsheim Shoe Co., The, to Interco Inc., d.b.a. The Florsheim Shoe Co., Chicago, Ill. 240,767, ren. 4-9-68. Cl. 39.
Florsheim Shoe Co., The, to Interco Inc., d.b.a. The Florsheim Shoe Co., Chicago, Ill. 436,920, ren. 4-9-68. Cl. 39.
Floseal Corp., San Francisco, Calif. 727,593, canc. Cl. 1.
Fonda Container Co., Inc., St. Albans, Vt. 847,218, pub. 1-23-68. Cl. 2.
Ford Motor Co., Dearborn, Mich. 847,303, pub. 1-23-68. Cl. 19.
Foremost Dairies, Inc., San Francisco, Calif. 727,771, canc. Cl. 46.
Foremost-McKesson, Inc., from McKesson & Robbins, Inc., d.b.a. McKesson Laboratories, New York, N.Y. 847,287, pub. 8-8-67. Cl. 18.
Formco, Inc., Cincinnati, Ohio. 831,030-1, cor. Cl. 32.
Forstmann & Huffmann Co., Passaic, N.J., to J. P. Stevens & Co., Inc., New York, N.Y. 241,713, ren. 4-9-68. Cl. 42.
Forstmann & Huffmann Co., Passaic, N.J., to J. P. Stevens & Co., Inc., New York, N.Y. 244,275, ren. 4-9-68. Cl. 42.
Forstmann & Huffmann Co., Passaic, N.J., to J. P. Stevens & Co., Inc., New York, N.Y. 244,332, ren. 4-9-68. Cl. 42.
Forstmann & Huffmann Co., Passaic, N.J., to J. P. Stevens & Co., Inc., New York, N.Y. 244,982, ren. 4-9-68. Cl. 42.
Frasca Aviation Inc., Champaign, Ill. 847,357, pub. 1-23-68. Cl. 26.
Freeland Co., Long Beach, Calif. 727,605, canc. Cl. 1.
Fuller, D. B., & Co., Inc., to J. P. Stevens & Co., Inc., New York, N.Y. 500,696, ren. 4-9-68. Cl. 42.
Funtastic, Inc., Alexandria, Va. 847,321, pub. 5-16-67. Cl. 22.
Fun-Way Games: *See—*
  Warren, Maurice R., Rev.
Futronics, Inc., Greensboro, N.C. 847,304, pub. 1-23-68. Cl. 21.
GTI Corp., Meadville, Pa. 847,223, pub. 1-23-68. Cl. 2.
Galef, J. L., & Son, Inc., New York, N.Y. 847,257, pub. 1-23-68. Cl. 9.
Gaslite Illinois, Inc., Argo, Ill. 847,268, pub. 1-23-68. Cl. 13.
Gates Rubber Co., The, Denver, Colo. 500,534, ren. 4-9-68. Cl. 35.
General Aniline & Film Corp.: *See—*
  Metz, H. A., & Co.
  General Dyestuff Corp.
  Grant Photo Products, Inc.
General Dyestuff Corp., to General Aniline & Film Corp., New York, N.Y. 239,279, ren. 4-9-68. Cl. 6.
General Dyestuff Corp., to General Aniline & Film Corp., New York, N.Y. 241,916, ren. 4-9-68. Cl. 6.
General Floorcraft, Inc., Bronx, N.Y. 847,339, pub. 1-23-68. Cl. 23.

General Foods Corp.: *See—*
  Postum Cereal Co. Ltd.
General Foods Corp., White Plains, N.Y. 847,500. Cl. 46.
General Mills, Inc., Minneapolis, Minn. 843,091, cor. Cl. 6.
General Mills, Inc., Minneapolis, Minn. 847,430, pub. 12-5-67. Cl. 46.
Gerber Products Co., Fremont, Mich. 847,428, pub. 12-12-67. Cl. 46.
Gerhard, Jean, d.b.a. Appl-Q Products, Pottsville, Pa. 847,415, pub. 1-23-68. Cl. 46.
Gerri Record Co.: *See—*
  Robinson, Rosco.
Giannette, Sam F., Pueblo, Colo. 847,273, pub. 1-23-68. Cl. 15.
Giftwrap Corp. of America, Inc., Philadelphia, Pa. 727,710, canc. Cl. 37.
Gladstone-Arcuni, Inc., New York, N.Y. 847,397, pub. 1-23-68. Cl. 39.
Glidden Co., The: *See—*
  SCM Corp.
Globe Rubber Products Corp., Philadelphia, Pa. 727,691, canc. Cl. 22.
Gold Coast Industries, Inc., Fort Lauderdale, Fla. 847,294, pub. 1-23-68. Cl. 19.
Gold Kist Pecan Growers: *See—*
  Cotton Producers Assn., The.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 847,374, pub. 1-23-68. Cl. 35.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 847,407, pub. 1-23-68. Cl. 39.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 847,481. Cl. 35.
Gott Mfg. Co., Inc., Winfield, Kans. 847,468. Cl. 2.
Gourielli, Inc., New York, to H.R. Laboratories, Inc., Greenvale, N.Y. 436,527, ren. 4-9-68. Cl. 51.
Grace, W. R., & Co., New York, N.Y. 847,281, pub. 1-23-68. Cl. 16.
Grant Photo Products, Inc., to General Aniline & Film Corp., New York, N.Y. 436,765, ren. 4-9-68. Cl. 26.
Great Designs in Jewelry, Inc., New York, N.Y. 847,512. Cl. 101.
Green, Joe, Inc., Los Angeles, Calif. 847,362, pub. 1-23-68. Cl. 28.
Greensburg Waterproofing Co.: *See—*
  Yerina, George A.
Greet Our Babies, Inc., Memphis, Tenn. 847,381, pub. 1-23-68. Cl. 37.
Guardian Laboratories, Inc., Olivette, Mo. 727,805, canc. Cl. 52.
Gulf Oil Corp., Pittsburgh, Pa. 847,239, pub. 1-23-68. Cl. 6.
H & G Industries, Inc., Belleville, N.J. 847,364, pub. 1-23-68. Cl. 29.
HMH Publishing Co. Inc., Chicago, Ill. 847,451, pub. 8-2-66. Cl. 100.
H.R. Laboratories, Inc.: *See—*
  Gourielli, Inc.
Haines Shoe Co., to Haines Shoe Co., Inc., York, Pa. 241,115, ren. 4-9-68. Cl. 39.
Haines Shoe Co., Inc.: *See—*
  Haines Shoe Co.
Hallberg Canning Corp., Sebastopol, Calif. 727,768, canc. Cl. 46.
Hallicrafters Co., The, Chicago, Ill. 847,319, pub. 1-23-68. Cl. 21.
Hammer Hammock: *See—*
  Barrowcliff, Fred W.
Hana Corp., Elk Grove, Ill. 847,269, pub. 1-23-68. Cl. 13.
Hardtmuth, L. & C., Vienna, Austria, and Budweis, Hungary, and London, England, to L. & C. Hardtmuth, Inc., Bloomsbury, N.J. 31,572, ren. 4-9-68. Multiple Class (Classes 11, 23, 26, 29, and 37).
Hardtmuth, L. & C., Inc.: *See—*
  Hardtmuth, L. & C.
Hart Industries, Inc., Elkhart, Ind. 727,808, canc. Cl. 100.
Hartley, Elizabeth, Inc., New York, N.Y. 847,441, pub. 1-23-68. Cl. 51.
Hassenfeld Bros. Inc., Pawtucket, R.I. 847,323, pub. 1-23-68. Cl. 22.
Hawaiian Pineapple Co.: *See—*
  Castle & Cooke, Inc.
Hearst Corp., The, New York, N.Y. 727,736, canc. Cl. 38.
Heimlich Brothers, Inc., New York, N.Y. 847,326, pub. 12-12-67. Cl. 23.
Hess Oil & Chemical Corp., Perth Amboy, N.J. 847,240, pub. 1-23-68. Cl. 6.
Hillside Cotton Mills, trading as Valley Mills, to Callaway Mills Co., La Grange, Ga. 241,404, ren. 4-9-68. Cl. 29.
Holiday Rambler Corp., from Klingler Products Corp., Wakarusa, Ind. 847,292, pub. 4-16-63. Cl. 19.
Holly-Pak, Inc., Anaheim, Calif. 775,473, canc. Cl. 46.
Hooker Chemical Corp., Niagara Falls, N.Y. 847,241, pub. 1-23-68. Cl. 6.
Hooker Chemical Corp., Niagara Falls, N.Y. 847,246, pub. 1-23-68. Cl. 6.
Hortex Mfg. Co., Inc., El Paso, Tex. 727,743, canc. Cl. 39.
Hotel Greeter Magazine, Inc., The, Denver, Colo. 727,725, canc. Cl. 38.
House of Windsor, Inc., Windsor, Pa. 847,283, pub. 1-23-68. Cl. 17.
Houston Fearless Corp., Los Angeles, Calif. 847,345, pub. 1-23-68. Cl. 26.
Huber, J. M., Corp., Borger, Tex. 847,247, pub. 1-23-68. Cl. 6.
Hudnut, Richard: *See—*
  Associated Products, Inc.
Hudnut, Richard, Morris Plains, N.J. 847,442, pub. 1-23-68. Cl. 51.
Hughes Aircraft Co., Culver City, Calif. 847,347, pub. 1-23-68. Cl. 26.
Hunt-Wesson Foods, Inc.: *See—*
  Southern Cotton Oil Co., The.
Huntwood International, Ltd., New York, N.Y. 847,399, pub. 1-23-68. Cl. 39.
Hysan Products Co., Chicago, Ill. 847,258, pub. 1-23-68. Cl. 10.
Ice Capades, Inc., Hollywood, Calif. 847,464, pub. 1-23-68. Cl. 107.
Imperial Reading Corp., New York, N.Y. 847,396, pub. 9-13-66. Cl. 39.
Indiana General Corp.: *See—*
  Indiana Steel Products Co., The.
Indiana Steel Products Co., The, Chicago, Ill., to Indiana General Corp., Valparaiso, Ind. 500,607, ren. 4-9-68. Cl. 21.
Indprop Publishing Co., Inc., New York, N.Y. 847,388, pub. 1-23-68. Cl. 38.
Ingram, J. E., Equipment Co., to Tampo Mfg. Co., San Antonio, Tex. 433,627, ren. 4-9-68. Cl. 23.
Interco Inc.: *See—*
  Florsheim Shoe Co., The.
International Cement Corp., to Lone Star Cement Corp., New York, N.Y. 238,620, ren. 4-9-68. Cl. 12.
International Minerals & Chemical Corp., Skokie, Ill. 727,650, canc. Cl. 6.
Interstate Engineering Corp., Anaheim, Calif. 847,293, pub. 8-15-67. Multiple Class (Classes 19, 21, 23, 26, 31, and 36).
Irving-Pitt Mfg. Co., Kansas City, Mo., to Wilson Jones Co., Chicago, Ill. 235,764, ren. 4-9-68. Cl. 37.
Isaacs, I. C., & Co., Inc., Baltimore, Md. 847,484. Cl. 39.
Israel, State of, Jerusalem, Israel. 847,411, pub. 1-23-68. Cl. 44.
Jacobs, Samuel, Hoboken, N.J. 847,282, pub. 11-14-67. Cl. 17.
Jacobson, F., & Sons, Inc.: *See—*
  Kayser-Roth Corp.
Jamaica Associates, Ltd., Kingston, Jamaica. 727,748, canc. Cl. 39.
Jansen, Herman, N.V., Schiedam, Netherlands. 847,432, pub. 1-23-68. Cl. 47.
Janssen Pharmaceutica NV, Beerse, Belgium. 847,286, pub. 10-25-66. Cl. 18.
Johnson & Johnson, d.b.a. Permacel, New Brunswick, N.J. 847,232, pub. 1-23-68. Cl. 5.
Johnston, Holloway & Co., Inc., Philadelphia, Pa., to Elbon, Inc., Morristown, N.J. 436,178, ren. 4-9-68. Cl. 18.
KVP Sutherland Paper Co., Kalamazoo, Mich. 727,712, canc. Cl. 37.
Kabro of Houston, Inc., Houston, Tex. 727,746, canc. Cl. 39.
Kayser-Roth Corp., from F. Jacobson & Sons, Inc., New York, N.Y. 847,400, pub. 12-12-67. Cl. 39.
Lane, Kenneth Jay, Inc., New York, N.Y. 847,229, pub. 1-23-68. Multiple Class (Classes 3 and 28).
Keuffel & Esser Co., Hoboken, N.J. 68,651-2, ren. 4-9-68. Cl. 26.
Kling Photo Corp., Woodside, N.Y. 847,356, pub. 1-23-68. Cl. 26.
Klinger, Albert E., to P. J. Marchelewicz, d.b.a. Lubrication Devices, South Bend, Ind. 436,810, ren. 4-9-68. Cl. 23.
Klingler Products Corp.: *See—*
  Holiday Rambler Corp.
Kohnstamm, H., & Co., Inc., New York, N.Y. 437,335, ren. 4-9-68. Cl. 42.
Korvette, E. J., Inc.: *See—*
  Spartans Industries, Inc.
Leach, Kent, Columbia, Mo. 727,732, canc. Cl. 38.
Leaf Brands, Inc., Chicago, Ill. 727,774, canc. Cl. 46.
Leavitt & Peirce, Inc., Cambridge, Mass. 69,668. Cl. 17.
Lerner Mfg., Inc., Melville, N.Y. 847,207, pub. 5-30-67. Cl. 2.
Letco Ltd., from L. E. Toews, Preston, Ontario, Canada. 847,335, pub. 1-9-68. Cl. 23.
Lewis-Hubbard Corp., Charleston, W. Va. 436,439, canc. Cl. 46.
Library Filmstrip Center: *See—*
  Priestley, Violet.
Lilly, Eli, & Co., Indianapolis, Ind. 242,962, ren. 4-9-68. Cl. 18.
Lilly, Eli, & Co., Indianapolis, Ind. 438,685, ren. 4-9-68. Cl. 18.
Lion Packaging Products Co., Inc., Hicksville, N.Y. 847,220, pub. 1-23-68. Cl. 2.
Litewate Transport Equipment Corp., Chatham, N.J. 847,226, pub. 1-23-68. Cl. 2.
Liverant, Moses: *See—*
  Allen, W. P.
Lochsley Hall, Inc., New York, N.Y. 847,466, pub. 1-23-68. Cl. 107.
Lone Start Cement Corp.: *See—*
  International Cement Corp.
Loral Corp., Scarsdale, N.Y. 847,320, pub. 5-3-66. Cl. 22.
Lorillard, P., Co., New York, N.Y. 847,421, pub. 1-23-68. Cl. 46.
Lovett, Robert E., Los Angeles, Calif. 847,366, pub. 1-23-68. Cl. 30.
Lubald Co.: *See—*
  Sauerborn, Vanda.
Lubrication Devices: *See—*
  Klinger, Albert E.
Lunn Laminates, Inc., Wyandanch, N.Y. 847,260, pub. 11-14-67. Cl. 12.
Mac Tools, Inc.: *See—*
  Mechanics' Tool & Forge Co., The.
MacGregor Sport Products Inc., Cincinnati, Ohio. 727,695, canc. Cl. 22.
Magirl, P. H., Foundry & Furnace Works, Bloomington, Ill., to Brownell Stoker & Combustion Co., Dayton, Ohio. 240,642, ren. 4-9-68. Cl. 34.
Malnove Specialty Box Co., Omaha, Nebr. 727,831, canc. Cl. 39.
Marchelewicz, Peter J.: *See—*
  Klinger, Albert E.
Marden-Kane Inc., New York, N.Y. 847,322, pub. 12-19-67. Cl. 22.

Marengo of Paris, Inc., Beverly Hills, Calif. 847,506. Cl. 51.
Marion Laboratories, Inc., Kansas City, Mo. 847,219, pub. 1–23–68. Cl. 2.
Markem Machine Co., Keene, N.H. 560,428, ren. 4–9–68. Cl. 11.
Marly, Pierre A., Melun, France. 847,478. Cl. 26.
Mastercraft Pipes, New York, N.Y. 847,255, pub. 1–16–68. Cl. 8.
Materials Research Corp., Orangeburg, N.Y. 847,361, pub. 1–23–68. Cl. 26.
Maxson Electronics Corp., Great River, N.Y. 847,314, pub. 1–23–68. Cl. 21.
May, Jerome F., Asbury Park, N.J., to Societe Anonyme Benard & Honnorat, Grasse, France. 435,565, ren. 4–9–68. Cl. 51.
Mayer, Oscar, & Co., Inc., Chicago, Ill. 847,495. Cl. 46.
McGraw-Hill, Inc., New York, N.Y. 847,483. Cl. 38.
McKesson Laboratories: *See*—
  McKesson & Robbins, Inc.
  Foremost-McKesson, Inc.
McKesson & Robbins, Inc.: *See*—
  Foremost-McKesson, Inc.
Mead Corp., The, Dayton, Ohio. 847,383, pub. 1–23–68. Cl. 37.
Mechanics' Tool & Forge Co., The, to Mac Tools, Inc., Sabina, Ohio. 439,367, ren. 4–9–68. Cl. 23.
Melville Shoe Corp.: *See*—
  Roth, Chester H., Co., Inc.
Metadier (Canada) Ltd., Montreal, Canada. 727,664, canc. Cl. 18.
Metalife Co., The, Wentzville, Mo. 847,449, pub. 12–5–67. Cl. 52.
Metropolitan Wire Goods Corp., Wilkes-Barre, Pa. 847,227, pub. 1–23–68. Cl. 2.
Metz, H. A., & Co., to General Aniline & Film Corp., New York, N.Y. 68,085, ren. 4–9–68. Cl. 6.
Meyer-Mueller-Goodman Co., Inc., St. Louis, Mo. 154,632, cor. Cl. 39.
Meyer-Mueller-Goodman Co., Inc., St. Louis, Mo. 237,956, cor. Cl. 39.
Michigan Fruit Canners, Inc., Chicago, Ill. 847,420, pub. 1–23–68. Cl. 46.
Micropoint, Inc., Sunnyvale, Calif. 847,382, pub. 1–23–68. Cl. 37.
Mid-Continent Mfg. Co., Columbus, Ohio. 847,352, pub. 1–23–68. Cl. 26.
Miller Bros. Hat Co., Inc., New York, N.Y. 847,404, pub. 1–23–68. Cl. 39.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 847,222, pub. 10–24–67. Cl. 2.
Mr. T. Enterprises: *See*—
  Eickhoff, Thomas H.
Mobil Oil Corp., New York, N.Y. 847,278, pub. 1–23–68. Cl. 16.
Modern Mfg. Co., Inc., New York, N.Y. 727,754, canc. Cl. 39.
Molybdenum Corp. of America, New York, N.Y. 847,393, pub. 1–23–68. Cl. 38.
Monsanto Co., St. Louis, Mo. 847,248–9, pub. 1–23–68. Cl. 6.
Monson, Roy K., d.b.a. The Diamon Products Co., Westminster, Colo. 847,448, pub. 5–30–67. Cl. 52.
Mor-Flo Industries, Inc.: *See*—
  Buckeye Water Heater Co., The.
Morrison Laboratories, Inc., Harrisburg, Pa. 847,479. Cl. 26.
Morton International, Inc.: *See*—
  Ohio Salt Co., The.
Mother's Cake & Cookie Co., Oakland, Calif. 847,422, pub. 1–23–68. Cl. 46.
Mueller Brass Co., to Mueller Brass Co., Port Huron, Mich. 243,380, ren. 4–9–68. Cl. 14.
Muter Co., The, Chicago, Ill. 847,317, pub. 1–23–68. Cl. 21.
N.V. Lankhorst Touwfabrieken, Sneek, Netherlands. 847,254, pub. 1–23–68. Cl. 7.
  Sneek, Netherlands. 847,254, pub. 1–23–68. Cl. 7.
N.V. Purit Maatschappij: *See*—
  N.V. Purit Maatschappij Ter Vervaardiging Van Plantaardige Ontkleuringskool, Purit.
N.V. Purit Maatschappij Ter Vervaardiging Van Plantaardige Ontkleuringskool, Purit, to N.V. Purit Maatschappij, Amsterdam, Netherlands. 438,508, ren. 4–9–68. Cl. 6.
National Audubon Society, Inc., New York, N.Y. 769,589. Am. 7(d). Cl. 38.
National Dairy Products Corp., New York, N.Y. 847,499. Cl. 46.
National Lead Co., New York, N.Y. 847,242, pub. 1–23–68. Cl. 6.
National Oats Co.: *See*—
  Three Minute Cereals Co.
Newcastle Co.: *See*—
  Alduk, Frank P.
Nitedals Taendstikfabrik, Ostre Aker, near Christiania, to Bryn-Halden & Nitedals Taendstikfabrik A/S, Gronvold, near Oslo, Norway. 68,000, ren. 4–9–68. Cl. 9.
Nitedals Taendstikfabrik, to Bryn-Halden & Nitedals Taendstikfabrik A/S., Gronvold, near Oslo, Norway. 242,378, ren. 4–9–68. Cl. 9.
North American Service Co., Inc., Chicago, Ill. 847,272, pub. 1–23–68. Cl. 15.
Nutri Seal Storage Systems, Inc., Myerstown, Pa. 847,208, pub. 1–23–68. Cl. 2.
Nutshell Books, Inc., Chevy Chase, Md. 727,730, canc. Cl. 38.
Oakes & Co., Chicago, Ill. 508,014, canc. Cl. 21.
Oehler's Welding & Fabrication Corp., Buffalo, N.Y. 847,221, pub. 1–23–68. Cl. 2.
Ohio Salt Co., The, Wadsworth, Ohio, to Morton International, Inc., Chicago, Ill. 240,820, ren. 4–9–68. Cl. 46.
Oklahoma Egg Co.: *See*—
  Russell, Willard T.
Olin Industries, Inc., East Alton, Ill., to Commercial Solvents Corp., New York, N.Y. 439,691, ren. 4–9–68. Cl. 9.
Olympian King Co., Detroit, Mich. 847,256, pub. 1–23–68. Cl. 8.
Omark Industries, Inc., Portland, Oreg. 847,332, pub. 8–1–67. Cl. 23.
Oneida Ltd., Oneida, N.Y. 439,621–6, ren. 4–9–68. Cl. 28.
Orth, Ph. Co., Milwaukee, Wis. 847,497. Cl. 46.
Osmose Wood Preserving Co. of America Inc., Buffalo, N.Y. 847,237, pub. 1–23–68. Cl. 6.
PM & E Electronics, Inc., East Providence, R.I. 847,315, pub. 1–23–68. Cl. 21.
Pacific Tide Enterprises: *See*—
  Cordell, Eugene V.
Pac-Seal, Inc., La Grange Park, Ill. 847,480. Cl. 35.
Pennsalt Chemicals Corp., Philadelphia, Pa. 847,233, pub. 1–23–68. Cl. 6.
Permacel N.J. Corp.: *See*—
  Johnson & Johnson.
Pfizer, Chas., & Co., Inc., New York, N.Y. 847,253, pub. 1–23–68. Cl. 6.
Pfizer, Chas., & Co., Inc., New York, N.Y. 847,289–90, pub. 10–17–67. Cl. 18.
Philips Electronics and Pharmaceutical Industries Corp., New York, N.Y. 847,355, pub. 1–23–68. Cl. 26.
Piggly Wiggly Corp., Jacksonville, Fla. 847,423, pub. 10–10–67. Cl. 46.
Pioneer Grill: *See*—
  Staton, Norman & Ethel.
Pioneer Plastics Corp., Auburn, Maine. 847,204, pub. 1–23–68. Cl. 1.
Pittsburgh Plate Glass Co., Pittsburgh, Pa. 847,206, pub. 1–23–68. Cl. 1.
Postum Cereal Co. Ltd., Battle Creek, Mich., to General Foods Corp., White Plains, N.Y. 69,283, ren. 4–9–68. Cl. 46.
Precision Valve Corp., Yonkers, N.Y. 847,338, pub. 1–23–68. Cl. 23.
Price's (Bromborough) Ltd., Bromborough Pool, near Birkenhead, England. 847,252, pub. 1–23–68. Cl. 6.
Priestley, Violet, d.b.a. Library Filmstrip Center, Wichita, Kans. 847,390, pub. 1–23–68. Cl. 38.
Procter & Gamble Co., The, Cincinnati, Ohio. 438,323, ren. 4–9–68. Cl. 52.
Proper Folding Box Corp., Whitestone, N.Y. 847,212, pub. 1–23–68. Cl. 2.
Pruyn, Leonard L., and Marjorie G. Pruyn, Los Angeles, Calif. 727,699, canc. Cl. 23.
Purdue Frederick Co., The, New York, N.Y. 727,672, canc. Cl. 18.
Purex Corp., Ltd., Lakewood, Calif. 847,450, pub. 1–23–68. Cl. 52.
Puritan Fashions Corp., New York, N.Y. 847,395, pub. 1–23–68. Cl. 39.
Quaker Oats Co., The, Chicago, Ill. 847,431, pub. 1–23–68. Cl. 46.
Quality Nursing Centers, Inc., Charleston, S.C. 847,452, pub. 1–23–68. Cl. 100.
RSVP Mfg., Inc., Culver City, Calif. 847,305, pub. 5–10–66. Cl. 21.
Racal Communications Ltd., Bracknell, England. 847,309, pub. 1–23–68. Multiple Class (Classes 21 and 26).
Racine Hydraulics & Machinery, Inc., Racine, Wis. 847,267, pub. 1–23–68. Multiple Class (Classes 13 and 23).
Rapid-American Corp.: *See*—
  Cohen, Joseph H., & Sons, Inc.
Rath Packing Co., The, Waterloo, Iowa. 727,770, canc. Cl. 46.
Reames Foods, Inc., Clive, Iowa. 847,494. Cl. 46.
Reddi-Wip, Inc., Los Angeles, Calif. 847,425, pub. 12–12–67. Cl. 46.
Regal Ware, Inc., Kewaskum, Wis. 847,265, pub. 1–23–68. Multiple Class (Classes 13 and 21).
Republic Steel Corp.: *See*—
  Truscon Steel Co.
Rexall Drug and Chemical Co., d.b.a. Tupperware, Los Angeles, Calif. 847,225, pub. 1–23–68. Cl. 2.
Rexall Drug & Chemical Co., d.b.a. Vanda Cosmetics Co., Los Angeles, Calif. 847,443, pub. 11–14–67. Cl. 51.
Ristance Corp., Wakarusa, Ind. 847,476. Cl. 21.
Ritter Bros., Inc., New York, N.Y. 847,487. Cl. 39.
Roanoke Mills Co., Roanoke Rapids, N.C., to J. P. Stevens & Co., Inc., New York, N.Y. 244,074, ren. 4–9–68. Cl. 42.
Roberk Co., The, Shelton, Conn. 847,300, pub. 1–23–68. Cl. 19.
Roberts-Hart, Inc., Keene, N.H. 727,752, canc. Cl. 39.
Robinson, A., Inc., of Altoona, d.b.a. Albudon Products Co., Altoona, Pa. 727,665–6, canc. Cl. 18.
Robinson, Rosco, d.b.a. Gerri Record Co., Chicago, Ill. 847,375, pub 1–23–68. Cl. 36.
Roth, Chester H., Co., Inc., to Miles Shoes Inc., to Melville Shoe Corp., New York, N.Y. 436,853, ren. 4–9–68. Cl. 39.
Royal Inns of America, Inc., La Mesa, Calif. 847,459, pub. 1–23–68. Cl. 100.
Russell, Willard T., d.b.a. Oklahoma Egg Co., Tulsa, Okla. 847,498. Cl. 46.
Ryo Takasaki, Musashino, Tokyo, Japan. 847,351, pub. 1–23–68. Cl. 26.
SCM Corp., New York, N.Y., from The Glidden Co., Cleveland, Ohio. 847,235, pub. 1–23–68. Cl. 6.
SCM Corp., New York, N.Y., from The Glidden Co., Cleveland, Ohio. 847,276, pub. 1–23–68. Cl. 16.
SCM Corp., New York, N.Y., from The Glidden Co., Cleveland, Ohio. 847 279–80, pub. 1–23–68. Cl. 16.
Saila Societa per Azioni Industria Liquirizia Abruzzese, Abruzzi, Italy. 727,837, canc. Cl 46.
Sandoz, Inc., Hanover, N.J. 847,245, pub. 1–23–68. Cl. 6.
Santoline Beauty Products, Inc., Basking Ridge, N.J. 727,795, canc. Cl. 51.
Sauerborn, Vanda, d.b.a. Lubald Co., Milwaukee, Wis. 847,271, pub. 1–23–68. Cl. 15.
Scheirich, H. J., Co., Louisville, Ky. 847,470. Cl. 12.
Schejldahl, G. T., Co., Northfield, Minn. 727,595, canc. Cl. 1.

Schlage Lock Co., San Francisco, Calif. 847,342, pub. 1–23–68. Cl. 25.
Schmid Bros., Inc., Boston, Mass. 847,367, pub. 1–23–68. Cl. 30.
Scott Paper Co., Delaware County, Pa. 847,228, pub. 1–23–68. Cl. 2.
Screen Gems, Inc., New York, N.Y. 847,385, pub. 1–23–68. Cl. 38.
Seamless Rubber Co., The, New Haven, Conn. 727,693, canc. Cl. 22.
Services Rendered, Inc., Providence, R.I. 847,461, pub. 1–23–68. Cl. 101.
Shaffer, Melvin L., Butler, Pa. 847,454, pub. 1–23–68. Cl. 100.
Shannon, E. Hampton, d.b.a. Eve Shannon, Brooklyn, N.Y. 847,444, pub. 1–23–68. Cl. 51.
Shannon, Eve: *See*—
  Shannon, E. Hampton.
Shotwell, R. H., Co.: *See*—
  Shotwell, Robert H., Jr.
Shotwell, Robert H., Jr., d.b.a. R. H. Shotwell Co., Burnsville, Minn. 847,295, pub. 1–23–68. Cl. 19.
Siegal, Zola, d.b.a. Vita Chemical Products, Los Angeles, Calif. 737,437, canc. Cl. 18.
Siemens & Halske Aktiengesellschaft, Munich, Germany. 727,687, canc. Multiple Class (Classes 21 and 26).
Smith, A. O., Corp., Milwaukee, Wis. 847,467. Cl. 2.
Smith-Alsop Paint & Varnish Co., The, Terre Haute, Ind. 244,902, ren. 4–9–68. Cl. 16.
Societe Anonyme Benard & Honnorat: *See*—
  May, Jerome F.
Societe Nobel Bozel, Paris, France. 727,826, canc. Cl. 22.
Sona Food Products Co., Los Alamitos, Calif. 847,496. Cl. 46.
Sonotone Corp., Elmsford, N.Y. 847,308, pub. 1–23–68. Cl. 21.
Southern Cotton Oil Co., The, Jersey City, N.J., to Hunt-Wesson Foods, Inc., Fullerton, Calif. 145,013, ren. 4–9–68. Cl. 46.
Southern Petroleum Co., Inc., d.b.a. Unilube Products, West Memphis, Ark. 847,234, pub. 11–7–67. Cl. 6.
Southwick, Modell, d.b.a. Tropical Mfg. Co., San Jose, Calif. 727,789, canc. Cl. 50.
Spacers, Inc., Moline, Ill. 727,818, canc. Cl. 13.
Spartans Industries, Inc., from E. J. Korvette, Inc., New York, N.Y. 847,368, pub. 1–23–68. Cl. 31.
Spectra-Strip Wire & Cable Corp., Garden Grove, Calif. 727,641, canc. Cl. 6.
Sta-Hi Corp., Newport Beach, Calif. 847,328, pub. 1–23–68. Cl. 23.
Staley, A. E., Mfg. Co., Decatur, Ill. 847,250, pub. 1–23–68. Cl. 6.
Stanson Chemicals, Edgewater, N.J. 727,839, canc. Cl. 52.
Staton, Norman & Ethel, d.b.a. Pioneer Grill, Sitka, Alaska. 847,456, pub. 1–23–68. Cl. 100.
Stevens, J. P., & Co., Inc.: *See*—
  Forstmann & Huffmann Co.
  Roanoke Mills Co.
  Turner & Vandam Inc.
  Worumbo Mfg. Co.
  Fuller, D. B., & Co., Inc.
Stewart-Warner Corp., Chicago, Ill. 727,638, canc. Cl. 6.
Stores Publishing Co. Inc., to Fawcett Publications, Inc., New York, N.Y. 500,205, ren. 4–9–68. Cl. 38.
Sun Chemical Corp., New York, N.Y. 436,545, ren. 4–9–68. Cl. 6.
Sun Chemical Corp., New York, N.Y. 847,259, pub. 1–23–68. Cl. 11.
Sunshine Originals of Miami, Inc., Hialeah, Fla. 847,489. Cl. 39.
Superior Industries, Van Nuys, Calif. 847,301, pub. 1–23–68. Cl. 19.
Swett, James E., d.b.a. California Coatings Co., San Francisco, Calif. 847,274, pub. 1–23–68. Cl. 15.
Tampo Mfg. Co.: *See*—
  Ingram, J. E., Equipment Co.
Tavernier, Robert, Firma, Tielt, Belgium. 847,201, pub. 1–23–68. Multiple Class (Classes 1 and 23).
Taylor's, Chas., Sons Co., The, Cincinnati, Ohio. 500,554, ren. 4–9–68. Cl. 12.
Teague, Walter Dorwin, Associates: *See*—
  Teague, Walter Dorwin, Associates, Inc.
Teague, Walter Dorwin, Associates, Inc., from Walter Dorwin Teague Associates, New York, N.Y. 847,458, pub. 1–23–68. Cl. 100.
Tennessee Copper & Chemical Corp., The, Lockland, Ohio, and New York, N.Y., to Tennessee Corp., New York, N.Y. 238,331, ren. 4–9–68. Cl. 10.
Tennessee Corp.: *See*—
  Tennessee Copper & Chemical Corp., The.
Teweles, L., Seed Co., Milwaukee, Wis. 727,600, canc. Cl. 1.
Tweles, L., Seed Co., Milwaukee, Wis. 847,202, pub. 11–7–67. Cl. 1.
Texize Chemicals, Inc., Greenville, S.C. 727,619, canc. Cl. 6.
Textron Inc., Providence, R.I. 847,310, pub. 1–23–68. Cl. 21.
Textron Industries, Inc., Rockford, Ill. 847,266, pub. 1–23–68. Cl. 13.
Three Minute Cereals Co., to National Oats Co., Cedar Rapids, Iowa. 237,301, ren. 4–9–68. Cl. 46.
Throway Corp. Inc., New York, N.Y. 727,829, canc. Cl. 37.
Time Research Laboratories, Inc., Pennington, N.J. 847,373, pub. 1–23–68. Cl. 34.
Toews, Leonard E.: *See*—
  Leteo Ltd.
Topps Chewing Gum, Inc., Brooklyn, N.Y. 847,416, pub. 1–23–68. Cl. 46.
Total Sound, Inc., The, New York, N.Y. 844,582, cor. Cl. 36.
Transene Co., Inc., Rowley, Mass. 847,312, pub. 1–23–68. Cl. 21.
Tropical Mfg. Co.: *See*—
  Southwick, Modell.
Truscon Steel Co., Youngstown, to Republic Steel Corp., Cleveland, Ohio. 500,942, ren. 4–9–68. Cl. 12.
Tupperware: *See*—
  Rexall Drug and Chemical Co.
Turner & Vandam Inc., to J. P. Stevens & Co., Inc., New York, N.Y. 244,408, ren. 4–9–68. Cl. 42.
Unarco Industries, Inc., Chicago, Ill. 847,330, pub. 12–19–67. Cl. 23.
Uncas Mfg. Co., Providence, R.I. 847,363, pub. 10–17–67. Cl. 28.
Unilube Products: *See*—
  Southern Petroleum Co., Inc.
Unimark International Corp. for Design & Marketing, Chicago, Ill. 847,453, pub. 11–28–67. Cl. 100.
Union Carbide Corp., New York, N.Y. 847,238, pub. 1–23–68. Cl. 6.
Union Fork & Hoe Co., The, Columbus, Ohio. 437,441, ren. 4–9–68. Cl. 23.
Uni-Tech Chemical Mfg. Co., Panorama City, Calif. 727,633–4, canc. Cl. 6.
United Business Service Co., Boston, Mass. 727,731, canc. Cl. 38.
United States of America Standards Institute, Inc., New York, N.Y. 847,391, pub. 1–23–68. Cl. 38.
U.S. Musical Merchandise Corp., New York, N.Y. 847,377, pub. 4–25–67. Cl. 36.
United Steel and Wire Co., Battle Creek, Mich. 847,209, pub. 1–23–68. Cl. 2.
Unitek Corp.: *See*—
  Consolidated Engineering Corp.
Universal Cigar Corp., New York, N.Y. 847,284, pub. 1–23–68. Cl. 17.
Universal Control Corp., Dallas, Tex. 847,353, pub. 1–23–68. Cl. 26.
Valley Mills: *See*—
  Hillside Cotton Mills.
Valley Packing Co.: *See*—
  Valley Packing Co. of California.
Valley Packing Co. of California, d.b.a. Valley Packing Co., Salinas, Calif. 847,429, pub. 11–28–67. Cl. 46.
Vanda Cosmetics Co.: *See*—
  Rexall Drug & Chemical Co.
Vanderbilt Co., Inc., New York, N.Y. 838,147, cor. Cl. 1.
Vandercook & Sons, Inc., Chicago, Ill. 727,698, canc. Cl. 23.
Virginia Dare Confections, Inc., Baltimore, Md. 727,662, canc. Cl. 18.
Vita Chemical Products: *See*—
  Siegal, Zola.
Vitarine Co. Inc., The, Springfield Gardens, N.Y. 847,215, pub. 1–23–68. Cl. 2.
Vomar Products, Inc., Burbank, Calif. 847,435, pub. 1–23–68. Cl. 50.
Wain-Roy Corp., Fitchburg, Mass. 847,337, pub. 1–23–68. Cl. 23.
Wallace & Tiernan Inc., Belleville, N.J. 738,086, cor. Cl. 6.
Warner, George, Seed Co., Inc., Hereford, Tex. 847,203, pub. 1–23–68. Cl. 1.
Warner, George, Seed Co., Inc., Hereford, Tex. 847,205, pub. 1–23–68. Cl. 1.
Warren, Maurice R., Rev., d.b.a. Fun-Way Games, Pellston, Mich. 727,692, canc. Cl. 22.
Warwick Wax Co., Inc., New York, N.Y., to The Western Petrochemical Corp., Chanute, Kans. 436,541, ren. 4–9–68. Cl. 6.
Wassell Organization, Inc., Westport, Conn. 727,711, canc. Cl. 37.
Wembley, Inc., New Orleans, La. 847,486. Cl. 39.
Western Petrochemical Corp., The: *See*—
  Warwick Wax Co., Inc.
Western Tablet & Stationery Corp., Dayton, Ohio. 727,713, canc. Cl. 37.
Westinghouse Electric Corp., Pittsburgh, Pa. 847,462, pub. 1–23–68. Cl. 103.
Westwood Textile Mfg., Inc., Southbridge, Mass. 847,493. Cl. 42.
Weyerhaeuser Co., Tacoma, Wash. 847,216, pub. 10–31–67. Cl. 2.
Wheel Camper Corp., Centreville, Mich. 847,297–9, pub. 1–23–68. Cl. 19.
White Motor Corp.: *See*—
  Diamond T Motor Car Co.
Willson, Jack, Downey, Calif. 847,471. Cl. 12.
Wilson Jones Co.: *See*—
  Irving-Pitt Mfg. Co.
Wilson Jones Co., to Wilson Jones Co., Chicago, Ill. 237,469–70, ren. 4–9–68. Cl. 37.
Winsted Precision Ball Corp., Winsted, Conn. 847,384, pub. 1–23–68. Cl. 37.
Wohl, Sidney, d.b.a. Doctor's Orders Products, Chicago, Ill. 727,766, canc. Cl. 46.
Woodmen of The World, Denver Colo. 745,587, canc. Cl. 102.
Worumbo Mfg. Co., Lisbon Falls, Maine, to J. P. Stevens & Co., Inc., New York, N.Y. 439,511, ren. 4–9–68. Cl. 42.
Xerox Corp.: *See*—
  American Education Press, Inc.
Yerina, George A., d.b.a. Greensburg Waterproofing Co., Greensburg, Pa. 847,513. Cl. 103.
Yorkana Cigar Co.: *See*—
  Allen, W. P.

U.S. GOVERNMENT PRINTING OFFICE: O—1998

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

April 16, 1968 Volume 849 Number 3

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of February 1968

Examiner affirmed	147
Examiner affirmed in part	20
Examiner reversed	44
Total	211

Notice of Daylight Saving Time

The Patent Office will operate on Daylight Saving Time from April 29, 1968 through October 27, 1968.

Guidelines for Considering Disclosures of Utility in Drug Cases

On December 5, 1967 the text of certain guidelines which the Patent Office proposed to adopt in the examination of applications for drugs, was published in the OFFICIAL GAZETTE (845 O.G. 1). A hearing was had on January 16, 1968, and all persons, who desired to, were invited to attend and to submit their views, objections, recommendations or suggestions. The following guidelines are being published after consideration of all the material and opinions, both written and oral, which were submitted in response to that invitation.

EDWARD J. BRENNER,
Commissioner of Patents.

Mar. 19, 1968.

General

These guidelines are set down to provide uniform handling of applications disclosing drug or pharmaceutical utility. They are intended to guide patent examiners and patent applicants as to criteria for utility statements. They deal with fundamental questions and are subject to revision and amendment if future case law indicates this to be necessary.

The following two basic principles shall be followed in considering matters relating to the adequacy of disclosure of utility in drug cases:

(1) The same basic principles of patent law which apply in the field of chemical arts shall be applicable to drugs, and

(2) The Patent Office shall confine its examination of disclosure of utility to the application of patent law principles, recognizing that other agencies of the Government have been assigned the responsibility of assuring conformance to the standards established by statute for the advertisement, use, sale or distribution of drugs.[1]

A drug is defined by 21 U.S.C. 321(g)

> The term "drug" means (A) articles recognized in the official United States Pharmacopeia, official Homeopathic Pharmacopeia of the United States, or official National Formulary, or any supplement to any of them; and (B) articles intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease in man or other animals; and (C) articles (other than food) intended to affect the structure or any function of the body of man or other animals; and (D) articles intended for use as a component of any articles specified in clause (A), (B), or (C); but does not include devices or their components, parts, or accessories.

In addition, compositions adapted to be applied to or used by human beings, e.g., cosmetics, dentifrices, mouthwashes, etc., may be treated in the same manner as drugs subject to the conditions stated.

Any proof of a stated utility or safety required pursuant to these guidelines may be incorporated in the application as filed, or may be subsequently submitted by affidavit if and when required. The Patent Office, in reaching its own independent decisions on questions of utility and how to use under 35 U.S.C. 101 and 112, will continue to avail itself of assistance and information from the Secretary of Health, Education, and Welfare as authorized by 21 U.S.C. 372(b), when necessary.

In accordance with the basic principles set forth above, the following procedures shall be followed in examining patent applications in the drug field with regard to disclosures relating to utility.

35 U.S.C. 101

Utility must be definite and in currently available form,[2] not merely for further investigation or research but commercial availability is not necessary. Mere assertions such as "therapeutic agents,"[3] "for pharmaceutical purposes,"[4] "biological activity,"[5] "intermediates,"[6] and for making further unspecified preparations are regarded as insufficient.

If the asserted utility of a compound is believable on its face to persons skilled in the art in view of the contemporary knowledge in the art, then the burden is upon the examiner to give adequate support for rejections for lack of utility under this section.[7] On the other hand, incredible statements[8] or statements deemed unlikely to be correct by one skilled in the art[9] in view of the contemporary knowledge in the art will require adequate proof on the part of applicants for patents.

Proof of utility under this section may be established by clinical or *in vivo* or *in vitro* data, or combinations of these,

New Applications Received During February 1968

Patents	7342
Designs	406
Plant Patents	10
Reissues	20
Total	7778

Issue—April 16, 1968

Patents	1225	—No. 3,377,626 to No. 3,378,850, incl.
Designs	54	—No. 210,761 to No. 210,814, incl.
Plant Patents	3	—No. 2,803 to No. 2,805, incl.
Reissues	6	—No. 26,373 to No. 26,378, incl.
Total	1288	

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[1] *In re Krimmel*, 48 CCPA 1116, 292 F.2d 948, 130 USPQ 215; *In re Hartop et al.*, 50 CCPA 780, 311 F.2d 249, 135 USPQ 419.

[2] *Brenner v. Manson*, 383 U.S. 519, 148 USPQ 689.

[3] Cf. *In re Lorenz et al.*, 49 CCPA 1227, 305 F.2d 875, 134 USPQ 312; cf. *Ex parte Brackmann et al.*, 127 USPQ 57.

[4] *In re Diedrich*, 50 CCPA 1355, 318 F.2d 946, 138 USPQ 128.

[5] *In re Kirk et al.*, 54 CCPA 1119, 153 USPQ 48; *Ex parte Lanham*, 135 USPQ 106.

[6] *In re Joly et al.*, 54 CCPA 1159, 153 USPQ 45; *In re Kirk et al.*, 54 CCPA 1119, 153 USPQ 48.

[7] *In re Gazave*, 54 CCPA 1524, 154 USPQ 92.

[8] *In re Citron*, 51 CCPA 852, 325 F.2d 248, 139 USPQ 516; *In re Oberweger*, 28 CCPA 749, 115 F.2d 826, 47 USPQ 455; *Ex parte Moore et al.*, 128 USPQ 8.

[9] *In re Ruskin*, 53 CCPA 872, 354 F.2d 395, 148 USPQ 221; *In re Pottier*, 54 CCPA 1293, 153 USPQ 407; *In re Novak et al*, 49 CCPA 1283, 306 F.2d 924, 134 USPQ 335. See also, *In re Irons*, 52 CCPA 938, 340 F.2d 974, 144 USPQ 351.

which would be convincing to those skilled in the art.[10] More particularly, if the utility relied on is directed *solely* to the treatment of humans, evidence of utility, if required, must generally be clinical evidence,[11] although animal tests may be adequate where the art would accept these as appropriately correlated with human utility.[12] If there is no assertion of human utility,[13] or if there is an assertion of animal utility,[14] operativeness for use on standard test animals is adequate for patent purposes.

Exceptions exist with respect to the general rule relating to the treatment of humans. For example, compositions whose properties are generally predictable from a knowledge of their components, such as laxatives, antacids and certain topical preparations, require little or no clinical proof.[15]

Although absolute safety is not necessary to meet the utility requirement under this section, a drug which is not sufficiently safe under the conditions of use for which it is said to be effective will not satisfy the utility requirement.[16] Proof of safety shall be required only in those cases where adequate reasons can be advanced by the examiner for believing that the drug is unsafe, and shall be accepted if it establishes a reasonable probability of safety.

35 U.S.C. 112

A mere statement of utility for pharmacological or chemotherapeutic purposes may raise a question of compliance with Section 112, particularly ". . . as to enable any person skilled in the art to which it pertains . . . to use the same." If the statement of utility contains within it a connotation of how to use, and/or the art recognizes that standard modes of administration are contemplated, Section 112 is satisfied.[17] If the use disclosed is of such nature that the art is unaware of successful treatments with chemically analogous compounds, a more complete statement of how to use must be supplied than if such analogy were not present.[18] It is not necessary to specify the dosage or method of use if it is obvious to one skilled in the art that such information could be obtained without undue experimentation.[17]

With respect to the adequacy of disclosure that a claimed genus possesses an asserted utility representative examples together with a statement applicable to the genus as a whole will ordinarily be sufficient if it would be deemed likely by one skilled in the art, in view of contemporary knowledge in the art, that the claimed genus would possess the asserted utility.[19] Proof of utility will be required for other members of the claimed genus only in those cases where adequate reasons can be advanced by the examiner for believing that the genus as a whole does not possess the asserted utility. Conversely, a sufficient number of representative examples, if disclosed in the prior art will constitute a disclosure of the genus to which they belong.

In the case of mixtures including a drug as an ingredient, or mixtures which are drugs, or methods of treating a specific condition with a drug, whether old or new, a specific example should ordinarily be set forth, which should include the organism treated. In appropriate cases, such an example may be inferred from the disclosure taken as a whole and/or the knowledge in the art (e.g., gargle).

Where the claimed compounds are capable of several different utilities and one use is adequately described in accordance with these guidelines, additional utilities will be investigated for compliance with Sections 101 and 112 only if not believable on their face to those of ordinary skill in the art in view of the contemporary knowledge of the art. Failure to meet these standards may result in a requirement to cancel such additional utilities.[20]

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[10] *In re Irons,* 52 CCPA 938, 340 F.2d 924, 144 USPQ 351; *Ex parte Paschall,* 88 USPQ 131; *Ex parte Pennell et al.,* 99 USPQ 56; *Ex parte Ferguson,* 117 USPQ 229; *Ex parte Timmis,* 123 USPQ 581.

[11] *Ex parte Timmis,* 123 USPQ 581.

[12] *In re Hartop et al.,* 50 CCPA 780, 311 F.2d 249, 135 USPQ 419; *Ex parte Murphy,* 134 USPQ 134.

[13] Cf. *Blicke* v. *Treves,* 44 CCPA 753, 241 F.2d 718, 112 USPQ 472; *In re Krimmel,* 48 CCPA 1116, 292 F.2d 948, 130 USPQ 215; *In re Dodson,* 48 CCPA 1125, 292 F.2d 943, 130 USPQ 224; *In re Hitchings,* 52 CCPA 1141, 342 F.2d 80, 144 USPQ 637.

[14] *In re Bergel et al.,* 48 CCPA 1102, 292 F.2d 955, 130 USPQ 206; *Ex parte Melvin,* 155 USPQ 47.

[15] *Ex parte Harrison et al.,* 129 USPQ 172; *Ex parte Lewin,* 140 USPQ 70.

[16] *In re Hartop et al.,* 50 CCPA 780, 311 F.2d 249, 135 USPQ 419.

[17] Cf. *In re Johnson,* 48 CCPA 733, 282 F.2d 370, 127 USPQ 216; *In re Hitchings et al.,* 52 CCPA 1141, 342 F.2d 80, 144 USPQ 637.

[18] *In re Moureu et al.,* 52 CCPA 1363, 345 F.2d 595, 145 USPQ 452; *In re Schmidt et al.,* 54 CCPA 1577, 153 USPQ 640.

[19] *In re Oppenauer,* 31 CCPA 1248, 143 F.2d 974, 62 USPQ 297; *In re Cavallito et al.,* 48 CCPA 711, 282 F.2d 357, 127 USPQ 202; *In re Cavallito et al.,* 48 CCPA 720, 282 F.2d 363, 127 USPQ 206; *In re Schmidt,* 48 CCPA 1140, 293 F.2d 274, 130 USPQ 404; *In re Cavallito,* 49 CCPA 1335, 306 F.2d 505, 134 USPQ 370; *In re Surrey,* 54 CCPA 855, 370 F.2d 349, 151 USPQ 724; *In re Lund et al.,* 54 CCPA, 153 USPQ 625.

[20] *Ex parte Lanham,* 121 USPQ 223; *Ex parte Moore et al.,* 128 USPQ 8; *In re Citron,* 51 CCPA 852, 325 F.2d 248, 139 USPQ 516; *In re Gottlieb et al.,* 51 CCPA 1114, 328 F.2d 1016, 140 USPQ 665.

Disclaimers and Dedications

3,147,707.—*Blake M. Caldwell,* Fort Worth, Tex. SHAPED EXPLOSIVE DEVICE AND TYPE METAL LINER FOR THE CAVITY THEREOF. Patent dated Sept. 8, 1964. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Jet Research Center, Inc.*

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

3,305,018.—*William E. White, Jr., Wilton R. Marshall* and *Terry Walker,* all of Houston, Tex. PERFORATING PROCESS AND APPARATUS. Patent dated Feb. 21, 1967. Disclaimer and dedication filed Nov. 14, 1967, by the assignee, *Halliburton Company.*

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Dec. 31, 1966.

Disclaimers

3,036,920.—*John Farmer,* Kailua, Oahu, Hawaii. FRUIT TREATING PROCESS. Patent dated May 29, 1962. Disclaimer filed Dec. 19, 1967, by the assignee, *Honolulu Iron Works Company.*

Hereby enters this disclaimer to claims 3 and 4 of said patent.

3,275,185.—*Bert N. Svenson,* Norwalk, Calif. CLAMPING APPARATUS. Patent Dated Sept. 27, 1966. Disclaimer filed Dec. 28, 1967, by the inventor.

Hereby enters this disclaimer to claim 13 of said patent.

3,279,273.—*Herbert Arthur Clements,* Weybridge, Surrey, and *Robert Howard Heybourne,* Thames, Ditton, Surrey, England. SYNCHRONOUS SELF-SHIFTING CLUTCH MECHANISMS. Patent dated Oct. 18, 1966. Disclaimer filed Dec. 13, 1967, by the assignee, *S.S.S. Patents Limited.*

Hereby enters this disclaimer to claim 1 of said patent.

3,315,758.—*Max L. Allen,* Portland, Oreg. TRACTOR WITH A SHIFTABLE OPERATOR'S STATION. Patent dated Apr. 25, 1967. Disclaimer filed Mar. 6, 1968, by the inventor.

Hereby disclaims the terminal portion of the term of the patent subsequent to June 7, 1983.

3,316,503.—*Charles E. Lenz,* Fullerton, Calif. DIGITAL PHASE-MODULATED GENERATOR. Patent dated Apr. 25, 1967. Disclaimer filed Feb. 16, 1968, by the assignee, *North American Rockwell Corporation.*

Hereby enters this disclaimer to claims 1 and 4 of said patent.

3,324,700.—*Richard M. Elliott,* Beverly, Mass. PULLING CHUCK FOR RIVET SETTING TOOL. Patent dated June 13, 1967. Disclaimer filed Dec. 8, 1967, by the assignee, *United Shoe Machinery Corporation.*

Hereby enters this disclaimer to claim 1 of said patent.

3,357,097.—*Paul H. Schulte,* Rio Piedras, Puerto Rico. PROCESS FOR MAKING COMBINATION MAGNETIC HEAD. Patent dated Dec. 12, 1967. Disclaimer filed Dec. 12, 1967, by the inventor.

Hereby enters this disclaimer to the terminal portion of the term of the patent subsequent to Aug. 22, 1984.

3,358,275.—*Paul H. Schulte,* Rio Piedras, Puerto Rico. MAGNETIC ERASE HEAD. Patent dated Dec. 12, 1967. Disclaimer filed Dec. 12, 1967, by the inventor.

Hereby enters this disclaimer to the terminal portion of the term of the patent subsequent to Aug. 22, 1984.

3,358,276.—*Paul H. Schulte,* Rio Piedras, Puerto Rico. COMBINATION RECORD-PLAYBACK AND ERASE MAGNETIC HEAD. Patent dated Dec. 12, 1967. Disclaimer filed Dec. 12, 1967, by the inventor.

Hereby enters this disclaimer to the terminal portion of the term of the patent subsequent to Aug. 22, 1984.

3,361,580.—*Frederick W. Schneble, Jr.,* Oyster Bay, *Rudolph John Zeblisky,* Hauppague, *John Francis McCormack,* Roslyn Heights, and *John Duff Williamson,* Miller Place, N.Y. ELECTROLESS COPPER PLATING. Patent dated Jan. 2, 1968. Disclaimer filed Dec. 6, 1967, by the inventors; the assignee, *Day Company, N.V.,* consenting.

Hereby disclaim the terminal portion of the term of the patent subsequent to June 21, 1983.

3,362,024.—*Charles J. Badewitz,* San Diego, Calif. VERTICALITY, ALTITUDE AND VELOCITY SENSING RADAR. Patent dated Jan. 2, 1968. Disclaimer filed Feb. 19, 1968, by the assignee, *The Ryan Aeronautical Co.*

Hereby disclaims the terminal portion of the term of the patent subsequent to May 18, 1982.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF MARCH 11, 1968

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
CHEMICAL EXAMINING OPERATION—I. MARCUS, Director.		
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—R. L. CAMPBELL, Manager Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	2-12-65	8-10-62
GENERAL ORGANIC CHEMISTRY, GROUP 120—M. STERMAN, Manager Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	5- 7-65	12-28-62
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Manager Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping and Treating Processes.	4-27-65	3-22-63
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—J. R. LIBERMAN, Manager Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	2-10-65	8-10-62
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Manager Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	1- 8-65	1-29-64
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—J. F. COUCH, Acting Manager Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	6-24-65	12-31-63
SECURITY, GROUP 220—S. BOYD, Manager Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	5-26-65	8-20-64
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—M. L. LEVY, Manager Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	10-20-64	6-18-62
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Manager Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	9-21-64	3-14-62
PHYSICS, GROUP 280—R. L. EVANS, Manager Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	10- 1-65	6-24-63
DESIGNS, GROUP 290—S. BOYD, Manager Industrial Arts; Household, Personal and Fine Arts.	4-12-67	4-20-66

Total number of pending applications (excluding Designs)	174, 257
Total number of Design applications pending	3, 692
Total number of applications awaiting action (excluding Designs)	124, 960
Total number of Design applications awaiting action	1, 718
Date of oldest new application awaiting action	Sept. 21, 1964
Date of oldest amended application awaiting action	March 14, 1962

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during May 1968, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1953*.

Patents	Numbers 2,550,660 to 2,556,299, inclusive
Plant Patents	Number 1,012

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
MECHANICAL EXAMINING OPERATION—F. H. BRONAUGH, Director.		
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Manager Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	10-20-66	1- 4-65
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Manager Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders; Woodworking; Tools; Cutlery; Jacks.	4-11-66	7- 2-63
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Manager Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	10-11-65	5-14-64
HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Manager Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	10- 6-66	8- 4-65
FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures.	9- 2-66	3- 5-64
TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—W. S. COLE, Manager Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.	3-21-66	5-20-63

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE | WILFRED ROLAND SOUCY

No. 7793. Decided June 8, 1967

[54 CCPA 1586; 378 F.2d 374; 153 USPQ 816]

1. PATENTABILITY—OBVIOUSNESS.

"Although appellant urges that the Board erred in taking judicial notice of 'the common practice of closing the neck of a flexible container by a rubber band, as in the case of a child's rubber balloon,' his arguments are not convincing. While true it is, as appellant contends, that 'the rubber band holds the neck of the balloon closed only by distorting the balloon neck itself,' appellant's use of an elastic band, illustrated in FIGS. 13 and 14, does not appear to produce a dissimilar result. It seems to us that a rubber band would be an obvious alternative to the spring means of Browne to effect a resilient closure."

2. SAME—PARTICULAR SUBJECT MATTER—"AUTOMATIC VALVULAR CLOSURE."

The refusal of certain claims in an application entitled "Automatic Valvular Closure," as unpatentable over the prior art, is reversed as to some of the claims and affirmed as to the others.

MODIFIED.

Kane, Dalsimer, Kane and Smith, Joseph C. Sullivan for appellant.
Joseph Schimmel (*Jere Sears*, of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, SMITH, and ALMOND, *Associate Judges*

WORLEY, *Chief Judge*, delivered the opinion of the court.

This appeal is from the decision of the Board of Appeals affirming the Examiner's rejection of claims 1–4 and 15–19 in appellant's application,[1] entitled "Automatic Valvular Closure," as unpatentable in view of certain prior art.

The application relates to sealing means for collapsible, fluid-containing squeeze containers. In general, an elastically elongatable tie member is employed to bias separable lip portions of the egress of the container into normally sealed engagement. The container may be opened to discharge its contents by applying sufficient force to the contents to cause elongation of the tie. Release of the pressure on the container contents removes the tie elongating force, allows the elastic tie to recover its original dimension, and automatically results in reclosure of the exit wall. Claim 15 is representative:

> 15. In an automatic valvular closure having two egress walls relatively movable to a closed condition; elastically elongatable tie means mounted in operative association with said egress walls and adapted to yieldably maintain said egress walls united along their effective width; whereby said tie means elongatingly yields when said egress walls undergo relative movement from said closed condition, and said tie means elastically shortens when said egress walls undergo relative movement toward said closed condition.

Appellant discloses and claims various shapes of elastically elongatable tie members, as well as ways in which the tie may be mounted "in operative association" with the egress walls of the squeeze tube. Thus the mated sides of the egress wall may be laced together with elastically elongatable stitching (FIG. 3), the subject of allowed claim 5. The tie may also consist of headed elastic filaments which are passed through the mating sides of the egress walls (FIG. 5), or an elastic band 18 surrounding the egress walls (FIGS. 13 and 14).

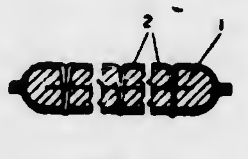


FIG. 3

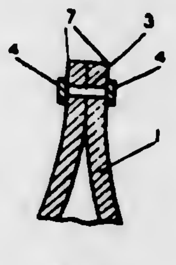


FIG. 5

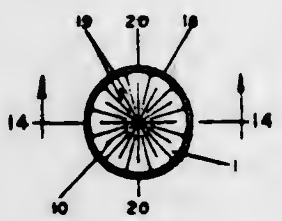


FIG. 13

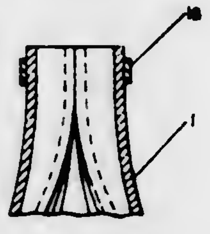


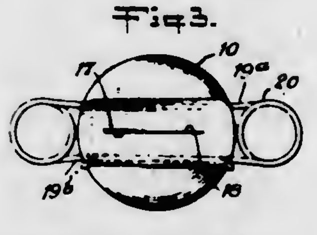
FIG. 14

The references are:

Browne, 2,446,571, August 10, 1948.
Marks, Mechanical Engineers' Handbook, 1958, McGraw-Hill Book Co., Inc., New York, 6th edition, sec. 5–35.

The Examiner rejected the claims "as unpatentable over Browne under 35 U.S.C. 102." It was his position that the claims "read directly" on that reference since "the spring means [element 20 in FIG. 3] in Browne are of elastic material and are elastically elongatable within generally accepted engineering terms," thus providing an elastically elongatable tie member within the terms of the claims. Though cognizant of the fact that Browne's spring means operates by flexure and not tensile force, the Board agreed with the Examiner, noting that

Fig3.



> * * * the Marks' Handbook citation establishes that a metallic element when flexed, as in the case of the Browne springs undergoes an "elastic elongation" on one side of the neutral plane and an elastic shortening on the other side of that plane. * * * The claim language does not require the *whole* cross section of the tie member to elongate or yield or that the elongation be produced by a *direct* application of a tensile force as distinguished from a tensile force *indirectly* resulting from a flexing of the tie member. * * *

We do not agree that Browne anticipates the claims under 35 U.S.C. 102. As appellant points out, the Examiner and Board appear to have overlooked the definition of "elastically elongatable" appellant provides in his specification which governs the meaning of that term employed in his claims:

> In this application the elastic member is considered and is frequently referred to as a tie which is elastically elongatable. The term "elongatable" is intended to mean ability to lengthen in the spatial sense *directly by tensile deformation*, of the tie material, *substantially throughout* the effective working area of, and at said area, in the direction of lines intersecting the plane of, an imaginary cross-section of the tie—all as understood in that branch of mechanics which treats of the resistance of materials. [Emphasis supplied.]

The record, particularly the specification, does not reasonably support the broad interpretation given the claims by the Examiner and Board, and under the circumstances the rejection of those claims under 35 U.S.C. 102 must be reversed.

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[1] Serial No. 206,118, filed June 20, 1962.

The Board, however, also felt the claimed subject matter to be obvious in view of Browne under 35 U.S.C. 103, stating:

> * * * In Browne, FIGURES 1 and 3, a spring 20 interlocks in a groove of the molded body, and completely encircles the egress opening. That a rubber band would be an obvious alternative to the metal spring wire is evident from the common practice of closing the neck of a flexible container by a rubber band, as in the case of a child's rubber balloon, of which we take judicial notice. * * *

[1] Although appellant urges that the Board erred in taking judicial notice of "the common practice of closing the neck of a flexible container by a rubber band, as in the case of a child's rubber balloon," his arguments are not convincing. While true it is, as appellant contends, that "the rubber band holds the neck of the balloon closed only by distorting the balloon neck itself," appellant's use of an elastic band, illustrated in FIGS. 13 and 14 above, does not appear to produce a dissimilar result. It seems to us that a rubber band would be an obvious alternative to the spring means of Browne to effect a resilient closure. We are satisfied the decision of the Board is without reversible error insofar as the rejection of claims 1-3, 15, 16, 18 and 19 is concerned.

With respect to claims 4 and 17, however, which call for an "elastically elongatable filament * * * passing *through* the mated sides" of the egress wall and an "elastically elongatable tie *lacing* said egress walls together," much in the manner of stitching or shoe lacings, we find nothing in the references which suggests such a combination.

[2] The decision is affirmed as to claims 1-3, 15, 16, 18 and 19 and reversed as to claims 4 and 17.

MODIFIED.

U.S. Court of Customs and Patent Appeals

IN RE CHARLES L. FAUST AND JOHN E. CLIFFORD

No. 7843. Decided June 2, 1967

[54 CCPA—; 378 F.2d 966; 153 USPQ 813]

1. PATENTABILITY—OBVIOUSNESS—PRIOR ART—35 U.S.C. 103.

"We agree that an invention, to be otherwise patentable, must not be obvious at the time the invention was made to a person having ordinary skill in the art to which the invention pertains, section 103. However, under section 103, the reference teachings relied on must be 'prior art.' "

2. SAME—DOUBLE PATENTING—SAME—INVENTORSHIP.

"Here there is no argument that the Faust patent is 'prior art,' apparently because appellants are not 'another' to Faust and Clifford, 35 U.S.C. 102 (e), 103. The Faust reference, as a matter of present law, is not 'prior art.' Accordingly, no inquiry under section 103 may be made. Instead, the rejection rests on the judicially created doctrine of 'double patenting.' And the correctness of the rejection must be tested by resort to the principles of 'double patenting.' "

3. SAME—SAME—TERMINAL DISCLAIMER—OBVIOUSNESS—35 U.S.C. 101.

"The question presented is whether appellants *claim* here the same invention, i.e., subject matter, as previously *claimed* in their issued patent. *In re Walles*, 54 CCPA 710, 366 F.2d 786, 151 USPQ 185. If appellants claim the same subject matter, 35 U.S.C. 101 is a bar to the issuance of a patent. See *In re Robeson*, supra. If different subject matter is claimed, the terminal disclaimer prevents any extension of monopoly and there is no necessity to determine whether the subject matter *claimed* here is unobvious in view of the subject matter *claimed or disclosed* in Faust."

4. SAME—SAME—SAME—SAME.

"Appellants argue the Examiner improperly rejected the appealed claims in view of the *disclosure* in Faust, treating it *as if it were prior art*. The terminal disclaimer eliminates the necessity of considering what are most often exceedingly difficult questions, i.e., whether the subject matter of the appealed claims is obvious in view of the patent claims relied on as the basis for 'double patenting,' thus conserving judicial man hours both here and in the Patent Office. See *Vandenberg* v. *Reynolds*, 44 CCPA 873, 242 F.2d 761, 113 USPQ 275. Here, as in *Robeson*, no abuse of the terminal disclaimer is suggested."

5. SAME—SAME—SAME—DIFFERENT SUBJECT MATTER.

"As claim 7 defines a two component electrolyte and claim 70 defines a four component electrolyte, it is readily apparent that we are concerned with different subject matter, and not 'mere colorable variations.' Accordingly, the rejection of these claims [as the basis of "double patenting"] must be reversed [in view of a terminal disclaimer]. *In re Robeson*, *In re Kaye* * * *."

REVERSED.

Wesley B. Taylor, *Albert M. Zalkind* for appellants.

Joseph Schimmel for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, SMITH, and ALMOND, *Associate Judges*

SMITH, *J.*, delivered the opinion of the court.

This is an appeal from the decision of the Board of Appeals affirming the Examiner's rejection of the six appealed claims on the basis of "double patenting."

An initial statement of fact as to the nature of the "double patenting" rejection here involved is helpful. Appellants filed an application [1] relating to electrolytically sharpening, shaping and finishing a conductive composite workpiece. Prior to the issuance of a patent on this application appellants filed a second application,[2] here on appeal, also relating to electrolytically sharpening, shaping and finishing a conductive composite workpiece. The application for the patent and the presently appealed application were thus copending. Both were filed by the same inventors. Both have been assigned to the Cleveland Twist Drill Co.

The Examiner's answer stated the rejection as follows:

> Claim 71 and claims 47 and 74 which depend therefrom are rejected on the ground of double patenting as they do not patentably distinguish over claim 8 of the Faust et al. patent. * * *
>
> * * * * * * *
>
> Claims 70, 72 and 75 are rejected on the ground of double patenting as they are not considered as patentably distinguishing over claim 7 of appellants' patent to Faust et al. * * *

A terminal disclaimer as to the terminal part of any patent granted on the appealed application was filed. The Examiner held that our decision in *In re Siu*, 42 CCPA 864, 222 F.2d 267, 105 USPQ 428, controlled as to the effect of the terminal disclaimer. He declined to follow or apply *In re Robeson*, 51 CCPA 1271, 331 F.2d 610, 141 USPQ 485, and *In re Kaye*, 51 CCPA 1465, 332 F.2d 816, 141 USPQ 829. According to the Examiner, appellants here claimed but a "colorable variation" of the patented invention so that "the sufficiency of the terminal disclaimer" was considered "moot."

The Board affirmed the Examiner, adding in its opinion:

> Appellants' attention is directed to the recent decision of *Hays et al.* v. *Reynolds*, 145 USPQ 665, which holds that a terminal disclaimer cannot avoid a rejection on double patenting where the rejected claims are not patentably distinct from the claims in an issued patent. We consider the *Hays et al.* v. *Reynolds* decision to be directly in point here.

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[1] Ser. No. 577,015, filed April 9, 1956, resulting in Patent No. 2,939,825, issued June 7, 1960.

[2] Ser. No. 17,982, filed March 28, 1960.

The Board rendered its decision prior to the Court of Appeals' decision in *Hays* v. *Brenner*, 357 F.2d 287, 148 USPQ 365 (D.C. Cir. 1966) and our decision in *In re Bowers*, 53 CCPA 1590, 359 F.2d 886, 149 USPQ 570. For the reasons stated in *Bowers*, we do not find that the District Court's decision in *Hays* stands for the proposition advanced by the Board.[3] Nor does the Board's position draw any support from the Court of Appeals' decision in *Hays*. Appellants therein did not deny that the subject matter relied on by the Patent Office was prior art. The Court of Appeals stated in its opinion, 357 F.2d at 289, 148 USPQ at 366;

> * * * Here the action of the Patent Office denying the Hays application as obvious under § 103 is reinforced by the finding of the District Court to the same effect. We affirm that finding. * * *
>
> Since appellants' contention for patentability based on the filing of the terminal disclaimer assumes obviousness, § 103 is an absolute bar to the grant of a patent.

[1] We agree that an invention, to be otherwise patentable, must not be obvious at the time the invention was made to a person having ordinary skill in the art to which the invention pertains, section 103. However, under section 103, the reference teachings relied on must be "prior art."

[2] Here there is no argument that the Faust patent is "prior art," apparently because appellants are not "another" to Faust and Clifford, 35 U.S.C. 102(e), 103. The Faust reference, as a matter of present law, is not "prior art." Accordingly, no inquiry under section 103 may be made. Instead, the rejection rests on the judicially created doctrine of "double patenting." And the correctness of the rejection must be tested by resort to the principles of "double patenting."

[3] The question presented is whether appellants *claim* here the same invention, i.e., subject matter, as previously *claimed* in their issued patent. *In re Walles*, 54 CCPA 710, 366 F.2d 786, 151 USPQ 185. If appellants claim the same subject matter, 35 U.S.C. 101 is a bar to the issuance of a patent. See *In re Robeson*, supra. If different subject matter is claimed, the terminal disclaimer prevents any extension of monopoly and there is no necessity to determine whether the subject matter *claimed* here is unobvious in view of the subject matter *claimed* or *disclosed* in Faust.[4]

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[3] As explained in *Bowers*, the Solicitor maintained in *Hays* that the subject matter in the Keating patent relied on as the basis for the rejection was "prior art," 35 U.S.C. 120, 103. In the District Court the record there shows:

Mr. SCHIMMEL. * * *

I would * * * like to offer in evidence a certified copy of the earlier Keating application. * * *

[B]oth the Examiner and the Board rejected the involved claims on an abandoned Keating application. In addition to rejecting it on the Keating patent, they also relied on this abandoned application, which is referred to in the Keating patent. And the patent is denominated a continuation-in-part of this application.

So I am offering it in evidence and we are going to *rely* on it on the basis of the *date* involved *to show that Keating is a prior inventor of the subject mater broadly claimed in the Keating patent* as well as some of the more specific details in some of the claims involved here.

* * * * * * *

Mr. SCHIMMEL. I thought I made it clear that I was putting it in evidence *because both the Examiner and the Board, in their decisions, relied on that abandoned application at least for the date on which Dr. Keating had first disclosed what is claimed in his patent.*

The COURT. Well, you are not depending on it for anything except the date?

Mr. SCHIMMEL. Except the date and the fact that the subject mater disclosed there in the abandoned case [41] was carried over into the subsequent application which became a patent.

The COURT. Well, isn't that quite clear from the first paragraph of this patent here?

Mr. SCHIMMEL. Well, that is a question, I think, Mr. York may raise, as to whether it is clear from the first paragraph or not.

The COURT. I thought it was when I read it.

Well, outside of that, are you through with this witness on your direct?

Mr. YORK. No, Your Honor, I am not. It seems to me that maybe on rebuttal——

The COURT. Well, you see what Mr. Schimmel desires to do. *He desires to use that date.*

Mr. YORK. For what?

The COURT. *For the prior conception, of course.* [Emphasis added.]

The filing date of the Keating parent application was also relied on by the Patent Office in *Clinical Products Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

We will now turn to a consideration of the appealed claims and the reference claims. Claim 7 of Faust is directed to a method of electrolytically removing stock from a cobalt-cemented tungsten carbide body. The method comprises, as relevant here, passing a direct current through the composite body while in contact with the electrolyte. The details of the method need not be considered. The electrolyte contains tungsten and cobalt solubilizing groups.

Claim 70 is directed to a "universal multi-component electrolyte." The electrolyte consists of (1) an aqueous alkaline solution of an ionizable hydroxide (for solubilizing a metal carbide oxide), (2) a water-soluble salt of a saturated polybasic aliphatic organic acid (for solubilizing a cementing agent of a cemented metal carbide), (3) a water-soluble compound furnishing a chloride ion (for dissolution of steel) and (4) a solubilizer selected from the group consisting of sodium cyanide, ethylenediamine, and tetrasodium ethylenediaminetetraacetate (for solubilizing silver).

The group of claims consisting of 70, 72 and 75 stand or fall together in view of claim 7. [5] As claim 7 defines a two component electrolyte and claim 70 defines a four component electrolyte, it is readily apparent that we are concerned with different subject matter, and not "mere colorable variations." Accordingly, the rejection of these claims must be reversed. *In re Robeson*, *In re Kaye*, supra.

Claims 71, 47 and 74 were rejected in view of claim 8 of Faust. These claims also stand or fall together. Claim 8 defines an alkaline cyanide-amine chloride electrolyte. Claim 71 defines a three component electrolyte consisting of (1) an aqueous alkaline solution of an ionizable hydroxide, (2) a water-soluble compound furnishing a halogen ion, and (3) a solubilizing agent selected from the group consisting of a salt of a saturated polybasic aliphatic organic acid, an ammonium halide, and an alkaline amine. Here also we think different subject matter is claimed and the rejection must be reversed.

Thus we find as to all of the appealed claims that, in view of the terminal disclaimer, a "double patenting" rejection cannot be sustained. The Board's decision must therefore be reversed. In view of our disposition of this appeal it is unnecessary to determine whether, as appellants argue, the claimed subject matter is unobvious in view of Faust's claims.

REVERSED.

WORLEY, *Chief Judge*, did not participate.

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[4] [4] Appellants argue the Examiner improperly rejected the appealed claims in view of the *disclosure* in Faust, treating it *as if it were prior art*. The terminal disclaimer eliminates the necessity of considering what are most often exceedingly difficult questions, i.e., whether the subject matter of the appealed claims is obvious in view of the patent claims relied on as the basis for "double patenting," thus conserving judicial man hours both here and in the Patent Office. See *Vandenberg* v. *Reynolds*, 44 CCPA 873, 242 F.2d 761, 113 USPQ 275. Here, as in *Robeson*, no abuse of the terminal disclaimer is suggested.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,590,324, B. Jones, TEMPERATURE COMPENSATED MEANS FOR MEASURING DIFFERENTIAL PRESSURES; **2,632,474**, same, DAMPENER FOR DIFFERENTIAL PRESSURE INDICATORS; **2,664,474**, C. V. Chermendy, CIRCUIT BREAKER; **2,752,949**, B. Jones, DIFFERENTIAL PRESSURE RESPONSIVE BELLOWS DEVICE; **2,989,064**, same, EXTERIOR SEAL FOR DIFFERENTIAL PRESSURE GAGES, filed Dec. 8, 1967, D.C., E.D. Pa. (Philadelphia), Doc. 44300, *International Telephone & Telegraph Corp.* v. *Honeywell Inc.*

2,632,474. (See 2,590,324.)

2,632,962, Jacobson and Keljikan, EDUCATIONAL DEVICE, filed Dec. 12, 1967, D.C., S.D.N.Y., Doc. 67–C–4867, *John G. Keljikan* v. *Dyna Ray Corp.*

2,664,474. (See 2,590,324.)

2,752,949. (See 2,590,324.)

2,775,274, A. E. Andersson, BARK-REMOVING MACHINE HAVING SELF-LIFTING BLUNT-EDGE TOOLS; **2,855,010,** N. G. Leffler, BARKING MACHINE HAVING CENTRIPETALLY BIASED SCRAPERS AUTOMATICALLY SWUNG TO BARK-REMOVING POSITIONS BY AN ONCOMING LOG, **filed** Dec. 8, 1967, D.C. Oreg. (Portland), Doc. C–67–642, *Kockum Industries, Inc.* v. *Salem Equipment, Inc. et al.*

2,855,010. (See 2,775,274).

2,964,932, W. C. Rose, KNITTING MACHINE AND METHOD, **filed** Dec. 13, 1967, D.C., W.D. Wis. (Madison), Doc. 67–C–172(M), *John Donald Marshall and Horace L. Bomar* v. *Norwood Mills, Inc.*

2,967,701, A. G. Wilcox, METHOD OF CONTINUOUS LOW SEAM SHORT WALL MINING USING ROTARY AUGER CUTTERS, **filed** Dec. 11, 1967, C.C.A., 4th Cir., Va. (Richmond), Doc. 11,963, *Wilcox Manufacturing Company* v. *Eastern Gas and Fuel Associates.*

2,989,084. (See 2,590,324.)

3,028,713, Kennedy, Martinez, Paprzycki, and Stabilito, ARTICLE COUNTING AND LOADING MACHINE; **3,064,406,** same, **filed** Nov. 29, 1967, D.C.N.J. (Camden), Doc. C–1213–67, *Edward J. Kennedy et al.* v. *Lakso Company, Inc.*

3,031,442, R. L. Webb, NITROGEN BASE CATALYZED DISPLACEMENT REACTIONS OF ALLYLIC TERPENE HALIDES; **3,076,839,** same, PROCESS FOR PRODUCING ALLYLIC ESTERS; **3,280,177,** same, PREPARATION OF TERPENE ALLYLIC ESTERS WITH DIMETHYL SULFOXIDE AS CATALYTIC SOLVENT; **3,293,286,** same, PROCESS FOR PREPARING TERPENIC ESTERS WITH A PHOSPHORUS-CONTAINING CATALYST, **filed** Sept. 20, 1967, D.C., M.D. Fla. (Jacksonville), Doc. 67–644–J, *The Glidden Company* v. *Union Camp Corp. et al.*

3,051,318, C. F. Murphy, CLOSET BAR ASSEMBLY, **filed** June 2, 1967, D.C. Del. (Wilmington), Doc. 3364, *The Stanley Works* v. *Leigh Products, Inc.* Stipulation and order of dismissal, Dec. 13, 1967.

3,064,406. (See 3,028,713.)

3,076,839. (See 3,031,442.)

3,128,882, R. Kardulas, HAIR ROLLER HOLDER, **filed** Dec. 7, 1967, D.C., M.D. Fla. (Tampa), Doc. 67–499–T, *Rena Kardulas* v. *Florida Machine Products Co. et al.*

3,166,757, S. Downs, Jr., OFFSET DRIVING TOOL, **filed** Dec. 12, 1967, D.C., C.D. Calif. (Los Angeles), Doc. 67–1786–EC, *Crain Cutter Company, Inc.* v. *Roberts Consolidated Industries, Inc.*

3,168,862, L. C. Clouser, Jr., SWING-OUT MOTOR MOUNTING FOR OUTDOOR GRILLS; **3,257,937,** E. W. Mell, SPIT ARRANGEMENT FOR OUTDOOR GRILL; **filed** Dec. 6, 1965, D.C., N.D. Ill. (Chicago), Doc. 65c2046, *King-Seeley Thermos Co.* v. *Steinberg-Baum Co. et al.* Complaint and counter-complaint dismissed; consent judgment, Nov. 15, 1967.

3,108,409. (See 3,214,823.)

3,214,823, O. Hendrickson, FLUID ACTUATED FILING MACHINE; **3,108,409,** same, PNEUMATIC FILING MACHINE; **3,274,895,** same, DOUBLE PISTON PNEUMATIC FILING MACHINE, **filed** Nov. 13, 1967, D.C., C.D. Calif. (Los Angeles), Doc. 67–1650–R, *Otto Hendrickson* v. *Harvey Rodstein et al.*

3,257,937. (See 3,168,862.)

3,274,895. (See 3,214,823.)

3,280,177. (See 3,031,442.)

3,293,286. (See 3,031,442.)

3,298,976, M. H. Reinhart, CELLULAR POLYURETHANE CONTAINING BARYTES AND METHOD OF MAKING SAME, **filed** Oct. 12, 1967, D.C. Tenn. (Knoxville), Doc. 6114, *E. R. Carpenter Company* v. *Morristown Foam Corporation.* Notice of dismissal, Dec. 14, 1967.

3,329,984, R. M. Akers, LOADING DOCK RAMP ASSEMBLY, **filed** Nov. 3, 1967, D.C., E.D. Wis. (Milwaukee), Doc. 67–C–361, *Robert M. Akers, doing business as R. M. Akers Mfg. Company* v. *American Dockbridge, Inc.*

3,340,750, R. D. Noorlun, CAR DOOR OPENING DEVICE, **filed** Dec. 4, 1967, D.C. Minn. (St. Paul), Doc. 3–67–318C, *R. D. Noorlun and W. J. Lievers, doing business as Car Opening Device Company* v. *Richard D. Eide.*

REISSUES

APRIL 16, 1968

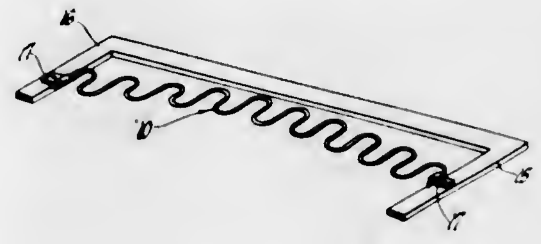
Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

26,373
SINUOUS SPRING STRIP

Henry Hopkes, Jr., Grosse Pointe Park, Mich., assignor, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware

Original No. 3,244,414, dated Apr. 5, 1966, Ser. No. 407,072, Oct. 28, 1964, which is a continuation of Ser. No. 166,733, Dec. 21, 1961, which is a continuation-in-part of Ser. No. 721,601, Mar. 14, 1958. Application for reissue Sept. 8, 1967, Ser. No. 669,986

12 Claims. (Cl. 267—110)



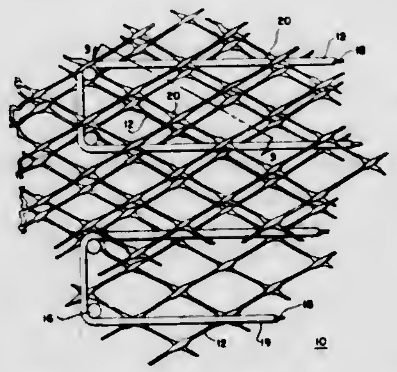
1. A sinous spring strip made from wire bent back and forth to have oppositely facing edge loops interconnected by straight portions therebetween at the central part of the strip, the radius of the loops being the same and being substantially equal to the length of the straight portions which are approximately 1 inch in length with the overall width of the strip being approximately 3 inches, the gauge of wire, when the spring strip is employed in a seat cushion being approximately 8 gauge and, when employed in a back cushion, being approximately 11 gauge.

26,374
METHOD OF BONDING INSULATED HEATING WIRE TO SPACED STRANDS OF THERMOPLASTIC MATERIAL

Virgil R. Beery, Centerville, Iowa, assignor to Wiegand Company, Pittsburgh, Pa., a corporation of Pennsylvania

Original No. 3,239,401, dated Mar. 8, 1966, Ser. No. 425,102, Dec. 18, 1964, which is a division of Ser. No. 90,354, Feb. 20, 1961, now Patent No. 3,193,664, dated July 6, 1965. Application for reissue Mar. 6, 1967, Ser. No. 626,352

10 Claims. (Cl. 156—179)



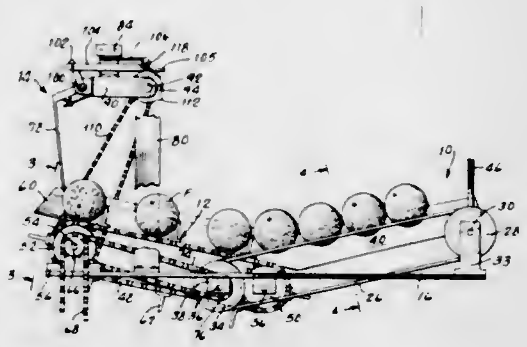
The method of making an electric heating mat wherein formed insulated heating wire and a plurality of spaced strands of flexible thermoplastic material are placed in face-to-face engagement, and heat is utilized to bond the two at places of interengagement.

26,375
FRUIT COUNTER WITH IMPROVED CONVEYOR AND CAMMED SWITCH OPERATOR

Herbert M. McLearn, Maitland, Fla., assignor, by mesne assignments, to American Machinery Corporation, a corporation of Florida

Original No. 3,297,248, dated Jan. 10, 1967, Ser. No. 481,368, Aug. 20, 1965. Application for reissue Aug. 3, 1967, Ser. No. 663,460

10 Claims. (Cl. 235—98)



10. In a machine for delivering and counting generally spherical objects, a plurality of downwardly inclined delivery conveyors arranged in a common inclined plane, an upwardly inclined discharge conveyor intersecting each of said delivery conveyors, said discharge conveyors being arranged in a common inclined plane, equally spaced means on said discharge conveyors for engaging and advancing objects, said last named means on respective discharge conveyors being staggered in respect to each other whereby said conveyors are conditioned to discharge objects in serial order, a counter, an electric switch associated with each discharge conveyor, object operated means in the discharge path of each of said discharge conveyors adapted to precondition its associated switch for operation, separate rotary means associated with each of said switches adapted for the sequential closure of said switches when preconditioned, and common drive means for said conveyors and said switch closure means whereby said conveyors and said switch closure means are driven in synchronism.

26,376
PRODUCTION OF HOT-PRESSED THREE-DIMENSIONAL FIBER ARTICLES

Philip E. Caron and Gene A. Grove, Longview, Wash., assignors to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington

Original No. 3,261,898, dated July 19, 1966, Ser. No. 162,440, Dec. 27, 1961. Application for reissue Mar. 20, 1967, Ser. No. 626,360

3 Claims. (Cl. 264—119)

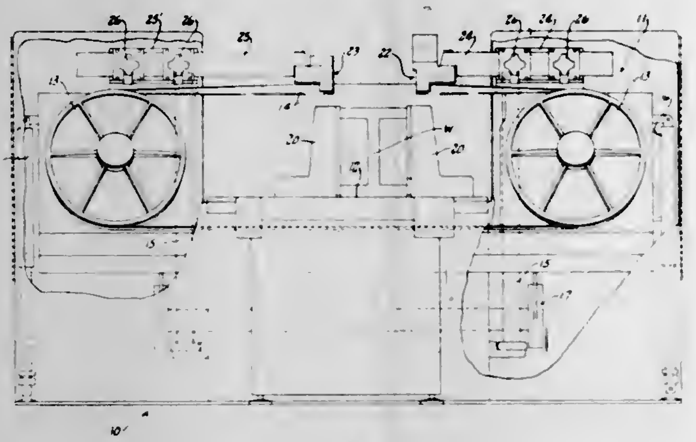
A method of manufacturing a three-dimensional article by felting and compressing a mat containing 10 to 35% by weight of a thermosetting-thermoplastic resin mixture and the remainder wood fiber, cutting V-shaped recesses in the outer periphery of the mat, steaming the mat, and forming, heating and compressing the mat in a die so that *the edges of the V-cuts overlap and fuse to form the corners of the three-dimensional article.*

26,377
FEED CONTROL FOR BAND SAWS

Charles H. Whitmore, Savage, Minn., assignor to Continental Machines, Inc., Savage, Minn., a corporation of Minnesota

Original No. 3,077,132, dated Feb. 12, 1963, Ser. No. 8,681, Feb. 15, 1960. Reissue No. 25,901, dated Nov. 9, 1965, Ser. No. 436,405, Feb. 10, 1965. This application for reissue Oct. 24, 1966, Ser. No. 595,552

23 Claims. (Cl. 83—201.06)



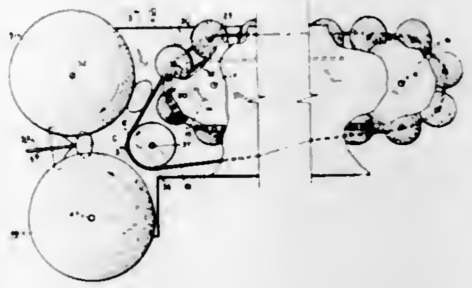
15. In a machine tool of the type having a carrier with a cutting tool thereon, and having regulatable force applying means for effecting relative feeding motion between the tool carrier and a workpiece being cut by the tool, characterized by the following: that the cutting tool is mounted for limited back and forth movement with respect to the carrier along the path of relative feeding motion; that the cutting tool is biased to resist such relative movement in one direction with a force that opposes and balances reaction force on the cutting tool when the latter is engaged with a work piece under a feed force of a predetermined and desired value, **and which biasing force is derived in part from a fluid pressure source that is unaffected by changes in the position of the cutting tool with respect to the carrier;** *and that control means connected with the cutting tool senses its position with respect to the carrier and cooperates with the force applying means to regulate the force by which said relative feeding motion is effected in accordance with the position of the cutting tool with respect to the carrier, so as to increase said last named force in response to any slight bias-produced motion of the cutting tool with respect to the carrier whenever feed force drops below said predetermined value, and to decrease the force under which relative feeding motion is effected in response to motion of the cutting tool with respect to the carrier under the increasing reaction force that restores said balance between reaction and biasing forces.*

26,378
SEED POTATO CUTTER

Soren Eskel Peterson, 1649 West 3300 South, Salt Lake City, Utah 84119

Original No. 3,291,176, dated Dec. 13, 1966, Ser. No. 355,386, Mar. 27, 1964. Application for reissue Feb. 20, 1967, Ser. No. 626,642

5 Claims. (Cl. 146—164)



This invention comprises an improved potato seed cutting machine where an endless procession of potato-pocket-defining, traveling rolls is designed to advance potatoes positioned thereon, to a friction roller pair, to be advanced by the same through a stationary cutting blade which cuts in horizontal and transverse directions simultaneously.

In one form of the invention a "third roll" is supplied with endless straps which revolve with the conveyor means and further constrain the advancement of potatoes, by their being carried on their underside by the straps to desired positions between the pressure rollers for proper cutting.

The invention includes the feature of positioning beneath the integral, longitudinal and transverse cutting means the general bed of travel of the conveyor, so that additional conveying structure is not needed to urge the potatoes through the pressure rollers.

PLANT PATENTS

GRANTED APRIL 16, 1968

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,803
APPLE TREE

Carl R. Gibson, Evans City, Pa., assignor to Hill Top Orchards and Nurseries, Inc., Hartford, Mich.

Filed Jan. 6, 1967, Ser. No. 607,866

1 Claim. (Cl. Plt.—35)

1. A new and distinct variety of apple tree of the yellow skinned and white fleshed fruit class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a vigorous, uniform, very healthy and winter-hardy habit of growth, with proven ability to survive without injury cold tempertures as low as —25° F., foliage having its upper leaf surface more rugose and distinctly more pubescence on the under surface, with more prominent veins, but being less deeply incised and with more distinct apexes than the foliage of "Golden Delicious," a more consistent annular fruit bearing habit than "Golden Delicious" which tends to be biannual, a stronger tendency to a spur type of growth, fruit resembling that of "Golden Delicious" but being larger, longer and more conic in shape, with more pronounced lobes, firmer flesh, and a tendency of the skin to acquire a more pronounced red blush than "Golden Delicious," and a marked resistance to and freedom from russet under relatively high humid conditions which prevail in the eastern half of the United States, with a consequent commercial capability of greater fresh market utilization of the fruit.

2,804
ROSE PLANT

Anthony Perry, Garden Grove, Calif., assignor to Henry A. Conklin, McFarland, Calif.

Filed Dec. 5, 1966, Ser. No. 599,330

1 Claim. (Cl. Plt.—20)

1. The new and distinct variety of rose plant of the class designated as hybrid grandiflora, substantially as herein shown and described, characterized particularly as to novelty by its very colorful, globular, highcentered medium sized blooms that range in color from Scarlet to Ruby Red, said blooms borne from three to four on a stem, by the spicy fragrance of the flowers, and by the medium height, vigorous, upright, well branched growth habit of the plant.

2,805
PYRACANTHA PLANT

William E. Silva, Sebastopol, Calif., assignor to Select Nurseries, Brea, Calif., a corporation of California

Filed Sept. 8, 1966, Ser. No. 578,105

1 Claim. (Cl. Plt.—54)

1. The new and distinct variety of hybrid shrub substantially as herein shown and described, characterized particularly as to novelty by its profuse abundance of rose red flowers which open up white with red spots, turn rose pink shortly after opening, and become rose red when fully opened; by its profuse abundance of red berries in the winter; by its very upright growth; and by its long, narrow, dark green leaves.

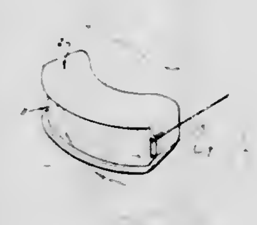
PATENTS

GRANTED APRIL 16, 1968

GENERAL AND MECHANICAL

3,377,626
INSULATED GOGGLES

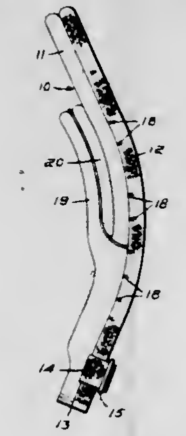
Robert E. Smith, 908 E St., San Rafael, Calif. 94901
Filed Apr. 1, 1966, Ser. No. 539,458
6 Claims. (Cl. 2—14)



Goggles formed with a sealed rigid lens structure having spaced lenses between which is contained a sealed atmosphere. The lens structure is held away from the face with a shell structure which permits controlled slow exchange of atmosphere from within the shell to ambient.

3,377,627
METHOD OF MAKING A CURVED PALM HAND COVERING

Herman Madnick, Framingham, Mass., assignor to the United States of America as represented by the Secretary of the Army
Filed Mar. 15, 1967, Ser. No. 624,658
4 Claims. (Cl. 2—169)

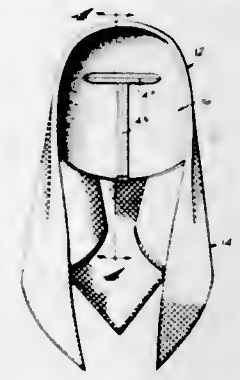


Method of making a sewn hand covering having a curvature substantially corresponding to that of the hand at rest by forming the back portion thereof longer than the front portion and shirring the edges of the back portion along a portion of the sides thereof to make its length correspond with that of the front portion, then joining the front and back portions by stitching them together along their peripheral edges.

3,377,628
HEADPIECE

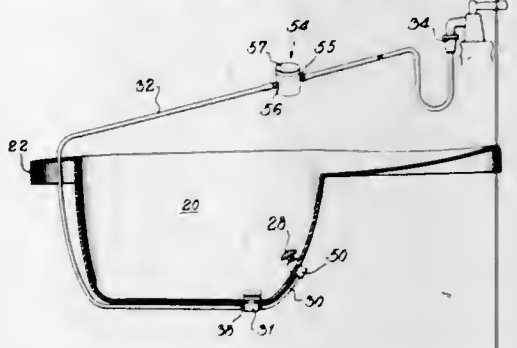
Jorge R. Le Sante, 181 SE. 8th Ave., Hialeah, Fla. 33010
Filed Feb. 9, 1966, Ser. No. 526,288
4 Claims. (Cl. 2—207)

1. A headpiece comprising: a triangular shaped pliable sheet of cloth material, the height being at least one-half the base length and said base length having a length which is adapted to encompass the periphery of the face of a normal sized head of a wearer, the marginal edges of said sheet being folded and stitched thereto forming a smooth peripheral edge about said sheet, a generally cup-shaped headpiece, said headpiece comprising a planer foam panel having a high friction producing force when in contact with the human hair to hold it in position on the head of a wearer, said panel having parallel opposing side and base edges and having right angles between each base and side edge, said panel having a base length twice the side length, one base edge being secured along its length along approximately the medial one-third of an edge of the base edge of the triangular shaped pliable sheet, said panel having a cutout formed in the opposing base edge with the center line of the cutout between the opposing edges thereof being coincident with the center line of the panel between the base edges, said cutout having side edges parallel to the opposing side edges of said planar foam panel and a base edge parallel to the base edges of said planar foam panel, the intersections of said parallel opposing side edges of the panel with said one base edge of said planar foam panel and the intersections of said side edges of said cutout with the base edge of said cutout defining first and second diagonal fold zones therebetween, said planar foam panel folded along said first and second diagonal fold zones with the edges of the opposing base edge being in abutting relationship, with the side edges of said cutout being aligned with the base edge of said cutout, the abutting edges of said opposing base edge being secured together and the side edges of the cutout being secured to said base edge of the cutout forming said generally cup-shaped headpiece.



3,377,629
BIDET ATTACHMENTS

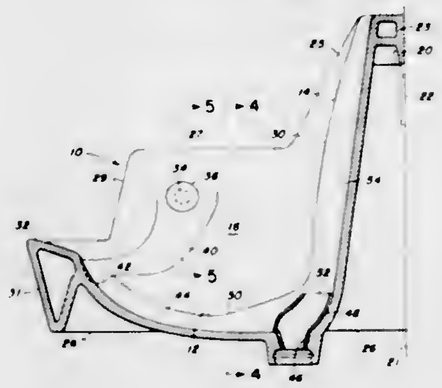
Georgia Di Pasquale, 205 Birchwood Road, New Milford, N.J. 07646
Filed Oct. 12, 1965, Ser. No. 495,036
3 Claims. (Cl. 4—6)



Bidet basin equipped with a screw fitting for holding spray heads or other special discharge devices, with a medicament holder interposed in a supply line to the basin for conditioning the spray or other flow to the screw fitting and a valve for controlling flows.

3,377,630
PERINEAL BATH

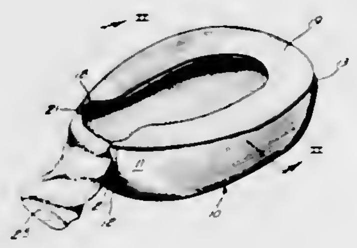
E. Peter Robare, Louisville, Ky., assignor to American Standard Inc., a corporation of Delaware
Filed Oct. 23, 1965, Ser. No. 503,114
11 Claims. (Cl. 4—6)

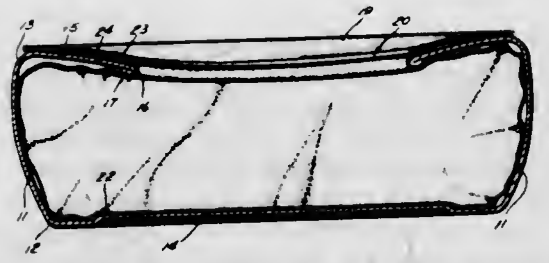


The invention relates to baths which are used for bathing the perineal area of the body. The bath consists primarily of a chair-like water receptor having a bottom wall, back wall, and two side walls. A water groove is provided in the bottom wall positioned approximately along the center line of the bottom wall extending from proximate the front edge of the bottom wall to the rear portion of the bottom wall. An inlet is provided in an upper portion of one of the side walls and an outlet is provided in the groove proximate the juncture between the bottom wall and the back wall.

3,377,631
DISPOSABLE BEDPAN LINER

William G. Whitney, Evanston, Ill., assignor to W. G. Whitney Corporation, Evanston, Ill., a corporation of Illinois
Filed Oct. 22, 1965, Ser. No. 500,654
8 Claims. (Cl. 4—112)

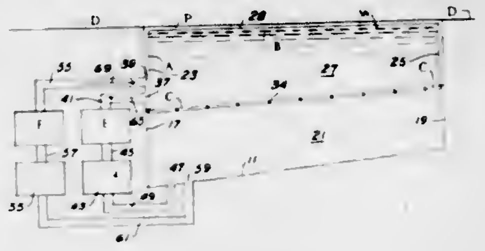


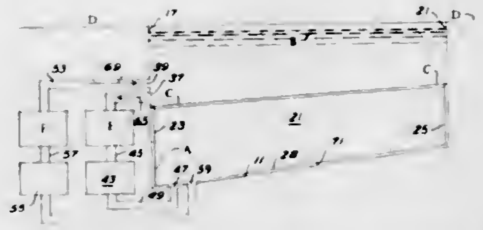


A disposable bedpan liner designed to be used in conjunction with a support and including a collar adapted to seat on a supporting flange and a thin, pliant, impervious bag connected to the collar and adapted to completely line the interior of the support. The method of manufacturing such a disposable bedpan liner from card stock and two joined lobate sections of thin impervious plastic film is also disclosed.

3,377,632
WATER COVER AND CLEANING SYSTEM FOR SWIM POOLS

Elwin Laurence Peterson, 5619 Hollywood Blvd., Los Angeles, Calif. 90028
Filed Sept. 20, 1965, Ser. No. 488,407
8 Claims. (Cl. 4—172)



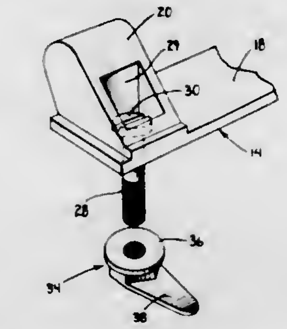


A swimming pool cover which includes a flexible water-impermeable side wall shaped to complement the configuration of the upper portion of the pool side wall and an end wall connected at its periphery to the upper end of said side wall. The bottom end of the side wall is affixed to the side wall of the pool in a plane intermediate the top and bottom of the pool. When the cover is in its covering position, the top wall thereof rests on the surface of the pool water and its side wall lines the upper portion of the side wall of the pool thereby co-operating with the lower portion of the pool to define an envelope for the pool water. When the pool is to be used for swimming, the top wall of the cover is positioned near the bottom wall of the pool with the pool water thereabove.

The above described positioning of the cover from its covering position to its stored position, in the lower portion of the pool may be accomplished by providing pumping means for pumping the pool water from one side of the cover to the other side.

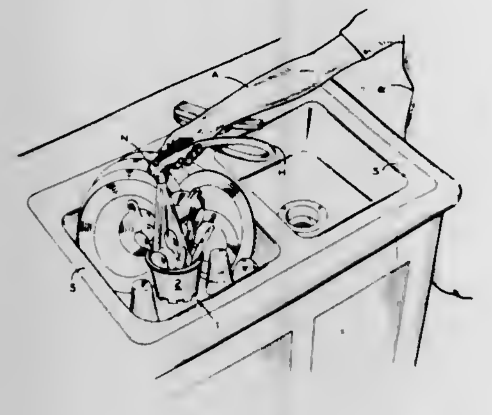
3,377,633
MEANS FOR MOUNTING TOILET SEAT AND LID HINGE POST

Vernon L. Waldon, Crawfordsville, Ind., assignor to Ingress Manufacturing Co., Inc., Crawfordsville, Ind., a corporation of Indiana
Filed Apr. 1, 1965, Ser. No. 444,581
1 Claim. (Cl. 4—236)



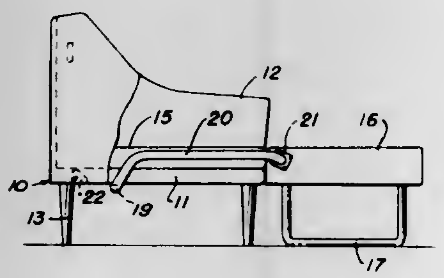
A bracket means for mounting a hinge bracket on a toilet bowl consisting of a mounting bracket means which extends laterally across the rear portion of a toilet bowl and carries at each end an upraised ear or boss which is adapted to hingedly carry the toilet lid and seat, with the screwhead or nut being concealed.

3,377,634
DRAIN BASKET
Cranston Patterson, 907 Heights Blvd.,
Houston, Tex. 77008
Continuation-in-part of application Ser. No. 467,652, June 28, 1965. This application Feb. 14, 1967, Ser. No. 615,939
5 Claims. (Cl. 4—290)



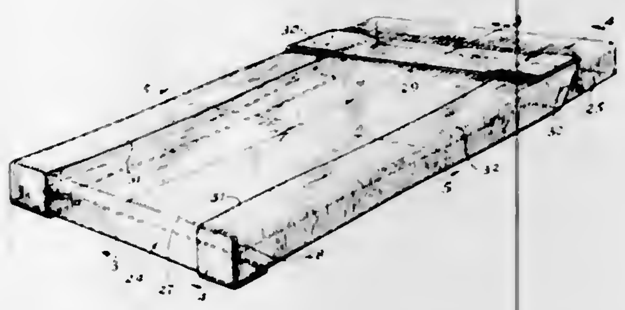
A drain basket for kitchenware which rests on the bottom of a kitchen sink and supports flatware disposed vertically between the basket and a sidewall of the sink while cutlery items are supported within the basket. Consists of an upstanding open top cup having a sidewall and a bottom wall, and a supporting structure depending from the bottom wall and into the drain of the sink. Radially resilient spring fingers on this supporting structure contact the wall of the sink drain to furnish the support needed to prevent toppling of the cup. Both the bottom wall and sidewall of the cup are provided with drainage openings, those in the sidewall being formed from its lower end to leave supporting feet between the openings.

3,377,635
COMBINATION FOLDABLE DOUBLE BED AND SOFA
Alfred G. Schindler, 1281 30th St.,
Oakland, Calif. 94608
Filed Aug. 1, 1966, Ser. No. 574,887
2 Claims. (Cl. 5—45)



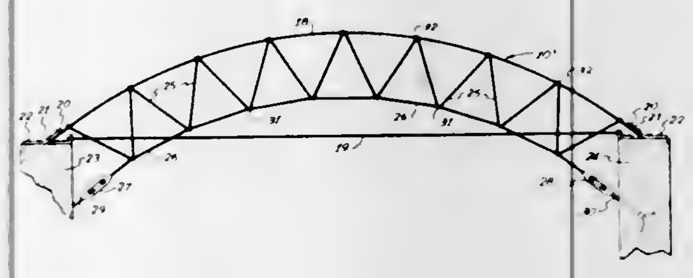
The combined sofa and double bed has a frame supporting a moveable back member and horizontal cushion. Similar link members are arranged at the ends of the back member. The lower portion of each of the link members is bent to provide a forwardly extending leg. The free end of each leg is pivotally connected to the frame member and the upper end of each link member is pivotally connected to the upper end portion of the back member. The link is sufficiently long to control the movement of the back member from an upright position to a horizontal position forwardly of and alongside the cushion, and legs are pivotally carried by the back member to swing outwardly from the back thereof and support the back member above a floor.

3,377,636
BED COVERING
Alexander N. Di Addario, 8888 The Fairways,
Clarence, N.Y. 14031
Filed Mar. 3, 1966, Ser. No. 531,425
3 Claims. (Cl. 5—334)



A bed sheet or the like having a main body portion and opposite side and lower end extensions with the extensions being separated along cutout lines and the main body being provided with longitudinally extending fold guide lines so that the bed covering may take on a neat appearance while allowing billowing thereof to receive the sleeper's body.

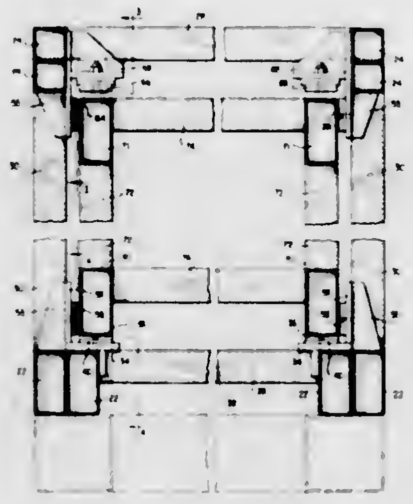
3,377,637
PRE-STRESSED TRUSS
Luis Ramirez Zamorano, San Borja 1358,
Mexico City 13, Mexico
Filed Aug. 26, 1965, Ser. No. 482,722
Claims priority, application Mexico, June 10, 1965, 83,024
6 Claims. (Cl. 14—24)



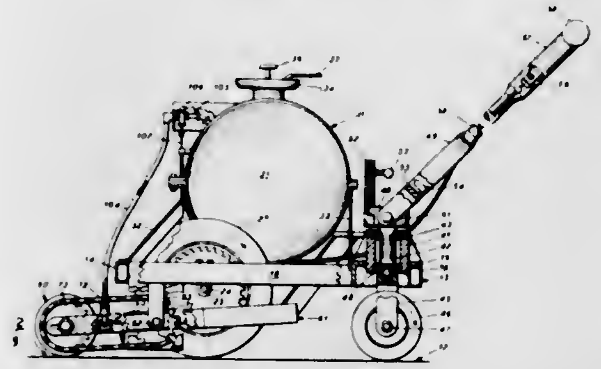
A truss having an upper arched member, a lower tensioning member and a plurality of diagonal reinforcing members forming a plurality of triangles between said upper and said lower members, the lower tensioning member being connected to the lower apex ends of the triangles and being provided with tensioning devices to prestress the truss so as to tension all the diagonal members with such a tensile force that said diagonal members will only work in tension under the design load applied to said truss. The truss is support on a pair of columns or pillars and it can be provided with a tie rod connected to the columns in order to avoid increase in the spacing thereof under a load applied to the arched member, the tensioning member being anchored in said pillars. The tensioning devices can be turnbuckles inserted adjacent each end of said lower tensioning member, and anchored to the pillars.

3,377,638
CONVEYANCE LOADER
Andrew G. Selpos, Miami, Fla., assignor to Wollard Aircraft Service Equipment Inc., a corporation of Florida
Filed Sept. 13, 1965, Ser. No. 486,659
1 Claim. (Cl. 14—71)

A conveyance loader having telescoping passageway sections with contact between the telescoping passageway sections being through the intermediary of antifriction bearing members which are designed to coact with the principal frame members of the telescoped section, the area of contact of the antifriction bearing members and the frame members being as small as practicable consistent with adequate distribution of unit forces within the nondeforming strength of the framing members.



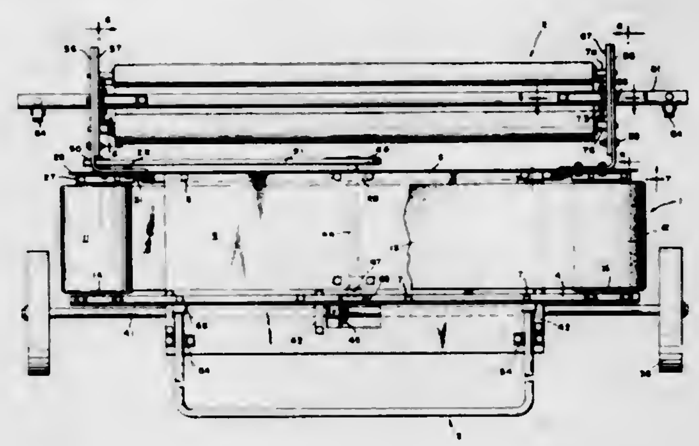
3,377,639
PORTABLE FLOOR TREATMENT MACHINE
Ross S. Stevenson, Oakland, Calif.
(4218 Graham St., Pleasanton, Calif. 94566)
Filed June 14, 1965, Ser. No. 463,561
6 Claims. (Cl. 15—98)



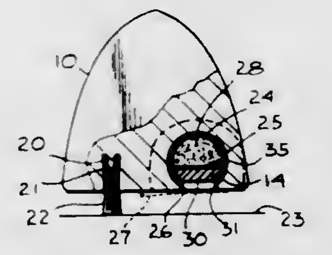
A floor treating machine having a rotary floor engaging applicator. The applicator is generally cylindrical and rotatable about a horizontal axis parallel to the floor surface being treated. The applicator may be driven by movement of the machine or by a self-contained motor. The applicator and its drive is split to provide two matching cylinders that may be independently driven.

3,377,640
CROSSLANE BUFFING MACHINE
Curtis C. Rudolph, Poulsbo, Wash., assignor of one-half to James C. Burk, Poulsbo, Wash.
Filed Feb. 1, 1965, Ser. No. 429,417
8 Claims. (Cl. 15—99)

A crosslane buffing machine for buffing bowling lanes employs a transverse endless buffing belt to both transversely buff bowling lanes and to evenly redistribute the oil dressing across bowling lanes.

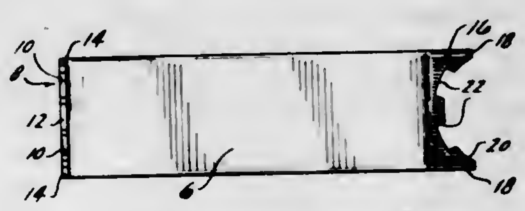


3,377,641
MAGNETIC BROOM
Robert J. McGregor, Los Angeles, Calif.
(P.O. Box 397, Malibu, Calif. 90265)
Filed Apr. 28, 1965, Ser. No. 451,423
15 Claims. (Cl. 15—105)



A bristle and magnetic sweeper is provided having a handle member for retaining a fixed row of bristles and a rotatable magnet in spaced parallel relationship to the brush. A pair of knobs are provided for rotating the magnet to selectively attract and release metal particles collected by the magnetic forces.

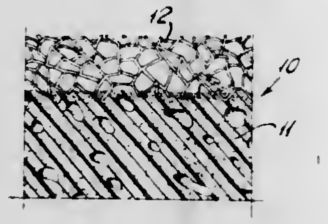
3,377,642
TOOL FOR CLEANING THE SPLINES OF TELESCOPICALLY EXTENSIBLE SHAFTS
Bennett B. Reak, West Bend, Wis., assignor to Weasler Engineering & Mfg. Co., Inc., West Bend, Wis., a corporation of Wisconsin
Filed Oct. 21, 1965, Ser. No. 499,668
2 Claims. (Cl. 15—105)



A flat plate or strap serving as a handle has convex and concave tool portions at its ends for respectively cleaning male and female splines. Each tool portion is provided with alternating teeth and inter-tooth notches complementary to the spline surface to be cleaned and having generally parallel widely spaced side edges and arcuately curved terminal edges.

3,377,643
WIPING DEVICE

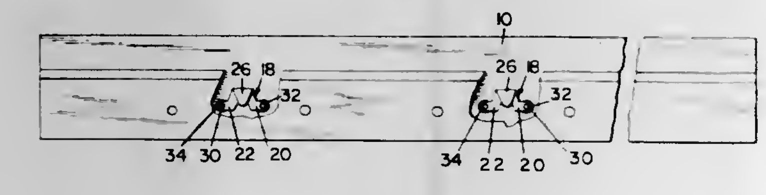
James Teng, Cleveland, and William Kendall, Mentor-on-the-Lake, Ohio, assignors to Nylonge Corporation, Cleveland, Ohio, a corporation of Ohio
Continuation-in-part of application Ser. No. 458,566, May 25, 1965. This application Feb. 16, 1966, Ser. No. 527,918
11 Claims. (Cl. 15—118)



A wiping device includes a regenerated cellulose sponge having partially imbedded in a face thereof a flaccid, resilient, porous open pore preferably reticulated layer of polyurethane of a thickness of less than ¼ inch. The pore size and thickness of the polyurethane layer are such that under normal compression of the cleaning device the polyurethane layer functions as a squeegee to conduct liquid from the wiped surface to the regenerated cellulose sponge which rapidly absorbs the liquid, and inhibits the regenerated cellulose sponge from contacting the wiped surface.

3,377,644
DOCTOR BLADES HAVING SPRING BUTTONS

Daniel M. Budzinski, Auburn, and John E. Grenier, Worcester, Mass., assignors to Lodding Engineering Corporation, Auburn, Mass., a corporation of Massachusetts
Filed Dec. 6, 1965, Ser. No. 511,855
7 Claims. (Cl. 15—256.5)

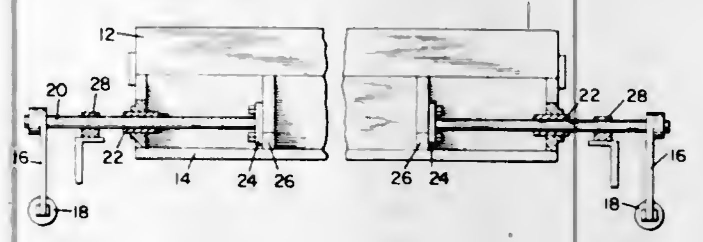


A doctor blade having spring buttons attached thereto in mutally spaced relation along the length thereof, wherein each spring button comprises a flat member riveted or welded to the blade at a side surface thereof and each spring button comprising a generally flat main body portion and a reversely extending free-ended spring portion extending at an angle thereto, togethei with raised rigid edge portions on the flat main body portion, the resilient member maintaining the blade in position in its holder and the raised edge portions being effective to clean out fuzz and lint from the blade holder upon a slight longitudinal motion of the blade holder.

3,377,645
DOCTOR SUPPORT

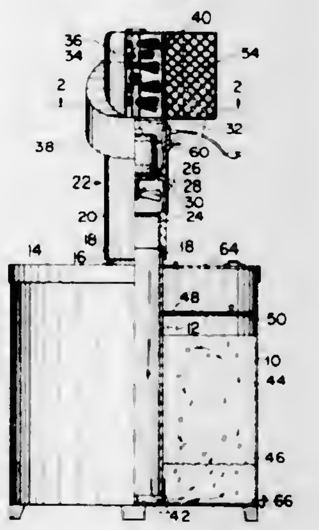
William P. Dapses, Salem, Oreg., assignor to Lodding Engineering Corporation, Auburn, Mass., a corporation of Massachusetts
Filed Aug. 4, 1965, Ser. No. 477,200
2 Claims. (Cl. 15—256.51)

A doctor supporting means for a doctor blade wherein the doctor blade support is journaled on bearings at the ends thereof but the effective supports are inwardly of the ends, i.e., intermediate the ends of the support, to prevent deflection of the support and the doctor blade itself when it is applied with pressure against the roll to be doctored.



3,377,646
CLEANING DEVICE FOR HAIRBRUSHES, COMBS AND THE LIKE

William Von Werder, Langley Park, Md., assignor to Helen Ozella Von Werder, El Reno, Okla.
Filed July 9, 1965, Ser. No. 470,798
4 Claims. (Cl. 15—311)

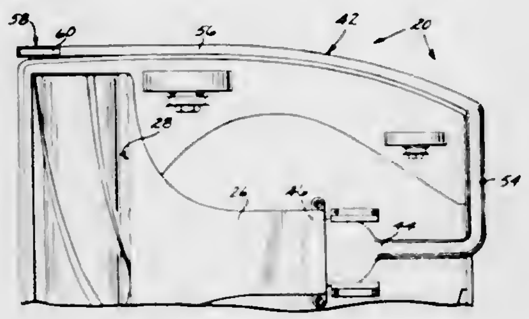


A cylindrical container, having a central upwardly projecting vertical tube, has a motor interposed in the upper portion of the central tube. The motor drives a fan by one end of its shaft and bristles at the other end of the shaft within the upper end portion of the central tube. The fan communicates with a vacuum chamber extending around the tube from the fan to the brush chamber. The fan also provides a current of air downwardly through the central tube which agitates cleaning fluid around articles placed on a rack in the bottom portion of the container.

3,377,647
CRACK-CLEANING SUCTION ATTACHMENT FOR A VACUUM CLEANER OF THE UPRIGHT TYPE HAVING AN ON-THE-FLOOR, DOWNWARDLY DIRECTED, MAIN SUCTION AND CLEANING NOZZLE

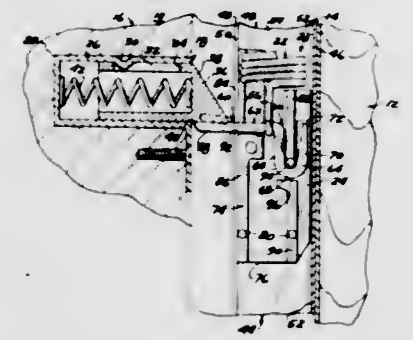
Robert D. Hill, Apt. 2, 19100 Parthenia St., Northridge, Calif., 91324, and Andrew J. Hosmer, Apt. 9, 18346 Collins, Tarzana, Calif. 91356
Filed Mar. 1, 1966, Ser. No. 531,004
9 Claims. (Cl. 15—337)

The specification discloses a crack-cleaning suction attachment for an upright type of vacuum cleaner which comprises an auxiliary suction duct means having a rear connection end provided with a connection and coupling portion cooperable for connection and coupling suction attachment with respect to the internal suction system of the vacuum cleaner, and having a forward remote operative end provided with a suction tip means and means removably mounting it at one side of the main suction head of the vacuum cleaner with a slot defined by the suction tip means being downwardly directed at a location as to lie immediately above the level of the floor underlying the vacuum cleaner when it is in an operative position for movement along an edge crack where such an underlying floor joins an upstanding wall.



3,377,648
SELF-ENGAGING, AUTOMATICALLY-RELEASING SASH BALANCE LOCKING DEVICE

Willard H. Bloom, Oak Harbor, Ohio, assignor to Formetal, Inc., Oak Harbor, Ohio, a corporation of Ohio
Filed Mar. 1, 1966, Ser. No. 530,957
5 Claims. (Cl. 16—197)

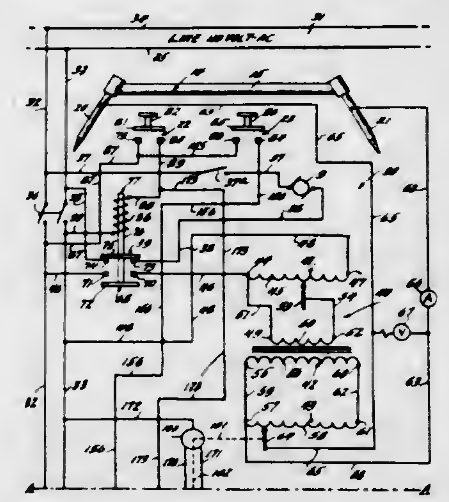


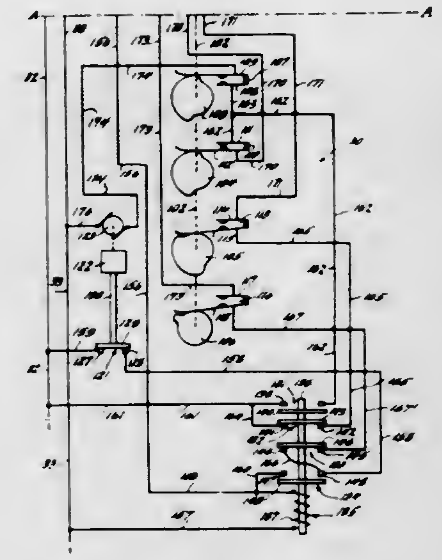
This self-engaging automatically-releasing sash balance locking device for a resilient sash balancing member anchored to and housed within a longitudinally-slotted casing adapted to be secured to the window frame of a removable sliding sash window installation contains but a single relatively moving locking part. The latter is directly connected to the sash balancing spring, thereby giving instant response as well as simplicity of construction. This locking device has a two-part slide block containing the locking part, thereby facilitating assembly operations during manufacture. The locking part consists of a hook-shaped locking lever with an L-shaped forward lock-operating arm, a U-shaped bend at the pivot location and an upwardly-directed rearward locking arm with a sharp-edged upper end portion which provides the locking effect by indenting the sash balance casing when the outer end of the forward arm of the lever is released by the withdrawal of the sash.

3,377,649
APPARATUS FOR ELECTRICALLY STUNNING ANIMALS PRIOR TO SLAUGHTERING

Richard W. Rains, Monkton, Md., assignor to Schluderberg-Kurdle Co., Inc., Baltimore, Md., a corporation of Maryland
Filed Mar. 6, 1967, Ser. No. 620,810
10 Claims. (Cl. 17—1)

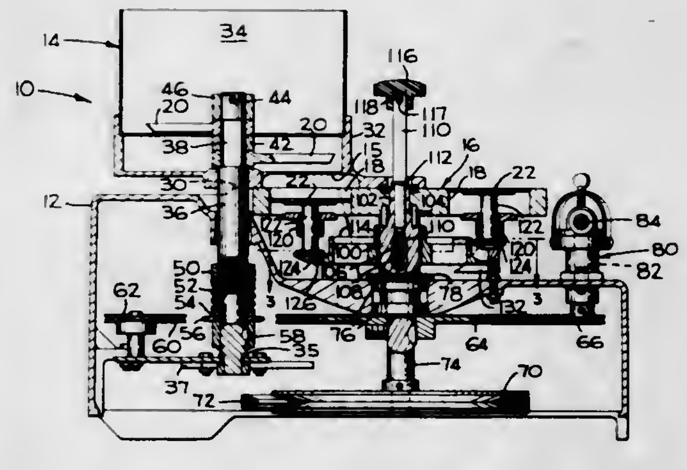
An apparatus for delivering successive animals to a slaughtering station, and for the electrically stunning thereof by applying a relatively low tranquilizing voltage thereto for an indefinite length of time, and then gradually increasing the low tranquilizing voltage to a relatively high stunning voltage which is maintained for a predetermined length of time and then gradually reduced and terminated.





3,377,650
FOOD MOLDING MACHINE

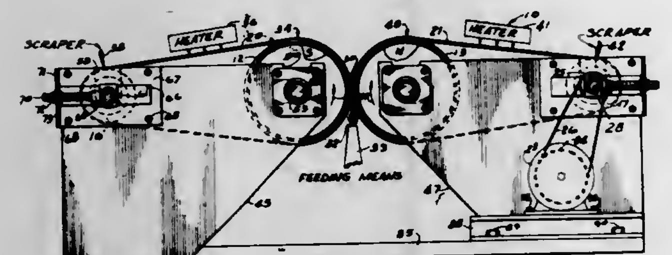
Eugene F. Felstehausen, Hoopeston, Ill., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed May 23, 1966, Ser. No. 552,009
5 Claims. (Cl. 17—32)



1. In a food molding machine including a rotatable driveshaft, a turret mounted upon said driveshaft and

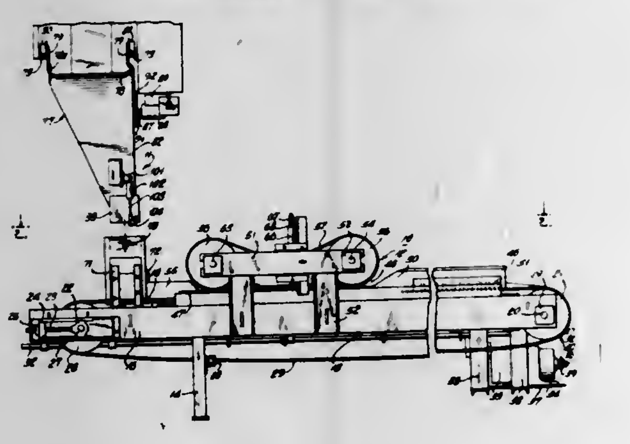
defining a plurality of filling pockets equidistantly spaced about the turning axis of said driveshaft, one end wall of each of said pockets being formed by a movable piston having a depending piston rod, the improvement comprising a circular cam plate circumscribing said driveshaft adjacent said turret in confronting relation to the ends of said piston rods, means defining a transverse aperture in said drive shaft, means defining an aperture in said cam plate in alignment with said driveshaft aperture, a cross pin mounted in said apertures so that the cam plate rotates with the turret and piston rods, and means defining a planar surface on said cam plate in supporting engagement with said piston rods to maintain the pistons at a uniform predetermined elevation within the filling pockets.

3,377,651
APPARATUS FOR MAKING MAGNETIC MATERIAL
James R. Ireland, R.R. 2, Smoke Road,
Valparaiso, Ind. 46383
Filed Nov. 16, 1964, Ser. No. 411,454
5 Claims. (Cl. 18—1)



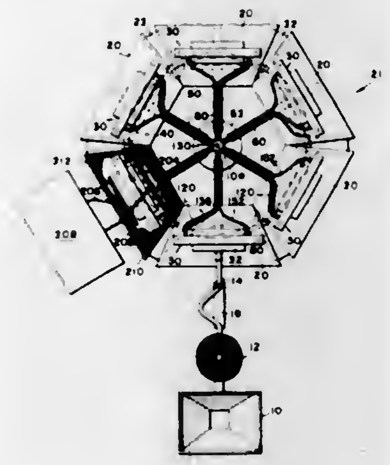
Ferrite crystals and crystal fragments are removed from a slurry containing crystals, crystal fragments and fluid by feeding said slurry upwardly into a nip region formed between a pair of magnetic rollers or pulleys having parallel axes. Conveyors passing around the magnetic rollers convey the magnetic material attracted to the rollers or pulleys through the nip region wherein the magnetic material is magnetically oriented. The conveyors then convey said material away from the nip region for further processing.

3,377,652
APPARATUS FOR THE PRODUCTION OF ARTIFICIAL SPONGE
Alfred Politzer, Fairview Park, and James Teng and Frank Pekarek, Cleveland, and Alvin B. Shockley, Berea, Ohio, assignors to Nylonge Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 24, 1964, Ser. No. 399,050
11 Claims. (Cl. 18—4)



1. An apparatus for the continuous production of artificial sponge comprising a longitudinally extending first endless band having an upper run advancing from a trailing to a leading end, a longitudinally extending second endless band disposed along the trailing section of said first band and having a lower run of lesser length than disposed above and substantially parallel to said first band upper run and advancing along said lower run at substantially the same speed and in the same direction as said first band upper run, said first band being substantially flat along said upper run coextensive with said second band lower run and being transversely upwardly crowned along at least part of said upper run forward of said second band, means for depositing a layer of a sponge forming mass on said first band upper run at a point trailing said second band, and a pair of electrodes extending longitudinally along the side borders of said first band upper run and said second band lower run and forwardly beyond the leading end of said second band and connected to a source of current.

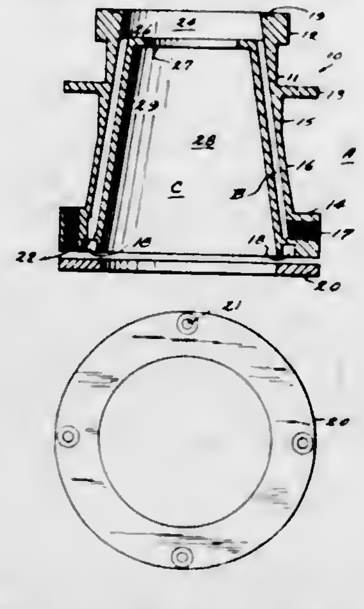
3,377,653
APPARATUS FOR MAKING FOAMED PLASTIC ARTICLES
Robert B. Buonaiuto, 3 McLean Parkway,
Ludlow, Mass. 01056
Filed Nov. 10, 1964, Ser. No. 410,247
2 Claims. (Cl. 18—5)



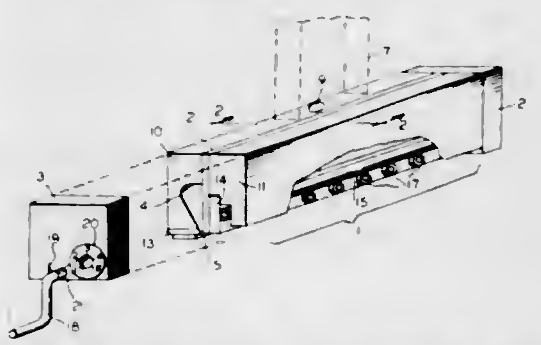
Apparatus for the production of foamed plastic articles by the use of dielectric heating means and having automatic means for transferring a mold through a loading station, a heating station, a cooling station and an ejection station.

3,377,654
ONE-PIECE MOLD CAVITY ELEMENT FOR PRODUCING EXPANDED POLYSTYRENE DRINKING CUP
Marcel Olivier Albert, St. Leonard, Md.
(% Polycup, 3221 Colvin St., Alexandria, Va. 22314)
Filed May 9, 1966, Ser. No. 548,460
5 Claims. (Cl. 18—5)

1. A one-piece mold cavity for use in producing an expanded polystyrene cup by injection molding into a space between the cavity element and a cup-shaped mold core element; said one-piece mold cavity element having an inner molding element, a central fluid chamber element, and an outer work actuating element; said inner, central and outer elements being formed from a single casting with the casting having a generally tapered, frusto conical exterior and interior shapes, a tapered counterbore at the top end thereof, leading to a throughbore that opens into said inner element, the frusto conical exterior of said outer element having at the top a circular flange enlargement and therebelow, another flange enlargement of greater diameter and less thickness, and at the bottom of the exterior, a further flange enlargement of greater thickness and greater diameter than the two upper flange enlargements, the lowermost flange enlargement having vertical openings therein for cooperation with a securing means to secure the mold cavity element to a drain opening closing flange, and at least one opening in said lowermost flange enlargement for the entry of fluids such as air, water and steam, and a drain opening for said fluids, the counterbored end of said outer element being shaped for engagement with a mold filling and closing member; said inner molding surface being generally smooth with an upwardly and inwardly sloping taper, terminating at a circular horizontally disposed flange and defining therewith a frusto-conical shape, said circular flange being open in the center thereof for cooperation with a mold filling and closing element adapted to shape the outside bottom of the cup, said inner molding surface terminating at a first frusto-conical shaped counterbore that is only slightly larger in diameter than said inner molding surface, and relatively short in length to define a mouth engaging lip on the cup, and a bottom flange adjacent said inner molding surface and slightly larger in diameter therefrom, for snug engagement with the mold core element; said central fluid chamber area comprising a great plurality of long circular bore holes in the otherwise solid material, there being at least a sufficient number of bore holes to provide large enough surface area to permit rapid heating and cooling of said inner molding surface by conduction from fluids in the bore holes, said bore holes being open at the upper end to said tapered counterbore and said bore holes being open at the lower end to the drain opening and fluid entry port of the lower-most flange.

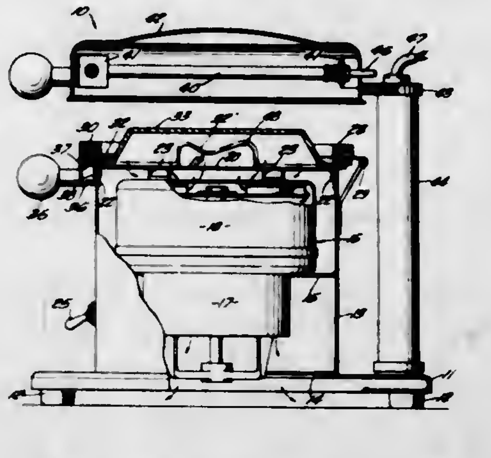


3,377,655
EXTRUSION DIE
Thaddeus W. Kucharski and Frederick H. Thomas, Rochester, N.Y., and Vernon K. Quarve, Minneapolis, Minn., assignors, by direct and mesne assignments, to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Mar. 2, 1966, Ser. No. 531,117
3 Claims. (Cl. 18—12)



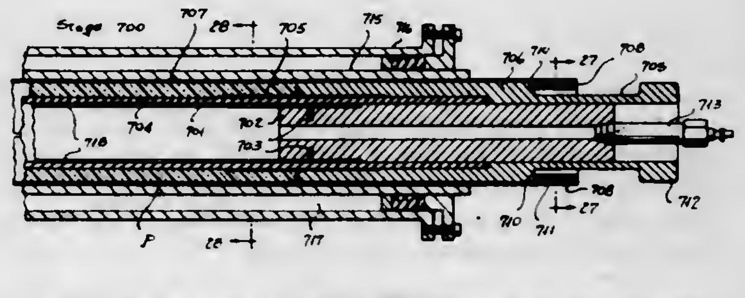
Extrusion die assembly for continuously extruding a sheet of molten thermoplastic material having at least one flexible die lip held in extruding position by a rotatable cam means having at least two radially different cam positions so as to provide different degrees of flexure, one of said cam positions being such that the die opening is large enough to permit removal of solids which interfere with the extrusion of a smooth sheet.

3,377,656
SELF-CONTAINED VACUUM FORMING APPARATUS
Carl V. Tilden, 31176 Ceanothus Drive, Box 591,
South Laguna, Calif. 92677
Filed May 23, 1966, Ser. No. 552,180
4 Claims. (Cl. 18—19)



A lightweight readily portable self-contained vacuum forming apparatus for use on a bench top. A unitary suction assembly concealed within the open-ended apparatus housing is operable after a plastic preform has been heated to pull the heat-softened plastic against a pattern whereupon the plastic cools and sets. The use of plastic preforms makes it feasible to clamp the plastic directly to the foraminous member supporting the pattern.

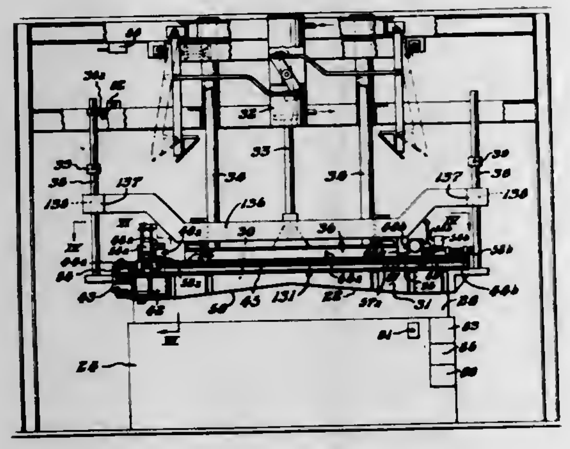
3,377,657
APPARATUS FOR MOLDING A REINFORCED HOLLOW PLASTIC ARTICLE
Henry M. Richardson, Somers, and Alfred C. Alberghini, Hazardville, Conn., Fred E. Wiley, Longmeadow, Mass., and Wesley S. Larson, Hazardville, Conn., assignors to The Youngstown Sheet and Tube Company, Boardman. Ohio, a corporation of Ohio
Application Sept. 13, 1965, Ser. No. 486,678, which is a division of application Ser. No. 248,058, Dec. 28, 1962, now Patent No. 3,256,128. Divided and this application Mar. 31, 1967, Ser. No. 627,536
5 Claims. (Cl. 18—19)



This patent discloses a mold for plastic pipe having two elongate semi-circular members which embrace the exterior of a preform to be cured. The members are held within an encircling body which provides heat for curing. An internal bladder expands the preform against the two semi-circular members. Gases from the preform escape through the juncture of the semi-circular members and out through the encircling body. For a disclosure of the entire method and apparatus employed in fabricating the pipe, see U.S. Patent 3,256,128 which is incorporated herein by reference.

3,377,658
CARPET MOLDING AND TRIMMING

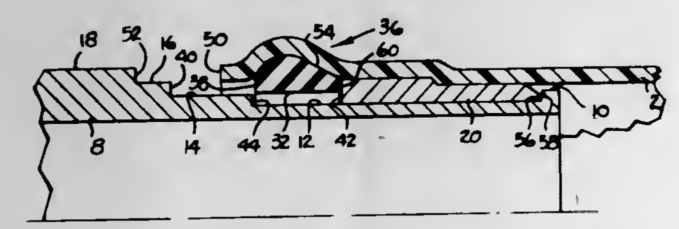
Paul Junior Wilhoit, Albemarle, and Gerald K. Miller, New London, N.C., assignors to Collins and Aikman Corporation, New York, N.Y., a corporation of Delaware
Filed May 4, 1964, Ser. No. 364,714
10 Claims. (Cl. 18—19)



A carpet press mold and trimmer is disclosed for molding contour-matching floor carpets for automobiles. The press has a fixed lower mold and an elevatable upper mold each of which includes a continuous cutting slot which follows a generally rectangular path defining the periphery of the carpet. The cutting slots are in alignment when the mold is closed. At least one, and preferably four, travelling cutters project into the aligned slots and travel therealong to trim the carpet while it is still in the mold. A compression ring located outside the cutting slot holds the peripheral portions of the carpet down during cutting. Each cutter is carried by a travelling carriage carried by an endless chain.

3,377,659
APPARATUS FOR FORMING A BELL END ON PLASTIC PIPE

Robert T. Hucks, Jr., Somerville, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Filed Oct. 15, 1965, Ser. No. 496,467
5 Claims. (Cl. 18—19)

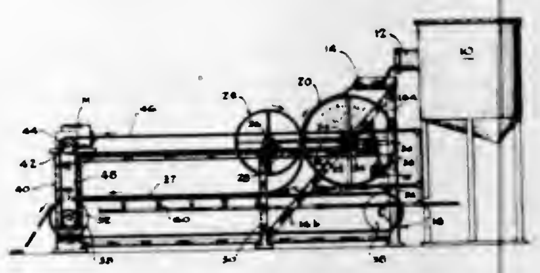


Apparatus for forming a bell end with an internal circumferential groove on a plastic pipe utilizing a die having a plurality of members constructed for relative movement generally in an axial direction. One of the die members comprises a continuous annular ring for forming a smooth-walled groove in the bell end.

3,377,660
APPARATUS FOR MAKING CRYSTAL ABRASIVE

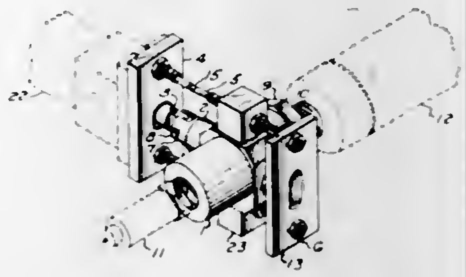
Douglas W. Marshall and Edgar A. Pett, Niagara Falls, Ontario, Canada, assignors to Norton Company, Worcester, Mass., a corporation of Massachusetts
Original application Apr. 20, 1961, Ser. No. 104,317. Divided and this application July 8, 1965, Ser. No. 482,654
4 Claims. (Cl. 18—26)

An apparatus utilizing a trough for flowing molten abrasive material from a furnace onto a cool rotating casting cylinder, rapidly solidifying it into a thin semi-solid curved sheet, densifying the semi-solid material with a pressure roll, and then partially fracturing the strip of semi-solid material by reversing its curvature by pulling it away from the cylinder with a driven rapidly cooled conveyor means whereupon the partially fractured strip is deposited onto collecting means in the form of large fragments which upon being rapidly cooled and solidified break up into smaller fragments well adapted to be reduced in size to form conventional abrasive particles.



3,377,661
PRECOMPRESSION ATTACHMENT

Harold Corbett, Longmeadow, Mass., assignor to David Ratner, East Longmeadow, Mass.
Filed Oct. 6, 1964, Ser. No. 401,833
7 Claims. (Cl. 18—30)

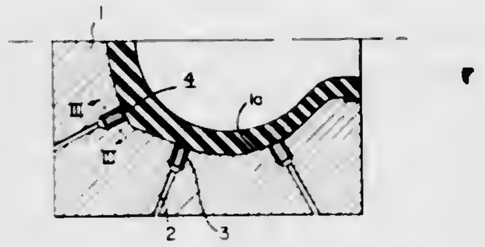


1. A unitary removable attachment assembly as an accessory for injection type plastic molding machines, said attachment being adapted to be located between a heat cylinder and the nozzle of the molding machine, said attachment comprising a chassis having two separated and connected plates, a main valve body, a ported valve spool horizontally movably mounted within said valve body, said ported valve spool having an opening therein, an opening in said main valve body for interconnection with an opening in said heat cylinder and said nozzle, hydraulic means mounted on one of said plates and connected to said valve spool for operating said spool, for operating in a reciprocating motion said ported valve spool, and means at each end of said main valve body for interconnection with the said heat cylinder and said nozzle, said nozzle being mounted between the said interconnected plates of said chassis.

3,377,662
METAL MOLD HAVING VENT PLUG MEANS FOR SHAPING A PLASTIC ARTICLE AND VULCANIZING A RUBBER ARTICLE

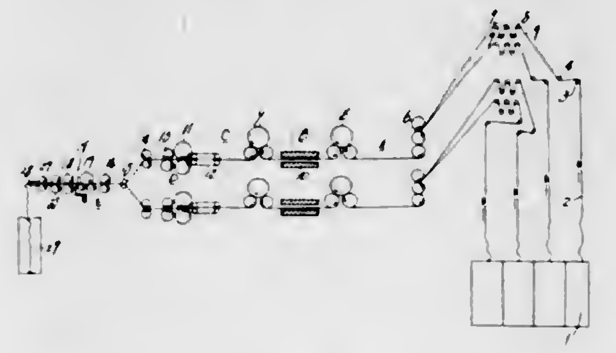
Toshio Fukushima, Tokyo, Japan, assignor to Bridgestone Tire Company Limited, Tokyo, Japan
Filed Apr. 14, 1966, Ser. No. 542,598
Claims priority, application Japan, Apr. 20, 1965, 40/22,925; Nov. 26, 1965, 40/72,355; Dec. 29, 1965, 40/80,841
5 Claims. (Cl. 18—38)

1. A metal mold for shaping a plastic article and vulcanizing a rubber article and having a plurality of gas vent means therein, comprising a plurality of small vent holes bored through the metal mold so as to extend from the inner molding surface thereof to the outer surface thereof, and a plurality of vent plug means fitted at the inner end of each said small vent hole, said vent plug means comprising a sleeve member made of stainless substance and a core member of stainless substance having a plurality of fine grooves disposed at least along the outer peripheral surface thereof in parallel with the longitudinal axial center line thereof, said core member being adapted to fit in said sleeve member tightly but replaceably in a coaxial manner so as to form a plurality of minute gas passageways at least between said grooves on the core member and the inner surface of said sleeve member, said sleeve member being fitted tightly in each said small vent hole, thereby a plurality of minute gas passageways are formed to communicate between the molding surface of the metal mold and the outer surface thereof.



3,377,663
METHOD OF PRODUCING SLIVERS FROM SYNTHETIC FIBER TOWS

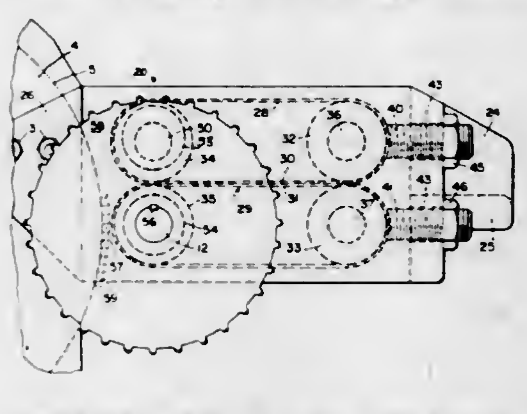
Takeji Arai, Toyonaka-shi, Osaka-fu, and Masahiko Ariga and Sukehiro Yoshiyama, Amagasaki-shi, Japan, assignors to O-M Ltd., Osaka-shi, Japan
Filed Oct. 13, 1965, Ser. No. 495,561
3 Claims. (Cl. 19—.39)



An apparatus for producing slivers by tension breaking synthetic fiber tow in a single operation, comprising three stations in operative sequence, the first station comprising rough tension breaking means for tension breaking the filaments of the tow into long lengths compared to the final lengths of the filaments, said means being two pairs of nip rollers and a pair of opposed conveyor means between the two pairs of nip rollers, the second station comprising moderate tension breaking means for tension breaking the long length of tension broken filaments into lengths of from about 4 to about 6 inches, said means being two pairs of nip rollers, the third station comprising short tension breaking means for tension breaking the 4–6 inch tension broken filaments into lengths of about 1¼ to 2½ inches, said means being two pairs of nip rollers, at least two vertically positioned blade means between said two pairs of nip rollers, and means coupled to at least one of said blade means for vertically reciprocating said at least one blade means.

3,377,664
MEANS AND METHOD OF FEEDING FIBERS

James G. Keramas, Woburn, and Daniel Frishman, Andover, Mass., assignors to Fibresearch Corporation, Lawrence, Mass., a corporation of Massachusetts
Filed Oct. 9, 1964, Ser. No. 406,210
4 Claims. (Cl. 19—105)



1. In combination with a main cylinder of a carding mechanism of a knitting machine, a means for feeding fibers in sliver form to said main cylinder comprising,

a pair of endless belts with each mounted on and encircling a pair of spaced parallel rolls for rotation, each of said pairs of rolls including a forward and rear roll with at least one of said pairs of rolls having a roll comprising a core of non-resilient material covered with a sleeve of resilient material adapted to be compressed to accommodate thickened portions of said sliver,

means mounting each of said pairs of rolls parallel to one another with the belts carried thereby having sections in facing adjacent relation and adapted to carry fibers therebetween,

said mounting means having elements for dynamically displacing at least one of said rolls from the corresponding roll of the other pair whereby said belts may be moved apart at at least one end,

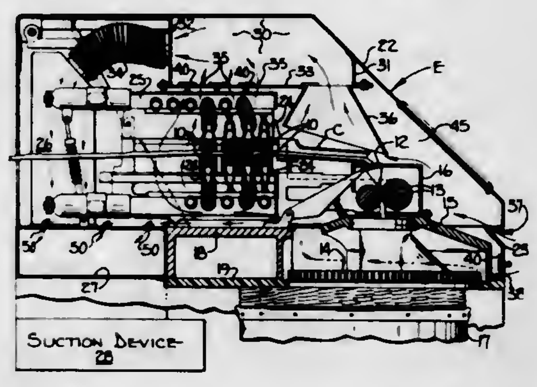
a frame having walls, and shafts coaxially secured to said rolls, said elements supporting said shafts for rotation of said rolls, said elements of said forward rolls being secured in said walls, and tensioning means comprising pins movably interengaging said elements for said rear rolls with said walls,

means securing said mounting means adjacent said main cylinder, and

means for driving said rolls whereby said belts will be rotated in opposite relation to one another.

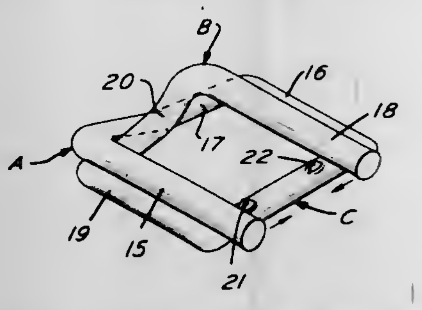
3,377,665
TEXTILE MACHINE CLEANING SYSTEM AND METHOD

Ronald David Kincaid, Kings Mountain, N.C., assignor to Ideal Industries, Inc., Bessemer City, N.C., a corporation of North Carolina
Filed Aug. 13, 1965, Ser. No. 479,554
14 Claims. (Cl. 19—263)



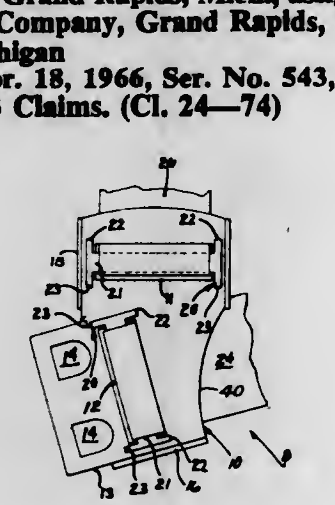
A pneumatic cleaning system for textile machines of the type having a drafting system and a coiler wherein suction air currents are applied substantially throughout the area between the drafting system and the coiler for disposing of lint and fly generated by the passage of textile material therethrough, and wherein other suction air currents are applied to sweep across the coiler and surrounding areas and underneath and past the drafting system, as well as above the drafting system, for removing and disposing of waste generated by the textile material being drafted.

3,377,666
BUCKLE FOR FLEXIBLE STRAPPING
Nathaniel H. Sherman, Upper Montclair, N.J., assignor to American Manufacturing Company, Inc., Brooklyn, N.Y., a corporation of New York
Filed July 20, 1966, Ser. No. 566,552
12 Claims. (Cl. 24—16)



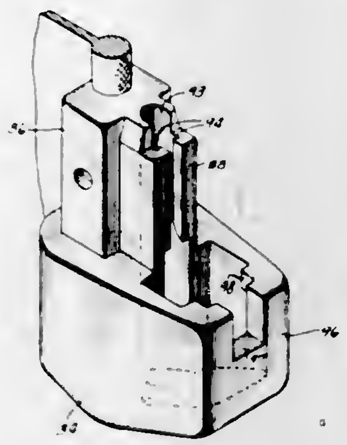
1. A buckle, for use in connection with flexible strapping, comprising a single piece of wire formed as follows:
- (a) a first, generally U-shaped portion including a distal leg formed from one end of said single piece of wire, a proximal leg and a bight;
- (b) a second, generally U-shaped portion including a distal leg formed from the other end of said single piece of wire, a proximal leg and a bight;
- (c) an intermediate wire portion connecting the proximal leg of each U-shaped portion; said two proximal legs and said intermediate wire portion lying in a first plane and having a U-shaped configuration; said two distal legs lying parallel to each other in a second plane; each of said bights extending from said first plane to said second plane and
- (d) at least one stop means formed as an integral part of said wire and located thereon intermediate the ends of the wire and proximate to at least one of said distal legs, and said stop means being engageable by at least one of said distal legs to limit relative motion of said distal legs toward each other.

3,377,667
ADJUSTABLE BUCKLE FOR OVER-SHOULDER SAFETY BELTS
Herman G. Alofs, Grand Rapids, Mich., assignor to Alofs Manufacturing Company, Grand Rapids, Mich., a corporation of Michigan
Filed Apr. 18, 1966, Ser. No. 543,325
3 Claims. (Cl. 24—74)



A shoulder and seat belt anchoring structure having a base plate and a cover plate affixed thereto by interengaging flanges. The base plate has a buckle engaging keeper plate integrally formed therewith extending from beneath said cover plate. Also provided in the base plate is a first slot positioned perpendicular to the reach of said keeper plate and a second slot positioned at an angle with respect thereto. The slots in conjunction with suitable bars function to retain adjustably said seat and shoulder belts to said anchoring structure.

3,377,668
SEPARATING END CONNECTION
Alfred E. Carlile and Harry F. Manning, Meadville, Pa., assignors to Talon, Inc., a corporation of Pennsylvania
Filed Dec. 21, 1964, Ser. No. 419,885
7 Claims. (Cl. 24—205.11)



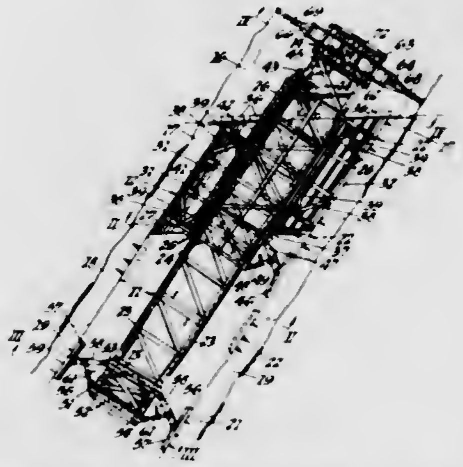
1. In a separating end connected slide fastener which includes:

a pair of slide fastener tape stringers each carrying a plurality of interlocking elements along their opposed inner edges which are adapted to be engaged and disengaged in response to the movement of a slider member towards the closed and opened positions, respectively, the improvement comprising:

a combined reenforced tape end and hollow retainer member symmetrically carried relative to the plane of the first of said pair of stringer tapes with said retainer member supported at one wall thereof on the remote end of the inner edge of one of said pair of tape stringers and including:
- (a) a track extension encasing said inner edge of said one tape and extending between said interlocking elements and said retainer with said track extension having a width narrower than the width of said retainer the outer surfaces of said track extension adapted to slidably engage the inner surfaces of said slider,
- (b) a track guide member located on said track extension and centrally disposed relative thereto, the outermost surface of said track guide being in the same plane as the surface of said one wall of said hollow retainer,
- (c) an elongated groove extending the length of said track guide and said wall of said hollow retainer with said groove including a pair of shoulder members located adjacent to the marginal edges of said groove, said shoulder members projecting inwardly with the innermost spaced apart surfaces thereof spaced from each other a distance less than the maximum width of said groove,
- (d) detent means located within the uppermost portion of said hollow retainer and projecting inwardly towards the center thereof from that wall of said hollow retainer located opposite to said one wall,

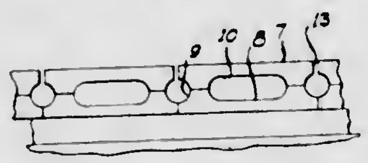
a combined pin member and reenforced tape end symmetrically carried relative to the plane of said second stringer tape and on the remote end thereof and including:
- (a) guide means located on said pin member and in alignment with said interlocking elements on said second tape for cooperating with said groove extending the length of said track guide member on said first tape,
- (b) catch means on said pin member cooperable with said detent means of said retainer member, whereby when said pin member is operatively coupled to said retainer member and said slider, said track guide member and said guide means coact to align and retain said retainer and pin in operative relationship to place said opposed interlocking elements in alignment with each other and said detent means and said catch means coact to maintain said retainer and pin in said operative relationship.

3,377,669
LINING OF PASSAGES WITH CONCRETE
Roy Patrick Burgess, 9 Fair View, Horsham, England
Filed Feb. 15, 1966, Ser. No. 527,596
12 Claims. (Cl. 25—131.5)



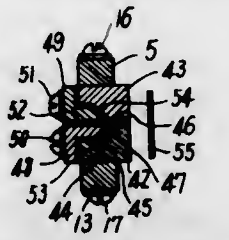
1. Apparatus for lining a passage by consecutively casting rings of concrete, comprising a shutter drum adapted to act as a support for casting a ring of concrete over the complete circumference of a length of the passage, frame means passing through the drum, mutually co-operating means within the drum and on the frame means for supporting the drum and frame means for relative sliding movement axially of the drum, supporting means for the frame means beyond each end of the drum adapted to support the assembling of drum and frame means and align the same within the passage, and means for anchoring the drum to a previously cast ring of concrete.

3,377,670
COMPOSITE CAR TOP TILE
Edward E. Davis, Oak Hill, Ohio, assignor to Davis Fire Brick Company, Oak Hill, Ohio, a corporation of Ohio
Filed Aug. 10, 1966, Ser. No. 571,558
2 Claims. (Cl. 25—142)



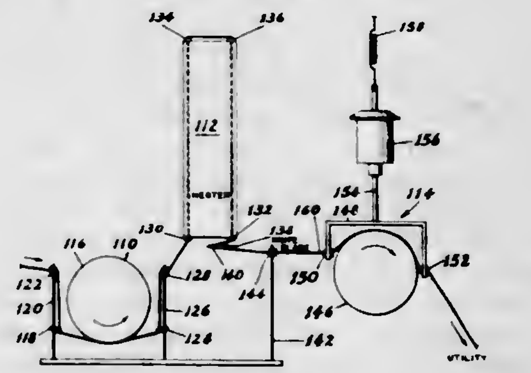
1. A kiln car having a supporting frame mounted on wheeled axles for movement on a kiln track, said frame having a base layer of refractory clay brick and having a top layer of refractory tile comprising top and bottom half tile sections having interacting tongues and grooves when assembled and having side wall surfaces and a hollow center portion shaped to form flues when the tongue and groove portions are in interacting engagement and when the tile are mounted in adjacent rows on the car top.

3,377,671
APPARATUS AND PROCESS FOR YARN TREATMENT
Makoto Yamamoto, Kurashiki, Japan, assignor to Kurashiki Rayon Co., Ltd., Kurashiki, Japan
Filed Aug. 23, 1965, Ser. No. 481,627
3 Claims. (Cl. 28—1)



A process in which a yarn consisting of a number of fibers is placed under turbulence to form a number of loops, curls and entanglements, and a nozzle with various openings therein providing the necessary turbulence to carry out said process.

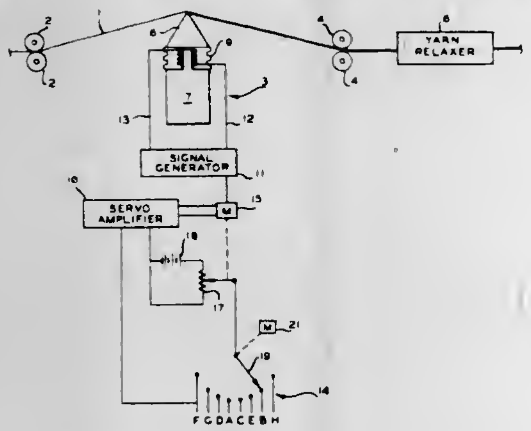
3,377,672
METHOD AND APPARATUS FOR PROCESSING YARN
Richard C. Spurgeon R.D. 2, Lansdale, Pa. 19446
Continuation-in-part of application Ser. No. 480,951, Aug. 19, 1965. This application Oct. 21, 1966, Ser. No. 588,377
18 Claims. (Cl. 28—1)



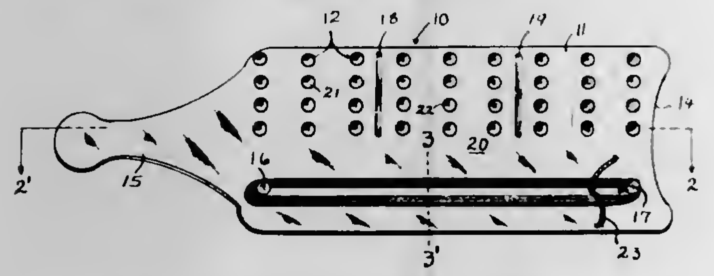
In one form of the apparatus, a yarn package, tension leveling device, yarn tensioning device, heater and utility are arranged serially, in the order named. In another form, a yarn package, a tension leveling device, heater, tension reducing device and utility are arranged serially in the order named. In either case, the utility draws yarn from the package as required by the work it is doing, and as the yarn leaves the heater, it passes over a knife edge, which results in the yarn path being turned sharply. In the second form of the apparatus, the tension reducing device functions to reduce yarn tension between the knife edge and the utility.

3,377,673
METHOD AND APPARATUS FOR CRIMPING FILAMENTS
Frederick L. Stoller, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 27, 1965, Ser. No. 516,581
14 Claims. (Cl. 28—1)

In a vibratory crimping method, the vibratory energy which is applied to filaments to obtain crimping is modulated in a predetermined, ultimately random pattern to impart a nonuniform, irregular crimp to the filament.

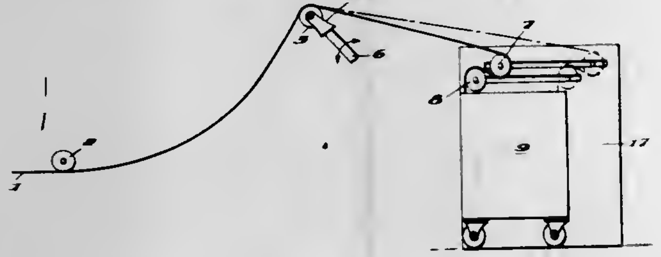


3,377,674
APPARATUS FOR MAKING TASSELS AND POMPONS
Robert F. Brassaw, Anaheim, and Calvin G. Shipley, Westminster, Calif. (both of 937 W. Collins Ave., Orange, Calif. 92667)
Filed Mar. 7, 1966, Ser. No. 532,201
2 Claims. (Cl. 28—2)



The present invention relates to a new and useful apparatus for making tassels and pompons, and more particularly to an apparatus of the character comprising an oblong base member adapted with means for supporting said apparatus vertically at an inclined angle between the knee and the hand of the operator and being provided with two groups of recesses, one group comprising a plurality of closely-disposed recesses on one half of the base member and a second group comprising a dually recessed arrangement remotely spaced and disposed a suitable distance from said first group of recesses on the other half of said base member, and vertical pegs positioned within said recesses for use in winding filamentary material thereon and thereby making various-size pompons, tassels, and the like.

3,377,675
APPARATUS FOR DEPOSITING TOW
Harry Marshall Cook, Staunton, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Aug. 15, 1966, Ser. No. 572,334
4 Claims. (Cl. 28—21)

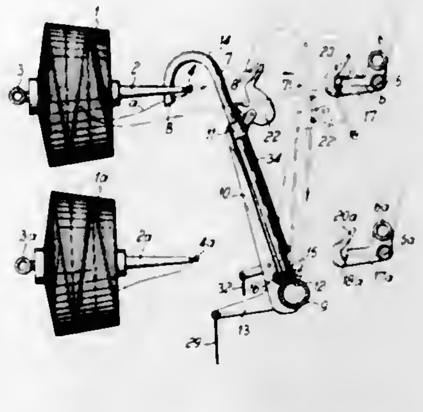


1. An apparatus to deposit a running length of synthetic filamentary tow into a receiver comprising:

a roll capable of being rotatably driven reciprocally oscillatable in a direction substantially longitudinal to the path of advance of said tow to receive said tow from a cantable guide means and to gravitationally deposit said tow in said receiver, drive means for driving said roll,

cantable guide means cantable through a predetermined angle to dispose said tow in a continuous lateral oscillation over a fixed length of surface of said roll.

3,377,676
CREEL ASSEMBLY FOR TEXTILE MACHINES
Stefan Fürst, Monchen-Gladbach, Germany, assignor to Walter Reiners, Monchen-Gladbach, Germany
Filed Aug. 5, 1966, Ser. No. 570,501
Claims priority, application Germany, Aug. 26, 1965, R 41,402; Aug. 28, 1965, R 41,425
11 Claims. (Cl. 28—34)

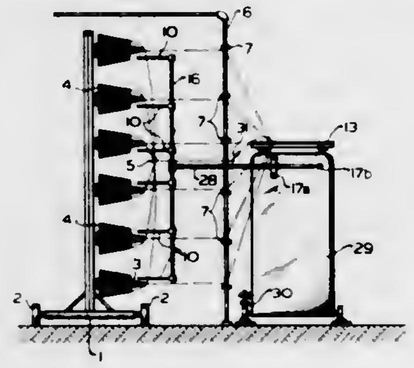


1. Creel assembly for textile machines comprising a multilevel creel for supply coils and a corresponding row of thread tensioning devices spaced from said creel for tensioning thread extending from the supply coils along respective thread paths to a textile machine, thread storage means located in said thread paths in front of each of said thread tensioning devices, at least one thread severing device operable, during replacement of the depleted supply coils of said creel, in the region intermediate the supply coils and said thread tensioning devices for severing the thread ends of depleted supply coils so that the severed ends of the thread extending to the textile machine are retained by said thread tensioning devices, and assembling means for assembling the thread ends of replacement supply coils with the thread ends of the depleted supply coils retained in said tensioning devices, said assembling means being capable of traveling along said creel between the supply coils and said thread tensioning devices.

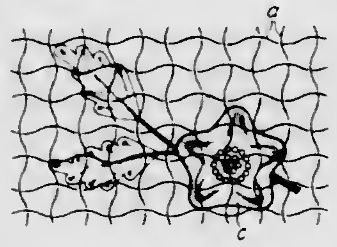
3,377,677
DEVICE FOR INCREASING THE SPEED OF COIL REPLACEMENT IN A CREEL ASSEMBLY
Stefan Fürst, Monchen-Gladbach, Germany, assignor to Walter Reiners, Monchen-Gladbach, Germany
Filed Aug. 5, 1966, Ser. No. 570,641
Claims priority, application Germany, Aug. 13, 1965, R 41,321
4 Claims. (Cl. 28—34)

1. In a creel assembly including a multilevel creel for supply coils having readied thread ends, the coils being arranged in substantially vertical rows, and tensioning devices also arranged in substantially vertical rows spaced from the creel and adapted to be located intermediate the creel and a warper for performing warper operation on the thread from the supply coils, the improvement comprising a seizing member disposed at each level of the supply coi's mounted on the creel and located between the vertical rows of tensioning devices, said seizing member

being movable between said vertical rows of tensioning devices in a direction toward the supply coils for seizing the readied thread ends thereof and delivering them to the respective tensioning devices.

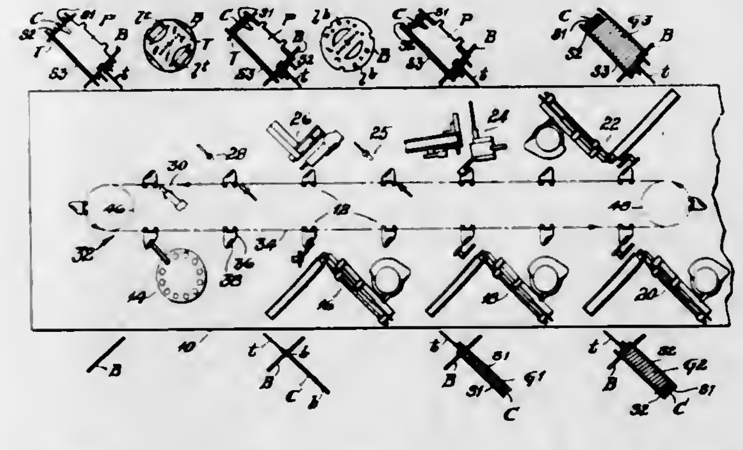


3,377,678
HALF-SOLUBLE SPECIAL FABRIC AND A METHOD OF MANUFACTURING EMBROIDERY LACE THEREON
Toshihiko Moriya, Tokyo, Japan, assignor to Nihon Vinylon Co., Ltd., Tokyo, Japan, a corporation of Japan
Filed Dec. 27, 1965, Ser. No. 516,731
9 Claims. (Cl. 28—76)



A method for manufacturing a special embroidery lace by preparing a fabric from a combination of crimped yarn, hard-twisted, or non-twisted yarn of hot water-insoluble fibers having low denier and polyvinyl alcohol or alginic acid yarn of hot water-soluble fibers, embroidering the thus prepared fabric as an embroidery foundation cloth with hot water-insoluble yarn, and dissolving and removing only the hot water-soluble fibers from the foundation cloth.

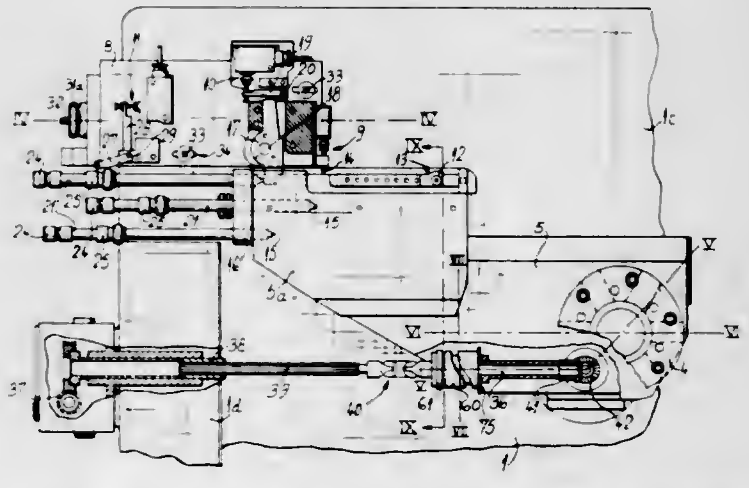
3,377,679
ASSEMBLING MACHINE AND METHOD
Stanley J. Gartner, Emporium, Pa., assignor, by mesne assignments, to Sylvania Electric Products, Inc., Wilmington, Del., a corporation of Delaware
Filed Dec. 9, 1947, Ser. No. 790,570
96 Claims. (Cl. 29—25.16)



1. The method of assembling electron-discharge devices comprising the steps of inserting a first electrode into an apertured support, one end of said first electrode remaining free, threading a guide member through a hollow second electrode and into engagement with the free end of said first electrode, telescoping said second electrode along said guide member and about said first electrode and into said apertured support, arranging and holding the free ends of the assembled electrodes in a predetermined pattern, and applying an apertured insulating wafer to the ends thus held.

3. In an assembling machine, a unit for inserting a second long and slender element closely adjacent a first such element carried by a supporting fixture, said unit comprising a multiple-jaw locating mechanism, means for operating said mechanism into lateral engagement with the free end of the first element, a second locating mechanism comprising a rod and means for operating said rod into endwise engagement with the first element while that element is held by the first locating mechanism, a carrier and means for moving said carrier along said rod and in close proximity to the element previously inserted in the fixture for assembling the second element, and an actuator including operating means for retracting the multiple-jaw locating mechanism in advance of the carrier.

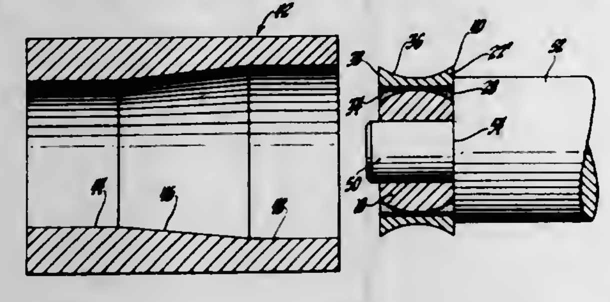
3,377,680
AUTOMATIC LATHE
Maurice L. Matthey, Geneva, Switzerland, assignor to Tarex S.A., Geneva, Switzerland, a firm of Switzerland
Filed July 7, 1966, Ser. No. 563,565
Claims priority, application Switzerland, July 15, 1965, 9,931/65
3 Claims. (Cl. 29—65)



The combination of an automatic lathe of a revolving turret head, a carriage supporting the head, an indexable stop device determining the strokes and changes of speeds of the carriage, a control shaft on the carriage for actuating the indexing of the head and the indexing of the stop device, the control shaft making one complete revolution for each indexing, electric contacts actuated by the stop device during movements of the carriage, a plate for mounting the electric contacts and being itself mounted on the frame so as to be movable in a direction running parallel to the movements of the carriage, the longitudinal position of the working field of the machine being adjustable without adjustment of the various functions of the carriage being affected.

3,377,681
METHOD OF MAKING A BEARING
William A. Kuhn, Orange, Calif., assignor, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Filed June 11, 1965, Ser. No. 463,123
10 Claims. (Cl. 29—149.5)

A method of making a bearing having an inner ball member and a race member conformed to the ball member and in which the race member is initially formed with a cylindrical inner surface and a circumferentially arcuately grooved outer surface. The race is deformed about the ball member in such a way that the deformation step causes the race inner cylindrical surface to conform to the surface of the ball and the circumferentially grooved



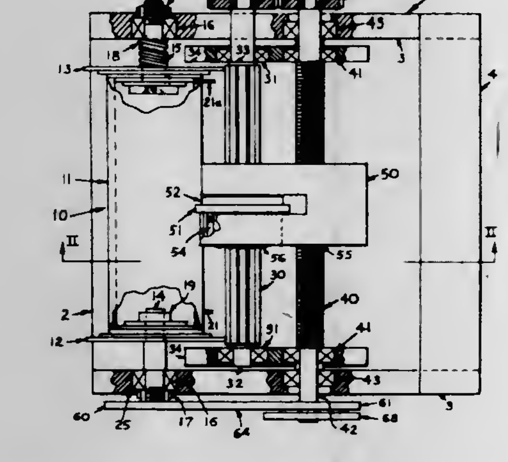
outer surface to assume a cylindrical shape. The deformation may be accomplished by means of a conical swaging die, wherein the larger diameter is equal to or greater than the maximum diameter of the undeformed race member and the minimum diameter is the diameter of the desired cylindrical surface of the completed structure.

3,377,682
METHOD FOR STRETCHING SEPARATED PISTON RINGS

Douglas W. Hamm, Muskegon, Kenneth J. Nisper, Spring Lake, and Alden V. Hardick, Muskegon County, Mich., assignors to Muskegon Piston Ring Company, Muskegon, Mich., a corporation of Michigan

Filed Oct. 21, 1965, Ser. No. 500,056

9 Claims. (Cl. 29—156.6)



1. A method of stretching coiled hardened piston ring stock which has been selectively ruptured to create individual segments having the steps of:
   disposing the hardened coiled stock to be stretched about a receiver under radial tension such that the segment gaps are widened and thereafter;
   placing the receiver with the coil disposed therearound in raised-temperature beat treat at a sufficient temperature and for a sufficient length of time to permit stress relief and, thus, set the desired segment gap.

3,377,683
METHOD OF MAKING A HEAT EXCHANGER

Lester J. Tranel, St. Louis, Mo., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed Aug. 24, 1965, Ser. No. 482,061

5 Claims. (Cl. 29—157.3)

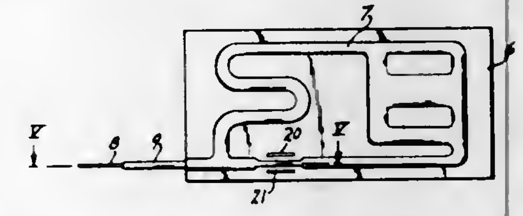
1. A method of forming to a desired configuration an expanded passageway within a panel, said passageway having opposed sides of materials of different hardness, the method comprising

(A) reducing the thickness of said panel at areas on each side of said passageway to cause the passageway to be further expanded, and

(B) inserting into said passageway a tool having the desired configuration to form said passageway into the desired configuration.

4. A method of fabricating a hollow panel having opposed sides of different hardness and an internal passageway of a desired configuration, comprising

(A) superimposing a first sheet upon a second sheet, said first and second sheets being of different hardness,



(B) joining together said first and second sheets throughout their contacting surfaces except for a pattern corresponding to a desired internal passageway, and

(C) expanding said pattern to form said passageway by introduction of fluid pressure,

(D) further expanding said passageway by reducing the thickness of said panel at areas on each side of said passageway to cause the material of said panel to flow toward said passageway, and

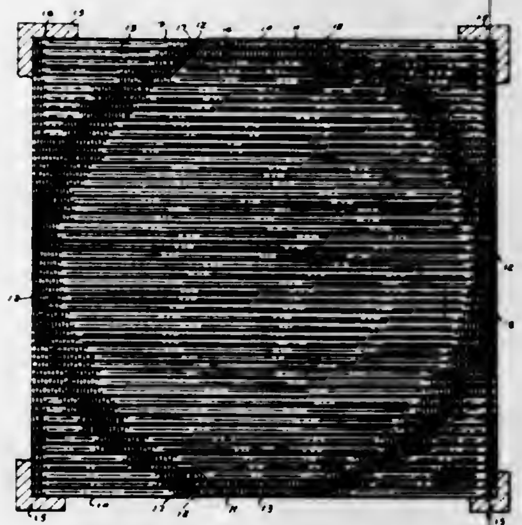
(E) inserting into said passageway a tool having the desired configuration to form said passageway into the desired configuration.

3,377,684
METHOD OF MAKING PLATE AND FIN HEAT EXCHANGERS

Harry C. Gersbacher, Dayton, Ohio, assignor to United Aircraft Products, Inc., Dayton, Ohio, a corporation of Ohio

Filed Oct. 22, 1965, Ser. No. 501,400

10 Claims. (Cl. 29—157.3)



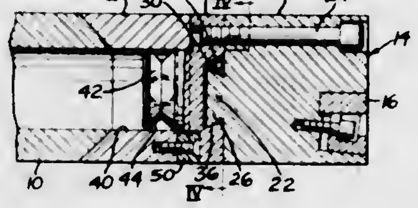
10. A method of fabricating a plate and fin heat exchanger core, wherein plates, strip fin material and marginal spacers are stacked in an assembled relation and then joined in an integral unit; characterized by a use of plates all of equal size but certain of which have raised stops providing abutment for said marginal spacers short of side margins of said certain plates, said plates being selected and positioned to form a pattern of spacer location which is at least in part in spaced inward relation to the side margins of the plates, projecting portions of the core outside said pattern being removed after joinder of the parts.

3,377,685
GUIDE ARRANGEMENT FOR RELATIVELY MOVEABLE PARTS

Ragnar L. Carlstedt, Ligonier, Pa., assignor to Kennametal, Inc., Latrobe, Pa., a corporation of Pennsylvania

Filed Dec. 2, 1965, Ser. No. 511,114

12 Claims. (Cl. 29—200)



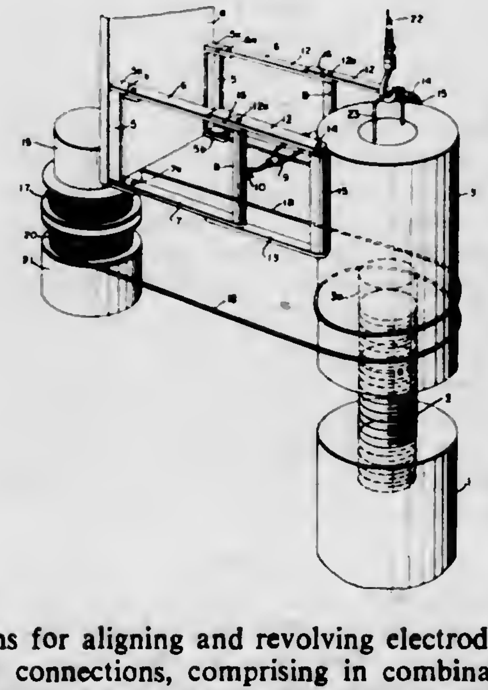
1. In combination; first and second relatively moveable members; clamp means associated with said members for clamping said members together, interengaging sliding surfaces on said members, cooperating elements of guide means formed on said members within the range of said surfaces for guiding the said members upon relative movement thereof when said clamp means is loosened and for effecting accurate location of said members when said clamp means is tightened, said guide means including a pocket extending in the direction of relative movement of said members and having side wall portions formed on both of said members, said pocket having at least one open side facing one of said members, a spring resilient in at least the lateral direction thereof in said pocket extending in the direction of the length of the pocket and of such a size in cross-section as to bear on said side wall portions of said pocket and on said one member when said clamp means is loosened whereby tightening of said clamp means will cause compression of said spring laterally of said pocket and develop lateral thrust on said side wall portions.

3,377,686
MEANS FOR ALIGNING AND REVOLVING ELECTRODES HAVING SCREW-TYPE CONNECTIONS

Robert C. Carpenter, 154 Toponce, Pocatello, Idaho 83201

Filed Feb. 2, 1966, Ser. No. 524,377

9 Claims. (Cl. 29—203)



1. Means for aligning and revolving electrodes having screw-type connections, comprising in combination with a fixed electrode having a threaded nipple extending from one end, a second electrode having an axial bore in its end adapted to receive said nipple; means for suspending the second electrode above the fixed electrode while permitting the second electrode to raise and lower, swing laterally, and to revolve; a base disposed laterally of the second electrode; means on the base engaging the second electrode for aligning the bore of the second electrode with the nipple of the fixed electrode while in spaced relation thereto; and means disposed adjacent the aligning means for revolving the second electrode while so aligned whereby as the second electrode is lowered the nipple will be screwed into said bore to connect the electrodes end-to-end.

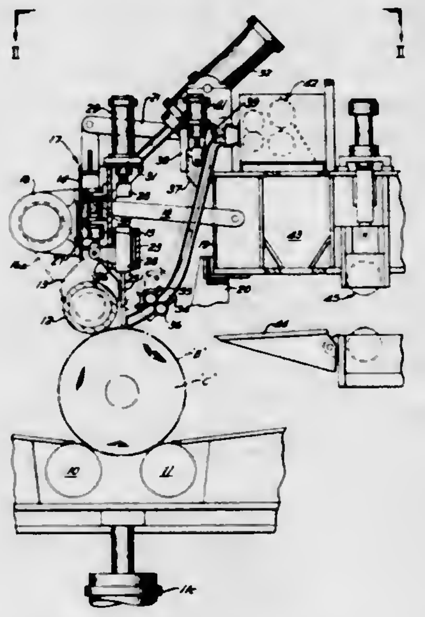
3,377,687
DEBANDING DEVICE FOR ROLLED COILS

Richard Carmen De Chellis, Pittsburgh, Pa., assignor to United Engineering and Foundry Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 9, 1966, Ser. No. 532,918

Claims priority, application Great Britain, Mar. 26, 1965, 13,055/65

10 Claims. (Cl. 29—200)



1. An apparatus for removing tightly encircling bands from the peripheries of coils of material, such as, coils of metallic rolled strip comprising:
   a pair of rollers for rotatably supporting a banded coil while it is being unwound and
   a band severing device spaced from said pair of rollers including a cutting instrument and a third roller, said third roller arranged to engage a portion of a coil when coil is supported by said pair of rollers,
   means for causing relative movement between said pair of rollers and said third roller to bring said coil into close proximity to said cutting instrument and into engagement with said third roller,
   means for causing said cutting instrument to engage the band to sever it from the coil when in said position of close proximity, and
   means for causing said coil and band to be unwound in the same direction.

3,377,688
CAPPING APPARATUS

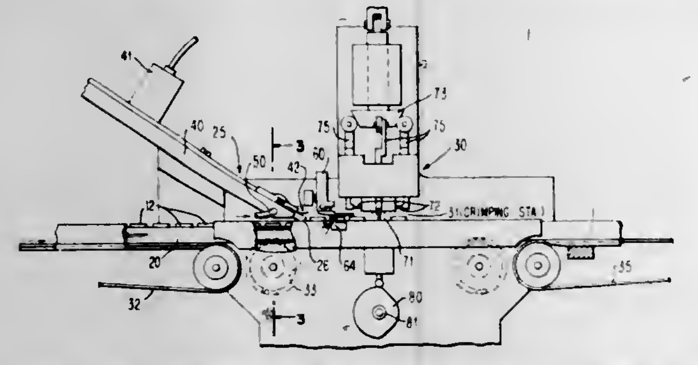
Karl W. Beumer, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Feb. 24, 1966, Ser. No. 529,749

8 Claims. (Cl. 29—203)

1. An apparatus for positioning non-circular covers on substrates comprising, a generally horizontal conveyor means for substrates, an inclined cover chute for receiving successive covers from a supply thereof terminating over said conveyor means, a pressure means mounted on the end of said cover chute, disposed to exert a down-

ward force on covers emanating from said cover chute, guide means adjacent said conveyor means, said guide means having at least one upwardly facing support surface positioned to initially abut and subsequently slidably support the leading edge portions of covers emanating from said cover chute, said pressure means adapted to apply a downward force to effect a pivotal snapping operation of a cover over the substrate as the cover is drawn from the chute and also apply sufficient force to assure abutting contact between the leading lower edge of the cover and the forward surface of the substrate being capped, the area of contact between said pressure means and a cover being positioned adjacent and rearwardly of a vertical plane drawn through the pivotal axis of a cover being positioned.

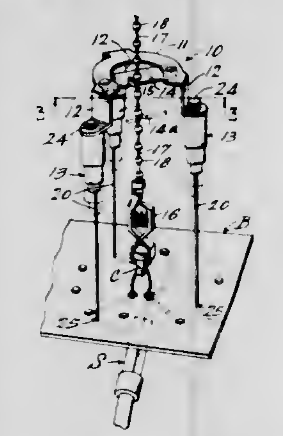


3,377,689
APPARATUS FOR REMOVING ELECTRICAL COMPONENTS FROM A CIRCUIT BOARD

James P. Kimmett, 703 Pierce St., Delphos, Ohio 45833

Filed Sept. 30, 1965, Ser. No. 491,692

5 Claims. (Cl. 29—203)



A tool to be used by electronic technicians in removing small components from an electrical circuit board. The device consists of a platform supported by a plurality of legs adapted to be placed upon the circuit board. A releasable clamp for attachment to the component being removed is suspended from the platform above the component. When the clamp is attached to the component, resilient springs urge the clamp away from the circuit board so that the component will be pulled away once it is unsoldered or otherwise detached therefrom.

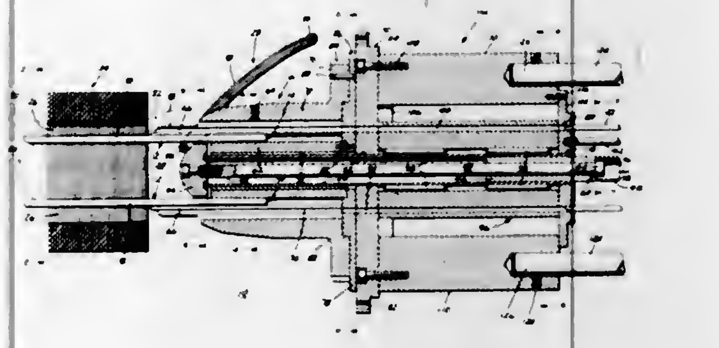
3,377,690
COIL AND WEDGE INSERTING APPARATUS

Robert J. Eminger, 7120 Melody Lane, Fort Wayne, Ind. 46804

Filed Feb. 16, 1966, Ser. No. 527,981

7 Claims. (Cl. 29—205)

1. Apparatus for inserting prewound coils and slot wedges into the slots of an internally slotted dynamoelectric machine core member comprising: a plurality of elongated, radially spaced apart finger elements defining a bore, each of said finger elements having one end secured to a mounting member and having a portion extending axially outwardly therefrom, said extension portions being adapted to receive coils to be inserted in said core member with each coil having one end turn positioned in said bore and its sides extending outwardly through the spaces between predetermined pairs of said extension portions, said extension portions being adapted to engage the inner extremities of the teeth of said core member which define said slots whereby the spaces between said extension portions communicate with respective slots; a stripper member mounted for axial movement in said bore; first means for moving said stripper member axially through said bore within said extension portions thereby to move said coil end turns axially along the inner surface of said extension portions whereby said coil sides are inserted in said core slots; said mounting member having a plurality of means for receiving slot wedges to be inserted in said core slots, said receiving means being radially outward from said finger elements and respectively in axial alignment with the spaces therebetween; said mounting member having means respectively in axial alignment with said receiving means for guiding said slot wedges from said receiving means into said core slots over the coil sides therein; a plurality of elongated pusher elements respectively in axial alignment with said receiving and guiding means and mounted for axial movement therethrough, said pusher elements respectively having distal ends, said receiving means being on the side of said guiding means remote from said finger elements and having an axial length longer than that of said core member, said guiding means having an axial length longer than that of said core member, said pusher elements having an axial length at least as long as the total length of said receiving and guiding means, said pusher elements having a cross-sectional width less than that of said core slots, said pusher elements having a first position outside of said receiving and guiding means on the side thereof remote from said finger elements and a second position extending through said receiving and guiding means with their distal ends adjacent said core; second means for moving said pusher elements axially from said first to said second positions thereof whereby said distal ends respectively push said slot wedges axially from said receiving means through said guiding means into said core slots; and means for supporting and guiding said pusher elements intermediate their ends during movement from said first to said second positions thereof thereby to prevent buckling of said pusher elements while pushing said slot wedges from said receiving means into said core slots.



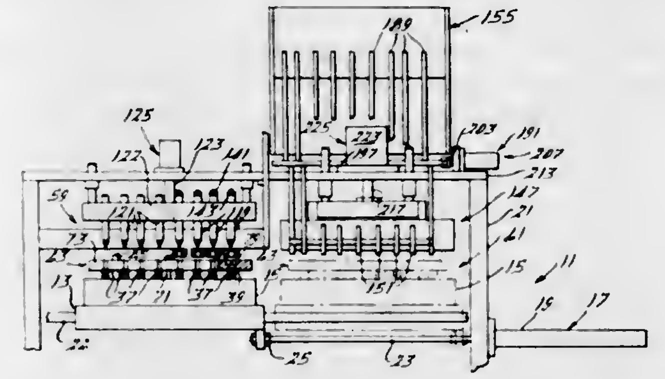
3,377,691
DEVICE FOR ASSEMBLING VALVE PARTS

Cass S. Kasper, Grosse Pointe, and Robert A. Le Lacheur, Utica, Mich., assignors to Inter-Lakes Engineering Company, Mount Clemens, Mich., a corporation of Michigan

Filed Oct. 7, 1965, Ser. No. 493,849

15 Claims. (Cl. 29—208)

Internal combustion engines with valve stems protruding therefrom move along an assembly line. Springs and spring retainers are placed on the stems, an O-ring seal is placed on each stem, and a set of locking keys are placed thereon, continuously and automatically.

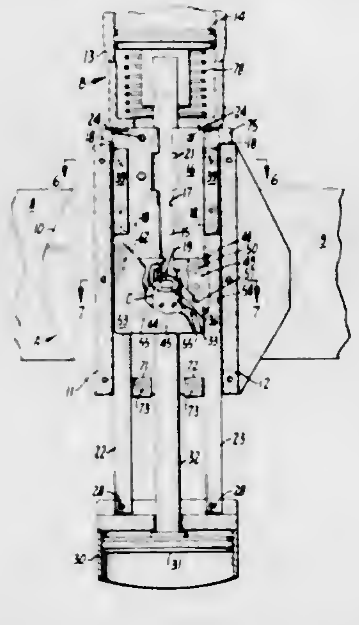


3,377,692
CLIPPING APPARATUS

Maynard J. G. Tipper, Corona Del Mar, Calif., assignor to Rheem Manufacturing Company, New York, N.Y., a corporation of California

Filed Oct. 13, 1966, Ser. No. 586,424

5 Claims. (Cl. 29—243.57)



A device for gathering and sealing an elongated flexible member such as a sausage casing wherein a clipper cooperates with a die to apply a U-shaped clip around such member. The die and clipper are supported on the piston and cylinder of a fluid driven cylinder for relative movement toward each other to a clipping point at which the clip is applied.

3,377,693
PROCESS FOR PRODUCING CLAD METAL PLATES BY EXPLOSIVE BONDING

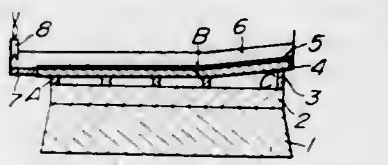
Tiyoshi Fukumoto, Oita-shi, Japan, assignor to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan

Filed Sept. 22, 1965, Ser. No. 489,336

Claims priority, application Japan, Sept. 24, 1964, 39/53,980; May 26, 1965, 40/30,661

6 Claims. (Cl. 29—470.1)

A process for bonding the same or different metal plates by the detonation pressure of an explosive wherein an angle is formed between a cladding metal plate and a base metal plate of from 0.1 to 0.5° in a first region, and a larger angle of between 0.3 to 1.2° is formed between the plates in a second region. The cladding plate is superimposed on the base plate so that said first region extends over 45 to 80 percent of the base plate. An explosive is placed on a buffer above the cladding plate and detonation is effected at one end of the first region so that detonation proceeds from the first region to the second region.

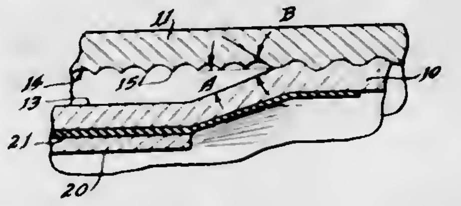


3,377,694
EXPLOSION WELDING OF INCOMPATIBLE METALS

Charles C. Simons, Kennewick, Wash., and Ronald L. Bradford, Columbus, Ohio, assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Oct. 12, 1965, Ser. No. 495,359

9 Claims. (Cl. 29—470.1)



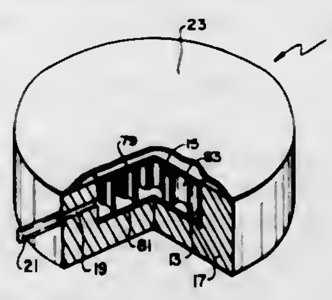
Method of explosion welding of incompatible metals by forming a scalloped surface on the face of one metal to be joined, thereby permitting extrusion of diffusion products formed during the welding.

3,377,695
BONDING PROCESS FOR FABRICATING AND SHAPING STRUCTURES

Paul J. Gripshover, Columbus, Ohio, assignor, by mesne assignments, to The Battelle Development Corporation, Columbus, Ohio, a corporation of Delaware

Continuation-in-part of application Ser. No. 298,886, July 31, 1963. This application Sept. 28, 1964, Ser. No. 399,801

2 Claims. (Cl. 29—472.3)



1. A method for fabricating and shaping structures having a pair of sheets with structural members metallurgically bonded therebetween such as honeycomb sandwich panels, heat exchangers, and the like, comprising the steps of:

(a) assembling said sheets in spaced relation to one another with said structural members disposed between said sheets;

(b) enclosing the assembled sheets and structural members within a container having a thin lid at its top and a die configuration at its base, said thin lid in being in pressure-transmitting relationship with said assembled sheets and structural members and said die configuration supporting at its edges said assembled sheets and structural members;

(c) removing the gases from said container thereby reducing the pressure in said container below atmospheric pressure whereby atmospheric pressure acts on said thin lid pressing said sheets against said structural members;

(d) heating said container to the bonding temperature of said sheets and said structural members while maintaining the space in said container below atmospheric pressure;

(e) applying supplemental pressure to said pressure transmitting lid so that the pressure at the interface of said sheets and said structural members exceeds the yield strength of the metal being bonded at the temperature of bonding; and

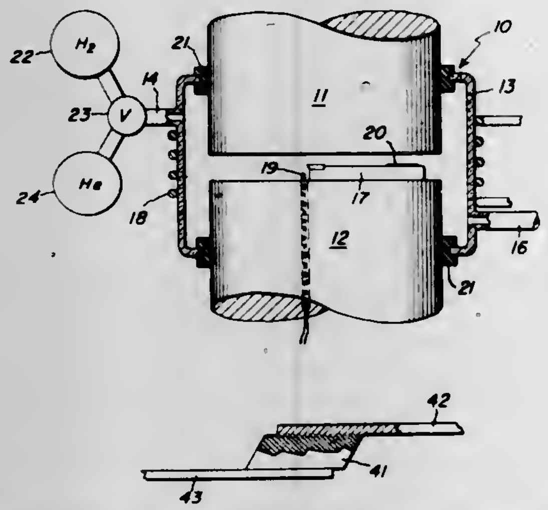
(f) maintaining said container at bonding temperature and pressure for a period of time sufficient to allow metallurgical bonds to form between the edges of said structural members and said sheets and to allow said structural members and said sheets to conform to said die configuration.

3,377,696
BONDING DIAMOND TO MOLYBDENUM

Kenneth A. Darrow, Sprakers, N.Y., assignor to General Electric Company, a corporation of New York

Filed July 26, 1965, Ser. No. 474,765

5 Claims. (Cl. 29—472.9)



The direct bonding of diamond to molybdenum metal without using a brazing or soldering medium is described as well as products producible by the use of such bonding technique.

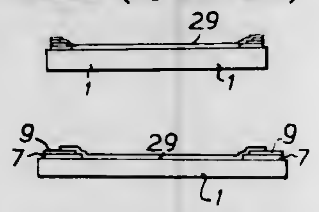
3,377,697
METHOD OF TERMINATING THIN FILM COMPONENTS

Richard Ernest Hobbs, Chingford, London, England, assignor to Associated Electrical Industries Limited, London, England, a British company

Filed Oct. 15, 1965, Ser. No. 496,459

Claims priority, application Great Britain, Oct. 23, 1964, 43,267/64

15 Claims. (Cl. 29—621)



1. A method for providing an electric component including a thin film of tantalum on a substrate, with a contact area for the attachment of external leads, comprising:

(a) providing a firmly adherent chromium film over a first area of the substrate including and greater than the desired contact area,

(b) providing on the chromium film a firmly adherent gold film extending over a second area including and greater than the desired contact area but lesser in area and lying completely within the area of the chromium film,

(c) covering that part of the gold film which is to form the desired contact area with a film of nickel,

(d) coating a selected surface area of the substrate including the exposed parts of the first and second areas and of the nickel with a thin tantalum film, and

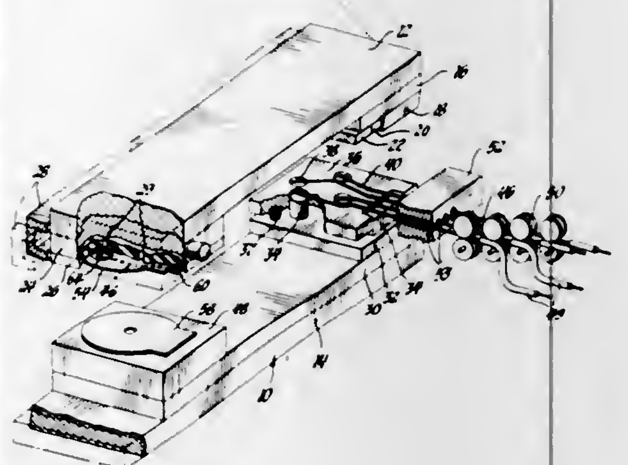
(e) removing the nickel film and thus the overlying tantalum film to expose the desired contact area as an area of uncontaminated gold film.

3,377,698
METHOD OF MAKING AN ELECTRICAL CIRCUIT

Albert R. Eick, Grand Blanc, and Melvin J. Racine and Norman D. Lawless, Flint, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Sept. 21, 1964, Ser. No. 397,846

1 Claim. (Cl. 29—625)



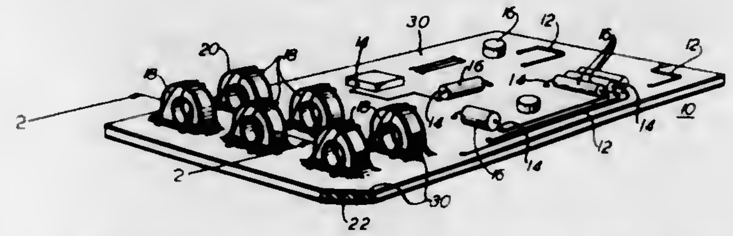
1. The method of making an electrical circuit assembly comprising the steps of defining a desired circuit configuration through the cooperation of two parts of a fixture having grooves in at least one of said parts to form passageways terminating at one end and having entrance openings at the other end, feeding a plurality of flexible electrically conductive wires through said entrance openings into said passageways to the terminating end thereof whereby each of the wires conforms to the shape of the respective passageways, severing the wires at a desired length and coining the opposite ends of the wires in a desired shape for circuit connections, moving one of said parts relative to the other part to expose a portion of said wires with the unexposed portion of said wires remaining in the grooves of said other part, placing a first sheet of insulating material having a pressure sensitive adhesive coating on one side thereof in contact with the exposed portion of said wires, applying pressure to said sheet sufficient to activate said coating and adhere said wires to said sheet, pulling said sheet relative to said other part to remove said wires from said grooves and expose said remaining portion of said wires, placing a second sheet of insulating material having a pressure sensitive adhesive coating on one side thereof in contact with the remaining portion of said wires, to encase said wires with said opposite ends being exposed.

3,377,699
FLUIDIZED BED COATING A CORE CONTAINING METAL BOARD, INCLUDING CIRCUIT FORMING, CORE WIRING AND CONNECTING STEPS

Donald Dinella, Clark, Bernard Kirschenbaum, Elizabeth, and Eckart F. Schutz, Menlo Park, N.J.; said Dinella and said Schutz assignors to Western Electric Company, Incorporated, and said Kirschenbaum assignor to Bell Telephone Laboratories, Incorporated, both of New York, N.Y., both corporations of New York

Filed May 3, 1965, Ser. No. 452,532

5 Claims. (Cl. 29—626)



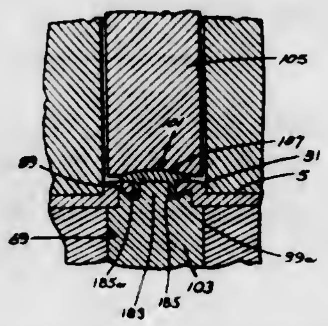
1. The method of forming a printed circuit board, which comprises forming an opening in a metal plate, fitting an apertured magnetic core edgewise into said opening so that the aperture is exposed above one face of said plate, exposing said plate and said core to a fluidized bed of plastic powder and covering the plate and the surface of the aperture in said core while leaving a hole, permitting the fluidized powder to harden so as to form a coating on the plate and core forming printed wiring on said coating, threading said core with a conductor, and connecting the conductor to said wiring.

3,377,700
METHOD OF MAKING ELECTRICAL CONTACT MEMBER

John R. Cooley, Morrison, Ill., assignor to General Electric Company, a corporation of New York

Original application Jan. 2, 1963, Ser. No. 249,043, now Patent No. 3,200,226, dated Aug. 10, 1965. Divided and this application June 4, 1965, Ser. No. 461,270

3 Claims. (Cl. 29—630)



Method for attaching a contact element to a metal strip including steps of work hardening a portion of the strip and punching an aperture in that portion. An anvil is placed in the aperture and a slug of contact metal is extruded into the aperture with the anvil controlling the cold flow of the contact metal. The anvil may also have an annular rim to seat in an annular groove surrounding the aperture. The work hardening and the rim-groove relationship each serve to prevent enlargement of the aperture during attachment of the contact element.

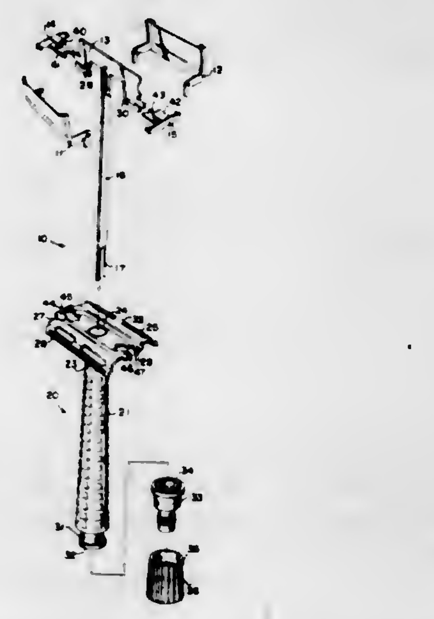
3,377,701
SAFETY RAZOR WITH OPERATING KNOB AND STOP ARRANGEMENT

Robert P. More, Trumbull, Conn., assignor to Eversharp, Inc., Milford, Conn., a corporation of Delaware

Filed Mar. 9, 1967, Ser. No. 621,889

6 Claims. (Cl. 30—60.5)

Safety razor having stops on the blade seat to cooperate with stops on spider assembly to limit upward movement of the stem and the extent to which the operating knob can be unscrewed. Eliminates riveting a stop on spider stem and permits the operating knob to be formed with a closed bottom and permits relaxation of tolerances in manufacturing. A two part operating knob having a closed bottom and which is assembled by pressing the parts together is also shown.

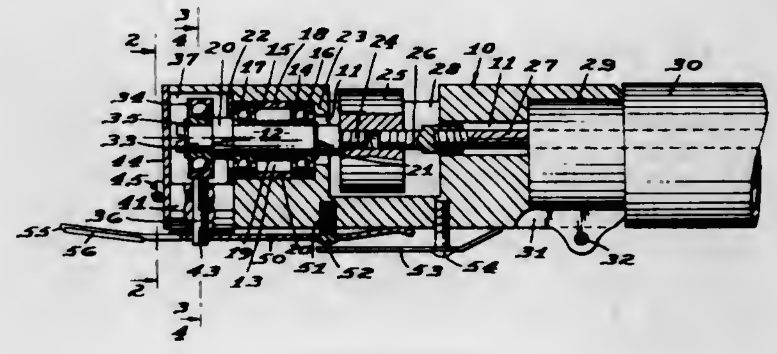


3,377,702
SIMPLIFIED HIGH POWER SWINGING SCRAPER TOOL

Reginald J. Aspeek, 8403 Millis Road, Utica, Mich. 48087

Filed Apr. 15, 1966, Ser. No. 542,919

7 Claims. (Cl. 30—169)



A scraping tool having a sidewise reciprocating blade driven by one end of a drive pin which is slidably and leverwise mounted in a pivotal fulcrum member with the other end of the drive pin connected to a driven oscillating member such as a non-rotating outer bearing race oscillated as by rotating inner bearing race mounted on an eccentric members such as a stub shaft on a motor driven shaft.

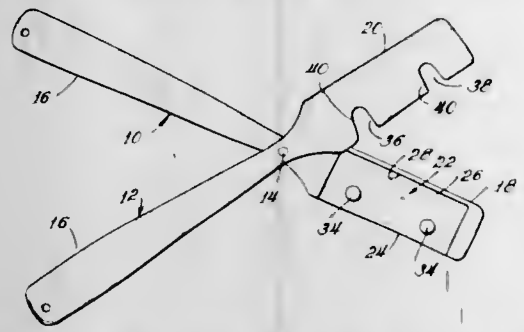
3,377,703
RAZOR BLADE HOLDER

Felice Longobardi, 3643 W. 55th St., Chicago, Ill. 60632

Filed Oct. 5, 1966, Ser. No. 584,546

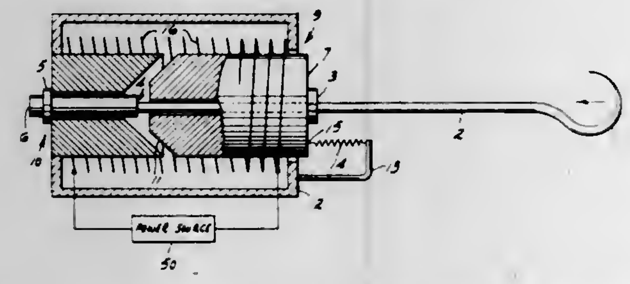
1 Claim. (Cl. 30—330)

The holder for stropping razor blades is formed of two members pivoted together in scissors like manner. When opened, a blade receiving recess is exposed on top of the lower blade which has pins upstanding to receive and position a double-edged blade with one edge exposed. The upper member is notched to receive the pins, the pins acting as a stop when the two members are swung into alignment. The recess is deep enough at its rear end to protect the unexposed edge of the blade as the two members are swung from the open (receiving) position to the aligned position. The depth of the recess reduces forwardly to clamp the blade along the edges of the members nearest the exposed edge. The cross-section of the assembly in clamping position resembles that of a straight edge razor.



3,377,704
APPARATUS FOR THE REMOVAL OF A CEMENTED DENTAL STRUCTURE

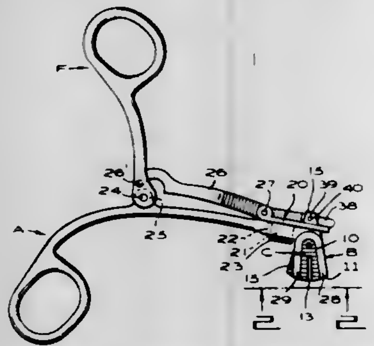
Sidney Steven Brodie, 720 Fort Washington Ave., New York, N.Y. 10040, and Albert de la Lastra, 19 Cambridge Ave., Bethpage, N.Y. 11714
Filed Nov. 19, 1964, Ser. No. 412,540
5 Claims. (Cl. 32—43)



This invention relates to an apparatus for the removal of a cemented dental structure in which a mechanical arrangement capable of transmitting mechanical energy along the longiutdinal axis of the structure uses a variety of magnetically operable means for imparting impacting forces to the mechanical arrangement. The magnetically operable means include a controlled source of magnetic energy selectively activating movable masses of magnetic material to vary the frequency and phase of the impacting sequence.

3,377,705
DENTAL INSTRUMENT WITH DETACHABLE MATRIX BAND CLAMPING BLOCK

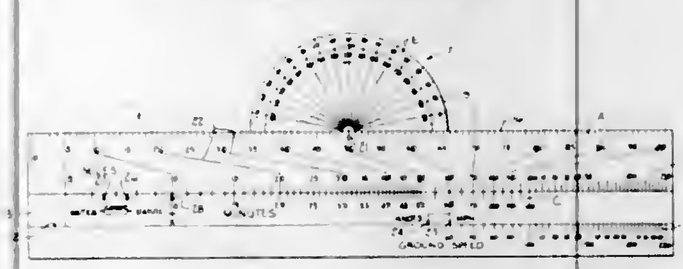
Benjamin F. Toffiemire, 41301 Crest Drive, Hemet, Calif. 92343
Filed Aug. 22, 1967, Ser. No. 662,388
7 Claims. (Cl. 32—63)



A dental instrument with detachable matrix band clamping block having a supporting handle provided with a head at a forward end thereof, the head having a saddle into which a detachable clamping block may be removably inserted. This block has a housing that is slotted for receiving overlapped end portions of a looped matrix band, and a crimping blade is provided by forming interlocking crimps in the band, when an operating handle of the instrument is actuated.

3,377,706
COMBINED COMPUTER AND PLOTTER FOR AERONAUTICAL, NAUTICAL AND SIMILAR USES

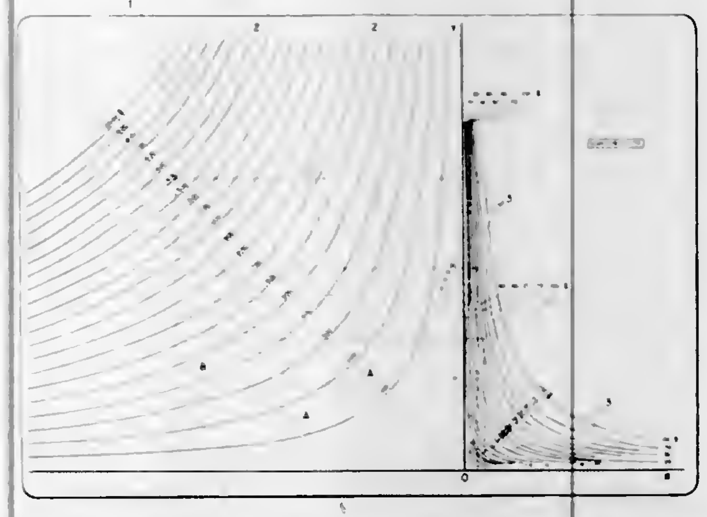
Charles D. Shrader, 427 E. Lewelling Blvd., San Lorenzo, Calif. 94580
Filed Oct. 8, 1965, Ser. No. 494,217
3 Claims. (Cl. 33—75)



This disclosure describes an instrument which is a combination of a slide rule computer and a chart plotter of the type used in navigation. The instrument comprises an elongated rectangular strip having a plotter scale adjacent a first longitudinal edge thereof and a semi-circular protractor pivotally secured thereto at such edge for movement between an exposed position in which the protractor cooperates with the scale in plotting on a chart and a retracted position in which the protractor is housed within a slot in the strip. The strip also includes an elongated channel extending lengthwise of one of its faces and in which a computer slide is mounted for slidable translation. Appropriate computer scales are provided on the strip adjacent the channel and on the slide so that distance, time or speed can be computed. The plotter scale is correlated with the computer scales to facilitate the making of navigational calculations.

3,377,707
INSTRUMENT FOR MEASURING RECTANGULAR AREAS

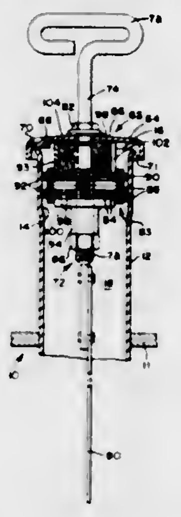
James L. Breese, San Francisco, Calif., assignor to Breese Instrument Co., San Francisco, Calif., a partnership
Filed Sept. 11, 1964, Ser. No. 395,670
1 Claim. (Cl. 33—121)



The present invention relates to an improved instrument of the hyperbola-curve type by which areas of rectangular surfaces can be read, without calculation and with close approximation, directly from scale drawings such, for example, as architects' drawings of building structures. Prior hyperbola-type instruments have been limited to determination of relatively small rectangular areas because of characteristics inherent in hyperbola-curve graduation means, as hereinafter explained. The novel graduation means of the present invention largely avoids the stated limitation with corresponding enlargement of the instrument's usefulness.

3,377,708
COMBINED ULLAGE ROD AND BREATHER CAP

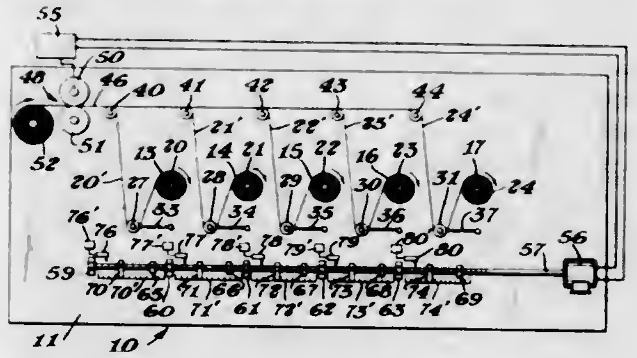
Max P. Gassman, Waterloo, and John P. Singer, Cedar Falls, Iowa, assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Apr. 19, 1965, Ser. No. 448,969
6 Claims. (Cl. 33—126.7)



A combined ullage rod and breather cap removably mounted in the access opening of an oil reservoir measures the oil level therein, and has a cap fittable over the access opening and attached to the rod, and further has a handle on the cap exterior by which the rod is rotated to contract or expand a sealing member mounted on the rod and engageable with the walls of the opening loosely or tightly to seal the opening. A filter element is provided between the cap and the sealing member. The latter has a vent passage for venting the oil reservoir through the filter and past the cap to the atmosphere.

3,377,709
WINDING APPARATUS

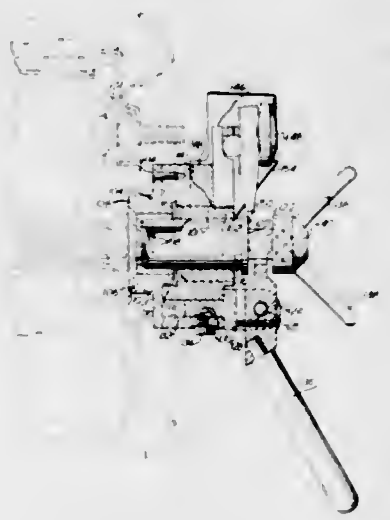
John R. Frost, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Continuation-in-part of application Ser. No. 361,857, Apr. 22, 1964. This application June 24, 1966, Ser. No. 560,389
3 Claims. (Cl. 33—132)



A multiple spindle winding machine for winding filaments into packages having a predetermined length and having a fixed ratio of rotation between a snubber roll over which the filaments pass and a lead screw, and a plurality of sets, each set associated with a spindle and comprising a nut normally threadedly engaged with said lead screw and optionally disengaged therefrom and longitudinally slidable along said lead screw in the disengaged position between a stop affixed to said lead screw and a switch and operatively connected signal means disposed adjacent said lead screw, and a scale adapted to aid in the positioning of said nut along said lead screw. The nut being adapted to engage the switch and activate the signal means when a desired length of filament is wound on a spindle.

3,377,710
BEARING FREE-PLAY INDICATOR

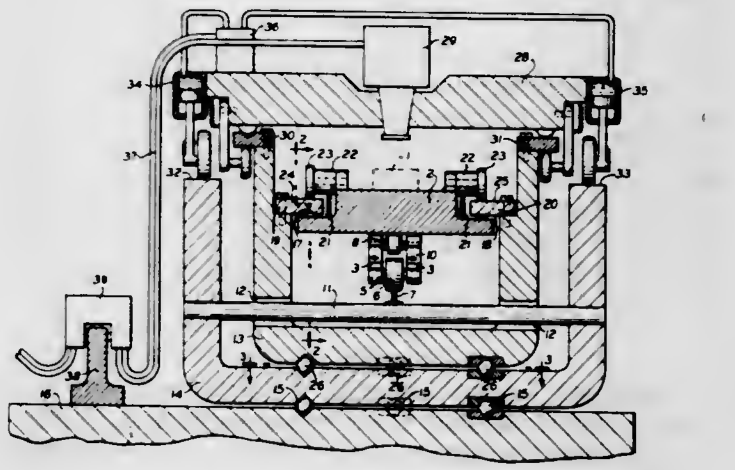
Robert J. Chlopan, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Jan. 5, 1966, Ser. No. 518,935
2 Claims. (Cl. 33—174)



This specification describes a rotary bearing structure. It includes a means for measuring the free-play of a bearing assembly having a pair of spaced bearing elements.

3,377,711
PRECISION MACHINE

Bernhard Wempe, Egerer, Chieming, Upper Bavaria, Germany, assignor to Wenczler and Heidenhain, near Fraunstein, Germany, a corporation of Germany
Filed Sept. 4, 1963, Ser. No. 306,533
Claims priority, application Germany, Sept. 5, 1962, W 32,901
13 Claims. (Cl. 33—174)



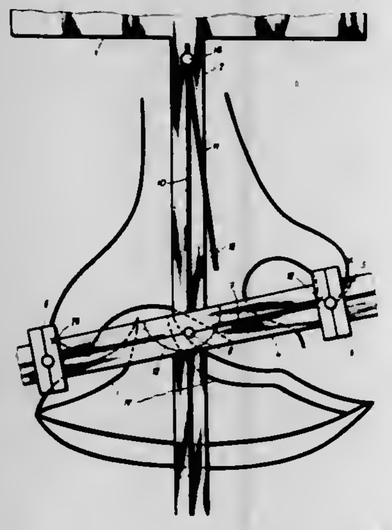
1. A precision machine such as a measuring or division machine including a displaceable structure, comprising
a foundation,
a structure adapted to support a work piece,

at least one longitudinal guide track displaceably receiving said structure,

a supporting track means including a longitudinal supporting track supporting said structure and operatively supported on said foundation in order to relieve said guide track from its load, and

connecting means disposed between said guide track and said supporting track means and supporting said guide track independently of said supporting track for preventing the transmission of bending movements from said supporting track means to said guide track, and said connecting means being operatively supported by said foundation.

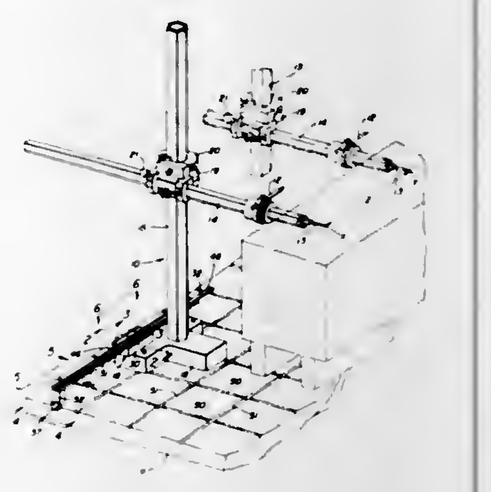
3,377,712
FACEMETER
Gabriel Ladislav Farkas and Karel Hajnis, Prague, Czechoslovakia, assignors to Ceskoslovenska Akademie ved., Prague, Czechoslovakia
Filed Nov. 26, 1965, Ser. No. 509,922
Claims priority, application Czechoslovakia, Dec. 28, 1964, PV. 7,369/64
6 Claims. (Cl. 33—174)



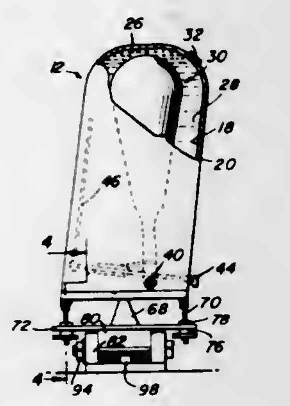
A T-shaped frame has an upright arm and a stationary transverse arm. The upright arm is provided with an elongated longitudinally extending recess. An adjustable transverse arm is journalled in the recess of the upright arm for rotation and for movement along the recess and is itself provided with a longitudinally extending elongated recess. Height-measuring members are provided on the adjustable transverse arm and are mounted for movement in the recess thereof in a plane parallel to the frame, and are also adjustable for displacement in the direction normal to this plane. A first scale extends along each of the recesses in parallelism therewith, and a second scale is provided on the adjustable transverse arm for indicating the angular position thereof with reference to the upright arm. A pointer is provided on the upright arm journalled in the recess of the same for rotation and for longitudinal movement and is adapted to cooperate with the second scale for indicating the angular position of the pointer with reference to the upright arm.

3,377,713
THREE-DIMENSIONAL LAYOUT DEVICE
Frederick S. Schiler, Stow, Ohio, assignor to Portage Machine Company, Akron, Ohio, a corporation of Ohio
Continuation of applications Ser. No. 766,051, Oct. 8, 1958, Ser. No. 236,781, Nov. 8, 1962, and Ser. No. 456,880, Apr. 30, 1965. This application Mar. 8, 1967, Ser. No. 642,613
9 Claims. (Cl. 33—174)

A layout device for marking locations on planar surfaces comprising a linear measuring device acting between a supporting surface and the base of the layout device to accurately determine the distance of movement of the base. The supporting surface is provided with parallel grooves spaced apart fixed distances and means for engaging the linear measuring device in said grooves in order to accurately determine the distance of movement of the device.



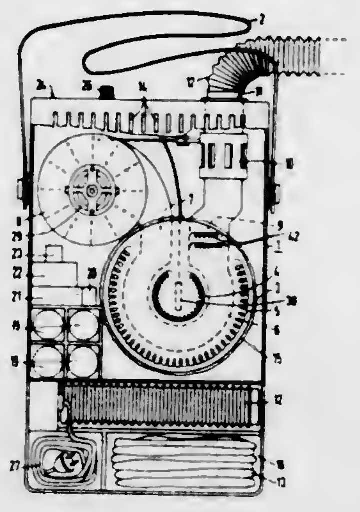
3,377,714
CONTOUR LEVEL
Victor G. Carlson, R.R. 2, Cherokee, Iowa 51012
Filed Oct. 8, 1965, Ser. No. 493,965
3 Claims. (Cl. 33—206)



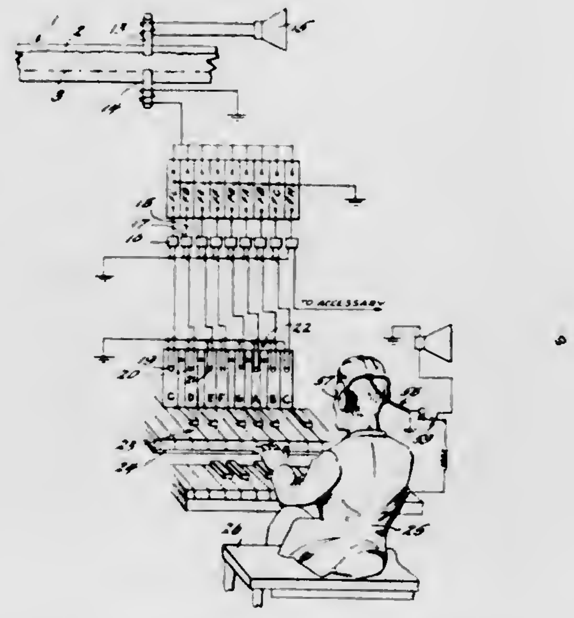
A grade indicator including an axially mounted float immersed in a liquid contained within a housing. A cam rod is attached to the float which is received by a cam follower, the latter being attached to a rotating shaft oriented perpendicular to the float axis of rotation. A pointer is attached to the cam follower shaft thereby effecting a translation of rotational motion from the float. Finally, a dial is provided on a housing wall in front of the pointer for an indication of the angular displacement of the housing with respect to the float, this being a measure of the grade traversed by the indicator.

3,377,715
PORTABLE HAIR DRYER
Otto Hübner, 3 Pernerkreppe, Munich 27, Germany
Filed Apr. 12, 1966, Ser. No. 542,047
Claims priority, application Germany, Apr. 14, 1965, H 55,789
3 Claims. (Cl. 34—99)

A portable hair dryer having a carrying case with a motor driven blower mounted within the case. A heat storage member is within said case through which air is blown from which heated air is mixed with a selected amount of cold air and delivered to the head of the user.

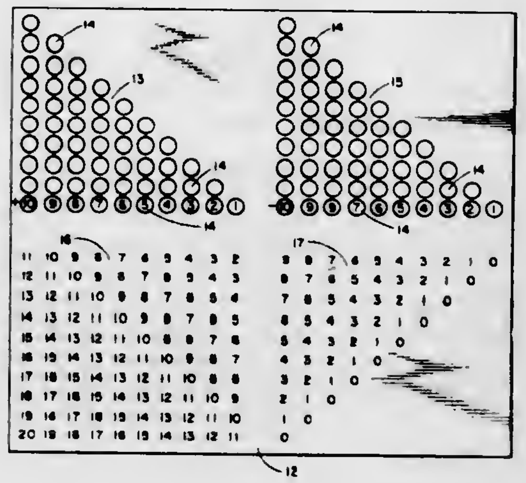


3,377,716
METHOD OF AND APPARATUS FOR TEACHING THE OPERATION OF A KEYBOARD CONTROLLED MACHINE OR INSTRUMENT
Arthur R. Schmoyer, Falls Church, Va., assignor to Don S. Wenger, Bethesda, Md.
Continuation-in-part of application Ser. No. 362,360, Apr. 24, 1964. This application Jan. 12, 1965, Ser. No. 424,998
6 Claims. (Cl. 35—6)



A combined visual-audio teaching aid for keyboard instruments by which a pupil may simultaneously be subjected to vocal and visual stimuli to aid him in identifying a given key which when operated will cause the instrument to perform a given function. The stimuli may be developed by concurrent "readout" of a multiple track record medium bearing a vocal sound track synchronized with a signal impulse track in combination with a loudspeaker and plural visual signal devices respectively, the latter being disposed in identifying relationship to the respective keys of the instrument and being individually and selectively responsive to predetermined electric impulses in code as developed upon "readout" of said signal track.

3,377,717
DEVICE FOR TEACHING ADDITION AND SUBTRACTION
Thomas M. Rowe, 1412 Elm Ave., Portsmouth, Va. 23704
Filed July 27, 1966, Ser. No. 568,329
6 Claims. (Cl. 35—31)



1. A device for teaching arithmetic, comprising:

(A) a base sheet having a horizontally disposed lower extremity and carrying

(a) an addition scale including a plurality of vertical columns of vertically spaced identical unity indicator marks, the number of said unity indicator marks in each of the said columns thereof in said addition scale differing, with one of the said unity indicator marks in each of the said columns thereof in said addition scale including numerical indicia correlative with the number of said unity indicator marks in the column; as well as

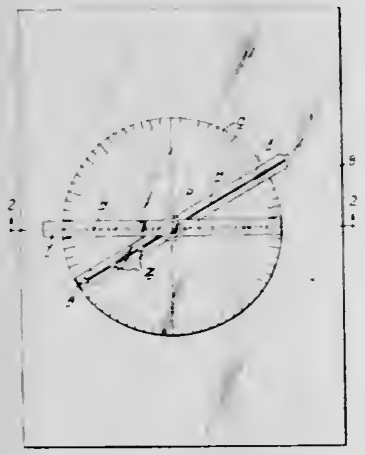
(b) an addition answer table disposed a distance below said addition scale, said addition answer table including a column of numbers situated directly beneath each of the said columns of unity indicator marks of said addition scale, the uppermost number in each of the columns thereof in said addition answer table being placed at the same vertical level on said base sheet and further being equal to the number of unity indicator marks in the column thereof in said addition scale situated directly thereabove plus one, the remaining numbers in each of the said columns thereof in said addition answer table being equal to the number situated directly thereabove plus one, the number greater by the same amount than the uppermost number in the column in each of the said columns thereof in said addition answer table being placed at the same vertical level on said base sheet; and

(B) an overlay sheet having a horizontally disposed lower extremity superposed for transverse sliding movement at a constant vertical level on said base sheet, said overlay sheet having an upper extremity disposed below said addition scale carried by said base sheet, said overlay sheet having an aperture formed therethrough at the vertical level of each of the said numbers in the said columns thereof in said addition answer table carried by said base sheet, said apertures further being spaced across said overlay sheet, said overlay sheet further carrying a master scale including a plurality of vertical columns of vertically spaced identical unity indicator marks, the number of said master scale unity indicator marks in each of the said columns thereof differing, with one of the said master scale unity indicator marks in each of the said columns thereof in said master scale carrying numerical indicia correlative with the number of said master scale unity indicator marks in the column, each of the said columns of said master scale unity indicator marks being situated directly above one of said overlay sheet apertures, the number of said master scale unity indicator marks in the column thereof situated directly above an overlay sheet aperture being equal to the difference between the number in a column thereof in said addition answer table viewable through said aperture and the uppermost number in the said column thereof in said addition answer table.

3,377,718

DEVICE AND METHOD FOR DEMONSTRATING THE MEASUREMENT OF ANGLES

Cornelius Savin, Westbury, Alan G. Vorwald, Bethpage, and Christopher R. Vagts, Huntington, N.Y., assignors to Antran Corporation, a corporation of New York
Filed Oct. 22, 1965, Ser. No. 500,778
6 Claims. (Cl. 35—34)



An animated transparency device and method for demonstrating visually the concepts and measurement of angles and their relation to one another comprising a circular member having markings arranged around the circumferential edge thereof with a pair of rotatable arm-like members pivotally attached thereto at the center thereof, each having a longitudinally extending hairline thereon, one of said rotatable members having at least a pair of holes therein in which a marking instrument is adapted to be inserted for inscribing circles on said circular member, all of said members being made of a transparent material of identifying and contrasting colors adapted to be projected on a screen by an overhead projection.

3,377,719

GLOBE NAVIGATION SIMULATOR

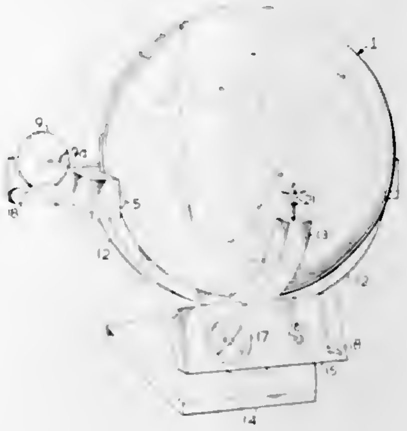
Roman B. Kroitor, 3538 Marlowe Ave., Montreal, Quebec, Canada
Filed Dec. 3, 1964, Ser. No. 415,674
Claims priority, application Canada, Oct. 6, 1964, 913,326
8 Claims. (Cl. 35—46)

1. A globe navigation simulator comprising:

(i) a planetary globe;

(ii) a support base;

(iii) a pair of driven rotatable support means carried by said base, the axes of rotation of each of said rotatable support means being mutually perpendicular and fixed relative to said support base, said axes lying on a diametral plane of said planetary globe, further support means carried by said base and including one support means located diametrically opposite one of said driven rotatable support means, said globe being supported for free movement on said driven and further support means and being maintained in position on said support means by gravity, said pair of driven rotatable support means being in frictional engagement with the surface of said planetary globe at points on said diametral plane disposed 90° from each other as measured from the center of said globe for rotating the globe;



(iv) a first drive means operatively connected to one of said driven rotatable support means;

(v) a second drive means connected to another of said driven rotatable support means, said first and second drive means adapted to be operated independently, simultaneously and sequentially;

(vi) position indicator means connected to said base, said position indicator being located adjacent the surface of said globe and serving an observer to follow navigational courses when said globe is rotated.

3,377,720

MATERIAL FOR SHOE CONSTRUCTIONS

Sheldon R. Kaplan, Skokie, Ill., assignor to Ny-Linn Chicago Corp., Skokie, Ill., a corporation of Illinois
No Drawing. Filed Dec. 6, 1965, Ser. No. 512,009
7 Claims. (Cl. 36—2.5)

A shoe construction having heel and sole portions attached to an upper. The heel and sole portions define wearing surfaces, and the material forming these wearing surfaces consists of polyurethane in combination with a reinforcing composition selected from the group of materials consisting of glass fiber and polyester fiber. The reinforcing composition is located at least in the area immediately adjacent the wearing surfaces, and this combination improves gripping action, particularly during nailing and stitching operations.

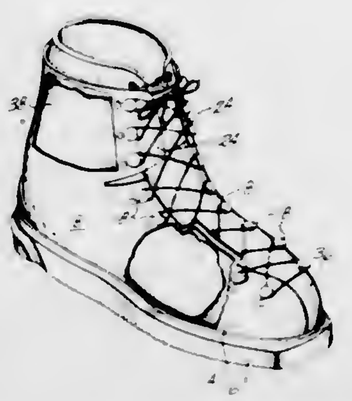
3,377,721

REINFORCED SKI BOOT AND METHOD OF MAKING THE SAME

Raymond R. Johnson, 6457 S. 124th, Seattle, Wash. 98178
Filed May 4, 1966, Ser. No. 547,459
14 Claims. (Cl. 36—2.5)

A reinforced ski boot or the like is disclosed, together with the method for reinforcing it. According to the method, the boots are mounted over mandrels corresponding to the wearer's feet, having ankle portions thereon which occupy the foot access openings in the tops of the boots. These mandrels may be constituted by the wearer's feet themselves. In any event, cavities are formed between the mandrels and the sides of the boots, which communicate with the ambient outside surroundings of the boots, through ankle openings in the tops of the

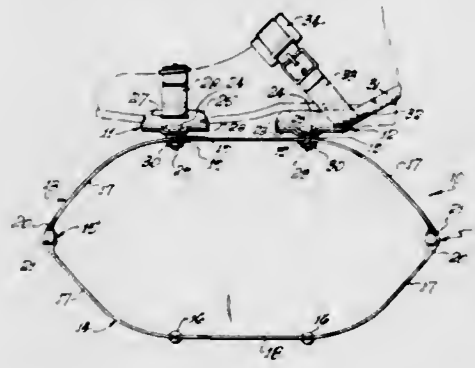
boots at a level adjacent the aforesaid ankle portions of the mandrels. A foamable liquid resin compound is introduced into each such cavity, through the ankle opening thereof, when the resin is in a viscous catalyzed, but substantially uncured, foamed condition. The sides of the boots are then compressed against the mandrels, while the cavities are in communication with the outside surroundings of the boots through the ankle openings, so that the foam cells are collapsed and the resin is formed into semi-rigid ankle-fitting plates as it cures.



3,377,722

BOUNCING SHOES

Billy N. Downing, 1676 E. Kingsley Ave., Apt. 1, Pomona, Calif. 91767
Filed Mar. 13, 1967, Ser. No. 622,488
10 Claims. (Cl. 36—7.8)



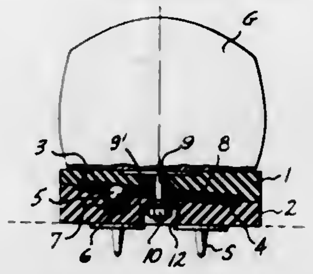
This disclosure is directed to a toy or exercising device which may be attached to one or both feet to augment walking, running and jumping capabilities and provide safe, healthful entertainment. The device is operable by a bouncing or jumping motion to propel the person upwardly into the air, whereby after repeated rebounding the person is able to bounce to relatively great heights and distances as determined by the bouncing ability of the person and by the capacity of the device. The operation of the device is due to the novel spring configuration wherein each of the pairs of spring members consists of independent, uniformly tapered cantilevers which uniformly distribute the stresses induced during compression of the device, the adjacent ends of the cantilever of each spring member are pivotably interconnected. The device also is provided with an adjustable foot support.

3,377,723

ADJUSTABLE GOLF SHOE HEEL

Robert C. England, 109 Chase Ave., Cashmere, Wash. 98815
Filed July 18, 1966, Ser. No. 565,822
7 Claims. (Cl. 36—39)

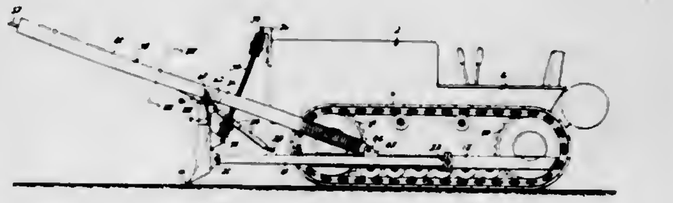
1. A composite golf shoe heel comprising upper and lower heel sections each having an inclined face forming thereby one thick side and an opposite thin side, mounting means mounting said upper and lower sections with said inclined faces in face-to-face relationship, and locking means for locking said upper and lower sections in selected relative positions to alter the tilt of the heel lower surface relative to the heel upper surface.



3,377,724

TREE PUSHER ATTACHMENT FOR BULLDOZERS

William A. Jones, Jr., 710 S. Spring, Nevada, Mo. 64772
Filed May 7, 1965, Ser. No. 454,104
2 Claims. (Cl. 37—2)

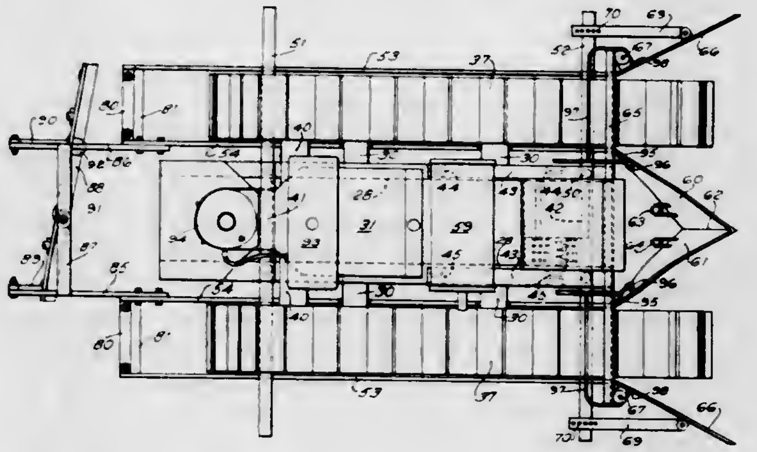


A tree pusher attachment for a tractor having a bulldozer constituting a bulldozer blade extending horizontally in front of the tractor by means of pusher beams attached at their forward ends to said blade and connected at their rearward ends to the frame of the tractor for pivotal movement on a horizontal transverse axis, said tree pusher attachment comprising a second pair of pusher beams pivoted at their rearward ends respectively to said first pusher beams, on a horizontal transverse axis, and extending forwardly of said bulldozer blade to rest on the upper edge thereof, and means attaching said second pair of pusher beams to said bulldozer blade.

3,377,725

SNOW COMPRESSING APPARATUS

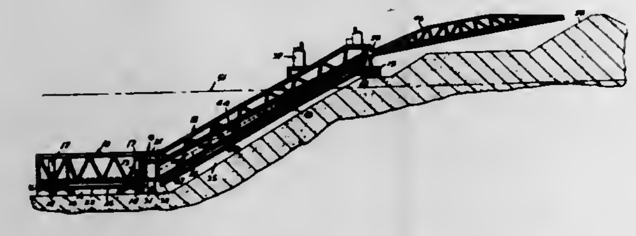
Ferdinand J. Armbrust, 350 W. Main Road, Newport, R.I. 02840
Filed Mar. 31, 1965, Ser. No. 444,244
4 Claims. (Cl. 37—10)



An apparatus for compacting snow for more easy storing or handling comprising using the weight of the vehicle to compact the snow by directing snow as the snow travels beneath the vehicle which has some revolving means such as an endless belt or chain for propelling the vehicle and then cutting the compacted snow into suitable units for easy handling.

3,377,726
CANAL TRIMMER

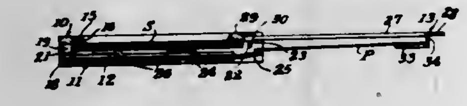
Raymond A. Hanson, % R. A. Hanson Company,
Palouse, Wash. 99161
Filed May 24, 1965, Ser. No. 457,988
4 Claims. (Cl. 37—82)



A canal trimmmer comprising a horizontal bottom frame, a slope frame and an intermediate digging wheel frame. The outer ends of the three connected frame sections are supported by powered tracks that are vertically adjustable. A horizontal and slope plane sections are each provided with digging and trimming augers which carry excess soil to the digging wheel frame, which is provided with an upright digging wheel. A wheel lifts the soil carried to it and drops it upon a powered discharge conveyor which carries the soil to the side of the excavation.

3,377,727
PICTURE VIEWER

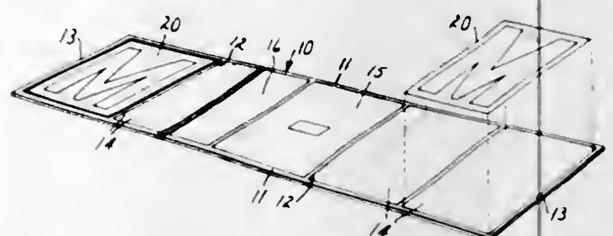
John H. Weggeland, 9137 Lilienthal Ave.,
Los Angeles, Calif. 90045
Filed June 1, 1966, Ser. No. 554,370
7 Claims. (Cl. 40—79)



1. A picture viewer comprising:
(a) a rectangular frame having a top face with an opening therein and provided with a skirt around three edges of the face defining a space to accommodate a stack of pictures,
(b) a member across the bottom of the frame provided with means to impose a resilient bias against the bottom of the stack to press the topmost picture against the under side of the face of the frame,
(c) a shuttle slidably mounted in said frame and guided therein for movement between retracted position within the confines of the frame and extended position beyond the fourth edge of the frame face,
(d) pusher means on the shuttle to engage against the edge of the topmost picture that is opposite said fourth edge of the frame face and carried by the shuttle, when the latter is extended, to a position beyond the remainder of the stack and, thereby released to fall gravitationally,
(e) a portion of said member across the bottom and a ledge on the shuttle intercepting the released picture to hold the same at a height below the lowermost picture and in laterally offset relation with the newly exposed topmost picture of said remainder of the stack, and
(f) a portion on the shuttle to abut against the other edge of said released picture to transport said picture to a position at the bottom of the stack when the shuttle is returned to retracted position.

3,377,728
METHOD AND APPARATUS FOR ARRANGING ALPHA-NUMERIC INDICIA

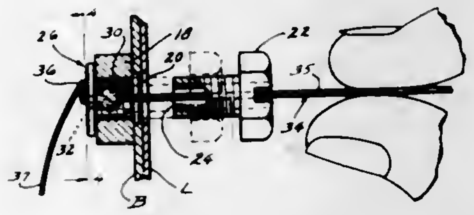
Herbert Bernette Miller, Jr., 3835 Shady Oak Road,
Hopkins, Minn. 55343
Filed Oct. 22, 1965, Ser. No. 501,773
1 Claim. (Cl. 40—125)



A series of opaque indicia bearing transparent panels are adhesively secured to a base having properly colored areas to receive the several panels and to thus give a finished appearance to the assembly.

3,377,729
LICENSE-PLATE FASTENING MEANS

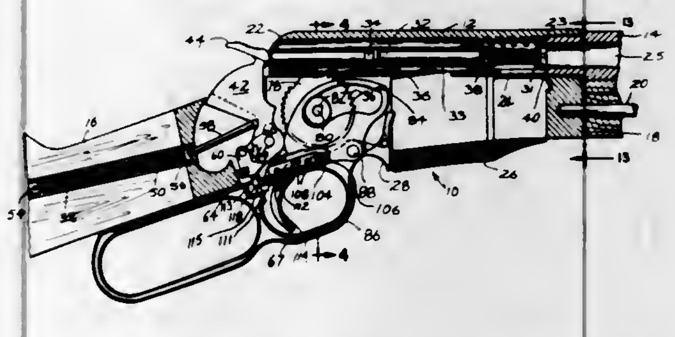
Robert F. Anderson, 825 Wisconsin Ave.,
Racine, Wis. 53403
Filed Mar. 23, 1966, Ser. No. 536,773
1 Claim. (Cl. 40—209)



A means to facilitate mounting a license plate on an automobile frame or bumper when the end of the bolt is not easily reached in order to apply the nut thereto. In this means, the nut is strung on a wire or similar member which is inserted in the mounting hole from the rear of the frame, and is made to extend forwardly of the plate to be secured. The bolt has an axial bore to permit it to be strung on the forwardly-protruding portion of the wire. It is then shifted therealong to threadedly engage the nut and be threadedly secured to the nut while the wire is held taut. The wire member is then withdrawn rearwardly.

3,377,730
BOLT MECHANISM FOR BOLT ACTION TYPE FIREARM AND MECHANISM USED THEREIN FOR CONVERTING ROTARY MOTION TO RECIPROCATING AND ROTARY MOTION

Karl R. Lewis, 77 Olney Road,
Wethersfield, Conn. 06109
Continuation-in-part of application Ser. No. 524,763, Feb. 3, 1966. This application Dec. 16, 1966, Ser. No. 609,979
35 Claims. (Cl. 42—16)

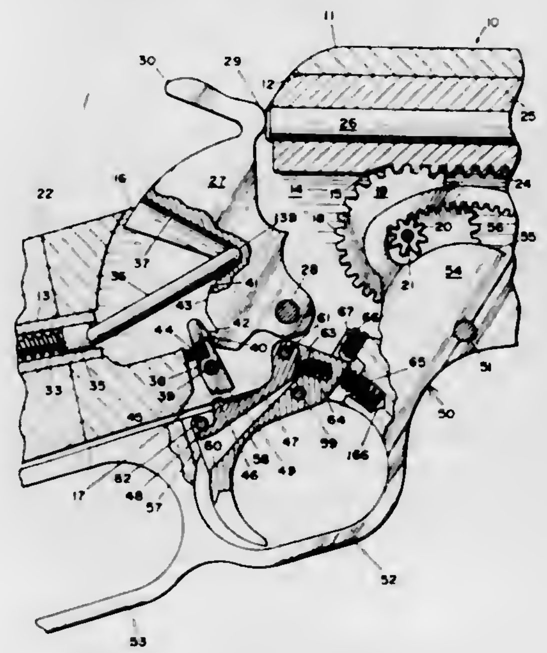


This application discloses a number of bolt action type firearms and in general is specifically directed to the

mechanism for moving the bolt, and associated parts of the firing mechanism, of such a firearm relative to the associated barrel and housing for bringing cartridges into and out of a firing position and for otherwise conditioning the firearm for proper operation. The mechanism for operating the bolt consists of gear teeth formed on a part of the bolt and a rotary gear element meshing with such bolt teeth. Various different types of gear elements, and ways of driving the same, are disclosed, as are various different forms of gear teeth, or gear teeth in combination with other elements, for reciprocating the bolt longitudinally as well as moving it in a second direction, angularly or radially, to lock and unlock it when in one limit of its longitudinal movement, as a result of continuous rotary motion of the gear element.

3,377,731
LEVER ACTION TRIGGER SYSTEM

John S. Lawrence, Ogden, Utah, assignor to Browning Industries, Inc., Mountain Green, Utah
Filed Mar. 14, 1966, Ser. No. 534,115
9 Claims. (Cl. 42—20)

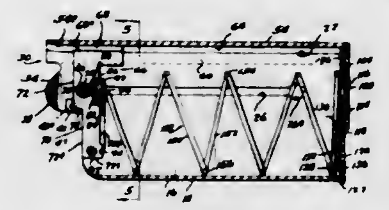


A firearm having a receiver, a hammer and a cocking lever pivotally mounted on the receiver capable of cocking the hammer to a half-cock or full-cock position, a sear pivotally mounted in the receiver, the hammer having a deep notch and a shallow notch engaged by the sear when the hammer is in the half-cock and full-cock positions respectively, a trigger pivotally mounted on the cocking lever, the trigger having a sear link pivotally mounted at one end and a stop member on the other end for limiting the pivotal movement of the sear link; the sear link being provided with a hook which engages the sear to release the hammer only when the hammer is in the full-cock position and being ineffectual to engage the sear when the hammer is in a half-cock position or when the trigger is depressed prior to completion of the cocking action of the rifle.

3,377,732
LOADING MAGAZINE FOR REVOLVER CYLINDER

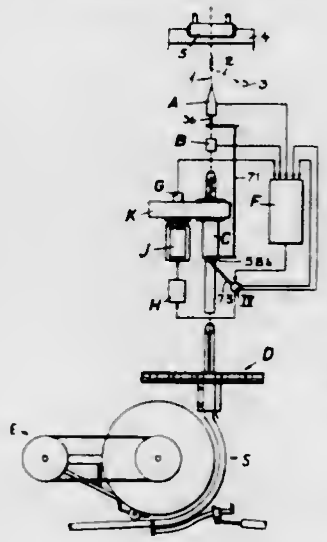
Norman A. Bivens, 10664 Wheatland Ave.,
Sunland, Calif. 91040
Filed Aug. 5, 1966, Ser. No. 570,525
8 Claims. (Cl. 42—50)

An easy loading magazine for use with revolvers, said magazine comprising: an elongated, tubular cartridge-receiving channel closed at one end; a cartridge follower in said channel; a spring between said follower and said closed end; a pin passing through said follower and penetrating opposed grooves in said channel walls whereby said spring may be manually compressed to facilitate loading said magazine.



3,377,733
MACHINE FOR HANDLING A HALIBUT LONG LINE AND THE LIKE

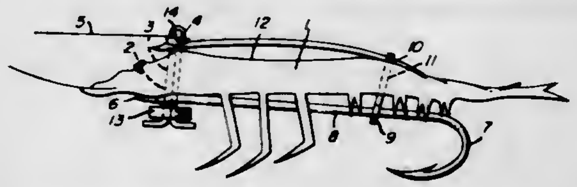
Einar Godo, 17103 NE. 16th Place,
Bellevue, Wash. 98004
Filed Sept. 21, 1965, Ser. No. 489,013
12 Claims. (Cl. 43—4)



1. A machine for handling a halibut long line or the like having gangions fixed at spaced intervals with hooks thereon, the fish having been removed from the hooks, comprising in combination; means for hauling in said line at a constant speed, an electrical control system, means for sensing the direction the gangion is wound about the line and storing the information in the control system, means for counting the number of turns of the gangion about the line and storing the information in the control system and means controlled by said control system for unwinding the turns of the gangion according to the stored information.

3,377,734
ARTIFICIAL FISHING LURE

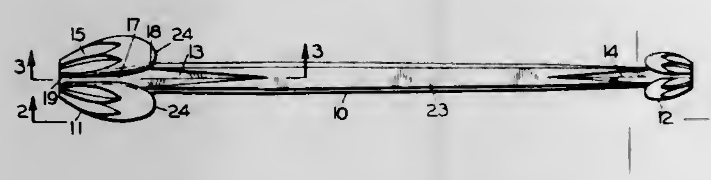
Lawrence L. Snow, P.O. Box 3722,
St. Petersburg, Fla. 33731
Filed Dec. 9, 1964, Ser. No. 417,123
1 Claim. (Cl. 43—42.24)



1. An artificial fishing lure, comprising an elongated lure body molded of a flexible, rubber-like material and

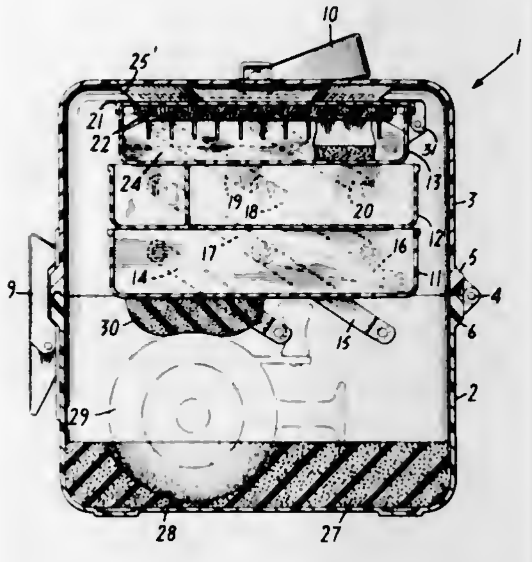
having a relatively rounded upper surface and a relatively flat lower surface, a fish hook disposed beneath the lure body and having an eye positioned rearwardly of the forward end of the lure body and a shank extending longitudinally rearwardly and terminating in a barbed point adjacent to the rear end of the body, a first cotter pin having a shank extending perpendicularly downwardly through the lure body and through the eye of the hook, said cotter pin having an eye projecting above the upper surface of the body, a light thin washer having an aperture therein secured to the shank of said cotter pin by the passage of said cotter pin shank through the said aperture and disposed between the eye of said cotter pin and the upper surface of the lure body, a flat, disc-like weight having an aperture therein disposed below the eye of the hook with the cotter pin shank also passing through the aperture in the weight and being deformed below said weight to maintain the attachment of the weight and the forward end of the hook to the lure body; a second cotter pin having a shank extending perpendicularly upwardly through the lure body adjacent the rear end thereof, said second cotter pin having an eye freely enclosing the rear shank of the fish hook and projecting below the lower surface of the lure body, the ends of said second cotter pin projecting above the upper surface of said body and being deformed to generally conform to the shape of the upper surface of said body; a fishing line secured to the eye of the cotter pin, the arrangement of parts permitting the hook shank to slide freely within the eye of the second cotter pin when force is applied to the hook by a hooked fish to cause the shank of the first cotter pin to bend slightly out of the perpendicular and the weight below the hook eye to act as a lever and press upwardly against the shank and eye of the hook, whereby the tension and stress upon the hook is transmitted through the parts to the fishing line.

3,377,735
DEVICE FOR REMOVING EMBEDDED FISHHOOK
Albert E. Daughtry, 700 Wilkes Drive,
Eugene, Oreg. 97402
Filed Apr. 29, 1966, Ser. No. 546,258
4 Claims. (Cl. 43—53.5)



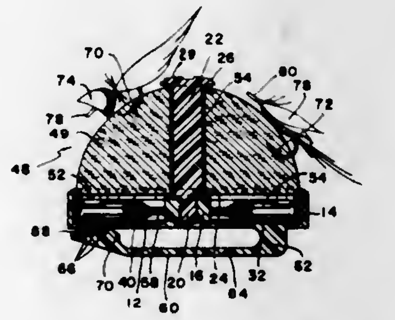
1. A fishhook removing device comprising a shaft member, a knob mounted at the end of such shaft member, said knob being hollow and having an interior chamber open at each end of said knob, said shaft member having a substantially V-shaped groove beginning near said end of said shaft member and leading down into the end of said knob chamber, said knob having a longitudinal slit extending through one side of said knob for the entire length of said knob leading into said knob chamber, the longitudinal center line of said slit extending in the same plane as the center line of said groove, the width of said slit increasing from the middle portion of said slit to the ends of said slit, the intersections of the walls of said slit with the inner and outer ends of said knob and the intersections of the walls of said slit with the outer surface of said knob and with the wall of said chamber being rounded, and said walls of said slit at said inner end of said knob merging into the walls of said groove respectively, whereby the fishhook line can be easily and freely received into and discharged from said knob as desired.

3,377,736
BOX CONSTRUCTIONS
Richard G. Woolworth, Lancaster, Pa., assignor to
Old Pal, Inc., Lititz, Pa.
Filed Sept. 10, 1965, Ser. No. 486,373
9 Claims. (Cl. 43—57.5)



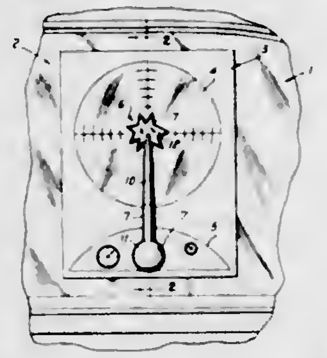
A box for tools, fishing tackle and the like including a lower portion and an upper lid portion pivotally connected thereto; at least one tray means is supported by cantilever mechanism and is arranged to be moved into and out of the box on closing and opening of the lid portion; oppositely located cushion material is provided in the box to protect articles disposed therebetween against shock; the tray means is provided with a cover; the interior bottom of the tray and the interior of the cover are also provided with resilient cushion material to support articles therebetween against shock; a rigid member extends inwardly of the box lid and engages and positively retains the tray cover in closed position.

3,377,737
COMBINATION LURE CARRIER AND LEADER DISPENSER
Floyd R. Campbell, Wichita, Kans., assignor of fifty
percent to Vincent J. Walter, Wichita, Kans.
Filed Oct. 21, 1965, Ser. No. 499,684
8 Claims. (Cl. 43—57.5)



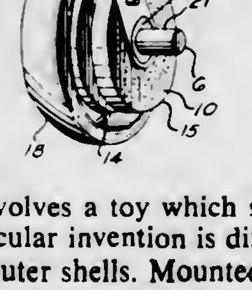
A fisherman's accessory which is provided with a clip for attachment to the user's belt or other part of his clothing, and which accessory includes an outwardly facing rotatably mounted body that is pierceable for removable retention of hooks, flies, lures, and the like. The accessory also includes a rotatably mounted reel for dispensing such lengths of leader or the like needed, and provision is made for enabling the user to sever a selected length of line from the reel.

3,377,738
TOY
Leo Allen Goodrum, Jr., 4717 Birchman,
Fort Worth, Tex. 76107
Filed Dec. 15, 1965, Ser. No. 514,091
2 Claims. (Cl. 46—1)



1. In an amusement device for children for attachment to the inside of an automobile window, the combination of a first piece of transparent plastic flexible sheet material having a representation of a gun sight, and of an instrument panel, thereon, a second piece of plastic flexible sheet material, relatively smaller than said first piece, secured to one side of the first piece by heat sealing around its peripheral edges to form a fully enclosed, fluid tight pocket, and a body of colored liquid received in the pocket, the pocket having an elongated, generally tubular intermediate portion simulating the upstanding front sight on a gun barrel, and having a bulbous lower end portion normally having a major portion of the body of colored liquid received therein, and having an enlarged upper end portion, shaped to simulate an explosion pattern, positioned centrally of the simulated gun sight.

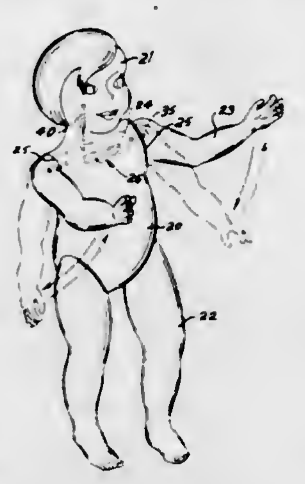
3,377,739
SPARKLING SPINNER
Leonard S. Michelman, 172 Lynnwood Drive, Longmeadow, Mass. 01106, and Joseph G. Haber, 4 Manning Road, Thompsonville, Conn. 06082
Filed Aug. 19, 1965, Ser. No. 480,856
10 Claims. (Cl. 46—48)



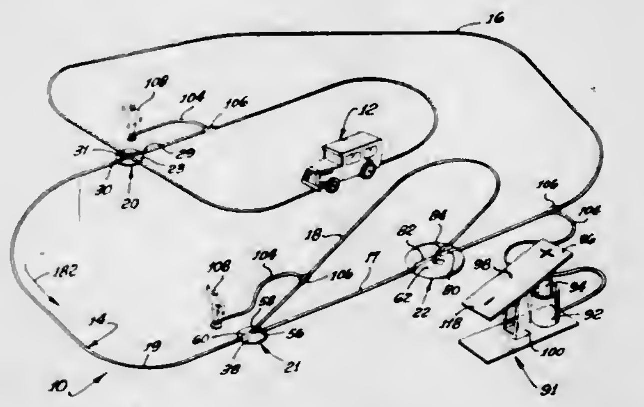
This invention involves a toy which spins, often called a Yo-Yo. This particular invention is directed to a Yo-Yo having translucent outer shells. Mounted within the shells are flints. The flints are mounted in a novel arrangement on a U-shaped member Discs are located proximate the flints with an emery cloth surface. The horizontal section of the U-shaped member rotates under the tension of a string, causing the U-shaped member with the mounted flints to make surface contact with the abrasive material, emitting sparks which appear through the translucency of the shells. The U-shaped member is so designed that it will not interfere with the spinning action of the Yo-Yo assembly.

3,377,740
ANIMATED TOY SUCH AS A DOLL
Joseph L. Bonanno, South Orange, and Dorland L. Crosman, Glen Ridge, N.J., assignors to De Luxe Reading Corp., Elizabeth, N.J., a corporation of New Jersey
Filed Mar. 11, 1965, Ser. No. 439,040
11 Claims. (Cl. 46—119)

Cylindrical housing fits entirely within flexible toy body. Rotatable shaft extends through housing and carries appendages at its ends. Spring tends to rotate shaft. One latch member surrounds and rotates with shaft. Second latch member loosely surrounds shaft, and carries projecting part extending through housing wall. When projecting part is pressed by pressing flexible toy body, second latch member tilts and releases first latch member permitting spring to rotate shaft.



3,377,741
FLUID PRESSURE ACTUATED TRACK SYSTEM AND TOY VEHICLE
John W. Ryan, Bel Air, Calif., assignor to Mattel, Inc., a corporation of California
Filed June 21, 1965, Ser. No. 465,558
7 Claims. (Cl. 46—202)

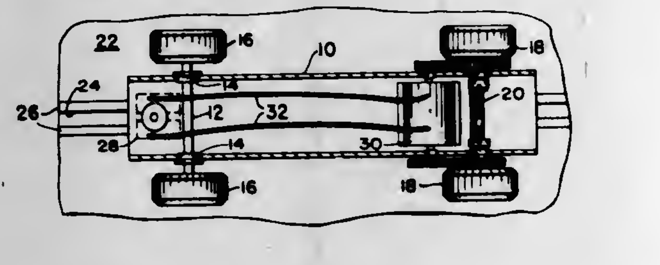


A hollow flexible track of tubing capable of being laid out to define at least one closed path of travel and a toy vehicle having a wheel riding on the track to be guided around the path. The hollow track also serves as a closed fluid pressure system to which pneumatic switches, trackside accessories and such devices can be connected for operation. A manually operable pump is also connected to the closed system for applying pressure therein to operate the devices connected to the track.

3,377,742
TRANSMISSION FOR SLOT RACERS
Philip Sheldon, Rochester, and Thomas J. Bacsanyi, Livonia, Mich., assignors to Model Products Corporation, Mount Clemens, Mich., a corporation of Michigan
Filed Feb. 14, 1966, Ser. No. 527,332
6 Claims. (Cl. 46—243)

1. A slot type racer having a two-speed automatic transmission comprising a chassis, an axle rotatably supported by said chasssis, a drive wheel mounted on said axle and engageable with a track so as to drive the racer therealong, low and high speed gears journaled on said axle, an electric drive motor carried by said chassis, drive

means operatively connecting said motor to said gears so that the motor continuously rotates such gears, and automatic shift means carried by said axle and operable re-

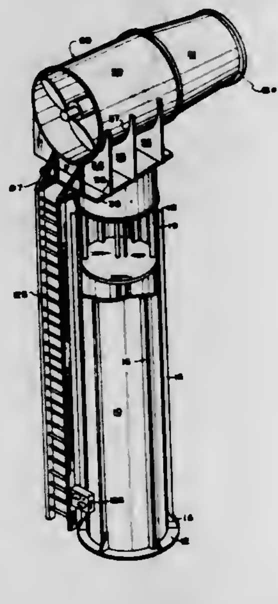


sponsive to centrifugal force to connect said low speed gear to said axle at low axle speeds and to connect said high speed gear to said axle at high axle speeds.

3,377,743

HEAT GENERATOR

James T. Thompson, 635 Ruby, Orlando, Fla., and Ross M. Holdeman, 512 Allen Road NE., Atlanta, Ga. 30324
Filed Apr. 11, 1966, Ser. No. 541,562
10 Claims. (Cl. 47—2)

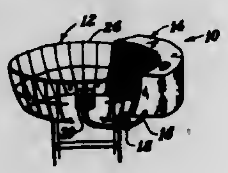


A heat generator for heating orchards, comprising a tower, a shroud rotatably mounted on the tower, an engine driven propeller in the shroud, and a burner can positioned downstream from the propeller. The shroud converges to a narrower diameter downstream from the propeller to increase the velocity of the air after it passes the engine and as it passes about the burner can.

3,377,744

IRRIGATOR FOR FLORAL CONTAINERS

A. Carl Hawkins, 960 Layman Ave.,
Indianapolis, Ind. 46219
Filed June 13, 1966, Ser. No. 557,201
1 Claim. (Cl. 47—38.1)

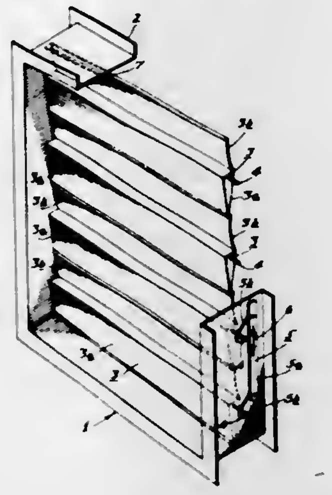


A moisture means for mounting on a floral container, such as used in a cemetery, which supplies moisture to the container and thereby keeps the floral arrangement in an attractive state for a prolonged period, the moisture means being mountable on most types of present containers and along the side thereof so as to be inconspicuous.

3,377,745

LOUVERED DAMPER

Einar Seth, Jonkoping, Sweden, assignor to Aktiebolaget Svenska Flaktfabriken, Stockholm, Sweden
Filed May 18, 1965, Ser. No. 456,677
Claims priority, application Sweden, June 5, 1964, 6,850/64
2 Claims. (Cl. 49—92)

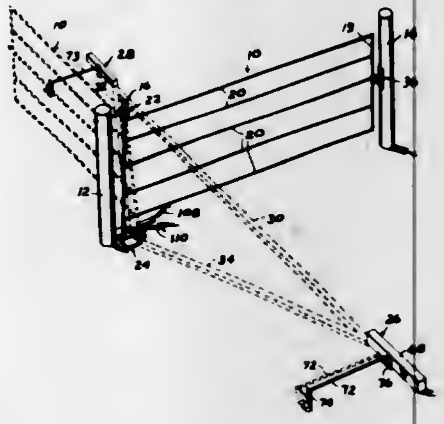


A louvered damper for controlling gaseous flow having a plurality of parallel louver blades mounted within a rectangular frame by a central shaft. On one side of the shaft, each blade has a rigid blade profile; and on the other side of the shaft, each blade has a resilient blade profile. An adjusting mechanism is provided to actuate the blades between an open position through a closed position to a closed limit position. In the closed limit position, the resilient profile of each blade is deformed to conform to the contour of the rigid profile of an adjoining blade to form a tight seal along the marginal overlap between the blades to cut off the gaseous flow.

3,377,746

RECIPROCATING GATE CONTROL

Paul E. Thomas, Box 37, Alma, Okla. 73003
Filed Feb. 14, 1966, Ser. No. 527,283
4 Claims. (Cl. 49—242)

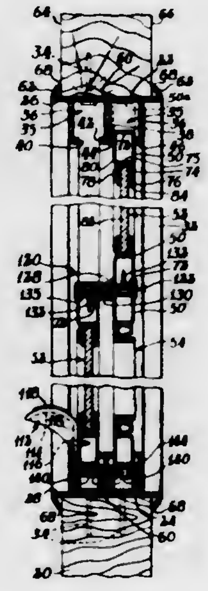


A control housing having a control arm mounted thereon, for horizontal pivoting movement about a vertical axis, is placed close to a gate post and aligned with the upper gate hinge axis of the gate. The control arm is provided with a socket vertically off-set from the upper hinge axis for pivotally supporting the hinged end of the gate on an inclined axis. Bar means, mounted in the roadway in parallel spaced relation above the surface of the roadway and on opposing sides of the gate, are pivoted toward and away from the surface of the roadway by the passage of a vehicle. A bell crank, connected to the end of the respective bar means, is connected by a cable to the control arm for moving the control arm and the inclined gate supporting axis in a gate opening and closing action, respectively, by the passage of a vehicle.

3,377,747

COMBINATION DOOR INSERT KIT

Ralph Flanders Donkin, Port Credit, Ontario, Canada, assignor to American Screen Products Company, Chatsworth, Ill., a corporation of Illinois
Filed Jan. 11, 1965, Ser. No. 424,522
2 Claims. (Cl. 49—414)

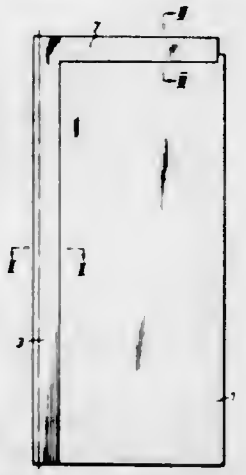


1. A multi-panel window construction comprising a frame formed from segments of a single extrusion for retaining movable and removable window panels, the frame having a base defining an inner peripheral rectangular opening and having a predetermined thickness, the frame having a rectangular configuration with the outer periphery thereof being sized to fit a predetermined opening, said frame base including upper, lower and side parts, the extremities of each of the frame parts being mitered to engage adjacent parts to provide the frame with mitered corners, each of the upper, lower and side frame parts being formed with flanges directed inwardly from the base and providing therebetween a pair of adjacent inwardly opening U-shaped channels, the abutment of the bases of the frame parts providing a pair of adjacent continuous channels which open inwardly from the continuous bases into the opening provided by the inner periphery of the frame and which channels extend in a generally rectangular pattern about the inner periphery of the frame, the inwardly directed flanges being disposed in a direction substantially normal to the respective frame part bases from which they extend, the innermost extremities of each of the flanges being flanged to partially close the inwardly opening U-shaped channels to retain spacer members therein, first elongated spacer members disposed longitudinally in the channels of the lower frame part and in contact with the base thereof, a second elongated spacer member disposed vertically in one of the side frame parts, the second spacer member being provided with a plurality of generally vertically aligned and spaced perforations for receipt of window locking means, and resiliently biased third spacer members disposed vertically in the side frame part opposite the second spacer member.

3,377,748

SWINGING DOORS

Erwin Kellerhals, Schaffhausen, Switzerland, assignor to Carl Sigerist & Cie., Schaffhausen, Switzerland
Filed Apr. 28, 1966, Ser. No. 545,976
Claims priority, application Switzerland, Apr. 30, 1965, 6,050/65
10 Claims. (Cl. 49—501)

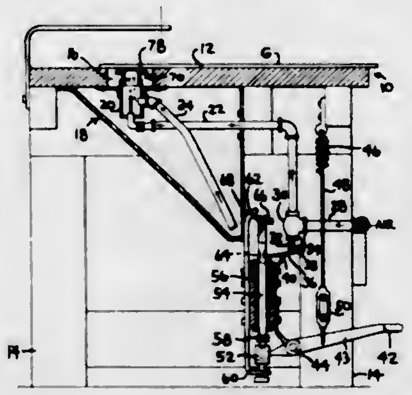


A swinging door with a support having a vertical groove or both vertical and horizontal grooves wherein is supported a vertical or a horizontal edge respectively of a panel of plastic subject to tensile creep. An edge support is bonded to the panel and fits within the groove of the support.

3,377,749

ABRASIVE MARKING

Lyle Lavern Shumaker, Natrona Heights, Pa., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 10, 1965, Ser. No. 486,490
2 Claims. (Cl. 51—8)



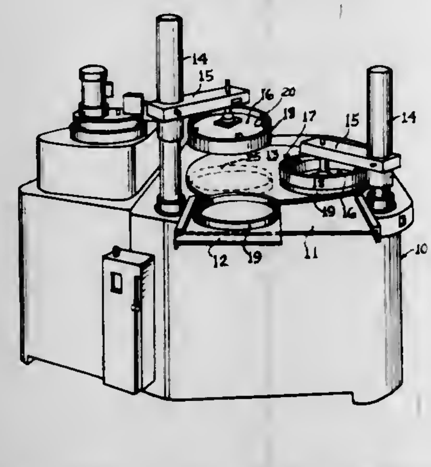
Apparatus for marking glass sheets by abrasive blasting comprising a stencil carrying cover secured in sliding relation to a chamber disposed beneath an opening in a glass sheet supporting table through which an abrasive mixture is blasted upward. The stencil is normally supported by gravity below the upper surface of the table which supports a glass sheet to be marked, but is lifted into intimate contact with the glass sheet under surface whenever the abrasive mixture is blasted upwardly.

3,377,750

SELF-POSITIONING COMBINATION WORK HOLDER AND DRESSING RING FOR FLAT LAPPING MACHINES

Lawrence Day, Chicago, Ill., assignor to Spitfire Tool & Machine Co., Inc., Chicago, Ill., a corporation of Illinois
Filed Aug. 16, 1965, Ser. No. 479,716
2 Claims. (Cl. 51—131)

A lapping machine having a rotatable lap plate and a pressure plate movable vertically with respect to the lap plate through a dressing ring and into a work loader, the dressing ring being connected to and movable with the pressure plate into and out of superimposed relation with respect to the work loader by a lost motion connection between the pressure plate and the dressing ring

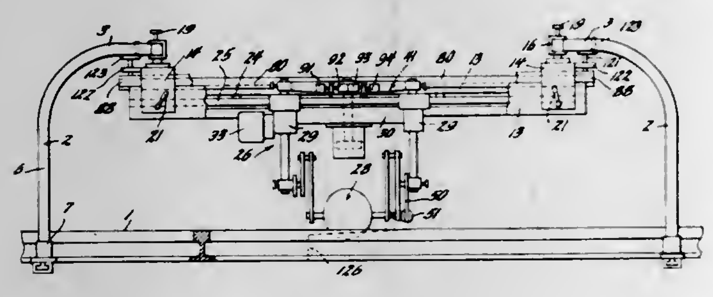


so that there results a free limited vertical movement between such parts and independent rotational movement of the dressing ring and the work loader when the latter two parts are in superimposed relation with respect to each other.

3,377,751

APPARATUS FOR GRINDING RAILS, ESPECIALLY FROG NOSES AND WING RAILS IN SWITCHES AND CROSSINGS

Hans Schnyder, Zschokkestr. 10a, Zurich, Switzerland
Continuation-in-part of application Ser. No. 260,971, Feb. 26, 1963. This application Sept. 8, 1965, Ser. No. 485,712
Claims priority, application Switzerland, Feb. 27, 1962, 2,486/62
4 Claims. (Cl. 51—178)



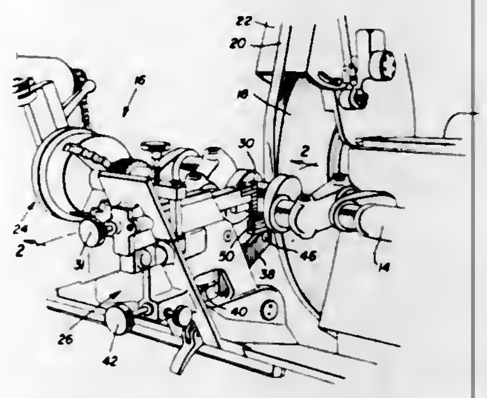
Apparatus for grinding rails, particularly frog noses and wing rails, in connection with switches and crossover tracks in which a frame is provided with a grinding unit positively movable along the rails and having a slide on the frame with means to vertically adjust the grinding unit and a template on the frame to guide the unit on the rails.

3,377,752

SELF-ANGLING ADJUSTING CRANKSHAFT REST

William R. Border, Jr., R.D. 2, Box 356, Bedford, Pa. 15522
Filed Feb. 1, 1966, Ser. No. 524,174
3 Claims. (Cl. 51—238)

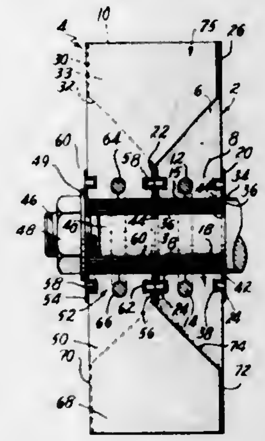
A supporting plate with a block of bearing material thereon for supportingly engaging a crankshaft journal. The supporting plate is pivotally connected to a quick upswing arm on a crankshaft regrinder for enabling the block of bearing material to exert a vertical force on crankshaft journals of various diameters.



3,377,753

POLISHING WHEEL

Curtis G. Peck, P.O. Box 184, Houtzdale, Pa. 16651
Filed Jan. 7, 1965, Ser. No. 423,922
17 Claims. (Cl. 51—337)

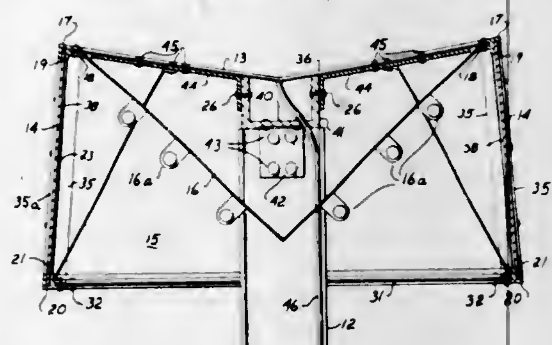


1. A polishing wheel assembly, comprising: at least two polishing wheels arranged in side-by-side relationship, each of said wheels including a plurality of radially extending sheets secured together at their inner ends to define a hub, the radially outer portions of said sheets being substantially wider than the inner portions thereof, and the radially outer portions of the sheets on one wheel being interleaved with the radially outer portions of the sheets on the other wheel.

3,377,754

ILLUMINATED CANOPY STRUCTURE

Gardner Russell, Garden Hills, Puerto Rico, assignor to Rico Plastics, Inc., Bayancon, Puerto Rico, a corporation of Puerto Rico
Filed Oct. 22, 1965, Ser. No. 501,233
10 Claims. (Cl. 52—16)

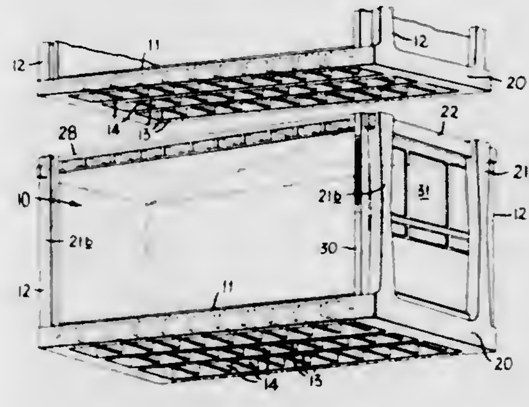


Illuminated canopy for gasoline service station pump islands. The canopy includes a first elongated box-like structure having a shallow V-shaped roof panel, side panels formed of a plastic material inclining downwardly and outwardly from the side edges of the roof panel, and end and side framing for the roof and side panels. Within the first box-like structure is a more pronounced V-shaped elongated panel which is secured to the roof and side panels along their lines of intersection. An elongated support channel runs lengthwise of the structure and has upstanding flanges which are secured to the roof panel. The outer surface of the more pronounced V-shaped panel is provided with a reflective finish to reflect light from fluorescent lamps mounted within the canopy.

3,377,755

PREFABRICATED BUILDING UNITS INCLUDING PRESTRESSED FLOOR PANELS WITH UPSTANDING END MEMBERS CONNECTED BY TENSION MEANS

Fritz Christoph Stucky, Terrassenweg 3e, and Rudolf Meuli, Schmidgasse 10, both of Zug, Switzerland
Filed Jan. 15, 1964, Ser. No. 337,933
Claims priority, application Great Britain, Jan. 24, 1963, 3,020/63; Oct. 10, 1963, 39,914/63
4 Claims. (Cl. 52—79)



1. A prefabricated building unit comprising a prestressed floor panel having internal reinforcing means and exposed metal elements at each of two ends connected to the reinforcing means, an upstanding end member at each of the two ends of the floor panel, each upstanding end member having internal reinforcing means and an exposed metal element at its lower end connected to the reinforcing means therein, means rigidly connecting the exposed metal elements of the upstanding end members to the exposed metal elements of the floor panel to form rigid connections between the end members and the floor panel, the upper surfaces of the end members being the uppermost terminal load-bearing surfaces of the unit, and tension means connecting the upper ends of the end members together.

3,377,756

DEMOUNTABLE BUILDING PARTITION CONSTRUCTION

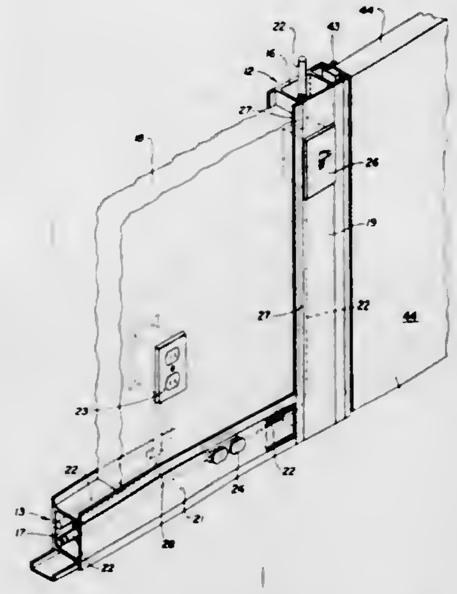
Harry M. Polhamus, Orinda, Calif., assignor to Movable Interior Products, a corporation of California
Filed Oct. 22, 1964, Ser. No. 405,807
3 Claims. (Cl. 52—220)

1. In a building partition construction, the combination comprising:

an elongate channel having a central wall and first and second spaced side walls extending therefrom at substantially right angles thereto, said side walls being located inwardly from the proximate side edges of said central wall, the first of said side walls having a boss formed at the free end thereof, said boss having a slot formed therein angularly disposed in respect to said central wall at an angle of less than 90° and extending longitudinally thereof;

a detachable flange including a tongue portion adapted to slidably mount into said slot for support by said boss wherein that portion of the detachable flange not entering said slot is disposed parallel to said central wall with the angle of said tongue portion relative to said central wall selected to cause the tongue to bind within the slot and remain secured in the event of movement of said detachable flange along a line normal to the central wall;

an elongate cover plate shaped to form a closure for said channel between said side walls and define a service raceway within the bosom of the channel;

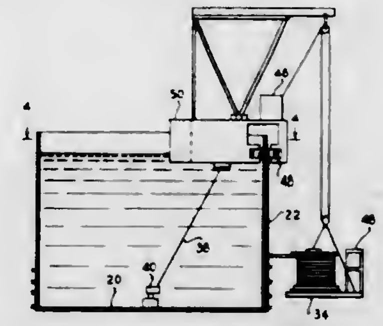


and means associated with said cover plate and said side walls for demountably securing the cover plate to the free edge of the second of said side walls and to said boss, said cover plate having one edge away from the second side wall overlapping and engaging a portion of said detachable flange so as to retain the latter when said tongue is engaged in said slot, said cover plate being moveable from the closure position without movement of said detachable flange and the latter being removable when said cover plate is disengaged from overlapping the flange.

3,377,757

PRESTRESSED STRUCTURE

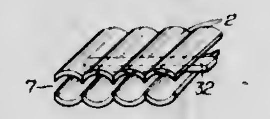
Leroy Magers, Jr., West Caldwell, N.J., assignor to The Preload Company, Westbury, N.Y.
Continuation-in-part of application Ser. No. 98,954 Mar. 28, 1961. This application May 12, 1965, Ser. No. 455,118
The portion of the term of the patent subsequent to Mar. 22, 1983, has been disclaimed
7 Claims. (Cl. 52—224)



1. A substantially cylindrical prestressed metal structure comprising an annular substantially cylindrical sidewall, a series of convolutions of tendons having high

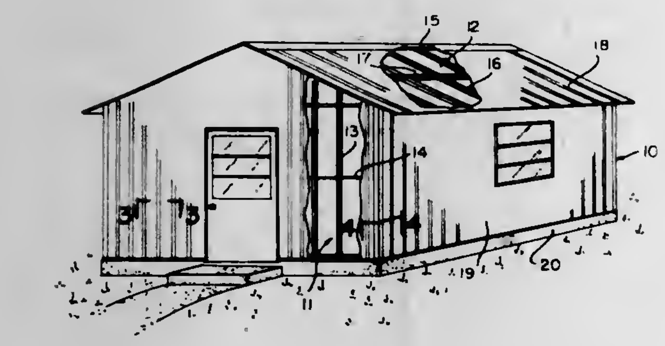
tensile strength steel cores wrapped about the outer surface of the wall under substantial tension, said tendons elongated a desired amount to develop a predetermined tensile stress therein whereby the sidewall is prestressed and circumferentially compressed by the force exerted by the elongated tendons, said tendons including a preformed flexible and scuff and abrasive resistant plastic coating completely enveloping the core of each tendon and applied thereon before said tendons are wrapped and elongated about the sidewall, a portion of said plastic coating being positioned between the outer surface of the sidewall and the steel cores of the tendons, said plastic material of sufficient thickness and possessing sufficient resistance to extrusion to resist the radial force developed by the tensioned tendon whereby the tendon remains enveloped in the plastic coating under said radial force, and a plurality of clip members overlying the tendons and joined to the sidewall to hold the tendons in position and close contact with the sidewall whereby the cylindrical configuration of the sidewall may be maintained.

3,377,758
LOG-TYPE CONSTRUCTION ELEMENT
Walter Witschnig, Metnitz, Carinthia, Austria
Filed Feb. 3, 1965, Ser. No. 430,085
Claims priority, application Austria, Feb. 4, 1964, A 885/64
24 Claims. (Cl. 52—233)



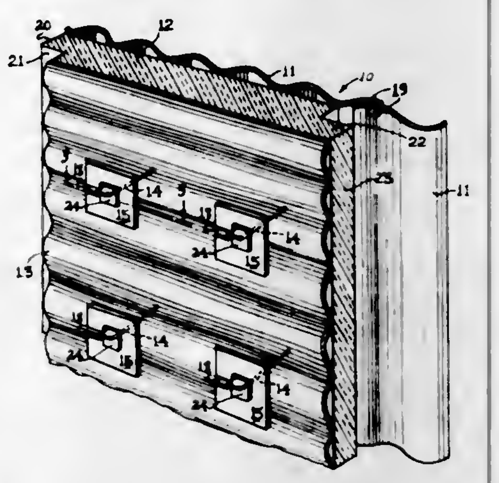
A prefabricable wooden construction element of parts of cylinders cut from logs parallel to the annual growth rings of the log, which is so stiffened that it can be transported without being substantially deformed, said wooden construction element having the property that the shrinkage and swelling behavior can easily be predicted.

3,377,759
SHEET METAL BUILDING STRUCTURE
Claude B. Booth, 4982 Meadowview, Wichita, Kans. 67216
Filed Oct. 21, 1965, Ser. No. 500,125
6 Claims. (Cl. 52—276)



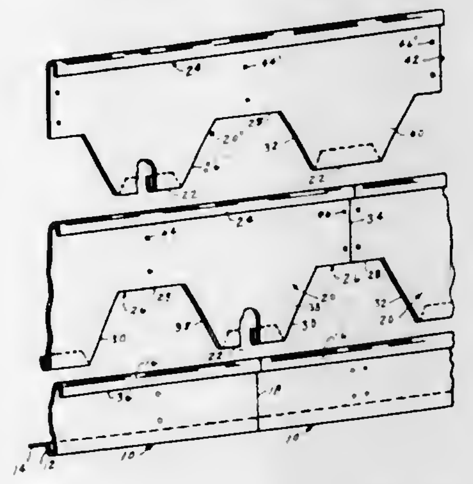
A building structure is provided comprising a structural frame having sheet metal panels overlying said frame. Each panel includes a plurality of integral dove-tail sections, and a dove-tail section on one panel is telescoped into a dove-tail section of an adjacent panel to interconnect said panels. Brackets are removably positioned within the dove-tail panel sections, and fastener means extend from the structural frame into releasable engagement with said brackets. At a corner of the structure, an M-shaped corner piece completes the assembly.

3,377,760
INSULATED WALL UNIT
William Waite, Chicago, Ill., assignor to Transco Inc., Chicago, Ill., a corporation of Delaware
Filed Apr. 1, 1966, Ser. No. 539,439
3 Claims. (Cl. 52—410)



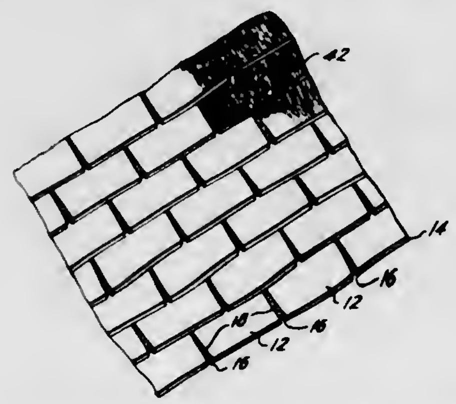
An insulated wall unit consisting of an exterior metallic load-bearing corrugated panel and an inner fibrous insulating batt covered on its exposed side by a heat reflective moisture resistant corrugated foil; the exterior panel providing a plurality of impaling pins upon which are secured the insulating batt and corrugated foil with a rectangularly shaped fastener plate inserted on the free end of each of the pins, and providing a peripheral edge recess for preventing axial displacement and circular movement of the material on the impaling pins.

3,377,761
ROOFING SHINGLE
Arthur W. Skelton, Jr., P.O. Box 134, Charlevoix, Mich. 49720
Filed Jan. 13, 1965, Ser. No. 425,177
2 Claims. (Cl. 52—530)



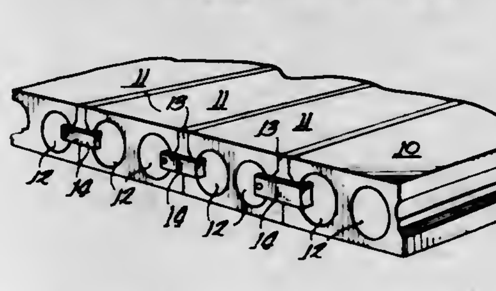
1. An interlocking shingle assembly comprising: a starter strip having an overlapping upper margin and an underlapping lower margin, said lower margin being adapted to be secured to the lower edge of the roof of a dwelling, a second shingle having an underlapping lower margin and an overlapping upper margin, the lower margin of said second shingle overlapping the lower margin of said starter strip shingle, recesses formed in the lower margin of said second shingle at spaced locations to form a regular pattern, each recess having an upper edge that is parallel to the upper and lower margin, and a third shingle having a shape that is similar to the shape of said second shingle, said third shingle being staggered with respect to said second shingle so that it is displaced relative to said second shingle in the direction of the upper and lower margins, the lower margin of said third single underlapping the upper margin of said starter strip shingle and the upper edge of the recesses of said second shingle to form an interlocked assembly, fastening means for securing said shingles to a roof understructure at a location between the upper margin thereof and the upper edge of the recesses thereof whereby the next succeeding shingle will overlie the fastening means that is employed.

3,377,762
COMPOSITE SHINGLE
Alexander A. Chalmers, Caldwell, and William B. Fried, Newark, N.J., and Richard A. Mason, Orange, Conn., assignors to Brixite Manufacturing Company, South Kearny, N.J., a corporation of New York
Filed Aug. 26, 1965, Ser. No. 482,781
8 Claims. (Cl. 52—555)



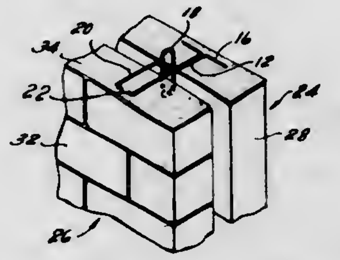
A composite strip shingle comprises a saturated felt and asphalt base about three feet long and one foot wide, with a thin sheet aluminum sheath over the lower approximately half of the base. The lower edge of the base is substantially thicker than the upper edge. The lower edge of the metal is bent around the lower edge of the base and reversely folded, to form a thick butt edge having a thickness of about ¼ inch. The lower edge of the shingle is notched at about one foot intervals by cutting of both the metal sheath and the base. The resulting notches break up the continuity of the shadow line at the thick lower edge. The metal is indented but not cut above each notch to simulate the edges of adjacent individual shingles. Additional means such as a strip of self-sealing adhesive with a release tape are provided at the upper edge of the metal sheath to hold down the lower edge of the next higher shingle in order to resist wind lift. A mechanical interlock may instead be used.

3,377,763
SHEAR CLAMP
Melvin H. Beckman, Rockford, Ill., assignor to National Lock Co., Rockford, Ill., a corporation of Delaware
Filed Nov. 8, 1965, Ser. No. 506,813
7 Claims. (Cl. 52—584)



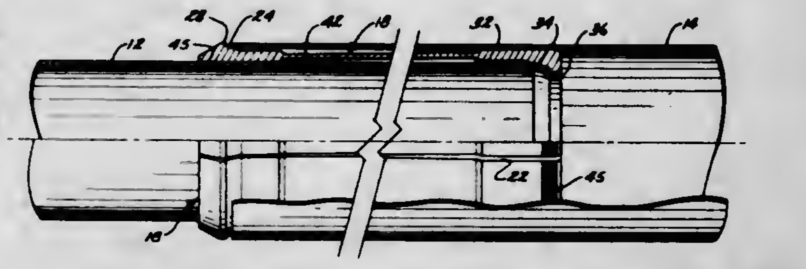
A shear clamp retaining two adjoining precast concrete units together, where the concrete units have central cylindrical voids therein, including a base portion extending between the voids in the concrete units and terminating at each end in an integral jaw extending into a corresponding void. One jaw is perpendicular to the base portion and the opposite jaw is angularly disposed to the base portion, and a bolt extending through the base portion and a portion of the angularly disposed jaw and cooperating with a nut to draw the angularly disposed jaw into engagement with the wall of the cylindrical void. The jaws are arcuate to conform to the curved surface of the voids and have retaining projections formed on the clamping surfaces thereof.

3,377,764
ANCHORING MEANS FOR MASONRY WALLS
Bernard Storch, 81—57 259th St., Floral Park, N.Y. 11004
Filed Apr. 26, 1966, Ser. No. 545,349
2 Claims. (Cl. 52—713)



Anchor formed of wire bent to define transverse legs adapted to be embedded in masonry wall, and loop having straight wire run, loop fitting into space between masonry and facing walls. Bracket formed of wire adapted to be embedded in facing wall, and having straight wire run for engagement with loop. Straight runs of anchor and bracket substantially perpendicular.

3,377,765
SECTIONAL POLE ANTENNA AND PARTS THEREFOR
Charles Edward Greeley, Alexandria, Va., assignor to The Susquehanna Corporation, a corporation of Delaware
Filed Dec. 21, 1965, Ser. No. 515,348
12 Claims. (Cl. 52—726)

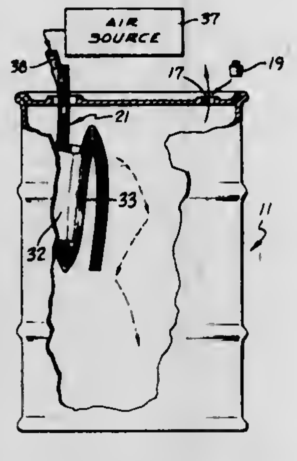


A sectional pole comprising tubular sections that are frictionally joined together by pole couplers, each of which includes a resilient sleeve having one or more slots adjacent its ends to permit expansion or contraction thereof. One end of each sleeve has an outwardly tapered portion on the outer surface thereof, and the other end of each sleeve has an inwardly tapered portion on the inner surface thereof. The sleeve is adapted to receive externally a first tubular pole section at the one end and to receive internally a second tubular pole section at the other end, whereby the contraction of the one sleeve end by the external tubular pole section and the expansion of the other sleeve end by the internal pole section serve to frictionally interlock the pole sections and the coupler.

This invention relates to sectional poles and parts therefor and, more particularly, to extensible and retractable poles and a member for coupling adjacent pole sections.

3,377,766
LINED CONTAINERS

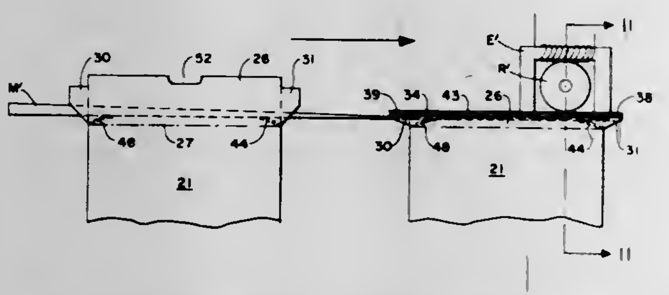
Laurence T. Nelson, Danville, Calif., assignor to Strecton Industries Incorporated, Millbrae, Calif.
Filed June 8, 1965, Ser. No. 462,211
8 Claims. (Cl. 53—27)



A closed substantially permanent container such as a metallic drum, storage tank, etc., of the type employed for the bulk storage and shipment of petroleum, chemical, and food products, or the like, which is characterized by an interiorly disposed plastic film disposable liner to facilitate extended reuse of the container with the same or other products without contamination and/or leakage. A method is disclosed for the introduction of a liner to, and its removal from the interior of a closed container through a limited access opening thereof.

3,377,767
METHOD OF SEALING SEAL END CARTON

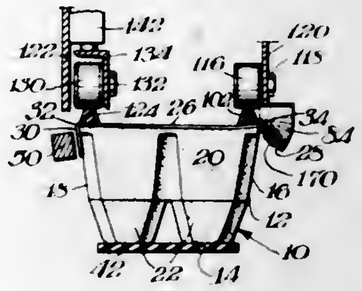
Norman J. Franz, Colerain Township, Hamilton County, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed Mar. 27, 1964, Ser. No. 355,156
4 Claims. (Cl. 53—29)



1. A method of sealing a continuously moving, non-heat sealable carton wherein said carton has a pair of opposed baffle flaps and a pair of opposed closure flaps comprising the steps of infolding said baffle flaps to a generally coplanar position as the carton is advanced with its end adjacent a ferromagnetic, stationary mandrel, infolding one of the said closure flaps against said mandrel, applying a quick-setting, thermoplastic adhesive to at least one of the said closure flaps, infolding the remaining closure flap to overlap said first folded closure flap, holding the overlapped closure flaps together to seal said closure flaps at the area coated with adhesive by advancing the overlapped flaps between said mandrel and a cooperating stationary roller, applying a magnetic field to said mandrel to pull said mandrel against said roller whereby the pressure on the adhesively coated surface of said overlapped closure flaps is increased, and thereafter advancing the carton and said adhesively secured flaps beyond the mandrel.

3,377,768
CARTON CLOSING ARRANGEMENT AND METHOD

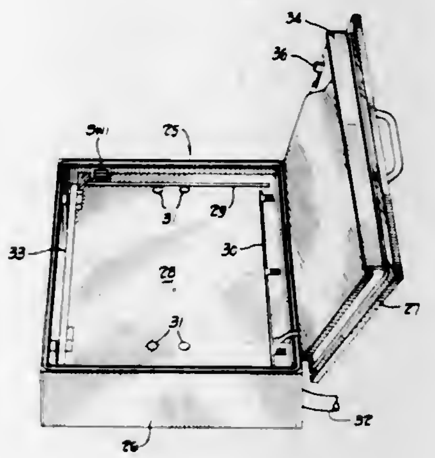
Donald E. Burt, Boston, Mass., assignor to Keyes Fibre Company, Waterville, Maine, a corporation of Maine
Continuation-in-part of application Ser. No. 391,663, Aug. 24, 1964. This application June 22, 1967, Ser. No. 653,294
11 Claims. (Cl. 53—38)



An arrangement and method for closing flexible, open topped cartons wherein lids are positioned across the tops of the side walls of container portions of cartons, and thereafter glue is applied in a longitudinal zone where downwardly folded flanges of the lids will contact the carton side walls. Reaction forces are supplied to prevent lateral inward flexing of the side walls in response to glue-setting forces applied laterally to the outer edges of the lid flanges.

3,377,769
VACUUM SEALING UNIT

Cecil K. Bridgeman, Islington, Ontario, Canada, assignor to Picker X-Ray Mfg. Limited, Rexdale, Canada
Filed Feb. 10, 1965, Ser. No. 431,590
6 Claims. (Cl. 53—84)

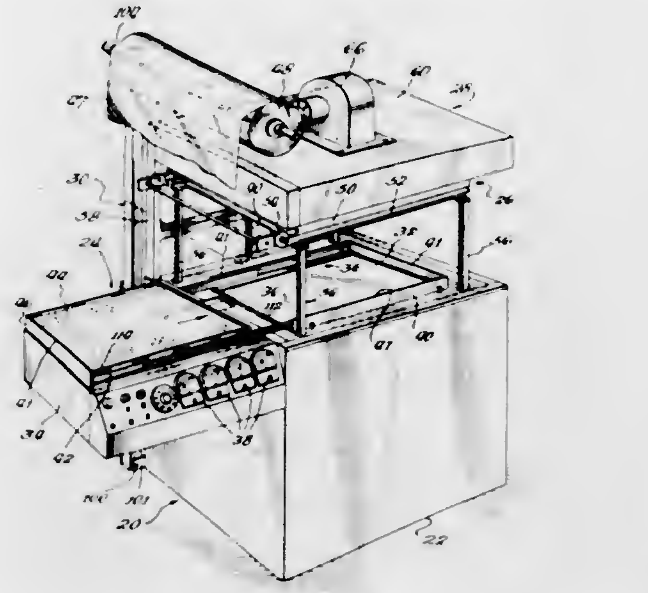


A unit in which a film holder in the form of a flexible bag is evacuated and sealed. The unit has movable jaws that close and heat seal an open portion of the film holder after the pressure in the unit and holder is reduced to a predetermined level.

3,377,770
SKIN-PACKAGING APPARATUS

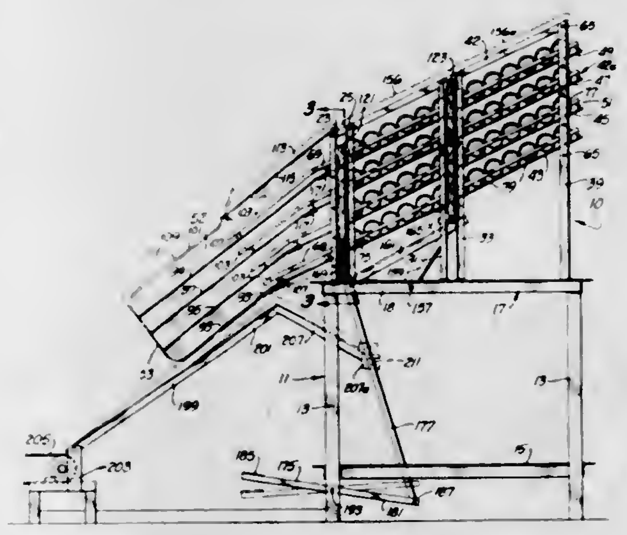
Donald R. Rorer, Lake Bluff, Ill., assignor to Stone Container Corporation, Chicago, Ill., a corporation of Illinois
Filed Jan. 17, 1967, Ser. No. 609,824
4 Claims. (Cl. 53—112)

A machine for encasing an article supported on a substrate in a skinlike film of plastic material which employs a forming station, a heater assembly for softening the plastic film, a drape frame for receiving and supporting the plastic film material, means for vacuum forming the heated plastic sheet material about the article and to the substrate, and means for operably supporting the mounted article and substrate prior to and during the forming operation, the heater assembly remaining fixed with regard to its horizontal positioning over the vacuum forming station throughout the operating cycle of the machine.



3,377,771
APPARATUS FOR LOADING CANS INTO CARTONS

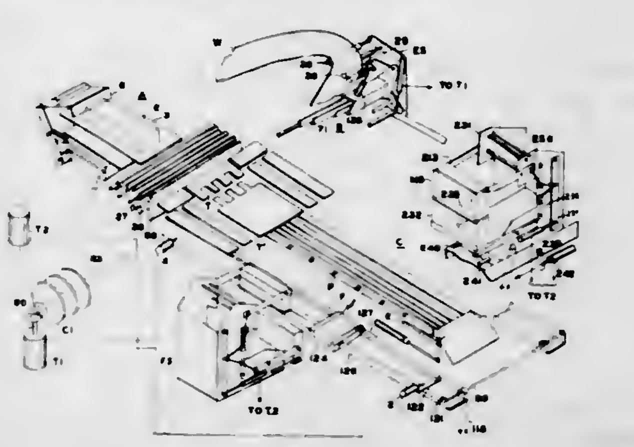
Walter J. Schmidt, Sr., 723 N. Gilbert, Anaheim, Calif. 92801
Filed Dec. 14, 1964, Ser. No. 417,929
10 Claims. (Cl. 53—153)



An apparatus for transporting cans from a storage point to a loading point where they are received by a carton. The cans are supported by a tiered frame which guides and funnels the cans together in both horizontal and vertical planes. Movement of the cans is controlled by gates attached to the frame which are spaced apart to provide a measuring control as to the number of cans allowed to be received by each carton. The cartons are supported and clamped to the frame by a movable, inclined ramp at the loading point. When the cans are received, the cartons break free and slide down the ramp. A unitary control assembly controls both the movement of the cans and the ramp.

3,377,772
AUTOMATIC WRAPPING MEANS

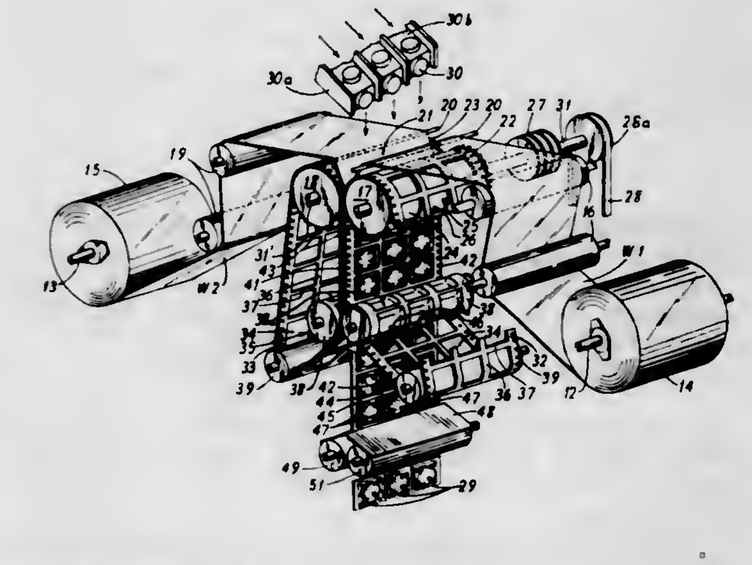
Floyd A. Lyon, Brookville, Erich Schatzki, New York, Alvin Arnell, Brooklyn, and Clement R. Konazewski, Glen Cove, N.Y., assignors to Halm Instrument Co., Inc., Glen Head, N.Y.
Filed June 14, 1965, Ser. No. 463,662
9 Claims. (Cl. 53—229)



Means to automatically wrap bundles and articles comprising a bundle receiving platform, means to feed and clamp a web of heat sealable plastic at a first work location, means to clamp said web in a vertical plane, means to push said bundle against said web completely past said vertical plane of said web thereby wrapping said material in a loop around said bundle, means to heat seal the ends of said loop, and means to cut said loop from said web and reseal said web, means to advance said web and clamp it at a point after said seal reuniting said web so that the web is ready for another bundle, means to move said partially heat sealed bundle onto a collapsible table at a second work location, first fixed heat sealing means at said second work location, second motor driven movable side sealing means at said second work location.

3,377,773
THERMOPLASTIC FILM PACKAGING APPARATUS

Frank N. Clark, Scotch Plains, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Mar. 26, 1965, Ser. No. 443,133
5 Claims. (Cl. 53—178)



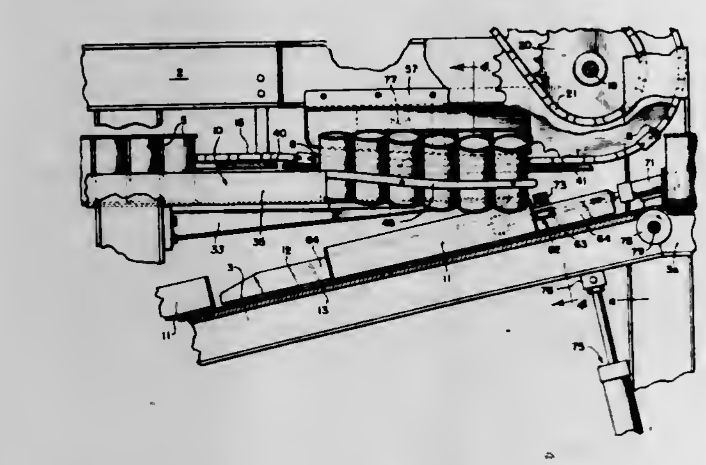
This invention is directed to a thermoplastic film packaging machine and to a process for packaging articles using said machine. Briefly the machine comprises:

(a) a pair of heated, pocketed rollers,
(b) an endless belt passing over each roller, each belt having openings therein,

(c) drive means which synchronize the movement of the belts and rollers so as to achieve registry of the openings with the pockets, and of the pockets with each other,
(d) means which feed thermoplastic films between the belts,
(e) means which supply the articles to be packaged at spaced points between the films, and
(f) means for severing the packaged articles.

Briefly the process which is carried out by the above-described machine comprises the steps of:
(a) feeding articles at spaced points between the films and sealing the films around the articles by the use of the heated, pocketed rollers,
(b) conducting the sealed articles away from the heated pocketed rollers and cooling the films while the articles are positioned in the openings of the two belts, and
(c) severing the thus-packaged articles.

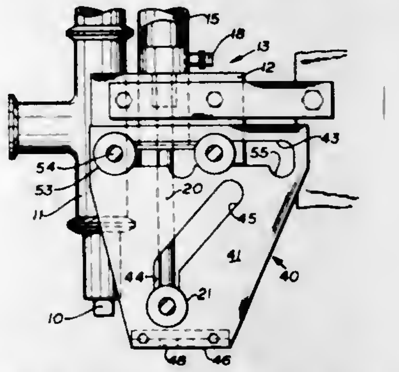
3,377,774
CASE LOADER FOR MULTIPLE ARTICLES
Biagio J. Nigrelli, Northbrook, Wendell E. Standley, Lake Forest, and James I. Wittmann, Park Ridge, Ill., assignors to John-Nigrelli-Johns, Inc., Skokie, Ill., a corporation of Illinois
Filed July 19, 1965, Ser. No. 472,775
12 Claims. (Cl. 53—250)



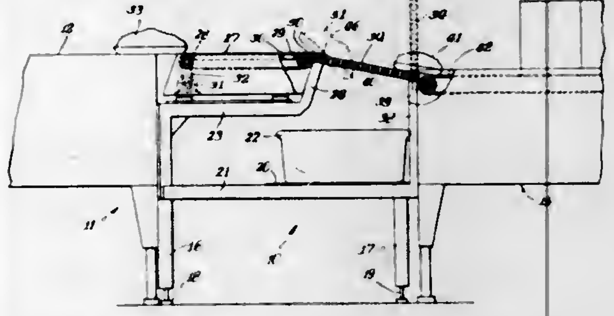
The mechanism herein disclosed is employed to load open-top cases with articles such as cans. The case to be loaded is located below and at a small angle to the path of the articles with the leading wall of the case intersecting such path, so that, as the articles are advanced, they engage the leading case wall and propel the case as the articles enter the case. The articles are tilted laterally away from each other as they enter the case, thereby facilitating the entry of the articles and permitting the use of a case having dimensions closely fitting the article group.

3,377,775
CONTAINER FILLING AND CLOSING DEVICE
George E. Mattimoe, Burlingame, Everett L. Stehn, San Francisco, and Donald G. Swan, Pleasant Hill, Calif., assignors to T. R. Mantes Company, Inc., San Francisco, Calif., a corporation of California
Filed Oct. 19, 1965, Ser. No. 497,648
8 Claims. (Cl. 325—395)

4. In a filler having a main frame and a filler tube carried thereby, for use with plastic bags having a generally cylindrical spout and a withdrawable cap, including in combination
- a power unit carried by said main frame and having a reciprocating rod,
- cap-engaging-and-holding means on said rod, whereby when said rod moves in one direction it pulls said cap out of said bag and when it moves in the other direction it pushes said cap back into said bag,
- carriage means movably supported on said frame and having bag supporting means and being movable between an uncapping and recapping position in line with said rod to a filling position in line with said filler tube, and
- means operated by movement of said rod for moving said carriage means between its two said positions while said cap is out of said bag.

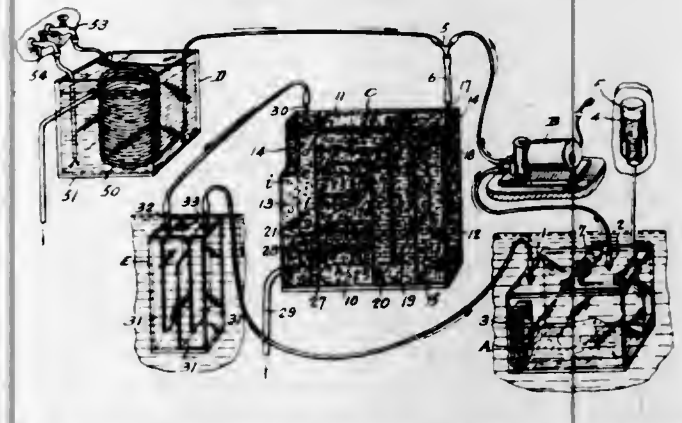


3,377,776
PACKAGE HANDLING EQUIPMENT
Bengt A. Arvidson, Villa Park, Ill., assignor to Corley-Miller, Inc., a corporation of Ohio
Filed Apr. 29, 1965, Ser. No. 451,743
2 Claims. (Cl. 53—391)



A package handling step table having two levels, with a first level having a hot belt for sealing a package and a lower level for supporting a storage container, with a selectively usable conveyor positionable to cause a package to move from the step table to a succeeding mechanism without packages collecting in the container and with an additional conveying member functioning to cause pivoting of packages into the container without damage thereto.

3,377,777
UNDERWATER GAS EXCHANGE UNIT
Soichi Luke Isomura, Montreal, Quebec, Canada, assignor of one-half to John J. Dinan, Montreal, Quebec, Canada
Filed Mar. 23, 1966, Ser. No. 536,676
20 Claims. (Cl. 55—42)

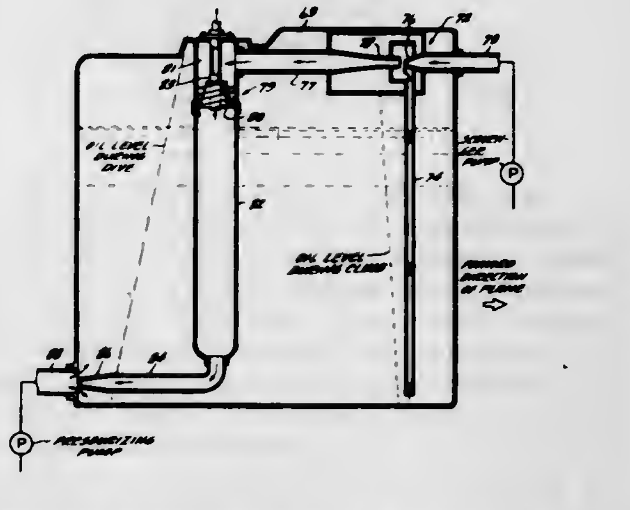


1. A method of refreshing the air of living quarters for air-breathing creatures which quarters are deprived of access to the terrestrial atmosphere but have access to a water supply which is in equilibrium with the terrestrial atmosphere, the method comprising the steps of:
- establishing a feed current of water from said water supply;
- establishing an outward current of stale air from said quarters;
- causing intimate admixture of said feed water current and said stale air current to establish gaseous equilibrium between the gases dissolved in the water current and the gases of the stale air current so as preferentially to dissolve carbon dioxide and displace components of atmospheric air from the water;
- passing the resulting gas-water mixture through a gas extraction zone, in the gas extraction zone extracting components of atmospheric air dissolved in said water current under supersaturated solution conditions;
- continuously extracting part of the gas phase in the gas extraction zone;
- removing excess water vapour from said extracted air; and
- supplying the resulting air to said quarters at a rate substantially balancing the rate of extraction of stale air therefrom, spent water from the extraction zone being discharged to maintain constant level conditions therein.

3,377,778
METHOD AND APPARATUS FOR DEGASSING LIQUIDS
Richard F. Gaertner, Rexford, N.Y., assignor to General Electric Company, a corporation of New York
Filed Feb. 2, 1966, Ser. No. 524,506
6 Claims. (Cl. 328—233)

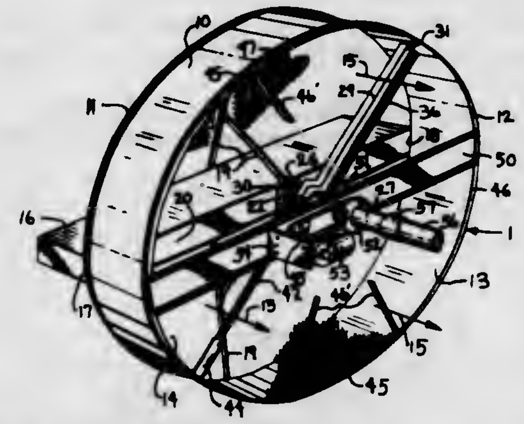
A process for removing residual gases from a liquid by immersing in the liquid during the degassing thereof at reduced pressure a quantity of solid material, whose surface is inert, which has a low surface energy and which has pores or roughness of microscopic size. The low surface energy materials disclosed and for which criteria are recited resist complete wetting by the liquid being degassed and thereby provide a source of preferred sites where bubbles of gas dissolved in the liquid will nucleate, grow and be transported by buoyant force or agitation to the free surface of the liquid for removal. Directions for the selection and preparation of the low surface energy degassing material are set forth and the degassing of epoxy resin as well as an apparatus improvement for the degassing of make-up water for a domestic hot water heating system are described.

3,377,779
AIR SEPARATION DEVICE AND LIQUID DELIVERY SYSTEM INCORPORATING SAME
Richard M. Kronk and Harry C. Stonecipher, Cincinnati, Ohio, assignors to General Electric Company, a corporation of New York
Filed Feb. 16, 1966, Ser. No. 527,827
2 Claims. (Cl. 55—204)



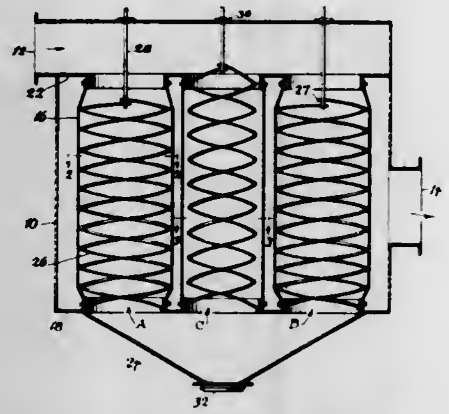
A separator for separating oil from an air-oil mixture wherein the mixture passes over a vortex generator to generate a free vortex in a tube. Separated air is vented through the vortex generator. De-aired oil goes into a tank. Pressure equalization between the air vent and the upper end of the tube assist in handling variations in flow rates. This separator can be employed in a system where continuous oil is supplied by siphoning oil from the bottom of the tank to the inlet of the separator through a jet pump, siphon tube assembly at the tank inlet.

3,377,780
SELF-CLEANING FILTER APPARATUS
Richard D. Noland, Overland Park, Kans., assignor to W. C. Wiedenmann & Son, Inc., Kansas City, Mo., a corporation of Missouri
Filed Aug. 4, 1966, Ser. No. 570,230
5 Claims. (Cl. 55—294)



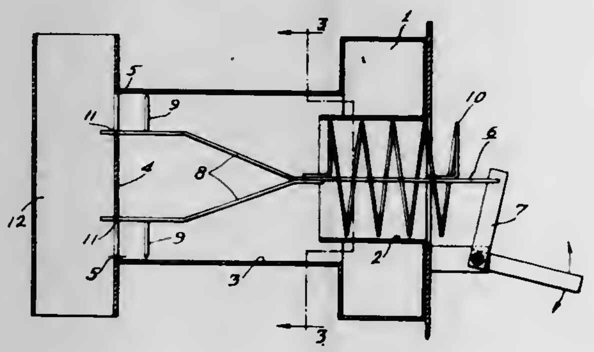
Simple, compact self-cleaning filter apparatus adapted for mounting on grain dryers includes a structural ring containing an elongated slot forming hollow are continuously driven on a radius over the surface of a fine filter screen supported on a rigid support screen and through which a vacuum is drawn for removing dust and other particles from the flow facing surface of the fine filter screen.

3,377,781
CLEANING ARRANGEMENT FOR BAG FILTERS
William E. Hammond, Wellsville, N.Y., assignor to The Air Preheater Company, Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 24, 1965, Ser. No. 442,383
1 Claim. (Cl. 55—295)



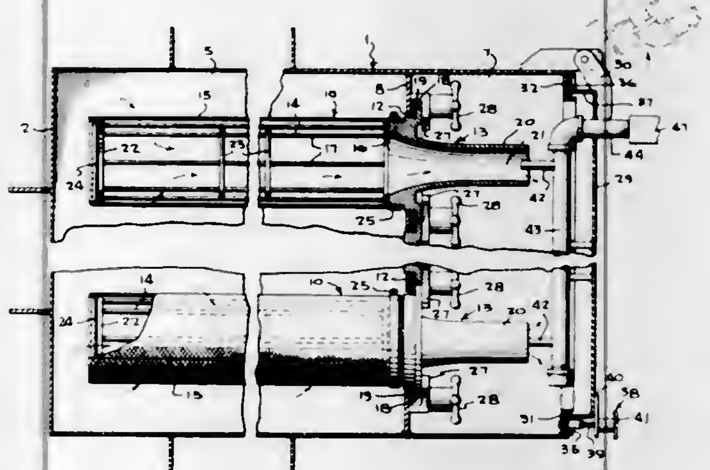
1. Apparatus for the removal of dust from a carrier gas comprising a housing having an inlet for dust entrained gas and an outlet for the exhaust of clean gas therefrom, a dust hopper subjacent said housing, a first apertured tube sheet intermediate the inlet and outlet ports, a second apertured tube sheet intermediate the outlet port and the dust hopper, open-ended filter bags aligned with the apertures in spaced tube sheets and secured thereto, a pair of oppositely inclined coil springs in each filter bag extending between opposite ends thereof having one end secured to the second tube sheet and one end free to move axially in said filter bag between an axially contracted filtering and an axially extending cleaning position, a reciprocable actuating rod extending axially through said housing to the paired coil springs movable between the filtering and cleaning positions, packing means in said housing surrounding the reciprocable actuating rod and adapted to preclude fluid leakage around the actuating rod, and means connecting the actuating rod to the free ends of the coil springs in each filter bag whereby movement of the actuating rod to the filtering position axially contracts and radially distends the coil spring and the surrounding bag to hold the filter bag tightly while movement of the actuating rod to the cleaning position axially elongates and radially contracts the coil spring to permit relaxing the surrounding bag and separation of the collected particles therefrom.

3,377,782
CYCLONE AND CLEANER
Gunnar Wilhelmsson, Vaxjo, Sweden, assignor to Aktiebolaget Svenska Flaktfabriken, Stockholm, Sweden
Filed June 29, 1966, Ser. No. 561,496
Claims priority, application Sweden, June 29, 1965, 8,610/65
4 Claims. (Cl. 55—295)



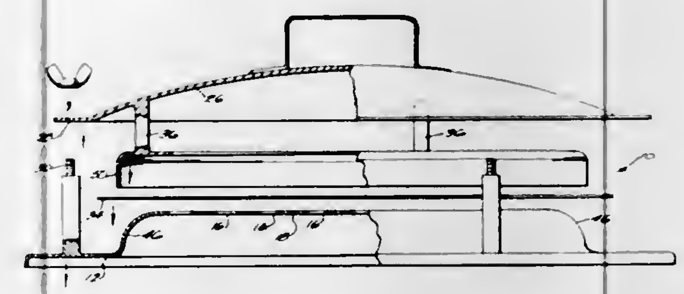
A cleaning device for simultaneously cleaning the dust outlets and the clean-gas outlet in small centrifugal dust separators, which are provided with a central clean-gas outlet tube and a plane end wall having two or more openings located close to the periphery of the separator casing and functioning as outlets for separated dust. The cleaning device consists of an element having one end outside the separator, passing through the outlet tube for clean gas and terminating in branch elements supporting scraping means for clearing dust from the edges of the dust outlet openings.

3,377,783
FILTER COLLECTOR
Henry T. Young, R.D. 2, Muncy, Pa. 17756
Filed Aug. 30, 1965, Ser. No. 483,543
3 Claims. (Cl. 55—302)



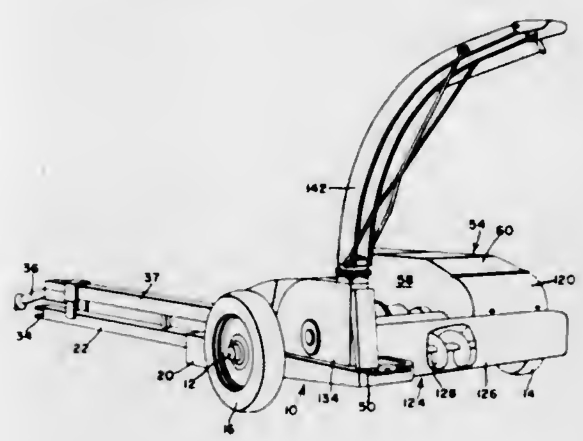
A filter chamber having removable tubular filter elements contained within the chamber and an access door providing entry to the chamber to enable removal of the filters with a plurality of nozzles mounted on a manifold fixedly attached to the door and connected to a source of compressed air so that opening of the door moves the manifold away from the filters to enable easy access thereto.

3,377,784
PORTABLE MANHOLE FILTER ASSEMBLY
Darrell Walker, New Lisbon, Wis. 53950
Filed Aug. 11, 1966, Ser. No. 571,797
3 Claims. (Cl. 55—385)



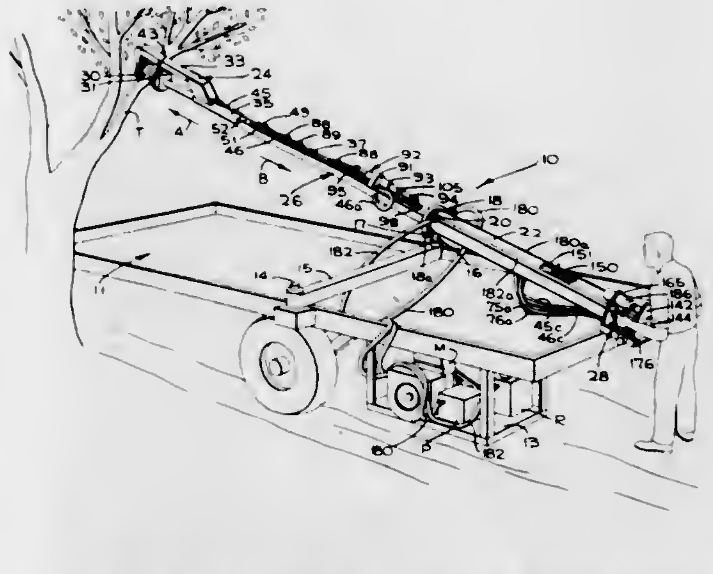
A portable manhole filter assembly for use in a transportation tank having a filter frame adapted to be mounted on a manhole opening in a tank and having a central portion perforated to provide air flow therethrough, a cover dome coextensive in peripheral dimensions with the filter frame and being held in place, a filter disk of paper covering the central portion of the filter frame, a filter disk hold-down means to engage the filter disk in place onto the filter frame and the central portion of the filter disk hold-down means being raised and having mating edges therewith.

3,377,785
FORAGE HARVESTER
Kenneth Q. Kessler, Ottumwa, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed June 3, 1965, Ser. No. 460,898
8 Claims. (Cl. 56—16)



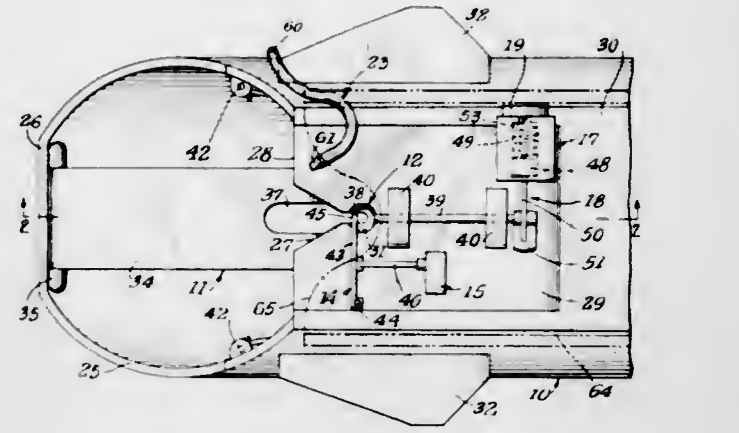
A pull-type forage harvester having a row crop harvesting unit at the right side of the frame for removing standing crop from the field and delivering it rearwardly to a reel type cutter which reduces the crop and propels it rearwardly through a recutter screen to a transverse auger, which moves the crop laterally to a blower-type elevator at the left side of the machine for elevating and rearwardly discharging the crop into a trailing vehicle.

3,377,786
SHAKING MECHANISM
John W. Edgemond, Jr., Los Gatos, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Oct. 28, 1963, Ser. No. 319,388
14 Claims. (Cl. 56—328)



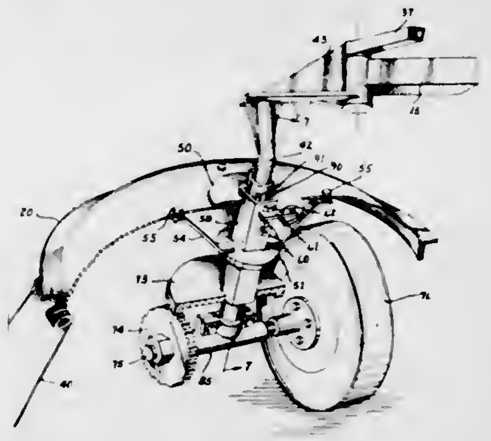
1. A shaking mechanism for applying shock forces to an object held thereby, said mechanism comprising a gripping head for securely gripping said object, a power cylinder, a piston reciprocable within said cylinder, said piston being connected with said gripping head, and means for alternately directing hydraulic fluid to opposite ends of said cylinder to reciprocate said gripping head, said means including a pair of hydraulic lines arranged to separately communicate with said opposite ends of the cylinder for alternately feeding and discharging said hydraulic fluid therefrom.

3,377,787
AUTOMATIC FRUIT PICKER HEAD
Gary D. McCann, Los Angeles, Calif.
(2455 E. Chevy Chase Drive, Glendale, Calif. 91206)
Filed May 17, 1965, Ser. No. 456,134
9 Claims. (Cl. 56—328)



A fruitpicker head having a tube with an open end for receiving fruit, a longitudinal leadin slot extending longitudinally from said end and into which the stems of pieces of fruit enter as the fruit enters the tube, stem-severing means carried by the tube, and means engaged by the stem, as it moves into the slot, to operate said severing means.

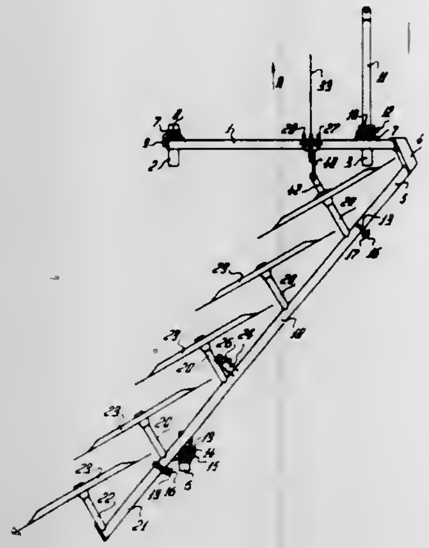
3,377,788
HAY RAKE
John W. Pickrell, 6237 E. Monterey Way, Scottsdale, Ariz. 85251
Filed Sept. 25, 1964, Ser. No. 399,177
11 Claims. (Cl. 56—377)



A wheel rake utilizing a plurality of raking wheels mounted on inclined axes to permit tines extending from the periphery thereof to contact the ground immediately in front of each wheel as the wheel passes over the ground. Each raking wheel is individually driven through a mechanical coupling connected to a ground-contacting drive wheel positioned immediately below the raking wheel.

3,377,789
LATERAL DISPLACEMENT OF CROP LYING ON THE GROUND
Cornelis van der Lely, Zug, Switzerland, assignor to Texas Industries Inc., Willemstad Curacao, Netherlands Antilles, a limited-liability company of the Netherlands Antilles
Filed Dec. 28, 1964, Ser. No. 421,191
Claims priority, application Netherlands, Jan. 24, 1964, 64—528
7 Claims. (Cl. 56—377)

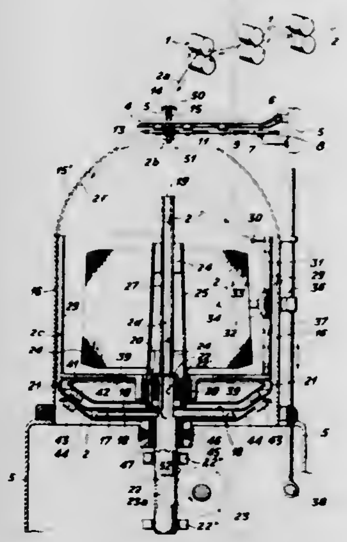
This invention is an implement in which the frame includes a plurality of supporting beams and agricultural implements attached to supports on one or more of the beams. At least one of the frame beams is pivotable with respect to the remainder of the frame and at least some of the implements are connected to the pivotable



beam so that the implements can be raised or lowered by pivoting part of the frame. A lifting mechanism connects one of the frame beams to a support for lifting the implements.

3,377,790
SPINNING FRAMES

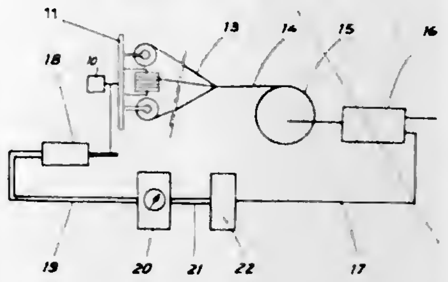
Gerhard Brockel, Winterthur, Switzerland, assignor to Sulzer Brothers Limited, Winterthur, Switzerland, a Swiss company
Filed Dec. 15, 1965, Ser. No. 514,078
Claims priority, application Switzerland, Dec. 18, 1964, 16,438/64
7 Claims. (Cl. 57—58.59)



There is disclosed a spinning frame in which yarn loosely formed in a drawing frame is passed to a rotating false twist tube which delivers it to a flyer. The flyer comprises a vertical shaft beneath the false twist tube and hollow at the end adjacent thereto. A yarn guide or conduit affixed to this shaft receives the yarn from the false twist tube at a location radially outward of the shaft and passes it through the hollow shaft, through a hollow portion of a package support rotatably supported on the shaft, and to a level-winding mechanism which is rotatably supported on the package support. A separately driven disc is mounted coaxially on the shaft below the yarn guide and for rotation independently thereof, and a torque is transmitted from this disc to the package support, independently of rotation of the flyer, by cooperating magnets disposed in part on the disc and in part on the package support. The level-winding mechanism, mounted on a cam, is prevented from rotation by cooperating magnets disposed in part on the level-winding mechanism and in part on a stationary cylinder, the latter of these magnets being moved axially of the shaft to traverse the level-winding mechanism more rapidly in one direction than the other.

3,377,791
MANUFACTURE OF TELEPHONE CABLES

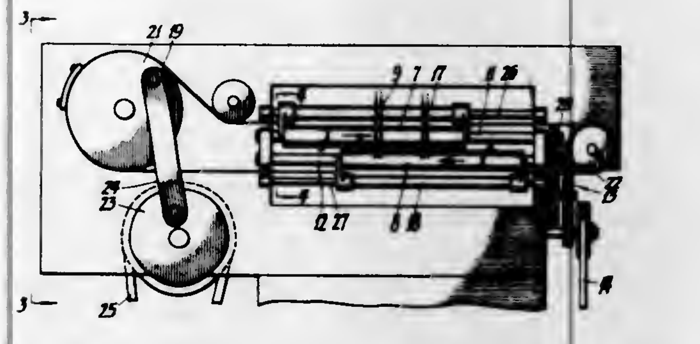
Roland Lemaire, Fere-en Tardenois, France, assignor to Societe Etudes et Fabrications, Paris, France
Filed May 3, 1965, Ser. No. 452,815
Claims priority, application France, May 4, 1964, 973,266
3 Claims. (Cl. 57—62)



Apparatus for producing an assembled bundle of twisted wires in which the wires are drawn from a rotary support by a capstan driven by an electric motor at variable speed in accordance with the random variation of its electrical control current supplied by a tachometer generator driven by the rotary support. The variation of the control current is obtained by a pluality of potentiometers connected between the tachometer generator and the motor, and wherein the movable contact members of the potentiometers are driven by respective cams in turn driven via meshing gears having different prime numbers of teeth so that the ratio of the speed of the motor to the speed of the rotary support is never duplicated.

3,377,792
TWISTING APPARATUS

Gordon W. Walls and Werner Emil Otto Knothe, Highton, Geelong, Victoria, and Brian O. Lavery, Ocean Grove, Victoria, Australia, assignors to Commonwealth Scientific and Industrial Research Organization, Melbourne, Victoria, Australia, a body corporate
Filed Oct. 20, 1965, Ser. No. 498,433
Claims priority, application Australia, Oct. 28, 1964, 51,009/64
12 Claims. (Cl. 57—77.3)

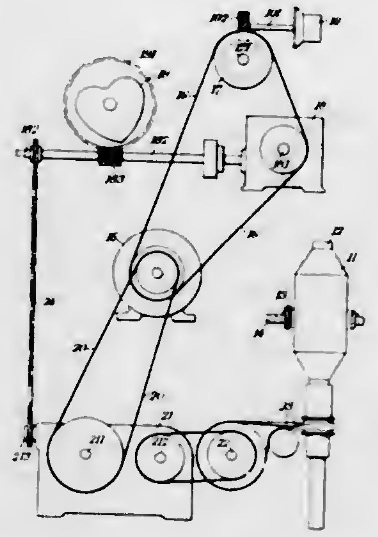


Apparatus for forming stable, twisted threads comprising means for supplying a strand to the nip of a pair of forwardly moving transversely reciprocating twisting surfaces arranged to form a nip between them and to reciprocate in opposite phase and means for converging the

twisted strand with another strand after it has passed through said nip such that it untwists about the other strand to form a stable, twisted thread.

3,377,793
RING SPINNING AND TWISTING MACHINE AND PROCESS

Harold Whittaker, Middleton, England, assignor to T. M. M. (Research) Limited, Oldham, Lancashire, England, a British company
Filed Jan. 4, 1965, Ser. No. 422,939
5 Claims. (Cl. 57—93)



4. Apparatus for winding yarns or filaments in a parallel build on to a package comprising a rotary spindle, yarn delivery means for delivering yarn at a constant rate, a ring and traveller by which the yarn from said delivery means is wound on to a package on said spindle, and means to vary the spindle speed inversely as the winding-on diameter increases to maintain said traveller speed constant at a predetermined speed.

3,377,794
METHOD OF FORMING TEXTURED YARN

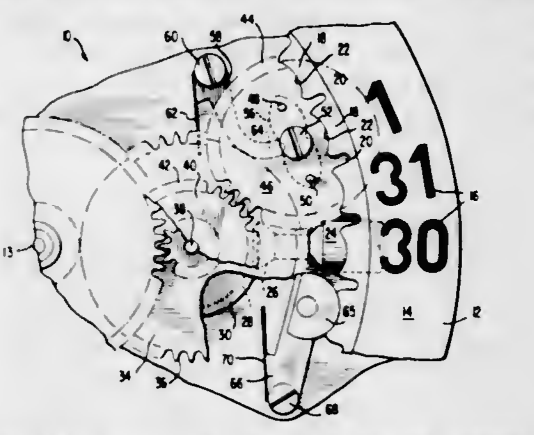
Howard R. Walker, Evans, Ga., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware
No Drawing. Filed Mar. 30, 1964, Ser. No. 355,921
6 Claims. (Cl. 57—157)

1. A method of forming textured thermoplastic yarns comprising forming a composite yarn by twisting together a plurality of yarns including a first thermoplastic yarn and a second heat shrinkable yarn, and then applying heat to said composite yarn to effect contraction of the heat shrinkable yarn thereby causing said first thermoplastic yarn to assume a configuration having a series of randomly disposed loops and coils along its length, heating said composite yarn to the softening temperature of said first thermoplastic yarn to effect setting of said first thermoplastic yarn in the aforesaid configuration and separation of the first thermoplastic yarn from the yarn composite.

3,377,795
CALENDAR SETTING MECHANISM FOR AN ELECTRIC WATCH

Donald J. Rogers, Lancaster, Pa., assignor to Hamilton Watch Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Mar. 11, 1966, Ser. No. 533,711
10 Claims. (Cl. 58—58)

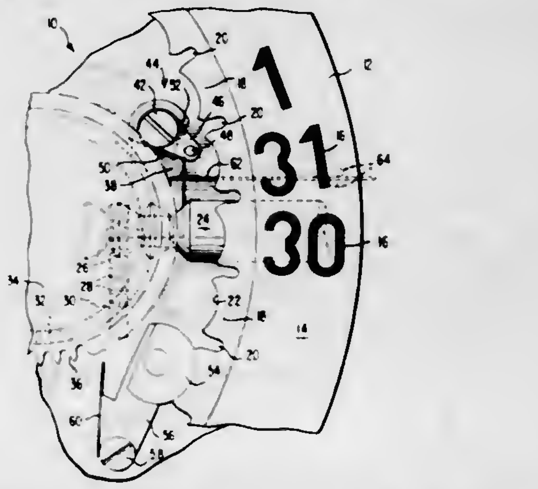
1. A calendar setting mechanism for a timepiece comprising movable date indicating means, means rotatably mounted for setting said date indicating means to a new date, manually operable means coupled to said rotatably mounted means for rotating the latter, and cam means



for automatically returning said rotatable means to a predetermined rest position.

3,377,796
ELECTRIC WATCH CALENDAR SETTING MECHANISM

Donald J. Rogers, Lancaster, Pa., assignor to Hamilton Watch Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Mar. 11, 1966, Ser. No. 533,587
12 Claims. (Cl. 58—58)

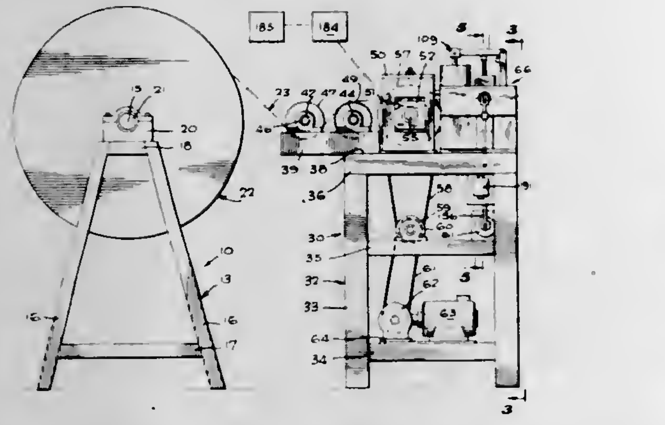


The timepiece provides for the manual adjustment of a date-bearing indicia member by means of a reciprocable rack. The timepiece incorporates a setting stem carrying a pinion movable into three different positions. In the normal or run position, the pinion of the setting stem is disengaged from the remainder of the works and the watch runs in a normal manner. By moving the stem longitudinally into a second position where the setting pinion engages a portion of the dial train, the stem may be manually rotated to set the hands of the watch or timepiece. In the third position, the setting pinion engages the movable rack such that manual rotation of the setting stem in this third position acts to move the rack and ultimately results in a stepwise advancement of the calendar ring to the next or subsequent following date. Provision is made for avoiding oversetting of the rack and for automatically returning the rack to a proper neutral position for further advancement of the calendar ring in the event this is necessary.

3,377,797
AUTOMATIC DISASSEMBLING MACHINE FOR RIVETED ROLLER CHAIN PIN LINKS

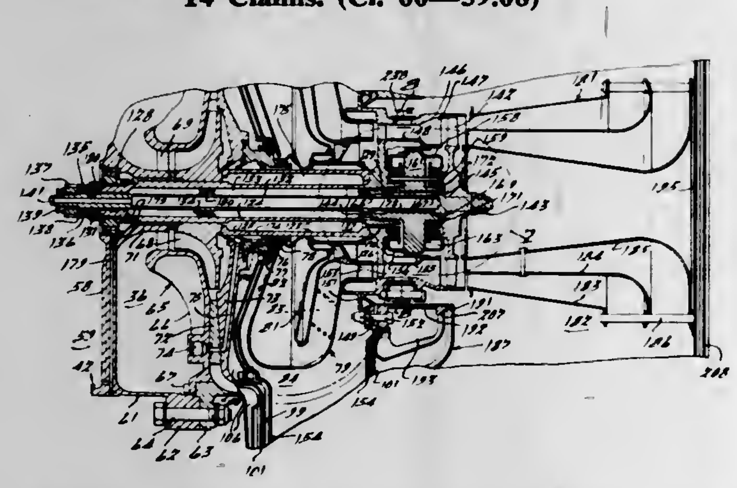
Julius A. Pinchev, Los Angeles, Calif. (3225 E. 34th St., Tulsa, Okla. 74105)
Filed Oct. 29, 1964, Ser. No. 407,380
2 Claims. (Cl. 59—7)

A machine for automatically disassembling riveted roller chain links at any position along a length of such roller chain whereby to separate it into shorter portions having the selected number of links therein. The chain is fed through a transverse positioning aperture and over a sprocket located therein, and a counter counts the number of links which pass through the positioning aperture at the punch-out location. The chain is locked into an aligned position so that the corresponding rivets can be laterally struck out by a pair of punch-out pins. If precise alignment with the rivets is not achieved, a sensing means inactivates the punch-out actuator until alignment is achieved. A second counter counts the number of chain lengths separated from the main feed chain until the number of separated chain lengths corresponds to an initial setting, then automatically stops further operation of the apparatus until again reset and restarted.



3,377,798
BEARING AND DRIVE CONSTRUCTION FOR GAS TURBINE ENGINES

Sam B. Williams, Walled Lake, Mich., assignor to Williams Research Corporation, Walled Lake, Mich., a corporation of Michigan
Original application Feb. 1, 1965, Ser. No. 429,600. Divided and this application Dec. 12, 1966, Ser. No. 630,474
14 Claims. (Cl. 60—39.08)

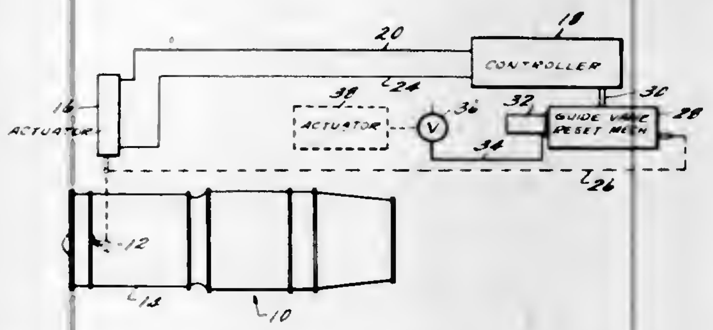


A gas turbine engine in an automotive vehicle having a bearing lubrication system utilizing turbine shafts, a gas bleed between the turbine stages, and an overrunning clutch between coaxial gears of an automatic transmission driven by the engine.

3,377,799
MECHANICAL INTEGRATORS AND CONTROL SYSTEMS EMPLOYING SAME

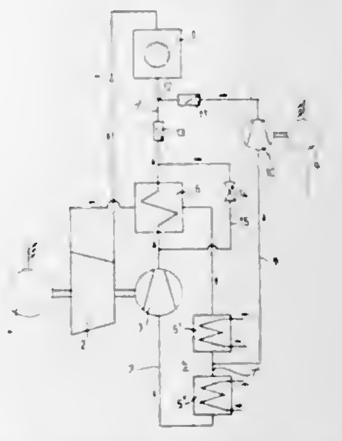
Howard M. Geyer, Dayton, Ohio, assignor to General Electric Company, a corporation of New York
Filed Jan. 3, 1966, Ser. No. 518,220
2 Claims. (Cl. 60—39.29)

The disclosure illustrates a mechanical integrating mechanism which algebraically sums two linear inputs and produces a fixed rotary output. A rack, which provides one linear input, engages a pinion gear mounted on a linearly displaceable trunnion mounting. The pinion gear is coupled to a fixed rotary output shaft by a flexible coupling.



3,377,800
NUCLEAR REACTOR GAS-TURBINE PLANT WITH EMERGENCY COOLING

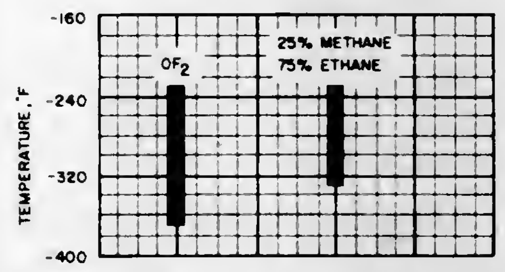
Werner Spillmann, Kilchberg, Zurich, Switzerland, assignor to Escher Wyss Aktiengesellschaft, Zurich, Switzerland, a corporation of Switzerland
Filed June 24, 1966, Ser. No. 560,287
Claims priority, application Switzerland, Aug. 12, 1965, 11,349/65
3 Claims. (Cl. 60—59)



A gas-turbine power plant in which the working medium is heated directly in a nuclear reactor. The power plant includes a two-part cooler which is located in the working medium circuit, and an emergency cooling conduit which branches off said circuit between the two cooler parts and returns to the circuit at a point between the reactor and the compressor. This conduit contains a cooling blower and a shut-off valve, and a second shut-off valve is provided in the working medium circuit between the return point of the cooling conduit and the compressor.

3,377,801
LIQUID PROPULSION SYSTEM AND METHOD WITH FUELS AND OXIDIZER IN THERMAL CONTACT

David Altman, Menlo Park, Calif., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Nov. 18, 1964, Ser. No. 412,094
14 Claims. (Cl. 60—206)

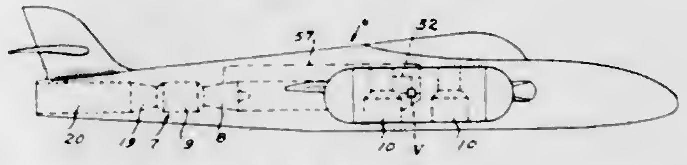


1. A method for generating high-temperature gases for thrust and gas generators comprising injecting oxygen difluoride in a reaction chamber and reacting said OF_2 with a separately injected liquid propellant fuel consisting essentially of 85% to 100% by weight of a hydrocarbon mixture and from 0% to 15% by weight of a high energy additive, said hydrocarbon mixture consisting essentially of from 20 to 30 percent by weight of methane and from 70 to 80 percent by weight of ethane.

2. In a long resident time, bipropellant space vehicle comprised of a thrust chamber, means for storing a first liquid propellant and a second liquid propellant and means for selectively injecting said first and second liquid propellant into said thrust chamber, the improvement wherein said first liquid propellant consists of OF_2, said second liquid propellant consists of from 85% to 100% by weight of a hydrocarbon mixture and from 0% to 15% of a compatible high energy additive, said hydrocarbon mixture consisting of from 20% to 30% by weight of methane and from 70% to 80% by weight of ethane and said means for storing said first and second liquid propellants comprises first and second separate chambers for containing said first and second liquid propellants, respectively, which chambers are in physical contact so that said first and second liquid propellants contained therein are in substantial thermal conductive relationship.

3,377,802
BEARING LUBRICATING SYSTEM FOR AN AIRCRAFT GAS TURBINE ENGINE

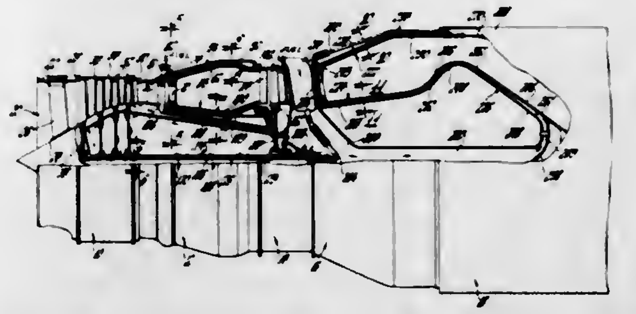
Wilfred Henry Wilkinson, Turnditch, Derby, and Arthur George Goss, Barrow-on-Trent, near Derby, England, assignors to Rolls-Royce Limited, Derby, England, a British company
Filed Aug. 22, 1966, Ser. No. 574,232
Claims priority, application Great Britain, Sept. 6, 1965, 38,066/65
4 Claims. (Cl. 60—224)



An aircraft power plant having forward propulsion jet engines and at least one lift engine having a recirculatory bearing lubrication system. The lubrication system passes lubricant and compressed air in heat exchange relationship through a venturi to induce a flow of air/lubricant mixture to the bearing. The initial air supply comes from a compressor of a forward propulsion engine to provide at the start-up of the lift engine a relatively hot mixture, and thereafter the air supply is from a lift engine compressor to produce a relatively cool mixture.

3,377,803
JET ENGINE COOLING SYSTEM

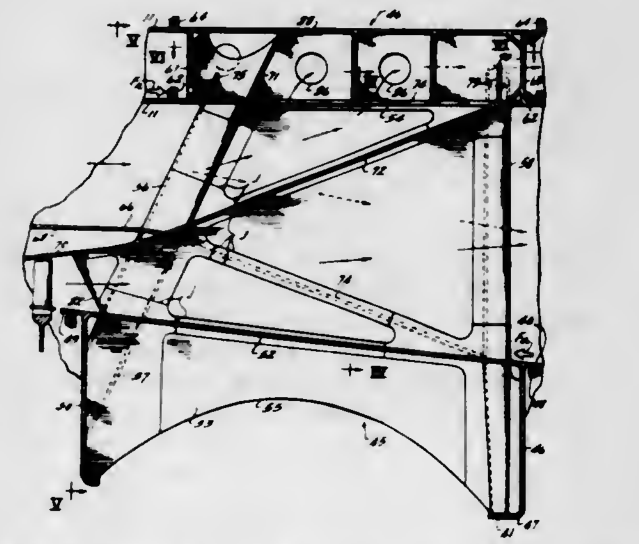
Otakar P. Prachar, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 10, 1960, Ser. No. 48,782
6 Claims. (Cl. 60—261)



1. A fuel and cooling system for a turbomachine of the axial flow type having an outer annular longitudinally extending engine casing and inner longitudinally extending annular wall means cooperating therewith to together define axially aligned compressor, main combustion, turbine, and afterburner combustion sections therebetween for the flow of gas therethrough, a plurality of fuel injectors adapted to contain fuel secured to said casing and wall means and extending into each of the main and afterburner combustion sections for the injection of fuel therein, separate sources of cryogenic fuel each having a high specific heat capacity for said main and afterburner sections, means connecting said sources and said main and afterburner combustion section fuel injectors, portions of said engine casing and said wall means having hollow interiors adapted to contain fuel under pressure, and means connecting said sources of fuel and the hollow interiors of said casing and wall means for the flow of cryogenic fuel under pressure therethrough to cool the enclosure defining surfaces of said main and afterburner combustion sections, annular means enclosing the interior of said compressor section, and means connecting said afterburner section source of fuel to said last mentioned means for the flow of cryogenic fuel therethrough to cool said interior of said compressor section by the absorption of heat by said fuel.

3,377,804
FLOW MIXERS PARTICULARLY FOR GAS TURBINE ENGINES

Jack D. Wright, Mason, and Thomas L. Hampton, Cincinnati, Ohio, assignors to General Electric Company, a corporation of New York
Filed June 13, 1966, Ser. No. 556,968
9 Claims. (Cl. 60—262)



1. A flow mixer for mixing inner and outer concentric fluid streams bounded by an outer generally cylindrical thin-walled casing and separated by an intermediate duct, said flow mixer comprising,

inner and outer annular structural members having ducts defining the inner and outer bounds of said fluid stream,

said annular structural members further comprising relatively thin rings extending from both ends of said ducts and generally longitudinal stiffeners interconnecting said rings, thereby providing said annular structural members with a maximum rigidity to weight ratio in resisting a doughnut moment applied thereto,

a plurality of struts structurally interconnecting said inner and outer annular structural members at the inlet and outlet ends of said flow mixer,

generally longitudinal panel means interconnecting said inlet and outlet struts for providing longitudinal stiffening thereof and separate flow passages through said mixer, ramps extending from said intermediate duct to the outer duct through certain passages for discharge of the inner fluid stream from the flow mixer and other ramps extending from said intermediate duct to the inner duct through other passages for discharge of the outer fluid stream from the flow mixer, whereby the fluid streams are discharged across the full width of the flow mixer outlet annulus and said fluid streams are interspersed around the circumference of said outlet annulus,

said inner annular member being adapted to receive generally axial loads and said outer annular member being adapted to mount on said cylindrical casing,

whereby the deflection of said flow mixer in response to said loads on said inner casing is minimized and the loads are transmitted to said cylindrical casing in substantially an axial direction.

5. A flow mixer as in claim 1 further comprising,

flange means on said inner duct for receiving a generally axial load and distributing said load around the circumference of said ring,

flange means on said outer duct for circumferential mounting with said casing,

whereby distortion of said inner and outer annular members is minimized, and the deflection of said casing in response to radial loads is minimized.

8. A flow mixer as in claim 5 in combination with a gas turbine engine of the bypass type wherein,

said outer casing and said intermediate duct provide a flow path for bypass air and the intermediate duct defines the outer bounds of a flow path for a hot gas stream discharged from the main gas generator of said engine,

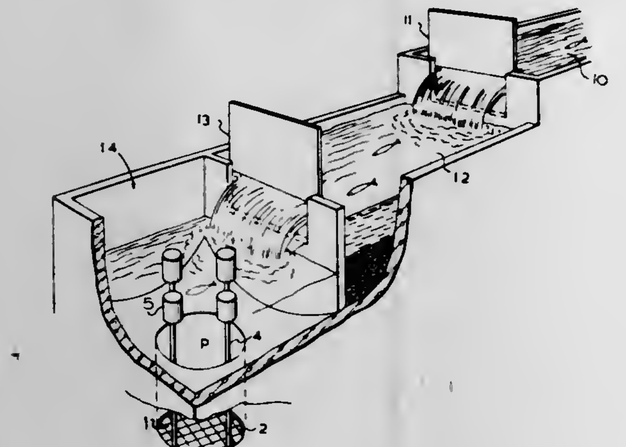
said flow mixer is secured to said casing immediately adjacent the discharge end of said main gas generator,

said gas turbine engine comprises a mixing chamber secured to the outlet of said flow mixer,

whereby said flow mixer is an integral structural unit with said casing, thereby minimizing the axial length of said engine.

3,377,805
DEVICE TO ASSIST FISH TO TRAVEL PAST OBSTACLES IN WATERWAYS

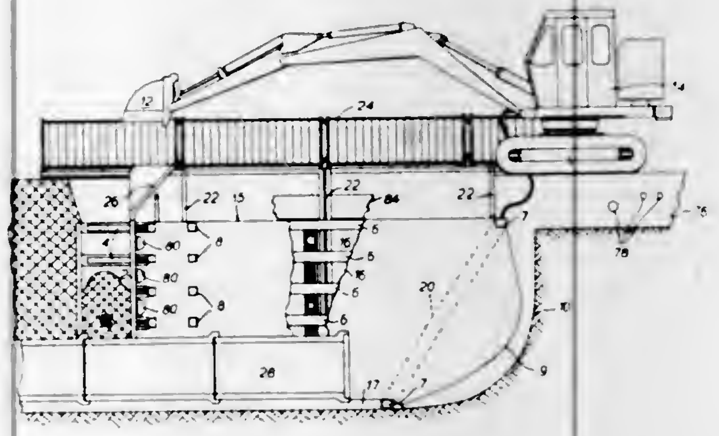
Joseph William Warner, 13751 14th Ave., Haney, British Columbia, Canada
Filed Sept. 21, 1965, Ser. No. 488,919
12 Claims. (Cl. 61—21)



A system for assisting fish to circumnavigate obstructions, such as dams in rivers or streams, which impede or block their migration route to their spawning areas. The fish are diverted from the main stream of water into a series of locks terminating in a passageway containing a semi-buoyant cage which acts to raise or lower the fish by altering the level of the water in the passageway. The fish, on attaining the new level, are released through a series of locks to continue their migration.

3,377,806
CONSTRUCTION IN TRENCH OF PIPELINES AND SIMILAR OPERATIONS

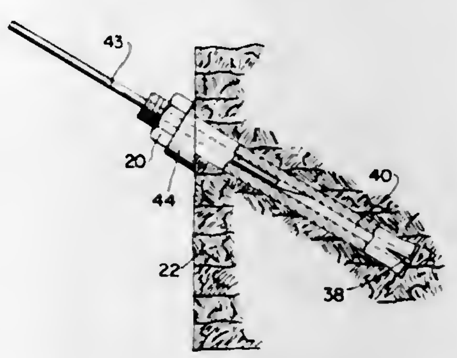
Anthony Ronald Seaton Morrice, 79 Oakdale, Harrogate, England
Filed Jan. 28, 1966, Ser. No. 523,740
Claims priority, application Great Britain, Jan. 29, 1965, 3,945/65; Apr. 10, 1965, 15,332/65
5 Claims. (Cl. 61—41)



A trench shoring frame which comprises a pair of opposed side walls and a plurality of cross members extending between these side walls, the side walls and the cross members defining a working zone communicating between the top, bottom and forward end of the frame, a back fill compactor wall which is adapted to be inclined and which extends transversely to the direction of the spacing of the side walls, and a plurality of jacks urging the compactor wall against back fill to compact the fill until the resistance causes continued expansion to thrust the shoring frame and working zone forward. The side plates are tapered to form a cutting edge. A chute may be detachably connected to the thrust plate to return part of the material which is dug from the trench for placement in the space in the trench behind the thrust plate. The side plates of the shoring frame house horizontally disposed members, one for each jack assembly, and these side plates may be provided with removable vertical members which are detachable for passing over obstructions. A vacuum source may be connected to well connections at the side plates.

3,377,807
ANCHOR BOLT ASSEMBLY

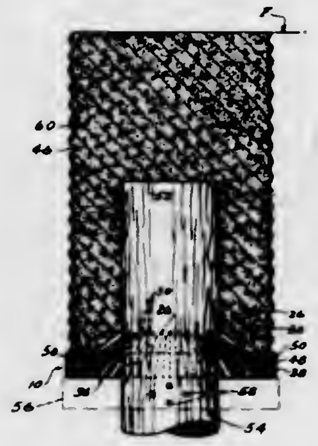
Vincent Nave, 20 Bennett St., N. Providence, R.I. 02904
Filed June 15, 1966, Ser. No. 557,819
2 Claims. (Cl. 61—45)



An anchor bolt assembly mounted in a hole extending into a supporting structure and terminating at an enlarged cavity, and a method of constructing the anchor bolt assembly. A bolt having a longitudinally extending bore and an expansible end portion is driven into the hole so that the end portion snugly engages the cavity. The cavity is provided with a filler material admitted through the bore and the bore is provided with a reinforcing member abutting the filler material and having substantially the same diameter as the bore.

3,377,808
CAP ASSEMBLY FOR PILE SHELL

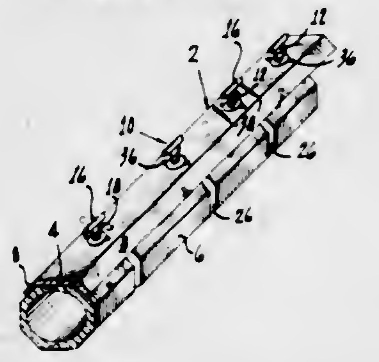
John Joseph Dougherty, Cedar Grove, N.J. (262 Rutherford Blvd., Clifton, N.J. 07014)
Filed Dec. 23, 1966, Ser. No. 604,433
5 Claims. (Cl. 61—53)



1. As an article of manufacture, a cap assembly for a pile shell comprising a frusto-conical body of spring steel having an opening in the narrow end thereof and having a band around the wide end thereof, said band extending inwardly along the body in spaced relation thereto, said body being corrugated, the corrugations extending from the opening to the band, the edge of the body forming the opening being notched between the ends of the corrugations.

3,377,809
DRAIN TILE JIG

Edward J. Hujber, 2325 Pennington Road, Trenton, N.J. 08638
Filed June 18, 1965, Ser. No. 465,131
6 Claims. (Cl. 61—63)

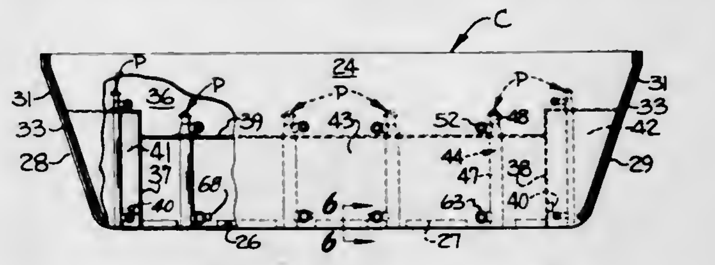


A tool for temporarily assembling tile sections of a drainage system in an end-to-end relationship with a prescribed spacing maintained between adjacent sections. A series of gripping elements temporarily hold the sections against an elongated holder, cooperating with the holder in aligning the sections. The gripping elements serve to establish the prescribed spacing between adjacent sections, so that on detachment of the tool from the tile sections they will be in their properly spaced, installed positions in the drainage bed.

3,377,810
PUMPING APPARATUS FOR DRYDOCK AND CAISSON

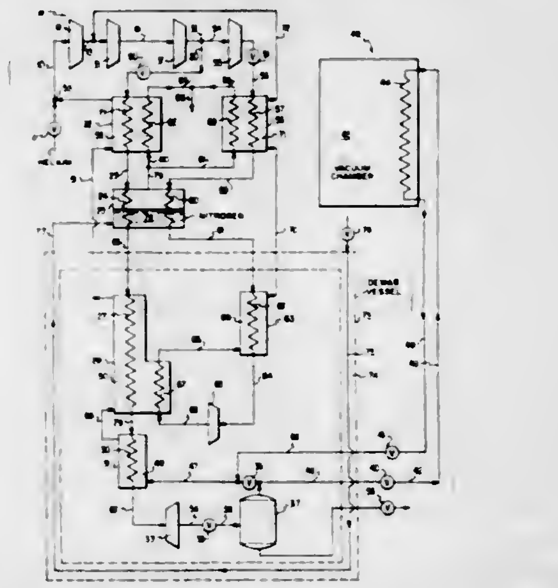
Ernest W. Crumley, Apt. 502, Carlton Arms, Charleston, S.C.
Filed Feb. 9, 1966, Ser. No. 526,148
7 Claims. (Cl. 61—64)

This invention comprises a floating caisson for sealing the open end of a graving dock. The caisson has a hollow interior containing pumping apparatus including a pump and upper and lower fluid conduits interconnected by a pumping conduit and having open ends communicating with the exterior of the caisson. The lower fluid conduit is provided with secondary conduits communicating with the caisson interior. Valve means are provided in the upper and lower conduits and in the secondary conduits so as to selectively permit water to be conducted through the caisson and to permit water to be pumped selectively into and out of the dock and caisson interior.



3,377,811
LIQUEFACTION PROCESS EMPLOYING EXPANDED FEED AS REFRIGERANT

George W. Slegrist, Coopersburg, and Kenneth Zeitz, Allentown, Pa., assignors to Air Products and Chemicals, Inc., Allentown, Pa., a corporation of Delaware
Filed Dec. 28, 1965, Ser. No. 516,887
2 Claims. (Cl. 62—11)

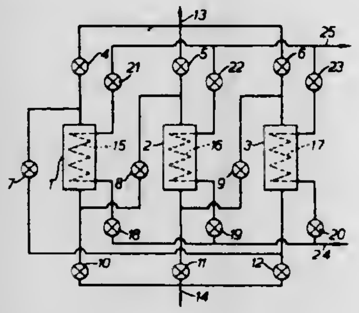


Low temperature refrigeration process in which gaseous material is compressed in a multi-stage compressor to provide intermediate pressure gaseous material and high pressure gaseous material. The intermediate pressure material is cooled, expanded with work and then valve expanded to effect its partial liquefaction, the unliquefied part being used to cool the intermediate pressure material and then returned to the inlet of the compressor. The high pressure material is expanded with work and used to cool the intermediate pressure material prior to expansion and then return to the inlet of an intermediate stage of the compressor.

3,377,812
REARRANGEMENT OF FLOW - THRU SERIAL ADSORBERS TO REMOVE GASEOUS CONSTITUENTS

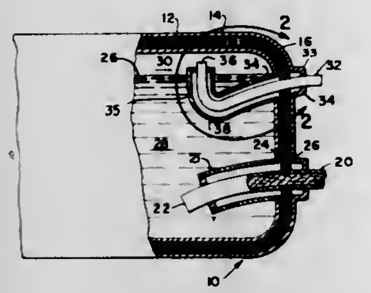
Michael Ernest Garrett, Streatham, London, and David Arthur Webber, Carshalton, England, assignors to The British Oxygen Company Limited, London, England, a British company
Filed Mar. 10, 1965, Ser. No. 438,616
Claims priority, application Great Britain, Mar. 10, 1964, 9,956
10 Claims. (Cl. 62—18)

A process for removing from a gaseous mixture a constituent, which is preferentially adsorbed at low temperatures, by passing the mixture serially through at least three cyclically switchable adsorbers operating in a cycle divided into a number of periods equal to the number of adsorbers. When the major part of the constituent adsorbed in the first adsorber is expelled therefrom, the adsorbers are switched so that the last adsorber of one period becomes the first adsorber of the next period. The last adsorber during any period is maintained at the low temperature required by external cooling.



3,377,813
STORAGE CONTAINER

Gerald D. Mordhorst, Boulder, Colo., assignor to Cryogenic Engineering Co., Denver, Colo.
Filed Oct. 22, 1965, Ser. No. 502,084
24 Claims. (Cl. 62—45)

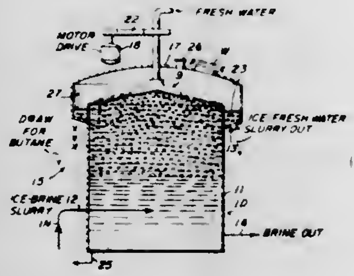


1. In a Dewar type of cryogenic storage vessel, the method of reducing heat losses through an entry tube of the type which permits gases to flow between the vessel's exterior and the storage portions thereof comprising the step of:

substantially obstructing convective currents of relatively warm fluid which flow from the warm end of said tube towards the cold end thereof without substantially increasing the conductive heat transfer thru said tube.

3,377,814
METHOD FOR PRODUCING FRESH WATER FROM SLURRY OF ICE IN AN AQUEOUS LIQUID

Donald F. Othmer, 140 Columbia Heights, Brooklyn, N.Y. 11201
Filed May 2, 1966, Ser. No. 556,787
9 Claims. (Cl. 62—58)



1. The method of producing fresh water from a slurry of ice crystals in an aqueous solution, which method comprises:

introducing the slurry of ice crystals in the aqueous solution into a confined zone near the bottom thereof to cause ice crystals to float upwardly to form a mass of ice crystals near the upper end of the zone and to cause the aqueous solution to descend;

moving a stream of fresh water across the upper surface of the mass of ice crystals at a velocity sufficiently high and at an angle sufficient to dislodge and to remove mechanically the top surface layer of crystals from the mass of ice crystals, thereby forming an ice-fresh water slurry;

discharging the ice-fresh water slurry from the confined zone at the upper end thereof;

discharging the aqueous solution from the confined zone at a point where it is substantially free of ice crystals;

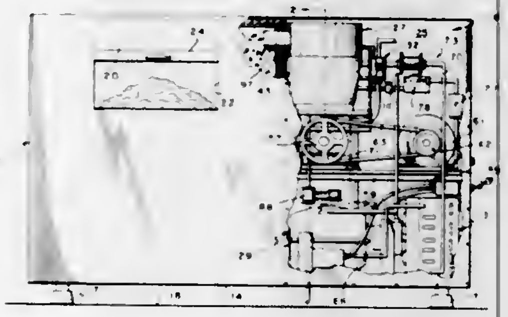
introducing refrigerant vapors into a second confined zone;

introducing the ice-fresh water slurry into the second zone in contact with the refrigerant vapors therein, to cause thereby the vapors to condense and become liquified and to cause the ice crystals to melt and become fresh water; and

separating and discharging the fresh water and the refrigerant condensate from the second confined zone.

3,377,815
AUTOMATIC CLEANSING SYSTEM FOR ICEMAKING MACHINES

Carl E. Soderberg, 707 N. Main, Wichita, Kans. 67203
Filed Oct. 17, 1966, Ser. No. 587,306
9 Claims. (Cl. 62—137)



1. An apparatus for manufacturing frozen crystal particles, comprising:

(a) a freezing chamber having inlet and outlet openings to receive and discharge, respectively, material to be frozen therein,

(b) material supply means having a conduit connected to said inlet opening,

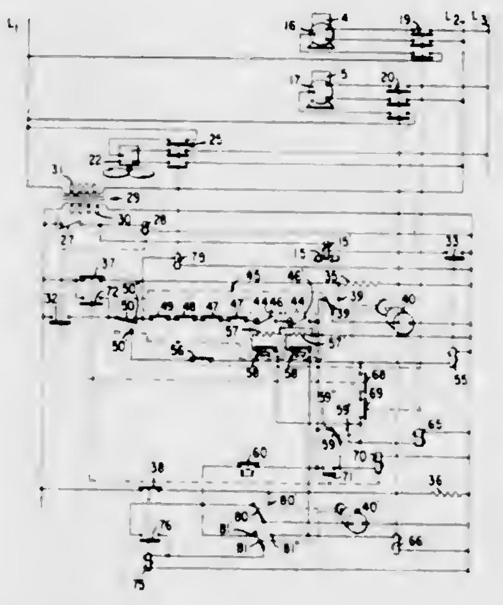
(c) material discharge means having a pipe member connected to said outlet opening, and

(d) control means connected to said conduit and said pipe member operable to control movement of the material therethrough, said control means operable under one set of conditions to open said pipe member and close said conduit to flush out said chamber with the material contained within said conduit and said chamber and, operable under another set of conditions, to open said pipe member and said conduit to continuously flush out said chamber for a predetermined period of time.

3,377,816
COMPRESSOR CONTROL ARRANGEMENT

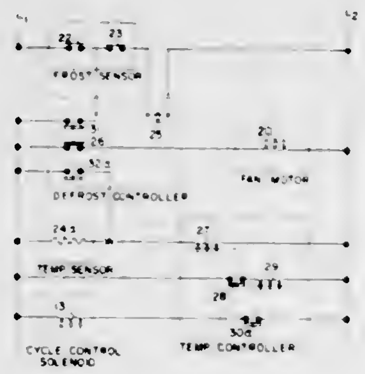
Isaac Berger, Dewitt, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Aug. 1, 1966, Ser. No. 569,125
10 Claims. (Cl. 62—157)

1. In a refrigeration system having at least one compressor, a condenser, expansion means, and an evaporator arranged in a closed refrigerant flow path, and valve means closing refrigerant flow path, the combination of: a first circuit for energizing said compressor; a second circuit for actuating said valve means to open said refrigerant flow path; means for completing said second circuit whereby said refrigerant flow path is opened to permit system pressures across said compressor to equalized to complete said first circuit whereby said completing means at a predetermined cooling demand; and system pressure sensitive means effective when system pressures across said compressor are substantially equalized to complete said first circuit whereby said compressor is energized.



3,377,817
DEFROST CONTROL FOR HEATING AND COOLING REFRIGERATION SYSTEMS

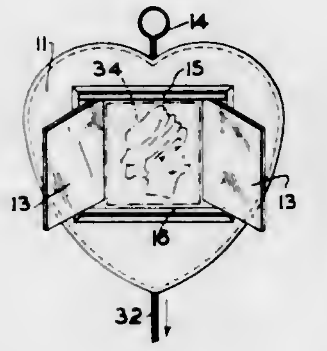
David J. Petranek, La Crosse, Wis., assignor to The Trane Company, La Crosse Wis., a corporation of Wisconsin
Filed Dec. 27, 1966, Ser. No. 604,678
8 Claims. (Cl. 62—140)



A refrigeration system operable in both heating and cooling modes or cycles and having a cycle control valve operated to the heat cycle position in response to an electric control signal and operated to a cooling cycle position in the absence of the control signal whereby said valve assumes the cooling position upon failure of said signal, a temperature responsive control for producing said control signal when heating is required, and a defrost control which utilizes the signal producing elements of the temperature control to actuate the cycle control valve to the heating cycle position.

3,377,818
LOCKET HAVING SPRING-CLOSED DOORS AND PULL STRING FOR OPENING SAME

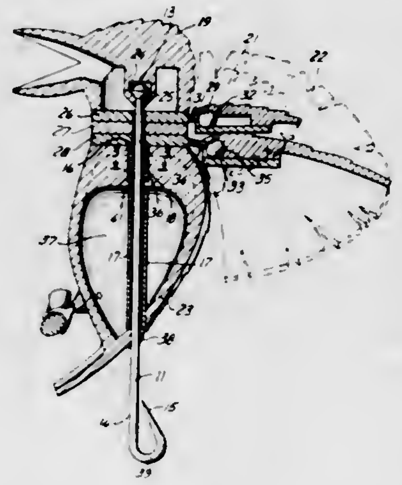
Otto V. Marek, 470 Rte. 9, Bayville, N.J. 08721
Filed Aug. 11, 1965, Ser. No. 478,875
6 Claims. (Cl. 63—19)



A locket comprising a case provided with means for supporting a picture, a matching cover secured to the case, and provided with a normally-closed spring door overlying the picture, which door is moved to the open position by means of a pull string.

3,377,819
ORNAMENT HAVING ROTATABLY AND UNIVERSALLY ADJUSTABLE APPENDAGES

Lester M. Joy, Jesu Nino, and Harold S. Shapiro, New York, N.Y., assignors to Les Bernard, Inc., New York, N.Y., a corporation of New York
Filed July 8, 1964, Ser. No. 381,018
4 Claims. (Cl. 63—31)



1. A costume jewelry ornament, comprising

an elongated rod-like body member having an axis, a head portion at one end, a tail portion at the opposite end spaced from said head end and stop means in the area of said tail portion;

a plurality of appendage members each movably mounted on said body member for rotation about said axis, one of said appendage members comprising a head member movably secured on the head portion of said body member for rotation about said axis; and another of said appendage members comprising an end member movably mounted on the tail portion of said body member in abutting relation at one end with one of said appendage members and at the other end abutting said stop means, said stop means securing said end member on said body member, said one of said appendage members comprising a collar movably mounted on said body member between said head member and said end member for rotation about said axis and ball coupling means pivotally coupling said appendage member to its collar for universal positioning in relation to said collar; and

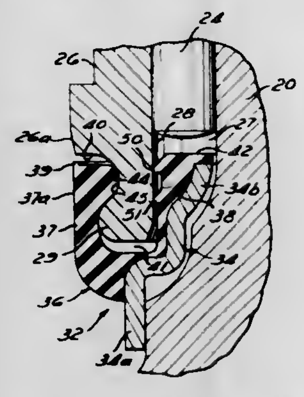
a spiral spring positioned on said body member and compressed between a pair of adjacent appendage members for applying pressure upon said appendage members in directions substantially parallel to said axis to maintain said appendage members in position.

3,377,820
UNIVERSAL JOINT SEAL

William J. Smith, Jr., Bay Village, Ohio, assignor to Cleveland Steel Products Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Sept. 7, 1966, Ser. No. 577,703

13 Claims. (Cl. 64—17)



1. In a universal coupling including a pair of yokes having laterally spaced arms offset from the axis of rotation of the coupling, a journal cross having a plurality of trunnions, and bearing means surrounding each of said trunnions, means associated with said journal cross for conducting lubricant to each of said bearing means, each of said bearing means including a bearing cup secured to an arm of said yoke, said bearing cup and said trunnion defining a space therebetween, friction reducing means disposed within said space, and seal means disposed about the open end of said bearing cup to retain lubricant within said space, said seal means comprising a retainer having one end disposed within said space and the other end secured to said trunnion, and an annular elastomeric member secured to said retainer member and having inner and outer radially spaced longitudinally extending annular legs defining a channel in which is received the open end portion of said bearing cup, said outer leg being radially outwardly unrestrained and having an internal bead thereon received within a recess on the external longitudinal surface of said bearing cup and said inner leg having a pair of longitudinally spaced radially extending flexible annular lips, said lips being deflected radially inwardly from an unstressed condition into sealing engagement with the internal longitudinal surface of said bearing cup and being so constructed and arranged as to be further deflected radially inwardly away from said internal longitudinal surface to permit lubricant within said space to be forced past said seals upon the application of a lubricant under pressure to said bearing means.

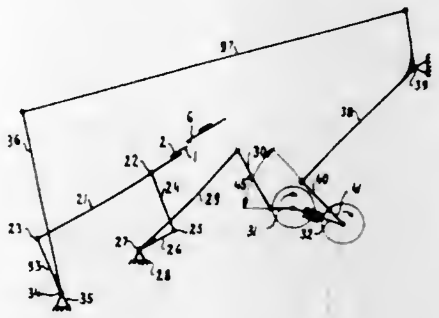
3,377,821
APPARATUS FOR REINFORCING FIBROUS MATERIAL

Andrej Vajda, Antonin Danhel, and Miroslav Tochacek, Brno, Czechoslovakia, assignors to Elitex, Zavody textilniho strojirenstvi, Liberec, Czechoslovakia

Filed Oct. 14, 1966, Ser. No. 586,778

5 Claims. (Cl. 66—85)

1. In a machine for forming flat textile sheets of unconnected fibers, which have no binding yarns, from a flat body of unconnected fibers which is advanced in a plane in which the body of unconnected fibers is located while latched needles reciprocate through the body of unconnected fibers and coact with sinker plates to form, from part of the unconnected fibers, chain stitches holding the unconnected fibers together to form the flat sheet, support means supporting said sinker plates, a single rotary drive means turnable about a given axis, a pair of crank means fixed to said drive means for rotation therewith about said axis and being angularly displaced one with respect to the other about said axis, and a pair of lever means operatively connected to said pair of crank means to be actuated thereby and operatively connected with said support means for transmitting movement of said crank means to said support means, said pair of lever means acting on said support means to provide for said sinker plates a path of movement where each plate describes a relatively flat, closed, convex curve while said pair of lever means act on said support means to displace said sinker plates along forward and return strokes with the path of movement of said sinker plates during said return strokes thereof being perpendicular to the plane of the body of fibers so that said sinker plates prevent displacement of fibers from the needles and also do not damage the surface of the body of fibers.



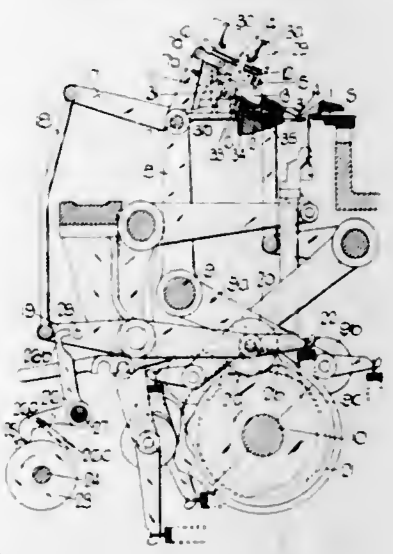
3,377,822
STRAIGHT BAR KNITTING MACHINES

Ernest Start, Ruddington, and Raymond Blood, Shepshed, Loughborough, England, assignors to William Cotton Limited

Filed Oct. 14, 1965, Ser. No. 495,919

Claims priority, application Great Britain, Oct. 21, 1964, 42,833/64

9 Claims. Cl. 66—88)



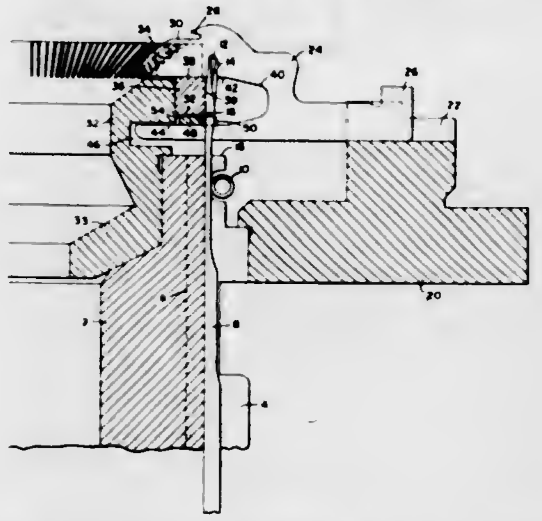
In a straight bar knitting machine having frame and machine needles and wherein yarn is fed to the frame needles and on to sinkers which later relinquish the yarn to the machine needles, with means for automatically changing between plain and rib fabric according to U.S. Patent No. 3,050,967, the improvement of the machine needles being latch needles and the machine having a bar of bent-over-catch-carrying points which are operatively connected to the machine needle advancing mechanism so as to be advanced and retracted thereby and which are also advanced and retracted by cam means relative to the machine needles, and which points have opposite sideways movements under control of solenoid or electro-magnetic clutch and electric switch means to releasably engage the catches with the needle latches for the catches to open the latches in the retraction of the points.

3,377,823
NEEDLE CYLINDER ASSEMBLY FOR KNITTING MACHINES

John J. McDonough, Laconia, N.H., assignor, by mesne assignments, to Scott & Williams, Inc., Laconia, N.H., a corporation of Delaware

Filed Feb. 16, 1966, Ser. No. 527,993

4 Claims. (Cl. 66—115)



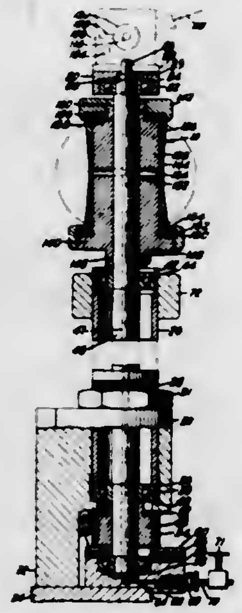
Needles are maintained in accurate relationship to each other and to sinkers by a slotted ring located above the upper ends of the needle cylinder slots, and supported against movement in an axial direction by a wear ring and by horizontal projections of the sinkers. The slotted ring is not secured to any other part of the needle cylinder assembly, but its circumferential and radial positions are maintained solely by the locations of the needles in its slots.

3,377,824
POSITIVE YARN FEEDING MEANS FOR CIRCULAR KNITTING MACHINES

James D. Moyer, Wyomissing, Pa., assignor to Textile Machine Works, Wyomissing, Pa., a corporation of Pennsylvania

Filed July 27 1966, Ser. No. 568,191

9 Claims. (Cl. 66—132)



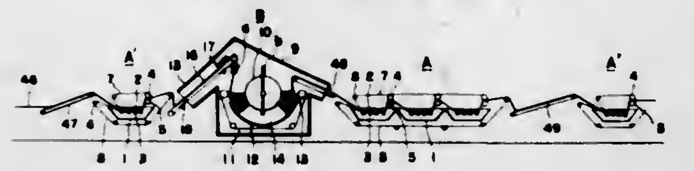
A positive yarn feed device for a circular knitting machine including a driven roller having an inflatable sleeve about which yarn is passed from a source of supply to the needles of the knitting machine. A sensing means is positioned intermediate the roller and knitting machine responsive to changes in tension in the yarn for varying the circumference of the sleeve through fluid control means to accordingly vary the rate of feed of the yarn to the needles.

3,377,825
LIQUID TREATING APPARATUS FOR A COTTON BELT

Yoshikazu Sando, 84 Sekido, and Kuniharu Nasu, 132 Minato, Wakayama-shi, Wakayama-ken, and Kenzo Iwamoto, 1172 Korimoto-cho, Kagoshima-shi, Kagoshima-ken, Japan.

Filed Oct. 14, 1965, Ser. No. 495,936

6 Claims. (Cl. 68—177)



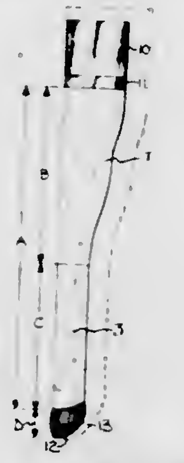
An apparatus for accumulating a web of material and shifting the accumulated web, comprising a tank, a concave guide plate in the lower portion of said tank, an endless belt in the bottom of the tank having a portion thereof running along the concave surface of said guide plate and including belt drive means, a drum rotatably mounted in said tank above said guide plate and spaced from said guide plate with the surface of the drum concentric with the concave surface of said guide plate, support means movable along the curved space between said guide plate and said drum, drive means for driving said support means, feed means for feeding a web of material into said curved space between said guide plate and said drum, and means for heaping said web of material onto said support means mounted between said feed means and the entrance to said space.

3,377,826
LADIES' STRETCH HEELLESS STOCKINGS

Clyde A. Berry, Valdese, N.C., assignor to Pilot Research Corporation, Valdese, N.C., a corporation of North Carolina

Continuation-in-part of application Ser. No. 531,248, Mar. 2, 1966. This application Feb. 27, 1967, Ser. No. 618,650

5 Claims. (Cl. 66—178)



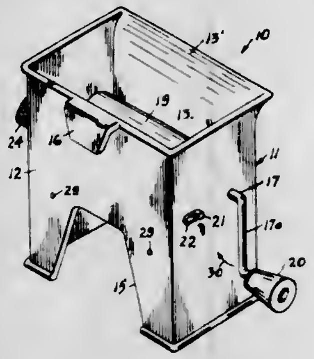
Ladies' sheer seamless stretch stockings are produced in no more than two sizes which are adapted to fit the complete normal range of leg and foot sizes. The stocking is knit of a fine denier non-torque self-crimping type yarn and then finished without the usual heel projection to provide a sufficiently high degree of uniform stretchability to the stocking that the size and shape of the foot of the wearer shapes the fabric into a conforming heel and foot configuration when the stocking is worn.

ERRATUM

For Class 68—177 see:
Patent No. 3,377,825

3,377,827
DIAPER WRINGER

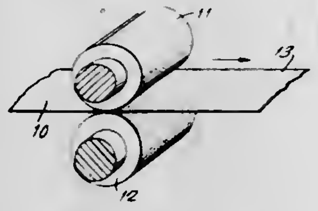
Harry F. Drury, Rte. 5, Box 313, Jackson, Miss. 39212
Filed Feb. 23, 1966, Ser. No. 529,544
5 Claims. (Cl. 68—248)



A housing containing two wringer rollers mounted on two shafts, one of which is provided with a handle. The second shaft is movable laterally toward and away from the first shaft, and springs carried by the shafts urge the rollers together. The second shaft is also axially slidable and may be projected to engage the handle, thus locking the first shaft against rotation in one direction. The handle has a bevelled portion for unlocking itself from the second shaft when rotated in the opposite direction.

3,377,828
METHOD OF ROLLING METAL STRIP TO CONTROL SURFACE ROUGHNESS

William C. Harmon, Chagrin Falls, Ohio, assignor to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey
Application Dec. 2, 1963, Ser. No. 328,779, which is a continuation-in-part of application Ser. No. 25,329, Apr. 28, 1960, Divided and this application Apr. 15, 1966, Ser. No. 542,866
4 Claims. (Cl. 72—2)

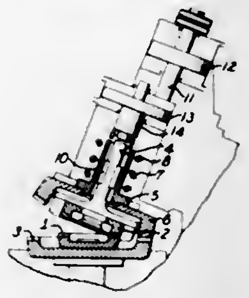


1. A continuing production method of rolling metal strip to produce finished strip having a predetermined surface roughness characterized by a number within a predetermined range of roughness peaks per linear inch along a predetermined direction of the surface, comprising the steps of:

(1) preparing a work roll having a predetermined surface configuration inversely corresponding to said predetermined surface roughness and designed to impress said predetermined roughness on metal strip rolled by said roll;
(2) rolling successive metal strips with said roll to produce product strips having said roughness;
(3) sampling said product strips by counting the number of peaks per linear inch in said predetermined direction;
(4) interrupting production of said product strips with said work roll whenever said number of peaks is outside its predetermined range;
(5) resuming production with another work roll having the aforesaid predetermined surface configuration so as to maintain on successively produced strips the aforesaid predetermined roughness.

3,377,829
DEVICE FOR PRODUCING BEVEL GEAR TEETH BY ROLLING

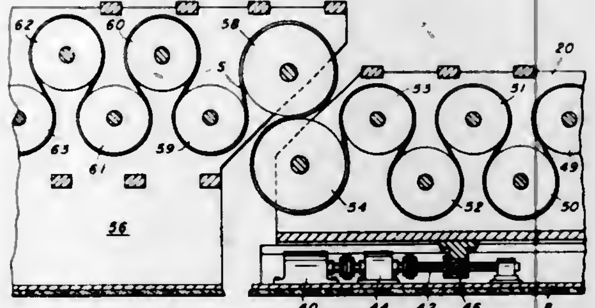
Konstantin Petrovich Ivanov, Igor Ivanovich Kirichinsky, and Alexandr Vasiljevich Butuzov, Moscow, U.S.S.R., assignors to Nauchno-Issledovatelsky Institute Tekhnologii Avtomobilnoi Promyshlennosti, Moscow, U.S.S.R.
Filed Sept. 1, 1964, Ser. No. 393,530
3 Claims. (Cl. 72—86)



1. A device for rolling bevel gear teeth comprising: a rotatable hollow spindle supported for axial displacement; a synchronizer toothed wheel secured to said hollow spindle; a tool spindle telescopically mounted in said hollow spindle and rotatable therewith; a rolling tool secured to said tool spindle, means coupled to the tool spindle for axially shifting said tool spindle in said hollow spindle for thereby supplying axial feed to said rolling tool; a second synchronizer toothed wheel adapted for supporting a blank fastened thereon and periodically engaging with the first said toothed wheel after their angular speeds are synchronized; and means for rotating said second toothed wheel.

3,377,830
METHOD AND APPARATUS FOR REDUCING STRIP

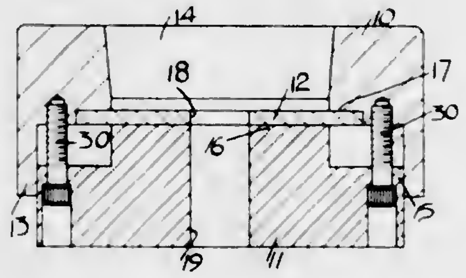
John A. Campbell, Lower Makefield Township, Bucks County, Pa., assignor to United States Steel Corporation, a corporation of Delaware
Filed June 18, 1965, Ser. No. 465,115
6 Claims. (Cl. 72—205)



A method of reducing the thickness of a strip by passing it around substantial arcs of successive rotating work rolls with the unsupported length of strip between the rolls being a maximum of two inches and the ratio between strip width and unsupported length being at least 9 to 1, and applying tensional forces to the strip sufficient to stretch the strip between the rolls. Apparatus which may be used to practice the method includes two sets of bridle rolls having the rolls in one set driven at one speed equal to the speed of one work roll and the rolls in the other set driven at a different speed equal to the speed of the other work roll.

3,377,831
BREAKER BLOCKS

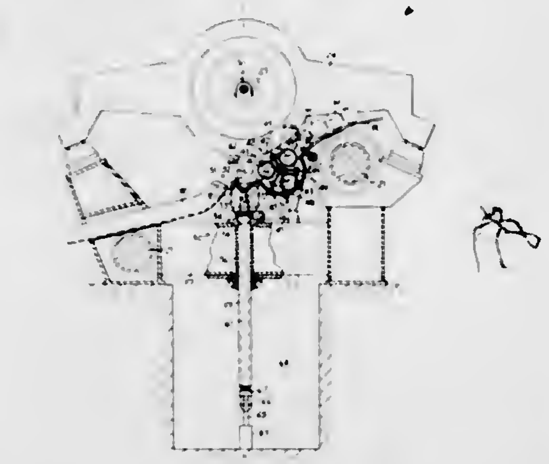
Horace Kenneth Ross, Walsall, and Ronald Frost, Erdington, Birmingham, England, assignors to T. I. Stainless Tubes Limited, Birmingham, England
Filed Dec. 7, 1965, Ser. No. 512,147
1 Claim. (Cl. 72—248)



A breaker block having two body members normally separated by a disc member which is arranged to shear if an unduly high load is applied to the body members, one of the body members having an aperture and the other body member having a projecting portion adapted to enter into the aperture of the first body member on shearing of the disc member, said other body member and said disc member having apertures aligned with the aperture of the first-mentioned body member to provide a passage through the breaker block.

3,377,832
METAL TUBE EXTRUSION PRESS WITH MANDREL COOLING DEVICE

Peter Singleton, Dorset, England, assignor to The Loewy Engineering Company Limited, Bournemouth, England, a company of Great Britain
Filed Feb. 2, 1965, Ser. No. 429,807
Claims priority, application Great Britain, Feb. 7, 1964, 5,349/64
9 Claims. (Cl. 72—263)

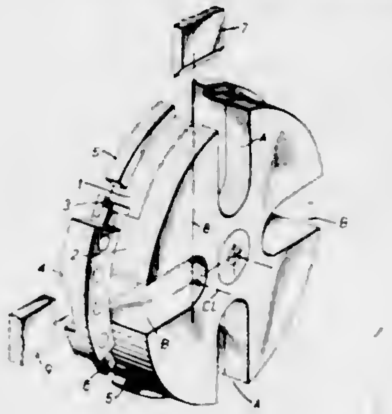


A horizontal metal tube extrusion press having a mandrel and provided with a cooling device for a plurality of mandrels.

3,377,833
METAL EXTRUSION PRESSES

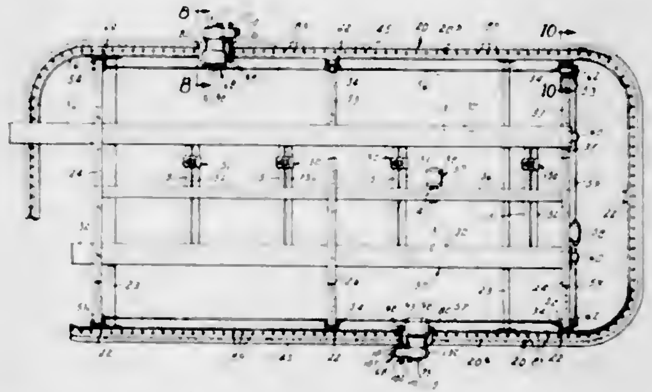
Robert Madeley, Gloucester, England, assignor to Fielding & Platt Limited, Gloucester, England, a British company
Filed Sept. 20, 1965, Ser. No. 488,633
Claims priority, application Great Britain, Sept. 29, 1964, 39,642/64
5 Claims. (Cl. 72—263)

A metal extrusion press including a composite rotary die table for use in the extrusion of metals having different metallurgical characteristics, the table comprises a front and rear member which interlock with each other to allow simultaneous rotation and relative axial separation. The front member is provided with two pairs of die accommodation means, one pair for extrusion of, e.g. copper and the other for extrusion of, e.g. aluminium, the portion of the front member providing the said one pair of die accommodation means being equal in thickness to the total thickness of the composite table. The table is also provided with means for resisting eccentric loads imposed thereon by breaking the residue of an extrusion or by withdrawal of a burred extrusion discard.



3.377,834
AUTOMOTIVE VEHICLE FRAME STRAIGHTENING DEVICE

Joseph J. Latuff and George R. Friend, St. Paul, Minn., assignors to Latuff Bros., Inc., St. Paul, Minn., a corporation of Minnesota
Filed May 3, 1965, Ser. No. 452,744
10 Claims. (Cl. 72—293)



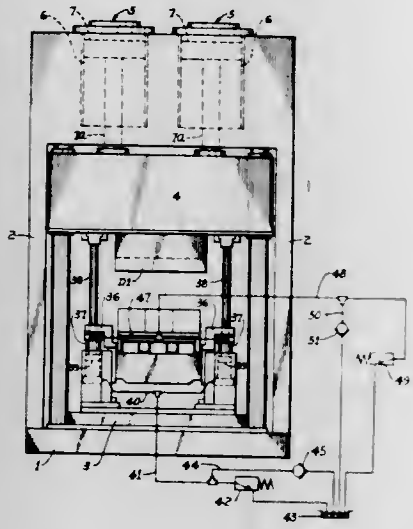
Apparatus including a pair of substantially similar O-shaped frame members mounted in vertically spaced apart relationship with an elongated subframe mounted in slidable engagement therewith. Apparatus for receiving an automotive vehicle and for engaging the frame and maintaining at least portions thereof immovable, is positioned with the frame members. The subframe has an electric motor mounted thereon and a chain extending across a number of pulleys, at least one of which is movable vertically along the subframe to attach the chain to the automotive vehicle at any desired angle. The subframe is also movable along the frame members so that any portion of the automobile can be acted upon at any desired angle.

3,377,835
HYDRAULIC PUSH ROD FOR STRETCH DRAW PRESS

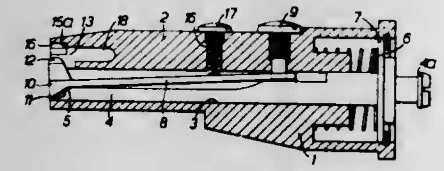
Stanley M. Dolney, Parma, Ohio, assignor to The Cyril Bath Company, Cleveland, Ohio, a corporation of Ohio
Filed Dec. 30, 1965, Ser. No. 517,616
8 Claims. (Cl. 72—305)

1. A stretch draw press comprising a bed having a die supporting space;

an upright frame;
a ram carried by the frame and movable in an upright path toward and away from the bed in vertical alignment with the die space;
power means for driving the ram;
gripper means carried by the bed at one side of the die space;
a stretch forming unit on the bed at the other side of the die space including an elevator movable in a generally upright path, a carriage on the elevator and movable relative thereto in a generally horizontal path, stretch forming means for moving the carriage and for yieldably resisting movement thereof, respectively, relative to the elevator along said horizontal path, and a gripping head on and movable with the carriage;
said heads being adapted to grip opposite margins, respectively, of a sheet of metal for applying tension thereto;
power transmission means drivingly interconnecting the ram and elevator for driving the elevator downwardly by the ram;
characterized in that means are provided in the transmission means for limiting to a preselected maximum the force transmittable by the transmission means from the ram to the elevator on the forming stroke of the ram.

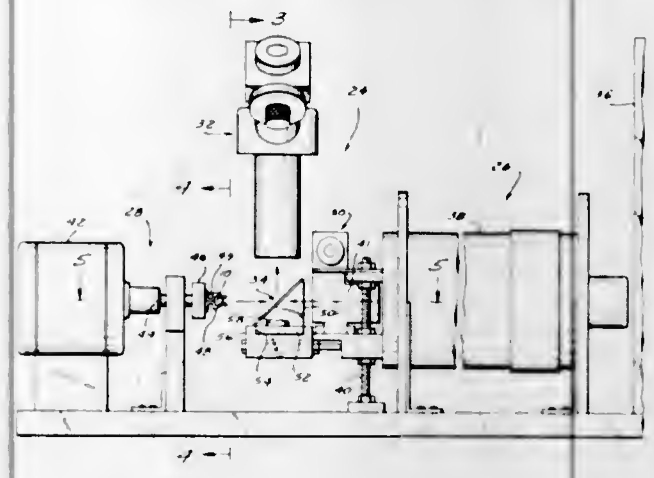


3,377,836
CRIMPING TOOL
Thomas William Bowley, Bramcote, and Leslie Haynes Smith, West Bridgford, England, assignors to United-Carr Incorporated, Boston, Mass., a corporation of Delaware
Filed June 17, 1965, Ser. No. 464.786
Claims priority, application Great Britain, June 19, 1964, 25,556/64
2 Claims. (Cl. 72—452)



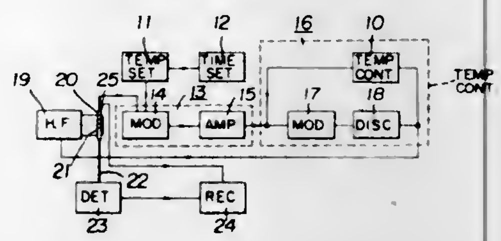
A crimping tool having an actuating member and a crimping member disposed within an axial opening in a body. The crimping member is moved into crimping action by movement of the actuating member axially of the opening.

3,377,837
THERMOMETER MANUFACTURE
Waldemar A. Ayres, Rutherford, N.J., assignor to Becton Dickinson and Company, East Rutherford, N.J., a corporation of New Jersey
Filed Mar. 14, 1966, Ser. No. 539,604
14 Claims. (Cl. 73—1)



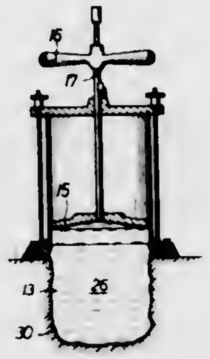
9. An apparatus for splitting the liquid column of a thermometer at a selected location comprising:
a laser unit adapted to direct a laser beam along a predetermined path of travel, means for positioning a thermometer so that the selected location is in the path of travel of the laser beam;
and spinning means for spinning the thermometer substantially about said location to preserve the selected amount of liquid in the thermometer.

3,377,838
APPARATUS FOR MEASURING VARIOUS TRANSFORMATION CHARACTERISTICS OF METALLIC MATERIALS
Shogo Kanazawa, Tokyo, Keiji Konno, Sagamihara-shi, and Kiyoshige Shimizu and Shingo Kosuge, Tokyo, Japan, assignors to Fuji Electronics Industrial Co., Ltd., and Fuji Iron and Steel Co., Ltd., both of Tokyo, Japan, both corporations of Japan
Filed Jan. 26, 1965, Ser. No. 428,090
Claims priority, application Japan, Feb. 5, 1964, 39/5,842
4 Claims. (Cl. 73—16)



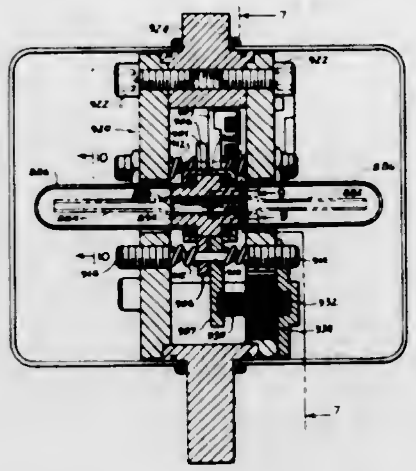
An elongated quartz tube is suspended in a vacuum vessel. A sample chamber is defined at the lower end thereof including openings in the chamber walls for passage of a cooling gas to the sample and a slit in the chamber floor so that the sample placed on a knife edge can be deposited in the sample chamber. Around the sample chamber is a high frequency induction heating coil and between the heating coil and the sample chamber is a cooling tube connected to a quenching gas so as to rapidly quench the sample when heated. Disposed in the quartz tube over the sample is a quartz rod one end of which contacts the sample and mounted on the other end is a magnetic core surrounded by a differential transformer. Programming means control the heating and quenching, recording the expansion of the sample over a predetermined programme.

3,377,839
APPARATUS FOR THE DETERMINATION OF BULK DENSITIES
Hans Haas, Hoffnungsthal, Germany, assignor to Strabag Bau-A.G., Cologne-Deutz, Germany, a corporation of Germany
Filed Jan. 4, 1966, Ser. No. 518,727
8 Claims. (Cl. 73—32)



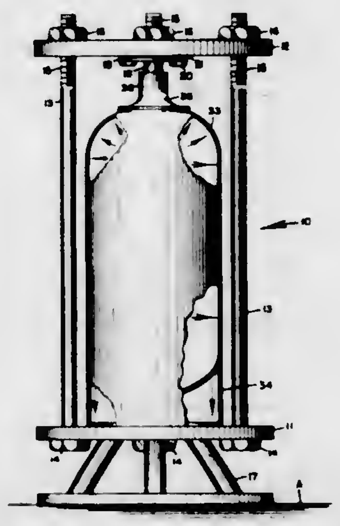
An excavation volume measuring device having a cylinder, piston, flexible bladder at the non-piston end of the cylinder, a fluid in the cylinder, means for measuring piston displacement, a standpipe communicating with the cylinder and means to determine a fluid level in the standpipe.

3,377,840
APPARATUS FOR DETECTING DENSITY OF FLUIDS
Howard W. Cole, Jr., 12 Vale Drive, Mountain Lakes, N.J. 07046
Continuation-in-part of application Ser. No. 81,824, Jan. 10, 1961. This application Apr. 22, 1966, Ser. No. 544,517
14 Claims. (Cl. 73—32)



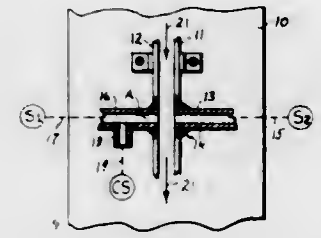
The densimeter consists of two horizontally opposed liquid containers supported at their juncture by an integral supply tube extending perpendicular to the container tubes and also lying in a horizontal plane. The container tubes have static and dynamic balance about the supply tube. Electromagnetic means cause the containers to pivot about the supply tube and move in an angular or orbital path. The frequency of oscillation of the tubes is measured to indicate density. In one embodiment, signals from two tubes, one containing a standard fluid and the other a test fluid, are compared to determine density.

3,377,841
HYDROSTATIC AND DYNAMIC TESTING APPARATUS
Charles M. Neal, Huntsville, Ala., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed Nov. 12, 1964, Ser. No. 410,432
5 Claims. (Cl. 73—37)



An apparatus for pressure testing a rocket motor case including a stand having upper and lower load bearing plates for retaining the rocket motor case in fixed position and having a floating piston entering the aft end of the rocket motor case, with a fluid supply line connected to the floating piston for introducing fluid under pressure into the rocket motor case.

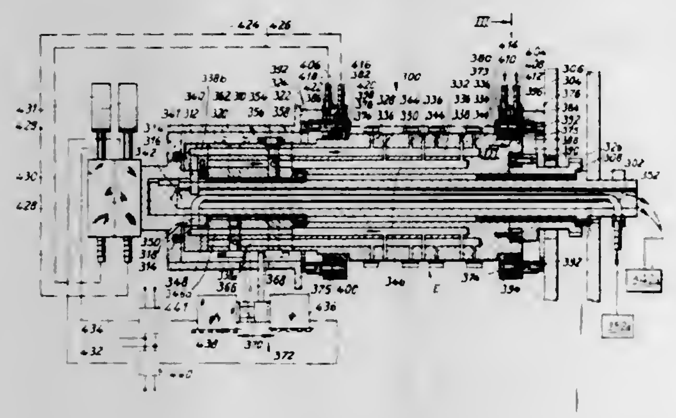
3,377,842
SENSING DEVICE
Robert C. Pitney, Stamford, Conn., assignor to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware
Filed July 12, 1965, Ser. No. 471,249
1 Claim. (Cl. 73—37)



A method of sensing the presence of a sheet wherein a strong fluid jet is coaxially directed against a weaker fluid jet so that when a sheet is introduced between said jets the static pressure in said weaker fluid jet will drop and may be sensed independently of the pressure in said strong jet so as to indicate the presence of said sheet.

3,377,843
APPARATUS FOR TESTING CIGARETTES AND THE LIKE
Willy Rudszinat, Dassendorf, near Hamburg, Germany, assignor to Hauni-Werke Koerber & Co., KG., Hamburg-Bergedorf, Germany
Filed Jan. 20, 1966, Ser. No. 521,917
Claims priority, application Germany, Jan. 23, 1965, K 54,959
17 Claims. (Cl. 73—45.2)

Cigarettes are tested while travelling sideways in the flutes of a drum. Two successive cigarettes are tested simultaneously by passing threrethrough currents of air, and the characteristics of each air current are evaluated by a separate signal generator which initiates ejection of defective articles.



3,377,844
METHOD AND APPARATUS FOR DETERMINING THE AMOUNT OF LEAKAGE FROM CHAMBERS

Jean-Marie Gandolfo, Mol-Donk, Belgium, assignor to European Atomic Energy Community (Euratom), Brussels, Belgium

Filed June 7, 1965, Ser. No. 461,919

Claims priority, application France, July 31, 1964, 983,749

10 Claims. (Cl. 73—49.2)

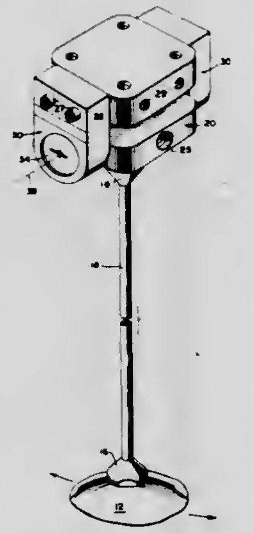
A method and apparatus for determining the amount of fluid leakage from a chamber connected to a container of liquid, in which equal pressure conditions are established in the chamber and in a sealed standard box connected with the chamber, after which the box is isolated from the chamber and liquid evacuated from the container in response to leakage of the chamber to maintain the equal pressure conditions. The volume of the evacuated liquid thus provides a measure of the amount of leakage.

3,377,845
MOMENT OF INERTIA TEST FIXTURE

Joseph H. Conn, Riverdale, Md., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Apr. 6, 1965, Ser. No. 446,131

4 Claims. (Cl. 73—65)



A test fixture to enable the moment of inertia of a complex, irregularly shaped body to be determined about mutually perpendicular axes without the rotation of the axes of the body, which employs a long, thin suspension rod rigidly fixed to a reference surface at one end and to the test body at the other end. For making measurements with respect to one axis by the pendulum method, the reference surface is suspended from bearings such that the rod and the test body is free to move as a simple pendulum. To make measurements about an axis perpendicular to the suspension rod by the torque method, means are provided to prevent movement as a simple pendulum to also enable the test body to oscillate about the longitudinal axis of the suspension rod.

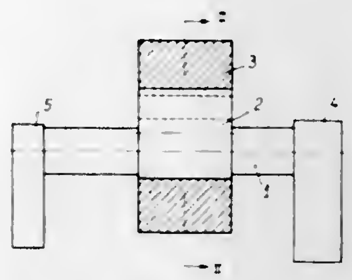
3,377,846
METHOD OF AND MEANS FOR BALANCING ROTARY ENGINES

Gaëtan de Coye de Castelet, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France

Filed Mar. 29, 1965, Ser. No. 443,204

Claims priority, application France, Apr. 2, 1964, 969,521, Patent 1,398.896

2 Claims. (Cl. 73—66)



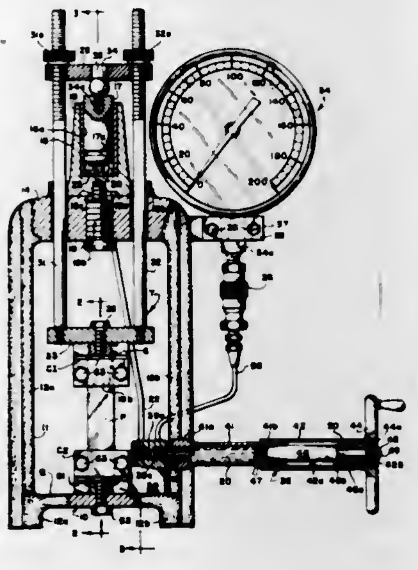
A method and means for balancing the assembly of an eccentric engine shaft, rotor, and counterweights for a rotary internal combustion engine comprising first balancing the shaft and counterweights with a standard rotor mounted on the shaft, then replacing the standard rotor with a production rotor and compensating for any weight differential by mounting weights in the eccentric portion of the shaft.

3,377,847
TESTING MACHINE

Irving E. Aske, 440 46th Ave., St., Petersburg Beach, Fla. 33713

Continuation of application Ser. No. 200,720, June 7, 1962. This application Mar. 16, 1965, Ser. No. 444,904

1 Claim. (Cl. 73—97)



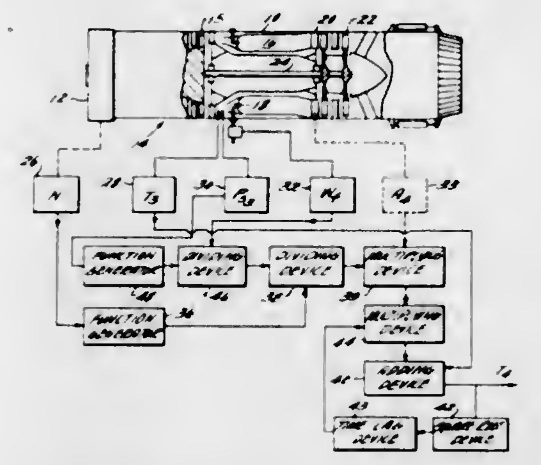
A tensile and compression testing instrument is provided comprising a frame to support material to be tested and to which a hydraulic piston and cylinder are attached, the piston being operated by a convenient hand wheel, the hydraulic pressure being transmitted to a gauge on the frame to indicate the forces applied to the material.

3,377,848
TEMPERATURE INDICATING MEANS FOR GAS TURBINE ENGINES

Ira E. Marvin, Fairfield, Ohio, assignor to General Electric Company, a corporation of New York

Filed Aug. 22, 1966, Ser. No. 574,140

9 Claims. (Cl. 73—117.3)



1. In a gas turbine engine comprising,
a compressor for pressurizing air, said compressor having a compressor rotor,
a combustor to which the pressurized air is delivered to support combustion therein,
means for delivering fuel to said combustor for combustion with said air to generate a hot gas stream,
a turbine comprising a rotor and an inlet for directing the hot gas stream to drive said rotor,
the rotors of said compressor and turbine being connected to from an engine rotor,
means for indicating the temperature at the inlet of said turbine, said indicating means comprising,
means for producing signal respectively proportional to engine rotor speed, combustor inlet air temperature, combustor inlet static pressure, and rate of fuel flow to the combustor,
means receiving the output from said signal producing means for generating an intermediate signal as a function of the fuel flow divided by the turbine inlet area and the combustor inlet static pressure and as a predetermined function of engine rotor speed and of the combustor inlet static pressure,
means for adding the output signal from said temperature signal means to the output of said intermediate signal generating means,
means for deriving from the output signal of said adding means a signal representative of the square root thereof and multiplying the output from said intermediate signal generating means by said square root signal,
whereby said indicating means produces an output signal from the adding means accurately representing the temperature at the inlet to said turbine.

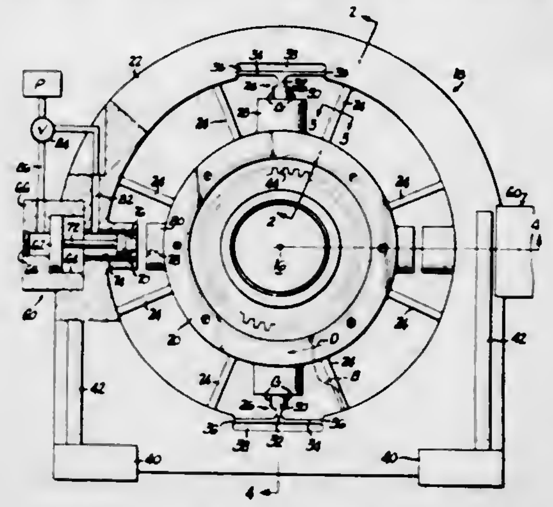
3,377,849
TORQUE SENSING APPARATUS

Milton J. Lebow, Oak Park, Mich., assignor to Lebow Associates, Inc., Oak Park, Mich., a corporation of Michigan

Filed June 6, 1966, Ser. No. 555,415

8 Claims. (Cl. 73—134)

1. Torque sensing apparatus comprising spaced inner and outer annular members concentric about a common axis and integrally joined to each other by a plurality of radial spokes, said spokes being capable of flexing movement accommodating limited rotation of said annular members relative to each other about said common axis while holding said annular members substantially rigid against axial and radial movement relative to each other, a web integrally joined at its opposite ends to circumferentially spaced locations on one of said annular members and extending tangentially of said common axis between said spaced locations in spaced relationship to said one of said annular members, a beam integral with the other of said annular members and projecting radially therefrom to an outer end integrally joined to the midpoint of said web, said web being operable upon rotation of said annular members relative to each other to cause said beam to bend from radial relationship to said common axis in deflection proportional to the torque forces inducing the relative rotation of the annular members.

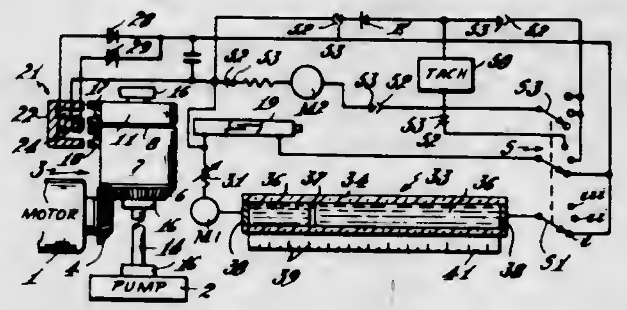


3,377,850
POWER METER

Dennis W. Holdsworth, Lincoln, Mass., assignor to Comstock & Wescott, Inc., Cambridge, Mass., a corporation of Massachusetts

Filed Dec. 6, 1965, Ser. No. 511,789

13 Claims. (Cl. 73—138)



1. Apparatus for measuring the mechanical power delivered by a drive system to a mechanical load comprising a first rotating member adapted to be coupled to said drive system, a second rotating member adapted to be coupled to said mechanical load, a torsion spring rotatively coupling said first and second members so as to permit angular displacement between the members proportional to torque transmitted through the spring, an electrical coulometric circuit, magnetic means on both of said rotating members, inductive means connected to said circuit and disposed to be responsive to rotation of said magnetic means to produce an electric current in said circuit proportional to the rotational speed of said members, means to rectify said current, and switch means disposed to be responsive to said magnetic means and connected to said circuit to control the time of flow of said current in said circuit in proportion to the angular displacement of said members, means in said circuit responsive to operation of said inductive means and switch means for indicating the amount of current flowing therethough, said switch means being connected to connect and disconnect said indicating means from said circuit,

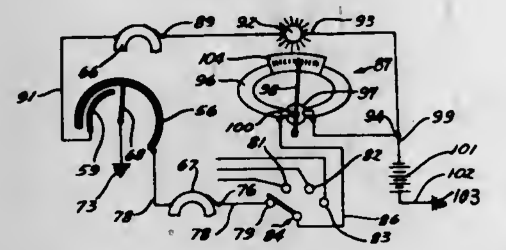
whereby said circuit measures the power transmitted by said coupling as the product of the speed of said rotating members and their torque displacement.

3,377,851
PRESSURE INDICATOR DEVICE

Joseph H. Beavers, 625 42nd St. 50313; James A. O'Callaghan, 210 6th Ave. 50309; and Earl F. Shoafstall, 305 E. Shawnee 50313, all of Des Moines, Iowa

Filed Oct. 7, 1965, Ser. No. 493,676

2 Claims. (Cl. 73—146.5)



This invention relates to a fluid pressure indicator system wherein means are placed in fluid communication with the fluid of that which is to be indicated, and which means includes a member movably responsive to the pressure of the said fluid. Additionally, a pair of rheostat means, insulated each from the other, are made responsive to movement of the member, with a signal means electrically connected to the first rheostat to indicate the pressure of the fluid, and with an alarm means also electrically connected to the second rheostat and operable upon engagement of the member with the second rheostat to indicate either audibly or visibly that a certain pressure of the fluid has been reached.

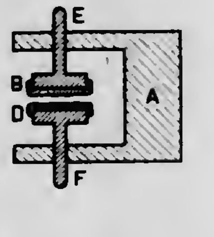
3,377,852
DEVICE FOR TESTING YARNS

Johannes Libbe Leistra, Enschede, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed June 3, 1965, Ser. No. 460,980

Claims priority, application Netherlands, June 5, 1964, 64—6,359

6 Claims. (Cl. 73—160)



In a yarn testing device having a pair of spaced confronting metal capacitor plates through which the yarn passes, a thin layer of a poor insulator material covers at least one confronting metal surface and thereby suppresses the large transient voltage pulses that otherwise would result from the static electric charges deposited on the capacitor plates by the passing yarn.

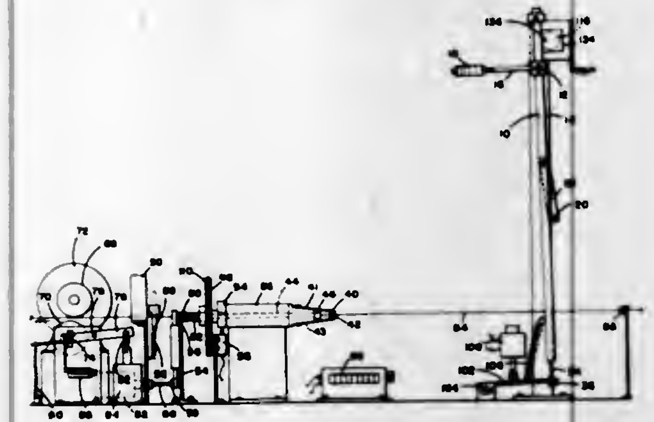
3,377,853
TWIST TESTER

Harry J. Carter, Wilmington, Del., assignor to FMC Corporation, Philadelphia, Pa., a corporation of Delaware

Filed May 27, 1966, Ser. No. 553,367

6 Claims. (Cl. 73—160)

1. Yarn twist testing apparatus comprising a rotatably mounted yarn gripping element adapted to have a yarn strand extended therethrough, resilient means for closing said gripping element so as to grip the yarn strand, a first releasing means for opening said gripping element so that the yarn strand may be pulled therethrough, yarn gripping means having a home position located at a preselected distance from said yarn gripping element, resilient means for closing said gripping means so as to grip a yarn strand, a second releasing means for opening said gripping means so that the yarn strand may be pulled therethrough, means urging said yarn gripping means in a direction away from said yarn gripping element, drive means for rotating said rotatably mounted yarn gripping element about an axis coincident with the axis of the yarn, and yarn take-up means for pulling the yarn strand through the gripping element and the gripping means when they have been released from the yarn by said first and second releasing means.

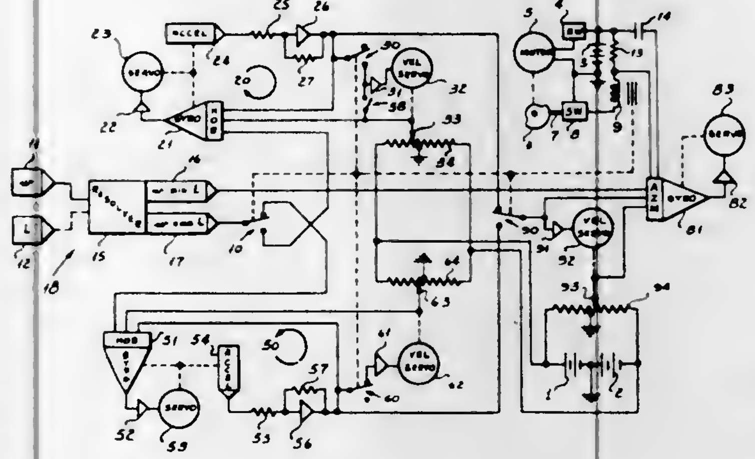


3,377,854
INERTIAL PLATFORM TRIMMING SYSTEM

Shu Lee, Scarsdale, N.Y., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Continuation of application Ser. No. 80,805, Jan. 5, 1961. This application May 26, 1964, Ser. No. 372,140

22 Claims. (Cl. 73—178)



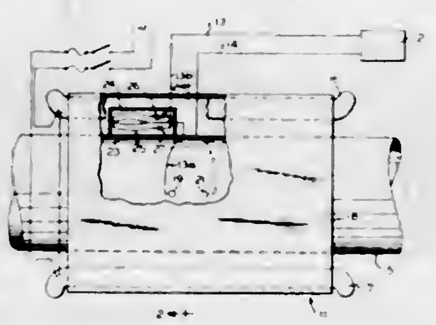
1. An inertial system including in combination a first and a second and a third gyroscope, a first and a second accelerometer, a first and a second integrator, a platform, means mounting the gyroscopes and accelerometers on the platform, the third gyroscope having a vertically disposed input axis, the first and second gyroscopes having horizontally disposed orthogonal input axes, the accelerometers having horizontally disposed orthogonal sensitive axes, the input axis of the first gyroscope being disposed orthogonally to the sensitive axis of the first accelerometer, means providing a signal, means coupling the first accelerometer and the first integrator to the first gyroscope, means coupling the second accelerometer and the second integrator to the second gyroscope, a two-state device, means responsive to a first state of the device for coupling the first accelerometer to the third gyroscope and for aplying the signal to the second gyroscope and for coupling the second accelerometer to the second integrator, and means responsive to the second state of the device for coupling the second accelerometer to the third gyroscope and for applying the signal to the first gyroscope and for coupling the first accelerometer to the first integrator.

3,377,855
NOISE NULLING NETWORK FOR MAGNETIC FLOWMETER

Pasco A. Coia, Providence, and Quentin C. Turtle, Cranston, R.I., assignors to General Signal Corporation, a corporation of New Jersey

Filed June 29, 1966, Ser. No. 561,619

8 Claims. (Cl. 73—194)



1. In an AC electromagnetic flowmeter for use in measuring the rate of flow through a conduit and including means for establishing an alternating magnetic field through a portion of said conduit, a pair of electrodes electrically connected with the fluid flowing through the conduit and arranged to detect an AC potential induced in the fluid, and a pair of leads connected with the electrodes and arranged to apply said potential to a secondary instrument, the improvement which comprises a noise-nulling network interposed in at least one of said leads and dividing said lead into two portions, said network comprising

(a) a tapped coil having at least one loop and located in said magnetic field so that it has induced in it a voltage which varies with the strength of that field; and

(b) a circuit interconnecting the opposite ends of the coil and containing a series-connected reactor and variable resistor;

(c) the two portions of said lead being connected, respectively, with the tap of the coil and with said circuit at a point between the reactor and the resistor.

3,377,856
FLOW METER FOR LIQUEFIED PETROLEUM GAS

Shigeji Hasegawa, Tenryu, Japan, assignor to Yazaki Meter Company Limited, Tokyo, Japan

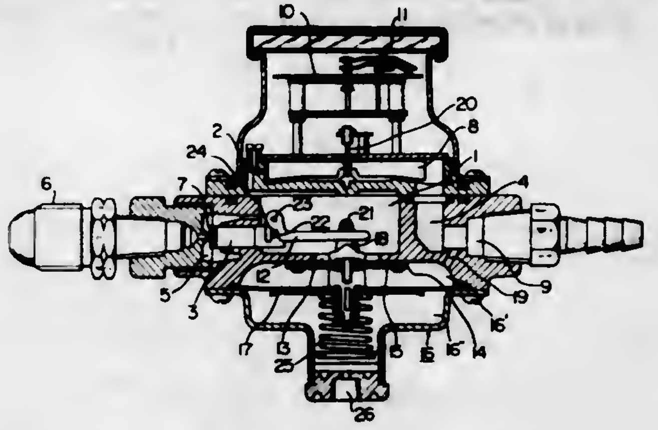
Filed Sept. 22, 1964, Ser. No. 398,354

Claims priority, application Japan, Oct. 15, 1963, 38/77,364

3 Claims. (Cl. 73—199)

A combined flow metering and pressure regulating device for liquefied petroleum gas is disclosed as including an inlet chamber having a small area opening through one wall which is closed by an auxiliary diaphragm. The auxiliary diaphragm is located in a diaphragm chamber divided, by a relatively large area flexible main diaphragm, into an inner section including the auxiliary diaphragm and an outer section. The inner section is subjected to the output pressure. Valve operating means interconnects both the auxiliary diaphragm and the main diaphragm to the inlet valve.

The relative sensitivity of the auxiliary diaphragm and the main diaphragm are such that normally the main diaphragm controls opening and closing of the inlet valve responsive to the outlet pressure. However, in response to an excessive inlet pressure in the inlet chamber, the auxiliary diaphragm closes the inlet valve independently of the outlet pressure then affecting the main diaphragm.



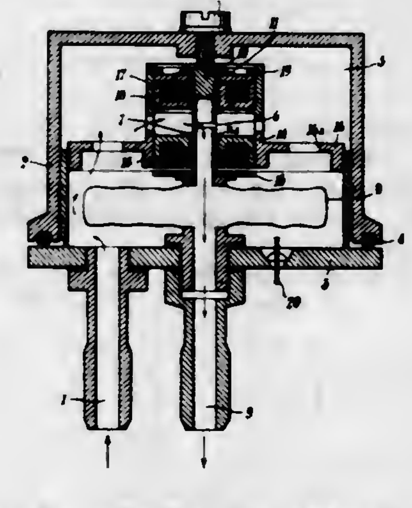
3,377,857
VARIABLE AREA RATE-OF-FLOW METER

Flaviano Moscarini, 9 Viale Pola, Rome, Italy

Filed Oct. 18, 1965, Ser. No. 497,300

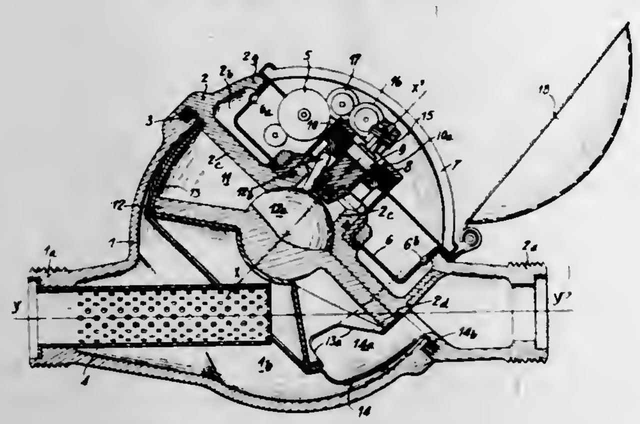
Claims priority, application Italy, Dec. 10, 1964, 26,370/64

3 Claims. (Cl. 73—207)



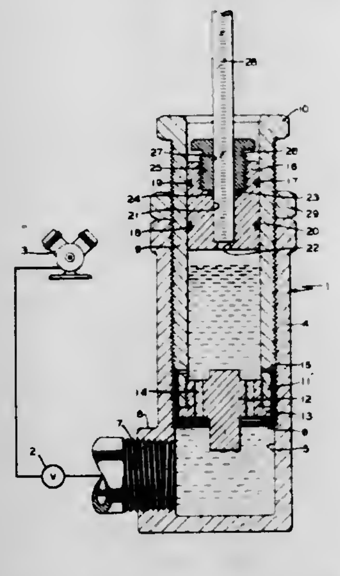
A transducer for metering the instantaneous rate-of-flow of fluids with a broad dynamics of response. A hermetically sealed metal housing has on its lower wall an inlet pipe and an outlet pipe and a barometric bellows having an input opening and an output opening is arranged within said housing. The output opening is rigidly secured to the output pipe and a duct is connected at one end to the inlet opening. A support is screwed to the inner wall of the housing above the bellows and has apertures to allow the fluid passage from the inlet pipe and is provided with a tubular projection having openings at a level corresponding to the upper end of the duct partially entering into the projection. An annular variable inductance transducer is arranged within the tubular projection and an adjusting member is elastically arranged within said inductance transducer to form a choke between said duct and said adjusting member. A screw passes through the upper wall of the housing and acts on said adjusting member, whereby the inner and outer surface of said bellows are submitted to the differential pressure existing upstream and downstream of said choke the aperture of which changes with the deformation of the barometric bellows.

3,377,858
LIQUID VOLUMETRIC METER
Alfred Jacques Marius Brette, Montrouge, France, assignor to Compagnie des Compteurs, Paris, France, a company of France
Filed Oct. 22, 1964, Ser. No. 405,748
Claims priority, application France, Nov. 26, 1963, 954,979, Patent 1,384,743
4 Claims. (Cl. 73—258)



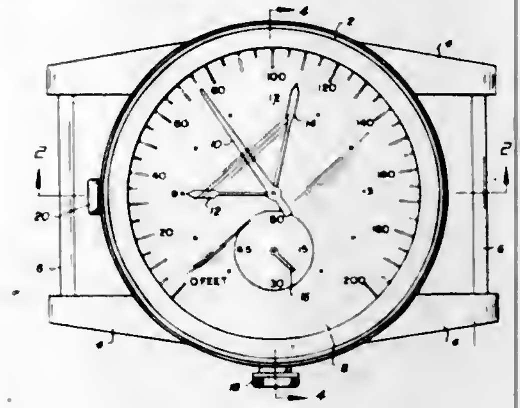
A liquid meter comprising two shells of hemispherical shape joined along a diametral plane in angularly adjustable fluid tight relation, one shell including a tubular inlet for a liquid extending at an angle of 45° with respect to said diametral plane, the other shell including a tubular outlet for a liquid extending at an angle of 45° with respect to said diametral plane, means within said shells for sensing the quantity of liquid passing through said shells, indicator means coupled to the sensing means for furnishing visible measure of the quantity of liquid passing from said inlet to the outlet.

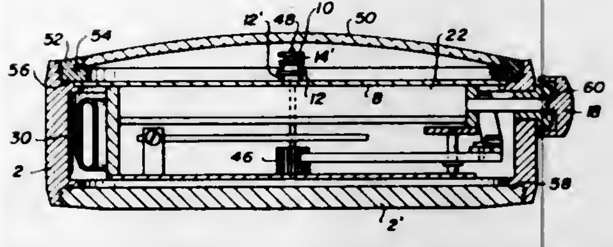
3,377,859
MEANS FOR MEASURING CHANGE IN RESERVOIR FLUID LEVEL
Walter J. Sanders, Jeannette, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Dec. 23, 1965, Ser. No. 515,998
4 Claims. (Cl. 73—290)



A method and means for measuring the differential in fluid levels in a reservoir, or in the crankcase of a motor, compressor and the like, occurring over a time interval. A plunger of uniform travel, displaces fluid trapped in a cylinder at a level corresponding to the initial level in the reservoir into a capillary tube on which a first reading is taken; a second reading being taken after a given interval. The difference in readings is a measure of differential levels or consumption of liquid.

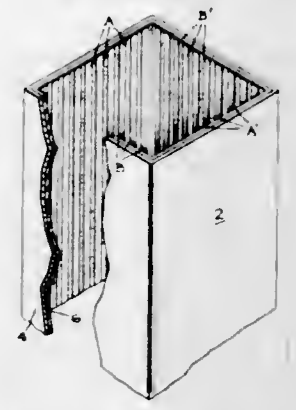
3,377,860
COMBINATION WATCH DEPTH METER
Frederick James Masters, Suite 212, Broadmoor Terrace Apts., 790 Francis Road, Richmond, British Columbia, Canada
Filed Dec. 9, 1965, Ser. No. 512,668
Claims priority, application Canada, May 27, 1965, 931,751
1 Claim. (Cl. 73—291)





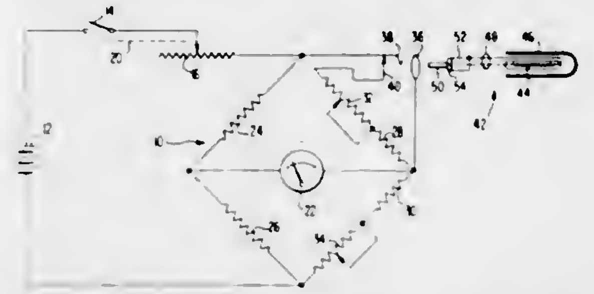
This invention relates to a combination timepiece watch and a depth guage mechanism for use by a diver. More specifically, the invention embodies a waterproof watch casing having a dial indicia carrying face therein, and a watch timepiece adjacent the dial face with hollow concentrically mounted stems extending from the timepiece through the dial face and carrying indicating hands. Next, the invention includes a Bourdon tube depth measuring mechanism mounted in the watch casing adjacent the timepiece disposed between the Bourdon tube and the dial face and with the Bourdon tube actuating a sector, a pinion and a second stem passing through said hollow concentrically mounted stems and which second stem carries an indicating hand. The indicating hands register with the time and depth indicia on said dial face.

3,377,861
ELECTRONIC LIQUID MEASURING SYSTEM
Sherwood Thaler, Spring Valley, and Alfred D. Gronner, White Plains, N.Y., assignors to Simmonds Precision Products, Inc., Tarrytown, N.Y., a corporation of New York
Filed May 6, 1965, Ser. No. 453,716
3 Claims. (Cl. 73—304)



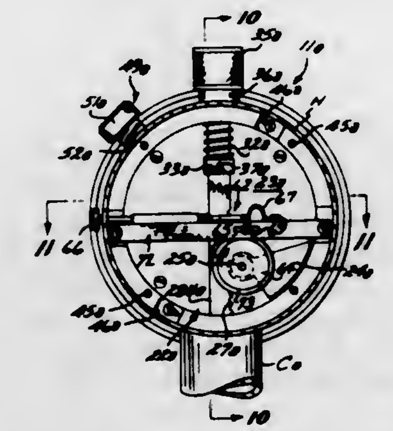
3. In a capacitance gauging system for indicating the mass of fluid in a rectangular shaped container comprising a capacitance electrode means extending along the inside surface of a pair of opposing walls of said container, means supplying an alternating current to said electrode means and indicating means connected to said alternating current source for indicating the capacitance across said opposing walls of said container.

3,377,862
ELECTRONIC CLINICAL THERMOMETER
Paul Gheorghiu, East Windsor, Conn., assignor to Hi-G Incorporated, Windsor Locks, Conn., a corporation of Connecticut
Filed Mar. 4, 1966, Ser. No. 531,937
5 Claims. (Cl. 73—362)



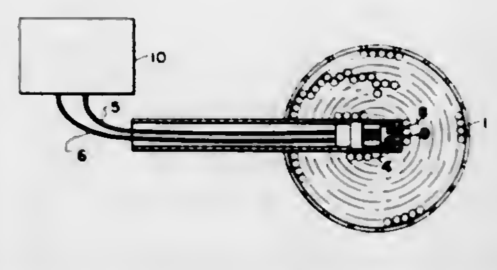
1. An electronic thermometer comprising:
(a) a bridge circuit having four resistive legs and diagonally opposed input and output terminals,
(b) a D.C. power source,
(c) means connecting the power source across the bridge input terminals including the series combination of an on-off switch and a first potentiometer ganged for operation by a single control device,
(d) readout means connected across the bridge output terminals,
(e) receptacle means connected across one of the bridge legs including movable contact means arranged to normally complete the bridge circuit through the resistance of said one leg, and
(f) a probe assembly including a plug means adapted to cooperate with the receptacle means, a thermistor and a cable connecting the plug means and the thermistor, whereby when the plug means is inserted into the receptacle means the movable contact means opens the circuit path through the resistance of said one leg and the thermistor is substituted therefor.

3,377,863
THERMOMETER WITH IMPROVED VISIBILITY TEMPERATURE READING SCALE MEANS
Bruce L. McCraney, Los Angeles, Calif.
(1270 Kenwood Road, Santa Barbara, Calif. 93105)
Continuation-in-part of application Ser. No. 440,451, Mar. 17, 1965. This application Oct. 6, 1965, Ser. No. 493,372
16 Claims. (Cl. 73—368.3)



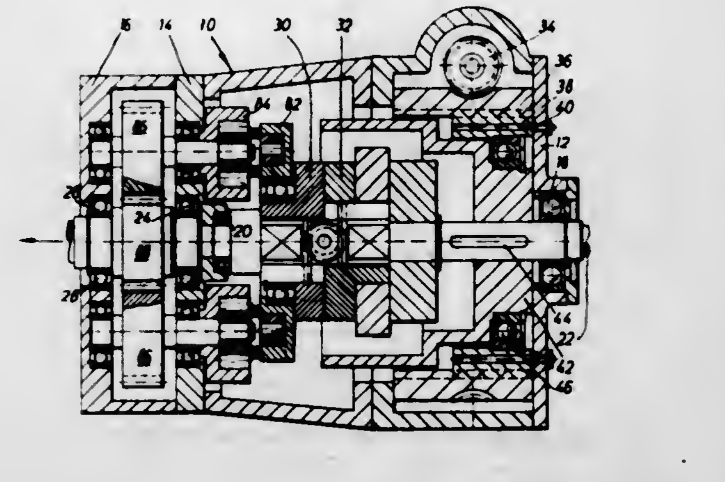
A thermometer having an enlarged rotary temperature-indicating reading scale means and a pointer cooperating therewith. A lens enhances the readability of the pointer. A temperature-reading-holding means takes the form of one-way movement inactivating means for causing the pointer to be freely movable with respect to the scale in a direction indicating increasing temperature but to become locked upon the termination of a temperature taking measurement and to prevent it from reverse movement until released by the user.

3,377,864
INSTRUMENTS FOR ASCERTAINING STATIC-PRESSURES
Keith Watson Todd, Hale Barns, England, assignor to Associated Electrical Industries Limited, London, England, a British company
Filed Oct. 25, 1965, Ser. No. 505,154
Claims priority, application Great Britain, Nov. 17, 1964, 46,804/64
11 Claims. (Cl. 73—392)



An instrument for measuring the static pressure of a flowing fluid, for example wet stream, comprises a shell having apertures through which the fluid can pass into and out of the shell. The interior of the shell is filled with a porous mass comprising, for example, a multiplicity of steel balls so that static pressure is transmitted to the central region of the shell but kinetically induced pressures tend to be dissipated. An indication of this static pressure can be transmitted out of the shell by an electromechanical transducer in this central region or by a tube connecting this central region to a suitable pressure measuring device.

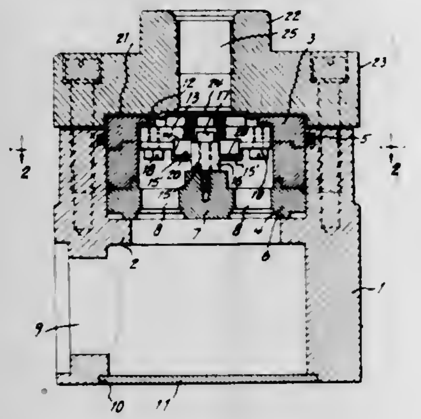
3,377,865
ECCENTRIC ADJUSTMENT FOR INFINITELY VARIABLE SWITCH GEAR MECHANISMS
Franz Weiss, 2 Rudolf Dieselstrasse, Illertissen, Germany
Filed Mar. 23, 1966, Ser. No. 536,853
13 Claims. (Cl. 74—393)



An eccentric adjustment for an infinitely variable switch gear mechanism in which the uniform rotational movement of a drive shaft is transformed by gear means in alternative movements of oscillating levers and reduced by one way coupling means to a periodic rotational movement of a driven shaft with a driver rotating with the drive shaft.

3,377,866
PRESSURE MEASURING INSTRUMENT

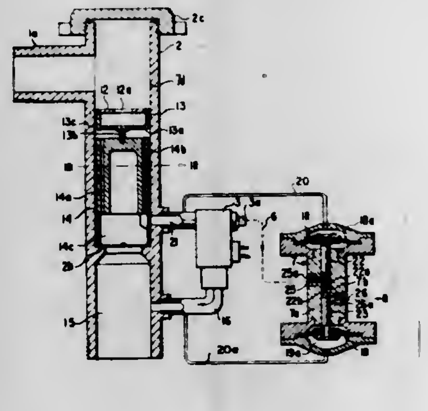
Daniel J. Flavin, Tonawanda, N.Y., assignor to Taber Instrument Corporation, North Tonawanda, N.Y., a corporation of New York
Filed Jan. 17, 1966, Ser. No. 523,006
2 Claims. (Cl. 73—398)



The pressure measuring instrument provided by the present invention has a cylindrical outer casing formed with an inner annular flange supporting a pair of cylindrical inner casing members providing an inner end wall mounting a force responsive member having radially extending arms carrying strain gauges electrically connected to registering apparatus for registering force variations applied to the strain gauges by an operating disc connected to the arms and housed within the outer casing for applying variations in fluid pressure in a conduit connected to a cover on the end of the casing.

3,377,867
AUTOMATIC SAMPLER

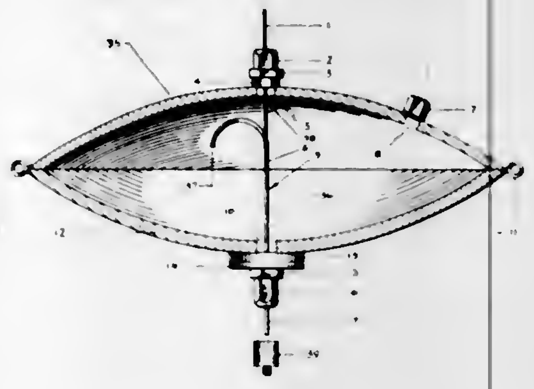
Trajan Nitescu, 723 Riverdale Ave., Calgary, Alberta, Canada
Filed Feb. 24, 1965, Ser. No. 434,882
Claims priority, application Canada, Dec. 15, 1964, 918,810
4 Claims. (Cl. 73—422)



An automatic sampling device including a flow divider with a section having a plurality of channels, one of which may be connected to measuring means through a valve actuated by a timer for taking regular periodic samples. The sampling device preferably includes pressure stabilizing means for equalizing the flow within the channels of the flow divider.

3,377,868
SAMPLER-DISPENSER FOR FLUIDS

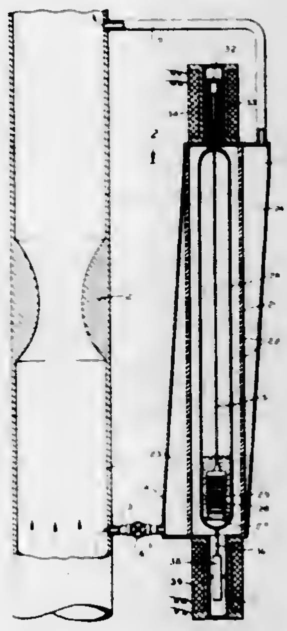
Fred B. Dowling, 377 N. Waverland Drive 70815; Arthur R. Choppin, 722 S. Lakeview Drive 70810; and George R. Lyles, 454 Highland Park Drive 70808, all of Baton Rouge, La.
Filed Jan. 15, 1965, Ser. No. 425,741
3 Claims. (Cl. 73—425.4)



A device for obtaining true composite samples of liquids and/or dispensing fluids at a chosen constant rate. A water tight, gas tight container is provided with a liquid transport tube and gas transport tube which are sealed hermetically within the chamber and extend outside thereof. The outside end of the gas transport tube terminates in a restricting means for preferentially passing gas.

3,377,869
CLOSED CIRCUIT DENSITY CONTROL INSTRUMENT

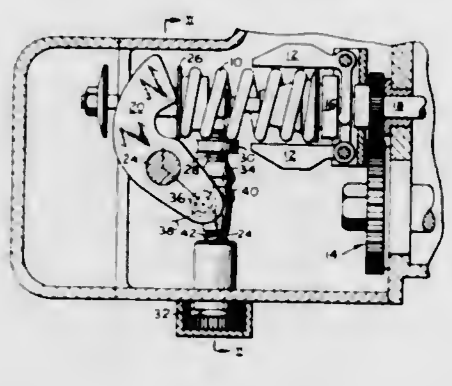
Eugene A. Glassey, Los Altos, Calif. (% Exactel Instrument Co., 89 Alice Ave., Mountain View, Calif. 94040)
Filed July 12, 1965, Ser. No. 471,136
2 Claims. (Cl. 73—453)



A densitometer continuously samples and discharges liquid flowing through a conduit to record and, if desired, control density. A closed casing receives liquid through an inlet port located at its lower end from one side of an obstruction in a conduit and the liquid is discharged through an outlet port at the top of the casing to the other side of the obstruction. The casing contains a continuously submerged bulb to which the armature of a differential transformer is attached. An external transformer controls current through a coil which attracts another armature attached to the bulb. Measurement of the current through the coil required to maintain the differential transformer armature centered indicates density. Mechanical linkage provides for temperature compensation.

3,377,870
GOVERNOR WITH TWO-POSITION LOW IDLE STOP

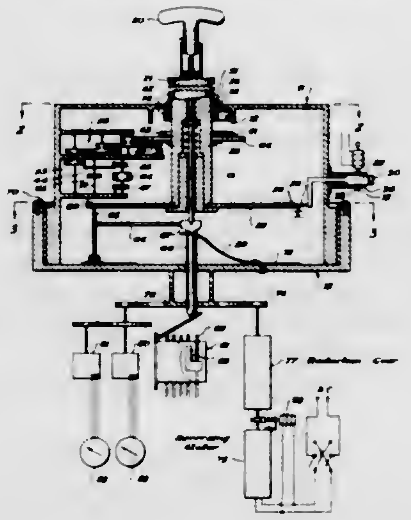
Robert H. Miller, Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed July 16, 1965, Ser. No. 472,487
1 Claim. (Cl. 73—543)



A flyweight governor of the kind commonly used on internal combustion engines which has a low idle stop mechanism and also a second stop mechanism which is effective at a speed slightly greater than low idle.

3,377,871
PORTABLE TIMING MECHANISMS

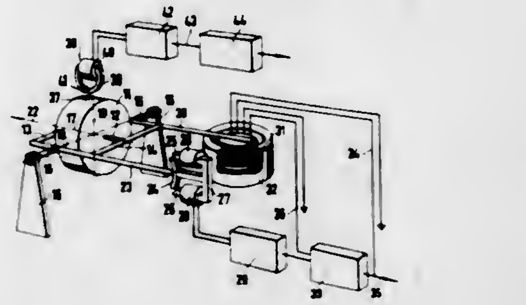
Paul F. Bechberger, Tenafly, and James A. Howe, Wood-Ridge, N.J., and Milton Brown, New York, N.Y., assignors, by mesne assignments, to United States of America as represented by the United States Atomic Energy Commission
Filed Jan. 18, 1949, Ser. No. 71,404
6 Claims. (Cl. 74—3.54)



1. A timer for initiating a mechanical movement comprising a clockwork mechanism, a disc rotatably associated with said clockwork mechanism, means for releasibly restraining said disc and clockwork mechanism in start position, operator means supported adjacent said disc and being adapted to move along a path normal thereto, an off-set positioned on said disc intermediate the center and outer periphery thereof to cause translation of said operator means when in contact therewith; and adjustable support means for said operator means whereby the angular displacement between said operator means, and the off-set on the disc in the start position can be selectively adjusted.

3,377,872
MONITORED RATE GYROSCOPE SYSTEM

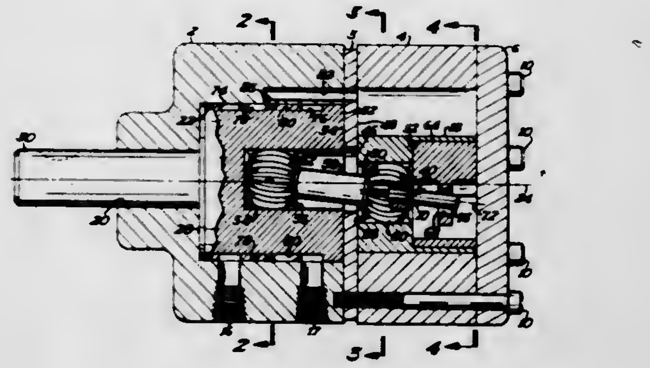
Anthony E. Hodson and Richard P. G. Collinson, Lewisham, London, England, assignors to Elliott Brothers (London) Limited, London, England, a British company
Filed Mar. 31, 1965, Ser. No. 444,324
Claims priority, application Great Britain, Mar. 31, 1964, 13,219/64
20 Claims. (Cl. 74—5.6)



A rate gyroscope system monitored for precession and speed and direction of rotation. A closed servo control loop monitors the gimbal damping for undue friction, and magnets set in the surface of the rotor co-operate with a magnetic pick-off so as to indicate the direction of rotor rotation.

3,377,873
COUNTERWEIGHT OR THE LIKE FOR GEROTOR GEAR SET

Earl Patterson, Jr., Excelsior, Minn., assignor to Char-Lynn Company, Eden Prairie, Minn., a corporation of Minnesota
Filed Dec. 8, 1965, Ser. No. 512,445
7 Claims. (Cl. 74—86)

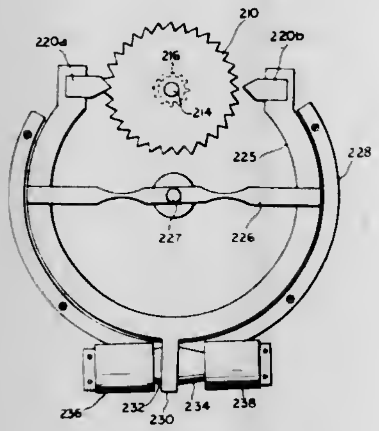


A gerotor gear set having an outer ring member with internal teeth and an eccentrically disposed meshing star gear having rotatable and orbital motion relative to the ring member, the star gear having a bore therein with a rotatable member disposed in the bore whereby the rotatable member is adapted to rotate and orbit in the star gear in synchronism with the star gear.

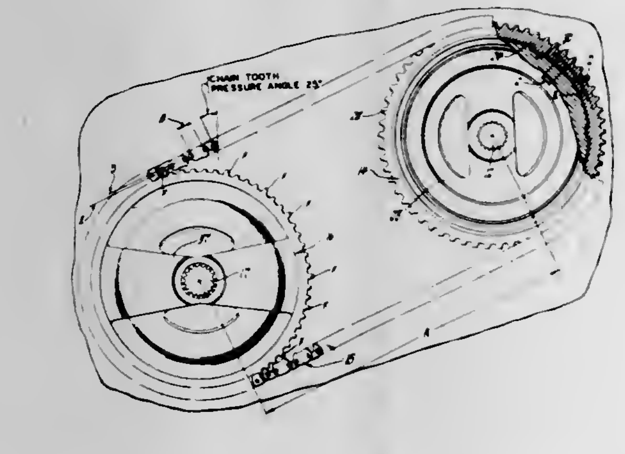
3,377,874
MOTION CONVERTER

Charles G. Scott, 106 Market St., Kingsport, Tenn. 37660
Filed Nov. 26, 1965, Ser. No. 510,019
6 Claims. (Cl. 74—143)

A motion converter is provided for use in electronic timepieces and other timing instruments for converting reciprocating motion of semi-continuous circular motion. A toothed indexing wheel is driven by a pair of oppositely disposed facing flat surfaced detents mounted on an oscillating bar or ring. The detents drive the wheel by alternate engagement with the acting tooth face on opposite sides of the wheel during oscillation.



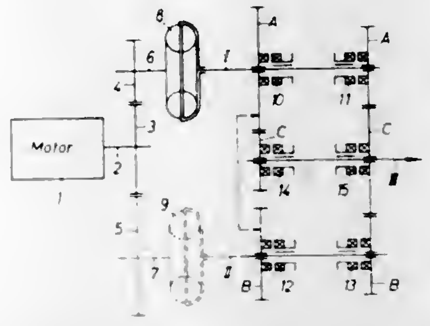
3,377,875
CHAIN DRIVE POWER TRANSMITTING MECHANISM
Darrel R. Sand, Plymouth, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 9, 1966, Ser. No. 548,480
14 Claims. (Cl. 74—229)



1. Drive transmitting mechanism comprising first and second sprockets rotatable about axes spaced from each other a fixed sprocket center distance, upstanding sprocket teeth on each of said sprockets, a chain for transmitting torque between said sprockets, said chain including a plurality of pivotally interconnected links and having teeth adapted to mesh with said sprocket teeth, the base pitch of said chain being greater than that required for perfect matching of said chain teeth and sprocket teeth, the base pitch of sprocket teeth of at least one of said sprockets being greater than the base pitch of said chain.

3,377,876
CHANGE GEAR TRANSMISSION
Ernst-Günter Finke and Friedrich Helfer, Heidenheim, Germany, assignors to Voith Getriebe KG, Heidenheim (Brenz), Germany
Filed Dec. 22, 1965, Ser. No. 515,530
Claims priority, application Austria, Dec. 24, 1964, A 10,946/64
6 Claims. (Cl. 74—360)

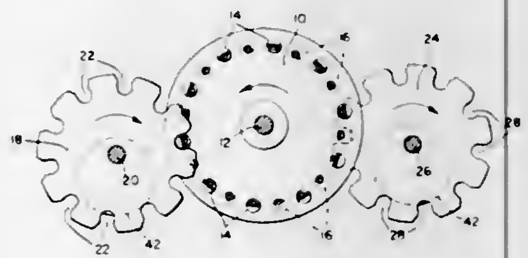
Change speed transmission having a plurality of parallel shafts and gears on each shaft loose thereon and in driving relation to gears on the other shafts with a clutch for clutching each gear to its shaft, two of said shafts defining parallel power flow paths, and a power transmitting element in each path which can be made selectively operable for transmitting power.



ERRATUM

For Class 74—393 see:
Patent No. 3,377,865

3,377,877
ADJUSTABLE-INDEX GEAR TRAIN
Richard H. Eaton, Ormond Beach, Fla., assignor to General Electric Company, a corporation of New York
Filed Oct. 13, 1966, Ser. No. 586,501
5 Claims. (Cl. 74—395)

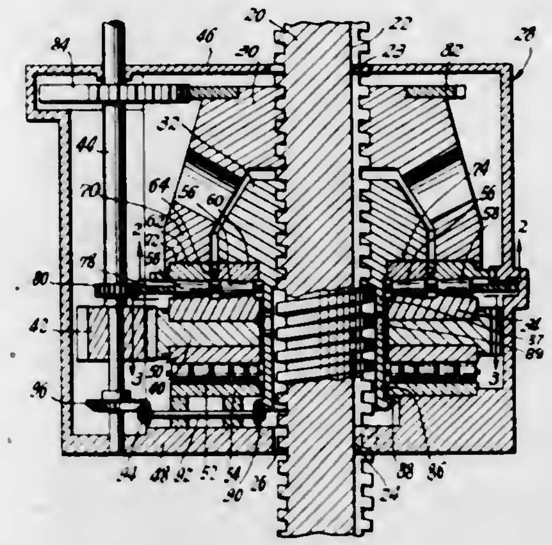


1. An adjustable-index gear train comprising:
a first gear having a plurality of spaced pins rotatably mounted about its periphery and projecting from one one face,
the axis of the mounting portion of said pins being parallel to but offset from the axis of the projecting portion of said pins, whereby the circumferential location of the projecting portion of said pins on said first gear can be adjusted, within the limits of the offset, by rotating the mounted portion,
a second gear having a plurality of slots about its periphery,
said first and second gears having parallel axes spaced so that each slot on the second gear will mesh with a pin on the first gear in a particular rotational position of said first and second gears, whereby the relative angular positions of the two gears can be adjusted at each particular rotational position.

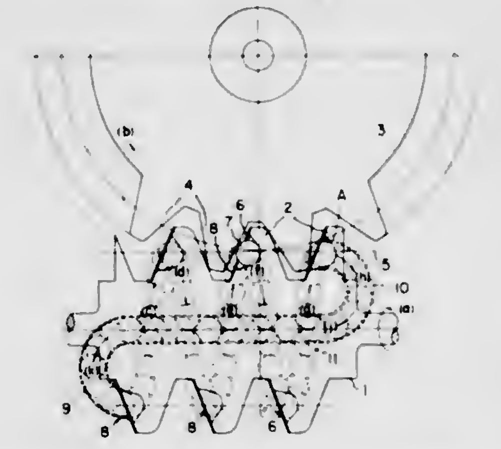
3,377,878
MECHANICAL DRIVE
Arthur M. Maroth, % Maroth Engineering Co., Grumman Hill Road, Wilton, Conn. 06897
Filed Oct. 18, 1966, Ser. No. 587,584
17 Claims. (Cl. 74—424.8)

A mechanical transmission wherein the driven part is a toothed member such as a screw or gear, said member having a continuous advancing movement and being driven by two alternately powered turnable parts which are always fully meshed with the toothed member. When driving, each turnable part is moved only axially, by

rollers and cams, and friction is reduced to a minimum. When not driving, each turnable part is made to turn in a retrograde manner (now permitted by its associated cam) so as to retract and secure a new driving position or "grip" relative to the toothed member. The axial driving and retrograde turning movements of the parts alternate, and least friction occurs for the axial movements, which is where the power is being transmitted.



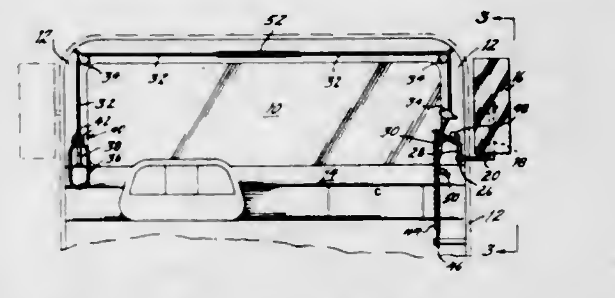
3,377,879
MEANS FOR APPLYING ROLLING CONTACT TORQUE TRANSMISSION TO WORM GEARING
Kozo Shiwaku, 1034 3-chome, Kamiuma-machi, Setagaya-ku, Tokyo-to, Japan
Filed Apr. 15, 1966, Ser. No. 542,798
Claims priority, application Japan, Apr. 17, 1965, 40/22,680
2 Claims. (Cl. 74—425)



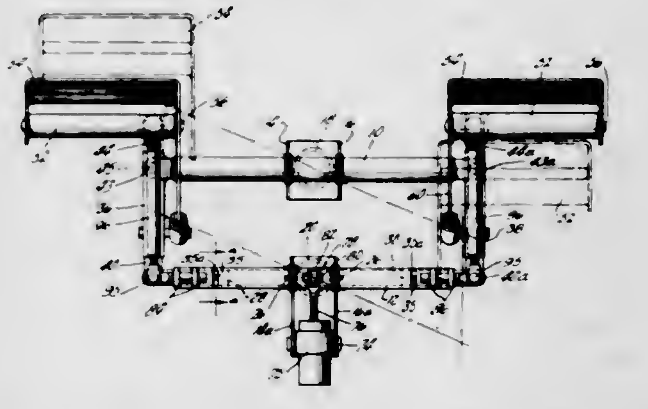
A worm gearing assemblage for applying a rolling contact torque transmission between a worm and a worm gear in which the helical thread of the worm is provided with a groove having a plurality of balls disposed therein and which balls are held in rolling contact with the meshed teeth of the worm gear. The worm is formed with an internal passageway extending axially thereof for receiving the balls and guide tubes join the respective ends of the groove and the passageway for providing a circulation path for the balls.

3,377,880
RETRACTABLE MIRROR FOR MOTOR VEHICLES
Belton Carter, Jr., 1410 N. Newkirk St., Philadelphia, Pa. 19121
Filed Aug. 8, 1966, Ser. No. 571,070
1 Claim. (Cl. 74—491)

A retractable mirror mounted on the outside of the curb side of a bus, means normally holding the mirror in a position to provide a rear view and means for retracting the mirror when the bus approaches a curb to prevent the mirror from hitting a pole or other obstruction.

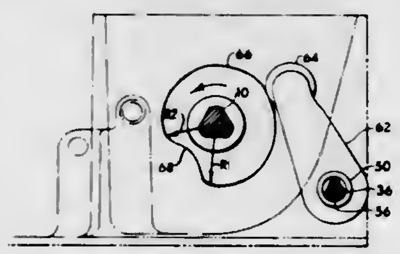


3,377,881
FOOT CONTROL AND ADJUSTMENT LINKAGE
William P. Lucas, Stratford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Mar. 14, 1966, Ser. No. 541,444
12 Claims. (Cl. 74—512)



1. The combination in a pedal control mechanism of a base structure, a pair of laterally extending yoke members arranged in fore-and-aft spaced relation and each pivoted at its midpoint on said base structure, a tie bar at each side of said base structure having pivotal connection with adjacent ends of said yoke members, said yoke members and said tie bars forming a primary parallelogram system, pedal means at each side of said base, each including an upstanding arm having a pivotal connection at its lower end with said parallelogram system, and means for holding said pedal arms in any of a plurality of fore-and-aft positions of adjustment about their pivotal connections including two secondary quadrilateral linkage systems, one associated with each of said pedals.

3,377,882
MECHANICAL ENERGY STORAGE SYSTEM
Ernst Schrempp, Norwalk, Conn., assignor to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware
Filed Aug. 26, 1965, Ser. No. 482,697
11 Claims. (Cl. 74—567)

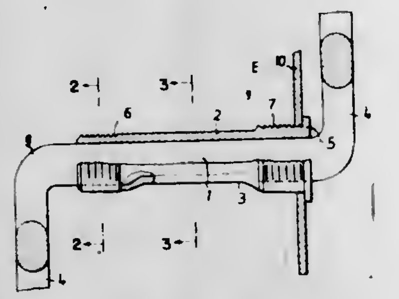


An energy storage mechanism for a drive system comprising an improved torsion bar characterized by a generally triangular cross-section, and means for imparting a torsional energy-storing movement to the torsion bar during a predetermined portion of the operating cycle of the drive mechanism and for returning the stored energy to the drive mechanism during another portion of the same cycle. The torsion bar is self-centering and one end thereof is supported by means that effectively act as an extension thereof.

3,377,883

PEDAL

Alfred Thun, Neuenloher Weg 14,
Ennepetal-Altenvorde, Germany
Filed Sept. 22, 1965, Ser. No. 489,284
Claims priority, application Germany, July 16, 1965,
T 29,003
9 Claims. (Cl. 74—594.2)

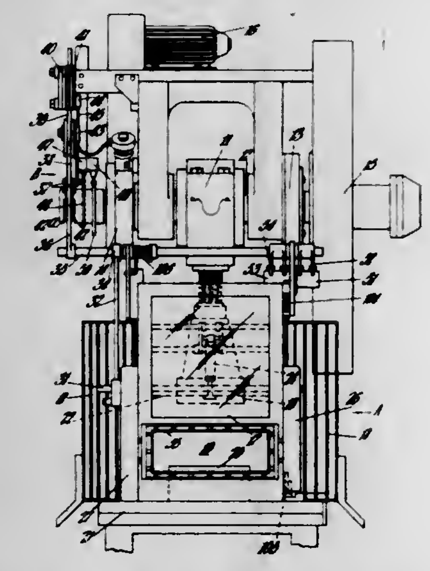


A pedal arrangement for bicycles incorporating a bar having a central portion and flat end portions. The end portions are bent at approximately a right angle to the axial extension of the central portion and in directions opposite to each other, so that the central portion forms a pedal shaft and the end portions form cranks for the pedal arrangement. Sleeve means including at least one unitary tubular sleeve are mounted on the central portion of the bar. The sleeve means have threading thereon for supporting ball bearing means. The inner surface of the sleeve means is, through the entire length, in direct contact with the central portion of the bar. Means are provided for fixedly and non-rotatably securing the sleeve means and the central portion of the bar to each other.

3,377,884

GUARDING OF MACHINE TOOLS

Anthony Robin Guy, Olton, and Maurice Edward Lloyd, Birmingham, England, assignors to Wilmot Breeden Limited, Birmingham, England
Filed Nov. 18, 1965, Ser. No. 508,458
3 Claims. (Cl. 74—615)

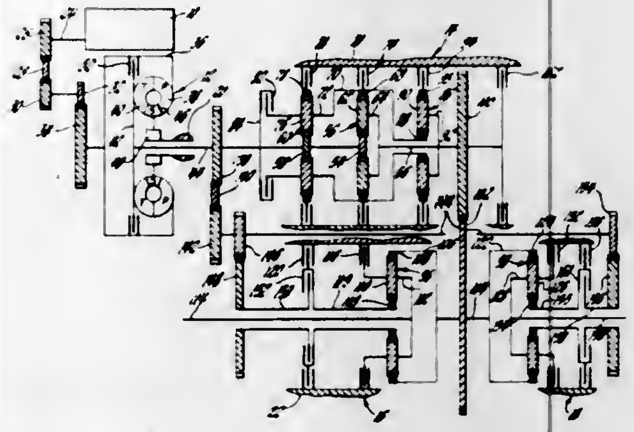


A crank-operated press is provided with a semi-automatic guarding and controlling arrangement in which a mechanical guard mechanically interlocked with the crank of the press is provided with a power driven operator for opening and closing the guard. The guard operator is in turn controlled by a capacitive loop detector device adjacent the guard, with a control circuit such that closing of the guard is initiated on removal of the operator's hand after he has loaded a workpiece into the press. There is a switch actuated by the guard when closed which causes rotation of the crank to commence.

3,377,885

TRANSMISSION

Robert M. Tuck, James J. Mooney, Jr., and Marion D. Smith, Indianapolis, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 28, 1965, Ser. No. 467,556
9 Claims. (Cl. 74—720.5)

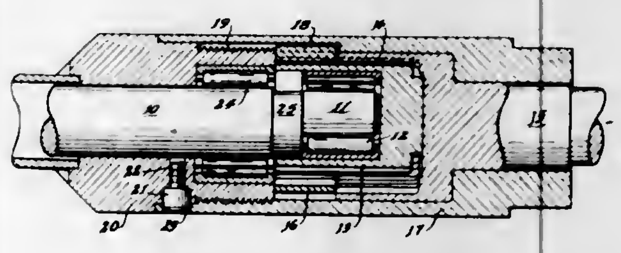


A cross-drive transmission for a track-laying vehicle having a multispeed ratio drive unit driven by the transmission input, and a pair of differential drive units for driving the transmission outputs. Like input members of the differential drive units are connected and may be either braked or driven through the multispeed ratio drive unit. A second pair of like members of the differential drive units are separately and selectively connected to be driven by the transmission input and the transmission is operable to provide a plurality of vehicle propelling drives, drive-brake steering, geared steering and pivot steering. A forward-reverse drive unit provides the transmission with full reversing capabilities.

3,377,886

SPEED REDUCER

Charles E. Frantz and Frank F. Vlacil, Richland, Wash., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Aug. 2, 1966, Ser. No. 569,758
4 Claims. (Cl. 74—805)

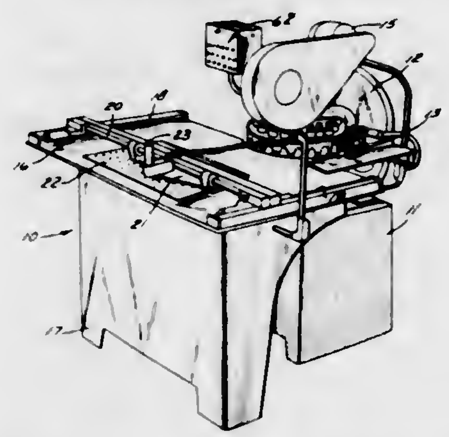


A gear reduction apparatus utilizing a single eccentrically mounted planet pinion in mesh with two internally toothed gears of different pitch diameter but the same diametral pitch. The smaller of the two gears is loosely mounted to allow for the difference in pitch diameter.

3,377,887

TURRET PUNCH PRESS

Paul C. Nelson, Lake City, and Leon E. Rutz, Goodhue, Minn., assignors to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan
Filed May 11, 1965, Ser. No. 454,897
12 Claims. (Cl. 74—822)

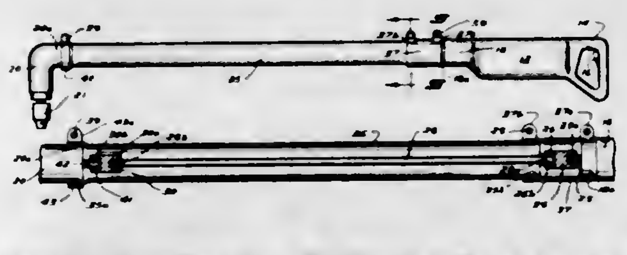


A punch press has a pair of tool-supporting turrets, both connected by gearing to a shaft joined by a clutch to a motor. The turret clutch is powered by a circuit which includes, for each tool station, a normally open manual selector switch connected in electrical series with a normally closed switch opened by an actuator driven by the turret. The turrets are locked by a single linkage that controls vertically movable locking pins. Lamps indicate the positions and movements of the turrets.

3,377,888

EXTENSION DEVICE FOR HAND DRILL

John B. Sponsler, 9124 Stevens Ave. S.,
Minneapolis, Minn. 55420
Filed Feb. 9, 1966, Ser. No. 526,271
1 Claim. (Cl. 77—7)

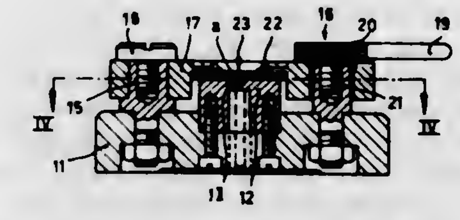


A device extending the effective length of a hand drill consisting of a tubular member holding in spaced relation the drill housing and the drill head and having a drive shaft extending therethrough with interchangeable connecting members at either end thereof connecting the driving means of the drill housing and the drill operating means of the drill head.

3,377,889

DEVICE FOR MAKING A WINDING STAFF

John Simon, 35 Rue du Nord, Tramelan, Switzerland
Filed Oct. 28, 1965, Ser. No. 505,524
Claims priority, application Switzerland, Dec. 3, 1964,
15,624/64
1 Claim. (Cl. 77—62)

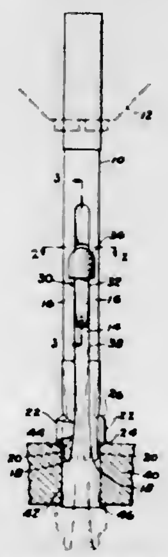


A winding staff of the articulated type formed of a cylindrical part having a threaded extremity adapted to engage the winding crown and the other extremity of which has two radial openings and an axial slot extending on the entire diameter of the part and making the openings communicate. One of the openings serves to make resilient two jaws at the extremity of the part. In the jaws is movably mounted an inner part having a large extremity movable in one of the openings between a first position in which it bears against the inner extremity of the second opening when the crown is screwed and a setting position in which it bears against the outer extremity of the second opening when the crown is unscrewed. Also disclosed is a device for making an articulated winding staff of the type above described which comprises a support for the staff, means for laterally positioning the staff on the support, a pair of stops for adjusting the axial position of the staff on the supports, a drilling-jig holder, a drilling-jig carried by the holder, and a pair of openings in the jig, the holder being movable between a position in which the jig covers at least partially the support above the staff and a position in which the support is uncovered.

3,377,890

DEBURRING TOOL

Glen H. Cogsdill, 48449 W. Nine Mile Road,
Northville, Mich. 48167
Filed June 8, 1966, Ser. No. 556,201
10 Claims. (Cl. 77—73.5)



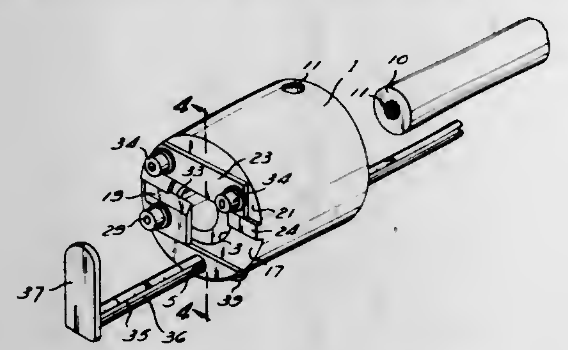
1. A deburring tool comprising a cylindrical body having a through slot of generally uniform width at a portion thereof, said slot extending axially of said body to one end thereof to provide a pair of spring arms which are adapted to flex toward and away from each other, means adjacent the free ends of the spring arms forming a cutting tool adapted to deburr the edge of a hole in a metal workpiece when the tool is rotated and the spring arms are projected into the hole and means for varying the effective length of said slot comprising a spring member resiliently embracing a portion of the outer periphery of each spring arm, said spring member having a portion extending into said slot between said arms, said spring member resiliently engaging outer peripheral surface portions of said spring arms and being shiftable lengthwise of the slot.

3,377,891

CABLE INSULATION REMOVING TOOL

Raymond G. Horrocks, Parkview, Ohio, assignor to The Scott & Fetzer Company, Cleveland, Ohio, a corporation of Ohio
Filed July 17, 1967, Ser. No. 653,977
9 Claims. (Cl. 81—9.5)

This invention relates generally to the art of removing insulation and semi-conductive material from cable used to conduct high voltage electric current and is particularly concerned with a new hand tool which is simple in construction, which may be used to remove insulation from

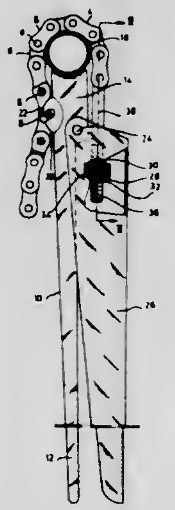


cables of different diameters and which is easy to operate. In one form it may be used to limit the length of cable from which the insulation is removed.

3,377,892

CHAIN PLIERS FOR TUBES

Hans Germann, 13 Isabellenstrasse,
2500 Bienne, Switzerland
Filed Feb. 28, 1967, Ser. No. 619,384
1 Claim. (Cl. 81—65)

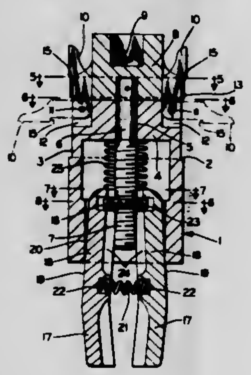


Chain pliers for tubes which can be handled with one hand, the chain being adjustable in length.

3,377,893

WRENCH HAVING PIVOTED JAWS ADJUSTABLE BY A LOCKABLE EXTERIOR CAMMING SLEEVE

John A. Shorb, 339 Wilson St.,
Malvern, Ohio 44644
Filed Mar. 6, 1967, Ser. No. 620,734
5 Claims. (Cl. 81—113)

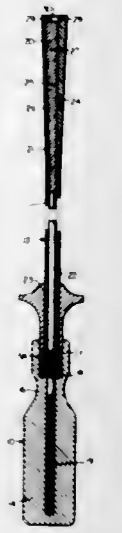


An adjustable socket wrench having a tubular body portion with two jaws longitudinally slidable therein forced together by the side walls of the tubular body when drawn within the same and automatically forced apart when forced out of the tubular body by a nut located between them and a screw threaded therethrough. A cap fixed upon one end of the screw has radial slots to selectively receive a pair of wings pivotally mounted on the body, a locking ring being slidable over said wings to lock the jaws in adjusted position.

3,377,894

SINK RING FASTENER TOOL

Glen M. Johnson, 22 S. Jefferson St.,
Kennewick, Wash. 99336
Filed Jan. 3, 1967, Ser. No. 606,990
4 Claims. (Cl. 81—125)

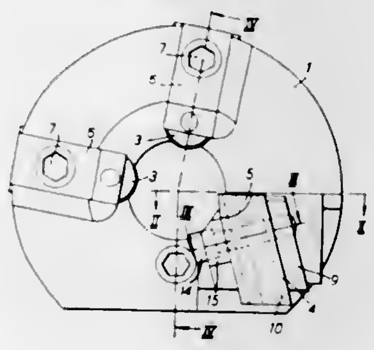


An elongate tool with compound wrench-like head and screwdriver-like body to hold and manipulate hexagonal headed bolts for placement. The head includes two slideably related elements adapted to be manipulated near the handle to releasably engage and hold a hexagonally headed bolt. The tool is particularly adapted to position the bolts associated with sink rings in positions of potentially difficult placement with ordinary tools.

3,377,895

LATHE STEADIES

Kenneth Aubrey Joseph Head, 2 Edmund St.,
Wiltshire, Swindon, England
Filed Dec. 12, 1966, Ser. No. 601,090
8 Claims. (Cl. 82—35)

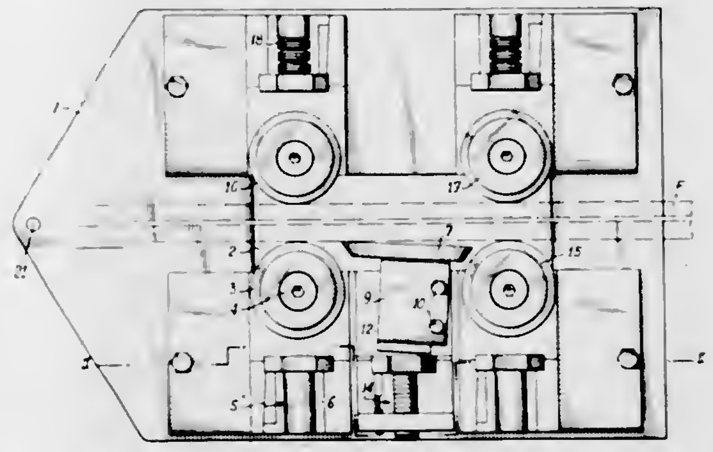


A lathe steady incorporating a steady roller having a frusto-conical outer periphery and mounted on a roller slide for adjustment in a direction at right angles to the rotational axis of the roller. In use the rotational axis of the roller is inclined to the turning axis of the lathe to provide line contact between the roller and the work. A box tool incorporating such a lathe steady has a tool holder which is adjustable in a direction having the same inclination to the turning axis as the direction of roller slide adjustment.

3,377,896

DEVICE FOR TRIMMING THE EDGE OF METAL STRIP

Hubert de Corta, Fontenay-sous-Bois, France, assignor, by mesne assignments, to Friedrich Kocks, Dusseldorf, Germany, a corporation of Germany
Filed Apr. 5, 1966, Ser. No. 540,384
Claims priority, application France, Apr. 12, 1965, 12,841
14 Claims. (Cl. 83—3)

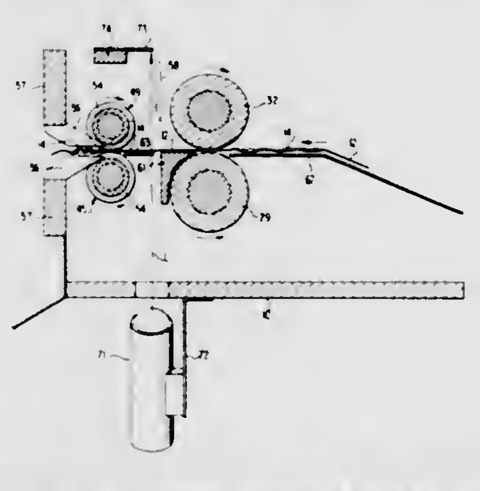


1. A device for trimming at least one edge of a continuously advancing metal strip comprising a plate member displaceable about a pivotal axis, first and second rollers mounted on the plate member in fixed relationship thereto and spaced lengthwise of the direction of advance of the strip for engagement with one longitudinal edge of the strip, a cutting tool mounted on the plate member intermediate said first and second rollers, at least one further roller carried on said plate member and spaced from said first and second rollers in the direction of width of the strip and engageable with the other longitudinal edge of the strip and spring means urging said one further roller towards said first and second rollers to draw said first and second rollers into engagement with said one longitudinal edge of the strip.

3,377,897

AUTOMATIC CUTTING APPARATUS AND METHOD OF CUTTING

Willard A. Ramsey and Aaron G. Coln, Greenville, S.C., assignors to Her Majesty Underwear Company, Mauldin, S.C., a corporation of South Carolina
Filed Apr. 11, 1966, Ser. No. 541,670
12 Claims. (Cl. 83—18)

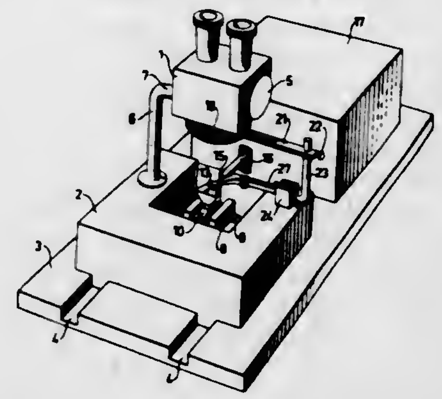


Material to be cut consists of spaced fabric patches connected by elastic strands. The composite material is gripped and fed at spaced points with the feeding rate at one point greater than at the other point to thereby stretch the material during feeding. The passage of patches in the region between the two feeding points is sensed and in response to the sensing, the stretched elastic strands are automatically severed between patches.

3,377,898

MICROTOME PROVIDED WITH MICROSCOPE AND SPECIMEN CATCHING GRID OPERATED THEREBY

Karl Goran Algy Persson, Stockholm, Sweden, assignor to LKB-Produkter Aktiebolag, Stockholm, Sweden, a company of Sweden
Filed Mar. 21, 1966, Ser. No. 535,864
1 Claim. (Cl. 83—78)

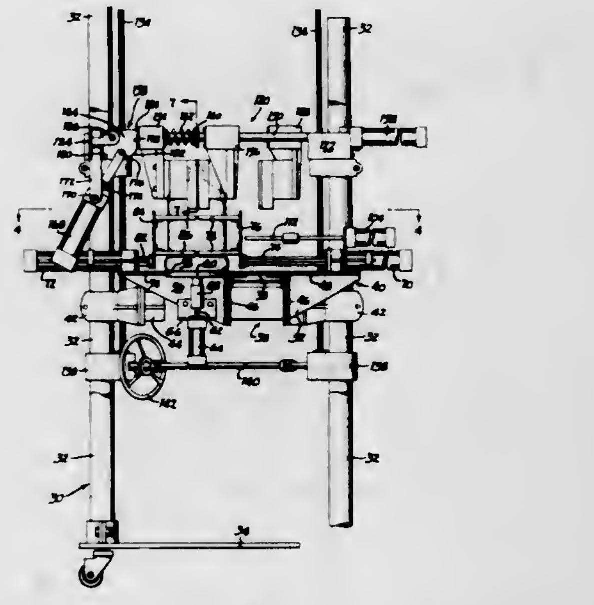


A microtome comprises a knife arranged to cut a specimen into thin sections, the sections falling into and being floated upon the surface of a liquid contained in a tray located adjacent the cutting point. A microscope having a three-dimensional movement is utilized for observing the knife edge and the floating sections, and a holder in the form of tweezers for releasably holding a grid used to catch and remove the floating sections, is secured to the objective of the microscope so that the holder, and hence also the grid, are manipulated simultaneously with manipulation of the microscope.

3,377,899

PLASTIC BOTTLE TRIMMING MACHINE

Wallace W. Wolford, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Aug. 13, 1963, Ser. No. 301,757
12 Claims. (Cl. 83—213)



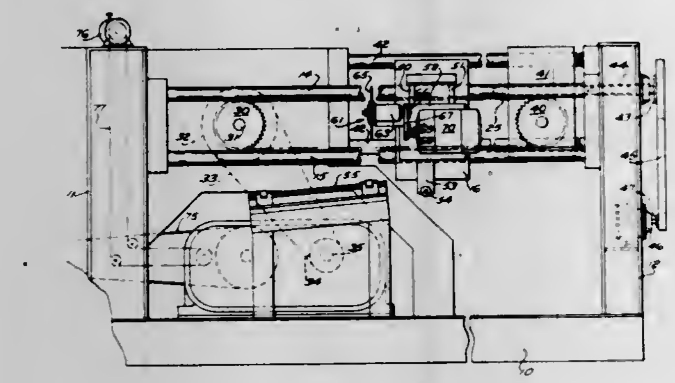
4. Apparatus for removing flash from the shoulder portions of molded bottles wherein the flash projects from first and second lines of juncture with the bottle shoulder at opposite sides of said bottle in a vertical general plane containing the vertical axis of the bottle, comprising a platform mounted for free rotation about a vertical axis, die means supported above said platform and having separate die faces terminating at respective first and second die edges conformed to said first and said second lines of juncture, means for locating said die faces in a first position wherein said first and second

die edges are located in a common vertical plane containing said axis of rotation of said platform in the same horizontally spaced relationships to said platform axis as those between the corresponding lines of juncture and said bottle axis and with the second die edge vertically offset upwardly relative to said first die edge as compared to the vertical relationship between the first and second lines of juncture, platform elevating means actuable in raise or lower said platform from and to a lower end limit at which the lines of juncture of a bottle supported on said platform are disposed in vertically spaced relationship below their corresponding die edges, means for locating a bottle in a ready position at one side of said platform with the bottle axis and platform axis lying in a second vertical plane with said first line of juncture lying on the same side of said second plane as said first die edge, horizontal transfer means operable when said platform is at said lower end limit for shifting a bottle from said ready position onto said platform and subsequently shifting the bottle on the platform to move the bottle axis into coincidence with the platform axis, actuating means operable upon the movement of a bottle onto said platform to actuate said elevating means to elevate the platform until the bottle shoulder adjacent the first line of juncture is seated against the first die edge, first knife means having a cutting edge conformed to said first line of juncture operable upon the seating of said bottle shoulder against said first die edge to sever said flash from said bottle along said first line of juncture, means operable subsequent to the severing of said flash along said first line of juncture for retracting said first knife and first die edge clear of said bottle, said actuating means being operable upon the retraction of said first die edge to actuate said elevating means to elevate said platform until the bottle shoulder adjacent said second line of juncture is seated against said second die edge, and second knife means having a cutting edge conformed to said second line of juncture operable upon the seating of said bottle shoulder against said second die edge to sever said flash from said bottle along said second line of juncture.

3,377,900

FLYING SAW

Ellery L. Baker, Warwick, R.I., assignor to United Wire & Supply Corporation, a corporation of Rhode Island
Filed Feb. 9, 1966, Ser. No. 526,102
4 Claims. (Cl. 83—311)

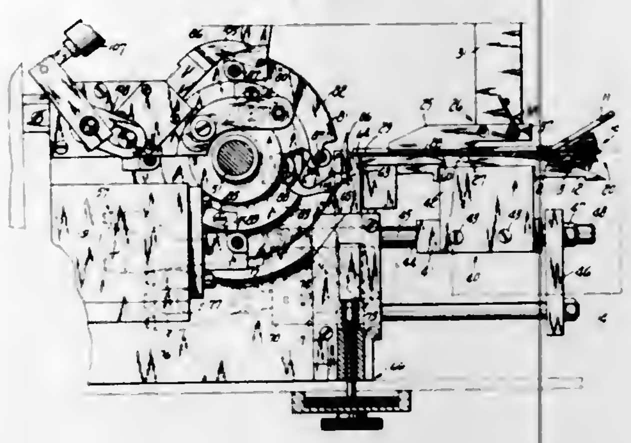


A flying saw is mounted on a carriage which is reciprocated along a straight line path by connection to an orbital chain which chain causes the reciprocating movement. The length of the chain determines the length of the piece cut and different length chains may be placed in operation. Mounted upon this carriage there is a saw which may be cammed into engagement with the work as the carriage advances with the work and at the same time there is provided a means whereby there may be adjustments for lengths which vary between the lengths of the chain links.

3,377,901

APPARATUS FOR TESTING THE INDIVIDUAL CONDUCTORS OF CABLES

Edward P. Gurski, Cranford, and John C. Walz, Bloomfield, N.J., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 8, 1966, Ser. No. 541,372
18 Claims. (Cl. 83—368)

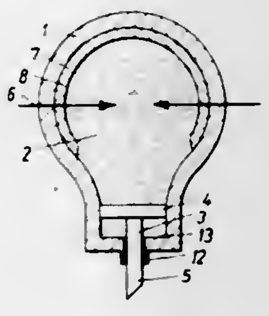


1. Apparatus for electrically testing conductors, including:
- means for feeding a succssion of conductors to a transfer position,
- means for successively transporting the conductors from the transfer position to a testing position,
- means mounted at the testing position for electrically testing the conductors,
- cutting means, and
- means responsive to the testing means for controlling the operation of the cutting means for cutting the tested conductors which fall into a prescribed category, thereby permitting an easy visual identification thereof with respect to those conductors which fall into a different category.

3,377,902

BORING APPARATUS AND METHOD

Hermann Bodenseher, Vienna, Austria, assignor to Brown, Boveri & Cie, AG., Mannheim-Kafertal, Germany, a corporation of Germany
Filed Dec. 28, 1965, Ser. No. 517,000
Claims priority, application Germany, Feb. 9, 1965, B 80,426
5 Claims. (Cl. 83—639)



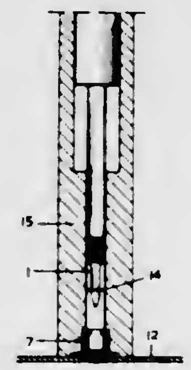
An apparatus for boring into brittle and very hard materials by means of shock current pulses in a liquid. Pressure waves produced by shock current discharges in a liquid are transmitted to a cutting tool whose inherent mechanical frequency in the boring direction corresponds to the pulse repetition frequency of the shock current discharges. The base of the cutting tool, such as a chisel, in one of the embodiments serves as a piston and thus as one of the walls of the container, the container being

filled with liquid. A spark gap apparatus is provided for producing shock current discharges in the liquid. The spark gap apparatus is adapted to be connected to a current pulse source. The boring and cutting tool which extends into the container confines the liquid therein. When the spark gap apparatus is discharged with current pulses from the source, pressure waves are produced and directed by the liquid against the tool, causing it to vibrate. The pulse repetition frequency of the current pulses is chosen to be equal to the inherent resonant mechanical frequency of the cutting tool, in its operating direction, and accordingly the tool is caused to vibrate at the frequency of the imposed pulses.

3,377,903

METHOD OF FASTENING AN ARTICLE BY MEANS OF A BOLT TO BE SHOT INTO SAID ARTICLE, AND MEANS FOR CARRYING OUT SAID METHOD

Wilhelmus Everardus Korte, Meerstraat 3, Naarden, Netherlands
Filed Nov. 10, 1965, Ser. No. 507,186
Claims priority, application Netherlands, Nov. 10, 1964, 64—13,073
10 Claims. (Cl. 85—10)

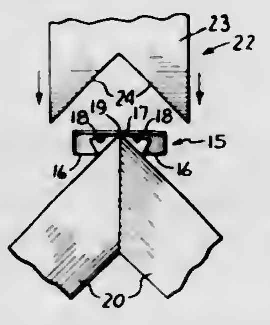


A method and means for attaching sheetlike material to a support by explosively driving a bolt having a screw-threaded end through the material and through a fastening member into the support and at the same time forming internal screw-threading in the fastening member and threadably engaged with the screw-threaded end of the bolt.

3,377,904

FASTENER FOR CORNER JOINTS

Osborne O. Olson, 45 S. Wisconsin Ave., Addison, Ill. 60101
Filed Aug. 22, 1966, Ser. No. 573,976
3 Claims. (Cl. 85—11)

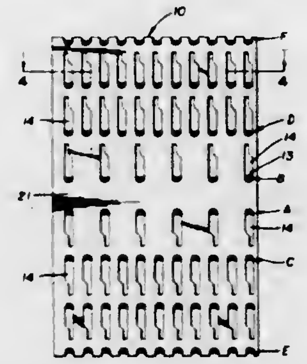


A one-piece fastener for joining corner members is described in which a broad planar body is furnished with down-turned barbed flanges at each end which dig into and firmly secure the corner members during joining.

3,377,905

CONNECTOR PLATE

William R. McAlpine, Pompano Beach., Fla., assignor to Sanford Industries, Inc., Pompano Beach, Fla., a corporation of Florida
Continuation of application Ser. No. 444,972, Apr. 2, 1965. This application Aug. 9, 1967, Ser. No. 659,535
1 Claim. (Cl. 85—13)

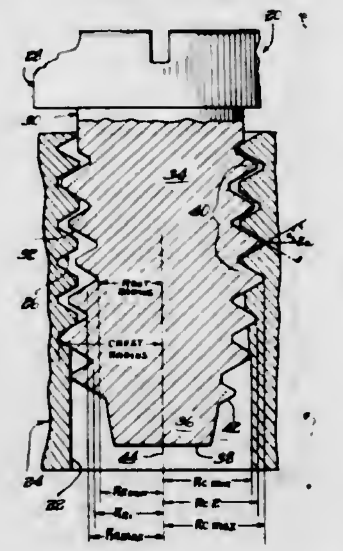


A metallic connector plate for joining wooden members which presents a multiplicity of teeth extending transversely outwardly from the plate. Each tooth has a base portion and a tip portion of substantially lesser width than the base portion. The opposed edges of each portion are parallel with one edge of the tip portion being a continuation of one edge of the base portion. These teeth may be oriented in rows parallel to the joinder line of the wooden member joined thereby with a predetermined number of teeth per row for selective utilization of the tensile strength of the plate itself.

3,377,906

THREAD-FORMING TOOL

Harvey F. Phipard, Jr., South Dartmouth, Mass., assignor to Research Engineering and Mfg., Inc., New Bedford, Mass., a corporation of Massachusetts
Filed May 2, 1966, Ser. No. 546,884
8 Claims. (Cl. 85—46)



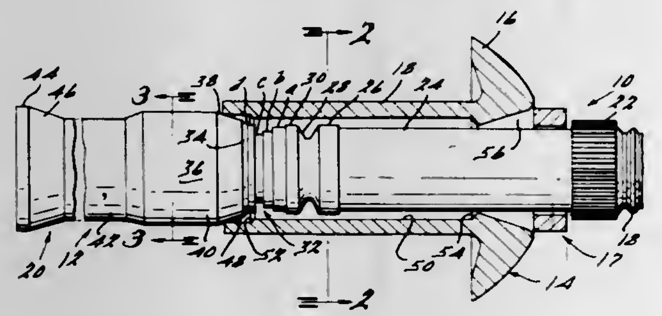
A thread-forming tool which comprises a spindle and a continuous thread on the spindle. The continuous thread of the invention has a constant included angle throughout its length, the radial distance from the longitudinal axis of the spindle to the crest of the thread varying cyclically between selected maximum and minimum values. The successive maximum values of the aforesaid radial distance are spaced angularly by

$$\left(2+\frac{n}{3}\right)\pi \text{ radians}$$

wherein n is a number from 1 to 2.

3,377,907
BLIND FASTENER

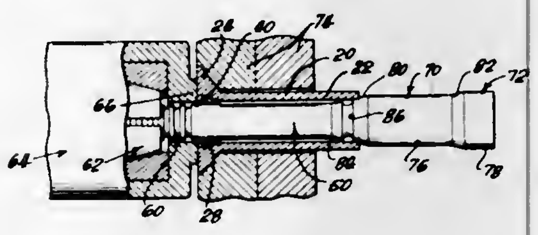
Ramon L. Hurd, Royal Oak, Mich., assignor to Huck Manufacturing Company, Detroit, Mich., a corporation of Michigan
Filed Mar. 10, 1965, Ser. No. 438,672
9 Claims. (Cl. 85—78)



2. A multipiece rivet for fastening a pair of workpieces having aligned openings comprising: a hollow sleeve having a shank portion adapted to project through the aligned openings and beyond one side of the workpieces and having a preformed head on one end of said shank portion for engaging the other side of the workpieces, said sleeve having a through bore terminating in a counterbore at the other end of said shank and a radially outwardly flaring cavity in said head, a sleeve stop shoulder extending radially inwardly at a point proximate to the termination of said cavity and defining the minimum diameter opening through said sleeve, a pin, pull means for gripping said pin located at one end of said pin, an axially splined portion located adjacent said pull means and having a maximum diameter greater than the diameter of said pull means and slightly greater than said minimum opening defined by said stop shoulder of said sleeve, a reduced diameter portion located adjacent said splined portion and having a diameter less than said splined portion and less than said minimum opening, an annular breakneck groove located adjacent said reduced diameter portion and defining the weakest section of said pin, a locking groove located adjacent said breakneck groove and having a maximum diameter less than said minimum opening and including a plurality of annular lands successively decreasing in diameter from a first of said lands and further including a last land having a diameter substantially equal to the diameter of said first land, a pin stop shoulder located adjacent said last land and being of a diameter to engage said sleeve stop shoulder, a wire drawing portion located adjacent said pin stop shoulder and including a first tapered portion tapering to a selected diameter slightly greater than the diameter of said counterbore, a straight, cylindrical body portion having a diameter of said selected diameter, and a reduced portion having a diameter greater than that of said through bore and slightly less than that of said selected diameter, and a head portion terminating the opposite end of said pin and having a tapered portion tapering from a diameter equal to that of said reduced portion to a diameter slightly greater than said selected diameter, said pin having a first axial length from said pin stop shoulder to the beginning of said head portion being less than that from said sleeve stop shoulder to said other end of said shank such that with said pin and sleeve stop shoulders engaged said head portion engages said other end of said shank and said cavity in said preformed head is aligned with said locking groove to define a locking cavity, a radially split, annular locking ring having an inside diameter less than the maximum diameter of said splined portion and being locatable on said reduced diameter portion and being swagable in said locking cavity for engaging the surfaces of said cavity and said plurality of lands for positively locking said pin and said sleeve together.

3,377,908
BLIND RIVET ASSEMBLY WITH LOCKING MEANS

Elvert H. Stau, Alhambra, and George Siebol, Orange, Calif., assignors to Olympic Screw & Rivet Corporation, Downey, Calif., a corporation of California
Continuation of application Ser. No. 466,521, June 24, 1965, which is a continuation-in-part of application Ser. No. 382,294, July 13, 1964. This application Apr. 10, 1967, Ser. No. 629,835
4 Claims. (Cl. 85—78)



A blind rivet assembly comprising a tubular rivet and a pin capable of being pulled axially of the tubular rivet to set same. A locking collar disposed in an internal annular recess in the head of the tubular rivet and in an external annular groove in a tapered annular shoulder on the pin serves to lock the pin and the tubular rivet together after setting of the tubular rivet by the pin. Setting of the blind rivet assembly is controlled solely by deformation of the locking collar into the internal annular recess in the rivet head and the external annular groove in the pin.

3,377,909
EXPLOSIVE COMPOSITION AND METHOD

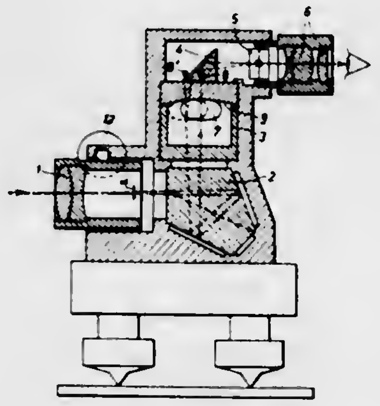
Charles H. Grant and Thomas E. Slykhouse, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 468,987, July 1, 1965. This application Sept. 29, 1967, Ser. No. 671,556
8 Claims. (Cl. 86—20)

A two component explosive composition system containing two distinct masses comprising (1) an inorganic oxidizing salt mass contiguous to (2) an over-fueled explosive mass, i.e., one having a paucity of oxygen as compared to the oxidizable fuel it contains, and more particularly pertains to a two component explosive system comprising an inorganic oxidizing salt mass adjacent to or surrounding a mass comprising a mixture of an excess of inorganic fuel and an inorganic oxidizing salt, and to methods for preparing the explosive and loading boreholes therewith.

3,377,910
STABILIZED OPTICAL INSTRUMENT UTILIZING BOX LEVEL BUBBLE AS LENS

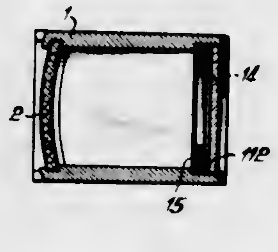
Martin Drodofsky, Heidenheim, Wurttemberg, Germany, assignor to Carl Zeiss-Stiftung, doing business as Carl Zeiss, Heidenheim, Wurttemberg, Germany, a foundation of Germany
Filed Feb. 13, 1964, Ser. No. 344,598
Claims priority, application Germany, Feb. 15, 1963, Z 9,918
2 Claims. (Cl. 88—1)

A box level for an optical observation instrument, such as a telescopic sight or a reading microscope and used for automatic compensation of small inclinations, said box level comprising a closed liquid chamber filled with such a predetermined amount of liquid that the remaining bubble, which serves as an additional lens in the optical system, remains practically unchanged in size within a temperature range from about −10° C. to +40° C.



3,377,911
PICTURE DEFINING FRAME FOR ALBADA VIEWFINDERS

Friedrich Mische, Braunschweig, and Fritz Holzinger, Lehre, Germany, assignors to Voigtlander A.G., Braunschweig, Germany, a corporation of Germany
Filed Dec. 12, 1963, Ser. No. 330,186
Claims priority, application Germany, Dec. 22, 1962, V 14,673
4 Claims. (Cl. 88—1.5)

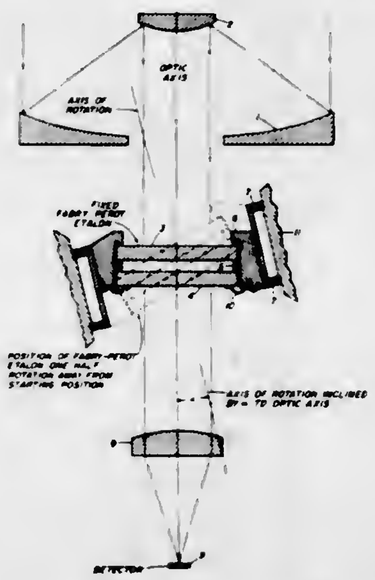


An Albada type viewfinder having a front light ray entry member provided with a concave, partly mirrored inner surface and a picture defining frame spaced from this front member by an axial air gap and positioned substantially in the focal plane of the partially mirrored surface for imaging the frame with the mirrored surface substantially at infinity with respect to the eye of an observer. The picture defining frame is in the form of a frame-shaped relatively thin reflective strip of grained metal. As distinct from a vapor-deposited layer, this frame is an independent body of sheet metal which by itself is separable as a unit from the other components of the viewfinder.

3,377,912
SPECTRAL PHOTOMETRIC SCANNER USING A FABRY-PEROT ETALON ROTATED ABOUT AN AXIS INCLINED TO THE OPTIC AXIS OF THE SCANNER

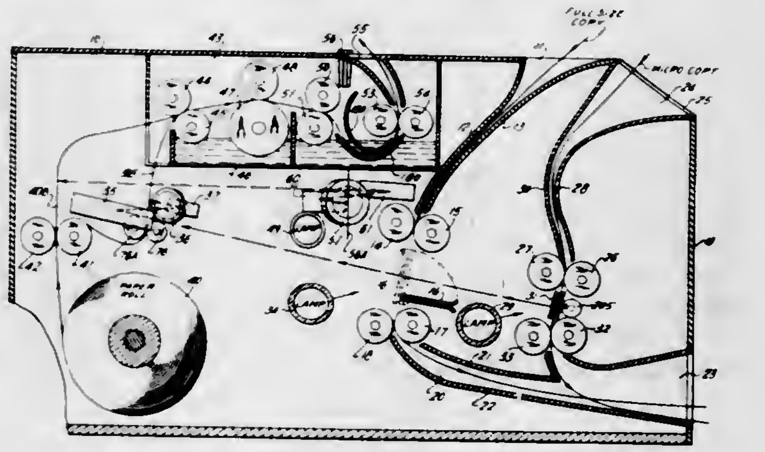
Harold W. Yates, Stamford, Conn., assignor to Barnes Engineering Company, Stamford, Conn., a corporation of Delaware
Filed Mar. 4, 1965, Ser. No. 437,098
3 Claims. (Cl. 88—14)

A scanner provided with collecting optics and a detector is scanned by rotating a Fabry-Perot etalon about an axis inclined at a small angle to the optical axis, the rotation of the etalon resulting in an oscillation of the etalon through an angle with respect to the optic axis, the oscillation being about an axis at right angles to the plane formed by the optic axis and the axis of rotation of the etalon. The scanning results from the fact that the Fabry-Perot etalon, with a constant plate spacing, is oscillated through an angle so that the angle at which the collected beam of the instrument strikes the face of the Fabry-Perot etalon is varied.


OPTIC AXIS
AXIS OF ROTATION
FIXED FABRY-PEROT ETALON
POSITION OF FABRY-PEROT ETALON ONE HALF ROTATION AWAY FROM STARTING POSITION
AXIS OF ROTATION INCLINED BY TO OPTIC AXIS
DETECTOR

3,377,913
PHOTOGRAPHIC DOCUMENT COPYING DEVICE

G. Peter Grant, Jr., Little Hill, R.D. 1,
Warner, N.H. 03278
Filed Mar. 16, 1965, Ser. No. 440,139
23 Claims. (Cl. 88—24)

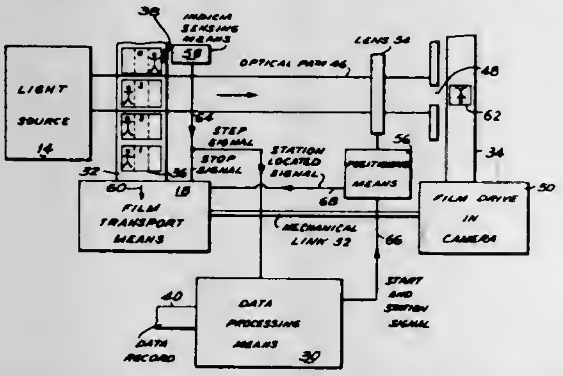


A photographic document copying device in which a document may be reproduced either in 1 to 1 size or in reduced size by selecting one of two paths of travel through the machine. Light sensitive paper of different widths are carried in rolls within the machine whereby the operator can selectively print the desired copy size. Negative photographic frames can also be printed upon a continuous strip of light sensitive material by feeding them through another selected path of travel through the machine. The documents are developed within the machine as the exposed material travels therethrough. Documents printed by the machine can also be projected for reading.

3,377,914
METHODS AND APPARATUS FOR AUTOMATIC OPTICAL REDUCTION

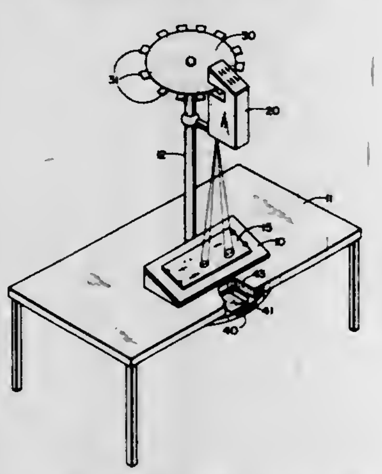
Saul Jeffee, Scarsdale, N.Y., assignor to Movielab, Inc.
Filed Mar. 29, 1965, Ser. No. 443,404
24 Claims. (Cl. 88—24)

A method and apparatus for automatic optical reduction with respect to which a film is divided into sequence by indicia placed thereon and these indicia are employed to control a data record device which controls the movement of a lens by which portions of the frames on the film are transmitted to a negative.



3,377,915
ASSEMBLY APPARATUS

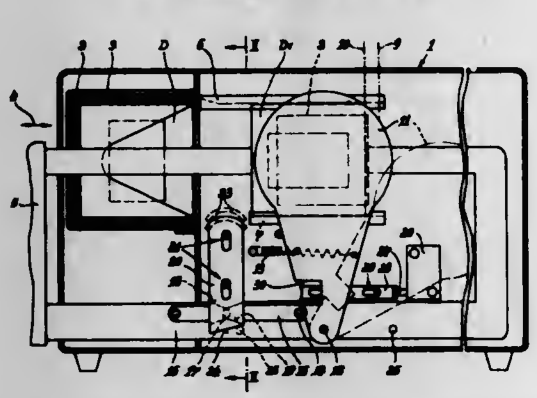
James T. Buckett, Shorewood, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Sept. 19, 1966, Ser. No. 580,238
4 Claims. (Cl. 88—24)



Apparatus for assembling the component parts of a composite body. An optical projector is mounted for projecting images onto a working surface, and a series of slides are provided to be inserted into the projector sequentially in a predetermined order, each slide containing directions for one step in the assembly sequence, including the part type and its location.

3,377,916
PHOTOGRAPHIC PROJECTOR WITH AUTOMATIC LIGHT-BLOCKING AND SLIDE-CHANGING CONTROLS

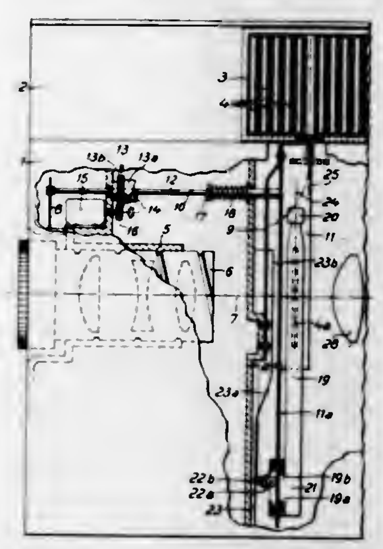
Erich Zillmer, Braunschweig, Germany, assignor to Voigtlander A.G., Braunschweig, Germany, a corporation of Germany
Filed Mar. 16, 1966, Ser. No. 534,895
Claims priority, application Germany Mar. 23, 1965, Z 11,424
6 Claims. (Cl. 88—28)



1. In a photographic projector, slide-changing means movable through an operating cycle during which said slide-changing means shifts a slide from a magazine to a projecting position and then back to the magazine whereupon the magazine advances to bring the next slide into a position to be acted upon by the slide-changing means during the next operating cycle thereof, light-blocking means movable between a blocking position preventing light from passing through said projecting position and a nonblocking position permitting light to pass freely through said projecting position, actuating means for actuating said slide-changing means to carry out said operating cycle, operating means carried by said slide-changing means for movement therewith and movable with respect to said slide-changing means between a pair of operating positions in one of which said operating means operates said actuating means to bring about an operating cycle of said slide-changing means and in another of which said operating means operates on said light-blocking means to move the latter from said blocking to said non-blocking position thereof, said light-blockng means automatically returning to said blocking position thereof when said slide-changing means returns a slide from said projecting position to a magazine, and scanning means movable between a scanning position and an end position distant from said scanning position, said scanning means when in said scanning position thereof being situated in the path of movement of a slide from said magazine to said projecting position to be displaced by the slide from said scanning position to said end position, and said scanning means when in said end position thereof situating said operating means in said other operating position for moving said blocking means from said blocking to said non-blocking position in response to scanning of a slide moved by said slide-changing means from a magazine to the projecting position, said scanning means remaining in said scanning position thereof when there is no slide shifted by said slide-changing means during an operating cycle thereof and said scanning means when remaining in said scanning position thereof placing said operating means in said one operating position to operate said actuating means to automatically bring about the next operating cycle of said slide-changing means while said light-blocking means remains in said blocking position thereof.

3,377,917
MAGAZINE SLIDE PROJECTOR

Hans Mulch, Wetzlar, Germany, assignor to Ernst Leitz, G.m.b.H., Wetzlar, Germany
Filed July 25, 1966, Ser. No. 567,710
Claims priority, application Germany, Aug. 13, 1965, L 51,372
8 Claims. (Cl. 88—28)



This invention relates generally to slide projectors and particularly to slide projectors having improved means for successively projecting a number of slides onto a screen in combination with means for fine focusing the slides located in position for projection.

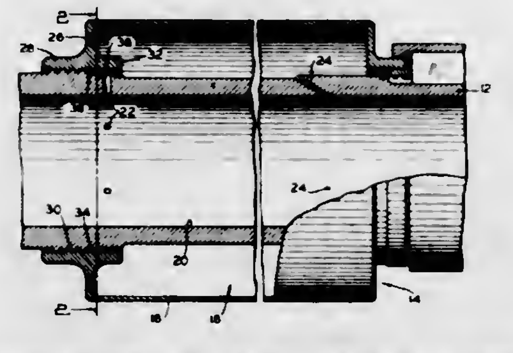
In a particular embodiment of the present invention, a releasable connection is provided between the means for fine-focusing the slide and the slide platform having the slide changer guided thereon. Also additional means is provided for shifting the slide platform and the slide changer in the direction of the optic axis in response to the slide changing movement. This is done in such a manner that independently of the fine-focusing adjustment, the platform and changer while in position for magazine advancement will be uncoupled (disengaged) from the fine-focusing mechanism, actuated while in this position for the removal of a slide from or its return to the magazine, and then, while in position for projection, returned to the adjusted focusing position. In this manner it is made certain that after projection the slide is returned without difficulty to the same position in the magazine from which it was taken.

The means for focusing can act either upon the slide platform or upon the slide changer. In projectors with a hand-operated slide changer, the latter is preferably itself adapted to serve as part of the controlling means. An especially advantageous arrangement has been a stationary inclined guide along the receding path of the slide changer in such a position that the latter during its back and forth movement shifts in the direction of the optic axis while carrying the slide platform along with it. In order to return the slide platform of its own accord to is original focusing position after such shifting, it is spring-biased in one direction.

In projectors using motor-driven slide changers, the member that actuates the changer is also used to control the disengagement of the slide platform. In a particular embodiment, the crank disk which is connected in a known manner for transporting the slide changer, is provided with cams or notches by means of which the slide platform is disconnected in the desired manner from the fine focusing mechanism. It is also possible to have the rod connecting the means for fine focusing and the slide platform serve as the control member.

3,377,918
SPLIT RING VALVE FOR BORE EVACUATOR

Walter H. Austin, Jr., and Donald F. Trudeau, Troy, N.Y., assignors to the United States of America as represented by the Secretary of the Army
Filed Apr. 21, 1966, Ser. No. 545,536
8 Claims. (Cl. 89—1)

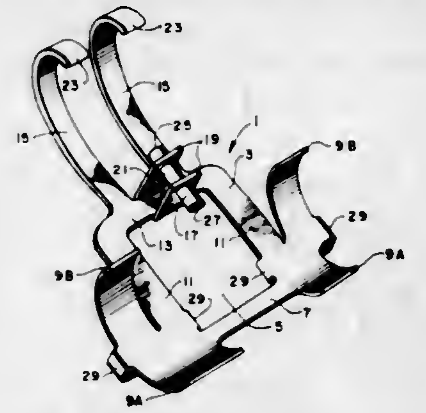


A split-ring is used as a single valve to releasably seal a plurality of intake ports in a bore evacuator for cannons.

3,377,919
AMMUNITION LINK

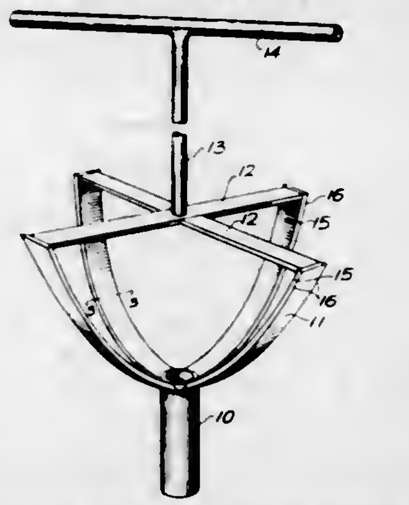
Burton P. Clark, Fayetteville, Tenn., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Sept. 22, 1966, Ser. No. 582,203
6 Claims. (Cl. 89—35)

An improved link for flexible ammunition belts is provided for weapons employing side stripping of the cartridges. The link comprises fingers which loosely hold the rounds and a slidable pin which locks the respective rounds in the links. The lock is releasable only upon removal of the leading round in the belt.



3,377,920
WELL CUTTER

Michael E. La Bate, Ellwood City, Pa., assignor to Insul Company, Incorporated, East Palestine, Ohio
Filed Apr. 19, 1967, Ser. No. 631,933
4 Claims. (Cl. 90—12)



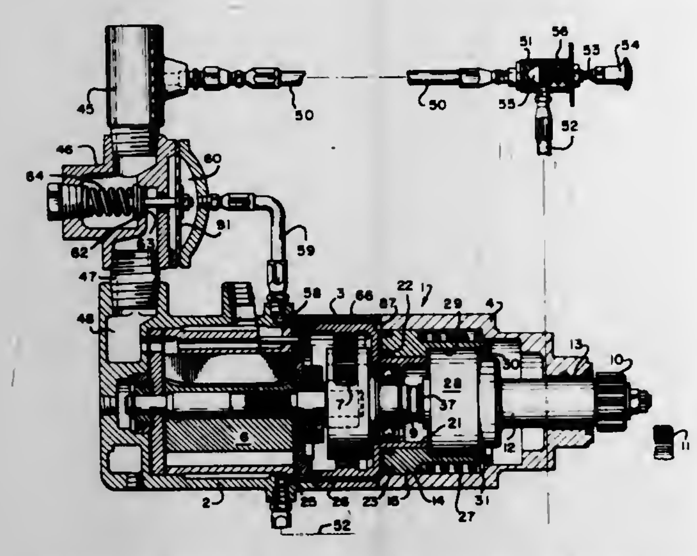
A well cutter for refractory lined hot metal ladles and the like having radially positioned arcuate cutting blades above a cylindrical guide member with cross pieces engaging the blades and supporting a handle including a section on the longitudinal axis of said cylindrical guide and a cross piece transversely thereof.

3,377,921
AIR STARTER

Gerrit Van Nederynen, Sayre, Pa., and Hugh B. Taylor, Waverly, N.Y., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Aug. 4, 1966, Ser. No. 570,328
7 Claims. (Cl. 91—53)

1. An air-operated starter adapted to engage and rotate the flywheel ring gear of an engine, comprising:
a frame adapted to be fixed to the engine adjacent the flywheel ring gear;
a compressed air-operated rotary motor contained within said frame;
a drive train driven by said motor and including a pinion mounted within said frame for axial movement between a pair of positions, including a normally disengaged position with said ring gear and an engaged position with said ring gear;
means biasing said pinion to its normal disengaged position;
air-operated pinion engagement means contained within said frame and operative, when supplied with compressed air, to move said pinion to its engaged position;

first valve means for supplying compressed air to said air-operated pinion engagement means to cause it to engage said pinion with the flywheel ring gear; and second valve means operative, in response to an increased air pressure in said air-operated pinion engagement means occurring at the end of the movement of said pinion toward said engaged position, after the opening of said first valve means, to admit compressed air to said rotary motor for driving said pinion and the flywheel ring gear.

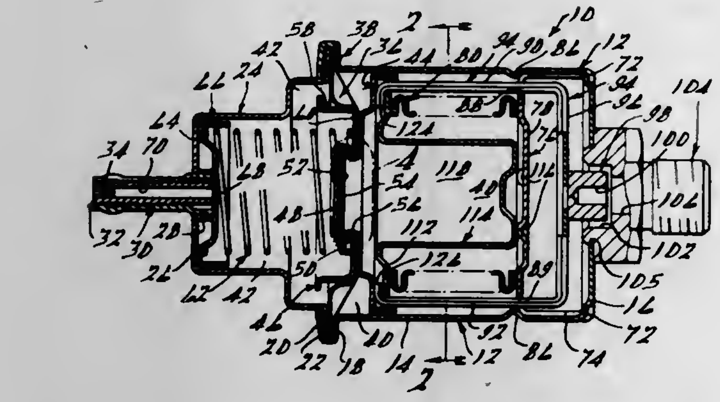


ERRATUM

For Class 91—171 see:
Patent No. 3,377,924

3,377,922
AMBIENT PRESSURE COMPENSATED TRANSMISSION THROTTLE VALVE CONTROL

Donald L. Spender, Cheshire, and Gray L. Butler, Terryville, Conn., assignors to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Aug. 30, 1965, Ser. No. 483,537
2 Claims. (Cl. 92—36)

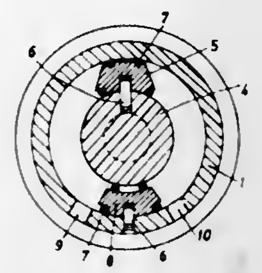


Ambient pressure compensated transmission throttle valve control having a precalibrated bellows subassembly and having an improved means for supporting and reinforcing the diaphragm.

3,377,923
HYDRAULIC HIGH-PRESSURE CYLINDER WITH ROTARY PISTON

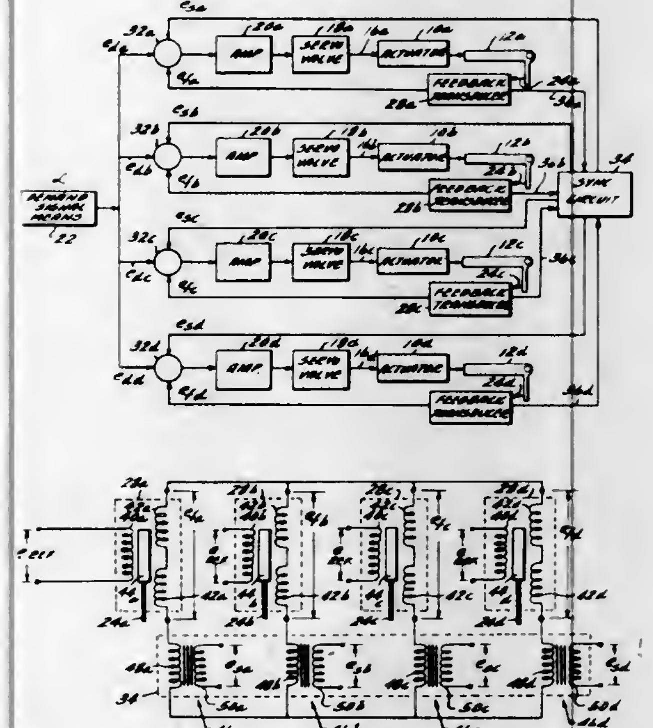
Hermann F. W. Steinbach, Hohenwartstrasse 24, Marktoberdorf, Germany, and Walther F. G. Heynen, 57½ Walkershafen, Kreis, Schwabmunchen, Germany
Filed May 26, 1965, Ser. No. 458,852
8 Claims. (Cl. 92—121)

1. A fluid operable system comprising: a cylinder, a rotor rotatably mounted in said cylinder in radially spaced relationship thereto, a partition mounted in and extending in axial direction of said cylinder, a vane engaging said rotor along a circumferential surface portion and extending in axial direction of said rotor, means for detachably connecting said vane to said rotor and passing through said surface portion, said partition and said vane together with said cylinder and said rotor confining chamber means adapted to be subjected to a fluid under pressure, first and second sealing means mounted in said vane on opposite sides of a plane through the centers of said vane and of said rotor for sealing engagement with said cylinder and said rotor, said first and second sealing means having surfaces freely exposed to a fluid under pressure in said chamber means, said first and second sealing means being located in planes converging radially outwardly and being respectively inclined at such an angle with respect to a plane tangential to said rotor through said connecting means that the resultant force of the fluid under pressure acting on said vane passes through said circumferential surface portion to thereby subject said connecting means substantially to shearing forces only and that no tilting moment exists about the respective lines of intersection between said converging planes and said circumferential surface portion.



3,377,924
SYNCHRONIZING CONTROL CIRCUIT

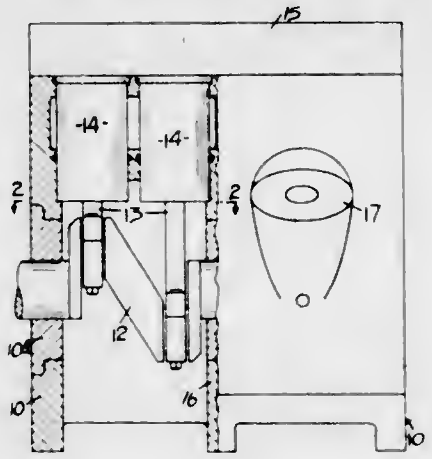
William Ralph Spencer, Springdale, and David Everett Thomas, Cincinnati, Ohio, assignors to General Electric Company, a corporation of New York
Filed Mar. 2, 1965, Ser. No. 436,598
3 Claims. (Cl. 91—171)



1. A control system for synchronizing a plurality of actuators each connected to a power source and each having separate means for controlling the power input thereto, means providing a demand signal actuating said power input means to displace said actuators in a desired direction toward a desired position, means connected to each actuator for producing an electrical signal reflecting the position of said actuator, means for comparing said positional signals with said demand signal and deactuating said power input means when a predetermined relation therebetween indicates the desired position has been reached, said positional signals also having a predetermined relationship one to the other when movement of said actuators is properly synchronized and means responsive to a deviation of said positional signals from said predetermined relationship, reflecting an asynchronous relation between said actuators, for varying the power input means to establish a synchronous relation between all of said actuators.

3,377,925
INTERNAL COMBUSTION ENGINES

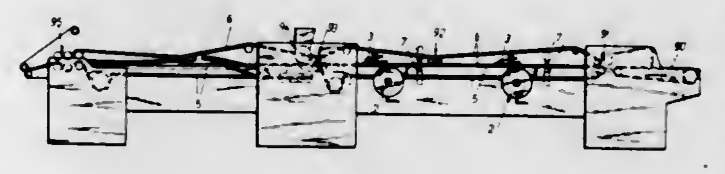
Alan Ewart Walter Austen, Sunbury-on-Thames, England, assignor to C.A.V. Limited, London, England
Filed Dec. 6, 1965, Ser. No. 511,834
Claims priority, application Great Britain, Dec. 8, 1964, 49,965/64
4 Claims. (Cl. 92—261)



A frameless crankcase for an engine in which interconnected end and side walls of a lightweight material, such as aluminum or magnesium, constitute the outer surfaces of the crankcase and the walls have a dynamic magnification factor of not more than three. Also, a variation in thickness along any one wall should not be greater than 1.3:1 and a variation in thickness between any two walls should not be greater than 1.5:1.

3,377,926
METHOD OF AND APPARATUS FOR MAKING BOXES ON BOX-MAKING MACHINES

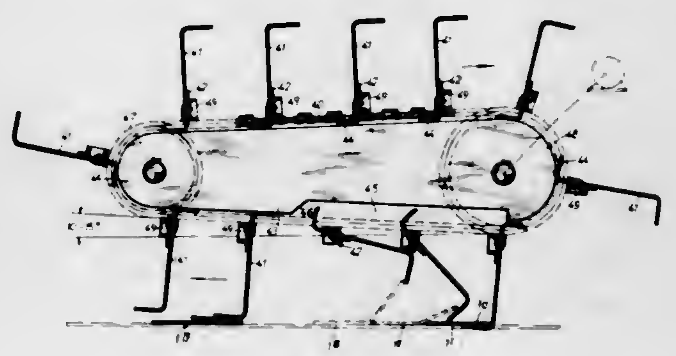
Mathias Pröpper, Dusseldorf-Wersten, Germany, assignor to Doring u.A. Arbeitsgemeinschaft fur Entwicklung von Papierverarbeitungsmaschinen, Dusseldorf-Reisholz, Germany
Filed Apr. 22, 1965, Ser. No. 450,219
Claims priority, application Germany, Apr. 23, 1964, D 44,249
13 Claims. (Cl. 93—49)



A method of and an apparatus for forming flat folded boxes from card box blanks by folding the trailing and leading flaps together with the corresponding triangular portions thereof as well as the trailing and leading tabs of the lateral flaps, applying glue to the associated blank portions, and folding the lateral flaps onto said folded trailing and leading flaps, while during all of the aforementioned operations feeding the box blanks along a substantially straight path.

3,377,927
FOLDING DEVICE FOR USE IN CONNECTION WITH BOX MAKING MACHINES

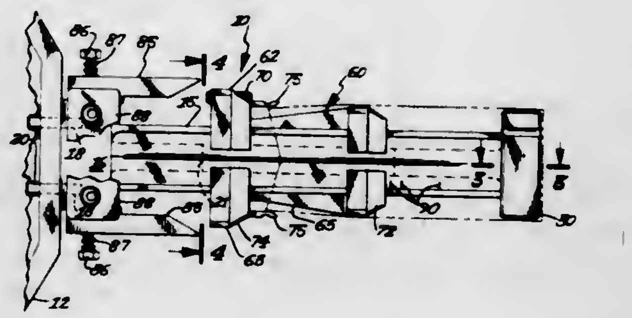
Mathias Pröpper, Dusseldorf-Wersten, Germany, assignor to Doring u.A., Arbeitsgemeinschaft fur Entwicklung von Papierverarbeitungsmaschinen, Dusseldorf-Reisholz, Germany
Filed Apr. 27, 1965, Ser. No. 451,130
5 Claims. (Cl. 93—49)



Apparatus for folding over the trailing flaps of carton blanks in which a hook shaped folding arm suspended from a chain engages beneath the trailing flaps from the rear and tilts them upwardly while the said arms are then caused to swing forwardly to fold the flaps down against the blanks.

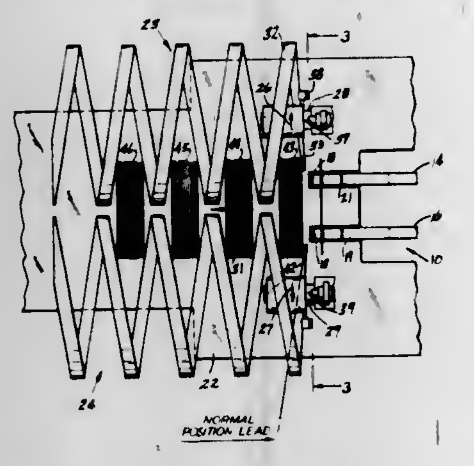
3,377,928
CARTON FORMING MANDREL

Clarence G. Austin, Jr., and Howard R. Garrett, Woodstock, Ill., assignors, by mesne assignments, to Haskon, Inc., Wilmington, Del., a corporation of Delaware
Filed Aug. 9, 1965, Ser. No. 478,111
9 Claims. (Cl. 93—59)



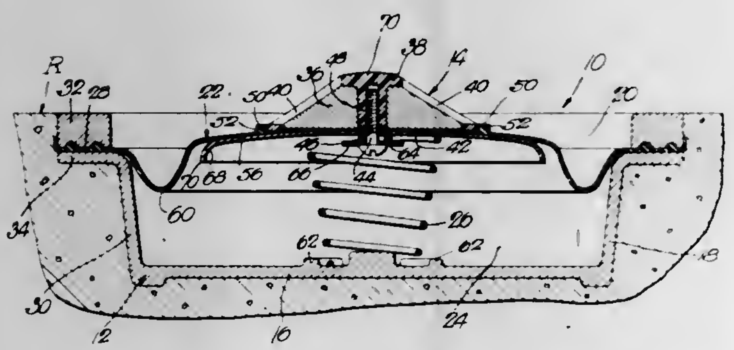
The mandrel is designed to accommodate a plurality of sizes of cartons and is particularly adaptable for use in the milk industry with varying sized milk cartons. The mandrel includes an elongated body which is generally cruciform in shape and has a base plate in one extremity and provision for mounting a removable end cap at the other. On the extent of the body is mounted a sleeve member formed of two symmetrical halves, the sleeve member having shoulder portions of various cross sections designed to correspond with varying sized removable end caps to hold and form varying sized cartons. The sleeve is slidable on the elongated body and the end cap is held in position by means of frictional engagement with a rubber mounting ring positioned in the end of the body.

3,377,929
BAG GROUPER AND METHOD
Walter S. Ware and Donald R. Cannon, West Monroe, La., assignors to Olinkraft, Inc., a corporation of Delaware
Filed Jan. 17, 1967, Ser. No. 609,912
5 Claims. (Cl. 93—93)



Method and apparatus for continuously feeding individual bags to a pair of helices for grouping said bags and spacing and continuously advancing said groups wherein said helices have hinged lead portions movable to effect a cutoff between the last bag of a given group and the first bag of the next succeeding group.

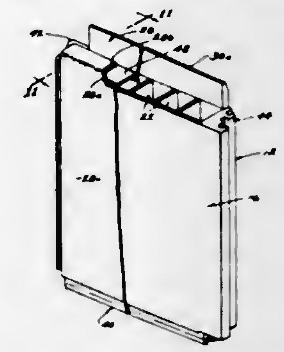
3,377,930
REFLECTIVE ROAD MARKER
Elliott H. Kone, Thimble Farms, Branford, Conn. 06405
Filed Mar. 1, 1966, Ser. No. 530,903
4 Claims. (Cl. 94—1.5)



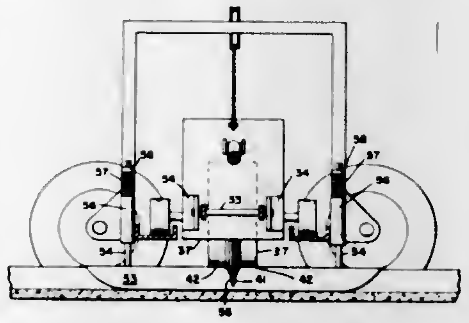
The disclosure deals with a road marker having a base cup and a resilient diaphragm secured thereto at the top to seal the cup from the outside, with the diaphragm carrying on a central portion an external traffic lane indicator and being over its remaining portion at least in part molded into a depression of substantial U-section and extending continuously around the central diaphragm portion.

3,377,931
PLANK FOR MODULAR LOAD BEARING SURFACES SUCH AS AIRCRAFT LANDING MATS
Ralph W. Hilton, 22934–B Nadine Circle, Torrance, Calif. 90505
Continuation-in-part of application Ser. No. 478,693, Aug. 10, 1965. This application May 26, 1967, Ser. No. 641,699
7 Claims. (Cl. 94—13)

This invention relates to extruded structural metal units having deck and base plates spaced by a plurality of parallel ribs extending normal to the longitudinal axis of the unit, with male and complementary female connecting means formed on both the side edges and ends of the unit. The strength of the ribs at their juncture with the deck and base plates is not substantially greater than the strength of ribs at their mid-point, the result being that an applied load is distributed over the ribs surface instead of being concentrated at their mid-point. These units are interconnected with other similar units to form runway matting with the ribs of each unit extending parallel to the normal direction of the traffic pattern.

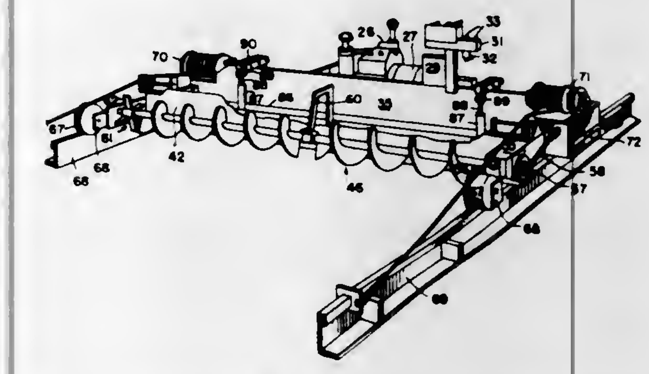


3,377,932
PAVEMENT GROOVING APPARATUS
Ray Nelson Atkinson, Hillsborough, Calif., assignor to Guy F. Atkinson Company, San Francisco, Calif., a corporation of Nevada
Filed Nov. 12, 1965, Ser. No. 507,493
4 Claims. (Cl. 94—39)



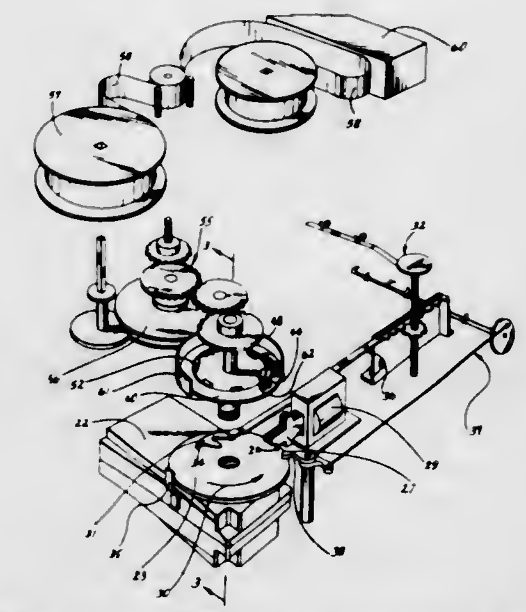
A pavement grooving apparatus in which a carriage with a rotary grooving knife is carried on a frame spanning the pavement. The knife is driven independently of the frame and the carriage is also propelled along the frame with the grooving wheel rotating to form a groove. The frame also carries knives to form longitudinal grooves in the pavement having notches to allow passing of the transverse grooving wheel.

3,377,933
ROAD LAYING MACHINE
Charles Harry Dale, Rock Island, Ill., assignor to Pav-Saver Corporation, Rock Island, Ill., a corporation of Illinois
Filed July 14, 1965, Ser. No. 471,876
9 Claims. (Cl. 94—45)



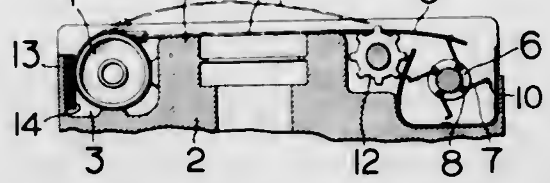
Road paving machine with cable and winch propulsion, spreading auger, tamper bar, strike-off plate with curb-forming plate, power adjustable crown pan, reciprocable rear finishing screed, and telescoping frame.

3,377,934
BOREHOLE CAMERA
Raymond K. Crichton, P.O. Box 86, Eloy 85231, and David O. Sterrett, Tucson, Ariz.; said Sterrett assignor to said Crichton
Filed Apr. 23, 1965, Ser. No. 450,379
5 Claims. (Cl. 95—11)



A borehole camera utilizing a continuously energized electric motor which, when the brake holding the motor against rotation is released, advances film and subsequently trips the shutter of a camera to photograph the walls of the borehole. Continuously energized external illumination provides the necessary illumination for exposing the film.

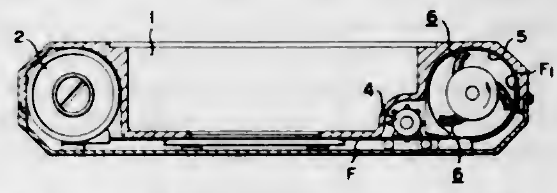
3,377,935
SELF-LOADING CAMERA
Motoyoshi Furusawa, Ohmiya-shi, Saitama-ken, Japan
Filed Mar. 9, 1965, Ser. No. 438,360
3 Claims. (Cl. 95—31)



A self-loading camera having a take-up spool with spring biased hook means adapted to intersect the free path of the film when in extended position in order to engage the perforations of the film and effect automatic loading of the camera.

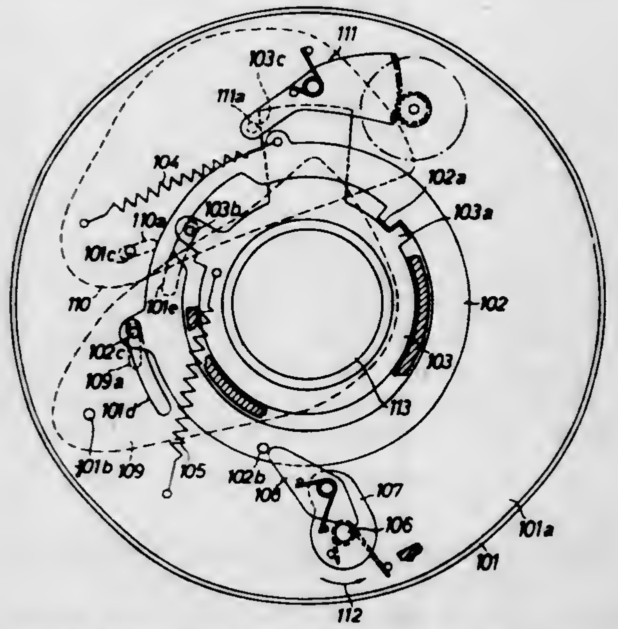
3,377,936
EASY LOADING APPARATUS FOR FILM SUPPLY FOR PHOTOGRAPHIC CAMERAS
Takeshi Goshima and Syohei Ohtaki, Tokyo, and Natsuo Kinoshita, Yokohama-shi, Japan, assignors to Canon Camera Kabushiki, Kaisha, Tokyo, Japan, a corporation of Japan
Filed July 22, 1965, Ser. No. 473,922
Claims priority, application Japan, July 27, 1964, 39/42,735
11 Claims. (Cl. 95—31)

Film loading apparatus for a camera in which the take-up spool is provided with sp.ing biased friction members to form winding layer loops of film against the inner surface of the film winding chamber, the friction members



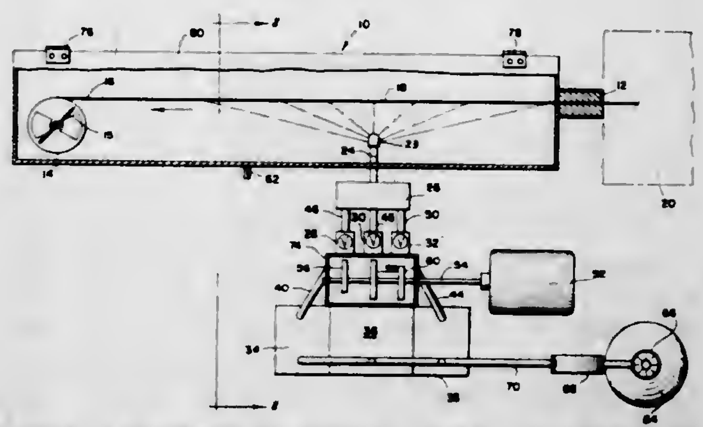
being moved radially by the build up of the film layers within the chamber.

3,377,937
CAMERA SHUTTERS
Gerd Kiper, Unterhaching, Munich, Germany, assignor to Agfa Aktiengesellschaft, Leverkusen, Germany
Continuation of application Ser. No. 434,273, Feb. 23, 1965. This application June 19, 1967, Ser. No. 647,253
Claims priority, application Germany, Mar. 21, 1964, A 45,562
11 Claims. (Cl. 95—60)



A shutter with two blades each pivotable with reference to a stationary support and each pivotably connected to a separate ring. The rings rotate in unison in one direction to cock the shutter but one thereof can move to uncocked position ahead of the other or trailing ring whereby the shutter opens. The exposure time is determined by a retard mechanism which cooperates with the trailing ring.

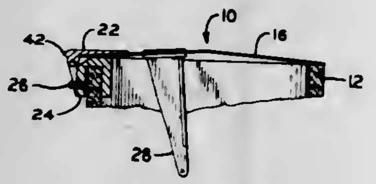
3,377,938
SHORT RUN FILM DEVELOPER SYSTEM
Jerome A. Patterson, 80 Matthews St., Binghamton, N.Y. 13905
Filed Dec. 9, 1966, Ser. No. 600,616
1 Claim. (Cl. 95—89)



A short run developer system of the type usable by the low volume, small business microfilm photographer.

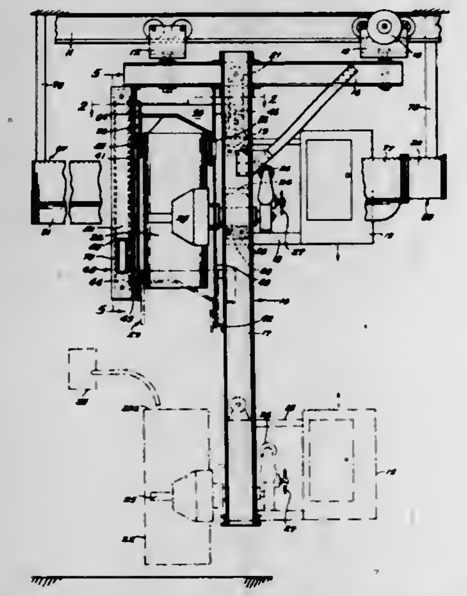
The developer system is contained within a sealed light-tight developer chamber having a film take-up device and a fluid applicator including a spray nozzle and a mixing manifold for sequentially applying fixing, washing, and developing solutions to the film being developed. The various treating solutions are contained in storage tanks that communicates with the mixing manifold via a series of independent valves which are sequentially opened and closed by a similar series of cams.

3,377,939
PIVOTABLE CHIMNEY CAP HAVING INTERIORLY OPERATING MEANS
Derward E. Sailors, R.R. 1, Wabash, Ind. 46992
Filed Apr. 3, 1967, Ser. No. 627,801
4 Claims. (Cl. 98—59)



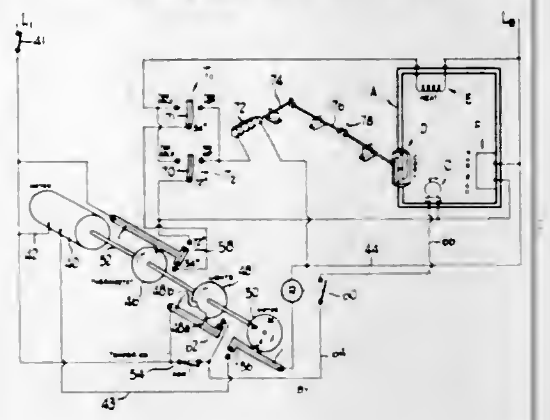
The flue cover includes a lid having a pair of plates which pivot on an axle. The axle is mounted on an edge of the chimney flue liner by a pair of U-shaped clamps. One or more torsion springs are positioned about the axle to urge the cover to an open position. A bracket is fastened to the interior face of the lid. A cable or wire having a tension spring in its length extends downward from the bracket through the chimney to a fireplace or other accessible location. The cable is attached to a convenient bracket so that the tension spring holds the cover firmly closed. When the cover is to be opened, the cable is released and the torsion springs open the cover.

3,377,940
FUME CONTROL APPARATUS FOR HOT METAL LADLE CARRIERS
Robert B. Werner and Wilbur B. Harmon, Cincinnati, Ohio, assignors to The Kirk & Blum Manufacturing Co., Cincinnati, Ohio, a corporation of Ohio
Filed Jan. 26, 1967, Ser. No. 611,954
7 Claims. (Cl. 98—115)



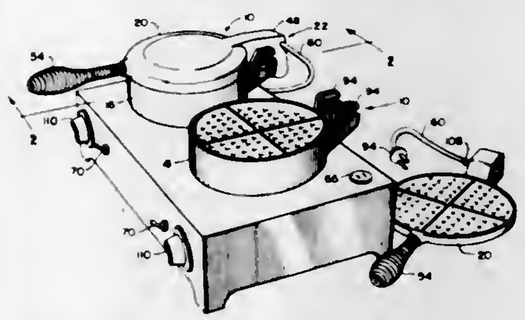
Foundry apparatus for entraining and disposing of noxious fumes emitted from the mouths of hot metal carrier ladles at a charging station and while the carrier ladles are in transit toward a metal casting station. Fume hood elevating means are associated with the vertical movement of the carrier ladle to maintain the hood in entraining proximity to the mouth of the ladle.

3,377,941
REFRIGERATOR WITH MEAT AGING AND TENDERIZING COMPARTMENT
Boubene M. Jaremus, Barrington, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Oct. 14, 1965, Ser. No. 495,793
6 Claims. (Cl. 99—271)



A meat aging and tenderizing compartment suitable for use in a conventional refrigerator which includes a programmed temperature control system. The temperature is controlled, in part, by varying the conduction of heat through the wall of the compartment. A movable element forms a conductive bridge between the inside and the outside of the compartment in one position and an insulating barrier in a second position. Suitable humidity controls and an ultra-violet sterilizing element are also provided.

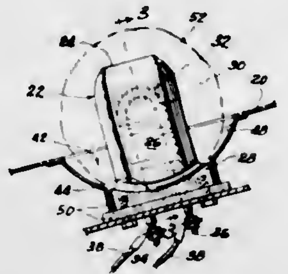
3,377,942
WAFFLE IRON
Fred S. Carbon, Buchanan, Mich. 49107
Filed May 24, 1965, Ser. No. 458,084
10 Claims. (Cl. 99—376)



An electrically heated waffle iron in which the upper griddle is hingedly connected to the lower griddle by a pin and slot construction such that it is free to move vertically with expansion of the waffle batter so that its weight remains constant and uniformly distributed across the baking waffle and may also be readily separated from the lower griddle by simply raising and twisting it, the two griddles being of aluminum metal and each having a uniform thickness and density of the order of three to five pounds for cooking surfaces of seven inch diameter, the mass of the griddles being such that excellent tasting waffles can be baked therebetween while the two griddles are held at a temperature below 350° F. and without burning or sticking to the cooking surfaces.

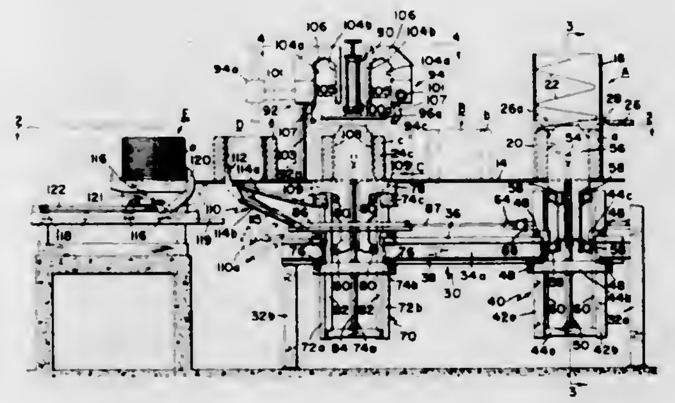
3,377,943
DEVICE FOR TOASTING THE INTERIOR OF BUNS
Frank Alleyne Martin, Park Ridge, Ill.
(8 S. Michigan Ave., Chicago, Ill. 60603)
Filed Sept. 22, 1966, Ser. No. 581,331
1 Claim. (Cl. 99—419)

The invention is addressed to an appliance in the form of a toaster for heating the interior surfaces of buns in which the appliance is formed of one or more metal spikes on which the buns are impaled and a housing having a top wall formed with a recess extending downwardly from the surfaces thereof into which the base portion of the spike extends so as to provide an annular space all around the spike between the base portion of the spike and the recessed portion of the housing to enclose the outer walls



of the bun when impaled onto the spike and in which the well is formed to a depth less than one-half the height of the spike so that the upper end portion of the spike will extend beyond the top wall of the housing with the base of the spike being insulated from the well portion of the housing to prevent the transfer of heat from the spike to the housing.

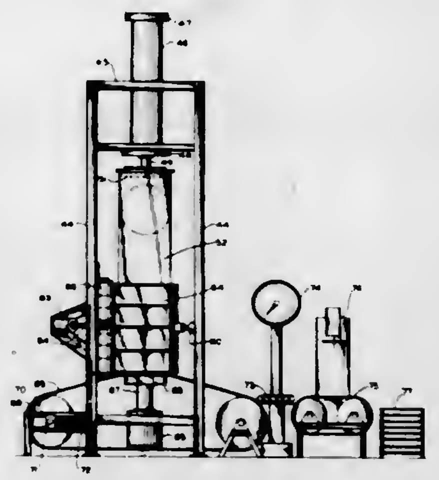
3,377,944
COIL HANDLING APPARATUS
William J. Hill, Holden, Mass., assignor to Morgan Construction Company, Worcester, Mass., a corporation of Massachusetts
Filed June 22, 1966, Ser. No. 559,603
14 Claims. (Cl. 100—7)



An apparatus for transferring coils from a first coil forming station to a second laterally adjacent compacting and tying station. The apparatus includes a support surface extending between both stations. The support surface is provided with an elongated slot extending along substantially its entire length. Carriages movable in both forward and rearward directions parallel to said slot are positioned beneath the support surface, each carriage carrying a mandrel which is adjustable vertically through said slot from a lowered inoperative position beneath the support surface to a raised operative position extending axially through a coil on the support surface.

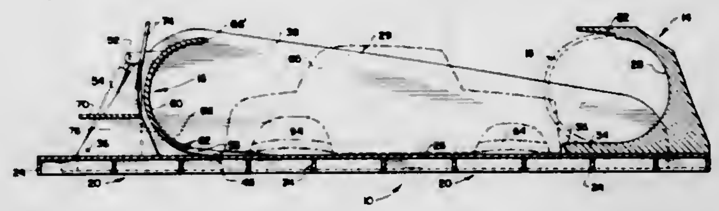
3,377,945
APPARATUS FOR DENSIFYING POWDERED SOLIDS
Walter M. Davis, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Nov. 23, 1965, Ser. No. 509,282
7 Claims. (Cl. 100—90)

The invention relates to an apparatus for materially increasing the density of finely divided or powdered silica aerogels and other similar aerogels which contain relatively large quantities of occluded or included air and/



or other gases as a result of an antecedent pulverizing or grinding operation.

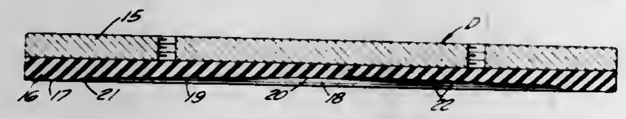
3,377,946
SCRAP METAL PRESS
Thomas N. Garland, Denver, Colo., assignor of five percent to Marion Higgenbothom, Manitou Springs, Colo., ten percent to E. A. Christensen, Lubbock, Tex., one percent to Robert E. Wallace, Newport News, Va., one percent to Whitney B. Siebert, Hartford, Conn., and an undivided twenty percent to Edward L. Spangler and Max L. Wymore, Denver, Colo., and Edward L. Brown, Jr., Wichita, Kans.
Filed Mar. 7, 1966, Ser. No. 532,314
8 Claims. (Cl. 100—98)



The present invention involves an automobile press which separates the frame from the body and at the same time compresses the body into a dense mass. It comprises a base member with guides positioned along the side thereof. A compressing member is mounted at one end of the base while another compressing member is slidably mounted in the guides. One of the compressing members has an opening therein tor eceive and pass an automobile frame as the body is compacted. A power means is incorporated into the invention to force said compressing members together such that the automobile body is compressed therebetween.

3,377,947
FRUIT JUICE EXTRACTION APPARATUS AND DISK THEREFOR
Donn J. Rickard, Glendora, Calif., assignor to Brown Citrus Machinery Corporation, Whittier, Calif., a corporation of California
Filed Apr. 19, 1966, Ser. No. 543,660
19 Claims. (Cl. 100—211)

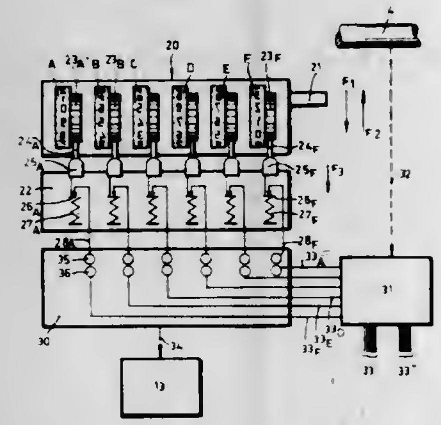
Fruit juice extraction apparatus in which a non-rotatable grid plate and rotary disk are adapted to be moved towards and away from each other and to extract juice from a fruit placed between the grid and disk, the disk comprising a resilient facing formed with a peripheral portion having a radial planar surface movable into engagement with or close proximity to the grid, the peripheral portion defining a central depression having a generally concave surface extending inwardly from the peripheral portion where it merges with a bevelled wall.



The center of the depression in one embodiment is flat, while in another embodiment has a resilient protuberance. The depression surface is provided with radial grooves extending from a central portion of the disk to the bevelled wall at the peripheral portion.

3,377,948
APPARATUS FOR CHECKING NUMBERING DURING PRINTING OF PAPER CURRENCY

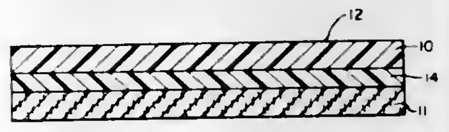
Gualtiero Glori, 4 Rue de la Paix, 1000 Lausanne, Switzerland
Filed Dec. 13, 1966, Ser. No. 601,487
Claims priority, application Germany, Feb. 12, 1966, G 46,019
12 Claims. (Cl. 101—76)



Apparatus for checking numbering of paper currency during printing in which there is provided a numbering mechanism the numbering wheels of which are driven stepwise after each impression of a number, the advance of the numbering wheels of each numbering unit being detected during each cycle of impression, the correct positioning of the numbering wheels of each numbering unit being detected after the advance of the numbering wheels before the following impression phase by means of a detecting system together with means for stopping the printing process after detection of an error before the following paper to be printed receives an incorrect number or one which is printed in the wrong place. To each numbering wheel of the numbering unit are assigned detectors capable of distinguishing between a correct position before impression and an intermediate position of the numbering wheel corresponding thereto and which delivers an actual signal during an advance of the numbering wheel, and an electronic numbering storage system operated at each turn of the cylinder of the numbering device after a phase of impression and before the advance of the first numbering unit and at the beginning of the next impression phase, there being a comparing unit in which real signals of the detector are first compared with an ideal signal representing a number stored in the store of numbers and in which the state of the detectors corresponding to a correct position of the numbering wheels in the new position of impression are then checked as well as a relay controlled by the comparing unit in the case of the detection of a flaw in order to interrupt the printing process.

3,377,949
PRINTING PLATES

Roy W. Prince, Lexington, Mass., assignor to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut
Filed Mar. 28, 1966, Ser. No. 537,774
2 Claims. (Cl. 101—379)



1. A printing plate comprising in sequence a polymeric printing layer, a barrier layer and a volume-compressible, resilient member adhered to said layer, said member comprising a porous, fibrous web impregnated with an elastomeric material wherein said member has a firmness such that a pressure of at least about 10 pounds per square inch much be exerted on the material to effect an initial compression of 2 mils, and a residual porosity at 4 mils compression of at least about 37%, said barrier layer adapted to prevent said printing layer from striking into said member.

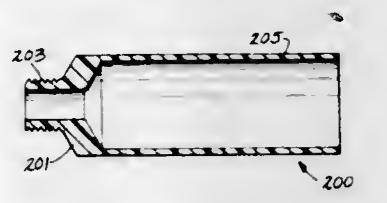
3,377,950
MATRIX MATERIAL FOR MOLDING DUPLICATE PRINTING PLATES

Vincent Squitieri, Billerica, and Dick J. Wollmar, South Lincoln, Mass., assignors to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut
No Drawing. Continuation-in-part of application Ser. No. 330,659, Dec. 16, 1963. This application Apr. 6, 1965, Ser. No. 446,119
2 Claims. (Cl. 101—401.2)

2. A laminated matrix for the production of duplicate printing plates comprising a fibrous base impregnated with a thermosetting resin and a surface coating on one side of said base comprising a blend of at least two polymers, at least one polymer being a cross-linked polyethylene polymer and at least one polymer being a cross-linked acrylate polymer; said matrix bearing an intaglio reproduction of the face of a printing form.

3,377,951
PLASTIC CARTRIDGE CASE

Wesley S. Larson, Hazardville, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Oct. 13, 1961, Ser. No. 144,919
4 Claims. (Cl. 102—43)



1. A one piece plastic cartridge casing comprising a relatively thin tubular body, a relatively thick base formed integrally in one-piece with one end of said tubular body, said tubular body having a side wall of substantially uniform thickness throughout a major portion of its length, said relatively thick base being formed of unoriented plastic and said side wall being formed of oriented plastic having preferential orientation of its molecular structure at least longitudinally of said body, said sidewall having a longitudinal tensile strength of at least three times the strength of unoriented plastic.

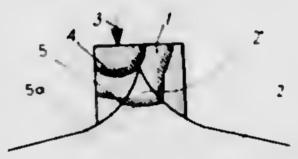
3,377,952
PROBE EJECTING ROCKET MOTOR

Sydney R. Crockett, 1926 Almanor St., Oxnard, Calif. 93030
Filed Oct. 19, 1966, Ser. No. 588,668
13 Claims. (Cl. 102—49.4)

A probe or projectile is carried aloft by a rocket vehicle and is expelled from the vehicle by the rocket tail-off gases. The projectile expulsion is initiated by relative movement between the projectile and rocket as a result of higher air drag on the latter. Such movement opens a valve, venting rocket tail-off pressure to the base of the projectile to expel the latter. A stabilizing fin assembly is picked up by the tail end of the projectile as it emerges from the rocket.

3,377,953
DETONATOR

Franz Rudolf Thomanek, Sandizell 38¼, Landkreis Schrobenhausen, Upper Bavaria, Germany
Filed July 13, 1966, Ser. No. 564,871
Claims priority, application Germany, Aug. 12, 1965, B 83,239
7 Claims. (Cl. 102—70)

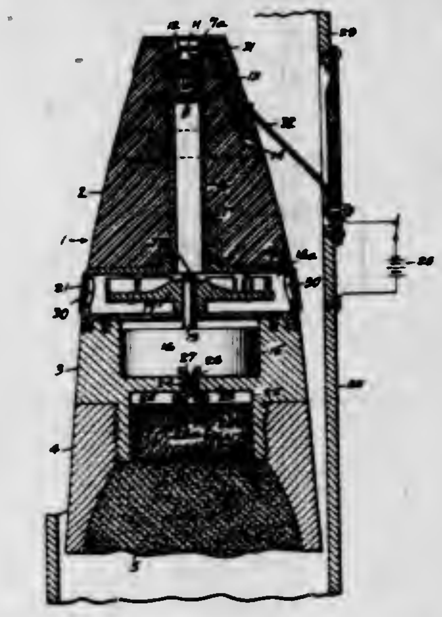


A detonator is constructed to have a point initiation of the detonation and is arranged to provide for subsequent detonation waves which extend axially symmetrically in the explosive charge. For this purpose a conical tip of a fast acting explosive charge is arranged in a slow acting explosive charge and the means for initiating a detonation is located on a point of the slow acting explosive charge at a location close to the axis of the fast acting explosive charge.

3,377,954
EXPLOSIVE-STARTED GENERATOR

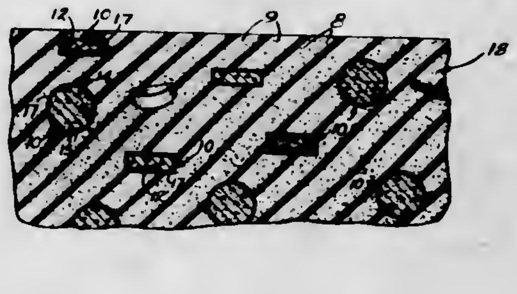
Jacob Rabinow, Takoma Park, Md., assignor to the United States of America as represented by the Secretary of the Army
Filed Jan. 31, 1952, Ser. No. 269,321
2 Claims. (Cl. 102—70.2)

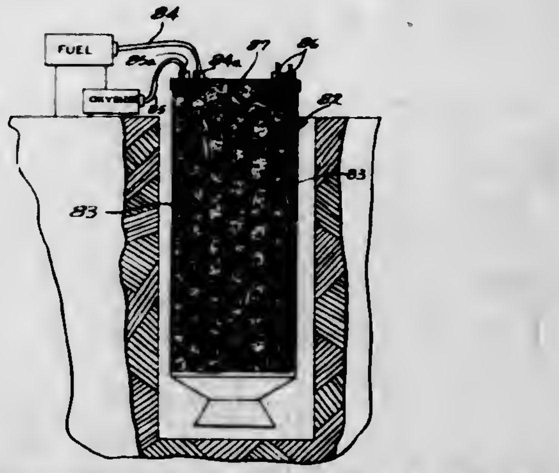
1. In a turbo-generator powered fuse for explosive missiles, means for causing rapid initial rotation of the turbine of said turbo-generator, said means comprising a nonconductive ogive, a longitudinal bore in said ogive, said bore open to the air at its forward end and to a turbogenerator housing at its rearward end, a metallic duct in said bore, an annular metallic ring embedded in the peripheral surface of said ogive, an electric detonator and high pressure gas producing means positioned in the forward end of said duct, one lead of the detonator being affixed to said duct, the other lead of said detonator being affixed to said annular ring, said ring upon firing of the projectile making contact with the electrical contact means on a launcher to cause actuation of the detonator, the actuation of said detonator firing the high pressure gas producing means whereupon the high pressure gas flows through said duct to cause initial rotation of said turbine.



3,377,955
COATED TABLETS AND OTHER FUEL CORES OF EXOTIC REACTIVE FUELS AND METHOD OF MAKING SAME

James E. Hodgson, Newport Beach, Calif., assignor to The Solid Fuels Corporation, Cleveland, Ohio, a corporation of Ohio
Continuation-in-part of applications Ser. No. 850,387, Nov. 2, 1959, and Ser. No. 862,692, Dec. 29, 1959. This application June 7, 1961, Ser. No. 115,504
15 Claims. (Cl. 102—102)





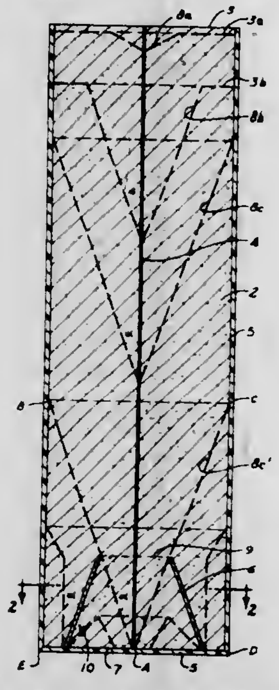
1. A pharmaceutical-size tablet having a volume of about $\frac{1}{1190}$ to 8 cu. in. comprising a reactive high energy releasing fuel core of a foamed boron matrix impregnated with lithium hydride, and an outer continuous coating jacketing said core, the coating being less reactive with oxidizing materials than the core and having a thickness of about $\frac{1}{10}$ mil to 10 mils.

10. A propellant charge comprising a binder, an oxidizer, and a plurality of thin walled hollow elongated organic plastic tubes interwoven in the form of a mesh from about 50 tubes per inch to one tube every 2 inches, said plastic tubes being filled with a high energy delivering

fuel core and the tubes so dispersed in the binder with the oxidizer so as to reinforce the propellant charge, the core comprising about 70 to 90 parts by weight of aluminum particles, 5 to 15 parts by weight of lithium hydride particles and 10 to 25 parts by weight of a lithium binder containing said aluminum and lithium hydride particles dispersed therein and encased therearound, the thickness of the walls of said plastic tube being about ½ to 6 mils.

3,377,956
GAS-GENERATING GRAIN

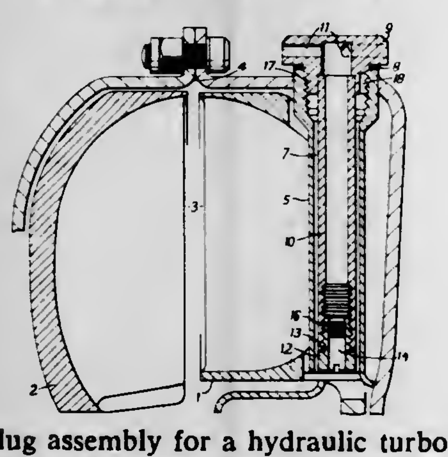
Gerard Van Deene Emerson, Fairfax, Va., assignor to The Susquehanna Corporation, a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 502,021
11 Claims. (Cl. 102—102)



In a propellant grain having a single longitudinally embedded metal heat conductor, a plurality of second heat conductors are embedded in the head end so that they subscribe a truncated cone-shaped envelope converging toward the ignition end of the grain. This arrangement steers the flame front during the last portion of buring so that the buring area is kept at a maximum for as long as possible, and the maximum amount of propellant is burned.

3,377,957
FUSIBLE PLUG ASSEMBLIES FOR HYDRAULIC TURBO-COUPLINGS

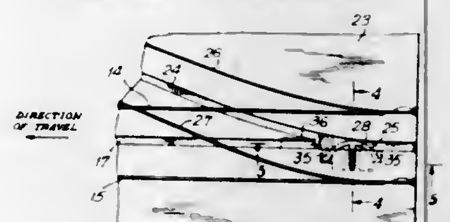
John Bilton, Hampton, England, assignor to Fluidrive Engineering Company Limited, Isleworth, Middlesex, England
Filed Aug. 31, 1966, Ser. No. 576,470
Claims priority, application Great Britain, Sept. 3, 1965, 37,797/65
4 Claims. (Cl. 103—115)



A fusible plug assembly for a hydraulic turbo-coupling is formed with a discharge passage which is normally closed by a fusible plug and has its inlet in communication with the interior of the working circuit of the coupling. However, the discharge passage terminates in a plurality of discharge openings which extend transversely of the passage and are of sufficiently small cross section to prevent the fusible plug from being ejected therethrough when the fusible plug is released in substantially unmelted form.

3,377,958
LANE CHANGE FOR RACEWAY TOY

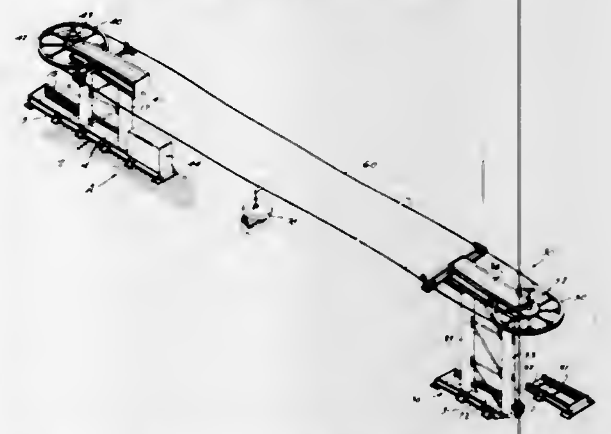
Glenn R. Bax and John L. Dohanic, Jr., Girard, Pa., assignors to Louis Marx & Co., Inc., New York, N.Y., a corporation of New York
Filed June 16, 1965, Ser. No. 464,417
4 Claims. (Cl. 104—60)



A lane change slot arrangement in a trackway for a slot racing toy in which the path to be followed by the vehicle depends on the speed of the vehicle with deflection elements in the trackway slot for controlling the direction of travel of the vehicle.

3,377,959
AERIAL CABLE ROUNDABOUT

Alan B. Hawes, 8504 Seaview Ave., Wildwood Crest, N.J. 08260
Filed Apr. 1, 1966, Ser. No. 539,537
5 Claims. (Cl. 104—117)

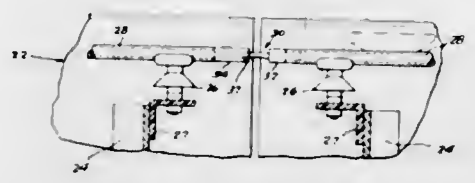


An aerial cable roundabout having first and second towers longitudinally spaced apart and mounting bull wheels at their tops for rotation about vertical axes, an endless cable trained about said wheels, a plurality of passenger-holding buggies suspended in spaced relation from said cable, a support mounting the base of said first tower for longitudinal movement and a double-acting, fluid pressure mechanism connecting the support to said first tower and selectively operable to move the first tower toward and away from the second tower and thereby loosen and tighten the tension of said cable.

3,377,960
ELECTRICAL CONNECTOR AND EXPANSION JOINT

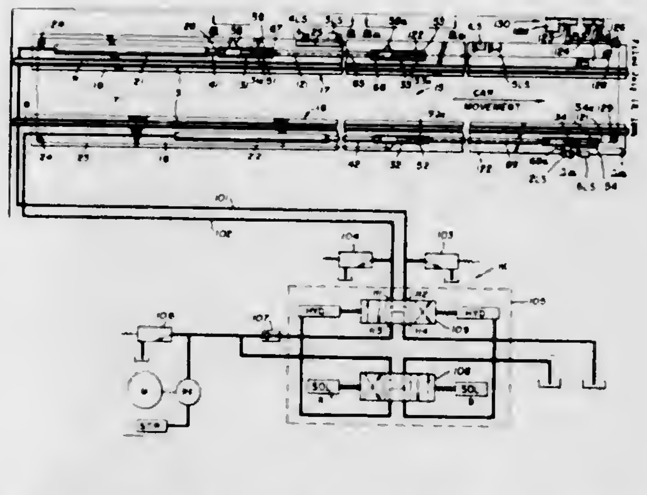
Alan B. Hawes, 8504 Seaview Ave., Wildwood Crest, N.J. 08260
Filed Apr. 22, 1966, Ser No. 544,560
4 Claims. (Cl. 104—118)

1. The combination with a monorail consisting of sections arranged in end-to-end relation, each section having opposed spaced vertical surfaces, laterally-disposed spacer insulated plates interposed in the space between and secured to said surfaces, insulators arranged in longitudinal spaced relation disposed within the space between the vertical surfaces of each section and carried by said spacer plates, a tubular conductor extending longitudinally of each section and supported in said insulators and having its ends inwardly of and adjacent the ends of said sections, of an electrical connector and expansion joint embodying a first plug and a second plug arranged in confronting end-to-end spaced relation with respect to said first plug, and means connecting said first and second plugs together for projectile and contractile movement relative to each other, said joint spanning the space between adjacent conductors and having said first and second plugs releasably-engaged in the ends of the adjacent conductors.



3,377,961
FLUID-ACTUATED CAR MOVER

Cecil G. Hunt, Bowerston, Ohio, assignor to The Nolan Company, Bowerston, Ohio, a corporation of Ohio
Filed July 12, 1966, Ser. No. 564,592
25 Claims. (Cl. 104—162)

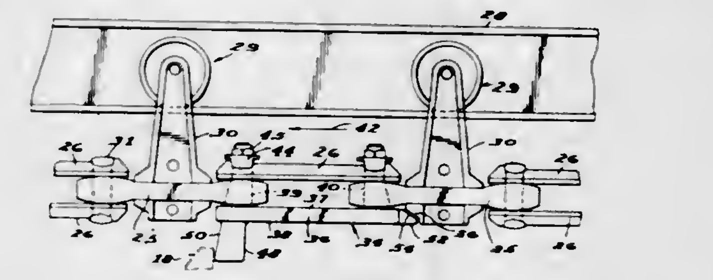


1. Car-moving apparatus comprising a reciprocable fluid-powered unit, a car-engaging and advancing means connected to said unit and adapted to be reciprocated thereby through a predetermined maximum stroke, control means for actuating said fluid-powered unit to produce said stroke, said control means including stroke-selecting means actuated automatically during movement of said car-engaging and advancing means for varying said stroke from its maximum in accordance with variations in cars to be advanced by said car-engaging and advancing means.

3,377,962
SIDE LINK AND PUSHER FOR CONVEYOR CHAINS

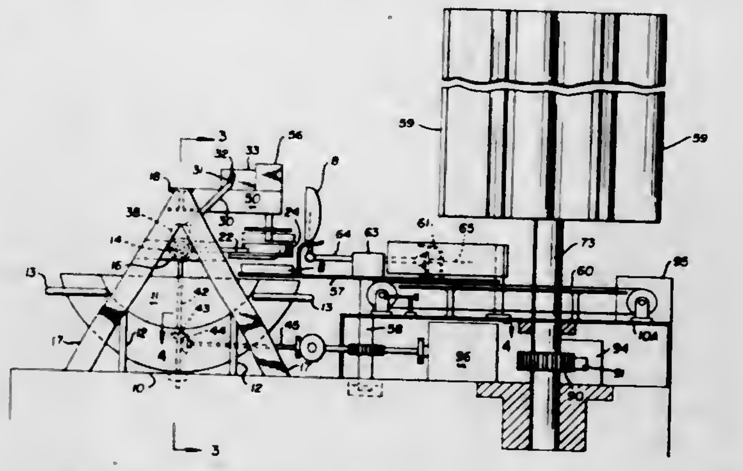
Clarence A. Dehne, Orchard Lake, Mich., assignor to Jervis B. Webb Company, a corporation of Michigan
Filed Dec. 23, 1965, Ser. No. 515,885
5 Claims. (Cl. 104—172)

A side bar and pusher for a carrier-propelling conveyor chain of the type formed by pin-connected alternate center links and pairs of side bars suspended from a track by trolleys each having a depending body portion secured to a selected center link. The side bar and pusher has an integrally formed connecting pin and a pusher member projecting oppositely from the side bar in substantially aligned relation at the forward end thereof, the pusher having a forwardly inclined driving face and the side bar may include a rearward projection adapted to overlap and engage the body portion of a trolley secured to the adjacent center link of the chain.



3,377,963
SANDWICH-MAKING MACHINE

Curtis A. Anderson, San Clemente, Calif., and Charles W. Syak, Girard, Ohio, assignors to Trumbull Development Corporation, Girard, Ohio, a corporation of Ohio
Filed July 21, 1966, Ser. No. 566,905
8 Claims. (Cl. 107—1)

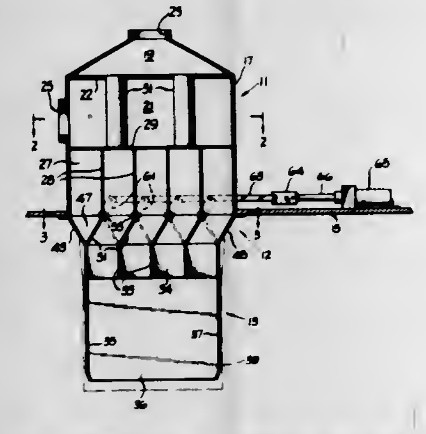


1. A sandwich making machine having at least one heated receptacle for sandwich filling in flake or particle form, means for stirring the sandwich filling in said receptacle and a device swingable in an arc based above said receptacle for collecting a portion of said sandwich filling and moving the same out of said receptacle, means movable into and out of said device for compressing said sandwich filling therein and expelling it therefrom, a rotary device for receiving a bun, means on said rotary device for engaging and elevating a portion of said bun relative to another portion, said rotary device positioned so as to move said bun beneath said compressing and expelling means for receiving said sandwich filling and subsequently removing said sandwich therefrom.

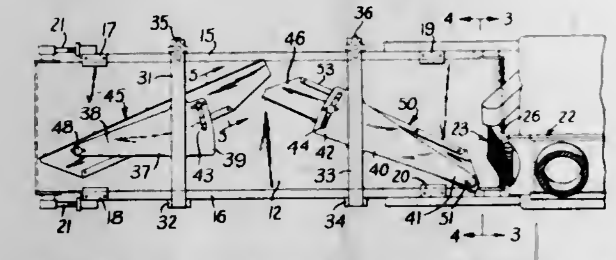
3,377,964
APPARATUS FOR FORMING AN EDIBLE PRODUCT

Kenneth Bell, Marengo, Joseph J. Porada, Norridge, and Fred J. Kott, Park Ridge, Ill., assignors to National Dairy Products Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 1, 1965, Ser. No. 484,223
10 Claims. (Cl. 107—1)

Apparatus for forming an edible product of different materials with similar sections of the materials arranged in contacting layers and with the sections in each layer arranged in parallel contacting rows, each section in each row in each layer contacting at least one section of a different material in the same row, at least one section of different material in at least one adjacent row, and at least one section of different material in at least one adjacent layer.

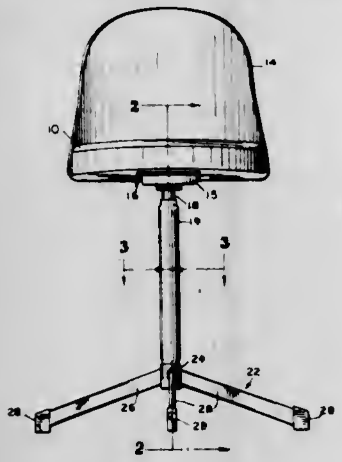


3,377,965
ROUNDING APPARATUS FOR DOUGH
Harold Thomas Atwood, Chicago, Ill.
(14152 Irving Ave., Dolton, Ill. 60419)
Filed Mar. 23, 1966, Ser. No. 536,850
2 Claims. (Cl. 107—9)



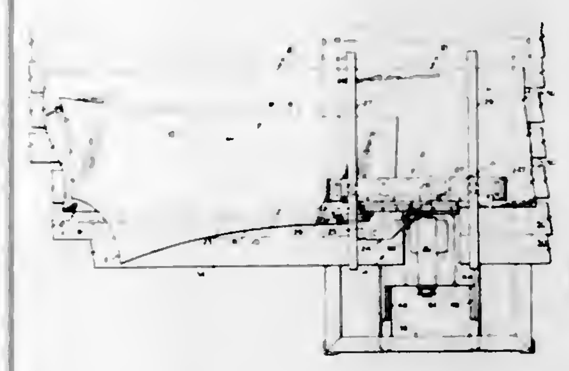
An endless belt conveyor is provided with a pair of trough-like members each mounted on a bar extending transversely above the belt. The trough-like members are angularly adjustable relative to the longitudinal axis of the belt and have a cushioning strip engageable with units of dough placed on the belt and movable therewith. The trough-like members impede the longitudinal travel of the dough units, round them into ball shape and give them uniform texture. The angularity of the trough-like members relative to the longitudinal axis of the belt controls the length of time each unit of dough is subjected to the rolling action.

3,377,966
CHAIR
Donald L. Bates and Jerry Neal, Columbus, Ind., assignors to Hamilton Cosco, Inc., Columbus, Ind., a corporation of Indiana
Filed Sept. 22, 1966, Ser. No. 581,387
9 Claims. (Cl. 108—141)



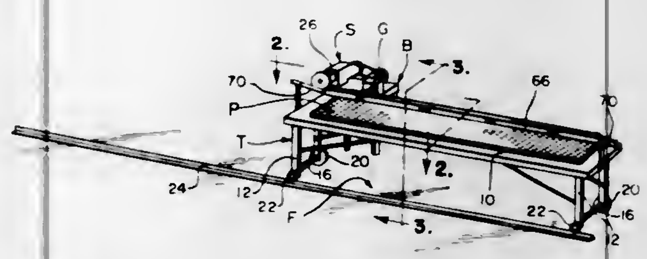
A vertically adjustable chair having a seat carried on an inner support vertically slidable in an outer support upon which a ground engageable base is mounted. Angularly spaced slots provided with vertically spaced abutments are provided in the inner support and a pair of openings are provided in the outer support. A pair of locking members are carried in the inner support and are releasably engageable with the vertically spaced abutments in the inner support and the openings in the outer support for releasably locking the inner support and thus the seat in the desired position of adjustment.

3,377,967
METHOD AND APPARATUS FOR AUTOMATICALLY SEWING ALONG THE CONTOURED EDGE OF A FABRIC WORKPIECE
Charles Szentkuti, Ridgefield, and Douglas G. Nolles, New Canaan, Conn., assignors, by mesne assignments, to Ivanhoe Research Corporation, a corporation of Delaware
Filed June 2, 1966, Ser. No. 554,884
12 Claims. (Cl. 112—2)



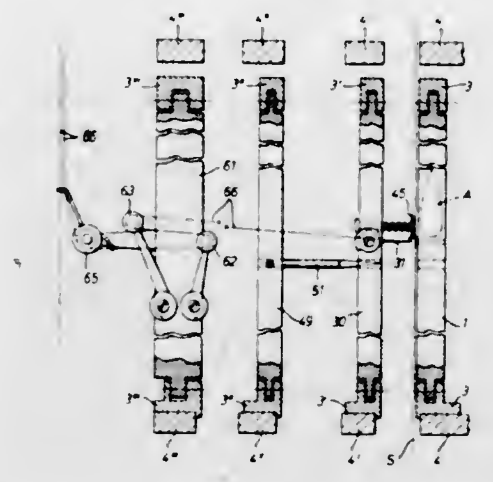
6. A system for stitching the contoured edge of a fabric workpiece comprising:
(a) a work supporting surface having a conveyor belt running along near the portion of the surface thereof against which the main body of said fabric workpiece is to be conveyed,
(b) a means for restraining the main body of said workpiece as it is conveyed,
(c) edge control means associated with said table surface and near to an edge of said belt including
(d) a fixed edge guiding member at a predetermined position relative to said belt slidingly engaging said edge and camming it inwardly, and
(e) an edge stitching machine positioned adjacent said edge control means to stitch along said contoured edge as it is being moved past said edge control means.

3,377,968
MATERIAL HOLDING AND GUIDE ATTACHMENT FOR SEWING MACHINES
Wayne G. Story, 790 W. Chicago St., Algonquin, Ill. 60102
Filed Mar. 17, 1967, Ser. No. 623,891
11 Claims. (Cl. 112—2)



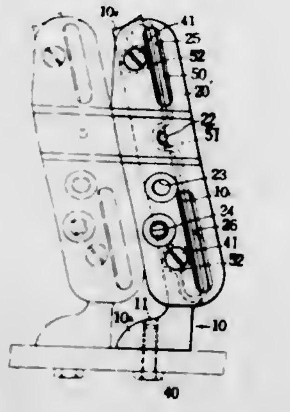
An arrangement for sewing a pair of elongated panels of material at corresponding side edges thereof along a straight line of stitching, including: a sewing machine, a table movable linearly past the sewing machine, a shelf disposed adjacent the table, means for aligning the panels with each other with edge portions overlying the shelf in line with the sewing machine, means for clamping the panels in position on the table, means for driving the table toward the sewing machine, and means for guiding said panel edge portions into the sewing machine.

3,377,969
EMBROIDERY MACHINE
Rudolf Reich, 6 An der Ringstrasse, Neuwied, Germany
Filed Oct. 21, 1965, Ser. No. 499,411
Claims priority, application Germany, Oct. 23, 1964, R 39,081
13 Claims. (Cl. 112—83)



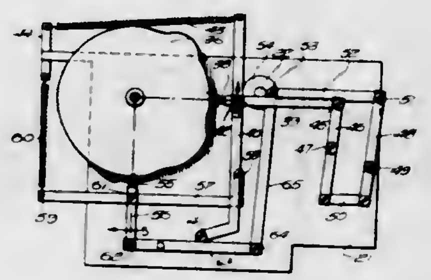
The disclosure deals with an embroidery machine for simultaneously embroidering a tentered fabric over its entire width and length with a design pattern arranged in laterally spaced longitudinal rows, and the machine provides to this end as many frames as there are different types of embroidering tools, with the frames extending in spaced planes parallel to each other and to the tentered fabric, and the different types of embroidering tools being mounted on different sets of base bars, respectively, of which the base bars of each set are, in turn, mounted in one frame and extend parallel to the pattern rows.

3,377,970
SHUTTLE BOX FOR EMBROIDERED LACE MACHINES
Tsuneji Mori, Ke–35 Takamatsu, Kahoku, Ishikawa-ken, Japan
Filed May 25, 1966, Ser. No. 552,910
1 Claim. (Cl. 112—95)



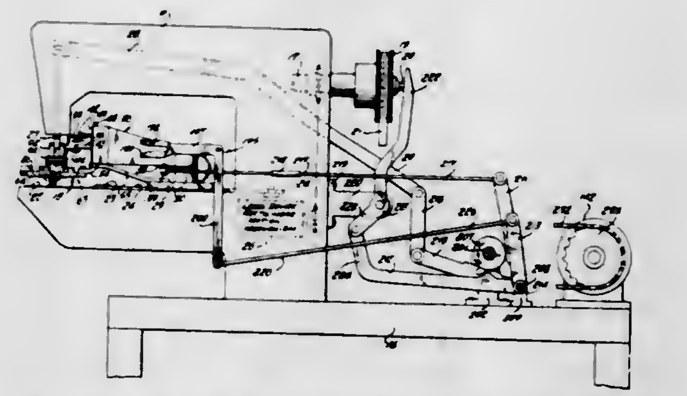
A shuttle box for embroidered lace machines, comprising a shuttle box body having an inclined upper face, a front side plate on one side of said shuttle box body and extending along the shuttle box body and having two slots therein, one near the upper end of the inclined surface and one near the lower end of the inclined surface, said slots having the upper edge above the level of the inclined surface and having the lower edge no higher than the level of the inclined surface, and a wire guide bar on the other side of said shuttle box having the ends attached to the shuttle box body and having substantially all the portion intermediate the ends at a level above the level of the inclined surface, there being a clearance between the wire and the said inclined surface.

3,377,971
AUTOMATIC EMBROIDERY MACHINE
Harry Firestein, Barrington, R.I., and Karl Tyas, Ocean Grove, and Edward Freeman, Fall River, Mass., assignors, by mesne assignments, to Louis Hand Incorporated, a corporation of Massachusetts
Filed Nov. 3, 1964, Ser. No. 408,557
4 Claims. (Cl. 112—102)



1. In an embroidery machine, a sewing mechanism having a swivel sewing head, means for driving said sewing mechanism, means for swiveling said head, a rotatable shaft for operating said swivel means, a collar on said rotatable shaft, a pair of spaced, axially aligned, disc cams mounted on a single drive shaft for embroidering a predetermined design, each of said cams having a pointed follower arm resiliently urged against the cam edge, said follower arms being at 90° to each other, each of said follower arms being pivotally connected to a lever arrangement, said lever arrangements both terminating at the same pivot point on said collar, said lever arrangements extending to said common pivot point at a 90° angle to each other, and means for rotating said cam drive shaft during the operation of said sewing mechanism drive means.

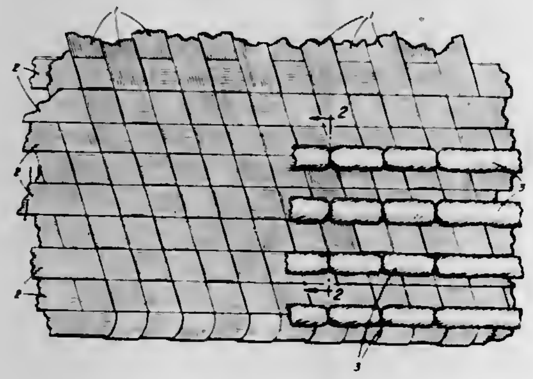
3,377,972
LABEL SEWER
Saul M. Cohen, 4 Marquette Court, Paramus, N.J., and Ernest Heuman, 39 Minami-Kyuhojimachi, 4-chome-Higashi-ku, Osaka, Japan
Filed Mar. 22, 1965, Ser. No. 441,426
20 Claims. (Cl. 112—104)



A label sewing machine includes a frame member having an opening with which a pad registers to define a rectangular passage. The pad is supported by the frame by retractable bars extending across the passage. The frame and pad are traversed with the reciprocation of the needle to traverse the needle along the passage, cam means being provided for successively retracting the bars with the approach to the needle and releasing the bars following the passage of the needle. A swinging arm transfers a label during each label sewing cycle from a stack to a position underlying the pad.

3,377,973
TUFTING METHOD AND ARTICLE

Joseph C. Whitesel and Henry D. Dawbarn, Waynesboro, Va., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
Filed July 7, 1965, Ser. No. 470,013
7 Claims. (Cl. 112—266)



A woven primary tufted carpet backing with the yarns comprised of polyolefin, and the warp yarn closely spaced and the warp and fill yarns woven the axes of one of them at an angle of from about 3 to 10° from a right angle to the axes of the other, and with rows of tufts engaged through said primary backing and extending diagonally across more than one of the warp or fill yarns and perpendicularly to the other warp or fill yarns, all as further described hereafter.

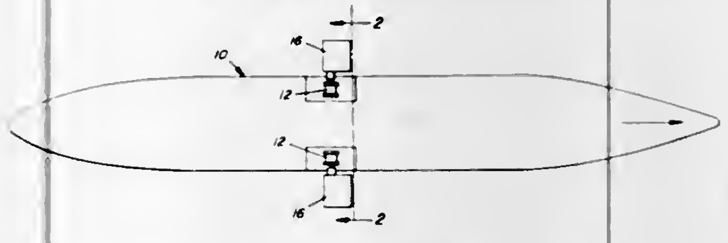
3,377,974
COMPARTMENTED BUOYANT MATERIALS

Michael C. Jaskowski, % Mellon Institute, 4400 5th Ave., Pittsburgh, Pa. 15213
Filed Aug. 13, 1964, Ser. No. 389,414
10 Claims. (Cl. 112—418)

1. A buoyant fibrous material to be used in a vertical configuration and being buoyant in the unenclosed condition comprising a plurality of side-by-side batts of fiber one above another with their marginal edges overlapping, a waterproof film between and separating the overlapping edges, and means securing said marginal edges and said film together.

3,377,975
PASSIVE FIN SHIP STABILIZER

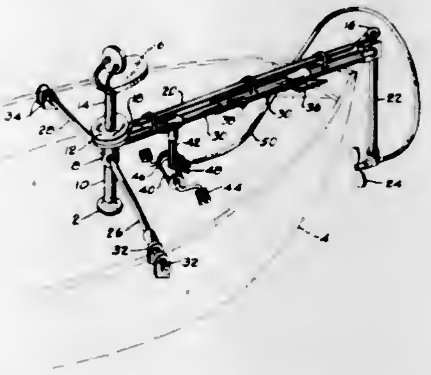
Sheldon B. Field, Floral Park, N.Y., assignor to John J. McMullen Associates, Inc., New York, N.Y., a corporation of New York
Filed Mar. 31, 1966, Ser. No. 539,209
1 Claim. (Cl. 114—126)



A passive fin roll stabilization system for ships including a pair of fins transversely aligned generally at the pitching axis of the ship and on opposite sides of the hull beneath the water line. Each fin is rotatably mounted to the hull side by an axis defining hydraulic hinge which biases the fin to a neutral position. Each fin has a surface area configuration such that the fin assumes a positive angle of attack to produce stabilizing lift when the ship is moving forward and rolling such that the fin axis is lowering and a negative angle of attack to produce a stabilizing downward force when the ship is moving forward and rolling such that the axis is rising. Stops are provided to limit the fin angle of attack in the positive and negative directions.

3,377,976
PROPELLING ATTACHMENT FOR A BOAT

Kenneth Lamar Gustine, 2601 SW. 13th Ave., Fort Lauderdale, Fla. 33315
Filed May 27, 1966, Ser. No. 559,662
5 Claims. (Cl. 115—25)



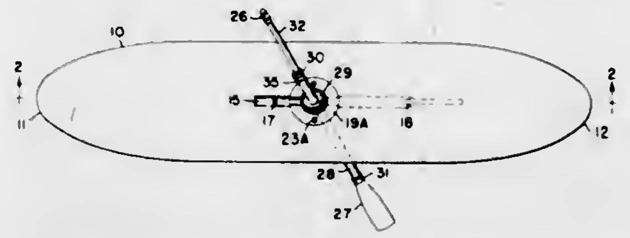
A propelling attachment for a boat comprising a T-shaped stabilizer for connecting the propelling attachment to the gunnels and the bow of the boat, a propeller connected to a support member, a steering seat facing the bow of the boat for rotating the propeller support member in order to steer the boat, a foot powered crank between the seat and the propeller support member connected to the propeller for propelling the boat through the water.

3,377,977
COMBINATION SCULLING AND SURFBOARD

Elof Malm, 4409 NW. 5th Ave., Boca Raton, Fla. 33432
Filed June 24, 1966, Ser. No. 561,317
4 Claims. (Cl. 115—28)

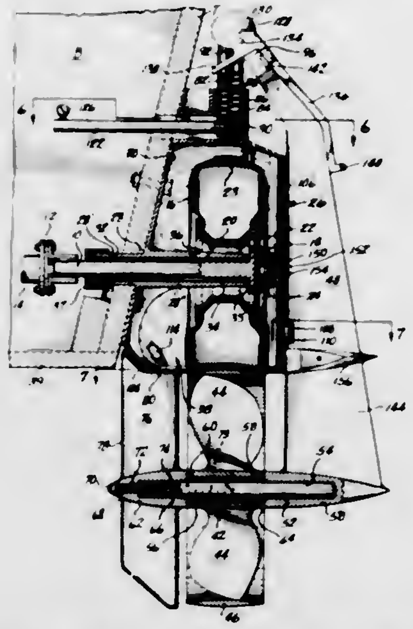
My invention relates to a combination sculling and surfboard which may be used as a manually propelled craft or may be used to ride the surf due to the propelling action of the waves.

The combination sculling and surfboard of my invention contemplates a flotation body member of suitable size and configuration to facilitate its use in both categories. Located midway between the stem and stern of the body member, is journaled by means of a ball and socket joint, an oar or paddle which when it is in its operative position, and is motivated by the occupant, will propel the body member in a direction under the control of the occupant. Located on the top and underside of the body member and extending longitudinally with respect to marginal edges thereof, are recesses for the reception of the oar or paddle, which is locked in position therein when the device of my invention is used as a surfboard or during transportation.



3,377,978
POWER BOAT OUTDRIVE ASSEMBLIES

Russell I. Tillman, 1510 22nd SE., Auburn, Wash. 98002
Filed Aug. 2, 1965, Ser. No. 476,479
29 Claims. (Cl. 115—35)

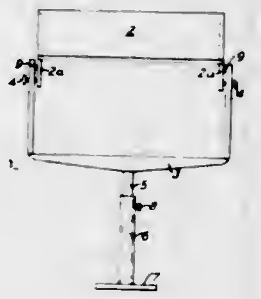


An outboard pneumatic tired drive wheel having a peripheral portion exposed to the water. A housing secured to the boat and enclosing all but such peripheral portion of the pneumatic tire. A submerged propeller having an unenclosed annular rim in tight contact with the non-enclosed portion of the pneumatic tire, and radial blades which also serve as structural members or spokes. A propeller shaft including a forwardly directed ram water inlet passageway means leading rearwardly to water lubricated bearings. Additional water lubricated bearings in the enclosed portion of the drive train, lubricated by water thrown into the housing by the propeller.

3,377,979
MARKERS FOR THE AERIAL SPRAYING OR DUSTING OF FIELDS

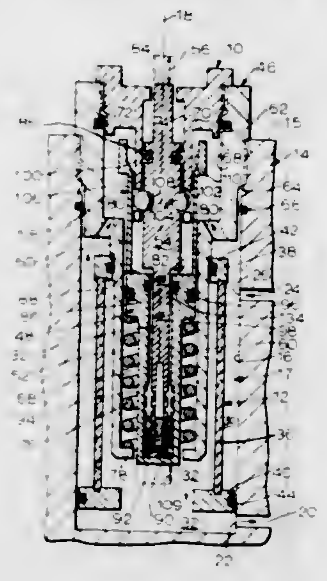
Gershon Rabinovitch, Shderot Hatemarim 3,
6 Claims. (Cl. 116—63)
Ramat Gan, Israel
Filed June 18, 1965, Ser. No. 465.084

Apparatus for providing locational information to a pilot in a low flying aircraft, constituted by marker devices arranged in parallel contiguous strips, one marker device being provided at each end of a strip. Each marker device includes a rotatable member mounted on a frame via an adjustable release mechanism which permits the member to rotate under the force of the slipstream of the aircraft, the rotatable member having recognizably different indicia thereon to indicate to the pilot whether or not the aircraft has passed thereover.



3,377,980
PRESSURE INDICATOR

Arnold Schindel, Fair Lawn, N.J., assignor to General Precision Inc., Little Falls, N.J., a corporation of Delaware
Filed Oct. 14, 1964, Ser. No. 403,722
1 Claim. (Cl. 116—70)



1. An over-pressure indicator for a hydraulic system for sensing differences in fluid pressure between upstream and downstream sides of the system comprising:
a cylinder having a latch means;
a peripheral wall in said cylinder with an axis and a pair of axially spaced end walls forming a cavity with one of said end walls supporting said latch means;
a plunger in said cylinder maintained against displacement by said latch means, said plunger having an enlarged portion at one end journaled in the latch-supporting end wall coaxially with said cylinder, and has an opposite end with an elongated element projecting therefrom, said elongated element having radially outward-facing ring grooves;
a piston in said cylinder forming a variable-volume chamber and actuating said latch means at maximum chamber volume to release the plunger for signalling over-pressure, said piston being disposed in the cavi-

ty coaxially with the cylinder dividing said cylinder into a high-pressure chamber adjacent the latch-supporting wall for connection to an upstream passage and into a low-pressure chamber adjacent the other end wall for connection to a downstream passage to obtain a differential fluid pressure across the piston so as to increase the sensitivity of the piston to overpressure, said piston having a peripheral wall and an end wall, the peripheral wall having radially inward-facing ring grooves corresponding to the radially outward-facing ring grooves on said plunger elongated element so that frozen rings can be formed in said grooves keeping the plunger to the piston;

spring means disposed in said cylinder urging displacement of the piston relative to the cylinder in a direction decreasing the chamber volume; and

coupling means carried by said piston for engaging the plunger elongated element including a fusible mass disposed in said cylinder sensing the temperature of the chamber and maintaining the piston against displacement at temperatures below the freezing point of the fusible mass due to low-temperature-induced over pressure, the fusible mass in the grooves of the plunger elongated element sealingly engaging the grooves of the piston peripheral wall to form a sealed inner chamber therein containing fluid with a higher freezing temperature than the pressure chamber fluid forming a frozen block therein locking the plunger to the piston at the freezing temperature of the liquid.

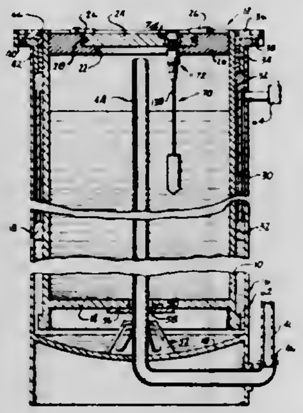
3,377,981

LEVEL INDICATOR

Ion V. K. Hott and David M. Goldzwig, Dayton, Ohio, assignors to The Joyce-Cridland Company, Dayton, Ohio, a corporation of Ohio

Filed Mar. 18, 1964, Ser. No. 352,908

9 Claims. (Cl. 116—110)



1. An air operated indicator device including a housing, an air conduit within said housing, a signal device including an apertured siren plate mounted in said conduit, a siren thrust plate mounted in said conduit, an apertured siren rotor mounted for rotation relative to said siren plate between said siren plate and said thrust plate, at least some of the apertures within said rotor confronting at least some of the apertures in said siren plate, the apertures within said rotor being oblique to said siren plate whereby said rotor rotates when a sufficient air flow passes therethrough, and a thrust bearing mounted between said siren rotor and said thrust plate, a surface of said siren rotor resting upon said siren plate when air sufficient to cause said rotor to rotate is not passing through the apertures in said siren rotor, but rising above said siren plate against said thrust bearing when the air flow through the rotor apertures is sufficient to cause said rotor to rotate.

3,377,982

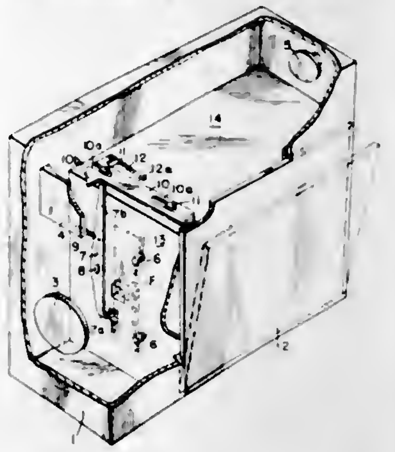
DEVICE FOR DETECTING THE PRESENCE OR ABSENCE OF FILM IN MOVIE CAMERAS

Yoshihisa Katsuyama, Yokohama-shi, Japan, assignor to Nippon Kogaku K.K., Tokyo, Japan, a corporation of Japan

Filed Sept. 13, 1966, Ser. No. 579,155

Claims priority, application Japan, Oct. 7, 1965, 40/82,092

4 Claims. (Cl. 116—114)



Device to detect and indicate the presence and absence of film in a camera through a lever arrangement, a portion of which is in the viewing field of the view finder, and wherein an interlock is provided with the film loading lid of the camera.

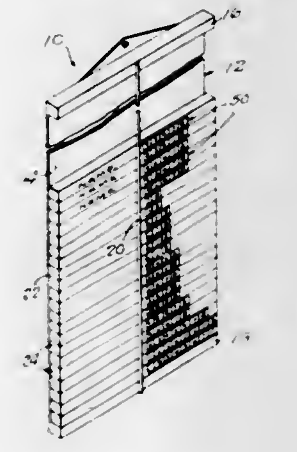
3,377,983

ADJUSTABLE PROGRAM AND PROGRESS INDICATOR

George H. Gordon-Cooper, 976 W. 32nd Ave., Vancouver 9, British Columbia, Canada

Filed May 14, 1965, Ser. No. 455,897

3 Claims. (Cl. 116—135)



An indicator comprising a support; a stick of indicator blocks slidable on said support and on each other; each of said blocks having a slideway extending for part of its length and an indicator strip insertable in said slideway, each strip having indicia spaced along its length, a portion of such indicia being insertable with said strip into said slideway and being concealed thereby to reveal on the indicia representing steps not yet taken.

3,377,984

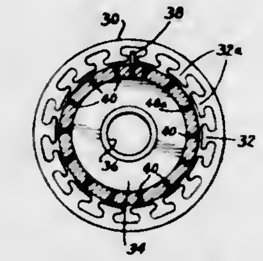
AIRFLOW MANDREL

Gordon V. Mommsen, Minneapolis, and Melvin J. Straub, Hopkins, Minn., assignors to Possis Machine Corporation, Minneapolis, Minn., a corporation of Minnesota

Filed Mar. 25, 1963, Ser. No. 267,576

6 Claims. (Cl. 118—69)

3. A machine for coating a stator core having opposed pole pieces with a thermosetting resin comprising a mandrel adapted to loosely fit between the pole pieces of said stator core, said mandrel being hollow and having perforations, all of said perforations being covered by said pole pieces when said stator core is placed on said mandrel, means for maintaining the mandrel in alignment with the core whereby said perforations are always covered by said pole pieces when the mandrel is located between the pole pieces, a hollow shaft secured to and communicating with said hollow mandrel, means for directing thermosetting resin powder at the ends of said stator and means for applying air under pressure to said hollow shaft to cool the mandrel sufficiently to prevent resin from adhering to the mandrel.



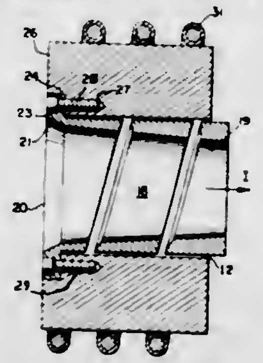
3,377,985

SIZING DEVICE FOR TUBULAR ARTICLES

Richard G. Coker and Charles K. Dunlap, Jr., Hartsville, S.C., assignors to Sonoco Products Company, Hartsville, S.C., a corporation of South Carolina

Filed Aug. 31, 1967, Ser. No. 664,826

5 Claims. (Cl. 118—101)



A tubular sizing device formed of a continuous resilient, helical convolution which in a preferred embodiment includes a tapering inner diameter and means connected at the free end of the helix for restraining diametric adjustment.

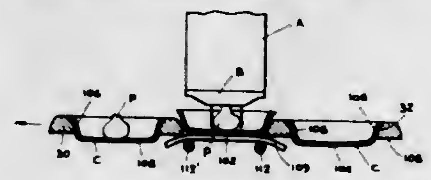
3,377,986

PLASTIC DISPENSING AND DELIVERY APPARATUS

George Everett, Burlington, Unionville, Conn., assignor to Gros-Ite Industries, Inc., Farmington, Conn., a corporation of Connecticut

Filed Jan. 5, 1966, Ser. No. 518,926

16 Claims. (Cl. 118—317)



1. Apparatus for dispensing and delivering measured charges of plastic material comprising conveyor means, a block having a bore extending therethrough terminating in a dispensing orifice, a plastic discharge passage in the block in communication with said bore, the exit end of the discharge passage being spaced from said dispensing orifice, reciprocable plunger means positioned in the bore for movement across the exit end of the discharge passage to transfer measured charges of plastic material to and through said dispensing orifice, said dispensing orifice being above and adjacent to said conveyor means, and means adjacent and surrounding the dispensing orifice for directing an annular column of air to confine and control the direction of movement of the dispensed charges of plastic material with respect to said conveyor means.

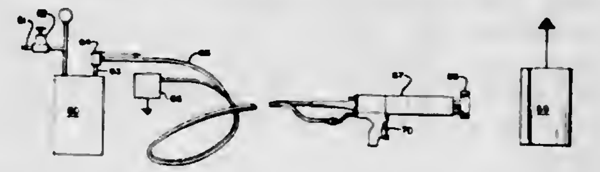
3,377,987

SPRAY COATING SYSTEM

James W. Juvinall, Indianapolis, Ind., and Chester A. Purdy, Belmont, Wis., assignors to Ransburg Electro-Coating Corp., a corporation of Indiana

Original application June 10, 1966, Ser. No. 556,779, now Patent No. 3,320,975, dated May 23, 1967. Divided and this application Oct. 21, 1966, Ser. No. 623,477

10 Claims. (Cl. 118—626)



1. A system for painting articles, and comprising an atomizing device for atomizing paint supplied thereto, means to provide a supply of paint, a flow connection between the paint supply means and said atomizing device, an adjustable open orifice valve in said flow connection for controlling the supply of paint to the atomizing device, said orifice valve comprising a pair of mutually interrelated and relatively movable orifice sizing surfaces forming the adjustable opening in the open orifice valve, means for adjusting said orifice valve to regulate the flow of paint through the connection to the atomizing device, and means in said flow connection and independent of said open orifice valve and of said atomizing device for initiating and terminating flow of paint to the atomizing device through said open orifice valve and positioned to maintain a sufficient head of paint in the flow connection on opposite sides of the open orifice valve both toward the atomizing device and toward the paint supply means for providing a quiescent supply of paint in said open orifice valve covering said orifice sizing surfaces when the initiating and terminating means is closed, thereby tending to prevent clogging of the open orifice valve.

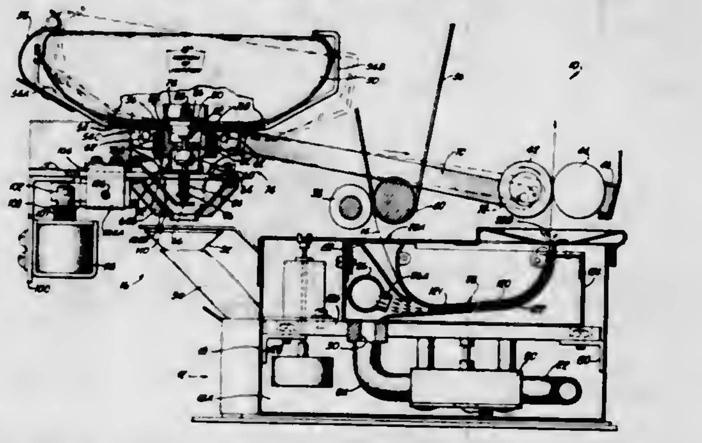
3,377,988

LIQUID DEVELOPER FOR PHOTOELECTROSTATIC COPIER

Robert F. Zawiski, Lincolnwood, Ill., assignor to Addressograph-Multigraph Corporation, Mount Prospect, Ill., a corporation of Delaware

Filed Sept. 1, 1966, Ser. No. 576,613

17 Claims. (Cl. 118—637)



1. In a developer construction of the type in which a developer liquid from a reservoir contacts sheet or web material containing an electrostatic image,

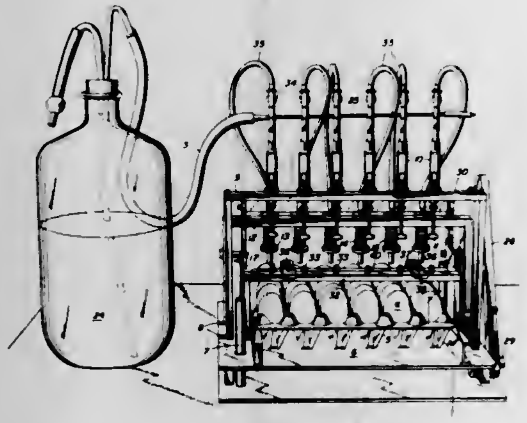
- a supply receptacle for containing a quantity of developer liquid,
- a supporting structure carrying the receptacle and mounting the receptacle for movement,
- feeding means for moving the sheet or web material relative to the developer construction, and
- drive means coupled to the supporting structure and actuated by the feeding means for moving the supporting structure to agitate the contents of the supply receptacle carried thereon.

8. A liquid developer unit in which an electrostatic image on one surface of sheet material is developed by contact with a developer liquid containing electroscopic powder comprising

- a reservoir tank adapted to contain a body of developer liquid,
- a first generally curved structure supported above the level of the developer liquid in the tank,
- a second generally curved stationary structure disposed above and closely adjacent the first curved structure to define a generally curved passageway having a sheet material inlet and an outlet spaced from each other,
- feeding means for feeding sheet material through the passageway with the one surface facing the first curved structure,
- an elongated liquid inlet means to said passageway formed in said first structure and located between the sheet material inlet and the outlet, said liquid inlet means extending transverse to the direction of movement of the sheet material through the passageway and disposed at a level below said sheet outlet means,
- an elongated liquid distributor means disposed in communication with the liquid inlet means, and
- a pumping means connected to the liquid distributor means for pumping developer liquid from the reservoir through the liquid distributor means and the liquid inlet means to flow through the passageway in the direction of movement of the sheet material and toward the outlet, the pumping means providing a sufficient body of developer liquid to contact and develop the electrostatic image on the one surface of the sheet material and to hold the one surface of the sheet material out of contact with the first curved structure.

3,377,989
AUTOMATIC EGG INOCULATING UNIT

Elsworth Roland Sandhage, Pearl River, and Allan Harry Hammar, Monsey, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
Filed Aug. 8, 1966, Ser. No. 571,034
10 Claims. (Cl. 119—1)

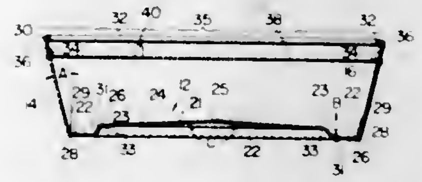


1. An apparatus for inoculation of embryonated eggs, comprising in combination,

- (a) egg holding means capable of holding eggs in aligned rows,
- (b) a row of hypodermic needles aligned with the row of eggs,
- (c) each hypodermic needle being surrounded by a needle protecting member having a channel through which the needle passes of sufficiently close cross sectional match to the cross section of the needle so that the latter can move freely but cannot bend,
- (d) means for producing relative movement between the eggs and the needles whereby when the needles and eggs are brought together the needle protecting members slide up the needles, permitting them to puncture the shells of the eggs,
- (e) means adjacent the needle protecting member for maintaining constant travel length of the needles into the eggs whereby injury to egg embryos is reduced,
- (f) means connected to the needle for pumping a predetermined volume of inoculum through each needle when it has punctured the eggshell and penetrated to a fixed depth, and
- (g) means for returning the needle protecting members to their original position.

3,377,990
DISPOSABLE PACKAGE AND SANITARY STATION FOR ANIMALS

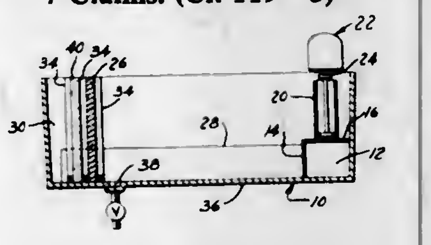
Carleen B. Mitchell, Ossian, Ind.
(615 Brookside Drive, Swanton, Ohio 43558)
Filed May 23, 1966, Ser. No. 551,982
11 Claims. (Cl. 119—1)



1. A combined litter material package and sanitary excrement station for animals comprising a container having first means for concentrating the animal excrement adjacent to the peripheral boundary of the container, said container having a bottom and a top opening, said top opening being larger than said bottom, and second means extending peripherally around said top opening and defining said top opening for containing a substantial portion of the litter material within the station during the scattering of the litter material by a pawing animal, whereby a substantial portion of the litter material used in the station will tend to be kept within the station and relatively free from animal excrement.

3,377,991
FISH TANK

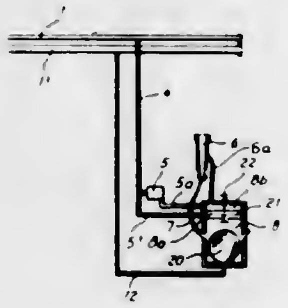
George E. Rubert, 1938 Macomber St., Toledo, Ohio 43606
Filed Aug. 22, 1966, Ser. No. 574,113
7 Claims. (Cl. 119—5)



3. A fish tank having a length to width ratio greater than approximately 2½ to 1, a plenum chamber adjacent one end of said tank for receiving the draft tube of a pump for cascading water back into the tank, a partition filter extending vertically across said tank adjacent the opposite end from said plenum chamber forming a space, and a conduit in said tank connecting said chamber and said space for communicating water from the space between said opposite end of said tank and filter to said plenum chamber and said pump.

3,377,992
MILKING SYSTEM

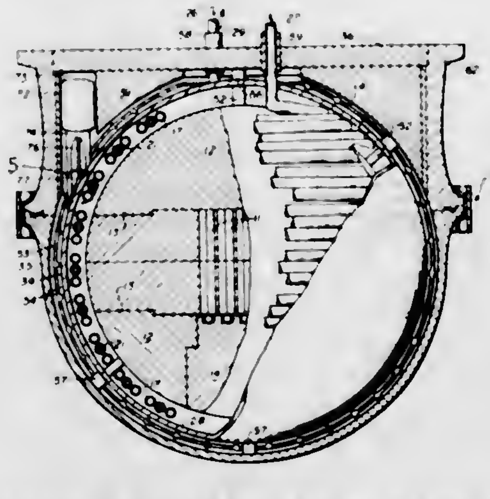
Engelbert Baum, Vienna, Austria, assignor to Alfa-Laval AB, Stockholm, Sweden, a corporation of Sweden
Filed Aug. 12, 1964, Ser. No. 389,074
3 Claims. (Cl. 119—14.08)



1. A milking system comprising an operating vacuum pipe, a teat cup having a pulsation tube and a milk outlet tube, means including a pulsator connecting said pulsation tube to said operating vacuum pipe, a claw connected to the milk outlet tube, a milk-collecting pipe leading from the lower part of said claw, means for maintaining a substantially constant vacuum in said operating vacuum pipe while maintaining a substantially higher vacuum in said milk-collecting pipe, a duct connecting the upper part of the claw to said operating vacuum pipe independently of said pulsator, and a valve positioned to control the communication from the claw through said duct to the operating vacuum pipe and operable to close said communication in response to a substantial increase of the pressure in said upper part of the claw relative to the pressure in the operating vacuum pipe.

3,377,993
RADIOISOTOPE HEAT SOURCE WITH OVERHEAT PROTECTION

Keith E. Buck, Alamo, Calif., assignor, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
Filed June 28, 1966, Ser. No. 562,429
10 Claims. (Cl. 122—32)

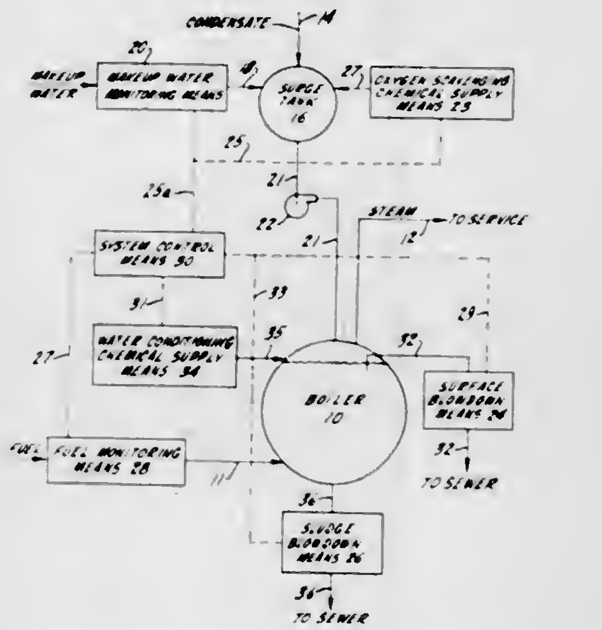


1. In a source for supplying heat to a load, the combination comprising:

- (a) heat generating means comprising a massive body of heat conductive material including a non-interruptable means for continuously generating heat therein, said body being provided with means for transferring heat generated therein to an external heat load;
- (b) heat sink means including a surface in spaced relation to exterior surface portions of said massive body and defining therewith a void space evacuated to minimize convective and conductive heat transfer thereacross under normal operating conditions wherefor overheating of said massive body can occur in interruption of said heat transfer to an external load; and
- (c) means including a pressurized emergency coolant source, a conduit leading from said source to communicate with said void space, and closure means normally retaining said coolant in said source, said closure means arranged in thermal communication with said massive body to sense overheating of said body and actuate release of said coolant into said void space so that the heat generated therein is transferred harmlessly across said void space to said heat sink.

3,377,994
STEAM GENERATING SYSTEM

Frederick H. Horne, 541 Prospect Ave., Lake Bluff, Ill. 60044
Filed Aug. 17, 1966, Ser. No. 579,464
21 Claims. (Cl. 122—382)

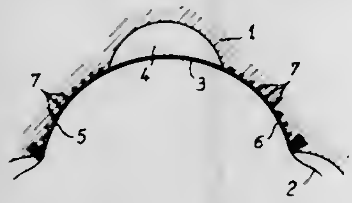


1. In a steam generating system including a surge tank and a boiler with surface blowdown means, said surge tank receiving steam condensate from said system and makeup water added to said system to form feedwater for said boiler, and means to pass said feedwater from said surge tank to said boiler, the improvement comprising means for measuring the amount of makeup water passed to said surge tank, means for measuring the amount of fuel passed to said boiler and means for actuating said surface blowdown means after a predetermined amount of makeup water has been passed to said surge tank and a predetermined amount of fuel has been passed to said boiler in response to said means for measuring the makeup water and said means for measuring the fuel.

3,377,995
COMBUSTION CHAMBER FOR ROTARY PISTON ENGINE

Gaëtan de Coye de Castelet, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France
Filed Oct. 7, 1965, Ser. No. 493,679
Claims priority, application France, Mar. 26, 1965, 10,923, Patent 1,437,693
11 Claims. (Cl. 123—8)

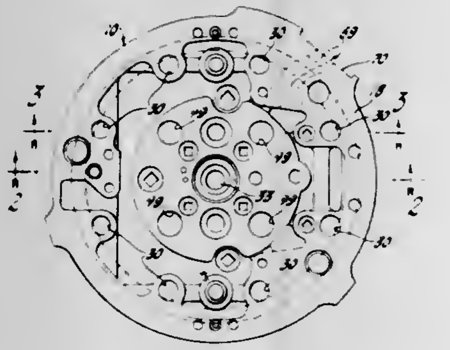
In a rotary engine having a rotor of N lobes of epicycloidal profile rotating eccentrically in a stator of $N+1$ lobes of matching profile and forming $N+1$ variable volume working chambers with which combustion chambers are associated, zones of the working chambers adjacent



the combustion chambers including means to prevent disadvantageous combustion in these zones.

3,377,996
CYLINDER HEAD FOR INTERNAL COMBUSTION ENGINE

James J. Kotlin, Downers Grove, Donald L. Anderson, Lyons, and Bernard Ristig, La Grange, Ill., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 10, 1965, Ser. No. 513,029
8 Claims. (Cl. 123—41.31)

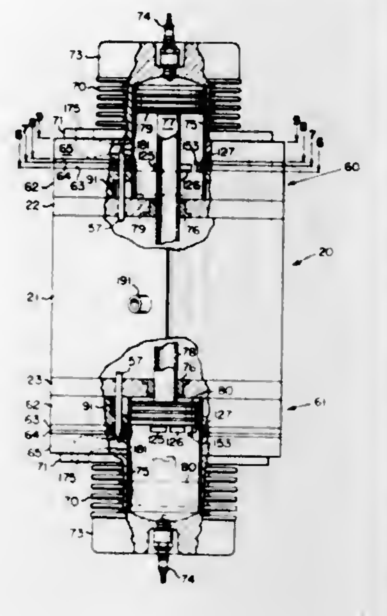


An internal combustion engine cylinder head includes upper and lower water jacket portions with a plurality of equiangularly spaced exhaust passages extending through the lower jacket portion. Radial webs connect the walls of each passage with the lower jacket periphery to divide the lower jacket into sections. Coolant inlet and outlet openings are provided in alternate jacket sections near the periphery of the jacket such that coolant enters the lower jacket near the periphery of alternate sections and sweeps around the entire circumference of the exhaust passage before leaving the lower jacket through openings adjacent the periphery of the remaining alternate sections. An injector mounting boss, located centrally of the exhaust passages is also cooled by the high velocity flow of coolant. Cooling spines along the lower jacket wall increase the cooling effect adjacent the combustion chamber.

3,377,997
TWO-STROKE CYCLE ENGINE

Van P. Combs, Penfield, N.Y., assignor to Ka Tee Research Corporation, Rochester, N.Y., a corporation of New York
Filed Apr. 21, 1966, Ser. No. 544,277
17 Claims. (Cl. 123—74)

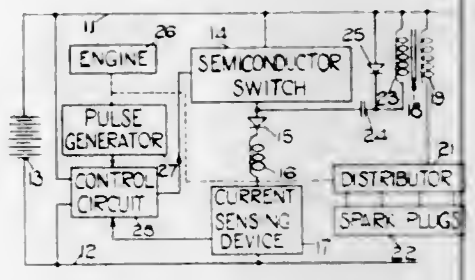
Each cylinder block comprises a plurality of metal laminates having registering openings defining a bore in which a piston reciprocates. Fuel is fed to a plenum, which is connected by inlet ducts with the bore adjacent one end thereof. Exhaust ducts open on the bore adjacent its opposite end; and scavenging ducts lead from the bore between the inlet and exhaust ducts, and opposite the latter. The ducts extend through several of the laminates; and the inlet ducts are inclined to the bore axis to direct fuel into the bore and away from the exhaust ducts,



and toward the scavenging ducts. The piston in its movement controls the opening of the several ducts.

3,377,998
SPARK IGNITION SYSTEMS

Derek Stanley Adams, Acocks Green, Birmingham, and Brian Leslie Phillips, Handsworth, Birmingham, England, assignors to Joseph Lucas (Industries) Limited, Birmingham, England
Filed Oct. 29, 1965, Ser. No. 505,636
Claims priority, application Great Britain, Dec. 2, 1964, 48,946/64
12 Claims. (Cl. 123—148)



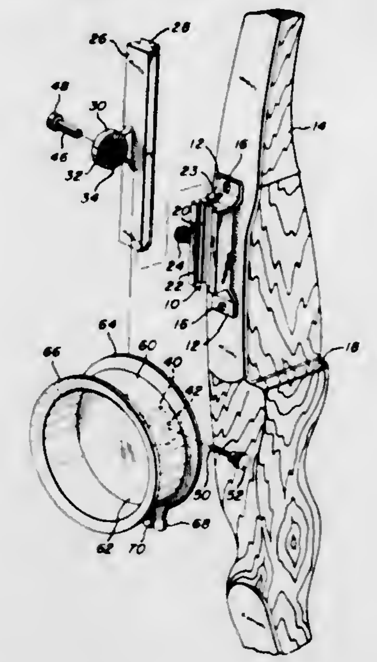
In a spark ignition system for an internal combustion engine, an inductor is connected in series with a switch across a battery. The switch is closed at periodic intervals by the engine, and when it closes energy is stored in the inductor, this energy later being used to produce a spark at a plug of the engine in timed relationship thereto. The series circuit of switch and inductor includes a current sensing device which turns the switch off when the current flowing in the series circuit reaches a predetermined value, so that the energy stored in the inductor each time the switch closes is constant.

3,377,999
ARCHERY BOW WITH ADJUSTABLY MOUNTED LINE SUPPORT

Robert J. Reynolds, Montgomery County, Ohio; Kathleen I. Bennett, executrix of the estate of Robert J. Reynolds, deceased, assignor to Reynolds Precision Products Co., Inc., West Carrollton, Ohio, a corporation of Ohio
Filed Sept. 23, 1965, Ser. No. 489,580
7 Claims. (Cl. 124—24)

5. Apparatus of the type described comprising:
support structure attachable to an archery bow,

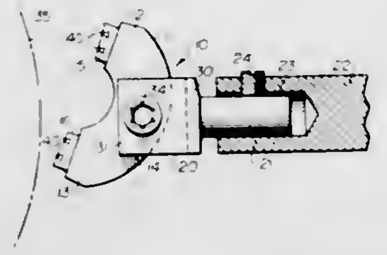
carrier means adjustably carried by the support structure so that the carrier means is movable with respect to the support structure,



line support means adjustably carried by the carrier means so that the line support means is angularly movable with respect to the carrier means.

3,378,000
WHEEL DRESSER

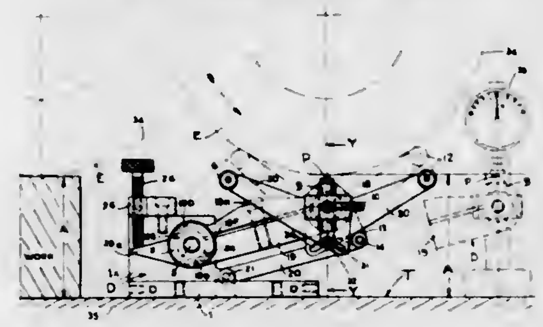
Flory M. Day, 4893 W. 210th St., Fairview Park, Ohio 44126
Filed Jan. 11, 1965, Ser. No. 424,695
5 Claims. (Cl. 125—11)



A form-dressing tool having diamonds set in a matrix so as to present cutting surfaces which are exposed at both the face and the sides of the matrix.

3,378,001
DIAMOND DRESSING DEVICE

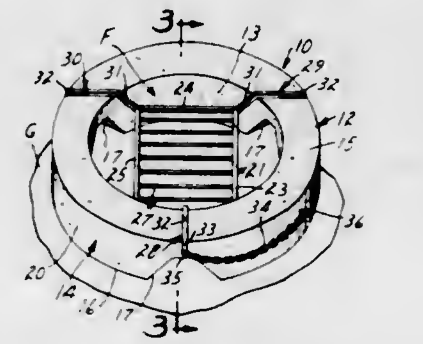
Nicolas Parapetti, 615 N. 1st St., Rockford, Ill. 61107
Filed Sept. 2, 1965, Ser. No. 484,641
15 Claims. (Cl. 125—11)



1. An emery wheel dresser for use on a work table to dress an emery wheel thereabove from the bottom comprising a base, a substantially horizontal tool holder adapted to hold the shank of a diamond point in a substantially vertical plane, means supporting said tool holder on said base with freedom for vertical adjustment relative to said base to position a diamond point accurately at a predetermined work height relative to a work table on which said base rests and over which an emery wheel to be dressed is disposed for operation on work, and centering means carried on the tool holder in axially spaced relation to the shank of the diamond point and adjustable vertically relative to the tool holder and arranged by manual positioning relative to the lower half of an emery wheel to locate the diamond point below the bottom of said emery wheel on the vertical radius line thereof and at its lowest point, whereby to enable dressing said wheel accurately for grinding the top surface of a work piece accurately to the same work height dimension for which the diamond point was set previously.

3,378,002
SEMI-PORTABLE FIREPLACE AND GRILL

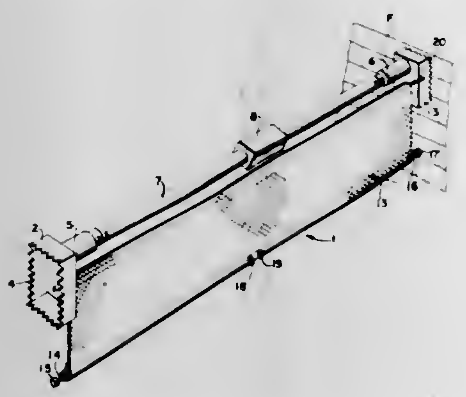
Lester L. Hink, 605 7th Ave. NE., Grand Rapids, Minn. 55744
Filed Apr. 6, 1966, Ser. No. 540,537
3 Claims. (Cl. 126—25)



1. A semi-portable fireplace and grill for use out-of-doors comprising:
- (a) a generally cylindrical firepot element defining a central opening extending therethrough on a vertical axis, said firepot element having a side wall which includes an upper end and lower end the latter of which is adapted to engage the ground and form therewith a firepot;
- (b) draft passage means extending radially through said wall adjacent said lower end;
- (c) a grill element of a peripheral dimension to be received within said central opening; and
- (d) means carried by said grill element and supporting same from said upper end for vertical adjustment from a position wherein said grill element is received within said central opening in vertical spaced relation to the ground thereunder to a position wherein said grill element overlies said central opening;
- (e) said last mentioned means including a plurality of laterally extended legs having inner end portions secured to the peripheral edge of said grill element at spaced points therealong and outer end portions adapted to overlie and engage said upper end of said firepot element;
- (f) said grill element being rectangular in shape and in which said grill element and legs are in the nature of a tripod;
- (g) said inner end portion of two of the legs of said tripod being secured to said grill element adjacent one side edge one each at a different corner of said grill element;
- (h) said inner end portion of the third leg of said tripod being secured to the intermediate portion of

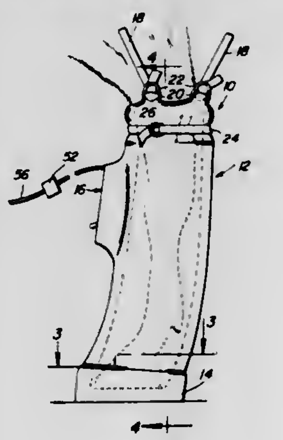
the side edge of said grill element opposite said one side edge thereof.

3,378,003
FIREPLACE SCREEN
Wallace Earl Scherer, 8709 Brawner Drive,
Richmond, Va. 23229
Filed May 3, 1966, Ser. No. 547,265
1 Claim. (Cl. 126—202)



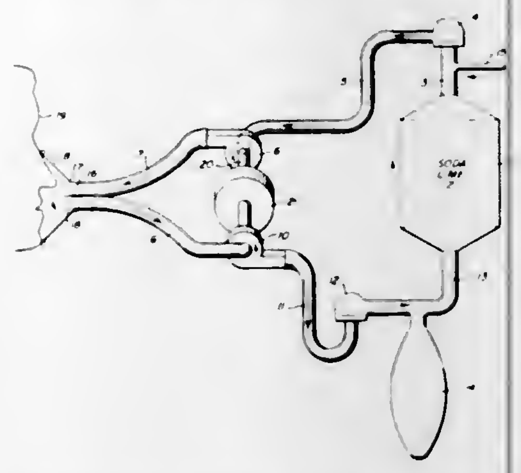
A removeable fireplace screen consisting of two mounting elements each having a threaded sleeve integral therewith. A single rod engages the sleeves and is turnable to force the elements apart for frictional engagement with confronting vertical surfaces of a fireplace opening. The mounting elements journal between them a roller bearing a screen of heat-proof material and which, when desired, may be drawn downwardly to obturate the fireplace opening.

3,378,004
HYDROTHERAPY AND MASSAGE BOOT
Richard S. Claycomb, 1907 11th Ave. N., Grand Forks, N. Dak. 58201; John E. Chase, 3725 Midvale Ave., Los Angeles, Calif. 90034; and Norman W. Umphenour, 643 S. Pershing, Wichita, Kans. 67218
Filed June 23, 1965, Ser. No. 466,190
6 Claims. (Cl. 128—66)



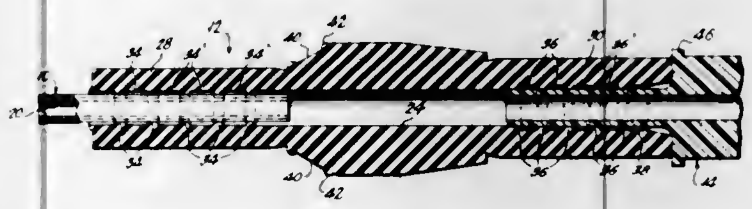
A portable hydrotherapy and massage device including a double-walled resilient body member-encompassing open-topped receptacle adapted to retain a therapeutic liquid about a body member retained therein. The upper portion of the receptacle is provided with a means for drawing the inner wall thereof into generally sealing contact with the body member therein. The device is provided with fluid circulating, heating and vibrating means for therapeutic fluid normally introduced within the interior of the body member encompassing receptacle thereby providing a substantially self-contained, highly portable, hydrotherapy and massage device.

3,378,005
ANESTHETIC APPARATUS
Raymond M. Smith, Jr., 1123 N. 18th St., Allentown, Pa. 18104
Filed Jan. 14, 1965, Ser. No. 425,439
16 Claims. (Cl. 128—188)



A non-positive-displacement pump is connected to the inspiratory side of a breathing mask to continuously circulate anesthetic gases towards the mask. Another non-positive-displacement pump is connected to the expiratory side of the mask to continuously circulate exhaled gases away from the mask. Both pumps are driven by a common prime mover. A breathing bag in the system can be manipulated to override the pumps, whereby the anesthetist maintains contact with his patient.

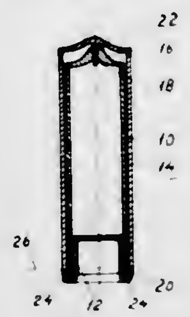
3,378,006
PIERCING DEVICE GUARD AND CONNECTOR ASSEMBLY
George K. Burke, Bethlehem, Pa., assignor to Burron Medical Products, Inc., Bethlehem, Pa., a corporation of Pennsylvania
Filed Dec. 21, 1965, Ser. No. 515,434
4 Claims. (Cl. 128—214)



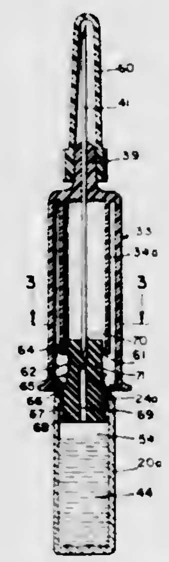
A specific connector means is employed to connect the conduit means with the transparent adapter means in a piercing device. The specific connector means is formed of flexible material and has end sections and a medial section. The sections are traversed throughout by a bore of uniform diameter extending longitudinally therethrough. The bore in the end sections has a plurality of longitudinally spaced radially inwardly directed peripheral ribs semi-circular in cross-section. The medial section of the connector has a thickened wall and the bore therein is unobstructed but collapsible by the application of external pressure.

3,378,007
DISPOSABLE HYPODERMIC SYRINGE
Erik Digmann Poulsen, Odense, Denmark, assignor to A/S Haustrups Fabriker, Odense, Denmark
Filed June 4, 1965, Ser. No. 461,487
Claims priority, application Denmark, June 16, 1964, 3,014/64
7 Claims. (Cl. 128—220)

1. A disposable syringe comprising a hollow barrel, said barrel being substantially cylindrical and open in the rear end and partly closed in the front end by a needle-holder provided with a central bore, a hollow, substantially cylindrical plunger being fittingly and slideably received in the said barrel, said plunger being open in the rear end and closed by a wall in the front end, said barrel with its inserted plunger being enclosed in a substantially cylindrical protective cover, said cover being open in the rear end and closed in the front end, the front end of the protective cover being provided with a central pin projecting inwardly and engaging in said central bore in the said needle-holder, in which the respective lengths of the said plunger, the said barrel and the said protective cover are adapted to each other in such manner that their respective open rear ends are substantially flush with each other, viewed in a direction perpendicular to their respective longitudinal axes, said three rear ends being sealed hermetically to one another.

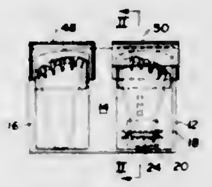


3,378,008
HYPODERMIC SYRINGE WITH VIAL
Robert W. Ogle, Phoenix, Ariz., assignor to Min-I-Jet Corporation, Wilmington, Del., a corporation of Delaware
Filed July 23, 1965, Ser. No. 474,413
5 Claims. (Cl. 128—220)



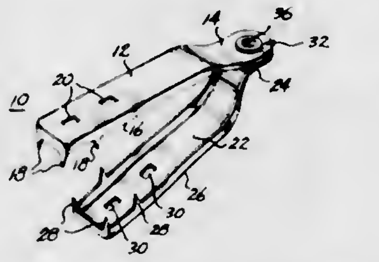
A medicament injector comprising a cylindrical vial having an open end and a closed end and a resilient plug adapted to be inserted partially into said open end of said vail. A plurality of outwardly extending rings upon said plug engage the walls of said vial with a press fit. A cylindrical holder has an open end and a closed end and a cylindrical member within and spaced from said holder has one end engaging said closed end of said holder. The cylindrical member extends longitudinally of said holder and terminates at an open end within said holder. The holder has a needle extending outwardly from said holder and also inwardly into said holder within said cylindrical member and has a sharpened inner end. Interlocking means are on said cylindrical member and cooperating interlocking means are on said plug whereby upon insertion of said plug into said holder said vial is first held in an assembled but non-operating position and upon further insertion of said plug into said holder said plug is pierced by said needle and said needle communicates with said vial and said plug is locked securely in said cylindrical member to permit aspiration upon withdrawal of said vial or to permit expulsion of the contents of said vial upon exertion of pressure of said vial.

3,378,009
FOOT CONDITIONING APPARATUS
Stephen C. Peplin, 5071 Evergreen Drive, North Olmsted, Ohio 44070
Filed Oct. 22, 1965, Ser. No. 501,703
4 Claims. (Cl. 128—266)



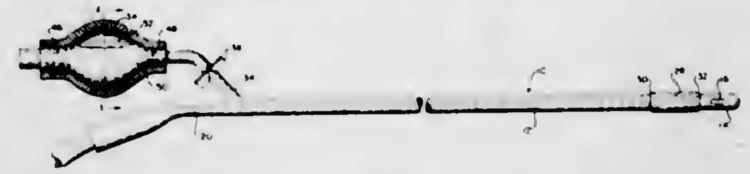
This patent discloses foot conditioning apparatus comprising air-permeable toe-separating means and means for sequentially directing first air and then medicated powder to the vicinity of the toes through the air-permeable toe-separating means.

3,378,010
SURGICAL CLIP WITH MEANS FOR RELEASING THE CLAMPING PRESSURE
John W. Codling, 1161 21st E., Seattle, Wash. 98102, and John W. Sweet, Seattle, Wash.; said Sweet assignor to said Codling
Continuation-in-part of applications Ser. No. 292,046, July 1, 1963, and Ser. No. 382,079, July 13, 1964, now Patent No. 3,347,239. This application July 28, 1965, Ser. No. 475,458
11 Claims. (Cl. 128—325)



5. A self-releasing surgical wound clip adapted to be left in situ within the body and adapted for applying pressure to body tissues comprising physically cooperable and electrically interconnected clip portions respectively comprising galvanically dissimilar metals exposable to body fluids upon installation of the clip, one such portion comprising the most active metal being adapted after predetermined dissolution and weakening thereof in body fluids to diminish the clip pressure.

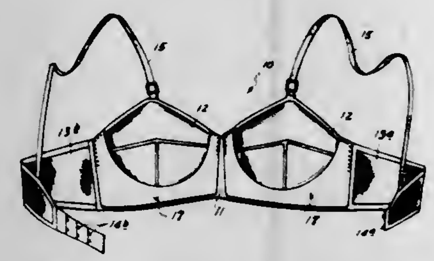
3,378,011
SELF-INFLATING CATHETER WITH MEANS TO PREVENT LEAKAGE OF INFLATION FLUID
John P. Vitello, 198 Robin Hill Road, Williamsville, N.Y. 14221
Filed June 23, 1965, Ser. No. 466,383
5 Claims. (Cl. 128—349)



The inflated distention fluid reservoir chamber of a self-inflating balloon catheter is snugly encased in a sac formed of fluid impervious material to prevent fluid loss during storage.

3,378,012
BRASSIERE SUPPORTING FRAMES

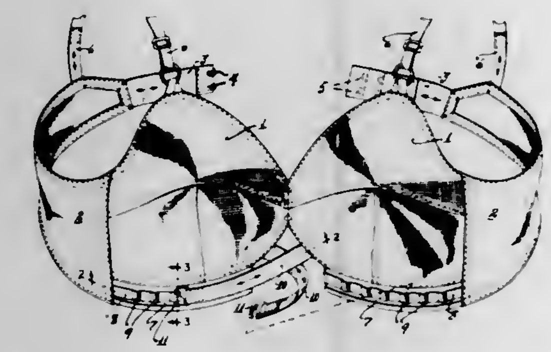
Herbert L. Schwartz, Kew Garden Hills, N.Y., assignor to S & S Industries Inc., New York, N.Y., a corporation of New York
Filed Mar. 29, 1966, Ser. No. 538,314
5 Claims. (Cl. 128—476)



1. In combination with a brassiere including a front panel having a pair of forwardly projecting, spaced breast-receiving cups, and body encircling panels extending from the opposite sides of said front panel; a fabric envelope for each of said cups having an arcuate, generally U-shaped edge extending along the side and bottom peripheral portions of the respective cups with an internal tube extending along said edge, an arcuate generally U-shaped supporting frame closely received in said tube of each envelope, each said envelope further including flank portions extending laterally outwardly from end portions of said arcuate edge, and stitching extending through said flank portions along upper and outer edges thereof and through said front panel so that, intermediate said end portions, the frame is free to flex and conform to the contours of the wearer's body independent of said brassiere.

3,378,013
BRASSIERE WITH LOWER CUP FRAMING ADJUSTMENT

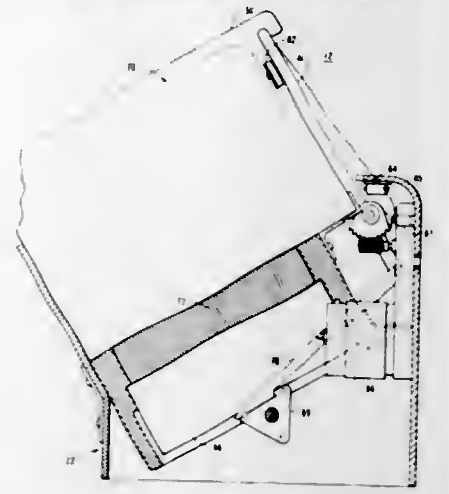
Enrico Bruno, Brooklyn, N.Y., assignor to Maidenform, Inc., New York, N.Y., a corporation of New York
Filed Jan. 12, 1966, Ser. No. 533,103
1 Claim. (Cl. 128—482)



1. A brassiere comprising back bands, a pair of cups each connected to one of said back bands, said cups being joined together along a normally vertical line opposite the apices of the cups, the upper and lower margins of each cup sweeping outwardly from the meeting line of the cups and thereby bounding a deep V between the cups above their apices and a deep inverted V between the cups below their apices, an elastic band carried by each cup below the meeting line of the cups, a connecting element carried at the free end of each of said elastic bands, two framing strips and one being carried by each cup along an area of its base, a row of spaced connecting elements carried by and running longitudinally along each framing strip and adapted to selectively receive the connecting element of one of said elastic bands, said elastic bands being relatively free from each other and mutually crossed when their ends are so connected.

3,378,014
AUTOMATIC FILING ARRANGEMENT

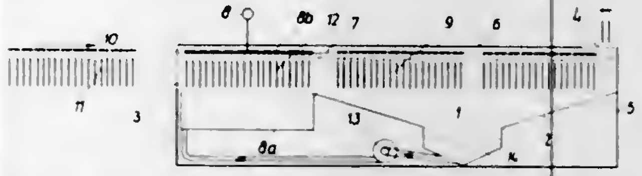
Bruce B. Schwab, 10613 3rd Ave., Inglewood, Calif. 90303
Filed Feb. 12, 1965, Ser. No. 432,275
9 Claims. (Cl. 129—16.1)



1. An arrangement for automatically retrieving a selected item from file storage, each of said items being encoded along an edge in accordance with an identification thereof, comprising: a storage bin for storing said items, means associated with said storage bin for rejecting all but the selected item, an extractor mechanism associated with the storage bin and operable to remove the item not rejected by said rejecting means, and fault indicator means coupled to the extractor mechanism for indicating a fault if the extractor mechanism does not complete a cycle of operation within a predetermined time after being actuated.

3,378,015
PROCESS AND APPARATUS FOR APPLYING A COVER ON CIGARS

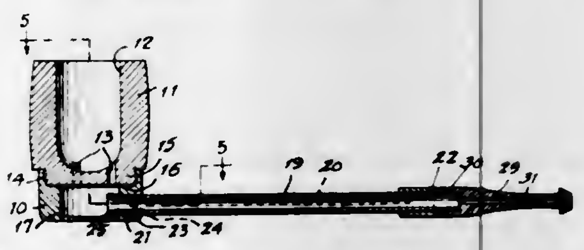
Dankfried Helpmann, 22, Brinkstrasse, Uchte 3079, Germany
Filed Oct. 20, 1965, Ser. No. 498,551
Claims priority, application Germany, Feb. 26, 1965, H 55,318
5 Claims. (Cl. 131—20)



A process and apparatus for applying a coating on cigar rolls in a closed chamber by holding the rolls in an atmosphere substantially saturated with solvent vapors and then drying the coated rolls outside the atmosphere.

3,378,016
SMOKING PIPE

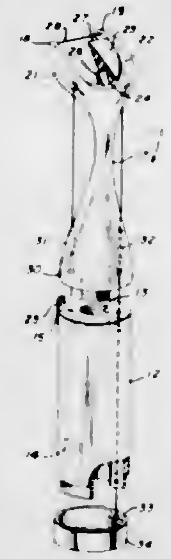
Stephen P. Chernock, 1553 Boston Post Road, Milford, Conn. 06460
Filed June 28, 1965, Ser. No. 467,402
4 Claims. (Cl. 131—225)



A smoking pipe having a vertically extending combination bowl comprising a lower bowl base of metal and an upper bowl body of briar root or the like connected together by a screw threaded connection through which the bowl body and the bowl base may be separated by relative turning about the vertical axis of the bowl, and a horizontally extending tubular metal stem having a forward stud end portion secured in a radial passage in the peripheral wall of the bowl base, the stem extending radially from the bowl base and being buttressed against lateral bending strains applied to the stem by means of vertically disposed abutment surfaces on the bowl base and the stem disposed laterally at diametrically opposite sides of the rearward end portion of the radial passage of the bowl base engaged by the forward stud end portion of the stem, the stem being further buttressed against rotation about its axis by horizontally disposed abutment surfaces on the bowl base and the stem which give the interengaging surfaces of the stem and the bowl base a noncircular or eccentric shape relatively to the axis of the stem.

3,378,017
DENTAL FLOSS APPLICATOR

Robert G. Stiles, 621 Margarita, Coronado, Calif. 92118
Continuation-in-part of application Ser. No. 450,019, Apr. 22, 1965. This application Oct. 23, 1965, Ser. No. 503,427
5 Claims. (Cl. 132—92)

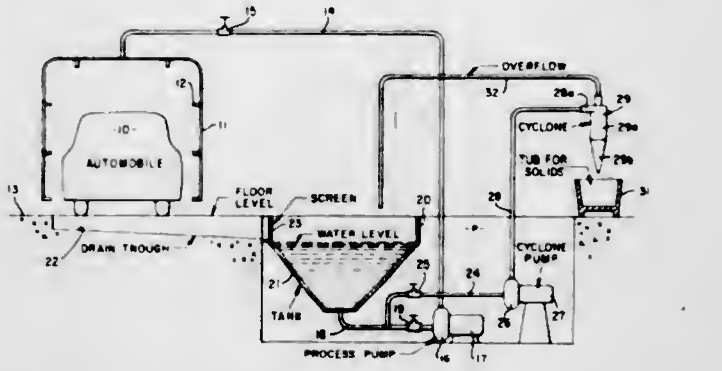


A dental floss applicator for applying dental floss to the teeth having a handle member for the storage of the spool of dental floss and a fork member inthreadably engaged therewith having channels for passing the floss up through the handle member a lower portion of the fork member and a channel through one of the prongs across the mouth of the fork member of one prong of the fork member to a second prong of the fork member back down through a channel and into the handle member, through the handle member to its base, the floss being stretched between the fork member and the handle member by its threadable engagement after which it can be loosened and pulled through from the base to expose a clean portion of floss between the two prongs and fork member.

3,378.018
APPARATUS FOR THE RECLAMATION OF LIQUIDS USED IN VEHICLE WASHING

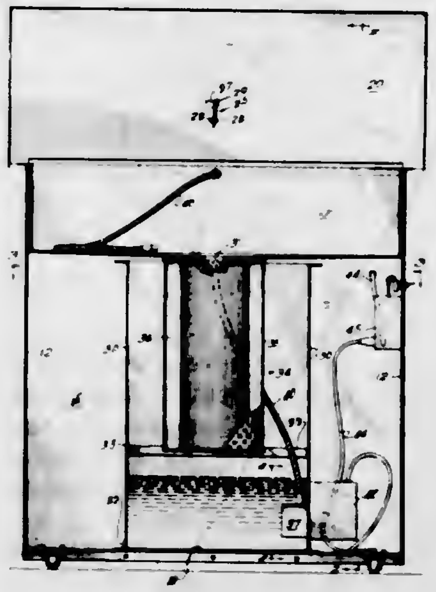
Raymond L. Lawter, Zanesville, Ohio, assignor to Dura Corporation, Oak Park, Mich., a corporation of Michigan
Filed Sept. 27, 1965, Ser. No. 490,436
4 Claims. (Cl. 134—109)

A water reclaiming system for car washing operations in which the slurry of grit and water is drained from the car washing module into a tank from which it is pumped to a cyclone separator, the separated clean water being returned to the tank and the grit discharged. Water is pumped from the tank to the car washing module to make possible repeated use of the water.



3,378,019
PARTS WASHERS

Carl R. Riolo, Barnhill, Ill., and Edward C. Moerke, Union Grove, Wis., assignors to Albert Armato, Lake Forest, Ill.
Filed Apr. 8, 1966, Ser. No. 541,292
1 Claim. (Cl. 134—111)

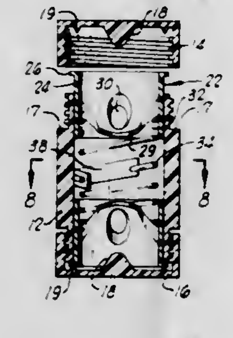


A rectangular sheet metal casing supports a removable wash basin having flanges resting upon the upper edges of the casing. A fire protection top cover is hinged to the casing along one side and normally held in raised position by a fusible link subject to release upon overheating as by a fire in the basin. A solvent tank is positioned below the basin with a pump connected to deliver solvent through a nozzle into the basin. An upstanding cylindrical filter with a closed bottom is mounted in the tank above the level of the solvent and centered beneath a drain opening in the basin to receive dirty solvent from the basin and filter the same as it flows back into the tank.

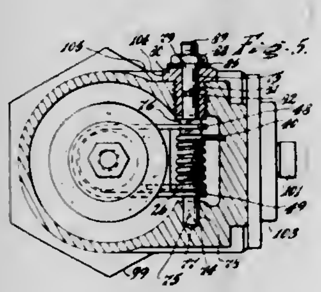
3,378,020
CONTAINER FOR CONTACT LENSES

Richard H. Grabiel, 424 NW. 33rd, Oklahoma City, Okla. 73118
Continuation-in-part of application Ser. No. 577,358, Sept. 6, 1966. This application Apr. 24, 1967, Ser. No. 633,230
7 Claims. (Cl. 134—156)

A container for a pair of contact lenses in which a pair of lens baskets are movably positioned in the opposite ends of an open-ended cylindrical body and are biased apart by a spring in the center of the body. A pair of closure caps threadedly engage and close the opposed open ends of the body, forcing the lens baskets toward each other against the bias of the spring. The closure caps and baskets cooperate to tightly seal the body when the closure caps are fully seated.

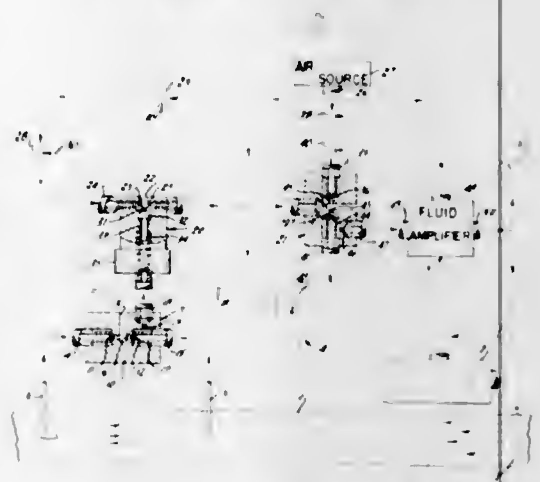


3,378,021
SAFETY SHUT-OFF VALVE
Joseph V. Milo, 407 South St., Elizabeth, N.J. 07202
Filed Sept. 16, 1963, Ser. No. 309,220
2 Claims. (Cl. 137—68)



1. In a safety shut-off valve, the combination of
(A) a valve body providing a vertical, cylindrical, fluid conduit having a bottom inlet and a top outlet;
(B) a shear section frangibly mounted above the said conduit and forming an extension thereof exteriorly of the said valve body;
(C) a horizontal valve seat formed inside the said valve body adjacent to the said top outlet,
  (1) said seat being of circular configuration;
(D) a poppet assembly seating means pivotally arranged in the said valve body,
  (1) said means being pivoted to an open position and a closed position,
  (2) said means including a gasoline resistant seal disc,
    (a) said disc sealing the said seat when pivoted to the said closed position;
(E) the said valve body being provided with a rearwardly positioned, threaded opening,
  (1) the said opening being of sufficient size to permit the removal or insertion of the said poppet assembly therethrough;
(F) a cover threadedly engaged in and closing the said rearward, threaded opening;
(G) torsion spring means urging said poppet assembly seating means to the said closed position,
  (1) said spring terminating in two ends,
    (a) one of said ends engaging said poppet assembly seating means and
    (b) the second of said ends being restrained against a portion of the said cover,
      (1) said cover providing spring bias adjusting means, (a) said cover strengthening the spring bias when turned into the said threaded opening and said weakening said spring bias when turned out of the said threaded opening; and
(H) trip arm means affixed to the said shear section,
  (1) said means retaining the said poppet assembly seating means in the said open position against the bias of the said torsion spring.

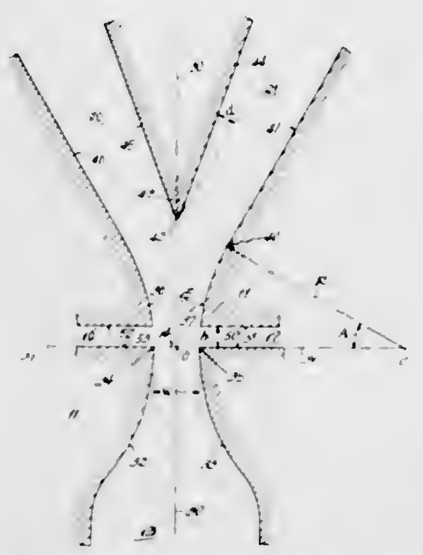
3,378,022
FLUID FLOW SENSING SYSTEM
Paul H. Sorenson, West Allis, Wis., assignor to Johnson Service Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Apr. 6, 1964, Ser. No. 357,558
6 Claims. (Cl. 137—81.5)



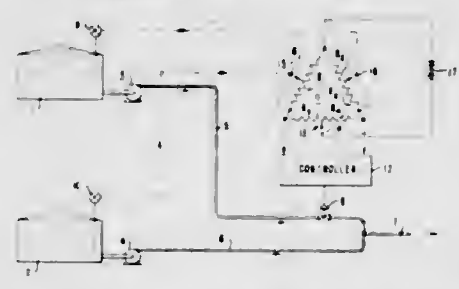
1. In a velocity responsive control system for creating a control signal in accordance with the velocity of flow at a selected position in a duct,
a static pressure probe having means to mount the probe within the duct and establishing a signal stream proportional to the static pressure,
a total pressure probe having means to mount the probe within the duct adjacent the static pressure probe and establishing a signal stream proportional to the total pressure,
an impact modulator having a pair of spaced and aligned opposed orifices connected respectively to the static pressure probe and to the total pressure probe to establish a pair of opposed impacting streams and a control orifice forming a part of an output chamber with one of said opposed impacting streams entering the control orifice from within the output chamber, said control orifice being aligned with said opposed orifices and having the impacting streams establishing an impact position with respect to said control orifice and creating an output stream in an output orifice from the output chamber proportional to the difference in the strengths of the two impacting streams.

3,378,023
FLUID AMPLIFIER
Basil B. Beeken, New Haven, Conn., assignor to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware
Filed Apr. 1, 1965, Ser. No. 444,738
3 Claims. (Cl. 137—81.5)

This invention relates to improving the efficiency or power recovery factor for fluid amplifiers. Here at least a portion of the side walls of the interaction chamber of a wall attachment type fluid amplifier are formed to a substantially circular convex configuration, this convex shape having a radius of curvature equal to between 4 and 6 times the width of the amplifier throat passage and having a center of curvature located along a line passing laterally through said amplifier throat, the arc subtended by said convex side wall portion being between 25 and 35 degrees.

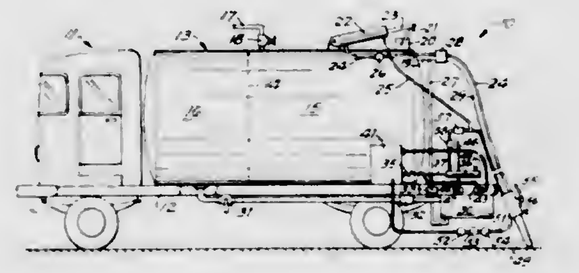


3,378,024
BLENDING CONTROL SYSTEM
Huibrecht Kruik, Estado Falcon, Venezuela, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed July 20, 1964, Ser. No. 383,741
Claims priority, application Netherlands, July 23, 1963, 295,644
2 Claims. (Cl. 137—98)



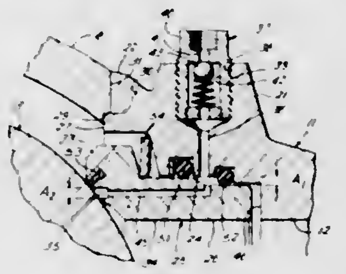
A control apparatus for blending two liquids to accurately determine the composition of the end product. Liquid level indicators in two tanks control respective values of two variable resistors in a bridge network. The bridge network generates an error signal proportinoal to the difference between the ratio of the variable resistors and a predetermined number. The error signal is adapted to control the flow of one liquid.

3,378,025
MOBILE SYSTEM FOR EVACUATING AND RECHARGING PORTABLE COMMODES
Al Hilde, Jr., 925 C. Kingsview Lane, Minneapolis, Minn. 55427
Filed Nov. 16, 1965, Ser. No. 508,034
5 Claims. (Cl. 137—205)



A vehicle mounted evacuation and recharge system for evacuating refuse from a portable commode and for recharging the same in one cycle of operation including a tank structure mounted on the vehicle and including a refuse chamber and a chemical supply chamber separated from each other. An evacuation conduit and a recharge conduit each respectively connected to the refuse chamber and chemical supply chamber and each being connected in communicating relation to a common conduit having a nozzle mechanism at its free end. A pump for producing negative pressure within the refuse chamber. A valve mechanism and valve actuating mechanism for controlling the flow of liquid though the evacuation conduit, and the valve mechanism and valve actuating mechanism for controlling the flow of fluid through the recharge conduit. A control valve mechanism interposed in flow controlling relation with respect to the common conduit adjacent the nozzle mechanism and controlling operation of the valve actuating mechanisms to permit a user to selectively evacuate liquid from a portable commode, and then recharge the portable commode with a fresh supply of liquid while being remotely located with respect to the vehicle.

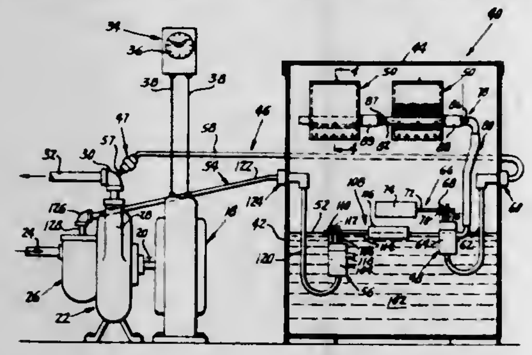
3,378,026
LUBRICATED VALVE WITH MEANS TO RELIEVE EXCESSIVE SEALANT PRESSURE
John P. Oliver, Houston, Tex., assignor to Cameron Iron Works, Inc., Houston, Tex., a corporation of Texas
Filed Mar. 26, 1964, Ser. No. 354,962
10 Claims. (Cl. 137—246.22)



1. A valve, comprising a body having a flowway therethrough, a valve member movable within the body for opening and closing the flowway, a seat within the flowway on one side of the valve member and having a groove about its inner end for disposal opposite said one side of the valve member, means providing a resultant outwardly facing pressure responsive area on the seat body which is responsive to fluid pressure to urge the inner end of the seat against the valve member, but which is smaller than the inwardly facing pressure responsive area of the groove, and passageway means for introducing lubricant at a desired pressure to the outwardly and inwardly facing pressure responsive areas on the seat so as to so urge the inner end of the seat against the valve member until the pressure of said lubricant reaches a predetermined value.

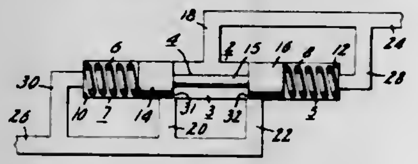
3,378,027
CHEMICAL ADDITIVE SYSTEM
Robert W. Fredericks and Theodore L. Harbaugh, South Gate, Calif., assignors to Omco Chemical Corporation, South Gate, Calif., a corporation of California
Filed Jan. 25, 1966, Ser. No. 522,984
9 Claims. (Cl. 137—268)

An apparatus for adding chemicals to a liquid circulating system which comprises a receptacle for the liquid and a pump having an inlet and having an outlet communicating with the receptacle to deliver the liquid thereto. A tank located above the level of the receptacle is connected to the pump outlet by a liquid delivery conduit and to the pump inlet by a liquid return conduit, liquid-level-actuated devices in the two conduits maintaining the liquid level in the tank between a predetermined maximum and a predetermined minimum. Chemical containers in the tank above the maximum liquid level are connected to the liquid delivery conduit so that liquid emanating therefrom dissolves the chemicals, the solutions being discharged into the liquid in the tank and being conducted to the receptacle through the liquid return line and the pump.



3,378,028
PRESSURE CONTROL VALVE

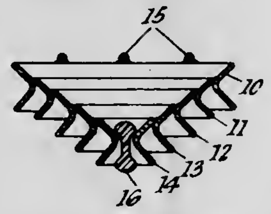
Ralph S. Mosher, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Mar. 30, 1965, Ser. No. 443,836
5 Claims. (Cl. 137—493)



3. A control valve comprising
a main passage,
a piston having two spools interconnected by a shaft member and movable in said passage,
biasing means between the end walls of said passage and the ends of said piston,
a first passage connecting the outside of said valve to the central part of said main passage only,
a first bleed passage connecting said first passage to one end of said main passage,
a second passage being bifurcated and connecting the outside of said valve with two ports which are normally substantially closed each by one spool of said piston,
a second bleed passage connecting said second passage to the other end of said main passage so that pressure applied in one direction across said valve tends to fully open only one of said ports to allow flow through said valve between said ports and pressure applied in the other direction tends to fully open only the other of said ports to allow flow in the other direction through said valve, said rate of flow being a linear function of the pressure difference across said valve.

3,378,029
NESTED RING VALVE

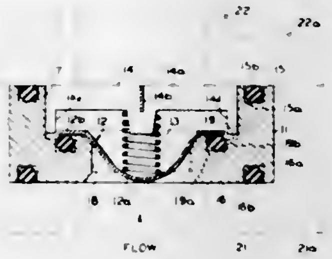
Denis Ernest Lee, Acocks Green, Birmingham, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England, a British company
Filed Nov. 23, 1965, Ser. No. 509,327
2 Claims. (Cl. 137—512.1)



1. A valve comprising a plurality of nested ring-like members, of descending sizes, each member having a generally V-shaped cross-section to define a concave external surface and a convex internal surface, so that when in the closed position, the outer edge of a smaller member is in sealing engagement with the convex internal surface of an adjacent larger member and the largest member, which is arranged to be secured in an orifice in a position of use, has means for preventing the other members moving beyond an open position which they occupy in response to the application of fluid pressure on one side of the valve, in which position the members all lie in substantially the same plane, the members being also capable of occupying a closed position in response to the application of fluid pressure on the other side of the valve, in which position they extend outwardly of one side of said plane in a generally conical formation.

3,378,030
VALVE

Francis H. Cary, Hope, R.I., assignor to General Signal Corporation, a corporation of New Jersey
Filed July 26, 1965, Ser. No. 474,626
2 Claims. (Cl. 137—516.29)



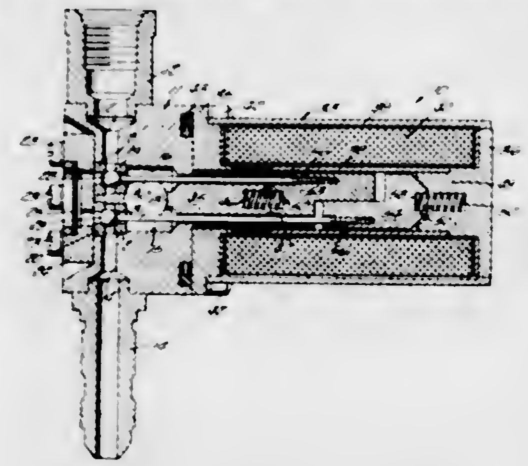
1. A check valve comprising
(a) a cylindrical body having parallel end faces and containing a bore which opens through said faces, the bore being provided with a step intermediate its ends that defines an annular shoulder that divides the bore into large and small diameter portions, the inner edge of the shoulder being rounded;
(b) three annular grooves, one formed in each end face and the other formed in the shoulder, the grooves encircling the bore;
(c) an elastic sealing ring seated in each annular groove;
(d) a thin, sheet metal valve head having an annular flange portion provided with a flat surface that overlies the groove in the shoulder, a spherical portion that projects into the small diameter portion of the bore, and an intermediate connecting portion which is curved to fit the rounded edge of the shoulder;
(e) a spider member fixed in the large diameter portion of the bore and having circumferentially spaced means which cooperates with the outer periphery of the flange portion of the valve head to guide the head in its opening and closing movements; and
(f) a coil compression spring reacting between the spider member and the spherical portion of the valve head and urging the valve head toward the shoulder on the body.

3,378,031
REVERSIBLE SOLENOID-OPERATED VALVE ASSEMBLY

Kimio Hatashita, Gardena, Calif., assignor to Rocker Solenoid Company, Wilmington, Calif., a corporation of California
Filed July 19, 1966, Ser. No. 566,313
8 Claims. (Cl. 137—596.17)

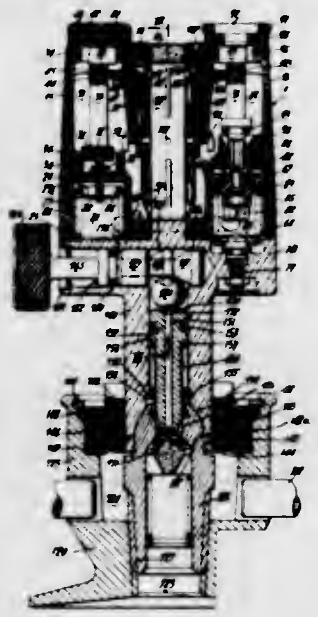
1. A solenoid valve assembly comprising a housing enclosing a pair of independent valve members movable toward and away from respective valve seat means for said valves, solenoid means for simultaneously operating said valves, said solenoid means having a pair of inner

and outer tubes and end plate means thereacross enclosing therebetween a solenoid coil, the midportion of said inner tube being of nonmagnetic material and the remainder of said tubes and end plates being of magnetic material, a pair of L-shaped armature members slidably supported within said inner tube, the shorter legs of said L-shaped armature members being remote from one another and the longer legs thereof being in close overlapping sliding contact with one another centrally of said inner tube, means connecting each of said armature members to a respective one of said valve members, spring means acting on each of said armature members and urging the latter toward retracted position with their remotely positioned shorter legs out of contact with the adjacent one of said plate means, and the energization of said solenoid coil being effective through magnetic flux created thereby to extend said armature members axially in opposite directions and their shorter legs into intimate contact with said end plate means, thereby to reverse the positions of each of said valve members.



3,378,032
SAFETY FLOW-LIMITING SELF-SERVOING PRESSURE RELIEF VALVE, MORE PARTICULARLY FOR DRAINING AND FILLING TANKS

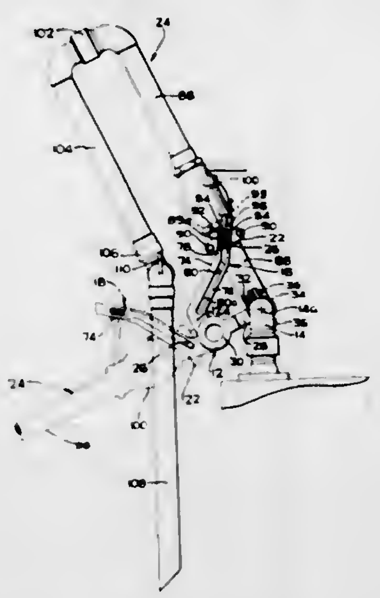
Roger Joseph Victor Harmand, 22 Rue de Lorraine, Paris 19eme, Seine, France
Filed Feb. 10, 1964, Ser. No. 343,812
Claims priority, application France, Feb. 5, 1963, 924,564
12 Claims. (Cl. 137—613)



A pressure reducing valve in which an atmosphere-vented expansion chamber includes opposed flexible walls forming common walls flanking high pressure and outlet pressure chambers including valve assemblies controlled by pressures exerted on the flexible walls.

3,378,033
BALANCING MECHANISM

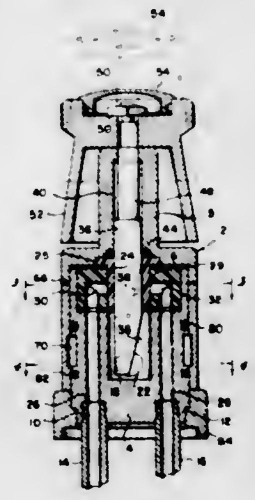
Claiborn Cooley, Jr., Houston, Tex., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed May 7, 1965, Ser. No. 453,956
14 Claims. (Cl. 137—615)



A torsion spring balancing mechanism for an articulated material conveying apparatus, such as a loading arm for the transfer of liquids from storage areas to tank trucks and cars, with an improved power lever for transmitting the torsional force exerted by the spring to the apparatus to balance the apparatus in all operating positions, and in one version to also return the apparatus to its stowed position.

3,378,034
SINGLE CONTROL MIXING FAUCET

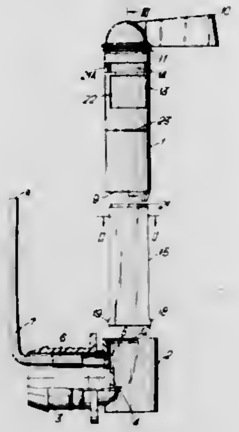
Roy Andrews, Zanesville, Ohio, assignor to National Heating & Cooling Mfg. Corporation, Columbus, Ohio, a corporation of Delaware
Filed Sept. 1, 1965, Ser. No. 484,368
9 Claims. (Cl. 137—625.4)



A mixing valve of the type including a flexible tubular valve member, and a cam rod axially and rotatably movable within said tubular valve member for accurately controlling the volume and temperature of water dispensed from a single faucet spout.

3,378,035
FLUID HANDLING DEVICES

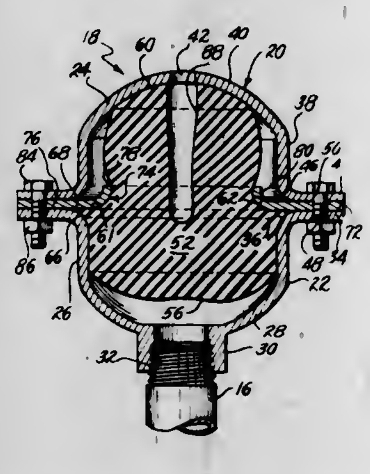
Rogor Strange Waddington, London, and Bruce Duval, Woldingham, England, assignors to Waddington & Duval (Holdings) Limited, London, England, a British company
Continuation-in-part of application Ser. No. 288,227, June 17, 1963. This application Oct. 21, 1965, Ser. No. 499,750
3 Claims. (Cl. 137—625.19)



1. A spigot tap comprising a tap body shaped to provide a tubular liquid entry part and a sleeve part communicating with the liquid entry part via a liquid aperture and an air aperture small compared with the liquid aperture, a hollow spigot open at one end thereof and formed on its length with a liquid entry port and an air exit in the form of a circumferential slot adjacent to the liquid entry port, said liquid entry port and said slot being positioned to be brought into communication with the liquid aperture and the air aperture respectively by rotating the spigot and one end of the slot being positioned such that when the liquid entry port is brought even partially into communication with the liquid aperture the slot is always placed at least partially in communication with the air aperture, and a partition releasably retained within the spigot part by a tight slidable fit and dividing the interior thereof to provide a liquid passageway leading from the liquid entry port to the open end of the spigot and an air passageway leading from the open end of the spigot to said slot.

3,378,036
SNUBBER DEVICE

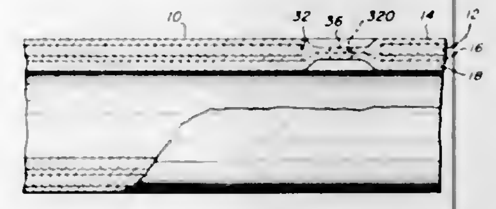
William Clayton, Pasadena, Calif., assignor to Clayton Manufacturing Company, El Monte, Calif., a corporation of California
Filed June 1, 1965, Ser. No. 460,297
22 Claims. (Cl. 138—30)



Snubber for damping rapid pump pulsations comprising upper and lower housing sections, each having a cylindrical side wall portion and a convex end wall with a ring clamped between the sections and extending inwardly beyond the side walls to provide an abutment for a vulcanized rubber core. The core has a shoulder engaging the abutment and an upper cylindrical portion extending through the abutment on one side thereof in spaced relation to the side wall of said upper housing section and into engagement wi h the end wall of the upper housing section; and a lower cylindrical portion on the other side of the abutment of substantially the same diameter as the lower housing section. The lower housing section has an inlet for liquid, and the lower end of the core is spaced from said inlet to provide a surge chamber.

3,378,037
FLUXING PIPE

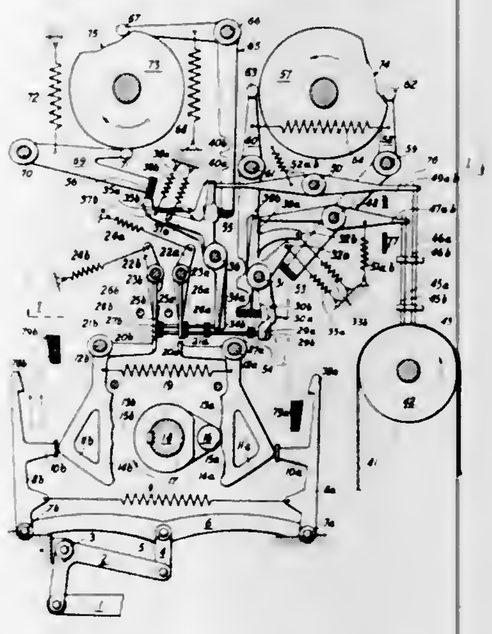
Woodrow W. Carpenter, Cincinnati, Ohio, and Elmer Seibert, Bellevue, Ky., assignors to Ceramic Coating Company, Newport, Ky., a corporation of Kentucky
Filed Sept. 16, 1965, Ser. No. 487,780
4 Claims. (Cl. 138—146)



A fluxing pipe for delivering fluid to a mass of molten metal having a fired porcelain enamel applied to the interior and exterior of the pipe and an additional interior coating of glass fired to the interior coating of porcelain enamel. The pipe may be substantially closed at one end by means of an end cap or by being deformed and contains a plurality of side vents adjacent to the closure for lateral fluid de!ivery. The pipe may also be bent in an obtuse angle intermediate its ends.

3,378,038
CONTROL SYSTEM FOR A DOBBY MACHINE

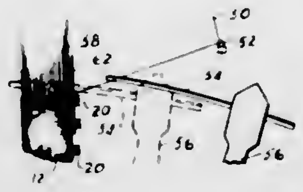
Frantisek Hadinec, Lomnice nad Popelkou, Czechoslovakia, assignor to Elitex, Zavody Textilniho Strojirenstvi, Liberec, Czechoslovakia
Filed Apr. 6, 1966, Ser. No. 540,665
Claims priority, application Czechoslovakia, Apr. 6, 1965, 2,243/65
14 Claims. (Cl. 139—66)



A dobby machine is controlled by program means having recordings representing weft insertions and sensed by sensing means controlling movements of operating means which operate blocking means of spring biased actuating means having operative positions for coupling the output means of the dobby machine with drive means. A main shaft controls the actuating means to move cyclically to the operative position when released by the blocking means so that the dobby machine can be reversed and returned to any desired position without disturbing the sequence of weft insertions.

3,378,039
ATTACHMENT FOR NEEDLE LOOM

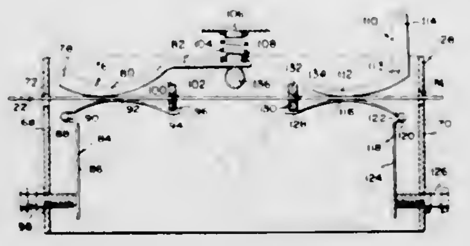
Charles J. Vaslet, Coventry, R.I., assignor, by mesne assignments, to Bonas Bros. Weavematic Looms (England) Ltd., Sunderland, England, a corporation of Great Britain
Continuation-in-part of application Ser. No. 577,276, Sept. 6, 1966. This application May 10, 1967, Ser. No. 641,417
15 Claims. (Cl. 139—118)



A needle loom weaves tape, and has a latch needle and a filler needle instead of a shuttle. The present improvement is an attachment to produce ornamental loops along one edge of the tape in a repeat pattern which is independent of the harnesses. An edge wire is moved by a cam and cam follower arm to produce the loops. A plurality of collateral edge wires may be disposed at different distances from the tape edge, to produce loops of different lengths, each wire being operated by its own cam. Thus, as an example, three wires may be used to produce in sequence some short loops, some medium loops, some long loops, some medium loops and some short loops, for a scalloped edge.

3,378,040
WEFT CONTROL MEANS IN A GRIPPER LOOM

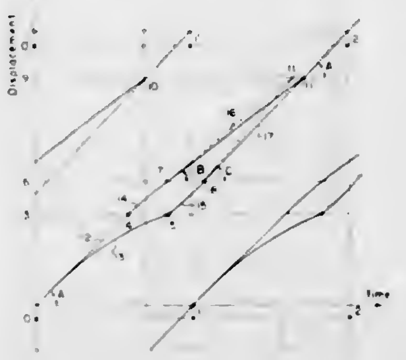
Albert Moessinger, 1066 Epalinges, Switzerland
Filed Oct. 22, 1965, Ser. No. 501,652
Claims priority, application Switzerland, Dec. 22, 1964, 16,518/64
6 Claims. (Cl. 139—122)



This invention relates to a novel method and means for weaving. The invention is more specifically related to a weaving machine and method wherein a shuttle carrying a weft thread moves in a continuous circuit without slowing down. The method comprises the steps of gripping a weft thread in a shuttle, moving the thread through warp threads, releasing the thread after passage through the warp threads, gripping the released threading by a seizing means, and withdrawing the thread to the initial point while maintaining the therad under proper tension. The apparatus comprises generally, means for supplying thread, shuttle elements for grouping the threading, means for causing the shuttle to move through warp threads, means for releasing the thread from the shuttle after its passage through the warp threads, means for seizing the released weft thread, and means for slideably withdrawing the weft thread from the exit side of the warp threads to the inlet side of the warp threads while maintaining the weft thread under proper tension.

3,378,041
SHUTTLE DRIVE

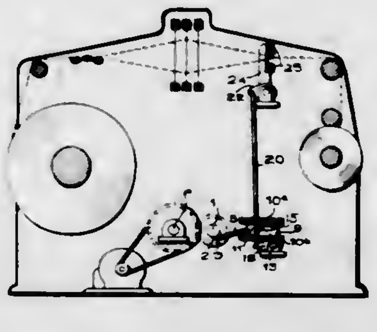
Albert Moessinger, 1066 Epalinges, Switzerland
Filed Oct. 22, 1965, Ser. No. 500,563
Claims priority, application Switzerland, May 28, 1965, 7,570/65
12 Claims. (Cl. 139—125)



A loom wherein means are provided for controlling the speed of the shuttle as it is reciprocated along its closed circuit or path in order to compensate for variations in the speed of the shuttle.

3,378,042
MECHANISM FOR SIMULTANEOUSLY VARYING THE SPEED OF MOVEMENT AND DWELL TIME OF A REED

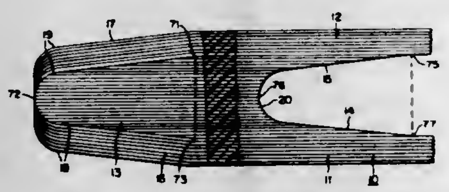
Theodorus Fransen, Heuvelstraat 24, Deurne, North Brabant, Netherlands
Filed Feb. 16, 1966, Ser. No. 527,702
Claims priority, application Netherlands, Feb. 19, 1965, 65/2,155
1 Claim. (Cl. 139—190)



Mechanism for simultaneously adjusting the speed of movement and dwell time of a reed, comprising a driving member which is mounted to oscillate and has a slot having a portion extending in the direction of oscillation and an adjacent portion deviating from the direction of oscillation, a driven member having a pin engaged in the slot and having a driving connection with the reed, a rotary crank having a crank pin mounted for adjustment radially of the crank to vary the stroke of the crank, and a connecting rod which extends between the crank pin and the driving member to oscillate the driving member, and which is adjustable in length to permit the path of movement of the reed to be held constant when the stroke of the crank is adjusted to vary the speed of movement and dwell time of the reed.

3,378,043
LAMINATED SHUTTLE BLANK

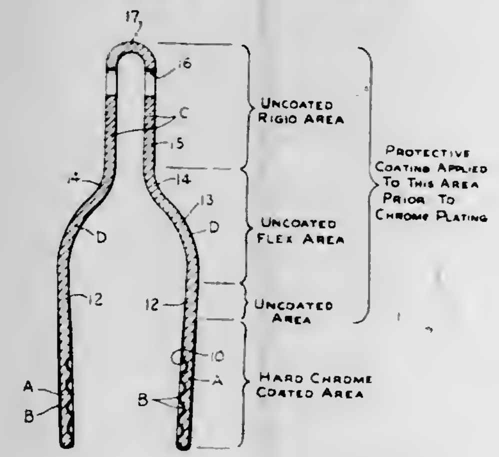
George M. Naul and Alfred W. Roberts, Hampton, S.C., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 8, 1966, Ser. No. 556,205
5 Claims. (Cl. 139—196)



An all laminated shuttle blank is made from stacks of single size side wall sheets and single size end wall sheets wherein the tapered interior surfaces of the bobbin chamber are parallel to the exterior tapered side wall surfaces. When the bobbin chamber is tapered and terminally curved or rounded, the tapered side walls are similarly curved or rounded. In all cases the end wall sheets run in substantially the same direction as the side wall sheets and the chamber geometry can easily be changed without changing the end wall sheet dimensions.

3,378,044
WEAR RESISTANT SHUTTLE SPRING

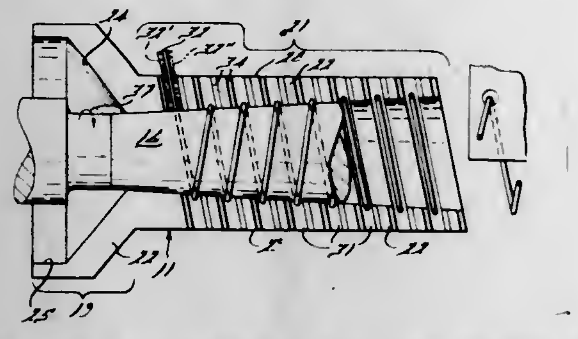
Roy H. Boggs, Timble Lake Road, Anderson, S.C. 29621
Filed Sept. 1, 1966, Ser. No. 576,579
1 Claim. (Cl. 139—207)



A shuttle spring having opposed grooved metal tips is provided with a layer of hard chrome from about .001 inch to about .010 inch in thickness coating the grooved tips. A rigid metallic shank portion and a flex portion are free of chrome.

3,378,045
APPARATUS FOR PRODUCING HELICAL COILS

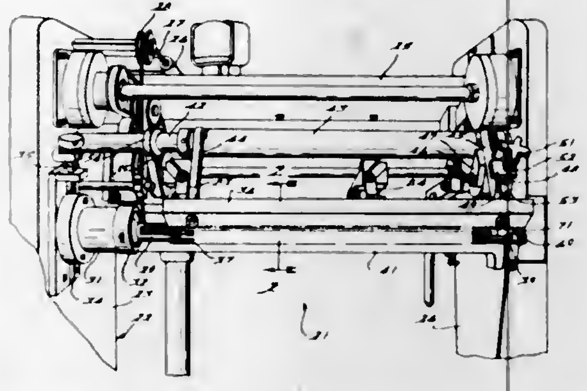
Paul E. Thurman, Detroit, Mich., assignor to Hans Sickinger Co., West Bloomfield Township, Mich., a corporation of Michigan
Filed Mar. 17, 1966, Ser. No. 535,155
7 Claims. (Cl. 140—92.94)



1. In a coiling tool construction for the production of spiral wire binders, an elongated body having a coiling portion of generally semicylindrical shape, a mounting portion extending outwardly from one end of said coiling portion, a concave recess on one side of said body extending the entire length thereof, a rotatable mandrel within said recess, the side of the mandrel facing away from said recess being exposed, and a series of parallel inclined slots in the coiling portion of said body extending inwardly from the side thereof having said recess and having a depth substantially greater than the depth of said recess, the width of said slots being substantially greater than the width of a wire to be formed into a spiral coil by said tool.

3,378,046
SPIRAL BINDER APPLYING MACHINE

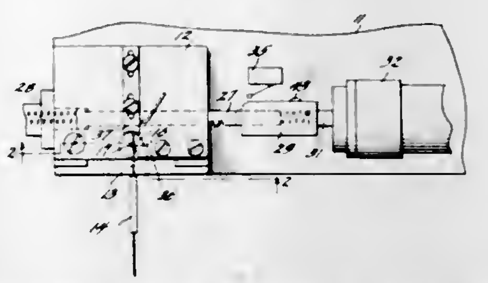
Claus Ostermeier, Post Geisenfeld, Upper Bavaria, Germany, assignor to Hans Sickinger Co., West Bloomfield Township, Mich., a corporation of Michigan
Filed Mar. 17, 1966, Ser. No. 535,154
8 Claims. (Cl. 140—92.94)



1. In a spiral binder applying machine for packs of sheets each of which a row of perforations, forward and rear guide rollers, forward and read guide roller supports, each of said supports comprising an elongated member within which its guide roller is rotatably supported, means mounting said members in facing relation, the facing surfaces of said members being flat and engageable with opposite sides of a pack of perforated sheets in areas adjacent and on both sides of the row of perforations, means for moving said members relative to each other between retracted and clamping positions, a series of slots in the facing surfaces of said members, said slots extending into said members sufficiently to expose said rollers, and means for rotating said rollers, whereby a spiral wire will pass into and out of successive slots in said members and be advanced by said rollers.

3,378,047
APPARATUS FOR BENDING WIRE

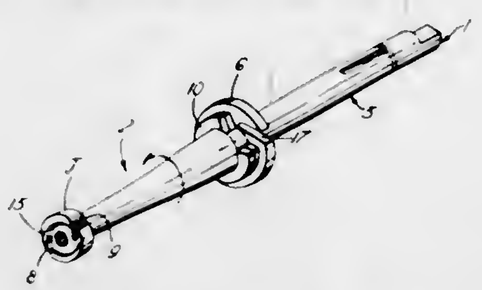
Arnold L. Patterson, Harmony, N.C., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 8, 1965, Ser. No. 485,803
8 Claims. (Cl. 140—102)



A wire lead advanced between an anvil pin and a stationary stop engages a conductive stop and completes an electrical circuit from the conductive stop through the pin to energize a mechanism to rotate a bending element about the anvil pin. As the bending element is rotated, the lead is bent about the anvil pin whereafter the anvil pin is retracted from engagement with the wire lead. The bending element is further rotated to press the end of the wire lead against that portion of the lead between the bent end and the stationary stop.

3,378,048
WIRE WRAPPING TOOLS

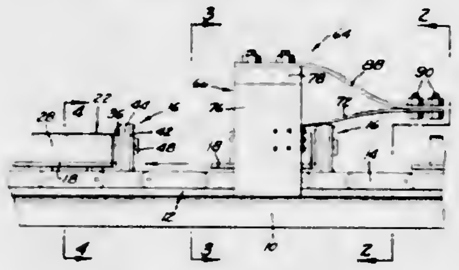
Leslie Tempest Wood and Thomas Gordon Fisher, London, England, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 27, 1965, Ser. No. 483,120
Claims priority, application Great Britain, Sept. 4, 1964, 36,340/64
4 Claims. (Cl. 140—124)



A tool for severing a desired length of insulated wire and for wrapping the severed wire tightly around a terminal lug. The tool strips the insulation from the length of wire just prior to wrapping it on to the terminal lug. A specially shaped jaw facilitates such stripping of insulation.

3,378,049
APPARATUS FOR SLITTING AND PITTING DATES

Paul J. Kersten, 39–580 Kersten Road, Indio, Calif. 92201
Filed May 10, 1965, Ser. No. 454,750
4 Claims. (Cl. 146—17)



4. A machine for slitting and pitting dates, comprising:

a traveling conveyor;

a plurality of date carriers mounted on said conveyor and movable therewith, each of said date carriers being operable to receive and hold a date parallel to the line of travel;

each of said carriers comprising a pair of sides movable toward and away from one another between open and closed positions, said sides bearing against opposite sides of the date to hold the same firmly in position when said carrier is closed;

a stationary knife blade positioned to pass between said carrier sides and to slit each of said dates longitudinally as its carrier passes by;

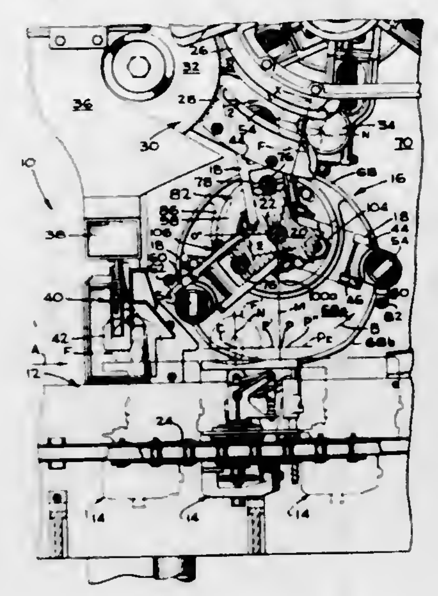
means for closing said sides together as said carrier travels past said knife;

stationary means positioned in the path of said date and engageable with one end of the pit after the date has been slit, so as to push the pit out of the other end of the date; and

a holding member mounted on each of said carriers to engage the rear end of the date and hold the same against rearward movement with respect to the carrier, said member having an opening therein through which said stationary knife, said stationary means and the ejected pit pass.

3,378,050
APPARATUS FOR COORDINATING A FRUIT PROCESSING MACHINE

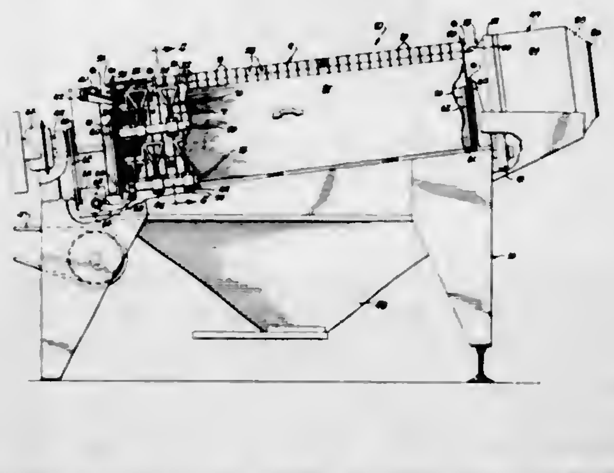
David Elford, The Patch, Victoria, Australia, assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Jan. 17, 1966, Ser. No. 520,998
2 Claims. (Cl. 146—51)



In a peach pitter, the grippers on a transfer turret which pick up peaches from a conveyor and transfers them to slitting knives have their closing and opening motions individually and independently adjustable to insure precise pickup and delivery of batches of peaches of various sizes.

3,378,051
BEAN SNIPPER

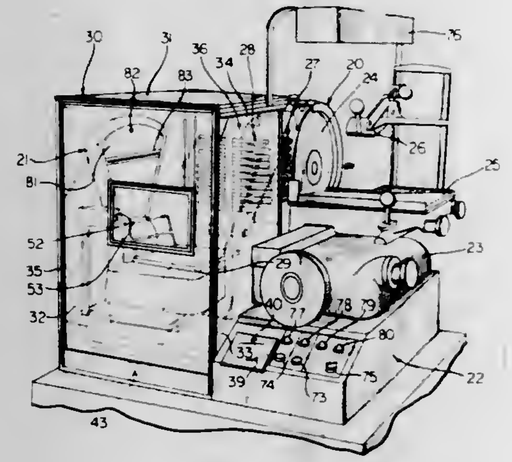
Gaston dit Jacques Grosbety, Duvernay, Quebec, Canada, assignor to Chisholm-Ryder Company, Inc., Niagara Falls, N.Y., a corporation of New York
Filed Feb. 21, 1966, Ser. No. 528,880
9 Claims. (Cl. 146—86)



The bean snipper is of the general type including a sloped drum with its periphery having a multitude of small apertures which apertured periphery knives are pressed to cut off the bean ends projecting from the small apertures, and internally including axially spaced partitions with openings to permit the beans to flow through the successive compartments formed by the partitions. The present bean snipper is characterized by the large size of these openings to provide increased flow through the snipper; lifting plates in the compartments to work the flow of beans from the bottom to the top of the stream; by an external scoop at the inlet end to facilitate feeding of beans to the machine; and by a shutter to control such feeding of beans to the machine.

3,378,052
WEIGHT CONTROLLED SLICING MACHINE

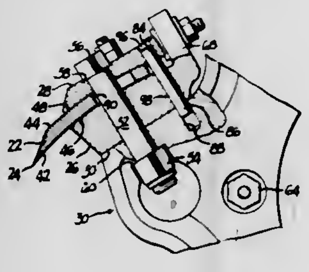
Launcelot Dekker, La Porte, and Le Roy J. Ryan, Jr., Chicago, Ill., assignors to Maatschappij Van Berkel's Patent N.V., Leidschendam, Netherlands, a limited-liability company of the Netherlands
Filed Nov. 5, 1965, Ser. No. 506,546
9 Claims. (Cl. 146—102)



A weight controlled slicing machine including a food slicer, a weighing scale, and control means for controlling the operation of the slicer in response to the scale.

3,378,053
CUTTER HEAD FOR FORAGE HARVESTERS

Wolfgang R. Potzsch, Wolfenbuttel, Germany, assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed Feb. 23, 1966, Ser. No. 529,340
5 Claims. (Cl. 146—117)

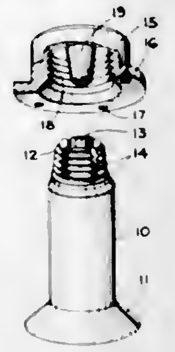


1. A chopper rotor having a center shaft, a mounting structure comprising spaced discs supported on said shaft for rotation therewith, a plurality of knife holder members carried by said discs with each member defining a seating surface for a portion of a knife, knife clamping members overlying the knife on said seating surfaces, means fastening said knife, said holder members and said clamping members to said discs, and holding means separate from said fastening means extending between each clamping member and holding member to prevent relative movement of said members.

3,378,054
RAPID THREADING FASTENER ASSEMBLY

Rudolph M. Vaughn, 2127 Salt Air Drive, Santa Ana, Calif. 92705
Continuation of application Ser. No. 433,865, Feb. 19, 1965. This application Feb. 27, 1967, Ser. No. 619,070
2 Claims. (Cl. 151—19)

This disclosure relates to a bolt and nut wherein the end of the bolt is countersunk to define a tubular structure. The walls of the tube are slotted to permit radial expansion and contraction of the shank end portion of the bolt. The end portion of the bolt is threaded exteriorly in one embodiment and interiorly in another embodiment. The cooperating nut includes a chamber having a central projection defining an annular recess. In one embodiment, the inner annular wall of the recess is threaded for cooperation with the external threads on the tubular structure of the bolt and the central projection is tapered such that it will expand the walls of the tubular structure to cause mating engagement of the bolt threads with the nut threads after a major portion of the bolt threads have been inserted past the nut threads thereby enabling a rapid fastening to be effected. In a second embodiment, the central projection of the nut is exteriorly threaded for mating engagement with the interior threads in the end tubular structure of the bolt and the inner annular wall of the nut recess is tapered to effect such mating engagement by moving the tubular wall structure of the bolt radially inwardly after a major portion of the bolt threads have passed the nut threads thus again effecting a very rapid fastening device.



3,378,055
SPINNABLE COMPOSITION OF POLYAMIDES AND POLYESTERS PREPARED FROM A POLYAMIDE-POLYESTER DISPERSION AND A POLYAMIDE-POLYESTER REACTION PRODUCT

James J. Robertson, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Oct. 24, 1965, Ser. No. 504,906
30 Claims. (Cl. 152—359)

A tire cord having non-flat spotting properties may be prepared from a spinnable mixture of 25 to 65 parts polyester, and 75 to 35 parts of a polyamide forming a two-phase mixture, and 0.5 to 20 parts by weight per 100 parts of the mixture of the reaction product of a polyamide and polyester obtained by heating them together in the melt.

3,378,056
SPINNABLE RESINOUS COMPOSITION OF A POLYESTER AND A POLYAMIDE

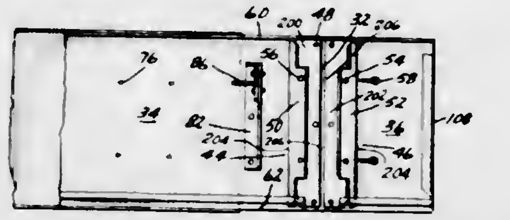
James J. Robertson, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Jan. 5, 1966, Ser. No. 518,808
7 Claims. (Cl. 152—359)

There is provided a spinnable resinous composition of a polyester, such as poly (alkylene aryl dicarboxylate) and a polyamide, which composition is characterized by the inclusion therein of a minor amount of the reaction product of isophthalic acid and hexamethylene diamine.

3,378,057
CORNICE FRAME

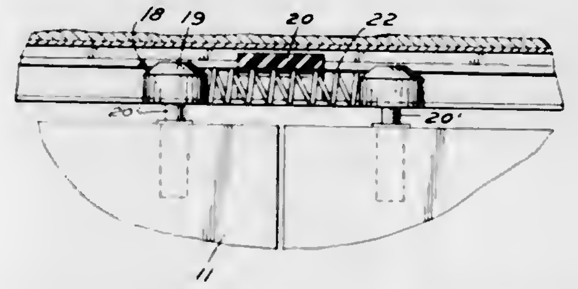
Adolph J. Synck, 717 W. Walnut St., Coldwater, Ohio 45828
Filed Oct. 2, 1964, Ser. No. 401,145
11 Claims. (Cl. 160—39)

6. A cornice frame comprising an elongated flat sheet and two strengthening members, each of said members having an elongated and substantially straight bending edge, said members secured to said sheet between the longitudinal boundaries thereof with said bending edges of said members extending transversely of said sheet in spaced apart and facing relation, thereby defining a bendable portion of said sheet between said edges, said sheet having longitudinally extending peripheral flange portions secured thereto at said boundaries thereof, said members being secured to said sheet between said flange portions, each of said flange portions having a slot therein in registry with said bendable portion of said sheet, thereby adapting said sheet to be folded transversely of said sheet along a line within said bendable portion to form front and end panel portions disposed in angular relation with a corner therebetween, said corner being generally at said line, and means for securing said front and end panel portions in said angular relation.



3,378,058
FOLDING DOOR CONSTRUCTION

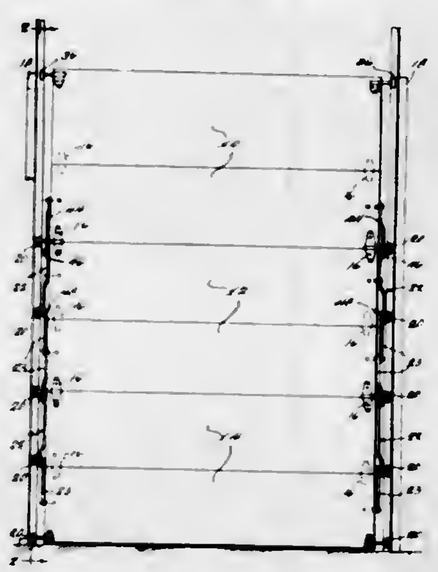
John Matyas, 13852 Keal Ave., Detroit, Mich. 48227
Filed Aug. 19, 1966, Ser. No. 573,509
9 Claims. (Cl. 160—118)



1. In a folding door construction comprising at least two door panels hinged together along a common axis,
means on one of said panels for hinging said one panel to a door jamb,
means on the other panel providing a guide member,
a track engageable by said guide member,
said door panels being movable from a position wherein the common axis lies on one side of the axis of said track to a position wherein said door panels are folded and said common axis lies on the other side of the axis of said track,
said track including a downwardly opening channel therein,
a compressible resilient block frictionally held within said channel,
said block having a downwardly opening cavity therein,
a compressible spring member frictionally held in said cavity and having generally horizontally extending compressible ends,
said spring member expanding and increasing the frictional resistance to movement between said track and said resilient block.

3,378,059
ACTUATING LINKAGE FOR FOLDING DOORS

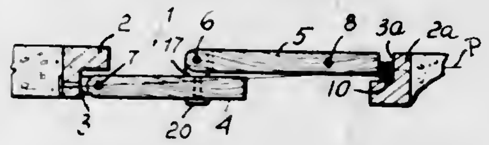
John C. Young, Reedsville, Pa., assignor to Vertex, Inc., a corporation of Pennsylvania
Filed Dec. 7, 1966, Ser. No. 599,847
7 Claims. (Cl. 160—165)



The invention is directed to apparatus which is useful for linking door panels together for actuating a folding and unfolding of the panels in a sequential pattern of graduated movements. The apparatus is applicable to folding doors which fold in accordion fashion to be stacked over doorways, and such doors are used in large buildings, garages, and the like. The preferred sequence of movement for opening the door of this invention includes an initial folding of an uppermost pair of panels, which in turn causes graduated folding movements of intermediate pairs of panels and of a lowermost pair of panels. Linkage members are interconnected between edges of the panels, and the linkage members are guided along tracks located in a door frame which assists in the control of the folding sequence of the door panels. Further, the linking members include an uppermost linking arm which automatically swings the uppermost panel of a door assembly out of a vertical position when the assembly is lifted, and this causes a chain-reaction folding of all panels of the door assembly.

3,378,060
MULTIPLE SECTION SHUTTING STRUCTURE

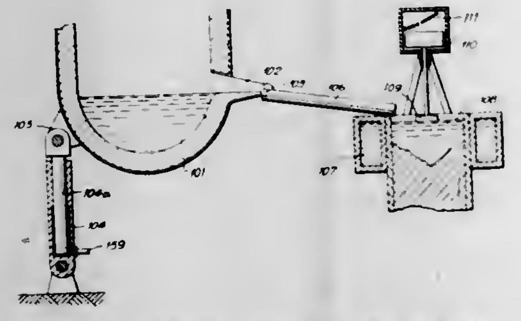
Renzo Oddicini, Via Piana 17, Omegna, and Pietro Nieder, Viale Vigliani 21, Milan, Italy
Filed Oct. 18, 1965, Ser. No. 496,797
Claims priority, application Italy, Oct. 8, 1965, 9,893/65, Patent 757,747
4 Claims (Cl. 160—181)



This invention relates to a door or window structure comprising a number of vertical partially overlapped panels hinged with each other at the overlapped portions thereof. One endwise panel is hinged to the jamb member of the door or window and the opposite endwise panel engages in a resilient manner, in the closed position of the door or window, with a resilient member provided on the opposite jamb of the door or window or on the lintel, in such a manner as to resiliently or yieldably lock the panels of the door or window in the closed position thereof, allowing at the same time an easy opening thereof. The hinge means of the panel members are provided with a fork-like hinging member, which has convex shaped surface portions adapted to mate intimately with complemental concave shaped surface portions provided in the seats where the fork members is received.

3,378,061
CONTINUOUS CASTING ARRANGEMENT

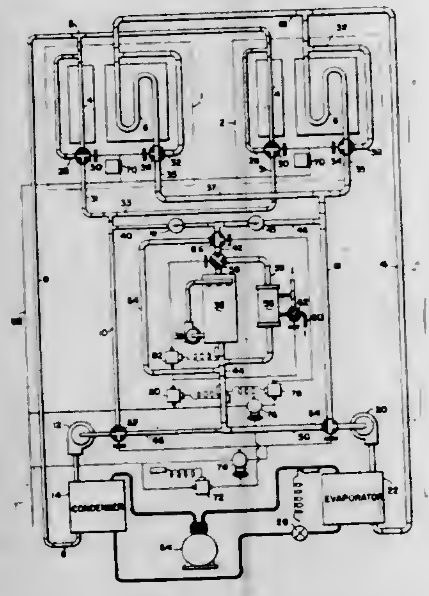
Rolf Von Alt, Remscheid-Luttringhausen and Klaus Viessmann, Kornwestheim, Germany, assignors to Kreidler's Metall- und Drahtwerke G.m.b.H., Stuttgart-Zuffenhausen, Germany
Filed Apr. 6, 1965, Ser. No. 450,570
Claims priority, application Germany, Apr. 7, 1964, K 52,591
16 Claims. (Cl. 164—156)



A continuous casting installation wherein a control means is operatively connected to the tilting means of a container for automatically actuating the latter successively through a series of cycles each of which includes a tilt interval during which the container is tilted in the given direction through a given increment and a dwell interval during which the container remains at the inclination to which it has been tilted during the tilt interval. This control means responds automatically to the elevation of the surface of the molten material at the receiving end of the mold for determining the ratio between these intervals of each cycle.

3,378,062
FOUR PIPE HEAT PUMP APPARATUS

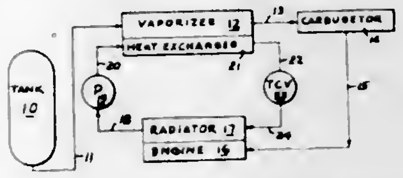
Clarence L. Ringquist and John W. Lorenz, La Crosse, Wis., assignors to The Trane Company, La Crosse, Wis., a corporation of Wisconsin
Filed Oct. 27, 1966, Ser. No. 589,968
10 Claims. (Cl. 165—22)



Heating and cooling systems having a compression refrigeration machine, a heating fluid circuit including an air heater and the condenser of the refrigeration machine, a cooling fluid circuit including an air cooler and the evaporator of the refrigeration machine, a heat exchanger exposed to outdoor air and valves for connecting the heat exchanger in the heating circuit when the system requires the disposal of heat to the outdoor air and for connecting the heat exchanger in the cooling circuit when the system requires heat from the outdoor air.

3,378,063
THERMOSTAT CONTROL VALVE

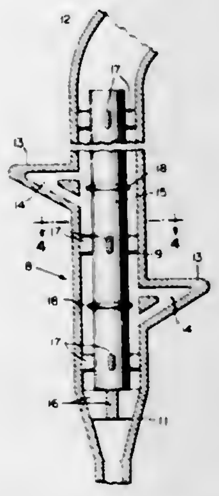
Richard L. Mefferd, 9209 E. Ramona, Bellflower, Calif. 90706
Filed Jan. 10, 1966, Ser. No. 519,593
4 Claims. (Cl. 165—40)



1. In combination: a source of liquefied gas; a vaporizer receiving liquefied gas from said source; a carburetor receiving vaporized gas from said vaporizer; a heat exchanger in operative relationship with said vaporizer so as to supply heat thereto; a source of heated fluid supplying said fluid to the heat exchanger; and a thermostat control valve controlling the discharge of fluid from the heat exchanger, said thermostat control valve comprising: a body having an internal chamber and an inlet port and an outlet port opening into said chamber; a valve port in the chamber between the inlet and outlet ports; a valve element in said chamber, said valve element having an axis of motion, and being axially movable relative to the valve port so as to adjust the flow rate therethrough; a return spring axially opposed to the valve element and biasing it toward a valve-open position; and a temperature-responsive axial-force actuator opposed between the body and the valve element on the opposite side of the valve element from the return spring, the inlet port and the actuator being in fluid communication with each other, increasing temperature causing expansion of said actuator to move the valve element against the return spring, thereby to cause the valve member to reduce the flow rate through the outlet port over at least a portion of the path of the valve element.

3,378,064
TUBE SUPPORT

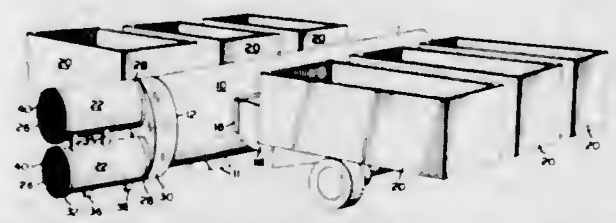
Irwin G. Benkert, Morton, Pa., assignor to Selas Corporation of America, Dresher, Pa., a corporation of Pennsylvania
Filed May 12, 1966, Ser. No. 549,526
1 Claim. (Cl. 165—67)



There is provided a liquid cooled tube support for use in a tube heater. The tube support has in it a deflecting member which directs the cooling liquid in an annular path to increase its velocity and cooling effect as it flows through the support. The material being heated in the furnace can be used as the cooling fluid for the support so that this material is preheated.

3,378,065
BLOWER ARRANGEMENT FOR PEANUT DRYER

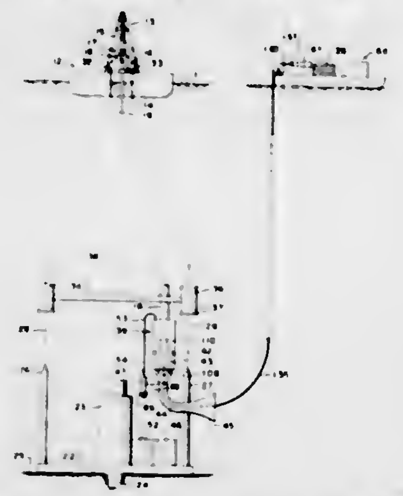
John D. Mitchell and William R. Hall, Woodville, N.C., assignors to Harrington Manufacturing Company, Lewiston, N.C., a corporation of North Carolina
Filed Aug. 19, 1965, Ser. No. 481,142
3 Claims. (Cl. 165—122)



This invention relates to a drying system for peanuts and like comprising in combination, a plenum chamber, a plenum inlet and a plenum outlet and at least two air blower means located in the plenum inlet that are provided with air flow check means so as to prevent the backward flow of air through any air blower means.

3,378,066
UNDERWATER WELLHEAD CONNECTION

Lloyd G. Otteman, Houston, Tex., and Larry G. Rohloff, Whittier, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Sept. 30, 1965, Ser. No. 491,573
4 Claims. (Cl. 166—.5)

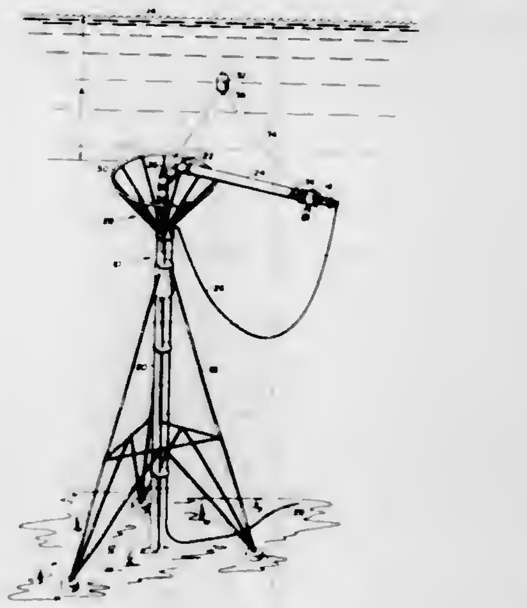


A method of remotely connecting a flowline with an installation submerged in a body of water. The installation is provided with flowline alignment means, and a flexible cable is arranged through the alignment means. One end of the cable is attached to a flowline and the other end is tensioned to pull the flowline into the alignment means where it is secured in an aligned position.

3,378,067
UNDERWATER WELLHEAD

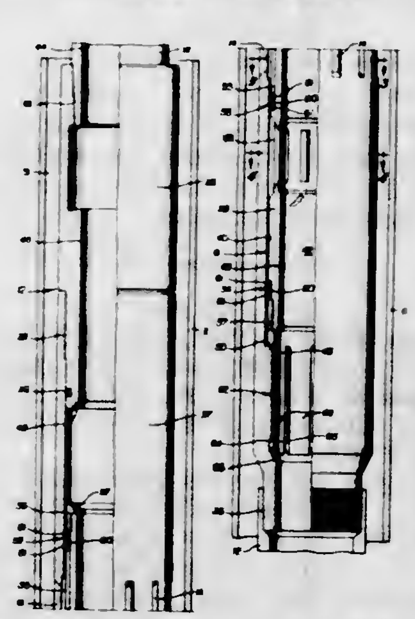
John R. Leonard, Houston, Tex., and James W. Terry, Whittier, Calif., assignors to Mobil Oil Corporation, a corporation of New York
Filed May 20, 1966, Ser. No. 552,386
9 Claims. (Cl 166—.5)

1. Apparatus for producing oil and/or gas from a subaqueous well, consisting of: a conductor pipe set in the wellbore and protruding therefrom, said conductor pipe being long enough for the upper end to project above the surface of the body of water at the well site when said conductor pipe is vertically positioned; a christmas tree fixed on said upper end of said conductor pipe and operatively connected therewith; means for sheltering said christmas tree beneath said surface of said body of water including a flexible section in said conductor pipe; production tubing within said conductor pipe for operatively connecting a producing zone in said subaqueous well with said christmas tree for producing the fluid therethrough; and a flexible section in said production tubing substantially coincident with said flexible section in said conductor pipe whereby said conductor pipe and said included production tubing can be bent to shelter said christmas tree beneath said surface of said body of water, and can be vertically straightened to project said christmas tree above said surface of said body of water.



3,378,068
SLEEVE VALVE AND OPERATION THEREOF IN A WELL

John S. Page, Jr., 2301 Snowden Ave., Long Beach, Calif. 90815
Filed Oct. 20, 1965, Ser. No. 498,849
26 Claims. (Cl. 166—1)

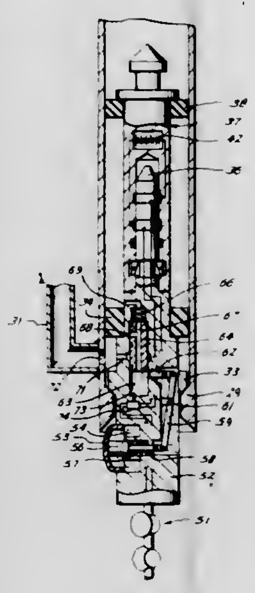


The disclosed invention concerns a well fluid flow control assembly connectible in a tubing string and characterized by fluid pressure responsive shifting of a sleeve valve between up and down positions to control well fluid flow between the interior and exterior of tubing in a well. The sleeve valve may cooperate with a wire line suspended shifting tool from which fluid pressure is communicated to a piston surface for shifting the sleeve vertically.

3,378,069

WELL MAINTENANCE AND COMPLETION TOOLS

Roger Q. Fields, Houston, Tex., assignor, by mesne assignments, to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas
Filed Aug. 13, 1964, Ser. No. 389,389
25 Claims. (Cl. 166—4)



As exemplary of certain embodiments of the invention disclosed herein, various well-completion tools are arranged for passage through a flow line into position for performing a completion operation in a well bore. Various apparatus are included for providing indications at the surface when the tool is in position as well as to prevent premature actuation thereof.

3,378,070

HYDROXYETHYL CELLULOSE COMPLEX AND METHOD OF PLUGGING UNDERGROUND FORMATIONS THEREWITH

Gerald A. Wessler and Walter N. Epler, Duncan, Okla., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware
No Drawing. Filed Sept. 3, 1965, Ser. No. 485,108
12 Claims. (Cl. 166—22)

This patent describes a novel tough rubber-like complex of hydroxyethyl cellulose and a polyvalent metal ion, its method of preparation, and the method of forming a tough viscous plug in an underground formation by the injection therein of a basic solution of hydroxyethyl cellulose and a polyvalent metal ion.

3,378,071

METHOD FOR CONSOLIDATING INCOMPETENT SUBTERRANEAN FORMATIONS

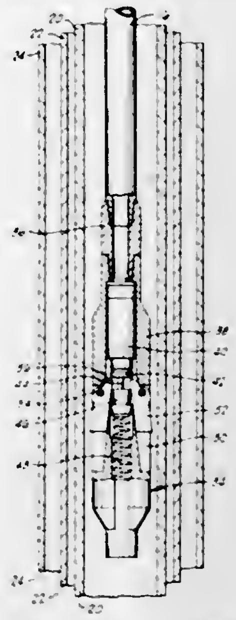
Derry D. Sparlin, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
No Drawing. Filed Feb. 10, 1966, Ser. No. 526,376
10 Claims. (Cl. 166—33)

This invention relates to a process for consolidating incompetent formation wherein there are zones of relatively high permeability which utilizes a slurry including particulate material and an adhesive and has primary utility in such formations. In one aspect, this invention envisions a process wherein a relatively limited amount of the slurry is pumped down a borehole into contact with the formation to be consolidated and thereafter a catalyst solution is placed in contact with the adhesive material in the slurry to flash set it. Another quantity of slurry is then positioned against the formation immediately adjacent the portion of the slurry which was flash set as a result of the initial operations in the borehole.

3,378,072

METHOD AND APPARATUS FOR SEVERING WELL CASING IN A SUBMARINE ENVIRONMENT

Samuel H. Smith, 2224 NW. 52nd St., Oklahoma City, Okla. 73112
Filed Sept. 9, 1966, Ser. No. 578,326
5 Claims. (Cl. 166—35)



1. The method of cutting a well casing of the type which includes a plurality of telescoped casing strings, said method comprising:

(a) suspending at a fixed, preselected point in the innermost of said casing strings, a cutting tool having pivotally secured thereto at least one elongated cutting member of a preselected length correlated in length to the diameter of the innermost of said telescoped casing strings to provide efficient cutting of said cutting member through said innermost casing string;

(b) pivoting said elongated cutting member to a position in which the cutting member contact the internal wall of said innermost casing string;

(c) rotating the cutting tool to cause said elongated cutting member to cut through said innermost casing string through its entire circumference and to form an axially extending opening through said innermost casing string; then

(d) pivotally securing to said cutting tool, at least one other elongated cutting member having a preselected length which is greater than the length of said first-mentioned cutting member;

(e) positioning said cutting tool in said innermost casing string at a preselected point above said first-mentioned preselected point and selected to permit said other cutting member to extend upon pivotation through the axially extending opening formed in said innermost telescoped casing string by said first-mentioned cutting member;

(f) pivoting said other cutting member through the axially extending opening formed in said innermost casing string by said first mentioned elongated cutting member; and

(g) rotating the cutting tool to cause said other cutting member to cut through at least one of the casing strings which surrounds said innermost casing string.

3,378,073

METHOD OF FRACTURING A SUBTERRANEAN FORMATION WITH A SHEAR THICKENING LIQUID

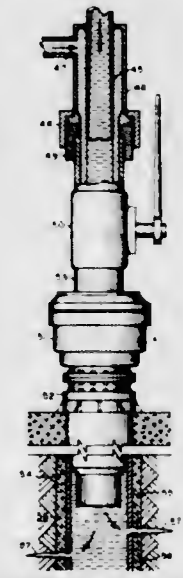
Joseph G. Savins, Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York
No Drawing. Filed May 10, 1966, Ser. No. 548,873
15 Claims. (Cl. 166—42)

1. In a method of fracturing a subterranean formation about a well penetrating thereinto by pumping a fracturing liquid composition through said well to apply hydraulic pressure to said formation, the improvement comprising employing a liquid composition comprising (a) water, (b) polyvinyl alcohol having a molecular weight such that a 4 percent by weight aqueous solution has a viscosity at 20° C. of from about 3 to about 65 centipoises, and (c) borate ions, the particular amount of polyvinyl alcohol and the particular amount of borate ions being selected such that said liquid composition possesses shear thickening properties.

3,378,074

METHOD FOR FRACTURING SUBTERRANEAN FORMATIONS

Othar M. Kiel, Houston, Tex., assignor to Esso Production Research Company, a corporation of Delaware
Continuation-in-part of applications Ser. No. 421,578, Dec. 28, 1964, and Ser. No. 551,781, May 20, 1966. This application May 25, 1967, Ser. No. 641,275
33 Claims. (Cl. 166—42)

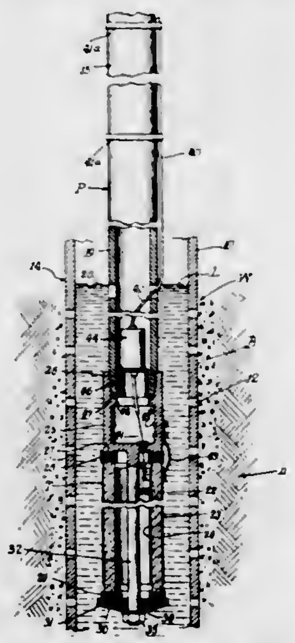


A fracturing method wherein a highly viscous fracturing fluid is injected into a fracture through a string of tubing or casing in the presence of sufficient low viscosity liquid to form a film of the low viscosity liquid between the highly viscous fluid and the tubing or casing wall.

3,378,075

SONIC ENERGIZATION FOR OIL FIELD FORMATIONS

Albert G. Bodine, Van Nuys, Calif.
Filed Apr. 5, 1965, Ser. No. 445,433
3 Claims. (Cl. 166—45)

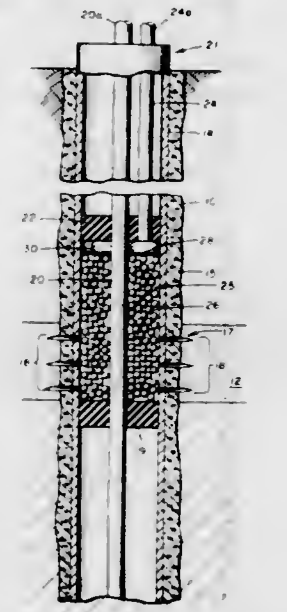


A continuous flow of sonic energy is dissipated into a fixed region of a producing oil field formation, with said sonic energy having a critical energy level which is detectable in fluids as giving a sonic streaming effect, and which level mobilizes the oil when such energy is introduced into the formation.

3,378,076

EROSION PROTECTION IN WELLS

Alvin V. Metler, Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York
Filed Mar. 30, 1966, Ser. No. 538,753
14 Claims. (Cl. 166—45)

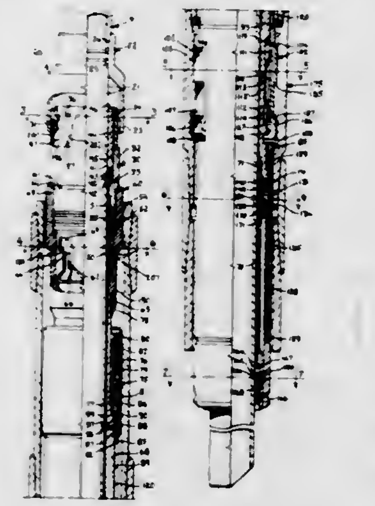


A method and apparatus for alleviating erosion of the surface of a tubing carrying fluid from a lower formation in a multiply completed well from the erosive effects of a fluid entering the well under pressure from a higher formation which include positive unconsolidated, erosive-resistant particles such as plastic spheres within the well adjacent the higher formation. The erosive fluid entering the well will impinge on the particles and be converted to turbulent flow before it reaches the surface to be protected. As the erosive fluid disintegrates some of the particles, other particles will move downward to replace them, thus maintaining a pack of particles between the incoming fluid and the surface to be protected.

3,378,077

SLEEVED WELL PACKER ASSEMBLY

Thomas L. Elliston, Dallas, Tex., assignor to Otis Engineering Corporation, Dallas, Tex., a corporation of Delaware
Filed Mar. 11, 1966, Ser. No. 533,666
20 Claims. (Cl. 166—114)



1. A well packer including: a tubular main sleeve; outwardly expandable anchoring means carried by said

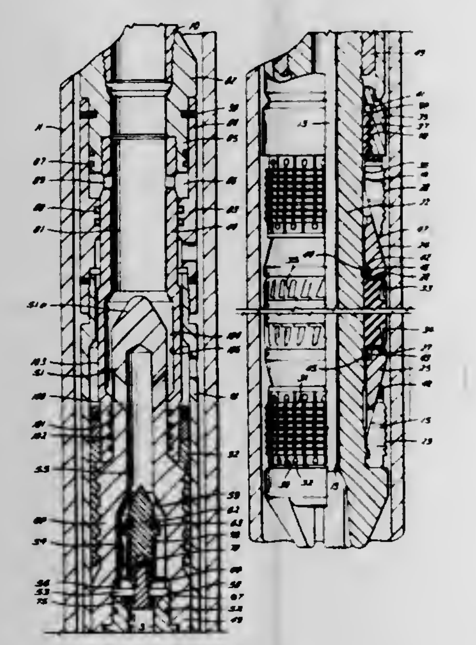
main sleeve and having projecting stop and lock shoulders thereon engageable with complementary internal recesses of a flow conductor receiving said projecting shoulders for holding the anchoring means against movement in the flow conductor; means limiting longitudinal movement of said main sleeve relative to said anchoring means; packing means carried by said main sleeve and expandable to seal between the main sleeve and a flow conductor upon longitudinal movement of said main sleeve relative to said anchoring means; an inner mandrel connectable to an inner flow conductor to constitute a section thereof and movable through said main sleeve; a seal assembly for sealing between said main sleeve and said inner mandrel; first means for releasably and reconnectably connecting said seal assembly to said main sleeve; and second means for releasably connecting said inner mandrel to said seal assembly.

3,378,078
WELL TOOLS

James H. Current, Houston, Tex., assignor, by mesne assignments, to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas

Filed Dec. 1, 1965, Ser. No. 510,809

11 Claims. (Cl. 166—124)



The particular embodiment disclosed herein as illustrative of one form of the present invention in well packers includes a body member, anchors and packing for sealing off a well bore, and a flow passage in the body member having flow control means therein. The flow control means comprises an upwardly closing valve for retaining fluid pressure, and a downwardly closing valve which permits setting the anchors and packing by hydraulically operable setting means and which is then releasable to enable fluid movement downwardly through the flow passage. The setting means is releasably coupled to the body means, and coengageable means on the setting means and body are selectively operable to enable testing of a running-in string for leaks.

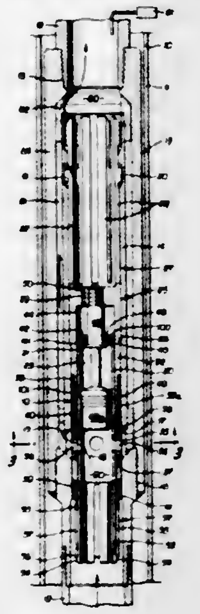
3,378,079
SLEEVE VALVE APPARATUS

John S. Page, Jr., 2301 Snowden Ave., Long Beach, Calif. 90815

Filed Oct. 1, 1965, Ser. No. 492,014

13 Claims. (Cl. 166—129)

The disclosed apparatus enables control of well fluid flow through a tubular body side port by means of control means including a sleeve within the body; the control means forms a sealed chamber to contain fluid under pressure, and has piston surfaces respectively exposed to pressure within the chamber and to counteracting fluid pressure outside the chamber for effecting sleeve movement lengthwise within the body; and the control means plugs the interior of the tubular body.

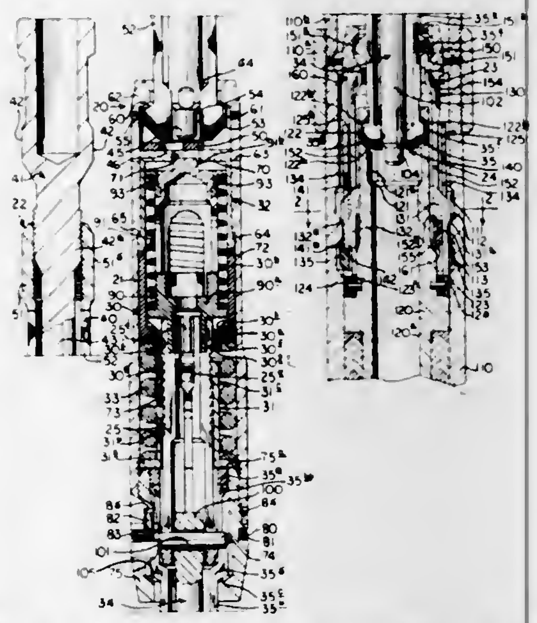


3,378,080
FLUID PRESSURE OPERATED ACTUATED OPERATOR TOOL FOR WELL TOOLS

John V. Fredd, Dallas, Tex., assignor to Otis Engineering Corporation, Dallas, Tex., a corporation of Delaware

Filed Sept. 13, 1965, Ser. No. 486,641

18 Claims. (Cl. 166—156)



A fluid pressure actuated operator tool for use in wells for running, setting and pulling well tools in a well, and for actuating tools therein in response to fluid pressure pulses generated across the tool.

3,378,081
REMOTE CONTROL APPARATUS SUITABLE FOR ACTUATING FIRE EXTINGUISHERS

Richard C. O'Reilly, 6904 N. 55th St., Omaha, Nebr. 68152

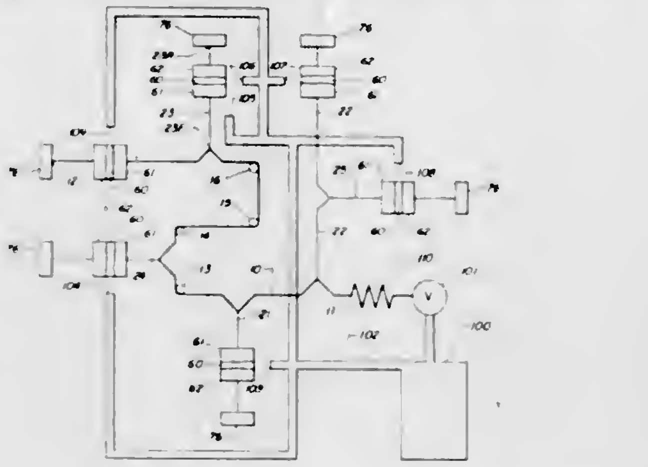
Filed Apr. 18, 1966, Ser. No. 543,270

7 Claims. (Cl. 169—19)

1. An apparatus for remotely mechanically controlling the actuation of an actuatable stationary device, said mechanical remote control apparatus comprising:

(A) A taut primary cable line, a first end being operably attached to the control mechanism of said actuatable stationary device and the second end being statically fixed a finite distance from the said actuatable stationary device,

(B) A plurality of taut secondary branch cables, the forward terminal portion of said secondary branch cables being operationally connected with the primary cable line so that each branch cable exerts a constant degree of tension between the first and second ends of the primary cable line, said constant degree of tension being exerted continuously between the rearward end of each secondary branch cable and the respective ends of the primary cable line so that an alteration in the branch line tension will be transmitted to the primary cable first end, and



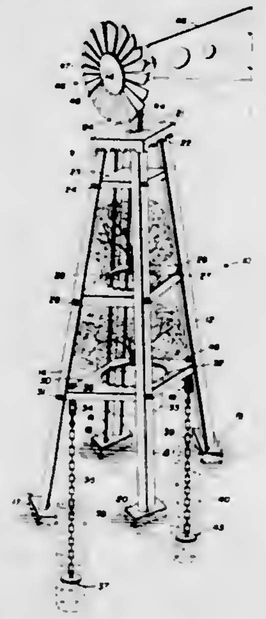
(C) Stimulatable means attached to each secondary branch line cable nearer to the secondary branch cable rearward end for altering the tension along a branch cable in response to an appropriate stimulus exerted to a rearward end station of the secondary branch cable, the distance between the rearward end and the forward terminal portion of the secondary cable being maintained in tension with a spacer means, the resultant alteration in tension for a given secondary branch cable providing a like tension alteration along the primary cable line to control the actuation of the stationary actuatable device.

3,378,082
WINDMILL AND POT HOLDER

Loren Bear, 1293 34th St., NE., Cedar Rapids, Iowa. 52402

Filed Sept. 12, 1966, Ser. No. 578,845

1 Claim. (Cl. 170—77)



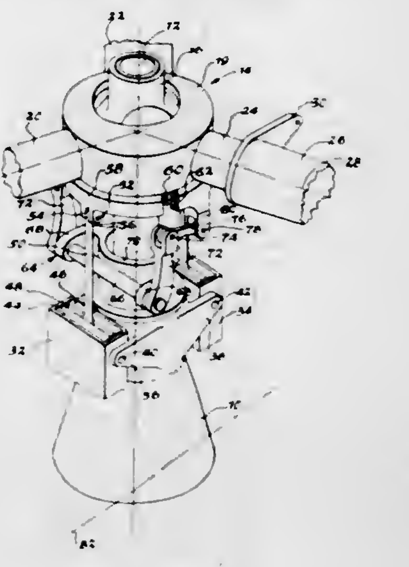
An ornamental windmill and weathercock capable of holding flower pots having very low frictional drag on the turbine so that very light wind can move it.

3,378,083
HUB RESTRAINT

Robert L. Lichten, Dallas, and Kenneth G. Wernicke, Hurst, Tex., assignors to Bell Aerospace Corporation, Wheatfield, N.Y.

Filed June 1, 1967, Ser. No. 642,938

3 Claims. (Cl. 170—160.27)



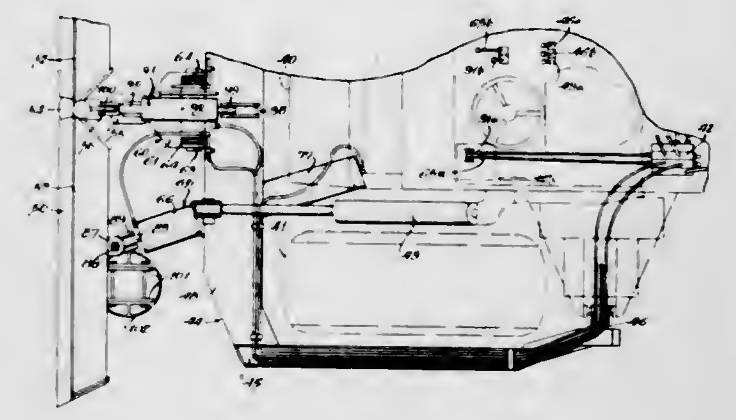
Restraining means for the hub of a rotary wing system attached in stationary position with respect to the rotating hub for steady-state restraining action in response to cyclic flapping of the rotor system.

3,378,084
EARTH MATERIALS HANDLING APPARATUS

Raymond M. Ulrich, Roanoke, Ill., assignor to Ulrich Foundation, Inc., Roanoke, Ill., a corporation of Delaware

Filed Jan. 4, 1965, Ser. No. 422,951

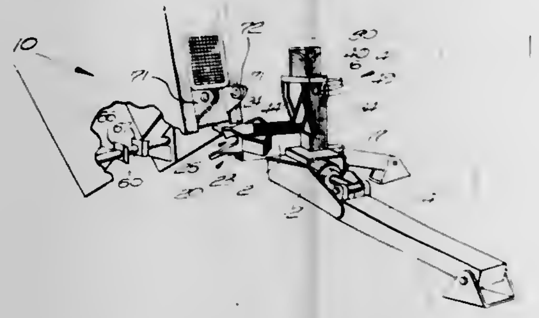
7 Claims. (Cl. 172—247)



A bulldozer comprised of a tractor, a C-frame and a blade wherein the blade comprises a pair of hingedly connected sections each operable under control of an independent hydraulic push beam mounted on the C-frame between the traction means of the tractor and connected to the mid-portion of the respective blade sections; the push beam being pivotally mounted on the C-frame at the forward end of the stationary part thereof so as to obtain maximum results in a minimum of space; the blade having mounting means securing the same at its center to the center of the C-frame for independent hinged movement and conjoint tilting movement of the blade sections. Additionally, wings are provided for detachable connection to the two blade sections to convert the blade into a snowplow, and a further attachment is provided to convert the blade into a device for expedient pushing of other vehicles.

3,378,085
HITCH FOR HYDRAULICALLY OPERABLE EXCAVATING APPARATUS

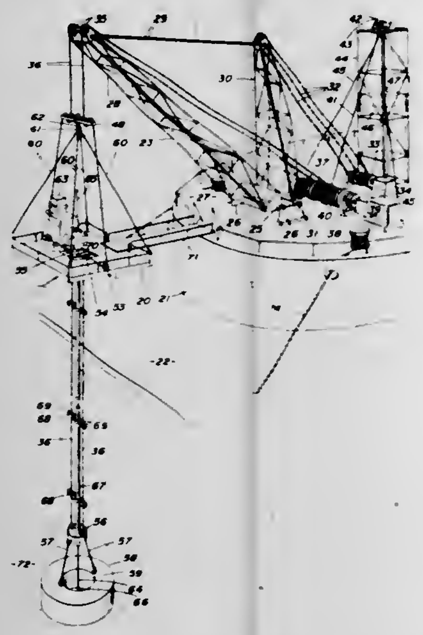
John S. Pilch, Ware, Mass., assignor to Ware Machine Works, Inc., Ware, Mass., a corporation of Massachusetts
Filed May 25, 1966, Ser. No. 552,909
10 Claims. (Cl. 172—272)



A hitch for hydraulically operable excavating apparatus having a rigid hitch tongue and two pairs of connecting members with coaxial bores, each pair adapted to receive between them a tractor lug having a transverse bore for registration with one of said coaxial bores. The hitch tongue extends outwardly centrally of the excavating apparatus and has a groove near its end adapted to receive a connecting rod mounted beneath a tractor. The first pair of connecting members is located laterally and rearwardly at one side of the tongue and the second pair laterally and rearwardly at the opposite side of the tongue so that a three point hitch is provided.

3,378,086
STATIONARY OVERWATER PLATFORM

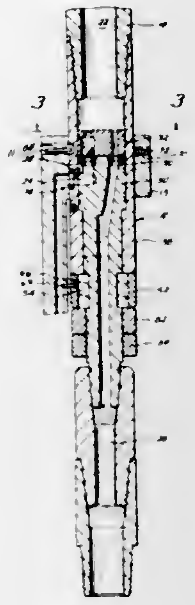
Hans Robert Kivisild, Willowdale, Ontario, Canada, assignor to Geocon Ltd., a corporation of Canada
Filed May 13, 1966, Ser. No. 550,031
43 Claims. (Cl. 175—7)



1. Apparatus for suspending a load-bearing platform a substantially fixed vertical distance above the bed of a body of liquid and comprising, in combination with the load-bearing platform, a vessel floating on said liquid, a weight resting on the bed, an elongated member extending between the weight and the platform, means for securing one end of the member to the weight, tensioning means on the vessel acting on the member to tension the member continuously during vertical movements of the vessel without lifting the weight from the bed, and means connecting the platform to the member so that the platform is vertically located by the member.

3,378,087
CIRCULATING WHIPSTOCK

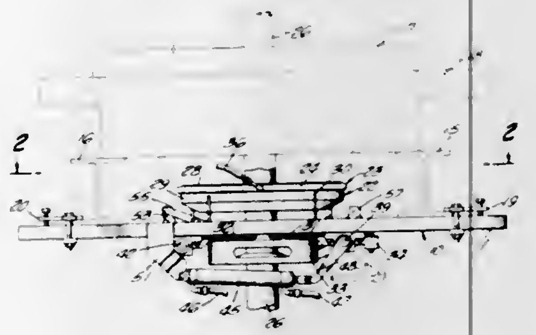
Lee Ross Leissler, Wichita Falls, Tex., assignor to J. S. Cochran, Jr.
Filed July 29, 1966, Ser. No. 568,888
7 Claims. (Cl. 175—83)



A circulating whipstock in which a rotatably actuated valve is provided to alternately supply fluid between the whipstock and the drill bit. A rotatable clutch connected between the pipe and the bit allowing a rotative slip movement equal in amount to the rotative movement required to rotate the rotary valve from alternately supplying fluid between the whipstock and the pipe. A rotary valve having shiftable sealing balls for alternately opening and closing ports between the drill pipe and the whipstock and drill bit. A spacer screw connected to the whipstock collar and extending inwardly towards the pipe and acting on a flat surface on the pipe initially positioned in the drill collar to allow rotation of the whipstock without shearing the holding shear pin.

3,378,088
PIPE SPRAYER

John C. Grant, Huntington Park, and Robert H. Magill, Laguna Beach, Calif., assignors to Byron Jackson, Inc., Long Beach, Calif., a corporation of Delaware
Filed June 29, 1966, Ser. No. 561,638
6 Claims. (Cl. 175—84)

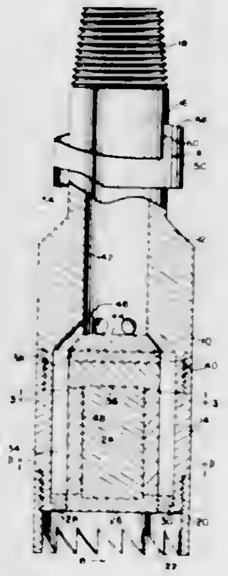


1. A device, for attachment to a well-drilling and servicing rig having a rotary table and support for said rotary table, for spraying pipe being run into or out of a well borehole, said device comprising in combination:
(a) a frame having an opening therethrough larger than the diameter of the pipe to be sprayed;
(b) spray means carried by said frame;

(c) said spray means having an opening therethrough and said openings in said frame and said spray means being in alignment whereby a pipe may be moved therethrough; and
(d) pivoted bumper gate means carried by said frame operable to block a portion of said opening in said frame.

3,378,089
COMBINED JUNK BASKET

Kenneth R. Marsh, P.O. Box 1673, Lovington, N. Mex. 88260
Filed Apr. 4, 1966, Ser. No. 540,013
4 Claims. (Cl. 175—308)

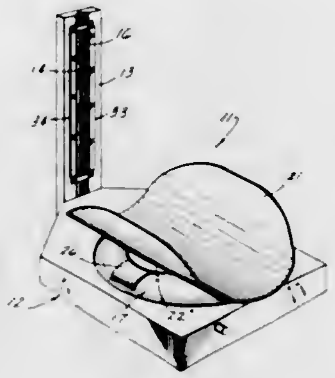


1. A junk basket for an oil well comprising:
(a) a tubular body,
(b) a permanent magnet within the tubular body
(c) spaced from the walls of the body to provide fluid passageways between the walls of the body and the magnet,
(d) thread means at the top of the body for attaching it to a rotating string of drill stem,
(e) slanted teeth means on the bottom of the body for digging up debris at the bottom of the well,
(f) a plurality of holes from the passageway between the magnet and walls to the teeth means,
(g) said holes being slanted in the same direction as the teeth means,
(h) the neck of the body above the magnet having an outside diameter less than the outside diameter at the magnet and the teeth, and
(j) a cup surrounding the neck of the body,
(k) said cup having an open top.

3,378,090
HAM PUMPING SCALE

John G. Christie, 2617 Winchell Ave., Kalamazoo, Mich. 49001
Filed Sept. 27, 1965, Ser. No. 490,290
3 Claims. (Cl. 177—164)

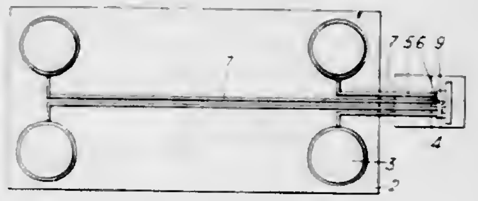
3. A weighing apparatus, comprising:
a frame;
a flexible, hollow bag substantially filled with a liquid and mounted on said frame;
a receptacle for receiving the object to be weighed;
means supporting said receptacle on said bag so that the weight of said receptacle and its contents are substantially uniformly applied to said bag;
an upright tube mounted on said frame and connected to said bag so that the level to which the fluid rises in the tube indicates the weight of the object on the receptacle;
a second upright tube mounted on the frame alongside the first-mentioned tube; and
a reservoir for holding a supply of liquid, said reservoir being connected to said second tube and manually



operable means for displacing fluid from said reservoir into said second tube.

3,378,091
FOUR-TUBE HYDRAULIC SCALE WITH ZEROING FEATURE

David J. Caughley, Masterton, North Island, New Zealand, assignor to Donald Presses Limited, Masterton, North Island, New Zealand, a company of New Zealand
Filed Dec. 6, 1965, Ser. No. 511,815
Claims priority, application New Zealand, Dec. 9, 1964, 140,236
8 Claims. (Cl. 177—209)

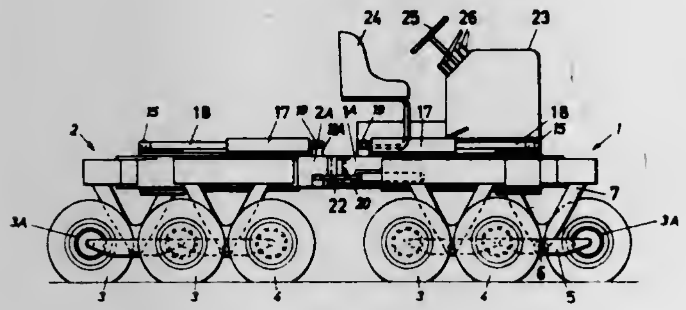


1. A weighing machine comprising a weighing platform; a plurality of deformable pressure-generating fluid containers disposed beneath the platform; the platform resting on the containers; U-tubes partially filled with mercury; a calibrated liquid-containing vertical tube; an adjusting valve; one end of each U-tube being connected to a separate container and the other end of each U-tube being connected via said adjusting valve to said calibrated liquid-containing vertical tube; the adjusting valve comprising a block member having a recess provided in one surface thereof; a flexible diaphragm in engagement with said one surface of the block member to form a liquid chamber therebetween; separate liquid inlet bores to the chamber provided within the block member and in communication each with a separate one of said other ends of the U-tubes; a single liquid outlet bore from the chamber within the block member and in communication with the calibrated vertical tube whereby flexing adjustment of the flexible diaphragm into and out of the chamber varies the volume of the liquid chamber to adjust to zero the height of the liquid in the calibrated vertical tube, the weight of an article or articles placed on the platform exerting pressure on the fluid in the pressure generating fluid containers such that the mercury in the U-tubes is displaced, with the total displacement of the mercury being indicated on the calibrated vertical tube as a rise

above zero of the liquid therein, denoting the weight of the article or articles on the platform.

3,378,092
STEPPER-TYPE VEHICLE WITH WAIST STEERING MEANS

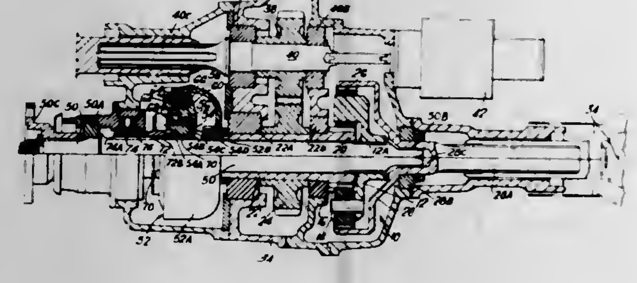
Bengt Erland Ilon, 43 Stromkarlsvagen, Bromma, Sweden
Filed Oct. 20, 1965, Ser. No. 498,949
Claims priority, application Sweden, Feb. 23, 1965, 2,292/65
13 Claims. (Cl. 180—8)



A loading or tractor vehicle constructed for movement across untrafficable ground and including a wheel carriage of opposite sides of a vehicle body and means for alternately moving the wheel carriages through reciprocal movements forwardly and rearwardly of the direction of travel of the wheel.

3,378,093
CENTER DIFFERENTIAL GEAR UNITS

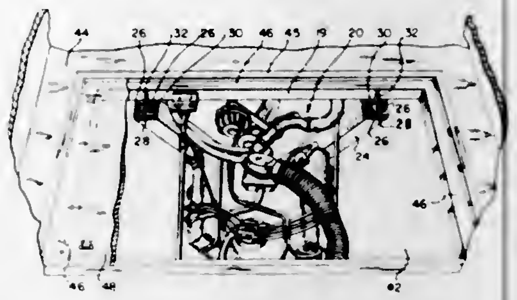
Claude Hill, Kenilworth, Warwickshire, England, assignor to Harry Ferguson Research Limited
Filed Oct. 18, 1965, Ser. No. 497,328
Claims priority, application Great Britain, Oct. 20, 1964, 42,676/64
9 Claims. (Cl. 180—44)



In a four wheel drive motor vehicle, drive is transmitted to front and rear inter-wheel differential gears by way of a center differential gear and drive transfer unit whereof the input shaft is coaxial with a three-element planetary spur type differential gear and drives the planet carrier, a rear output is taken from the annulus, a front output is taken from an offset shaft driven through a pair of transfer gears by the sun gear, and a one way overrunning clutch is mounted coaxially with the planetary differential gear for locking the planet carrier to the sun gear when the front wheels tend to spin and/or the rear wheels tend to lock, the axle ratios and transfer gear ratio being selected to induce a predetermined advancing movement of the annulus and planet carrier round the sun gear during normal forward drive.

3,378,094
MOTOR VEHICLE

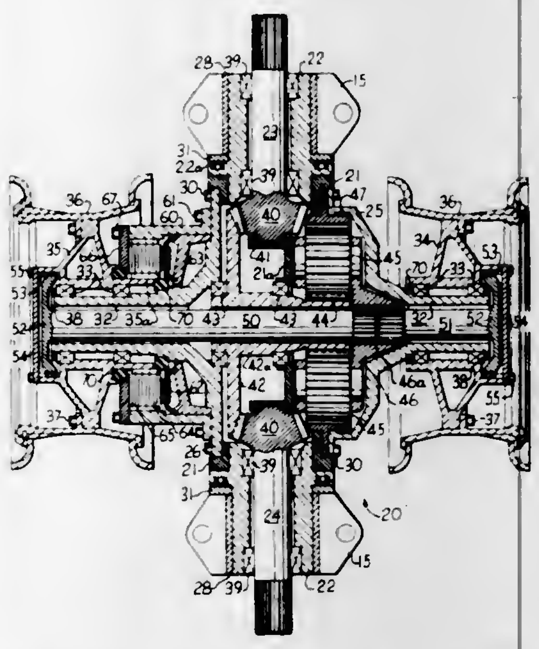
Joseph T. Myers, Kent, Ohio, assignor to Highway Products, Inc., Kent, Ohio, a corporation of Ohio
Filed Jan. 14, 1966, Ser. No. 520,788
6 Claims. (Cl. 180—64)



A delivery type of vehicle has a floor mounted on a chassis which in turn is provided with front and rear sets of traction wheels. A front loading platform is provided forwardly of the front wheels for front end loading and unloading of the vehicle. The engine for driving the vehicle is supported rearwardly of the front wheels beneath the floor and an access opening is provided in the floor above the engine with a suitable cover therefor. This opening is of sufficient size to permit at least one workman to conveniently stand alongside the engine in the opening to work upon the engine.

3,378,095
MULTI-WHEELED OSCILLATING CARRIAGE

Charles C. Sons, Jr., Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Feb. 6, 1967, Ser. No. 614,087
3 Claims. (Cl. 180—75)



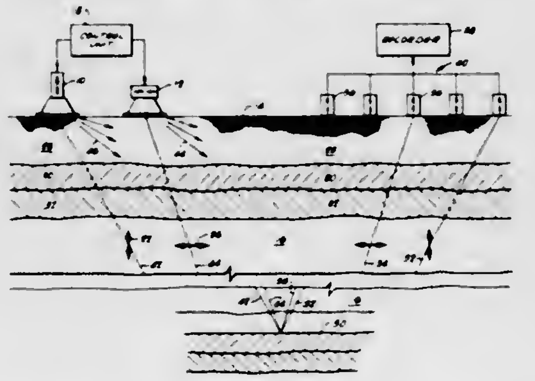
Smaller multi-wheeled units can be used to replace the larger single wheels, often used in earthmoving equipment, provided the load is somehow evenly distributed between the smaller wheels. Multi-wheeled oscillating carriages can be used to achieve load distribution between the wheels if the load capacity of the carriage is adequate and a satisfactory means can be provided to effectively power the plurality of wheels while oscillation is occurring. By using a trunnion-mounted gear case having a perpendicular rigid axle with wheels journaled on its opposite ends and a coaxial drive shaft through the trunnion mounting, it is possible to achieve a multi-wheeled carriage with the desirable characteristics and load-carrying capacity.

ERRATUM

For Class 180—98 see:
Patent No. 3,378,102

3,378,096
METHOD OF SEISMIC ENERGY INTERFERENCE CANCELLATION BY DETECTING SINGULARLY ORIENTED PARTICLE MOTION

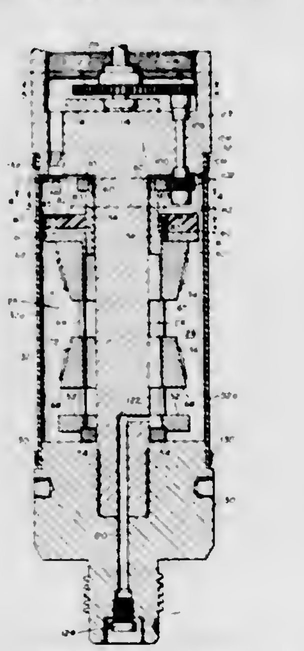
Jesse T. Cherry, Jr., Castro Valley, Calif., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed May 12, 1966, Ser. No. 549,537
7 Claims. (Cl. 181—.5)



A method of cancelling unwanted seismic energy causing interference with desired signals by generating a seismic wave into the earth having particle motion predominantly in one direction and then generating at a predetermined later time a second seismic wave having particle motion normal to said first generated seismic waves and then detecting the particle motion in a single direction resulting from both said first and second generated seismic waves.

3,378,097
TRANSDUCER ROTATING MECHANISM FOR BOREHOLE LOGGING TOOLS

Andrew J. D. Straus and Joseph Zemanek, Jr., Dallas, Tex., assignors to Mobil Oil Corporation, a corporation of New York
Filed Sept. 8, 1966, Ser. No. 577,928
8 Claims. (Cl. 181—.5)



1. A transducer rotating mechanism for use in an elongated, borehole logging tool having an upper part and a lower part, comprising:

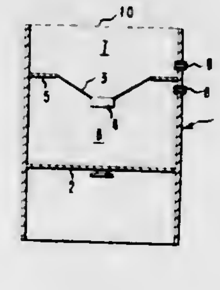
(a) a rigid member connecting said upper part and said lower part, said rigid member being smaller in overall diameter than the overall diameter of said logging tool,

(b) a radiant energy transducer assembly mounted for rotation about said rigid member, and

(c) driving means in said logging tool for rotating said transducer assembly through a 360-degree scan without substantial attenuation of said radiant energy by said logging tool.

3,378,098
SYSTEM FOR IMPROVED REPRODUCTION OF SOUND

Bernhardt Joseph Eiseman, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Mar. 22, 1966, Ser. No. 536,411
11 Claims. (Cl. 181—31)



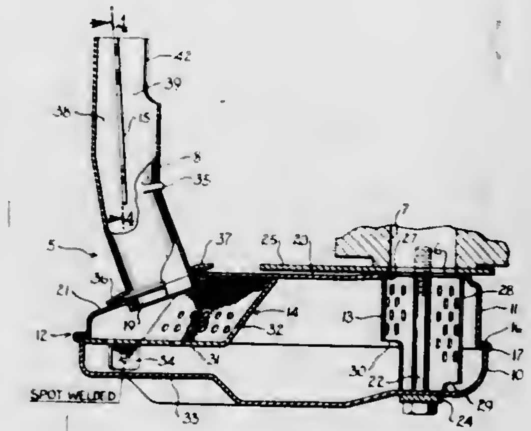
1. A loudspeaker system comprising a loudspeaker containing a sound producing diaphragm in which at least one surface of the diaphragm is in contact with a gaseous atmosphere of a non-flammable polyfluorinated aliphatic or alicyclic compounds characterized in that

$$MW\left(\frac{Cp}{Cv}-1\right)^2$$

is less than 1.0, wherein MW is the molecular weight of the compound, Cp is its specific heat at constant pressure and Cv is its specific heat at constant volume.

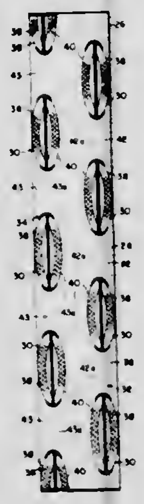
3,378,099
MUFFLER AND OUTLET TUBE FOR SMALL INTERNAL COMBUSTION ENGINES

Douglas Gordon, Hartford, Wis., assignor to Briggs & Stratton Corporation, Wauwatosa, Wis., a corporation of Delaware
Filed Sept. 15, 1967, Ser. No. 667,914
11 Claims. (Cl. 181—40)



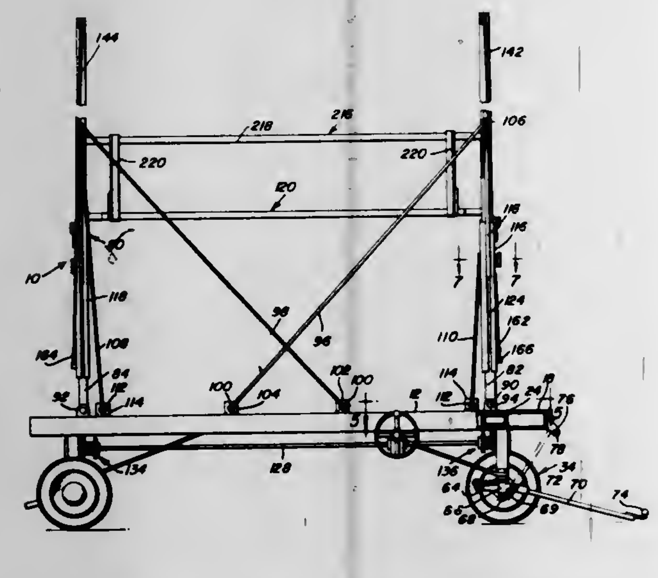
An outlet tube from which engine exhaust gas is discharged in a desired direction has a flat elongated baffle plate in its downstream portion which cooperates with the tube to define two passages, one generally convergent downstream and the other generally divergent. The wall portion of the tube that defines the divergent passage has a large notch opening to its discharge end. The downstream portion of the baffle plate has lengthwise elongated apertures.

3,378,100
SOUND ATTENUATOR
William H. Welty, Brookfield, Wis., assignor to Air Filter Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Oct. 18, 1965, Ser. No. 497,061
15 Claims. (Cl. 181—56)



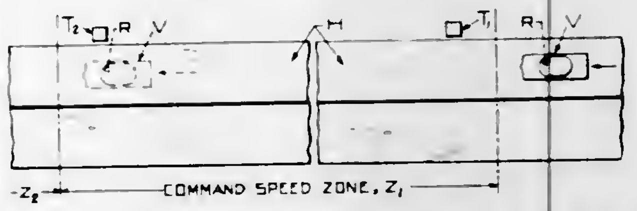
A sound attenuating device having a plurality of sound absorbing baffles arranged in staggered, spaced apart relation in a plurality of rows extending transversely of air flowing through the device. Each baffle is formed by a metal frame having a relatively rigid panel sandwiched between two rectangularly shaped panels of acoustically absorbent material. The acoustically absorbent panels are mounted in back-to-back relation on the frame and are each cambered away from the frame panel to define a multiplicity of smoothly curved air flow orifices.

3,378,101
SCAFFOLD
Franklin D. Zeitler, 208 W. Liberty St., Punxsutawney, Pa. 15767
Filed Aug. 12, 1966, Ser. No. 572,025
15 Claims. (Cl. 182—16)



1. A scaffold comprising an elongated base frame having opposing end sections, an elongated tubular support carried by the base frame adjacent each end section, means mounting the supports on the base frame for positioning of the supports in rigid upright positions and disposed substantially in alignment longitudinally of the base frame, each support having an upper and a lower end, a supporting member slidably sleeved on each support, a platform assembly carried by the supporting members and including a substantially horizontally disposed platform overlying the base frame and extending between the supports, rotatable winding means carried by the base frame, a pair of elongated flexible elements wound on and actuated by the winding means in synchronized fashion, a lower guide means disposed below the lower end of each support, an upper guide means carried by the upper end of each support, one of said flexible elements being passed under the lower guide means for one support and extending movably upwardly in the one support and being passed downwardly over the upper guide means on the one support externally of the support, the other of said flexible elements being passed under the lower guide means for the other support and extending movably upwardly in the other support and being passed downwardly over the upper guide means on the other support externally of the support, and means attaching the flexible elements to the supporting members for moving the supporting members in consort on their associated supports.

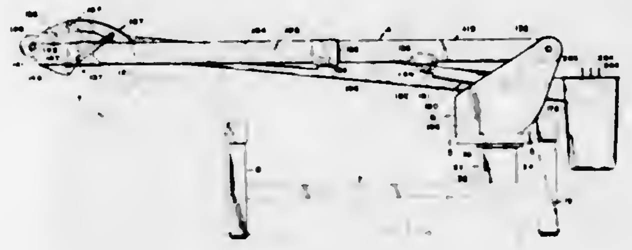
3,378,102
VEHICLE SPEED GOVERNING WITH EXTERNAL COMMAND CONTROL
Robert E. Collin, Mayfield Heights, and Harold F. Klock, University Heights, Ohio, assignors to Curtiss-Wright Corporation, a corporation of Delaware
Filed May 27, 1966, Ser. No. 553,473
10 Claims. (Cl. 180—98)



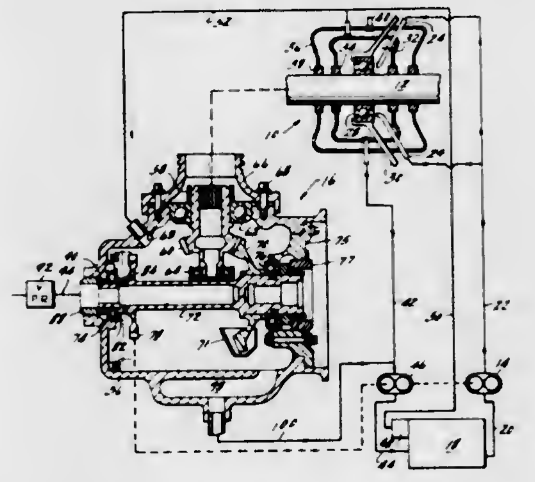
1. A speed governing system for power vehicles moving along a highway defining limited speed zones comprising:
(a) a source of zone signals having a parameter that determines the zone command speed, stationed along the highway at a point near the zone entry;
(b) a signal receiver in said vehicle for picking up the transmitted command signals in the zone entry area;
(c) an automatic speed governor for said vehicle having an adjustable request-speed setting;
(d) servo means arranged for adjustment of said speed setting:
(e) feedback means for producing a signal that is variable with adjustment of said governor setting;
(f) the output of said receiver constituting a control signal, a parameter of which has a direct relation to that of said command signal parameter; and
(g) means responsive jointly to the receiver output signal and to said feedback signal for positioning the servo so that the governor speed setting corresponds to said zone command speed.

3,378,103
AERIAL PLATFORMS
Daniel H. Zwight and Robert B. Mitchell, St. Louis County, Mo., assignors to McCabe-Powers Body Company, St. Louis, Mo., a corporation of Missouri
Filed Sept. 29, 1965, Ser. No. 491,295
24 Claims. (Cl. 182—141)

An aerial platform unit having inner and outer laterally spaced beams which are hingedly connected to one another by means of a hinge pin extending through laterally offset overlapping hinge members located on the ends of the beams. Scissors-type links are connected to the inner and outer beams in the space intermediate the beams and one of the links is also connected to the piston of a hydraulic cylinder, the barrel of which is connected to the inner beam. A basket-like work platform having remote controls is located on the outer end of the outer beam. The inner end of the inner beam is pinned to a mast which in turn is mounted on a truck provided with outriggers. The mast includes a fixed rotator gear having an upwardly opening recess and an annular horizontal groove opening into the recess. A turret is rotatably mounted on the gear and includes a pair of arcuate guide elements which project into and slidably engage the walls of the groove. The turret carries a hydraulic motor which acts through a train of spur gears, interconnecting it and the teeth of the fixed rotator gear, for rotating the turret and beams.

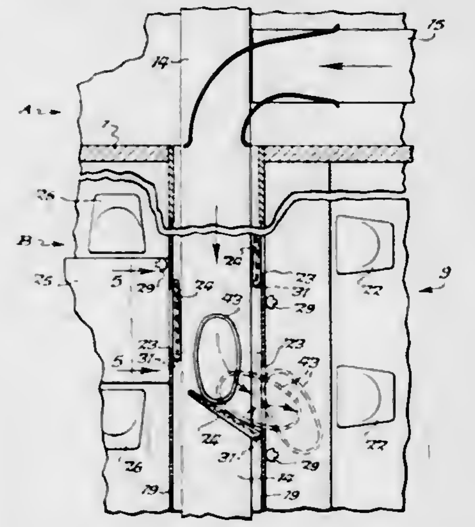


3,378,104
AIR-OIL SEPARATORS FOR USE IN GAS TURBINE ENGINES
Lawrence B. Venable, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
Filed Mar. 8, 1966, Ser. No. 532,786
4 Claims. (Cl. 184—6)



1. In a gas turbine engine having a main shaft rotatably mounted in a series of bearings lubricated by oil from a lubrication system and an accessory drive system powered from said main shaft,
said lubrication system comprising:
a sump chamber surrounding each of said bearings and having at least one opening through which said main shaft extends,
means for delivering lubricating oil to said bearings,
seal means for preventing loss of oil from said sump chambers through asid opening,
means for scavenging said lubricating oil from each of said sump chambers,
means for pressurizing the exterior of said sealing means with air to pressure higher than that in said sump and causing a flow across said sealing means, thereby preventing loss of oil therefrom,
said sump chambers having an outlet for venting air therefrom to maintain at least a minimum pressure differential across said seals,
and said accessory drive system comprises:
a housing,
a shaft rotatable in said housing and having thereon a spur gear meshing with another gear of a gear train,
means for scavenging oil from said housing,
the improvement which comprises conduit means connecting all of said sump chamber outlets to said housing for discharge thereto of vent air,
passageway means for discharge of said vent air from said housing comprising a plurality of radially extending passages in said shaft adjacent one side of said gear and an axial passage therein connecting with said radial passages and extending to one end of said shaft,
whereby as said vent air passes by said gear and through said radial passages it is accelerated tangentially to generate sufficient centrifugal force on oil entrained therein to force it outwardly toward the walls of said housing for removal from said housing by said scavenging means and said air passes to said axial passage for discharge therefrom.

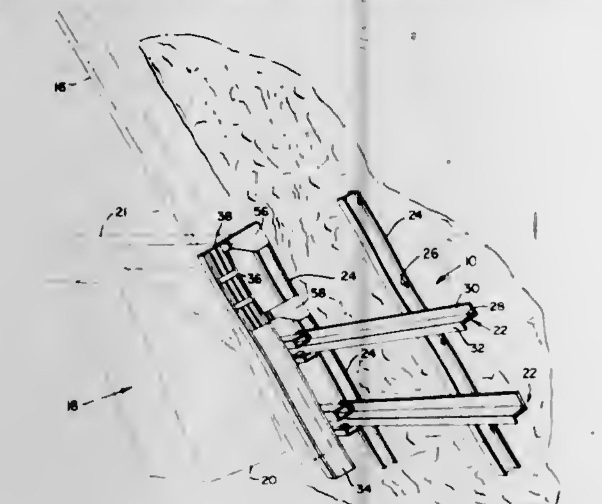
3,378,105
FOOD SERVICE SYSTEM
Robert H. Kroemer, Jr., 25 Hill Terrace, Henrietta, N.Y. 14467
Filed July 29, 1966, Ser. No. 568,869
8 Claims. (Cl. 186—1)



Dishes are conveyed from a dispatch area to a service area. An interceptor member is moved into intercepting position under dispatcher control. The interceptor member is movable out of that position by a dish engaging thereagainst. Control means responsive to such movement cause the interceptor member to move toward a nonintercepting position during which the interceptor member moves the dish from the conveyor to a table at the service area.

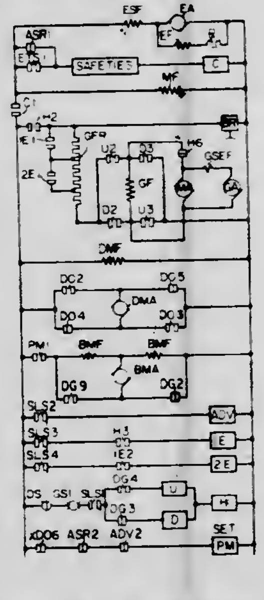
3,378,106
LATERAL TRANSFER SYSTEMS FOR RAISE CLIMBER
Guido K. Wegner, San Bruno, Calif., assignor to Norse Development Corporation, Rye, N.Y., a corporation of New York
Filed Sept. 26, 1966, Ser. No. 582,020
7 Claims. (Cl. 187—1)

A lateral transfer system for a raise climber for docking the climber in a drift. A track system is secured to the raise and laterally extending drift. A transfer track is mounted for movement on the track system which extends along the lateral drift and for alignment with the track system in the raise. The climber can be lowered onto the transfer track when aligned with the track system in the raise and then moved along the drift for docking.



3,378,107
ELEVATOR CONTROL WITH PREDETERMINED NUMBER OF ZONES, PREDETERMINED NUMBER OF FLOORS PER ZONE, AND PREDETERMINED NUMBER OF CARS ASSIGNED TO EACH ZONE

Robert Wayne Madison, Old Bethpage, N.Y., assignor to Otis Elevator Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 19, 1964, Ser. No. 353,116
22 Claims. (Cl. 187—29)

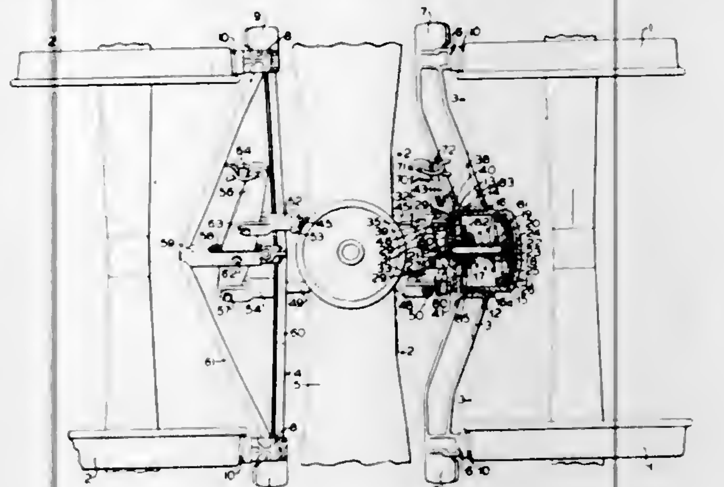


A control system, for a plurality of elevator cars, which operates to divide the building it occupies into a predetermined number of zones each containing a predetermined number of landings. Each of the zones is assigned the services of one of the cars if it is present in the zone. Unless responding to calls, a car which is not assigned to the zone it is in is forced to travel until it is ultimately located in a zone to which it becomes assigned. An assigned car operates in response to only those landing calls in its zone or in contiguous empty zones above and adjoining its zone. When the main landing zone is empty a car in the nearest occupied zone above it is caused to travel down into the main landing zone either immediately upon the registration of a call therein or, if no such call is registered, a predetermined period after the zone becomes empty.

3,378,108
FLUID PRESSURE OPERATED BRAKE APPARATUS FOR RAILWAY CAR TRUCKS

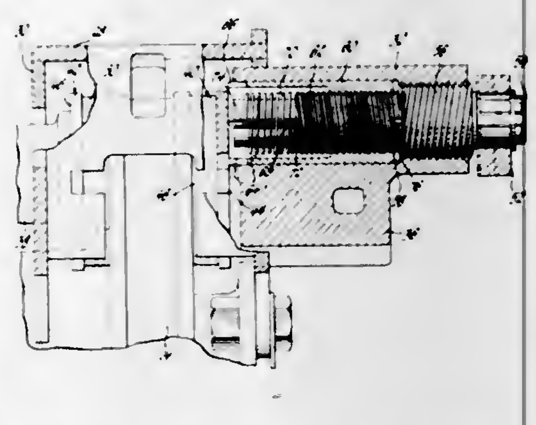
Glenn T. McClure, McKeesport, and William K. Mong, Irwin, Pa., assignors to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Sept. 13, 1966, Ser. No. 579,142
10 Claims. (Cl. 188—52)

A brake rigging for a two-axle four-wheel railway car truck which embodies a brake-cylinder-carrying brake beam operatively connected to a conventional truss type brake beam through a parallelogram type of linkage whereby, upon the supply of fluid under pressure to the brake cylinder device, the two brake beams are moved in opposite directions to cause the application of the brake shoes on the beams to the tread surface of each wheel of the car truck with the same brake applying force.



3,378,109
DISC BRAKE ASSEMBLY

Robert H. Bauman, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 29, 1966, Ser. No. 575,854
10 Claims. (Cl. 188—73)

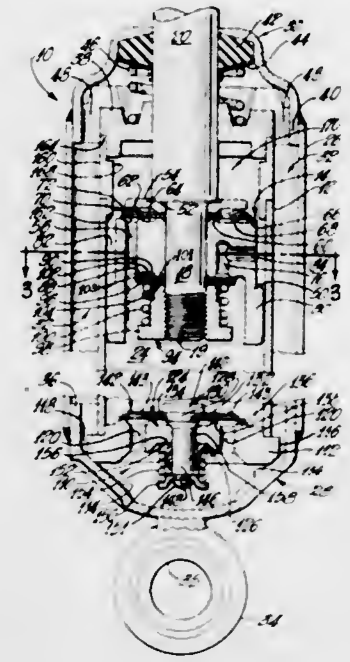


The invention relates to a disc brake assembly and more particularly to one which includes a hand brake for applying the disc brake pads to the disc for parking and emergency purposes and means to automatically adjust the brake in response to brake pad wear.

3,378,110
SHOCK ABSORBER

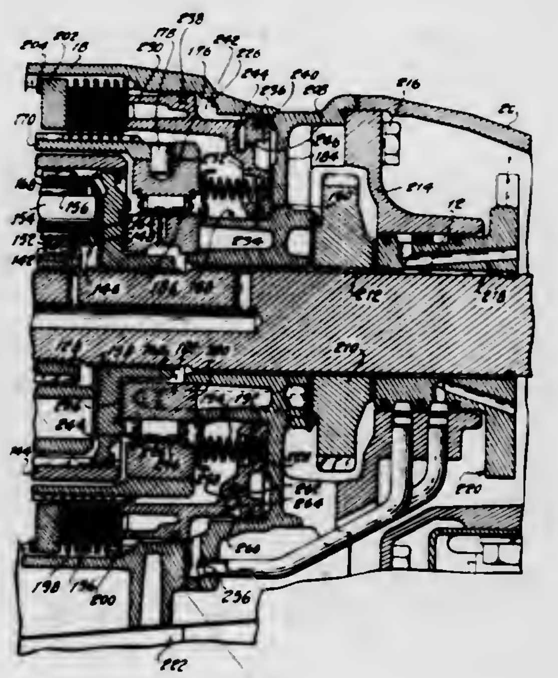
Allen S. Parrish, Jr., Dyersburg, Tenn., assignor to Oldberg Manufacturing Company, Grand Haven, Mich., a corporation of Michigan
Filed Mar. 4, 1966, Ser. No. 531,890
6 Claims. (Cl. 188—88)

This invention relates to a double acting shock absorber having a working chamber and a reservoir chamber, the working chamber embodying a hydraulic recoil or rebound chamber in conjunction with a one-piece piston having bypass channels in the piston adapted to be cut off or closed when the piston approaches the recoil end of the working chamber to establish increased hydraulic resistance to cushion the recoil or rebound.



3,378,111
FLUID OPERATED FRICTION COUPLING WITH AIR CUSHION AND QUICK SLACK TAKEUP

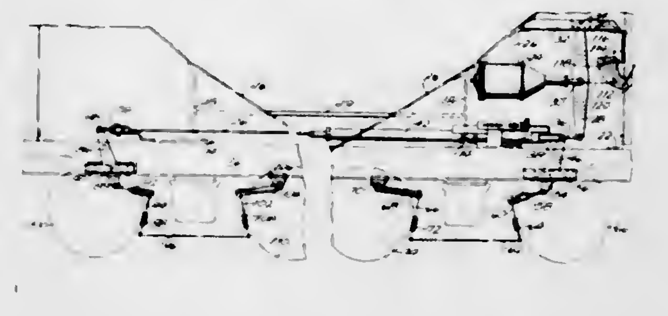
John W. Greer, Birmingham, Stanley L. Pierce, Jr., Madison Heights, and George W. Schulz, Dearborn Heights, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed May 19, 1966, Ser. No. 551,315
6 Claims. (Cl. 188—152)



This specification describes a friction disc coupling for controlling the motion of gear elements in a multiple-ratio torque delivery gear system. It includes an annular cylinder and an annular piston which cooperate to define a pressure cavity. An air passage communicating with the cavity permits entry of a controlled quantity of air as fluid is exhausted from the cavity. The flow of air is controlled by a one way flow valve in the air passage. The air in the cavity provides an accumulator function which cushions the application of the coupling.

3,378,112
BRAKE REGULATOR INSTALLATION

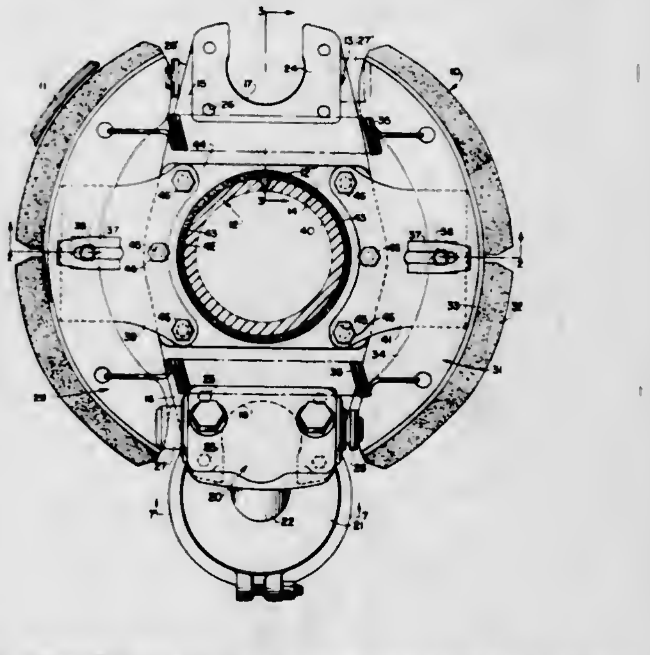
Charles F. Roselius, Bethpage, N.Y., and George A. Pelikan, Closter, N.J., assignors to Ellcon-National, Inc., Totowa Borough, N.J., a corporation of New York
Continuation-in-part of application Ser. No. 576,336, Aug. 31, 1966. This application Dec. 14, 1966, Ser. No. 601,644
11 Claims. (Cl. 188—197)



A braking system including a brake cylinder which is mounted on the railway car frame adjacent one end of the car, a brake regulator disposed adjacent thereto and connected therewith, actuating means for the regulator, and brake rigging for applying brake shoes to the wheels of the railway car.

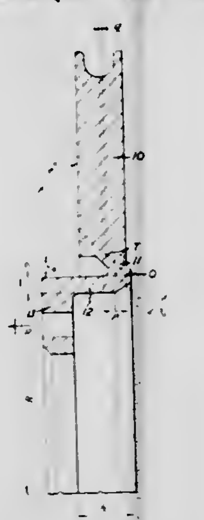
3,378,113
BRAKE MECHANISM SUPPORT

William G. Hanley and Frank H. Fisher, Kenton, Ohio, assignors, by mesne assignments, to Rockwell-Standard Company, Pittsburgh, Pa., a corporation of Delaware
Filed Aug. 12, 1965, Ser. No. 479,222
12 Claims. (Cl. 188—206)



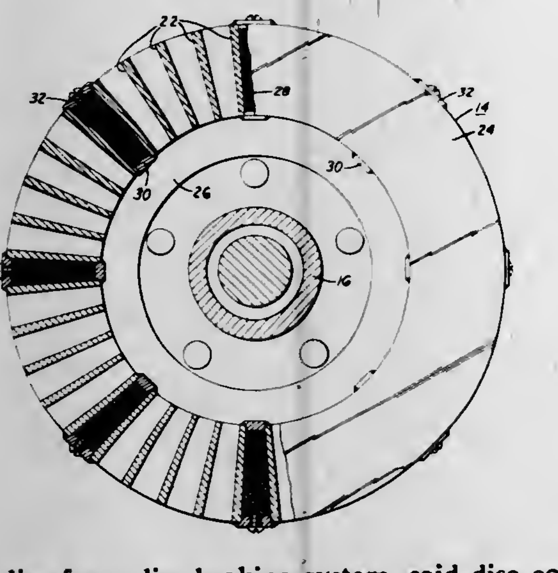
An axle assembly comprises a non-rotatable axle member such as a trailer axle beam or a drive axle housing having a brake mechanism support welded or otherwise integral therewith and a pair of identical interchangeable actuator units removably mounted in apertured portions of the support, the support and unit having cooperating planar locating surfaces. The brake shoes of the brake mechanism, during operation, move over planar surfaces provided on identical interchangeable brackets that are removably mounted on planar surfaces of the support that lie in the same plane as the planar surface locating the actuator unit.

3,378,114
DISCS FOR DISC BRAKES
Peter George Hollins, Coventry, England, assignor to Girling Limited, Tyseley, Birmingham, England, a British company
Continuation of application Ser. No. 390,004, Aug. 17, 1964. This application Aug. 17, 1966, Ser. No. 580,133
6 Claims. (Cl. 188—218)



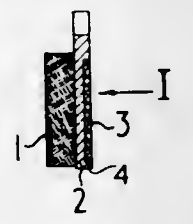
Minimizing of coning effects of a brake disc due to heat is achieved by a re-entrant web interconnecting an axially extending part or bell and the braking flange, the re-entrant web being inclined to a plane at right angles to the rotational axis of the flange in a direction towards the attaching end of the bell with the center line of the web intersecting the bell at a point offset from the center line of the flange in a direction away from the first end of the bell member, cone distortion and axial movement of the braking flange due to heat being thereby minimized.

3,378,115
DISC DAMPER
John F. Stephens III, Bethesda, Md., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 14, 1965, Ser. No. 471,865
4 Claims. (Cl. 188—218)



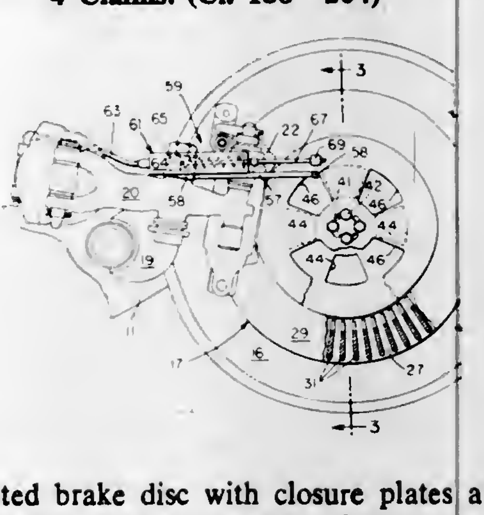
1. A disc for a disc braking system, said disc comprising: a cast member formed in a substantially circular shape, said cast member having an axial support portion and a portion peripherally engaging said support portion arranged to be frictionally engaged by friction members to provide a braking action, said cast member having elongated chambers formed in said frictionally engaged portion; cooling means including the walls of said elongated chambers integrally formed in said last mentioned portion for carrying away heat generated during a braking action; and dampening means formed in selected portions of said cooling means during casting of said cast member and arranged therein to deaden sound normally produced by said cast member during rotation and braking of said disc.

3,378,116
FRICTION PAD FOR DISC BRAKES
Erich Hennig, Konigstein, Taunus, Germany, assignor to Dunlop Rubber Company Limited, London, England, a corporation of Great Britain
Filed Jan. 13, 1966, Ser. No. 538,878
Claims priority, application Germany, Jan. 16, 1965, T 27,834
6 Claims. (Cl. 188—250)



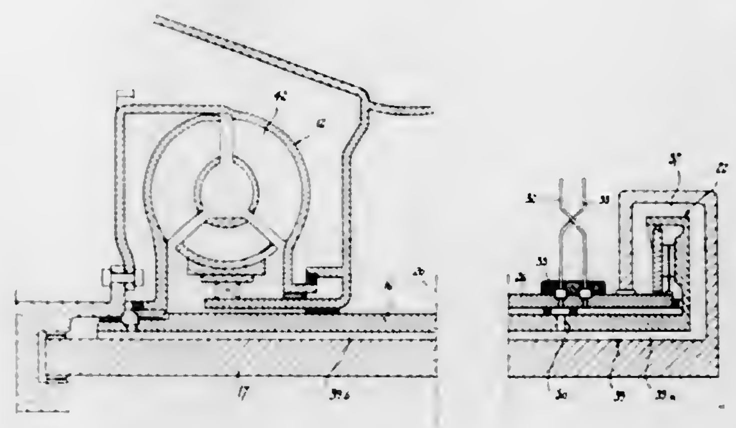
1. In combination with a disc brake having a rotatable disc, the structure comprising a pair of friction elements nonrotatably supported one on each side of the disc and axially movable into engagement therewith, at least one of said friction elements comprising a rigid metal backing, a pad of friction material secured to one side of said rigid metal backing, the other side of said backing including an area of nonmetallic vibration-damping material secured to and forming the thrust surface for said friction element, and a fluid-pressure-operated brake actuating mechanism acting against said vibration-damping material for effecting engagement between said friction element and the disc, said mechanism comprising a piston-and-cylinder assembly wherein said piston acts substantially solely upon the area of vibration-damping material.

3,378,117
VENTILATED DISC BRAKE ASSEMBLY
Robert G. Stacy, Meadowbrook, Pa., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Nov. 9, 1966, Ser. No. 593,060
4 Claims. (Cl. 188—264)



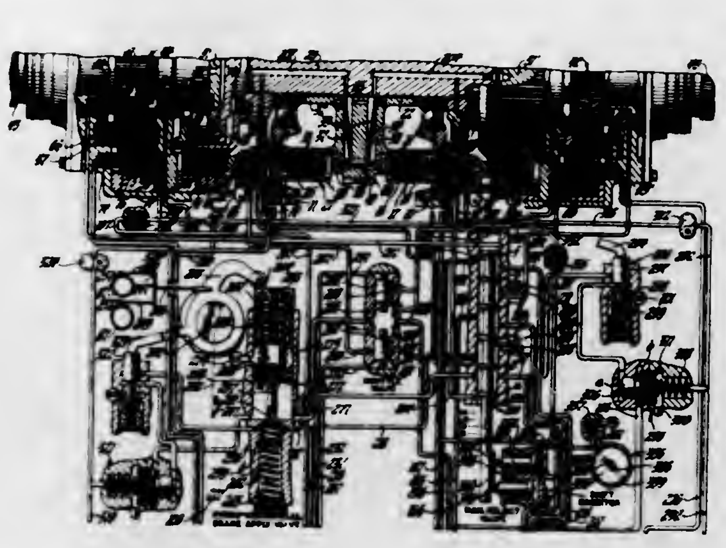
A ventilated brake disc with closure plates at the air intake area which can be rotated in relation to each other to control the amount of air flow generated by the rotating disc. A bearing housing supported from a stationary member is provided to mount the closure plates, one of which is stationary and the other movable. A torque rod is secured to the stationary plate and a pneumatic activating device is connected to the movable plate. A delayed release is arranged to cooperate with the activating device to permit the air flow to continue during acceleration or running after a brake application for stop or slowdown, this being required to permit the disc to rapidly dissipate the heat that was generated during braking.

3,378,118
CENTRIFUGAL FLUID OPERATED CLUTCH FOR CONNECTING FLUID COUPLING TO TRANSMISSION
Jean Maurice, Paris, France, assignor to Societe Anonyme Francaise du Ferodo, Paris, France
Filed Jan. 28, 1966, Ser. No. 523,723
Claims priority, application France, Feb. 11, 1965, 5,141
6 Claims. (Cl. 192—3.33)



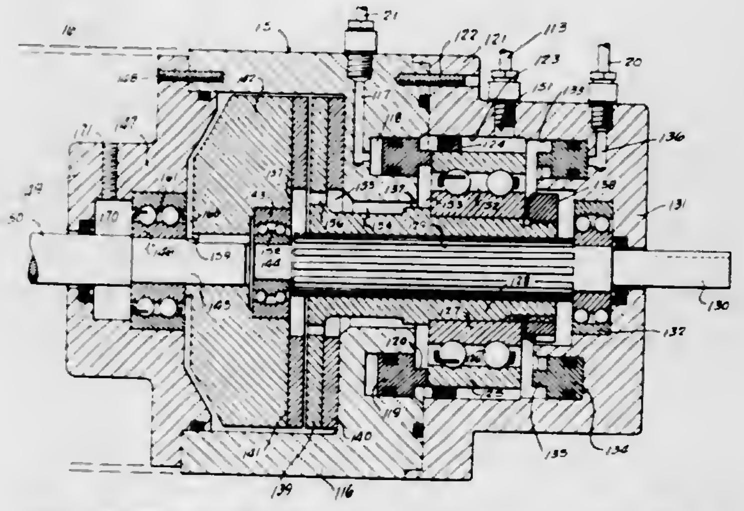
An automotive transmission comprises a drive shaft with a hydro-kinetic coupling device on one side of the output and the clutch plates on the other side of the output with reference to the axis of the drive shaft. A clutch chamber is delimited by a rotating wall that imparts centrifugal force to the fluid. At least a portion of the fluid supply follows a path between shafts concentric with the drive shaft.

3,378,119
AUTOMATIC TRANSMISSION CONTROL AND BRAKE MEANS
Robert H. Schaefer, Westfield, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 10, 1965, Ser. No. 438,634
12 Claims. (Cl. 192—4)



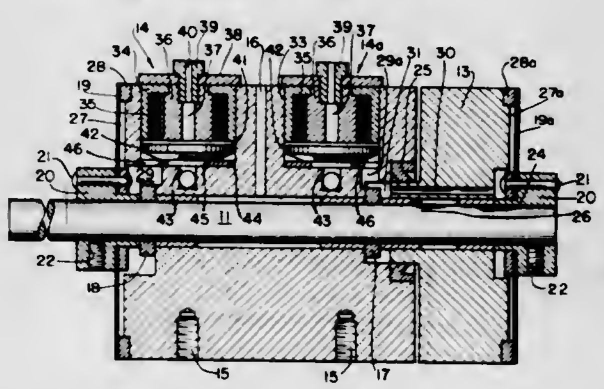
A transmission having a drive establishing means, input and output driven governors and a control having regulator valve means for providing a decreasing line pressure with increasing input speed, clutch-brake steering in at least one driving range and geared steering in another driving range and valve means for preventing input overspeed and forward-reverse shifting above a predetermined vehicle speed is disclosed. The governor signals and the valve means are integrated to provide these desired transmission functions. Also provided are output brakes which are selectively responsive to a manual mechanical apply force, a manual hydro-mechanical apply force, an overspeed hydraulic apply force, and a steering hydraulic apply force.

3,378,120
CLUTCH AND BRAKE WITH NON-ROTATABLE FLUID OPERATOR
Roy E. Miller and Robert F. Miller, Mechanicsburg, Pa., assignors to General Automated Machinery Corporation, Camp Hill, Pa., a corporation of Pennsylvania
Original application May 28, 1965, Ser. No. 459,638. Divided and this application July 11, 1967, Ser. No. 652,609
4 Claims. (Cl. 192—14)



The present application is a divisional application of applicants co-pending application Ser. No. 549,638 filed May 28, 1965 relative to a work controlled system for operating a sewing machine and associated elements, and the present application is particularly concerned with an air operated combination clutch and brake unit having a driven shaft, a drive shaft, and plates for being alternately engaged to connect said shafts or to stop the rotation of the driven shaft. A plate keyed, but slideably mounted on the driven shaft is slid in opposite directions therealong by air operated pistons whereby said plate can engage a plate carried by the drive shaft or alternately a fixed plate for stopping said driven shaft.

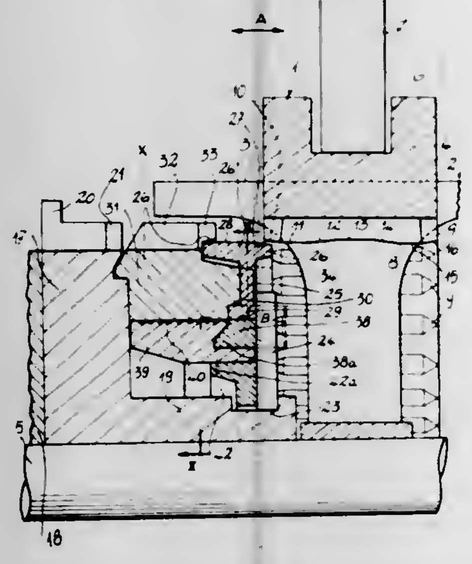
3,378,121
VACUUM OPERATED CLUTCH AND BRAKE WITH MAGNETIC VALVE
Pierre G. Foret, Sudbury, Mass., assignor to P. G. Foret Inc., Sudbury, Mass.
Filed Oct. 20, 1965, Ser. No. 498,222
10 Claims. (Cl. 192—18)



A novel electro-vacuum valve is provided with a closure member which is vacuum operated to close a vacuum passageway and electrically actuated to open said passageway to a vacuum source. The valve is constructed to permit minimum actuator travel. Electro-vacuum clutch brakes and brakes are also disclosed which preferably incorporate a resilient flexible disc which is actuated by a vacuum to provide coupling and uncoupling in an intermediate motion device. Thus, the device of this invention is useful in intermittent coupling for a variety of industrial applications including recording tape winders, tape transports, textile machinery, copying machines, machine tool positioning, indexing and others.

3,378,122
SYNCHROMESH GEARS

Orazio Funiciello, Via Rosmini 9, Bergamo, Italy
Filed Oct. 23, 1965, Ser. No. 503,321
17 Claims. (Cl. 192—53)

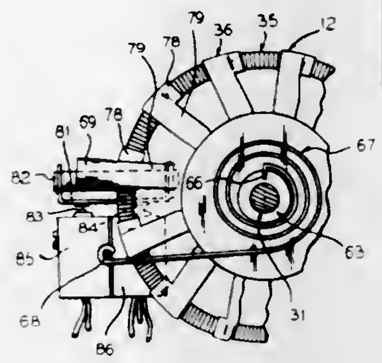


A synchromesh gearing for gear transmissions of motor cars and the like. The synchromesh gearing includes coaxial rotary driving and driven gears. The driving gear is supported for axial displacement with respect to the driven gear between a disengaged position where the driving gear is axially displaced from and out of engagement with the driven gear and a meshing position where the driving gear meshes with the driven gear. A synchronizing means is operatively connected to the driven gear for driving the latter at the speed of rotation of the driving gear as the latter is displaced from its disengaged position to its meshing position, so that during meshing of the gears they will rotate at the same speed. A transmission means is operatively connected with the driving gear and with the synchronizing means for transmitting a drive from the driving gear to the synchronizing means to drive the latter at the speed of the driving gear so that the synchronizing means will drive the driven gear at the latter speed as the driving gear approaches its position meshing with the driven gear. A disconecting means coacts with this latter transmission means and responds automatically to movement of the driving gear from its disengaged to its meshing position for at least momentary disconnecting the drive provided by the latter transmission means just prior to meshing of the gears so as to provide substantially free rotary movement for the driven gear with respect to the driving gear, thus facilitating movement of the driving gear into meshing engagement with the driven gear.

3,378,123
CLUTCH FOR A TIMER DEVICE

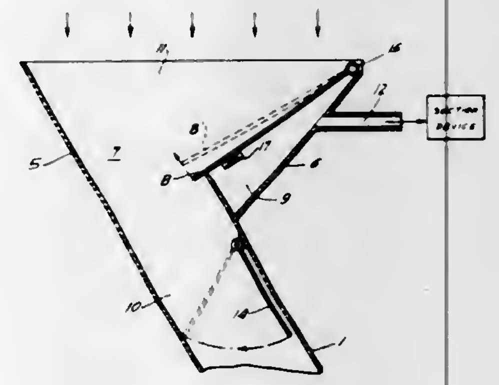
Frank J. Papa, Jr., Montville, N.J., assignor to Industrial Timer Corporation, Parsippany, N.J., a corporation of New Jersey
Filed July 1, 1966, Ser. No. 562,305
14 Claims. (Cl. 192—67)

Clutch for a timer device including a driven element and a driving element, wherein one of the elements includes a disc member having a plurality of circumferentially arranged and equally spaced teeth for engagement with a plurality of circumferentially arranged pawls on the other element, and the relationship between the number of pawls and the teeth spacing together with the pawl spacing is such that only one or a pair of diametrically opposed pawls engage the teeth at any one time.



3,378,124
CHUTE

Johannes Josef Martin, Montsalvatstrasse 14, Munich 23, Germany
Filed June 13, 1966, Ser. No. 557,129
Claims priority, application Germany, June 15, 1965, M 65,593
7 Claims. (Cl. 193—2)

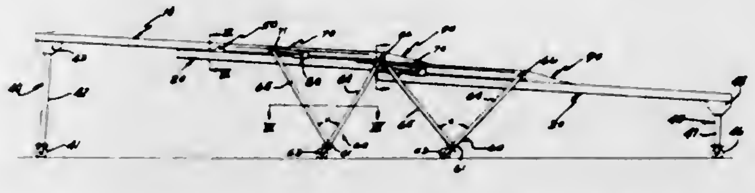


In a chute, particularly for feeding material into an incinerator, a pair of mutually inclined downwardly converging walls defining a funnel having a top opening through which material is introduced and a bottom opening through which the material passes into a lower portion of the chute, one of the walls extending substantially in one plane downwardly beyond the bottom opening and being throughout inclined with reference to a vertical at a steeper angle than the other wall so that material introduced through the top opening and impacting on the one wall will slide along the same toward the bottom opening at a greater speed than the speed at which material impacting on the other wall slides along the latter, whereby jamming of the bottom opening upon entry of the material from both of the walls thereinto is prevented.

3,378,125
TELESCOPIC CONVEYOR

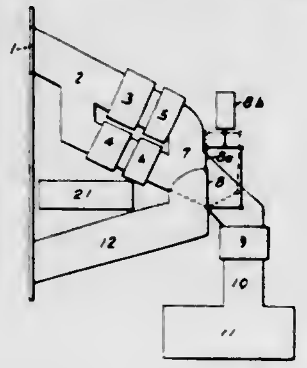
Daniel A. Fogg, White Cloud, Mich., assignor to Rapistan Incorporated, a corporation of Michigan
Filed Aug. 17, 1966, Ser. No. 573,023
13 Claims. (Cl. 193—35)

1. In a telescopic conveyor having an upper section and lower section, said sections being inclined from one end to the other and vertically superimposed and longitudinally slidable with respect to each other, and means connecting said sections for telescoping movement and holding them substantially parallel to each other, and a first support of fixed height at said one end of said upper section and a second support of fixed height at said other end of said lower section, and an intermediate support for supporting said conveyor adjacent the juncture of said upper and lower sections when said conveyor is extended, the improvement in said intermediate support comprising: said intermediate support having a pair of legs pivotally connected at a point spaced below said sections for angular adjustment with respect to each other; the upper end of one of said legs being pivotally connected to one of said sections; a bracket mounted on said one section for sliding movement therealong; the upper end of the other of said legs being pivotally connected to said bracket; a lock for detachably engaging said bracket to said one section against sliding movement, said lock having means automatically shifting into locked position under the weight of loads placed on said sections when said sections are telescopically extended with respect to each other.



3,378,126
COIN-ACTUATED CREDIT-STORING DEVICE

Alexander Kückens, Hamburg, and Wolfgang Niehaus, Hamburg-Neugraben, Germany, assignors to National Rejectors Inc., St. Louis, Mo., a corporation of Missouri
Filed Feb. 28, 1966, Ser. No. 530,717
Claims priority, application Germany, Mar. 6, 1965, K 55,456
13 Claims. (Cl. 194—100)

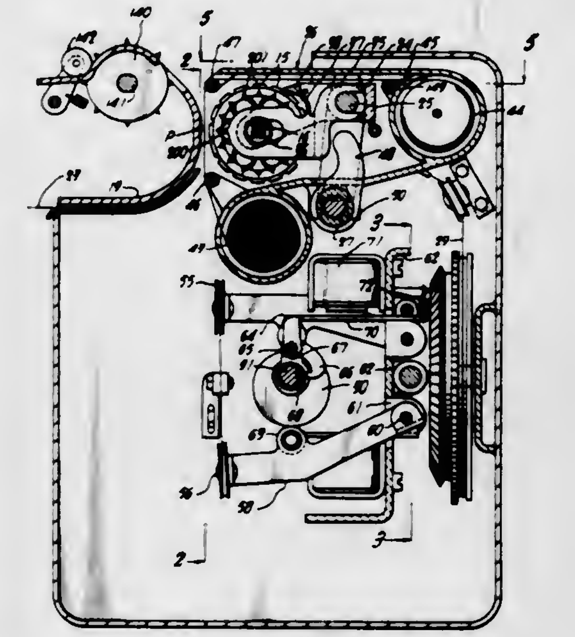


A coin-testing device is disposed adjacent a path for coins and tests coins moving along said path, a coin-responsive element is disposed adjacent said path and is actuated by coins which have previously passed by said coin-testing device, and a control device requires a first signal from said coin-testing device and a second signal from said coin-responsive element to actuate it, and thus will not be actuated by two consecutive signals from said coin-testing device or by two consecutive signals from said coin-responsive element.

3,378,127
DATA PRINTER WITH FLEXIBLE PRINT WHEEL

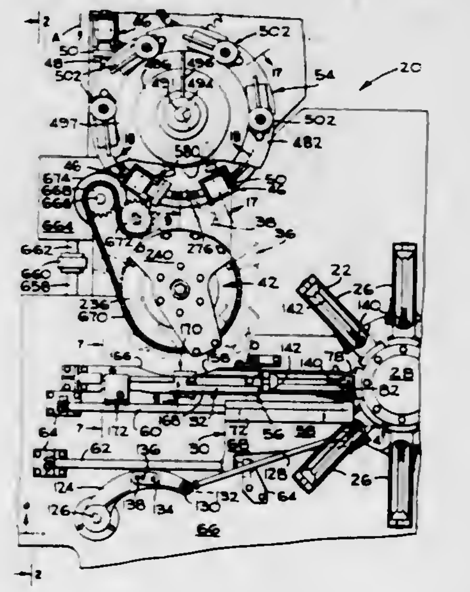
Hugh L. Clary, San Marino, and John G. Clary, Pasadena, Calif., assignors to Clary Corporation, San Gabriel, Calif., a corporation of California
Continuation of abandoned application Ser. No. 471,116, July 12, 1965. This application Aug. 29, 1966, Ser. No. 575,904
3 Claims. (Cl. 197—55)

The data printer is provided with a flexible print wheel having type characters and detent formations around its rim. A guided actuator is engageable with certain of the detent formations on the side of the wheel adjacent the printing station to impress a selected type character against a record medium located at the print station.



3,378,128
CARTON TRANSFER APPARATUS

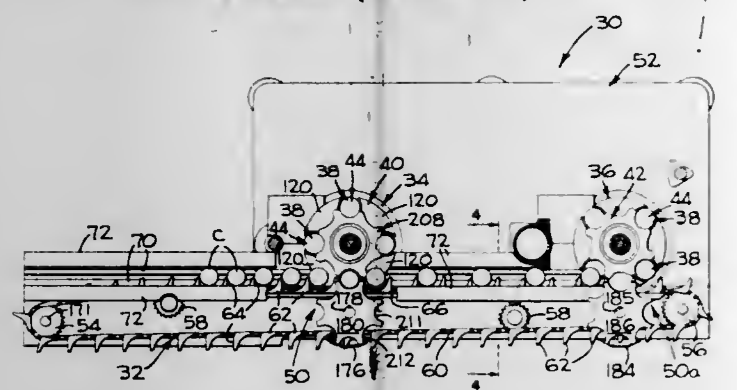
John Stevenson, Jr., Saratoga, Calif., and Robert E. Taggart, Wilton, Conn.; said Stevenson, Jr., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware, and said Taggart assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed July 8, 1966, Ser. No. 563,875
22 Claims. (Cl. 198—20)



An apparatus which simultaneously receives cartons from two rows of cartons spaced a predetermined distance apart and supported by intermittently driven mandrels and transfers the cartons one at a time into carton gripping carriers on a continuously driven endless conveyor moving along a single path without releasing gripping control of the cartons during transfer. The carriers are spaced apart a distance which is different from the predetermined distance, and the cartons are rotated from a horizontal to a vertical position while being spaced a distance apart equal to that of the carriers during transfer from the mandrels to the carriers.

3,378,129
CONTAINER HANDLING SYSTEM

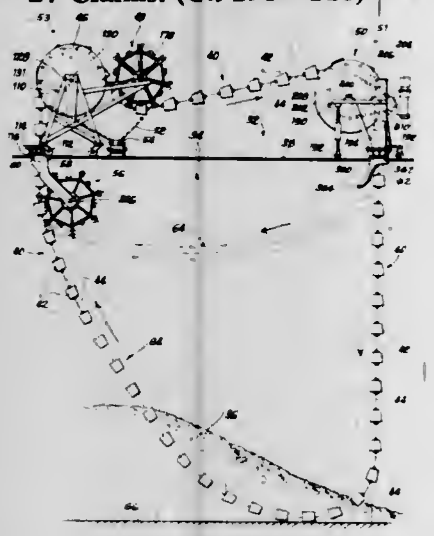
Samuel A. Mencacci, Wilrijk, Antwerp, Belgium, assignor to International Machinery Corporation, St. Niklaas-Waas, Belgium, a Belgian corporation
Filed Nov. 30, 1966, Ser. No. 598,069
10 Claims. (Cl. 198—22)



An apparatus for withdrawing selected ones of a series of containers from a linear path at a transfer station and allowing other containers to remain in the linear path and move past the transfer stations. A turret at said transfer station having a series of vertically movable carriers moving below and tangentially to the linear path and a series of abutment means moving above and tangent to the linear path whereby the carriers are moved upwardly at the point of tangency to firmly clamp the selected containers between the carriers and abutment means to positively withdraw them from the linear path. Container supporting means are disposed between the carriers, and cooperate with deflecting means carried by the turret for retaining the non-selected containers in the linear path for movement past the transfer station to other similar transfer stations.

3,378,130
UNLOADING MACHINE FOR TANKERS OR THE LIKE

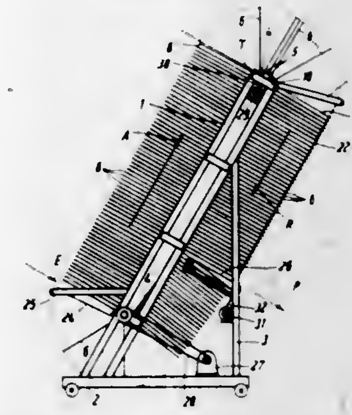
Walter J. Wallace, Batavia, Ill., assignor to W. J. Wallace Systems, Inc., Batavia, Ill., a corporation of Delaware
Filed Oct. 12, 1966, Ser. No. 586,182
27 Claims. (Cl. 198—116)



An unloading machine, comprising an endless train of circular buckets with cables extending axially therebetween, at least two main wheels supporting the train of buckets, the train hanging freely in a catenary curve between said wheels, a first additional wheel for laterally deflecting said train in its downward flight from one of said main wheels, a second additional wheel for guiding said train in its upward flight to the other main wheel, a swivel mounting for said second additional wheel, at least one of said main wheels having cable supports with clusters of four rollers thereon for engaging and guiding said buckets and said cables, said wheels having bucket supports including pairs of angularly spaced rollers for engaging and supporting said buckets, and angularly spaced drive rollers on one of said main wheels for engaging the ends of said buckets to synchronize the bucket train with the wheel, the spacing between said drive rollers being greater than the spacing between said buckets so that only one bucket is driven at one time, said buckets having members therein with flaring bores for receiving said cables, said flaring bores being curved to correspond with the pitch circles of said wheels.

3,378,131
DRYING DEVICES

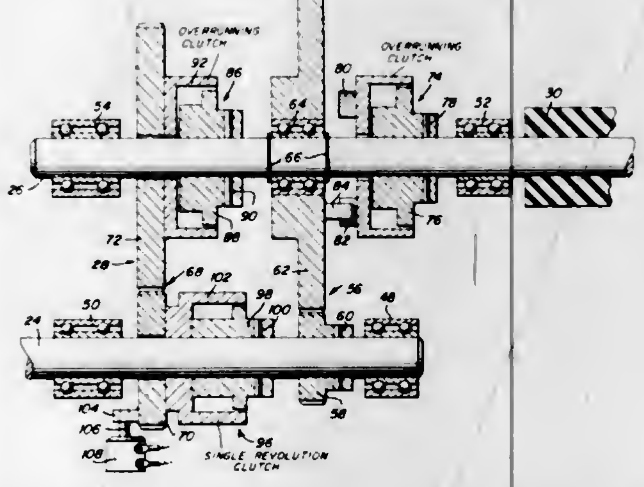
Erich Weber, Blutenstrasse 16, 13 Munich, Germany
Filed Feb. 1, 1967, Ser. No. 613,358
Claims priority, application Germany, Feb. 4, 1966, W 40,904
7 Claims. (Cl. 198—134)



Then invention relates to a drier for printed sheets utilizing a series of gently sloping ascending sheet carriers and an adjacent series of gently sloping descending sheet carriers. Special means are employed for transferring sheets from the top of the ascending carriers to the top of the descending one without inverting the sheets and without smearing them. The drier is adapted so that it can be placed in tandem with other identical driers.

3,378,132
FEED MECHANISM FOR DIE CUTTER

Paul J. Good, Springwater, N.Y., assignor to D-S Industries, Inc., a corporation of New York
Filed Nov. 16, 1966, Ser. No. 594,772
9 Claims. (Cl. 198—135)

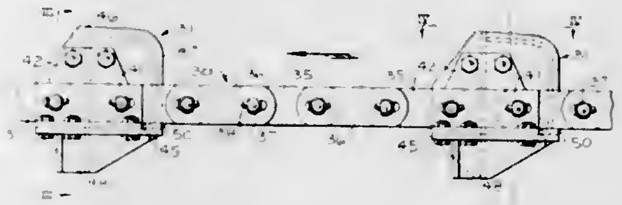


An intermittent drive feed mechanism including an input member and an output member and provided with transmission means drivingly connecting the input member to the output member through two separate selectively usable power transmission paths, the transmission means including selectively actuatable power transmission shift means operative, when actuated, to shift the path of transmission of power from a first path of transmission to the

second path of transmission for a predetermined period and then automatically shift the path of transmission of power back to the first path.

3,378,133
CHAIN AND FLIGHT ASSEMBLY FOR SELF-LOADING SCRAPERS

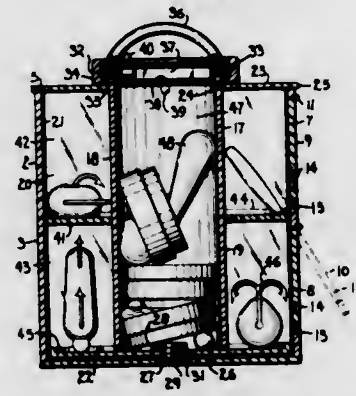
Rodney H. Anderson and Trevor G. Campbell, Peoria, Elmer R. Crabb, Morton, and Yoshimi Hosoda, Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Sept. 28, 1966, Ser. No. 582,619
4 Claims. (Cl. 198—175)



Flight members are attached to a pair of driven chains at spaced apart locations therealong by means of mounting brackets each consisting of an L-shaped element and a ladle shaped element bolted to a base plate integral with each flight member such that substantially equal portions of each flight member are disposed on opposite sides of the center line of each chain, such that the face plate of each flight member is disposed substantially midway the length of each mounting bracket, and such that a support strip is disposed at the trailing end of each base plate to prevent kinking of the chains. Opposition to chain kinking is accomplished by a facsimile of a lever acting upon the support strip and formed in part by the combination of the L-shaped element and the ladle shaped element and the side bars of the chain trailing the mounting bracket.

3,378,134
COMPARTMENTALIZED CONTAINER

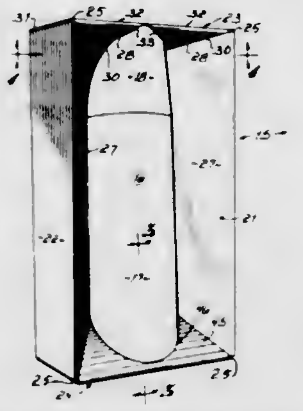
Harvey H. Wilkinson, 5625 Harvard, Raytown, Mo. 64133, and Charles E. Harkrider, 125D Lake Tapawingo, Blue Springs, Mo. 64015
Filed Apr. 18, 1966, Ser. No. 543,138
8 Claims. (Cl. 206—16)



A transparent compartmentalized container has a rotatable core member received in an upwardly open outer shell having a side and bottom wall. The core member includes a hollow cylindrical inner member from which a plurality of vertical walls radiate. Upper, lower and intermediate transverse walls on the inner member intersect the vertical walls thereby forming a plurality of upper and lower compartments positioned intermediate the ends of the core member. The intermediate and lower transverse walls each have a peripheral ledge extending upwardly therefrom to retain items thereon with the upper transverse wall closing the upper compartments. Upper and lower doors in the side wall of the outer shell provide access into respective compartments. A cap is threadedly engaged with the upper end of the core member to provide access into a storage space within the inner member and includes a handle for carrying the container, rotating the core member within the shell and lifting the core member out of the shell.

3,378,135
SHADOW BOX HAVING INTEGRAL MITERED CORNERS

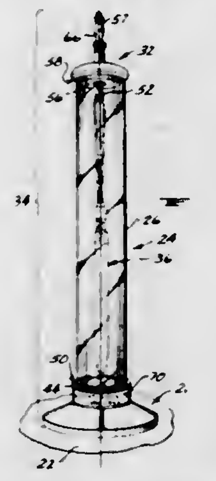
Orison W. Stone, Valley Cottage, N.Y., assignor to R. A. Jones and Company, Inc., Covington, Ky., a corporation of Kentucky
Filed Oct. 3, 1966, Ser. No. 583,721
6 Claims. (Cl. 206—45.14)



A shadow box display carton whose front wall provides shadow panels at the sides of the carton projecting into the carton, the shadow panels being connected on fold lines to sections which form mitered corners and which also provide free edges or surfaces adapted to engage and retain an article within the carton.

3,378,136
TASSEL-HOLDING DISPLAY DEVICE

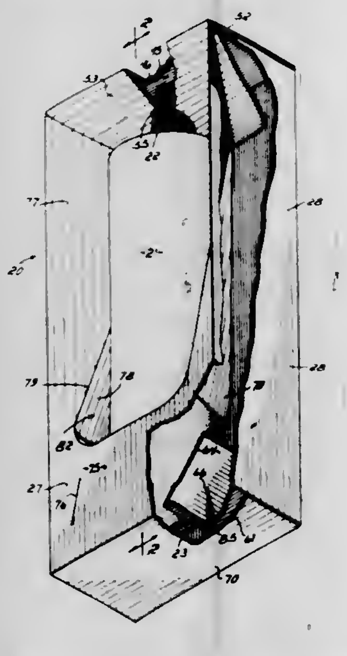
Eunice E. Lubin, 1066 Redondo Blvd., Los Angeles, Calif. 90019
Filed May 4, 1966, Ser. No. 547,582
2 Claims. (Cl. 206—45.14)



The specification discloses a trophy-, tassel-, ribbon-, or medal-holding display device which includes a base member adapted to rest upon an auxiliary horizontal supporting surface and provided with an upwardly directed standard member extending upwardly therefrom to a predetermined height and there being provided with a trophy-carrying support means adapted to support and carry a depending trophy, tassel, ribbon, metal, or the like, extending downwardly therefrom toward the underlying base member. The specification discloses one exemplary preferred form of the upwardly directed standard member as comprising a hollow, at least partially transparent container member defining a vertically longitudinal interior chamber adapted to enclose a depending trophy therein in an exteriorly visibly observable manner. In a preferred form, the base member and a bottom of the upwardly extending container member are disclosed as being provided with controllably separable lower engagement means for positively and firmly supporting the container member in an upright position extending upwardly from the base member but allowing ready disengagement thereof when desired. The lower engagement means, in a preferred form, is disclosed as comprising an upwardly directed and upwardly open, annular recess formed in the base member and a correspondingly shaped, sized, and positioned, downwardly directed annular edge portion of the upwardly extending container member at the bottom end thereof which is vertically slidably engageable and disengageable with respect to the annular recess in the base member. The trophy-carrying support means is disclosed in a preferred form as comprising a cover member removably carried by a top end of the upwardly extending container member and provided with a downwardly directed, effective supporting hook means adapted to be positioned within the interior chamber defined within the container member when the cover member is carried across the top thereof, the cover member and the top end of the container member being provided with controllably separable upper engagement means for positively and firmly supporting the cover member across the otherwise open top of the upwardly extending container member. In a preferred form, the upper engagement means is disclosed as comprising a downwardly directed, outwardly and downwardly open outer recess terminating in an upper, transverse, downwardly facing abutment shoulder formed in the bottom surface of the cover member and a correspondingly shaped, sized, and positioned outer annular, upwardly directed upper edge portion of the container member vertically slidably engageable and disengageable relative to each other. Also, in a preferred form, the cover member is provided with an upstanding decorative finial member comprising a handle means for engaging and disengaging the cover member relative to the top end of the container member. The specification also discloses an alternate, functionally substantially equivalent, but structurally modified, form of the device.

3,378,137
DISPLAY CARTON

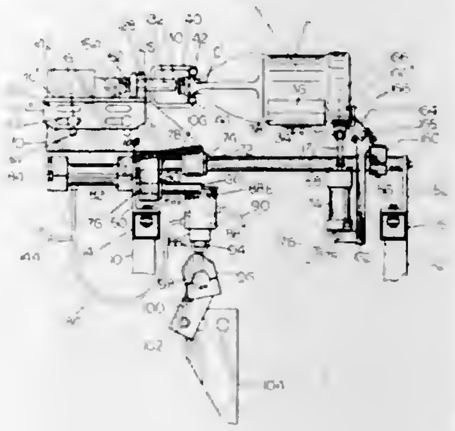
Orison W. Stone, New York, N.Y., assignor to R. A. Jones and Company, Inc., Covington, Ky., a corporation of Kentucky
Filed July 6, 1966, Ser. No. 563,285
14 Claims. (Cl. 206—45.14)



A shadow box display carton having a front wall formed in part by shadow panels, the side walls of the carton being braced against spreading outwardly by a secondary flap which is connected to the side walls through gusset flaps, the secondary panel overlying the end of the carton and a primary flap having a first panel overlying the secondary flap and a tuck panel inserted into the carton. The disclosure is also directed to a shadow box construction having a sculptured face formed in part by the shadow panels extending from the plane of the front wall at one end of the carton curvolinearly into the opposite end of the carton.

3,378,138
AUTOMATIC CONTAINER CHECKER AND EJECTOR APPARATUS

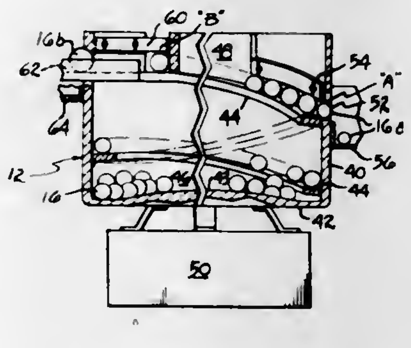
Gaylord W. Brown, Beaverton, Mich., assignor to Brown Machine Company of Michigan, Inc., Beaverton, Mich., a corporation of Michigan
Filed Apr. 27, 1965, Ser. No. 451,220
11 Claims. (Cl. 209—72)



An apparatus and method for checking plastic containers for neck obstructions and the like wherein a tubular detector enters the neck of a container which is initially prevented by a barrier from moving in one endwise direction and a fluid stream is passed through the detector to discharge the container in an endwise direction when an obstruction is detected and the barrier is in removed position.

3,378,139
CULLER AND FEED MECHANISM FOR SPHERICAL OBJECTS

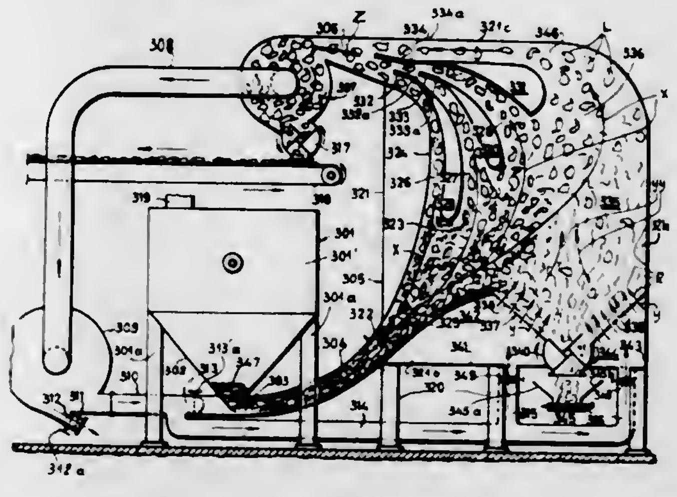
Walter Merton Perry, Darien, Conn., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Filed Jan. 3, 1966, Ser. No. 518,338
6 Claims. (Cl. 209—73)



A culling and feeding mechanism for feeding spherical objects, particularly to a work processing station, such as culling and feeding glass marbles of a preselected size to a glass melting bushing.

3,378,140
METHOD AND APPARATUS FOR PNEUMATICALLY SEPARATING SOLID PARTICLES

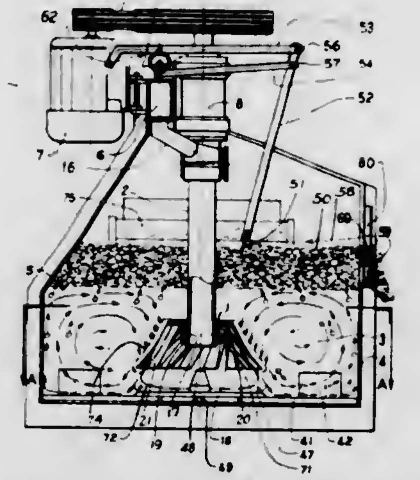
Waldemar Wochnowski, Hamburg, Heinz Harte, Hamburg-Bergedorf, and Johannes Iwen, Reinbek, near Hamburg, Germany, assignors to Hauni Werke, Koerber & Co., KG., Hamburg-Bergedorf, Germany
Original application Mar. 27, 1962, Ser. No. 182,802, now Patent No. 3,265,209, dated Aug. 9, 1966. Divided and this application Aug. 9, 1966, Ser. No. 571,236
Claims priority, application Germany, Oct. 31, 1960, H 40,822; Mar. 27, 1961, H 42,131
9 Claims. (Cl. 209—137)



A separator for pneumatically separating solid particles in a housing having an inlet at its bottom through which a gaseous suspension of solids is projected along an inclined path, a plurality of baffles defining inclined passages through which portions containing light particles of the suspension are diverted and evacuated from the top of the housing. The heavy particles, which drop out of the suspension in an area of the housing below the passages, are evacuated at the bottom of the housing.

3,378,141
FROTH FLOTATION APPARATUS

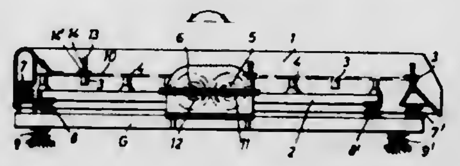
Charles Harold Warman, Castlecrag, New South Wales, Australia. assignor to Research and Development Pty. Ltd., Perth, Western Australia, Australia, a company of Western Australia
Filed Mar. 23, 1964, Ser. No. 354,026
Claims priority, application Australia, Mar. 28, 1963, 28,944/63
6 Claims. (Cl. 209—169)



1. A flotation concentration apparatus comprising a vessel or cell for holding suspension, feed means feeding a suspension into said vessel or cell, discharge means for discharging a non-floated product from said vessel or cell, froth discharge means for discharging a froth product from the vessel or cell, a rotor in said vessel at a level to be submerged in said suspension, a hollow axial shaft on the bottom of which said rotor is mounted with the bottom of the shaft opening into said rotor, gas admitting means feeding gas into said hollow shaft for delivery into the interior of said rotor, rotating means coupled to said hollow axial shaft and rotating said rotor about a substantially vertical axis, said rotor comprising a generally horizontal boss or disc spaced from the bottom of the vessel or cell and supporting a plurality of bars attached thereto at their upper ends in uniform angular relation, symmetrically about said vertical axis, the enveloping peripheral diameter of said bars about said vertical axis diverging downwardly toward the bottom of the vessel or cell, the bars being inclined so that downwardly successive cross sections in horizontal planes of said bars have, with respect to said vertical axis, angular displacements in a direction opposite to the direction of rotation of the rotor, the lower end of the bars being spaced from the bottom of the vessel or cell sufficient to establish and maintain an axial zone free of liquid within and beneath said rotor.

3,378,142
VIBRATORY SCREEN

Albert Wehner, Weberstrasse 31, Monheim (Rhine), Germany
Filed Jan. 3, 1964, Ser. No. 335,481
Claims priority, application Germany, Jan. 5, 1963, W 33,641
16 Claims. (Cl. 209—325)

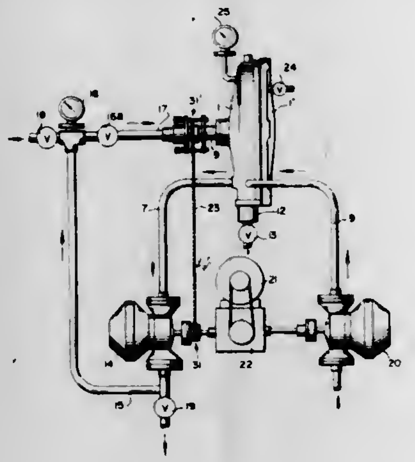


1. Vibratory screen assembly comprising two oscillatory driving systems, each having a resiliently supported frame and a set of support members on said frame, a screen supported on both of said sets of support members, means for imparting a rotary oscillation cycle to at least one of said oscillatory driving systems, means connecting said one oscillatory driving system to said screen for transmitting the upper part of the rotary oscillation cycle from said one oscillatory driving system to said screen, said connecting means forming a positive entrainment for said screen in a substantially horizontal direction and said screen being displaceable upwardly relative to said latter connecting means, the set of support members of said one oscillatory driving system being adapted to raise said screen from the set of support members of the other oscillatory driving system during the period in which the upper part of the rotary oscillation cycle is transmitted to said screen and to lower said screen so that it is supported by the set of support members of the other oscillatory driving system during the period in which said one oscillatory driving system performs the lower part of the rotary oscillation cycle, said two oscillatory systems with their respective support members having the same direction of their horizontal component of oscillation during the lower part of the screen oscillation cycle, whereby said screen is moved horizontally in substantial synchronism with both of said sets of support members during said lower part of said cycle.

3,378,143
STRAINING APPARATUS FOR PAINT AND THE LIKE

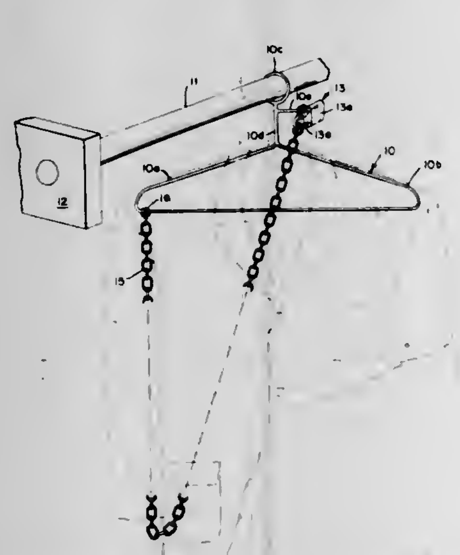
Geoffrey Neville Tipping, Waterlooville, Hampshire, England, assignor to Jenag Equipment Limited, Waterlooville, Hampshire, England
Filed Mar. 3, 1967, Ser. No. 620,363
Claims priority, application Belgium, Mar. 11, 1966, 677,750
7 Claims. (Cl. 210—411)

Paint and the like is fed to the flat filter element of a paint strainer by a positive displacement pump synchronously driven with another positive displacement pump which withdraws filtered liquid from the element and partly returns the liquid under pressure to a wiper arm on the discharge side of the element and resiliently held close to the element. Orifices in the arm discharge the liquid against the element whereby accumulated solids are dislodged from the face of the feed side of the element, and clogging of the element is prevented. Certain dimensional relationships are important for successful operation.



3,378,144
APPAREL HANGING AND LOCKING MEANS

Noel E. Webster, 31 Foster, Apt. 1,
Martinez, Calif. 94553
Filed Jan. 17, 1966, Ser. No. 521,054
5 Claims. (Cl. 211—4)

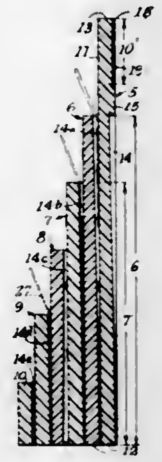


Apparel-hanging and -securing means having a hanger non-removably supported by a rod, a padlock secured to the hanger, and a chain secured at one end to the hanger, the padlock being adapted to selectively hold the other end of the chain.

3,378.145
GAUGE NEST

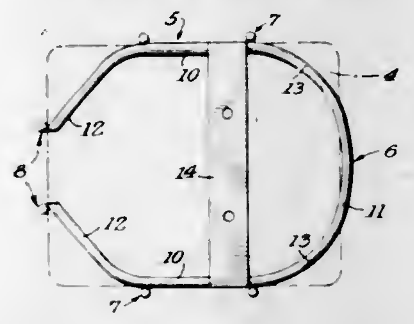
Jim C. Garrett, Inglewood, and Robert H. Johnson, Long Beach, Calif. (Both of 8060 Salt Lake Ave., Huntington Park, Calif. 90255)
Filed Nov. 1, 1966, Ser. No. 591,214
6 Claims. (Cl. 211—60)

This invention relates to a tiered nest or rack for storing a large number of feeler gauges in a tiered arrangement so the same are readily available and as easily replaced in the nest or rack. The device is advantageously made of molded plastic and comprises a plurality of plastic components, each of a different height, but all comprising portions of the highest or back component. Thus, molding costs are kept to a minimum since but the members that comprise the back components are the only ones that are molded, the other members of each nest comprising portions of said molded members.



3,378,146
RACK FOR STEREO CARTRIDGES

Arnold R. Dyess, 20959 Vandeene Ave.,
Torrance, Calif. 90502
Filed June 20, 1966, Ser. No. 558,959
2 Claims. (Cl. 211—181)

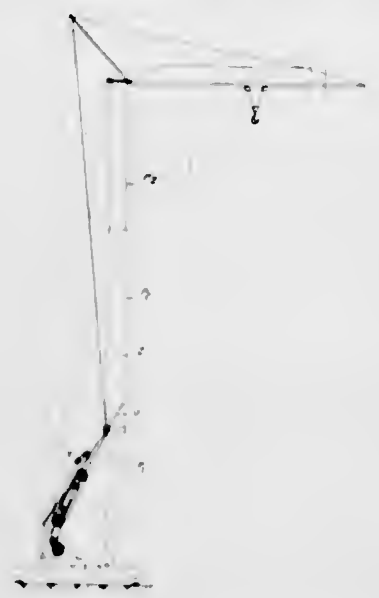


1. A rack for stereo cartridges comprising:
(a) a plurality of vertically spaced horizontal supports formed of wires having opposed parallel side portions, convexly curved front portions connecting the forward ends of said side portions, and rearwardly and inwardly bent, angularly directed rear end portions extending from the rearward ends of said side portions and terminating in spaced relation,
(b) vertical side members comprising two lengths of horizontally spaced wires connected to the outer sides and adjacent the ends of the opposed side portions of the supports to hold the same spaced, the spaces thus formed being adapted to accommodate stereo cartridges on the supports, and
(c) rear vertical members connecting the ends of the angularly directed rear ends,
(d) the vertical side members limiting lateral and rotational shifting movement of cartridges on the supports, and the rear vertical members limiting the rearward position of the cartridges on the supports.

3,378,147
TOWER CRANE ROTATABLE ON ITS BASE

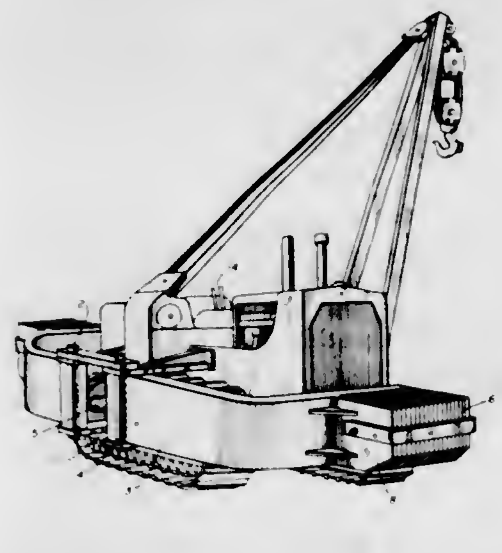
Paul Marrie, Dijon, Cote-d'Or, France, assignor to Societe Nouvelle d'Exploitation des Etablissements Boillot-Petolat, Dijon, Cote-d'Or, France
Filed Oct. 17, 1966, Ser. No. 587,023
Claims priority, application France, Nov. 9, 1965, 37,779, Patent 89,037
6 Claims. (Cl. 212—46)

An auxiliary tower crane erection system is provided. An auxiliary tackle or secondary pulley system is employed at the commencement of erection of the tower crane in order to raise the top component and jib of the crane several yards to an intermediate vertically-oriented position. A main tackle system then raises the tower crane to a fully erected position. The foregoing abstract is not intended to define the scope of the invention and is only provided to permit a cursory review of the gist of the invention.



3,378,148
COUNTERWEIGHT FOR SIDE BOOM TRACTOR

Leroy H. Stanley, 2520 E. 4th St., Tulsa, Okla. 74104
Filed May 15, 1967, Ser. No. 638,433
1 Claim. (Cl. 212—49)

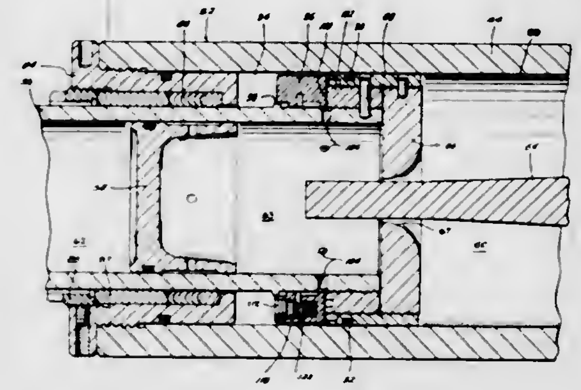


A counterweight suitable for use as a counterbalance on a tractor, particularly a tractor with a side boom which is used in laying of pipe in pipeline construction.

3,378,149
RAILWAY CAR CUSHIONING DEVICE

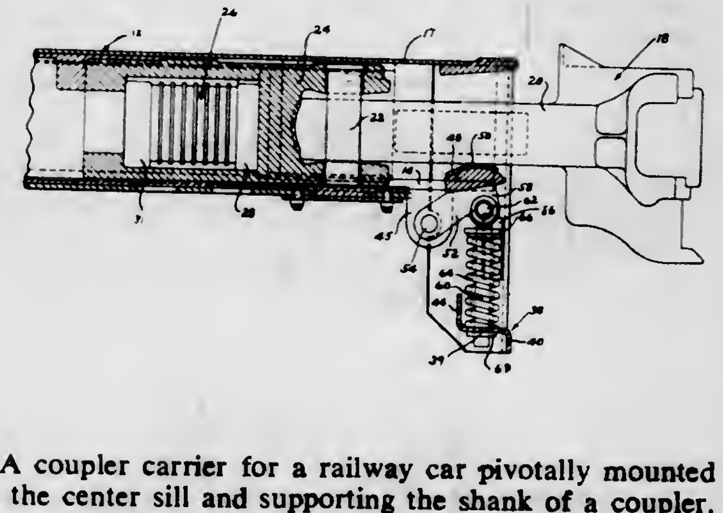
Richard G. Powell, Houston, Tex., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Feb. 14, 1966, Ser. No. 540,428
21 Claims. (Cl. 213—43)

A double acting hydraulic cushioning unit for railway cars which incorporate an auxiliary draft cushioning system and comprises a pair of telescopically related hydraulic cylinders cooperating to define an auxiliary draft cushioning hydraulic chamber. The auxiliary draft cushioning chamber is provided with fluid metering means which is effective to change the energy dissipating characteristics of the auxiliary draft cushioning system responsive to fluid pressure conditions within the auxiliary draft cushioning chamber.



3,378,150
COUPLER SUPPORT STRUCTURE

Eugene J. Cordani, Florissant, Mo., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Apr. 1, 1966, Ser. No. 539,436
4 Claims. (Cl. 213—61)



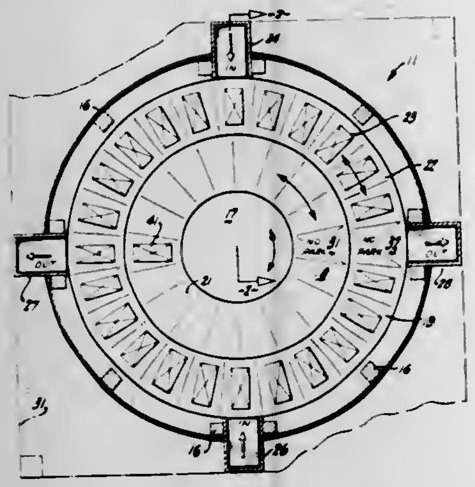
A coupler carrier for a railway car pivotally mounted on the center sill and supporting the shank of a coupler. The main body portion of the coupler carrier has a plurality of lugs extending downwardly from the underside thereof and a rod is pivotally connected to each lug. The rods extend downwardly to a support and coil springs about the rods continuously urge the coupler carrier upwardly about its pivotal axis.

3,378,151
PARKING GARAGE

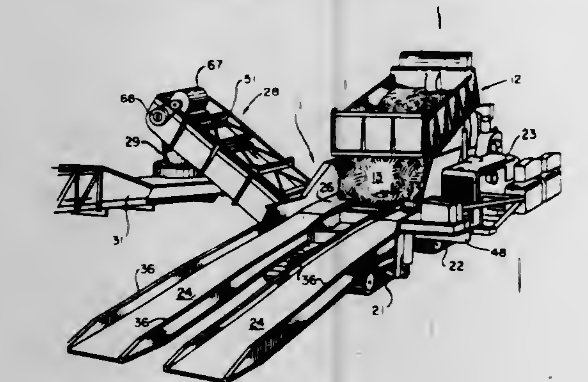
Charles R. Salloum, 154 Ellis St.,
San Francisco, Calif. 94102
Filed Oct. 19, 1964, Ser. No. 404,622
1 Claim. (Cl. 214—16.1)

1. Automobile parking apparatus comprising a building structure having vertical supports mounting vertically-spaced floors for parking automobiles, each of said floors mounting a central rotatable automobile turntable, drive means engaging each of said turntables for individually and controllably rotating same into angularly indexed positions, at least one annular parking platform disposed concentrically about the turntable on each floor and independently rotatable drive means controllably rotating said platforms, said independently rotatable drive means

each having two speeds with one speed rapidly rotating the platform for large angle turning and a second speed indexing the platform by turning same one stall at a time for successive filling of platform stalls, and a plurality of elevators extending between said floors for carrying automobiles, each of said platforms having a pair of circumferential rows of parking stalls thereabout adapted to contain parked automobiles, and a driveway extending radially across each platform so that automobiles driven radially inward upon the turntable from the inner row of stalls on the adjacent platform are adapted to be turned by the turntable toward an elevator and the platform rotated to align the driveway thereof between such automobile and elevator, and said plurality of elevators being disposed in spaced relation entirely about the circumference of said parking platforms.



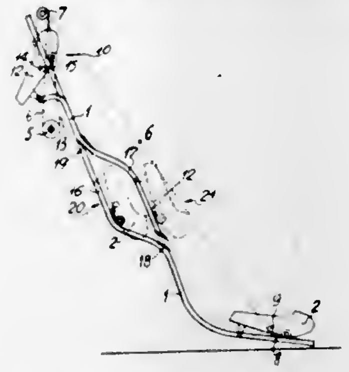
3,378,152
TRUCK UNLOADER
Donald H. Warner, Long Beach, Calif., assignor to Guy F. Atkinson Company, San Francisco, Calif., a corporation of Nevada
Filed Feb. 24, 1966, Ser. No. 529,728
4 Claims. (Cl. 214—46)



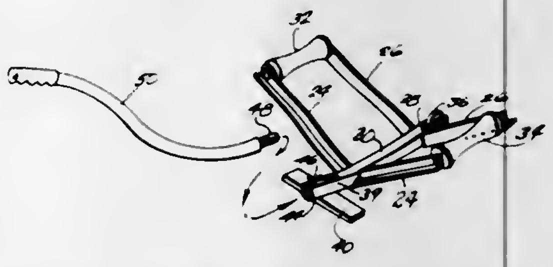
A self-propelled apparatus onto which dump trucks may be driven where they dump their contents into a hopper. The apparatus includes conveyor means for removing the material from the hopper and delivering it to associated apparatus.

3,378,153
DOUBLE SKIP LIFTING AND TRANSPORTING DEVICE
Domenico Domenighetti, 6 Via Nosetto, Bellinzona, Switzerland
Filed Feb. 14, 1966, Ser. No. 527,282
5 Claims. (Cl. 214—103)

Double skip lifting and transporting device in which there are coupled to a single winch two skips which slide up and down on the same rail means and there is provided at the middle of the path a double switch system allowing for the two skips to keep moving in different directions without colliding.

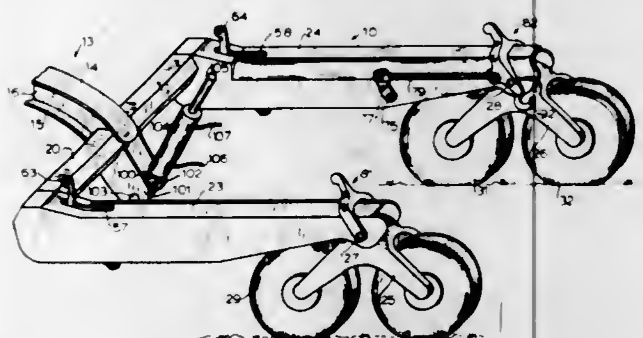


3,378,154
WHEEL JACK AND CARRIER
Canellen K. Mousel, Edison, Nebr. 68936
Filed Feb. 25, 1966, Ser. No. 530,100
1 Claim. (Cl. 214—332)



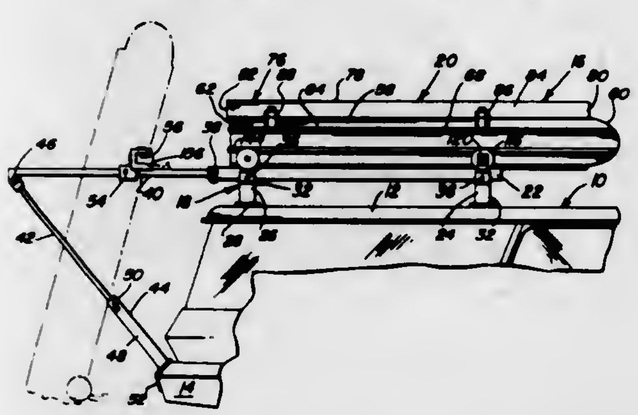
An improved wheel jack and carrier having a wide angled frame of parallel bars adapted to carry a tire, transverse support members, roller elements mounted on the peripheral transverse support members, and extensions having a stabilizer plate mounted thereunder and having a snap-fit recess coupling member and a further extension removably connected as a handle to couple with the recess coupling member.

3,378,155
HAULING APPARATUS FOR SLAG AND THE LIKE
Larry T. Steiner, Raleigh, N.C., assignor to Athey Products Corporation, Raleigh, N.C., a corporation of Illinois
Filed Feb. 24, 1966, Ser. No. 529,745
9 Claims. (Cl. 214—390)



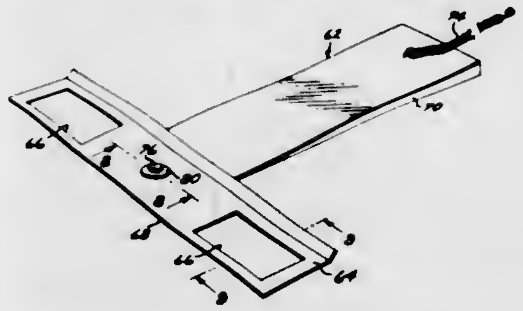
A heavy duty U-shaped trailer for hauling slag or the like in a receptacle is provided with lift arms and a tilting mechanism which enable the receptacle to be raised from a rest position at one station and transported on the trailer and then tilted to dump the contents and be placed down at the same or another station at which the receptacle is separated from the trailer.

3,378,156
CONVERTIBLE RACK FOR VEHICLES
Eugene R. Hunton, 403 S. Center, Miles City, Mont. 59301
Filed May 9, 1966, Ser. No. 548,495
9 Claims. (Cl. 214—450)



A support and guide rack for support from a top portion of a vehicle and from which a housing is pivotally supported for oscillation of the housing relative to the support and guide means about a horizontal axis between a first position with one side of the housing facing upwardly and a second position with the one side of the housing facing generally horizontally, the housing having internal shelves pivotally supported therefrom and the support and guide means and the housing including coacting means for automatically maintaining the shelves in generally horizontally disposed position as the housing is pivoted relative to the support and guide means between the aforementioned first and second positions.

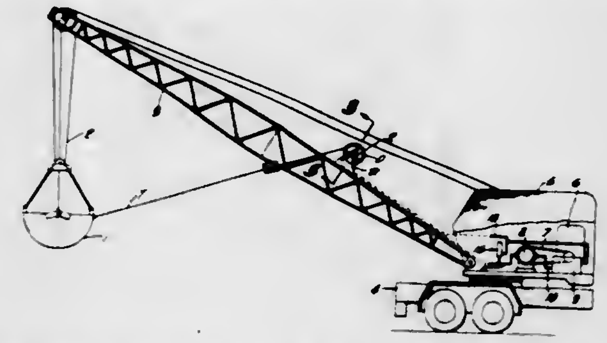
3,378,157
APPARATUS FOR TRANSPORTING VEHICLES
Henry B. James, 11881 Stephanie Lane, Garden Grove, Calif. 92640
Original application Oct. 4, 1965, Ser. No. 492,457, now Patent No. 3,348,710, dated Oct. 24, 1967. Divided and this application June 5, 1967, Ser. No. 643,459
4 Claims. (Cl. 214—620)



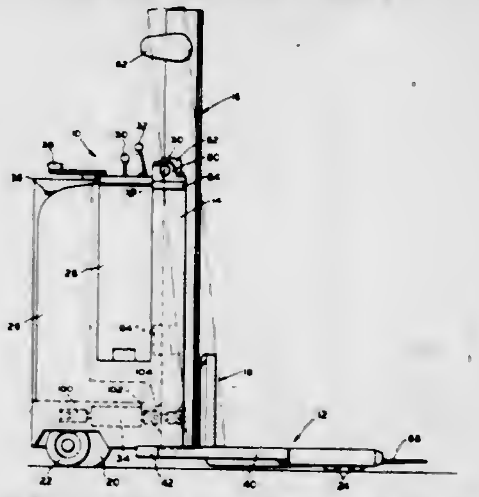
An apparatus for supporting the front wheels of a vehicle while rolling the vehicle on its rear wheels, and which includes a transverse member having a pair of openings for the front wheels of the vehicle, and a lift member adapted for engagement by a fork lift truck or the like and pivotally connected to the transverse member.

3,378,158
HYDRAULICALLY OPERATED TAGLINE REWIND MECHANISM
Luis Martin Lopez, La Puente, Calif., assignor to McCaffrey-Ruddock Tagline Corporation, Los Angeles, Calif., a corporation of California
Filed Oct. 15, 1965, Ser. No. 496,504
13 Claims. (Cl. 214—657)

The drum on which the tagline is wound is actuated by a fluid motor, the input side of which is connected by a conduit to a continuously operated pump. The conduit is provided with a relief valve. The fluid motor is capable of reverse rotation to function as a pump to return fluid to the conduit and the fluid motor is operated in reverse to pay out the tagline in response to excessive rise in tension in the tagline. When the tagline is under normal tension, the fluid motor is idle and the output of the continuously operating pump is delivered to the relief valve. When the tension of the tagline drops below normal, the fluid motor acts to wind in the tagline. When the tension of the tagline rises excessively, the tagline reverses the fluid motor to cause the fluid motor to function as a pump and the output of both the reversed fluid motor and the continuously operated pump is released through the relief valve.



3,378,159
UPRIGHT MOUNTING MEANS FOR LIFT TRUCK
George J. Trusock, Battle Creek, Mich., assignor to Clark Equipment Company, a corporation of Michigan
Continuation of application Ser. No. 223,211, Sept. 12, 1962. This application Feb. 13, 1967, Ser. No. 615,844
5 Claims. (Cl. 214—672)

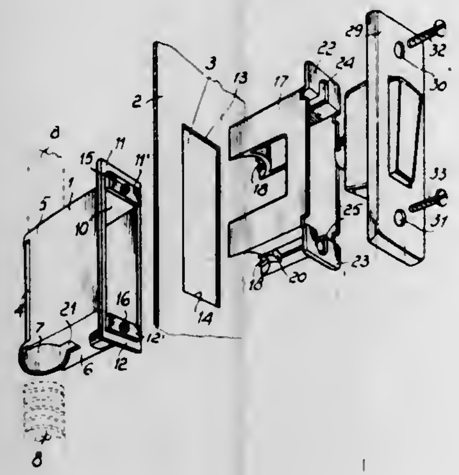


1. In an industrial truck having a load-lifting upright mechanism supported pivotally thereon to extend vertically adjacent a portion of the truck the improvement comprising support means fixed on the truck and mounting means for pivotally supporting the upright mechanism defining a pivot axis, said mounting means fixed on said support means selectively in only one of two alternative adjusted positions disposing said pivot axis in a corresponding one of two locations each lying in one of two vertical planes spaced longitudinally of the truck at different intervals relative to portions of the truck, said mounting means when in either of said position occupying substantially the same location on said support means.

3,378,160
ASSEMBLY FOR MOUNTING AN ELECTRIC DEVICE
Ermanno Bassani, Corso Porta Vittoria 9, Milan, Italy
Filed June 16, 1966, Ser. No. 558,138
6 Claims. (Cl. 220—3.6)

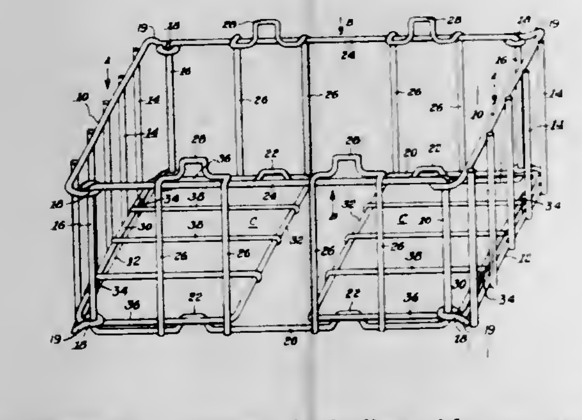
1. An assembly for mounting an electric device (e.g. a switch) comprising a hollow housing element having a first opening at one side and a second opening adapted to

receive an electric circuit, a plate having an aperature corresponding in size and shape to the first opening, and a hollow frame element insertable through the plate aperture and into the housing element, and which can be secured therein by snap-action between one or more tongues on one element and a corresponding slot or slots on the other element, the frame element having at least one surface adapted to engage and clamp a conduit when the latter and the frame element are inserted in the hollow housing element.



3,378,161
COLLAPSIBLE STACKING RECEPTACLE

Clair E. Lookabaugh, % Sed Mannheim, 139 N. Broadway, Los Angeles, Calif. 90012
Filed Jan. 10, 1966, Ser. No. 519,543
7 Claims. (Cl. 220—6)

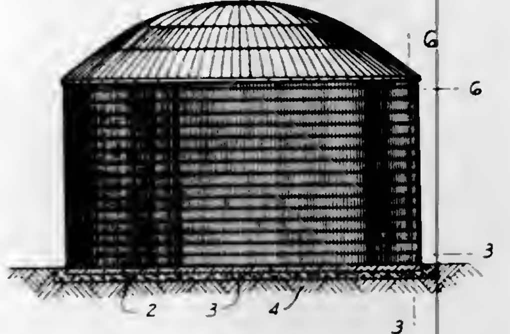


A collapsible container including side and end walls hinged at projections from the end walls providing recesses that receive the bottom walls when pivoted upwardly to allow collapsing of the container. The lower edges of the side walls include laterally inwardly extending portions that support the bottom walls and also provide receptacles receiving projections from the upper edges of the side walls of an adjacent container when the containers are superimposed.

3,378,162
INSULATED TANKS

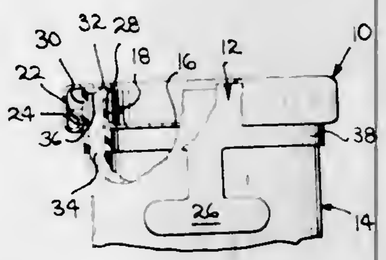
Egmont S. Smith, Houston, Tex., assignor to B & B Engineering Company, Inc., Houston, Tex.
Filed Oct. 1, 1965, Ser. No. 491,927
5 Claims. (Cl. 220—9)

An insulated tank comprising a tank body, an impervious jacket of vertically corrugated metal surrounding the tank body, and plastic foam insulation between the body and jacket. The jacket is in tension, and the insulation adheres to the tank body and the jacket and is maintained under compression by the tension of the jacket. The jacket includes a plurality of strips of the corrugated metal disposed substantially horizontally around the tank, and each of the strips above a bottom strip overlaps the next lower strip. Mastic is disposed between this overlapping portion to provide a vapor proof expansion joint.



3,378,163
COMPOSITE CLOSURE FOR FIBER CANS WITH EASY-OPEN AND RECLOSABLE FEATURES

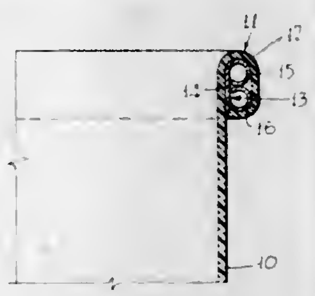
Edwin D. Griffith, Pemberville, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Dec. 30, 1966, Ser. No. 606,378
8 Claims. (Cl. 220—47)



Easy-open, reclosable closure for container comprising a ring-shaped fitment snugly positioned over the container rim, a container end having a panel and an annular flange tightly engaging the ring-shaped fitment. At an outward location, the fitment is provided with a pull-tab for closure removal.

3,378,164
REINFORCED CONTAINER RIM

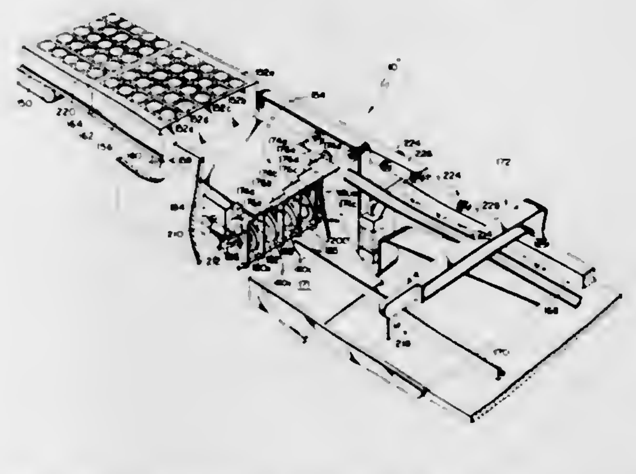
Herbert J. Witzgall, Jeffersonville, Pa., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed July 30, 1965, Ser. No. 476,008
2 Claims. (Cl. 220—73)



A reinforced rim for a container includes a metallic integral reinforcing ring having upper and lower annular tubular portions. The tubular portions are of substantially the same diameter and are disposed one above the other.

3,378,165
AUTOMATIC CONTROL FOR ARTICLE RELEASING OUTLET CLOSURE DISPENSING APPARATUS

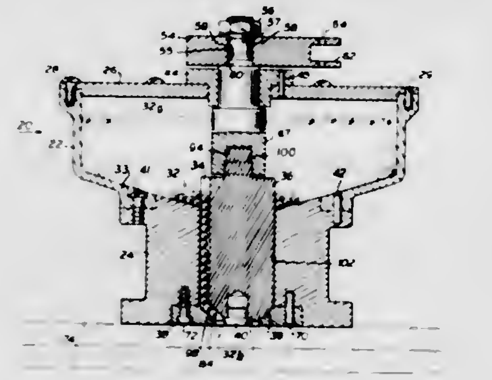
William H. Eburn, Jr., Stamford, Joseph H. Miller, Old Greenwich, and Charles T. Raymond, Westport, Conn., assignors to Automation & Product Development Corporation, Stamford, Conn., a corporation of Connecticut
Filed Mar. 15, 1967, Ser. No. 623,307
18 Claims. (Cl. 221—12)



An article dispenser in which a plurality of gates supports a like plurality of articles in a row. The gates are controlled to release, in sequence, a preselected number of articles. When the first row of articles is depleted, another row is automatically advanced to release position. The articles may be advanced by a frame, which, when empty is automatically returned to initial position for reloading.

3,378,166
PRECISION BALL DROP

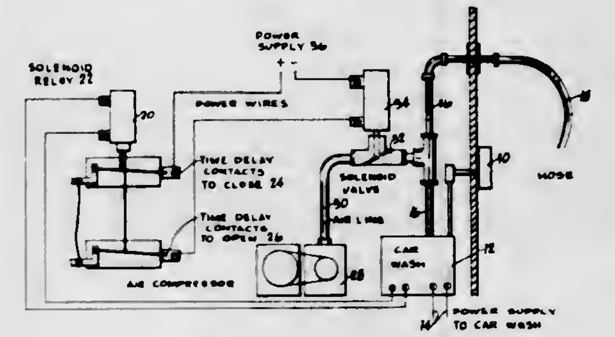
Howard S. Hoffman, Livingston, N J., assignor to G&H Mechanical Laboratory, Inc., a corporation of New Jersey
Filed Mar. 7, 1967, Ser. No. 621,166
15 Claims. (Cl. 221—93)



A precision ball drop for one or more like sized balls has one stationary member and one movable member usually reciprocated a distance equal to and not less than the radius of the ball. The movable member has flutes each adapted to receive and vertically guide a column of balls to an angled fluted passageway continuation in which, at one limit of movement, an abutment on the stationary member is in the way of the flow of balls in the angled fluted passageway. At the other limit of the reciprocation, the balls are moved from in the way of the abutment and by gravity move further downwardly in the angled fluted passageway until the lowest ball rests on an angled support of the fixed member and against a spacer block carried by the movable member. Upon reciprocation to the first limit of movement the column of balls is moved by the fluted passageway so that the lowermost ball against the spacer block is moved in the way of a vertically disposed precision sized and located downward discharge passageway whence the lowermost ball is discharged by gravity downwardly while the next above ball is engaged by the abutment on the stationary member. At every full cycle of reciprocation one ball is precisely dropped from the discharge of each fluted passageway.

3,378,167
AUXILIARY APPARATUS FOR SELF-SERVICE AUTO-WASH UNIT

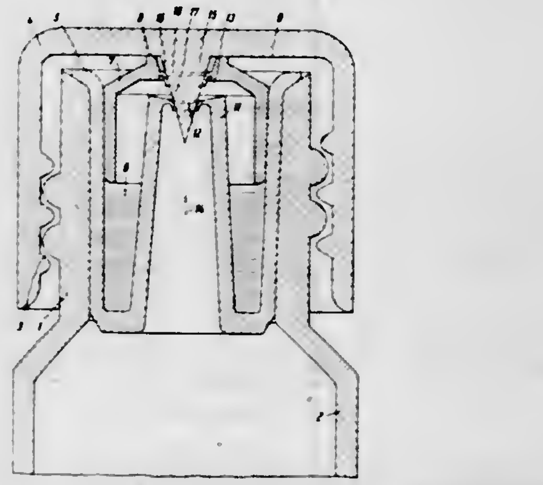
Emerson Campbell, Union, W. Va. 24983
Filed Mar. 7, 1967, Ser. No. 621,210
4 Claims. (Cl. 222—70)



An automatic winterizing system for coin-operated self-service auto-wash units wherein water normally remaining in hoses after use is fully expelled thereby eliminating freeze up.

3,378,168
ARTICLE FOR HOLDING MATERIALS WHICH ARE TO BE MIXED TOGETHER UPON ISSUING FROM THE ARTICLE

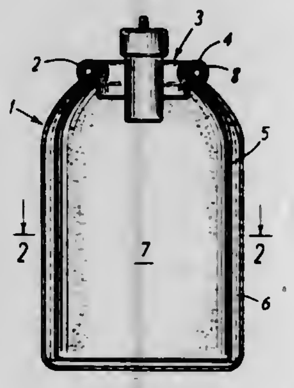
Paul Gustav Hildebrandt, 10 Fuchssteiner Weg 1, Berlin 28, Germany
Filed Jan. 18, 1967, Ser. No. 610,133
Claims priority, application Germany, Jan. 20, 1966, H 58,295
5 Claims. (Cl. 222—83)



An article having an outer container for one material and an inner container for a second material which is to be mixed with the material in the outer container, the inner container being situated in a mouth of the outer container and having an inner tubular wall through which the material of the outer container discharges. The inner container has an outer tubular wall surrounding and spaced from its inner tubular wall to define a space for holding the second material, and the end of the inner tubular wall of the inner container which is directed away from the interior of the outer container is provided with a flexible closure diaphragm, while the inner container has an outer end wall also provided with a closure diaphragm closing the inner container. The two diaphragms are aligned with each other as well as with the inner tubular wall of the inner container. A hollow cap means coacts with the mouth of the outer container to releasably close the latter, and this hollow cap means as an inner end surface directed toward the outer end wall of the inner container and carrying an elongated piercing means which, when the hollow cap means is initially mounted on the mouth of the outer container, pierces through the diaphragm of the outer end wall of the inner container and then through the diaphragm at the end of the inner tubular wall of the inner container, the space between these diaphragms forming a mixing chamber for the two materials. The piercing means thus forms in the diaphragms openings conforming precisely to the configuration of the piercing means so as to coact with the latter to reliably maintain the interiors of both containers closed when the hollow cap means closes the mouth of the outer container. On the other hand, when the hollow cap means is removed the pierced diaphragms form openings through which both materials can discharge, the materials mixing in the mixing chamber so as to be mixed together upon issuing from the article.

3,378,169
AEROSOL CONTAINER

Frank N. Clark, Scotch Plains, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Original application May 7, 1964, Ser. No. 365,645, now Patent No. 3,323,206, dated June 6, 1967. Divided and this application Apr. 6, 1967, Ser. No. 651,073
4 Claims. (Cl. 222—95)

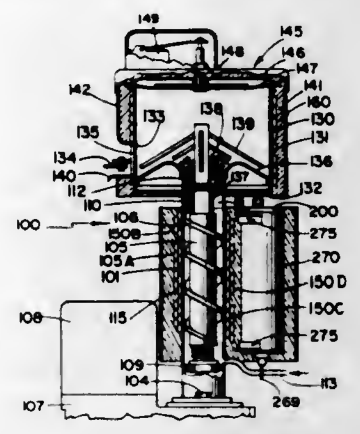


1. An aerosol container comprising a rigid container having an opening at one end and having joined thereto a valve assembly at said open end of said container and having positioned in said container a nylon film bag having a moisture content of at least 3.5% by weight, said nylon film bag being hermetically sealed between the edge of said open end of said container and said valve assembly forming a valved chamber with said valve assembly and a sealed chamber with said rigid container.

3,378,170
MIXED BEVERAGE REFRIGERATING AND DISPENSING MACHINE

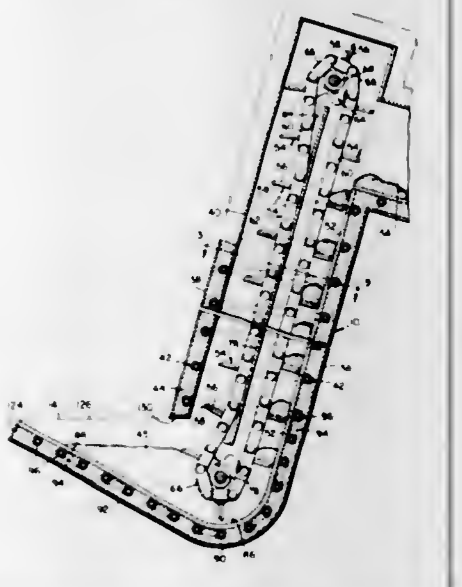
Donald S. Reynolds, Glencoe, and Harvey R. Krueger, Carpentersville, Ill., assignors to Reynolds Products, Inc., Rolling Meadows, Ill., a corporation of Illinois
Filed Mar. 31, 1966, Ser. No. 541,465
39 Claims. (Cl. 222—129.4)

1. In an iced beverage dispensing machine, the combination comprising an upstanding tube having an inner wall and an outer wall, said inner wall defining an upstanding cylindrical freezing chamber having an outlet at the upper end thereof, an inlet for supplying water to said freezing chamber, means for cooling said tube to freeze water in said freezing chamber, an upstanding auger in said freezing chamber for scraping ice from said inner wall and for delivering the ice to said outlet, drive mechanism for operating said auger to force the ice from said chamber and through said outlet, and a cooling conduit in thermal contact with the outer wall of said tube for cooling flavor syrup flowing through said conduit.



3,378,171
HEATED ASPHALT ELEVATOR

Jay S. Eaton, c/o Dixie Asphalt Co., P.O. Box 6308, West Palm Beach, Fla. 33405
Filed May 20, 1966, Ser. No. 551,741
15 Claims. (Cl. 222—146)



This invention provides an elevator for lifting and discharging heated asphalt mix received from a source, such as an asphalt mix dump truck or an asphalt mixing plant, to the top of a silo unit for storing and maintaining the asphalt in heated condition, ready for discharge into a job delivery truck, and provides an elevator that will occupy much less ground space than the one disclosed in applicant's prior patent.

A further feature is that the elevator is heated, and its basic unit provides a hopper or mouth for receiving the asphalt from a truck, but there is also provided a spout attachment to this hopper so that it may be used in conjunction with an asphalt mixing plant, the spout attachment also having a heating pipe that can be connected to a heating coil in the elevator.

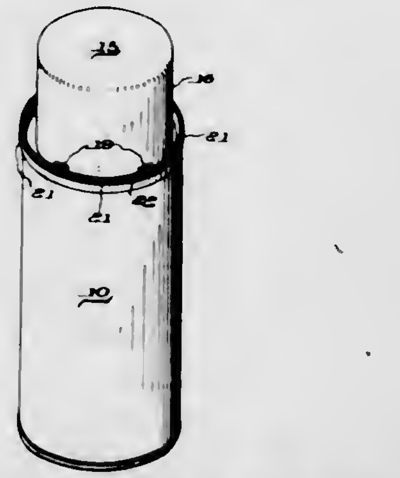
When the elevator is used on a silo unit in the field, a funnel is provided, which may be a permanent part of the elevator hopper when the elevator is intended for field use only, or a separate funnel is provided so that the elevator may be used interchangeably in the field or at the plant, the funnel enabling a dump truck to discharge into the hopper of the elevator.

A further feature is that this elevator is inclined from its base slightly toward the silo unit to which it is to be attached, and the lifting action within the elevator is provided by an endless belt with a plurality of lifts thereon, with the lifts of the ascending flight of the belt carrying hot mixed portions of asphalt mix thereon scraping against the inner wall of the elevator until the portions of asphalt mix fall out through the discharge chute into the top of the silo unit.

The endless belt is in the form of a pair of parallel roller link chains, powered by a gear sprocket at its top and passing over an idler gear sprocket at its bottom, so that power is applied only to the lifting flight thereof. The gear sprockets have an odd number of gear teeth, preferably five, so as to better distribute the wear on the chain, and the individual lifts are mounted on alternate corresponding chain links. The down flight of the belt is supported on a trackway to prevent it from interfering with the ascending flight.

3,378,172
PACKAGE

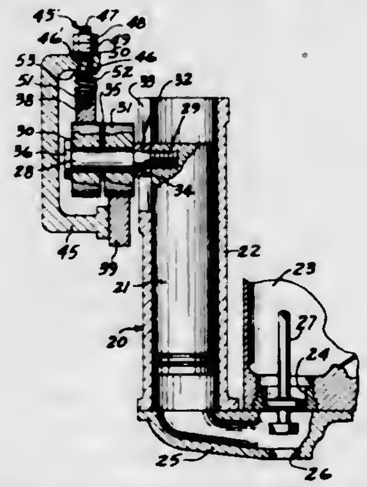
David G. Nelson, Richmond, Ind., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 21, 1966, Ser. No. 566,935
5 Claims. (Cl. 222—153)



A package having a primary closure and a cover cap, the cover cap having an edge portion attached to a container and a body portion with inwardly directed ribs, the body and edge portion being connected only by spaced bridges. The upper end of the container has an outwardly directed shoulder that cooperates with the ribs in the body of the cover cap to resist lifting the cover cap from the container.

3,378,173
CONTAINER FILLING MACHINE

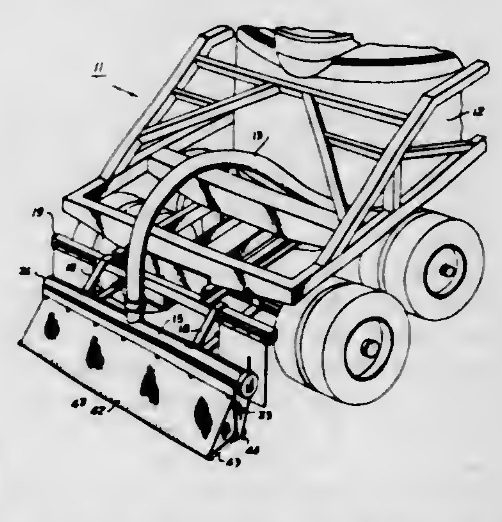
Everett S. Minard, Laguna Hills, Calif., assignor to Chemetron Corporation, Chicago, Ill., a corporation of Delaware
Filed Oct. 13, 1965, Ser. No. 495,653
5 Claims. (Cl. 222—168.5)



A control apparatus having cam tracks and pairs of rollers in engagement therewith, said track and rollers being positioned to minimize the clearance between the tracks and rollers for accurately positioning movable members to which the pairs of rollers are attached.

3,378,174
SPREADING APPARATUS FOR DRY POWDERED MATERIAL

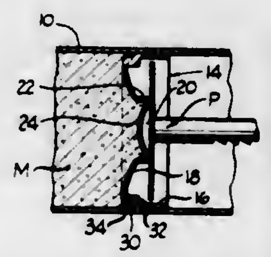
Winfred L. Tunnell, 4211 Brindwell, Tyler, Tex. 75701
Filed Nov. 29, 1966, Ser. No. 597,683
10 Claims. (Cl. 222—193)



There is disclosed an apparatus for spreading dry powdered material such as dry cement or lime that includes an elongated tube into which the material to be spread is blown under pressure. The lower side of the tube defines a restricted aperture means, which may be a slot, whereby material blown into the tube is forced out through the aperture. There is also provided a housing extending from the tube to a position which would be just above the surface onto which the material is to be spread. The housing includes a plurality of baffles intercepting the path of the material whereby the dry powdered material is separated from the air which conveys it into the tube as the material travels down the housing. The area of the restricted aperture is substantially less than the exit port in order that the air separated from the powdered material can exit from the housing without the powdered material becoming entrained in the air.

3,378,175
PISTON FOR MATERIAL DISPENSING GUN CARTRIDGE

Frank J. Krieps, Elmhurst, Ill., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed Feb. 3, 1966, Ser. No. 524,691
3 Claims. (Cl. 222—327)

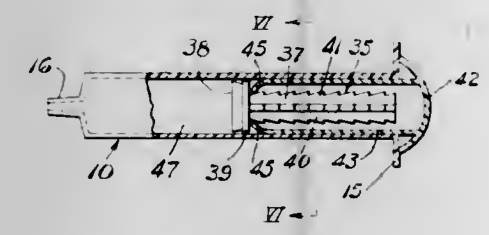


1. In an expendable tubular cartridge for a material dispensing gun with a movable plunger, which cartridge includes a cylindrical side wall forming a tube open at opposite ends and a dispensing spout member fixedly associated with the front end of the tube remote from the gun plunger for closing said front tube end, a unitary piston member slidably positioned within said tube at the

rear end thereof adjacent said plunger for closing said rear tube end and for urging said material through said tube toward said dispensing spout member when actuated by said gun plunger, said piston member being formed from a relative stiff though resilient plastic material such as polypropylene and comprising in combination:

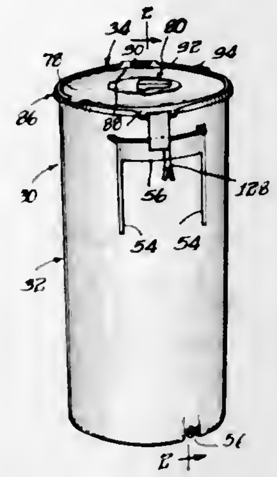
- (a) a cylindrical outer wall disposed in snug frictional engagement with the inner surface of said cartridge side wall for slidable movement longitudinally of the cartridge only when actuated by said plunger;
- (b) a circular central section, including:
  - (i) a cylindrical inner wall concentrically disposed within the outer wall and being of lesser length than said outer wall;
  - (ii) a round center wall formed integrally with the rear edge of said inner wall to close the center of the piston member and being bowed forwardly to present a convex surface on its front side and a concave surface on its rear side;
- (c) a flexible, annular, transverse, front wall having its outer edge formed integrally with the front edge of said outer wall and extending radially inwardly and rearwardly and having its inner edge formed integrally with the front edge of said inner wall;
- (d) a plurality of internal, circumferentially spaced, longitudinally extending ribs presenting coplanar, rearwardly facing, abutment surfaces the location of which relative to said central section, is such that upon initial contact between the plunger and piston-member the plunger will first engage the central section and move it forward relative to the outer wall, against the resilient pressure of said front wall and the material in said tube, until the plunger engages said rib abutment surfaces to thereby prevent further forward movement of said central section beyond the front edge of said outer wall and further transmit the driving force of the plunger through said ribs to said outer wall to cause said piston member to move forward in said tube;
- (e) said front wall affording a spring-like action for said central section to permit it to move forward when engaged by the plunger and to move it rearwardly when pressure on the plunger is released to suck the material rearward and thereby prevent it from continuing to flow out of the cartridge through said spout member.

3,378,176
CONTAINER DISPENSER
Herbert C. Snyder, Brockway, Pa., assignor to Brockway Glass Company, Inc., Brockway, Pa.
Filed Sept. 12, 1966, Ser. No. 578,880
3 Claims. (Cl. 222—389)



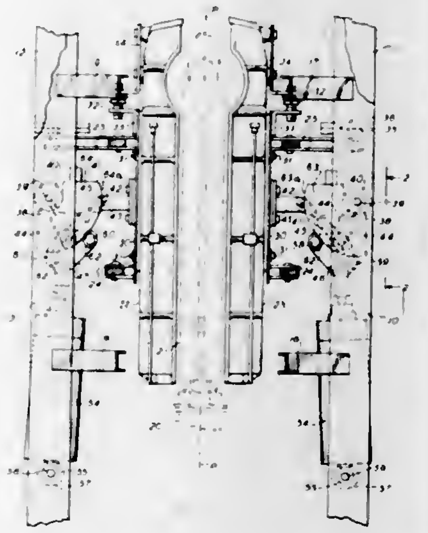
A cylindrical container having a dispensing opening at one end and an ejecting piston slidable therein. The piston has a tubular portion extending toward the other end provided with internal ratchet teeth and a plunger extends into the tubular portion and has a pair of flexible legs terminating in pawl formations which are biased outwardly and engage with the ratchet teeth to move the piston toward the dispensing opening. Yieldable means bias the plunger toward said other end of the container.

3,378,177
FOOD CONTAINER WITH PLURAL OPENINGS
Carl A. Gran, Arlington Heights, Ill., assignor, by mesne assignments, to John R. Scherer Co., Inc., and J. & E. Leasing Co.
Filed Sept. 23, 1966, Ser. No. 581,495
14 Claims. (Cl. 222—482)



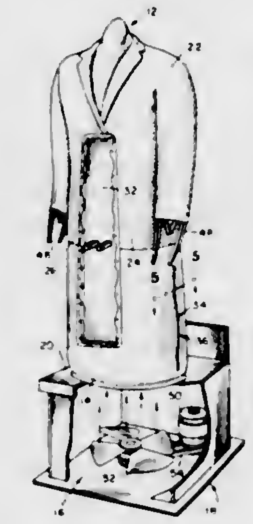
A container including a flexible vessel having a conical side wall, the open end of the vessel being the larger end and having a lock ring formed integral with the side wall, and a stacking stop formed integral with the side wall. A flexible cover including a closure having an annular conical seal wall, a conical seal support formed integral with the seal wall and an annular seal formed integral with the seal support engageable with the interior surface of the side wall. An exterior seal is formed integral with the closure and engageable with the lock ring.

3,378,178
MECHANISM FOR MOVING PRESSING CHEST
Jack De Mar Stewart, Webster, N.Y., assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed July 27, 1966, Ser. No. 568,315
4 Claims. (Cl. 223—57)



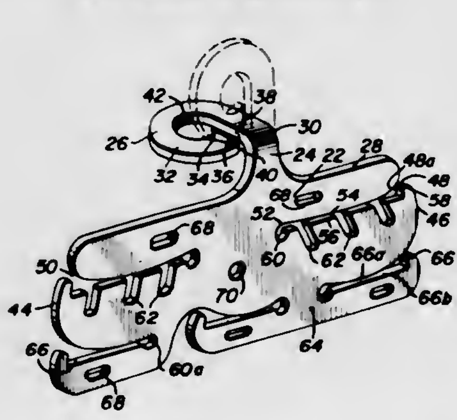
This invention relates to a combination toggle-eccentric mechanism which operates as a toggle through a first portion of its stroke and as an eccentric through the remaining portion for moving pressing chests into closed positions relative to a buck or similar device of a pressing or ironing machine. The toggle-eccentric mechanism comprises a pair of toggle arms respectively pivoted at their outer ends to the frame of the machine and to a pressing chest and pivoted at their inner ends to a shiftable connector plate on axes offset from each other. Pivotally connected also to the connector plate is a connecting rod of an air cylinder which is pivoted at its base to the frame. As the connector plate is moved by the air cylinder through a major portion of its stroke it is guided by cams on the frame to move the toggle arms by a toggle action until the toggle arms reach a substantially straight relationship to each other, but in the further and final portion of the power stroke the connector plate rides off the cams and comes against a stop to cause it to turn and move the toggle arms further apart by an eccentric action.

3,378,179
INFLATABLE BAG FOR GARMENT FINISHER
Harry D. Forse, 220 Woods Road, Anderson, Ind. 46011
Filed July 12, 1967, Ser. No. 652,869
5 Claims. (Cl. 223—67)



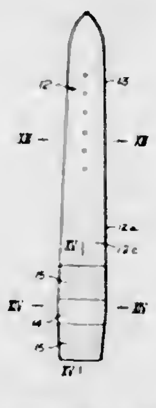
An inflatable bag for supporting a garment while it is being dried after cleaning, the bag being arranged internally of the garment to shape the garment when the bag is inflated. The bag is provided with a slit, a zipper arranged to close the slit and an inflatable expansion panel carried internally of the bag when the slit is closed. The panel is sealably connected about the perimeter of the slit so that, when the slit is open and the bag is inflated, the panel will protrude outwardly through the slit to increase the perimeter of the bag in the area of the slit.

3,378,180
VALET HANGER FOR TIES AND THE LIKE
Gerald Singer, 816 Regency Court, Toms River, N.J. 08753
Filed July 26, 1966, Ser. No. 567,961
9 Claims. (Cl. 223—87)



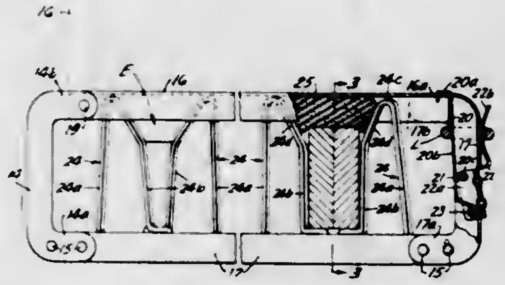
A supporting device in the form of a panel having an upwardly extending shank terminating in an attaching portion engageable with the shank of a garment hanger hook with the panel disposed generally parallel to the front of the garment hanger to support ties and other accessories from the garment hanger so that the ties will be associated with the garment in a manner to enable optimum selection of a tie to be combined with the garment supported by the garment hanger. The panel includes a plurality of generally horizontally disposed slots for grippingly engaging individual ties together with additional openings for feceiving other accessories such as cuff links, shirt studs and the like.

3,378,181
WRISTWATCH STRAP OF LEATHER OR LIKE MATERIALS
Hermann Hirsch, Klagenfurt, Austria, assignor to Hans Hirsch & Sohne, Leder- und Plastikwarenerzeugung OHG, Klagenfurt, Austria, a corporation of Austria
Filed Oct. 13, 1966, Ser. No. 586,506
3 Claims. (Cl. 224—4)



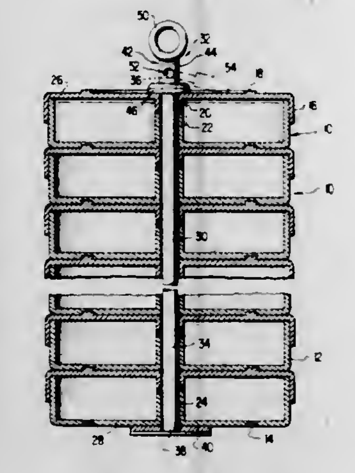
A wristwatch strap comprising an elongated upper layer formed of a single piece of material and including a sharpened marginal border along its periphery and an elongated inner lining including edges and an inner face and an upper face therebetween. The elongated inner lining is longitudinally secured along its upper face to the elongated layer, from one end of the strap to the other and the sharpened marginal borders are bent about the edges and extend to the inner face, the sharpened marginal border being secured to the edges. The elongated upper layer and the elongated inner lining are narrowed in thickness at one end and adapted thereat to be formed into a loop with spaced glue coating sections disposed thereat.

3,378,182
SKI RACKS FOR CARRIERS
Urban C. McMiller, Minneapolis, Minn., assignor to Karpak Company, Minneapolis, Minn., a corporation of Minnesota
Filed Nov. 17, 1966, Ser. No. 595,220
4 Claims. (Cl. 224—29)



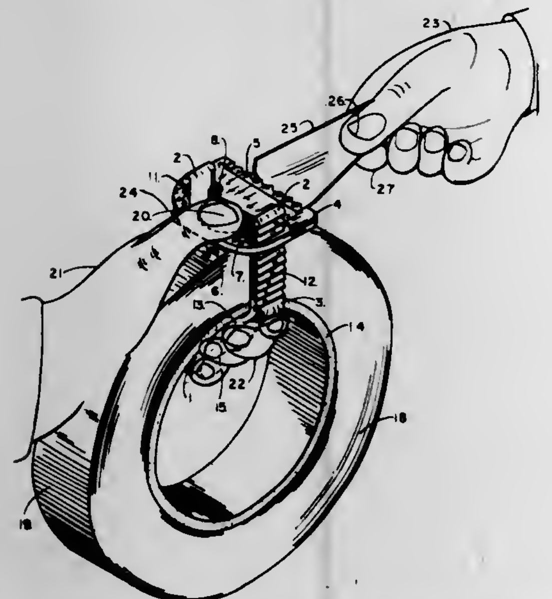
A multi-pair ski-rack particularly adapted for attachment to various top portions of a motor vehicle which essentially consists in a bottom ski rest bar having a plurality of similar resilient ski clip elements arranged in opposing, cooperating pairs, each of which have a resilient leg laterally movable longitudinally of said bar. The invention is further characterized by the cooperating pairs of clip elements having at their outer ends oppositely inclined portions to define diverging ski entrance means and for facilitating production of a wedging action to tension the resilient legs. The divergent entrance portions also expose edges of a pair of skis clamped in bottom-to-bottom abutment. Finally, the invention comprises a clamping bar hingedly connected to one end of the ski rest bar and adapted to overlie the same in substantially parallel relation and provided with means for retaining the clamping bar in said parallel relation. On its underside the clamping bar carries somewhat compressible clamping means extending longitudinally thereof for positively clamping against the exposed edges of skis disposed in the clips, when the clamping bar is swung to parallel position and retained therein.

3,378,183
HAND CARRIER FOR STACKED ARTICLES
Ricardo Cuellar Ferrer, Av. Coyoacan 703–202, Mexico City, Mexico
Filed Jan. 16, 1967, Ser. No. 609,584
Claims priority, application Mexico, Mar. 25, 1966, 87,891
4 Claims. (Cl. 224—45)



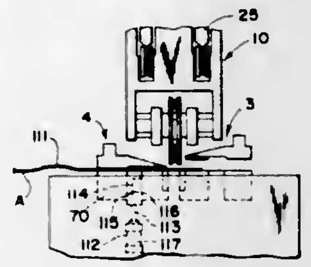
A carrying appliance for film cases, including a rod on which the cases are adjustably clamped. Modifications include a rod of variant length; carrying handles; and a lock inserted through the rod.

3,378,184
SIMPLIFIED ROLL TAPE DISPENSING KNIFE
Russell W. Mallory, 502 Brookside Blvd., Richmond, Va. 23227
Filed Apr. 20, 1966, Ser. No. 545,222
4 Claims. (Cl. 225—66)



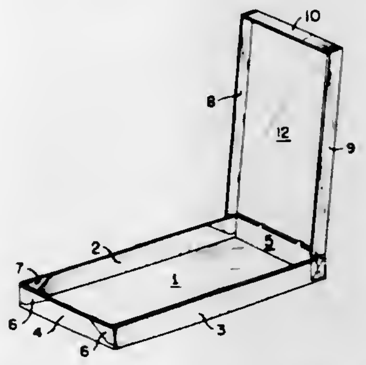
1. A tape dispensing device for use on a roll of tape comprising: a grip plate adapted to engage the interior periphery of the core of a roll of tape, two narrow vertical parallel side members integral with and extending from said grip plate on each side of said roll, and which project out toward and a short way past the outer periphery of said roll and which have a series of lateral parallel grooves extending the entire width and covering the entire height of a vertical face of each of said vertical side members, a flat knife blade plate having two narrow rectangular parallel openings located near the side edges of said flat knife blade plate with each of said rectangular openings having one inner edge shaped to form a single wedge-shaped tooth, and with each of said rectangular openings being sized to receive said vertical side members of said tape holder, and with said wedge-shaped tooth engaging and mating with the said lateral parallel grooves on the said face of the said side members of the said tape holder.

3,378,185
METHOD AND APPARATUS FOR JOINING STRIP AND SHEET MATERIAL
Donald J. Wheeler, Kent, and Victor Lohrenz, Bedford, Ohio, assignors to Guild Metal Joining Equipment Company, Bedford, Ohio, a corporation of Ohio
Filed Oct. 11, 1965, Ser. No. 494,728
20 Claims. (Cl. 228—5)



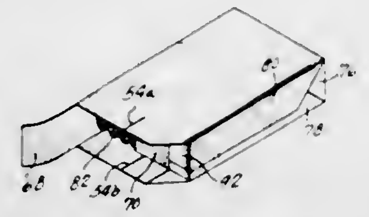
A combination shear assembly and weld assembly each mounted for movement in the same transverse path across strips to be joined thereby assuring perfect alignment of the weld assembly with the edges of the strips subsequent to the shearing operation. The movable shear assembly is pivotally mounted on a carriage for pivotal swinging movement into and out of strip pass height, and clamping means are provided for continuously clamping strips during both shearing and welding and while the strips are indexed from the shear position to the weld position.

3,378,186
BOX BLANK HAVING INTEGRAL FRAME FOR REMOVABLE COVER
Paul Thompson, Wellesley, Mass., assignor to Bestpak, Inc., Natick, Mass., a corporation of Massachusetts
Filed May 31, 1966, Ser. No. 554,142
4 Claims. (Cl. 229—44)



This invention is a box, and blank therefor, of the folding "window" box type made of paper board. A single unitary box blank is provided having walls which may be folded upward to form the box bottom portion, these walls having flaps attached to their upward edges which may be folded downwardly to provide the enclosing walls of a cover portion, the construction of the upwardly and downwardly extending walls being such that a sheet of transparent plastic may be stretched over the opening of the thus folded structure to provide a box top, the plastic being attached solely to the outer surfaces of the dependent flaps. Along at least three of the edges where the flaps join the upstanding bottom walls, perforations are provided so that the flaps may be torn loose from the upstanding walls, and when so separated the flaps and the plastic sheet comprise a cover for the remaining portion of the box hinged along the fourth edge.

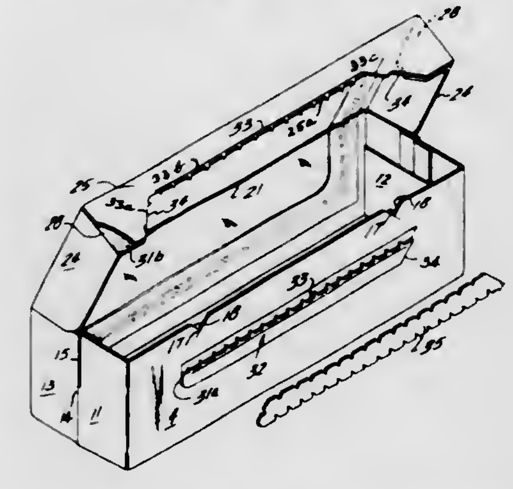
3,378,187
PACKAGE AND BLANK FOR A PACKAGE
Joseph H. Sherrill and Jesse R. Pinkham, Winston-Salem, N.C., assignors to R. J. Reynolds Tobacco Company, Winston-Salem, N.C., a corporation of New Jersey
Filed Nov. 8, 1965, Ser. No. 506,822
24 Claims. (Cl. 229—51)



A package formed from a strip of bendable material and an enclosing wrapper, in which the strip defines all or a part of the girth of the package and has an end that extends through a slit in the wrapper so that it extends outside the wrapper, permitting this strip end to be pulled to tear the wrapper to gain access to the contents of the package. The wrapper may be adhesively secured to the strip and may also include sealing sheets or the like to seal the package where the strip extends through the slit in the wrapper. The portion of the package opened may be adhesively resealed, and a reclosure tab may be formed from such opened portion.

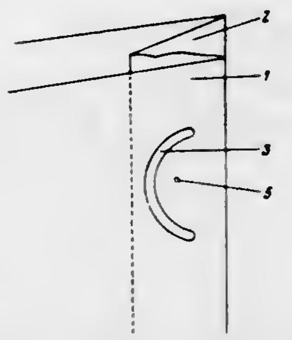
A truss structure is disclosed for reinforcing an end of a package, having opposing panels defining opposing pairs of flaps. Only one pair of opposing flaps need be opened to gain access to the package, while the remaining opposing flaps may be retained in the closed position.

3,378,188
CARTON
George Leroy Meyers, Menasha, Wis., assignor to American Can Company, a corporation of New Jersey
Filed Nov. 25, 1966, Ser. No. 596,937
4 Claims. (Cl. 229—51)



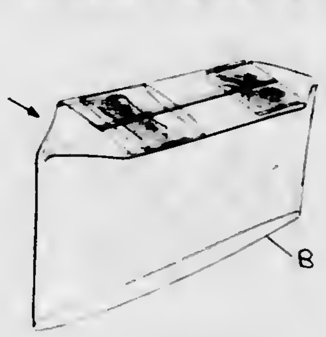
A blank of material preferably paperboard is cut and creased to form a carton, the carton when formed includes a receptacle and a hooded style cover which telescopes over the upper portion of the receptacle. A strip of adhesive is applied to the depending front cover panel for forming the hooded cover and for sealing the cover to the receptacle front wall.

3,378,189
PLASTIC SACK
Robert Walker Dickson, Welwyn Garden City, England, assignor to British Visqueen Limited, London, England
Filed Sept. 6, 1966, Ser. No. 577,492
Claims priority, application Great Britain, Sept. 6, 1965, 37,977/65
1 Claim. (Cl. 229—53)



A plastic sack of the type having side gussets infolded between the sides of the opposed walls of the sack, the sack being adapted to assume a block ended shape when it is filled and closed by a straight seam across its mouth, at least one of the outwardly directed pleats formed by the gussets at each side of the mouth of the sack being provided with a weld of rounded configuration between the gusset and the sack wall facing it.

3,378,190
PLASTIC BAG WITH RECTANGULARLY SHAPED END CONSTRUCTION
Reid Evan White, Maumee, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed June 16, 1966, Ser. No. 557,935
3 Claims. (Cl. 229—62.5)

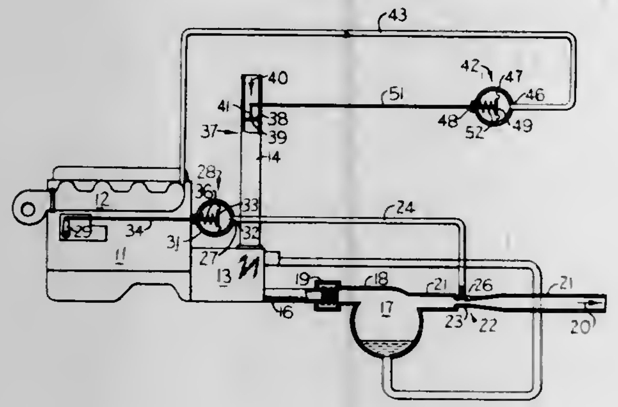


This invention relates to an improved plastic bag formed by folding and end sealing operations on a tube of thermoplastic material. More particularly, the invention provides a bag construction wherein the primary seals utilized for securing the side and end flaps formed on the end of the tubular body are accomplished by heat seals so disposed that no mandrel need be inserted within the tubular body.

3,378,191
AIR COMPRESSOR CONTROL SYSTEM RESPONSIVE TO AIR FLOW
Richard B. Clark, Washington, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Sept. 29, 1966, Ser. No. 582,949
6 Claims. (Cl. 230—10)

1. In an air compressor system, the combination comprising:

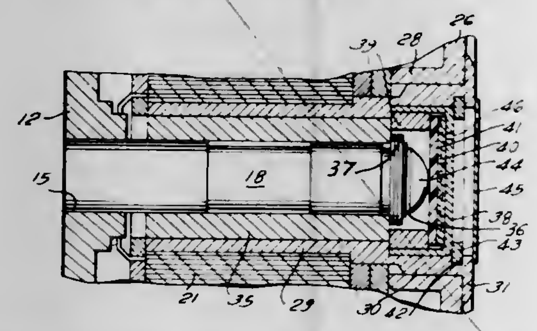
- a prime mover having a speed governor means;
- a compressor disposed to be driven by said prime mover;
- a receiver disposed to receive and store compressed air from said compressor;
- a receiver outlet disposed with respect to said receiver to provide a passage by which compressed air is intermittently drawn from said receiver as desired, said intermittent withdrawal of compressed air from said outlet passage causing air flow variations in said outlet;



- control means operatively disposed between said receiver outlet and said speed governor means and operative to control said speed governor means in response to air flow variations in said outlet an air inlet through which air flows to said compressor; and
- means disposed in said air inlet to control air flow therethrough responsive to changes in speed of said prime mover.

3,378,192
MEANS FOR SECURING THE IMPELLER TO THE MOTOR OF AN ELECTRICALLY DRIVEN FAN

Karl E. Friese, Dover, N.H., assignor to IMC Magnetics Corporation, a corporation of New York
Filed Dec. 20, 1966, Ser. No. 603,319
10 Claims. (Cl. 230—117)

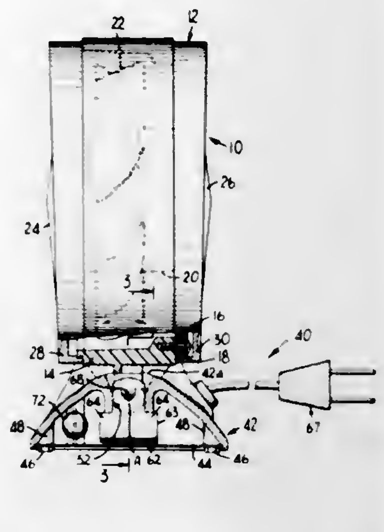


A tubular ferrule connects the fan impeller to the rotor of the fan motor. Fixed within the ferrule is a porous bearing rotatable about a shaft fixed to the fan frame. The enlarged head of the ferrule contains a felt ring and disk serving as an oil reservoir for the bearing, and a flange on the end of the head dissipates heat conducted to it from the bearing.

3,378,193
FAN MOUNTING

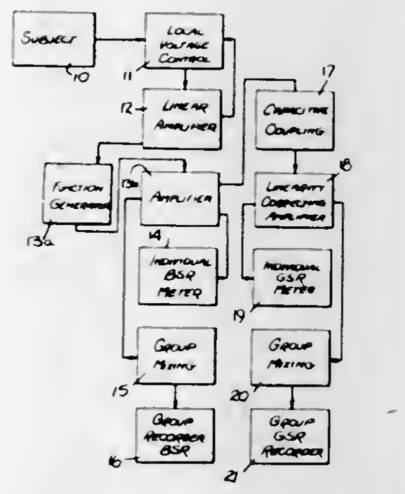
Dwight E. Harris, Woodstock, N.Y., assignor to Rotron Manufacturing Company, Inc., Woodstock, N.Y., a corporation of New York
Filed Jan. 16, 1967, Ser. No. 609,580
11 Claims. (Cl. 230—273)

A fan mounting composed of a base member provided with a retaining slot, spaced-apart mounting legs extending from the fan housing and received in the retaining slot, and a resilient clip, preferably U-shaped, positioned in the base member slot and arranged to hold the fan on the base and to resiliently engage the mounting legs to frictionally hold the fan in any of a plurality of tilted positions.



3,378,194
APPARATUS AND METHOD FOR MEASURING THE RESPONSE OF AN AUDIENCE

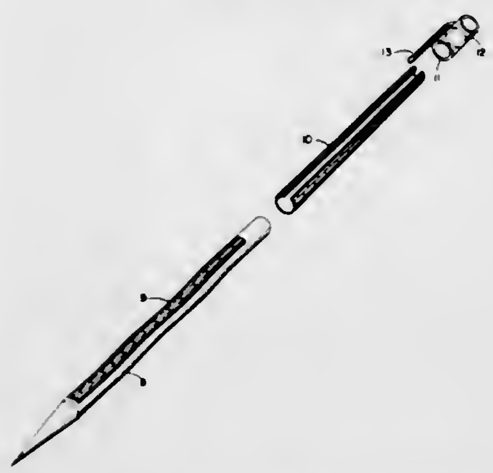
Ralph R. Wells, Van Nuys, Calif., assignor, by mesne assignments, to Screen Gems, Inc., New York, N.Y., a corporation of Delaware
Filed June 11, 1965, Ser. No. 463,084
8 Claims. (Cl. 235—52)



1. A system for indicating the response of the psychogalvanic reflex of members of an audience to an occurrence, the nominal value of the resistance of each of the members of the audience being in a range of nominal values extending over a plurality of decades, comprising a plurality of contact members each being adapted to be connected to a different member of the audience, means connected to each of said contact members and being operative with members of the audience connected thereto whose nominal values of resistance extend over a range of a plurality of decades for converting the signal of each of said contact members resulting from the psychogalvanic reflex into an output signal which is a non-linear function of the input signal, the output signal as a result of the non-linear function having a substantially uniform change for a given response in proportion to the nominal value of the resistance of the member of the audience throughout the range of nominal values of the resistance of the member extending over a plurality of decades whereby the output signal can be employed to indicate the response of each member of the audience.

3,378,195
SLIDE RULE PEN

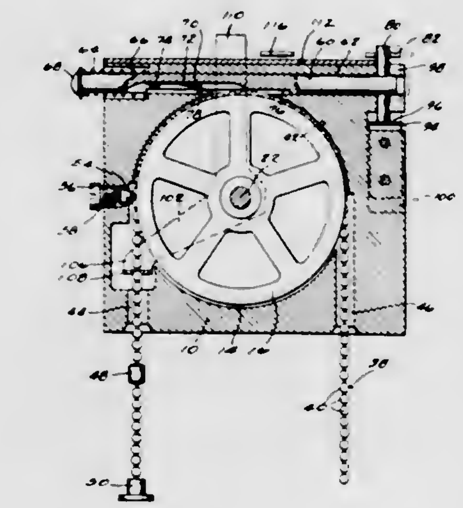
Charles H. Schuh, 430 Appian Way, St. Petersburg, Fla. 33704
Filed Jan. 6, 1967, Ser. No. 607,847
2 Claims. (Cl. 235—64)



A multi-scale slide rule pen comprising a writing pen covered by a single, thin, surface layer of post molded, thermoplastic encased, printed paper laminate in two sections, one permanently attached and the other slidable longitudinally, and an indicator with a circular hairline making contact with all the scales.

3,378,196
COUNTING DEVICE

Ragnar Gudmestad, West Allis, Wis., assignor to Artos Engineering Company, New Berlin, Wis., a corporation of Wisconsin
Filed Mar. 7, 1967, Ser. No. 621,347
15 Claims. (Cl. 235—132)

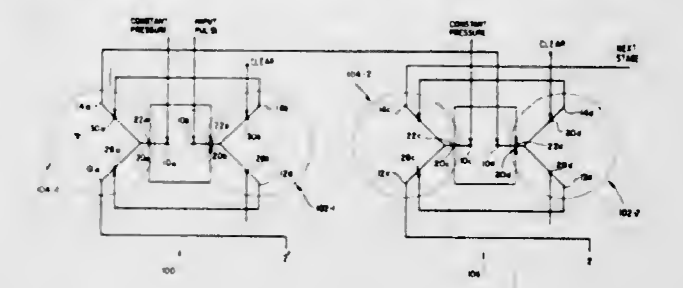


The present invention relates generally to improvements in counting devices, and relates more particularly to the provision of an improved device especially adapted to count a preselected number of machine operations or the like.

3,378,197
FLUONIC BINARY COUNTER USING FLUID LOGIC UNITS

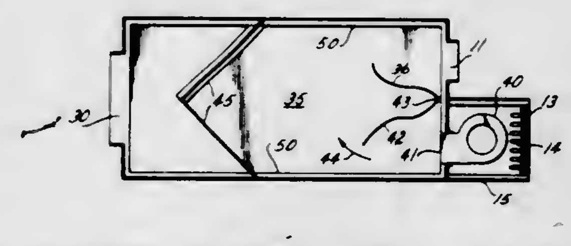
Robert C. Brandriff, Williamstown, N.J., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed June 29, 1966, Ser. No. 561,561
1 Claim. (Cl. 235—201)

A binary counter stage employing a pair of fluid amplifiers, respectively as director- and counter-elements, is disclosed. The feedback coupling from the counter-element to the director-element is direct, and such feedback is emphasized as being from a control port of the counter-element to a control port of the director-element. The output of the counter-element is applied for readout purposes, or for switching the director-element of the next higher stage.



3,378,198
TEMPERATURE CONTROLLED AIR MIXER

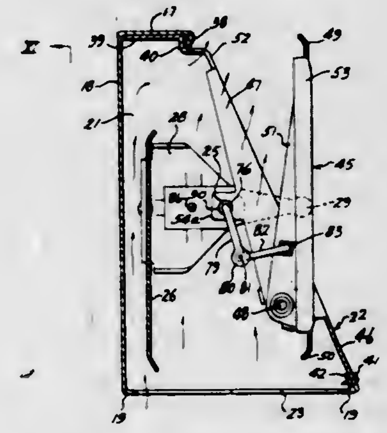
Robert E. Von Otto, Washington, D.C., assignor to Krueger Manufacturing Company, Inc., Tucson, Ariz.
Filed May 23, 1967, Ser. No. 640,631
6 Claims. (Cl. 236—13)



An air conditioning system utilizing a variable speed blower responsive to room temperature for automatically proportioning primary and secondary air.

3,378,199
REGISTER FOR HEATING AND AIR CONDITIONING

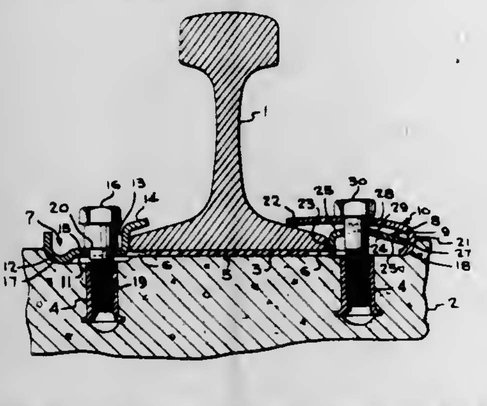
Ellwood L. Snell, Battle Creek, Mich., assignor to United States Register Company, Battle Creek, Mich., a corporation of Michigan
Filed June 30, 1966, Ser. No. 561,831
17 Claims. (Cl. 236—49)



This is a new type of combination heating and air conditioning register having a balanced damper pivoted at the ends of the register between the top and bottom of the damper but nearer its top and forward of its front face. Said damper being manually shiftable from parallel to but spaced forward of the rear face of the register to facilitate air flow behind said damper to provide a plenum effect and more uniform air distribution full length of the register, to a position stopping air flow behind the damper and directing same forward and upward, and lastly to a shut-off position with the bottom edge of the damper forward to the front panel and its top back to the back panel. The front panel having a bottom hinged central portion with vertical louvers, at least part of which taper toward its ends, said central portion being actuatable by means hinging same outward upon flow of cold air, and closing same when hot air is flowing. Said front panel also having outwardly tapering vertical louvers in its end portions adjacent the opposite ends of said pivoted central portion.

3,378,200
RAIL CLIP

William C. McCormick, 1430 Lakewood Road, Jacksonville, Fla. 32207
Filed Sept. 19, 1966, Ser. No. 580,301
6 Claims. (Cl. 238—349)



A set of clips to fasten a rail to a crosstie, including a field clip and a gage clip, wherein the field clip has an abutment to hold the rail to gage and a toe spaced from, but overlying, the rail flange to allow limited vertical rail movement, and the gage clip has an abutment to hold the rail to gage and a tongue in resilient contact with the rail flange to prevent down-rail run.

3,378,201
METHOD FOR PRECIPITATING ATMOSPHERIC WATER MASSES

David N. Glew and Andrew E. P. Watson, Sarnia, Ontario, Canada, assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Continuation-in-part of abandoned application Ser. No. 307,302, Sept. 9, 1963. This application Jan. 19, 1966, Ser. No. 521,495
2 Claims. (Cl. 239—2)

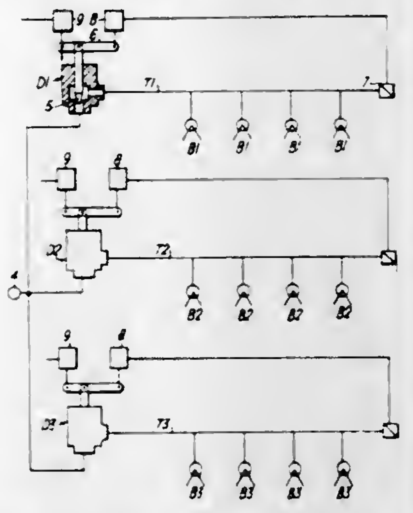
1. In a process for promoting precipitation of clouds, smogs, fogs and atmospheric masses of supersaturated water vapor by contact with a hydrate-former the improvement which comprises;

(a) spraying from a pressurized supply droplets of a mixture of H_2S and a second member selected from the group consisting of cyclopentane, tetrahydrofuran, tetrahydrorothiophene, trichlorofluoromethane, carbon tetrachloride and 1,1,1-trichloroethane, said mixture having a minimum H_2S/second member gram molar ratio of 2,

(b) introducing said mixture into said clouds, smogs, fogs and masses of water vapor at a maximum temperature of about 21° C. for said H_2S-cyclopentane mixture, about 19° C. for said H_2S-tetrahydrofuran mixture, about 18.5° C. for said H_2S-tetrahydrothiophene mixture, about 17° C. for said H_2S-trichlorofluoromethane mixture, about 19° C. for said H_2S-carbon tetrachloride mixture and about 18.5° C. for said H_2S-1,1,1-trichloroethane mixture when at a pressure of about 1 atmosphere thereby preparing a multiplicity of solid hydrate particles by combination of said hydrate-forming mixture with water from said clouds, smogs, fogs, and atmospheric masses of supersaturated water vapor, said solid hydrate particles serving as nucleation sites, and precipitating water from said clouds, smogs, fogs and atmospheric masses of supersaturated water vapor by means of said nucleation sites.

3,378,202
CONTROL OF VERTICAL BANKS OF OIL BURNERS

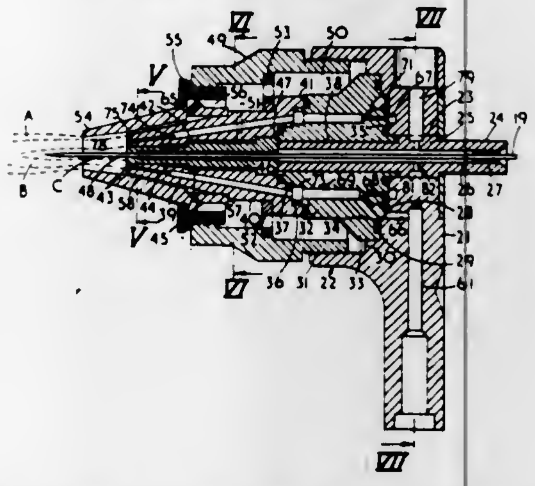
Edwin C. McKenzie, London, England, assignor to Babcock & Wilcox, Limited, London, England, a corporation of Great Britain
Filed Dec. 7, 1965, Ser. No. 512,077
4 Claims. (Cl. 239—76)



An arrangement whereby liquid fuel supplied from a common source is equally distributed between vertically spaced horizontal rows, each containing a plurality of burners. This is accomplished by eliminating the pressure differences due to the static head corresponding to the elevation of each burner row. Each row of burners is associated with a control device which includes a fuel flow regulating valve responsive to the difference between fuel pressure in that row and a predetermined pressure value. An alternate arrangement uses a difference in fuel flow rather than pressure to actuate the regulating valve.

3,378,203
METAL SPRAYING APPARATUS

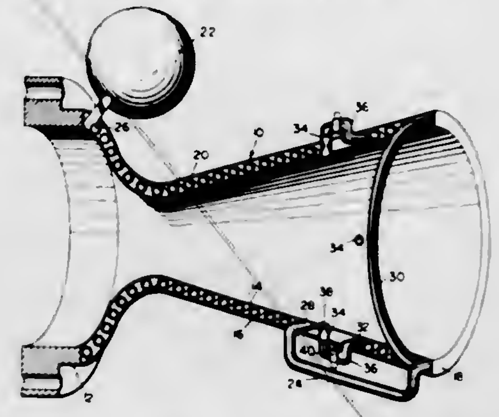
Wilfred Edgar Stanton, Sedgley, Dudley, England, assignor to Metallisation Limited, Birmingham, England, a British company
Filed Feb. 21, 1966, Ser. No. 529,140
Claims priority, application Great Britain, Feb. 25, 1965, 8,102/65
5 Claims. (Cl. 239—84)



A metal spraying apparatus in which a metallic wire is fed through a bore in a nozzle assembly in which a flame acts upon and melts the wire and in which a jet of compressed air is so directed relative to the wire and the flame to propel a stream of molten droplets from the nozzle, there being a restricted passage leading to the bore from the air supply for the air jet to create a pressure in the bore sufficient only to prevent the flame spreading back into the bore, and a further passage connecting the bore with an auxiliary air supply which when operative supplies sufficient air to the bore to cause a layer of air to be formed around the wire in the nozzle to separate the wire from the flame.

3,378,204
NOZZLE

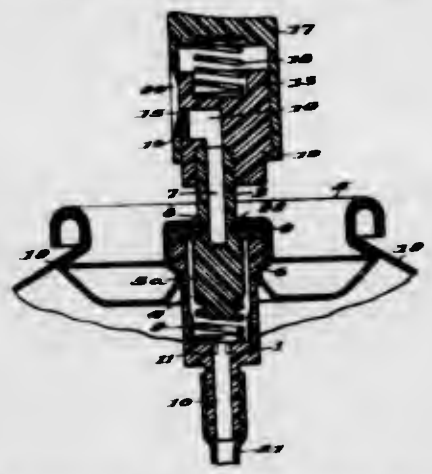
Wayne R. Chase, Rochester, Mich., and Valie P. Hovnanian, Palos Verdes, Calif., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed Jan. 14, 1966, Ser. No. 520,618
1 Claim. (Cl. 239—127.3)



An apparatus for cooling a rocket motor thrust nozzle and for varying the line of thrust thereof by injecting a fluid into the exhaust stream. The apparatus includes helically wound conduit in the walls of the thrust nozzle to conduct the fluid, in heat transferring relation with said thrust nozzle, into the exhaust gases for varying the thrust line of said motor.

3,378,205
AEROSOL VALVE FOR COMESTIBLES

Arthur Frederick Barker, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed May 31, 1966, Ser. No. 553,779
4 Claims. (Cl. 239—337)



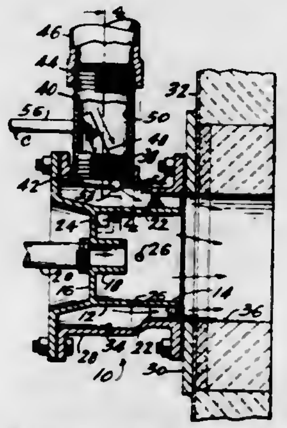
1. A valve assembly for a pressurized aerosol container comprising

(A) an internal valve closing means consisting of a tubular valve body, a primary return spring supported internally within said valve body, said spring bearing against an internal valve member which moves axially within said valve body and contains an interior passageway, a resilient annular member fitting around said internal valve member at the top of said valve body, and a side passageway in said internal valve member joining with the interior passageway of said internal valve member and normally closed by bearing against said resilient annular member, and

(B) discharge means co-operating with said internal valve member consisting of a valve actuator, having an internal chamber and discharge orifice, mounted over said internal valve member, a secondary return spring means supported by said actuator and bearing against a cap which is superimposed over said valve actuator, said cap adapted to slide axially over said valve actuator, said cap having a discharge port which bears against the valve actuator and is normally held in a non-aligned position with the discharge orifice by action of the secondary return spring means, said secondary spring means being of less compressive strength than said primary spring so that upon actuation said cap will slide axially downward over said valve actuator to align the discharge port of the cap with the orifice of the actuator before opening the internal valve means by separating the side passageway of said internal valve member from contact with the resilient annular member.

3,378,206
ADJUSTABLE FLOW CONTROLLER

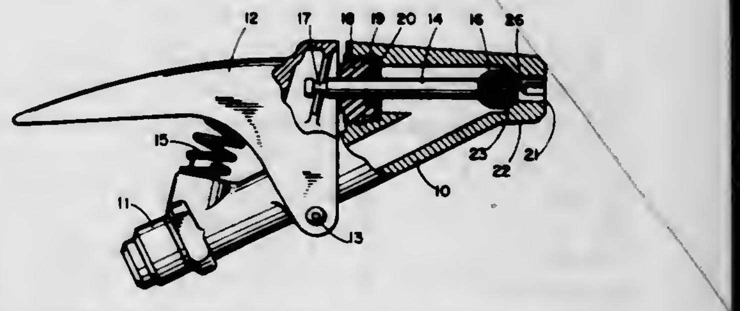
Lee G. Poe, Toledo, and Norman T. Ferguson, Maumee, Ohio, assignors to Midland-Ross Corporation, Toledo, Ohio, a corporation of Ohio
Filed Mar. 21, 1966, Ser. No. 535,887
6 Claims. (Cl. 239—402.5)



This invention relates to an apparatus for directing a fluid along a path selectively in any of a plurality of directions. The apparatus includes a rotatable conduit and a directing member that extends transversely within the conduit. The directing member is contiguous with the inner surface of the conduit at one end thereof and the other end is spaced from the inner surface of the conduit. At the opposite end of the conduit, means is provided for supplying a fluid to the apparatus. This apparatus for changing the direction of fluid flow has particular utility in the supplying of gas to a burner. Through an apparatus of this type the flame resulting from the burner may be varied in length and in intensity.

3,378,207
NOZZLE ASSEMBLY FOR FIRE EXTINGUISHERS

Charles K. Huthsing, Jr., 1685 Shermer Road, Northbrook, Ill. 60062
Filed Mar. 8, 1966, Ser. No. 532,768
2 Claims. (Cl. 239—583)



A dry powder fire extinguisher nozzle having a central circular opening and a pair of opposing semicircular shaped side openings on diametrically opposite sides of the central opening and merging into the central opening to be common therewith. These side openings extend axially in a direction parallel to the axis of the central opening a given distance and then terminate short of the interior end of the central opening. The resulting structure functions to create a generally flattened conically shaped spray of powder from the fire extinguisher particularly useful for smothering Class A fires.

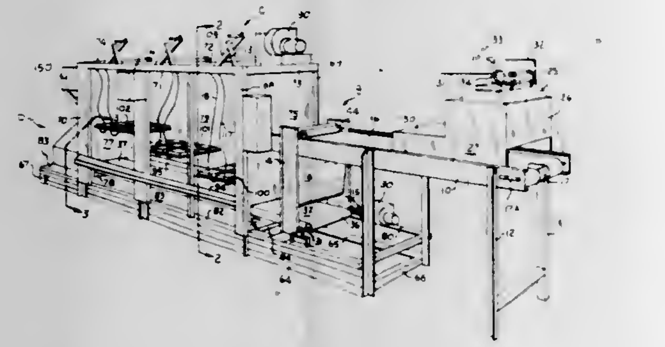
3,378,208

METHOD FOR ACCELERATED CURING OF TOBACCO

Carl R. Camenisch, Prospect, Ky. 40059

Filed Oct. 19, 1965, Ser. No. 497,913

13 Claims. (Cl. 131—121)



1. The method of curing tobacco leaves detached from the stalk comprising, preheating the leaf and thereby effecting a browning of the web portion of the same, serrating the stem portion only of the browned leaf, pressing moisture from the serrated stem, and thereafter promptly applying heat to the leaf and curing the same.

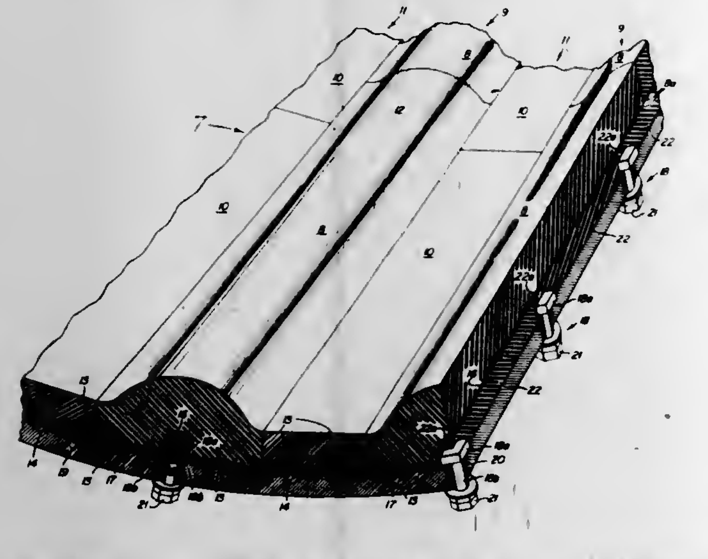
3,378,209

CORROSION-PROOF LINING FOR METALLURGICAL GRINDING MILLS

Volney D. Crocheron, Salt Lake City, Utah, assignor to The Galigher Company

Filed Aug. 30, 1965, Ser. No. 483,561

12 Claims. (Cl. 241—102)



For ball or rod mills, a corrosion and wear resistant rubber lining formed of individual pieces or sections adapted to fit closely together and to be secured to the inner face of the shell of the mill. Certain of the pieces include fastening means comprising an elongate channel element of metal wholly embedded in and vulcanized to the rubber material with its channel opening facing the back of the lining piece and opening thereinto so as to slidably receive and retain the heads of securement bolts whose shanks are passed through receiving holes in the mill lining. In order to protect the channel elements and bolts against corrosion, the channels are filled with rubber or rubber-like material, and sleeves of the same material are fitted on the shanks of the bolts.

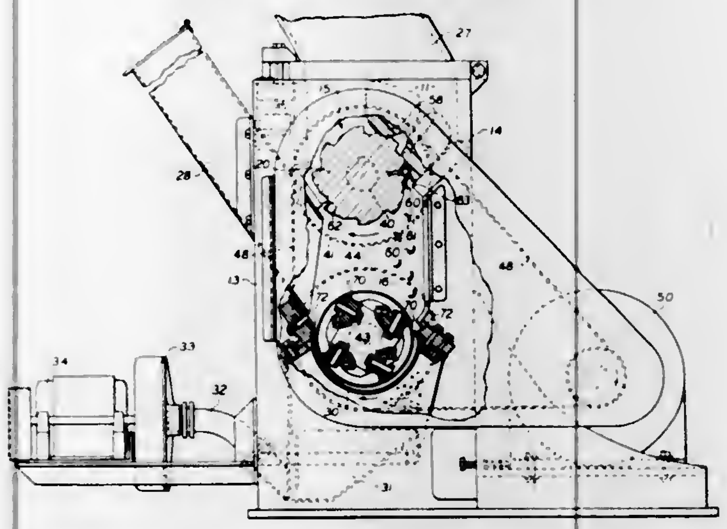
3,378,210

MACHINE FOR CUTTING PLASTIC CHUNKS INTO GRANULATE

Fritz J. Bambach, Livingston, N.J., assignor to Lee Heydenreich, Essex Fells, N.J.

Filed Oct. 27, 1965, Ser. No. 505,352

3 Claims. (Cl. 241—160)



A two-stage grinding machine for reducing plastic and like chunks into granulate is provided with an upper chamber for receiving plastic chunks, a rotatable roller in the upper chamber having knives spaced axially and circumferentially along its surface and a concave recess in front of each knife, the knives cooperating with a shearing plate to cut curlings from said chunks, the curlings being accommodated in such recesses and then delivered to the second stage. In the second stage there is a second chamber having at least two rotating cutting blades, a pair of cooperating shearing plates, and a perforated screen at the base, the curlings being reduced to pellet or granular size so as to pass through the screen into a collecting trough from which they are removed by suction or fan means. An auxiliary hopper for feeding smaller chunks or segments directly to the second chamber is also provided.

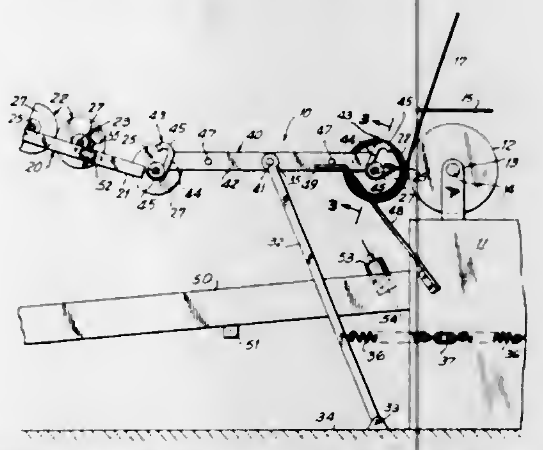
3,378,211

AUTOMATIC DOFFING AND LOADING MACHINE

Carl W. Nuissl, Sheldonville, Mass., assignor to Robert Boyaval and Carl W. Nuissl

Filed Mar. 14, 1966, Ser. No. 534,242

11 Claims. (Cl. 242—18)



This invention relates essentially to apparatus for the automatic doffing and loading of yarn tubes comprising, tube supply means, means to drive a tube for winding the yarn to be wound on the tube and means for holding the yarn tubes, which means are adapted to receive and rotatably support a yarn tube during the winding of yarn thereon and to rotate out of a winding position to effect gravitational discharge of a wound roll upon completion of the winding of the yarn spool.

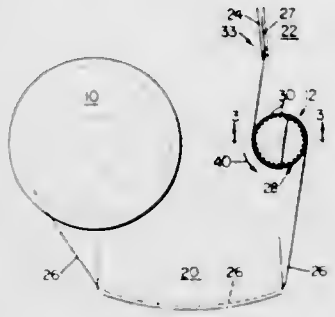
3,378,212

TAPE HOLDER

Delmar R. Johnson, Des Plaines, Ill., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Nov. 8, 1965, Ser. No. 506,668

8 Claims. (Cl. 242—55.12)



A tape threading system is provided in which at least three supporting members are disposed under a cover to engage the free end of a tape inserted through a slot in the cover. The members are so positioned along the slot that the tape path is tortuous so as to provide a total area of contact between the members and the tape and an amount of bending of the tape such that the resistance to bending of the tape causes a frictional force which yieldingly holds the free end of the tape.

3,378,213

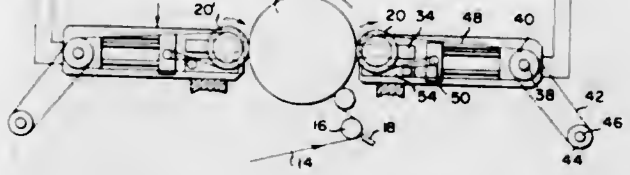
WINDING DEVICE

Fortune Habozit, Lyon, France, assignor to Cellophane Investment Co. Ltd., Alderney, Channel Islands, Great Britain, a corporation of Great Britain

Filed May 12, 1966, Ser. No. 549,614

Claims priority, application France, June 3, 1965, 19,354

10 Claims. (Cl. 242—65)



1. A device for winding narrow strips of film like material cut from a wider strip of material comprising a central drum, a plurality of separate winding heads disposed alongside said drum, individual friction drive means for each of said winding heads, and adjusting means for individually maintaining each winding head horizontally pressed against said drum at a substantially constant pressure.

3,378,214

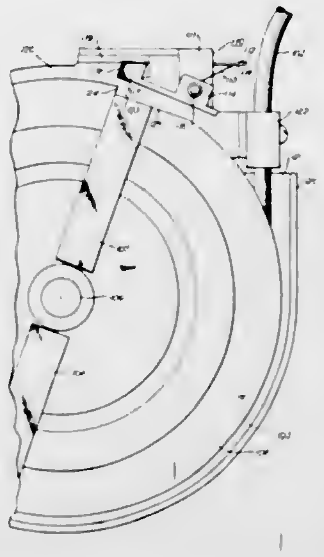
LATCHING RETRACTILE CORD REEL

Harry A. Hilsinger, Jr., Hope Township, Warren County, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Mar. 11, 1966, Ser. No. 533,533

8 Claims. (Cl. 242—107.7)

In a spring loaded retractile cord arrangement for an electrical appliance or telephone handset, a magnetically actuated catch mechanism is employed to arrest the cord at any preselected position without requiring the user to work against spring tension while holding the cord in that preselected position.



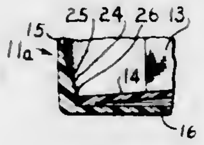
3,378,215

HANDLING AND DISPENSING DEVICE FOR WIRE AND THE LIKE

Robert M. Wilson, Battle Creek, Mich., assignor to Dare Products, Incorporated, Battle Creek, Mich., a corporation of Michigan

Filed Aug. 8, 1966, Ser. No. 570,975

7 Claims. (Cl. 242—171)



The present material handling and dispensing device utilizes, in combination, a spool on which the material, such as wire, is wound, and an attachable cover member into which the spool may be endwise fitted and anchored. This attachable cover member has an end panel means and an upturned flange means which will cover the outer face of the spool from end member to end member, with such flange means thus forming a barrier to prevent wire or the like wound on the spool from unwinding if the free end is released. There is a circular slit between the peripheral edge of the outer flange of the spool and the outer edge of upturned flange of the cover member so that the wire or the like can be removed from the spool through this circular slit without danger of the wire unwinding from the spool by itself. Means are provided for frictionally and/or mechanically holding the spool in said cover member under conditions of use, and yet allowing said spool to be removed and replaced with a new spool when the previous one has been emptied.

3,378,216

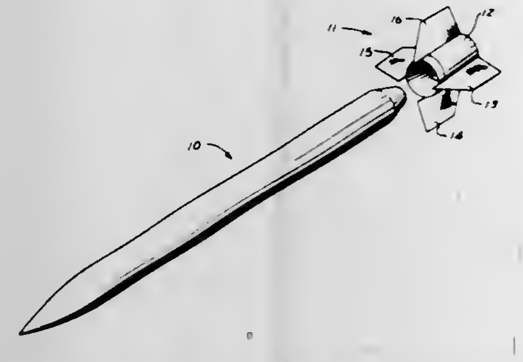
INTEGRAL FIN CANISTER-NOZZLE EXIT CONE

George K. Oss, Springfield, Danny D. Dunfee, Fairfax County, and Roland C. Webster, Annandale, Va., assignors to The Susquehanna Corporation, a corporation of Delaware

Filed Apr. 29, 1966, Ser. No. 546,448

7 Claims. (Cl. 244—3.24)

This invention relates to an integral fin and nozzle expansion cone assembly for a rocket wherein the expansion nozzle is used as a support for the fin canister and



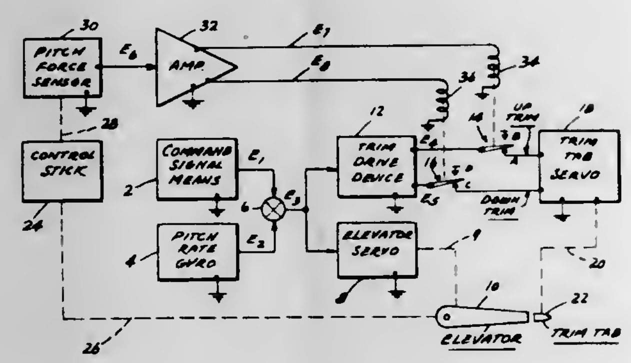
both the nozzle expansion cone assembly and the fine canister are removable and changeable.

3,378,217
TRIM DISCONNECT DEVICE FOR AN AIRCRAFT CONTROL SYSTEM

Arthur C. Diani, Clifton, N.J., assignor to The Bendix Corporation, a corporation of Delaware

Filed Sept. 2, 1966, Ser. No. 576,873

9 Claims. (Cl. 244—77)



1. For an aircraft having a control surface equipped with a trim tab, a control system comprising:
- means for providing an error signal;
- first means connected to the error signal means for automatically controlling the control surface in response to the error signal;
- second means connected to the error signal means for automatically controlling the trim tab in response to the error signal;
- pilot operated means for controlling the control surface in a sense so as to override the control rendered thereupon by the first means, and for providing a signal when said overriding control is effected; and
- means connected to the pilot operated means and connected to the second means and responsive to the signal provided by the pilot operated means for rendering the second means ineffective to control the trim tab without disconnecting the first means.

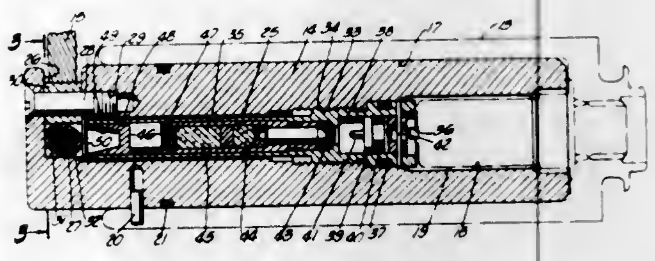
3,378,218
PARACHUTE DEPLOYMENT AND DISCONNECTING PROJECTILE

James E. Robertson, Woodland Hills, and Norman D. Batterson, Pasadena, Calif., assignors to Walter Kidde & Company, Inc., Belleville, N.J., a corporation of New York

Filed June 13, 1967, Ser. No. 645,762

13 Claims. (Cl. 244—148)

A projectile device connected through a lanyard to a parachute for deploying the parachute when firing the projectile from a gun and having a pyrotechnic operated knife mechanism within the projectile initiated by such firing with a time delay for severing the lanyard from



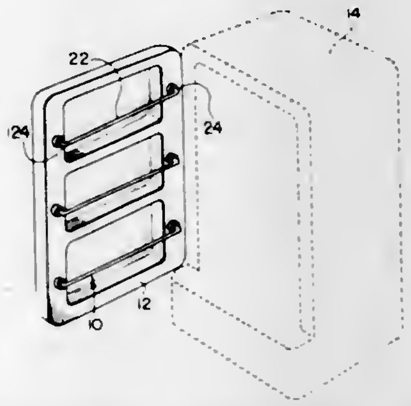
the projectile upon complete deployment of the parachute to separate the projectile from the parachute.

3,378,219
PLASTIC FASTENER

Donald L. Biesecker, Dayton, Ohio, assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware

Filed Jan. 13, 1967, Ser. No. 609,034

5 Claims. (Cl. 248—220.5)



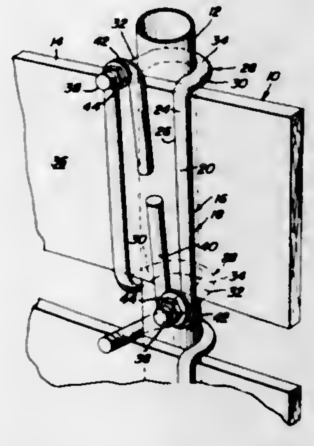
A one-piece plastic fastener having a bifurcated shank with internal recesses for mounting a rod, having protuberance means at its extremity, in perpendicular relation to an apertured panel, with the protuberance means expanding the shank and being captured in the recesses of the shank to prevent axial movement of the rod relative to the panel.

3,378,220
CLAMP

Marvin R. Noll, P.O. Box 394, Falfurrias, Tex. 78355

Filed Apr. 22, 1966, Ser. No. 544,575

7 Claims. (248—226)



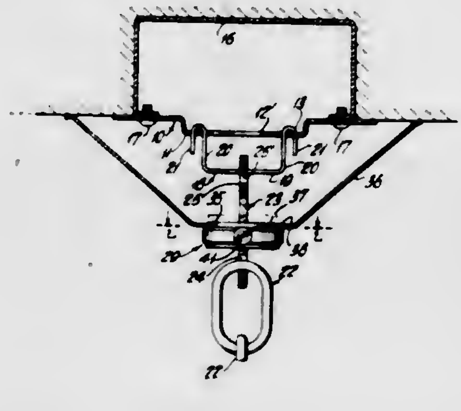
A pair of similar elongated bodies each including a first end and a second channel-shaped end, said elongated bodies being adapted to be reversed end-to-end in generally parallel relation and to extend transversely across the face of a first elongated member remote from and crossed relative to a second elongated member with said channel-shaped end portions embracingly engaging the side of the second elongated member facing away from the first elongated member and opening toward the latter while the first and second ends of the elongated bodies include coacting means operative to draw each pair of adjacent first and second ends of the bodies toward each other.

3,378,221
HANGER FOR LIGHT FIXTURES AND THE LIKE

William Wolar, 59 Fremont Road, North Tarrytown, N.Y. 10591, and Stanley Wolar, 45 Shirley Lane, White Plains, N.Y. 10607

Filed Aug. 11, 1966, Ser. No. 571,874

6 Claims. (Cl. 248—343)



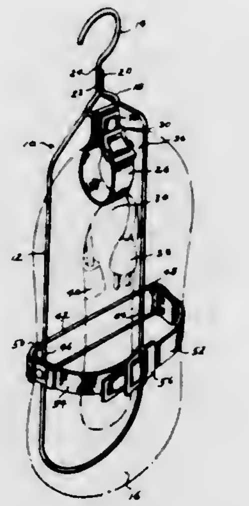
A ceiling hanger for lighting fixtures including an apertured plate secured to the ceiling, a U-shaped element with hook-like ends supported from said plate and supporting a hook-type link, and a collar assembly releasably secured to the link and supporting a dished canopy against the ceiling.

3,378,222
COILED ARTICLE HOLDER

Olav K. Erickson, 3209 NW. Market St., Seattle, Wash. 98107

Filed July 25, 1967, Ser. No. 655,844

9 Claims. (Cl. 248—359)



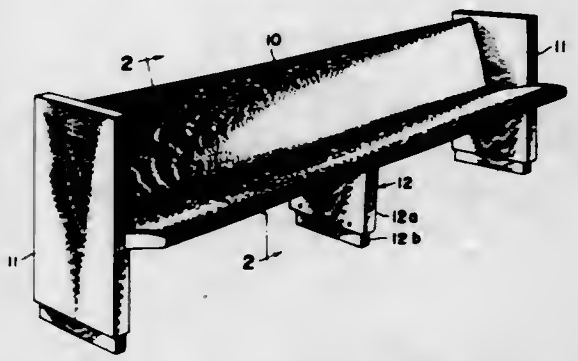
A rigid frame which in preferred form is close in size and peripheral shape to the coiled article. A hook at the frame's upper end. A weight supporting tie means near its upper end, insertable through the eye of the coiled article and securable about its upper bight. A transverse restraining tie on the preferred frame, loopable about an intermediate portion of the coiled article for lashing it to and against the frame.

3,378,223
SELF-ADJUSTING MID-PEW SUPPORT

Douglas E. Way, Cherokee Park, and Hammond A. Berry, Booneville, Miss., assignors to American Seating Company, Grand Rapids, Mich., a corporation of Delaware

Filed Nov. 23, 1966, Ser. No. 596,623

2 Claims. (Cl. 248—361)



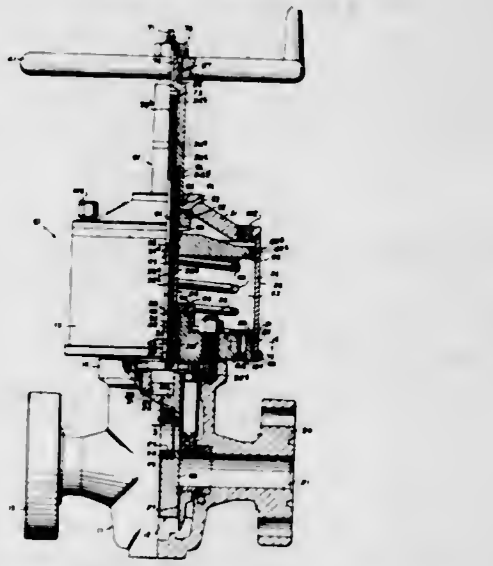
An elongated seat which is suspended upon a floor by end panels is provided in its central portion with a depending hollow panel which receives in telescoping relation a base segment which is anchored to the floor by means passing vertically through the segment and into the floor, the telescoping parts being secured by fastening means passing through overlapping portions of the panel and base segment.

3,378,224
WELL TOOLS

William G. Boyle, Dallas, Tex., assignor to Otis Engineering Corporation, Dallas, Tex., a corporation of Delaware

Filed June 28, 1965, Ser. No. 467,226

17 Claims. (Cl. 251—14)

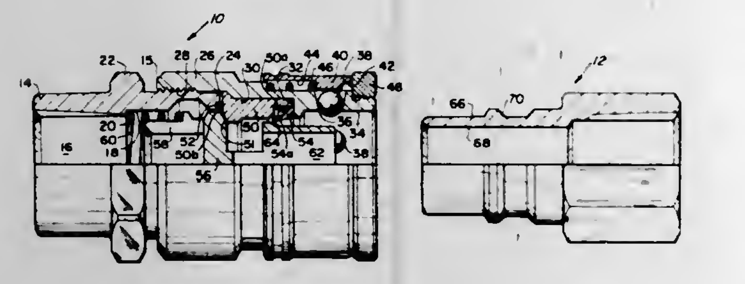


17. A valve actuating assembly for a gate valve comprising: a stem assembly adapted to be connected at one end to a gate within a valve body for moving said gate between open and closed positions; a cylinder secured around said stem assembly adapted to be mounted on the body of said valve and permit said stem to reciprocate in sliding relationship through said cylinder; a piston secured on said stem assembly and movable in sealed relationship within said cylinder whereby fluid pressure applied in said cylinder displaces said piston in a first direction for moving said stem in said direction; and resilient means within said cylinder confined between said piston and one end of said cylinder for biasing said piston in a second direction opposite to said first direction, said stem assembly comprising an inner stem concentrically positioned within an outer stem having a lower section telescopically engaged with an upper section threadedly associated with said inner stem, said outer stem section having a seat sur-

face on the lower end thereof operatively engageable with a gate when said assembly is connected on a gate valve for minimizing leakage from said gate valve body between said inner stem and said lower outer stem section and seat surfaces between said lower outer stem section and said cylinder providing metal to metal contact to minimize leakage from said valve body between said lower outer stem section and said cylinder.

3,378,225
VALVED FLUID-TIGHT COUPLING

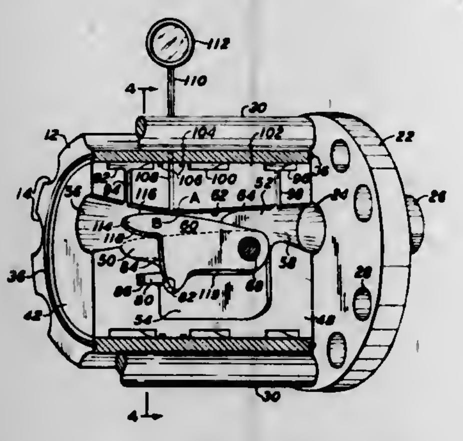
Clifford H. Snyder, Jr., 173 Rosemont Drive,
Coraopolis, Pa. 15108
Filed Oct. 14, 1965, Ser. No. 495,987
6 Claims. (Cl. 251—149.6)



A quick release, valved fluid-tight coupling is disclosed in which the coupling housing portion has a plurality of radially reciprocating locking balls which are forced inwardly by a sleeve to clamp about the nipple portion of the coupling. The housing portion of the coupling has a rigid cartridge member which provides recesses for the seal elements in the housing. The cartridge member may be easily removed from the housing and the type of seal utilized in the cartridge unit may be varied. The cartridge unit provides the seating surface for the valve within the housing of the coupling and retains the seal ring which serves to seal the valve against its seat as well as to seal the cartridge to the housing wall.

3,378,226
HIGH PRESSURE FLUID FLOW MEASUREMENT AND/OR CONTROL

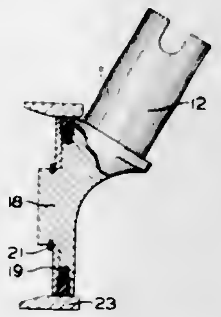
Charles H. Naundorf, Rochester, N.Y. (2911 Stanwin Place, Cincinnati, Ohio 45241), and John T. Pavel, 292 Norcrest Drive, Rochester, N.Y. 14617
Filed Nov. 13, 1963, Ser. No. 323,367
2 Claims. (Cl. 251—298)



1. A valve structure comprising a valve body having first member and second members in abut.ing relationship and a retaining element surrounding said members for maintaining the same in close abutment, said element and said members being spaced from each other to define a spacing therebetween, said spacing extending over a substantial area of said element and said members, one of said members having the side thereof facing said other member formed with a valve chamber defined by a straight side wall, said area in each said member being opposed to said valve chamber and at least as great in area as said valve chamber, a fixed end wall having a curved surface extending into the chamber and a movable end wall opposed to said fixed end wall and being formed with a curved surface extending into the chamber toward said curved surface of said fixed end wall, the other of said members having a side thereof closing said chamber when said members are in abutting relationship, said valve body having an inlet and an outlet in communication with said valve chamber and arranged with said curved surfaces therebetween, means connected to said movable end wall for moving the same toward and away from said fixed wall for controlling the flow of fluid through said valve chamber and, means communicating between said spacing and said valve chamber for exposing the spacing to the pressure within the valve chamber.

3,378,227
VALVE DEVICE

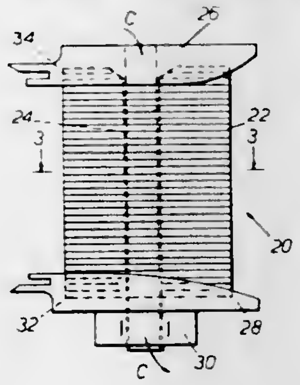
George K. Newell, Penn Township, Westmoreland County, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Mar. 30, 1965, Ser. No. 443,846
4 Claims. (Cl. 251—304)



A valve device comprising a housing with a disc valve therein having a peripheral O-ring sealing means and an operating stem fitted to the disc valve at an angle of 45° or less so that the disc valve will project a minimum frontal area in resistance to flow within the fluid path when the disc valve is rotated to its open position.

3,378,228
BLADES FOR MOUNTING IN FLUID FLOW DUCTS

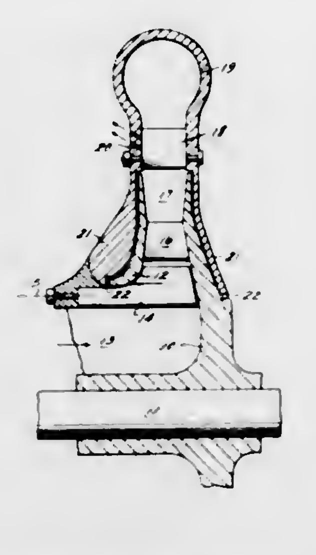
Glyn Twiston Davies, Milford, and William James Howard, Derby, England, assignors to Rolls-Royce Limited, Derby, England, a British company
Filed Mar. 13, 1967, Ser. No. 622,756
Claims priority, application Great Britain, Apr. 4, 1966, 14,957/66
6 Claims. (Cl. 253—39.1)



A blade for a fluid flow duct comprises ceramic laminations which may be in two or more parts. The laminations are held together in compression by a hollow tie bar through which cooling air may be passed. The blades are mounted between platform members.

3,378,229
RADIAL FLOW TURBINE

John R. Erwin, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
Filed July 16, 1965, Ser. No. 472,486
14 Claims. (Cl. 253—74)

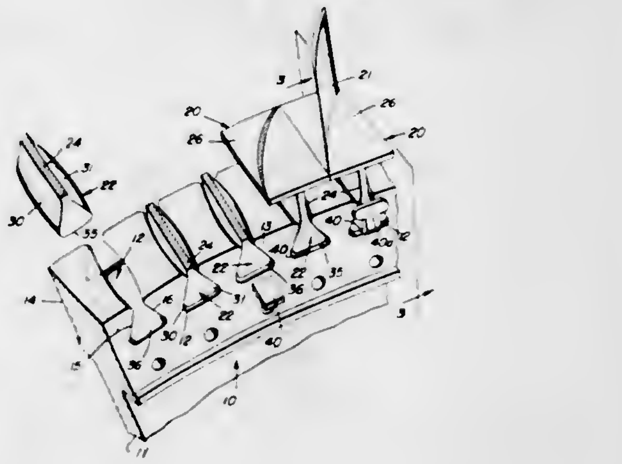


1. A radial outflow turbine comprising,
a rotor disc,
a shaft carrying said disc for rotation thereon,
a second disc concentric with and axially spaced from said rotor disc,
said second disc being spaced radially from said shaft and formed to define with said rotor disc an unobstructed curved inlet fluid passage between said discs to direct fluid radially outward between the discs,
stationary turbine nozzles in said fluid passage to receive radially flowing fluid only and impart tangential velocity thereto,
seriate means arranged radially outward including, highly cambered turbine buckets secured to said discs at a radial distance from said shaft so that the buckets receive substantially radial flowing fluid only,
said discs and buckets rotating as a unit opposite to the direction of camber of the buckets,
a casing surrounding said unit,
said discs extending radially beyond the periphery of said buckets to form a rotating vaneless diffuser passage,
a vaned diffuser radially spaced from said diffuser passage, and
collecting means following said vaned diffuser for collecting the fluid therefrom.

3,378,230
MOUNTING OF BLADES IN TURBO-MACHINE ROTORS

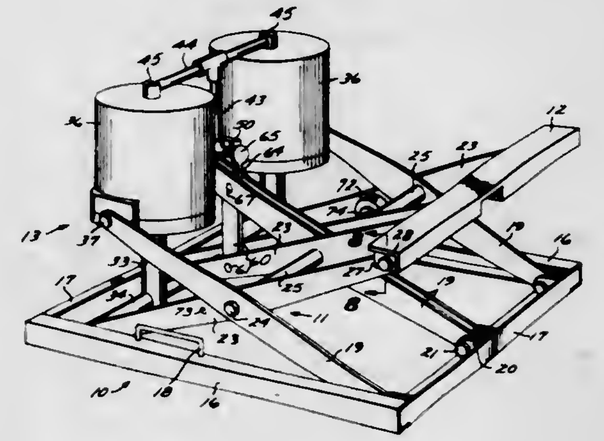
Myron D. Toomey, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
Filed Dec. 16, 1966, Ser. No. 602,244
5 Claims. (Cl. 253—77)

The disclosure shows the mounting of turbomachinery blades on discs through the use of blade tangs and correspondingly shaped slots. The entrance to the slot is either narrower or wider than an intermediate portion and the slot depth is greater than that of the tang height so that the wider portion of the tang may be slid past the narrower portion of the slot and then the blade held in a radially outward position by a shim, whereby the blade is axially positioned relative to the disc and axial loadings are directly transmitted from the tang to the disc and the shim does not function as a load-bearing member. Where curved slots and tangs are used, the curvatures of opposite sides are different and selected to minimize stress concentrations by providing an essentially constant, projected, load-bearing section.



3,378,231
HIGH CAPACITY FLUID PRESSURE JACK

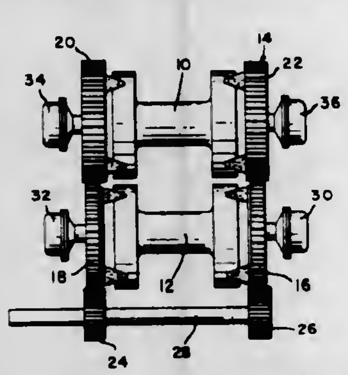
Wallace A. Rapp, 803 W. 10th St.,
Santa Ana, Calif. 92703
Filed Oct. 5, 1966, Ser. No. 590,173
11 Claims. (Cl. 254—93)



A high capacity jack having a low clearance at one end when in the lowered condition, which jack has a horizontal frame having a first and a second end with a lift platform adjacent the first end, and having scissor link means including four parallel first links swingably connected at said one end of said frame and four second links each having a first end connected to the lift platform with a pin extending through the centers of all eight links to cause the links to swing relative to each other around that pin; said jack being further defined by a pair of pneumatic actuators connected to selectively force the second ends of said links apart as the actuators are extended to thereby raise the lift platform above the frame of the jack; and said jack being further defined by a mechanical safety device which will hold the jack in a raised position and the mechanical safety device has a paddle which is disposed such that air exhausting from the pneumatic actuators will move it from its locked position to an unlocked position to permit the jack to be lowered.

3,378,232
REGENERATIVE INTERLOCKING YARDER SYSTEM

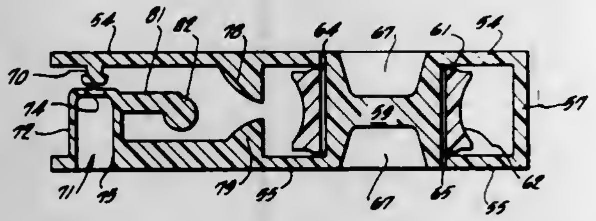
Maurice J. McIntyre, Sedro Woolley, Lyle O. Cheldelin, Bellingham, and Thomas J. Reynolds, Sedro Woolley, Wash., assignors to The Humboldt Company, Seattle, Wash., a corporation of Washington
Filed Apr. 18, 1966, Ser. No. 543,289
7 Claims. (Cl. 254—185)



The ability to continuously regenerate at two gear ratios, both on the inhaul and on the outhaul, is provided by a regenerative interlocking logging yarder that has four slippable frictions in all, one being disposed at each end of the inhaul and outhaul drums. The gear train drives to both sides of the cable drums so that the gears on either side of either drum can be positively engaged for driving the drum or non-positively engaged to regenerate power back into the drive train.

3,378,233
ROLLER ASSEMBLY

Earl W. Ferdig, Burbank, Calif., assignor to George F. McMurray, Burbank, Calif.
Filed July 19, 1965, Ser. No. 473,051
4 Claims. (Cl. 254—192)



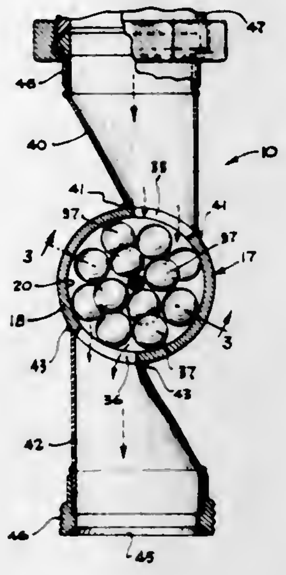
A roller assembly having a ribbed shaft and a pair of slotted flanges integrally formed on opposite ends of the shaft. A roller is captively and rotatably mounted on the shaft between the flanges. Inclusion of the slots in the flanges permits the assembly to be manufactured in a single molding operation.

3,378,234
HOMOGENIZER

Jarslov L. Svec, Chicago, Ill., assignor to St. John & Co., Chicago, Ill., a corporation of Illinois
Filed Nov. 25, 1966, Ser. No. 596,971
7 Claims. (Cl. 259—4)

A homogenizer is provided for a sausage stuffing system. The homogenizer comprises a cylindrical body having a cylindrical wall defining void. The body has two open ends transverse to the axis of the cylinder. There are cover plates at each end of the body closing the ends of the cylindrical void. A bolt extends between the cover plates and through one of the cover plates with a wing nut on the outside so that by removing the wing nut the cover plates may be separated and removed. The cylindrical body has openings in the sidewalls. A first duct is secured through the body in communication with the inlet opening and has a coupling at the distal end of the duct. A second duct is affixed to the body in communication with the outlet opening and has a coupling at the distal end thereof.

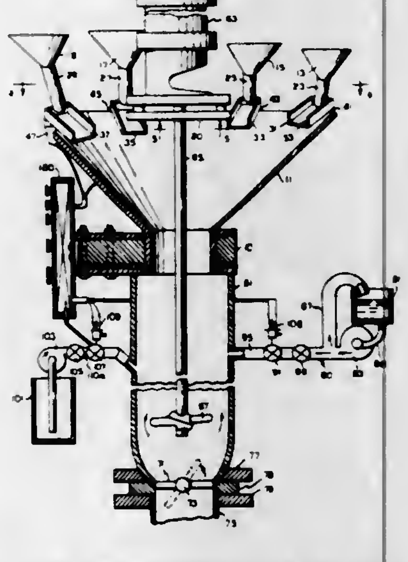
In one embodiment, the inlet and outlet openings and the respective ducts are positioned at opposite sides of the cylindrical body, the positioning being such that the movement of the sausage emulsion into and out of the cylindrical body through the ducts is generally tangential to the cylinder. The cylinder is filled with a plurality of small solid objects, bolts and nuts being illustrated. The inlet and outlet openings are in the form of grates to retain the small solid objects in the cylindrical body.



In an alternative embodiment, the inlet and outlet openings and the respective ducts are positioned so that the emulsion flows through the cylindrical body in a generally straight path between the inlet and outlet openings. The body has grooves in the inside of the cylindrical walls to receive the three corners of a triangular grating member thus held within the cylindrical body. The grating member has openings of different configurations in the walls thereof. The emulsion is forced to flow in a securitas path within the body by the configuration of the triangular grating member.

3,378,235
SYSTEM FOR PRODUCING A BLENDED FLUID EXPLOSIVE COMPOSITION

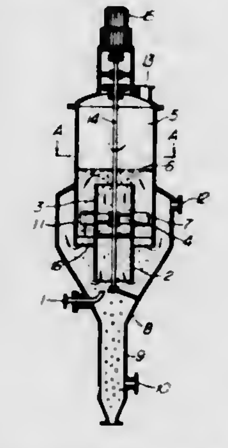
Lex L. Udy, Robert B. Clay, and William N. Bryan, Salt Lake City, Utah, assignors to Intermountain Research & Engineering Co., Inc., a corporation of Utah
Filed Jan. 23, 1964, Ser. No. 339,747
11 Claims. (Cl. 259—8)



1. A system for sequentially producing a blended slurry-type explosive composition in batches of substantially uniform quality and homogeneity, which comprises means for feeding to a mixing zone at an accurately metered rate a slurry-suspending liquid, said liquid feeding means including a flow rate control device, a positive on-off valve and a pump, means for feeding granular solids to said zone at a controlled rate, means for blending said liquid and solids in said zone, means independent of each other and including said on-off valve for predetermining and controlling the sequence and duration of both said feedings so as to obtain a homogeneous slurry, and means for controlling discharge of the blended batch from said zone.

3,378,236
MAGMA CIRCULATING TYPE CRYSTALLIZER WITH SPECIAL IMPELLER

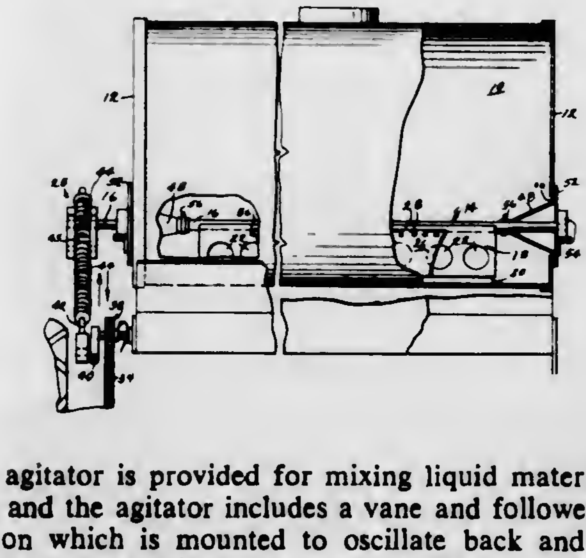
Tatusi Kasai, Yokohama, Japan, assignor to Tsukishima Kikai Co., Ltd., Tokyo, Japan, a corporation of Japan
Filed Oct. 27, 1966, Ser. No. 589,890
Claims priority, application Japan, Oct. 27, 1965, 40/65,479
6 Claims. (Cl. 259—95)



A slurry circulation type crystallizer including a rotating draft tube driven by a vertical drive shaft, said draft tube having an external rotor to induce a downward flow of slurry outside the draft tube and an internal rotor to induce an upward flow of slurry within the draft tube.

3,378,237
FERTILIZER AGITATOR

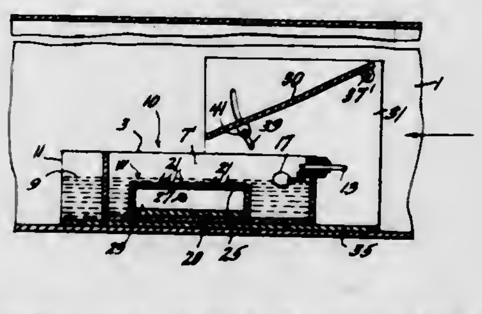
Donelson B. Horton, Madison, Ala., assignor to John Blue Company, Incorporated, Huntsville, Ala., a corporation of Alabama
Continuation-in-part of application Ser. No. 486,145, Sept. 9, 1965. This application Dec. 15, 1966, Ser. No. 609,978
13 Claims. (Cl. 259—101)



An agitator is provided for mixing liquid materials in tanks, and the agitator includes a vane and follower construction which is mounted to oscillate back and forth within a tank containing the material. The vane includes one or more openings through it, and the follower is mounted over one surface of the vane so as to open and close the openings formed through the vane. One embodiment of a vane and follower construction provides for a unique mounting of the follower on the vane so as to obtain an improved closing of the vane openings when the agitator is being used in very dense materials. There is also provided an improved driving means for driving the vane and follower combination within a tank, and the driving means is mounted externally of the tank. A sealing boot is provided for sealing a mounting shaft within the tank so that driving motions can be applied to the mounting shaft and to the vane carried thereon by the driving means located externally of the tank. This abstract is not intended to define the scope of the invention but is only provided to permit a cursory review of the gist of the invention.

3,378,238
POROUS BLOCK HUMIDIFICATION

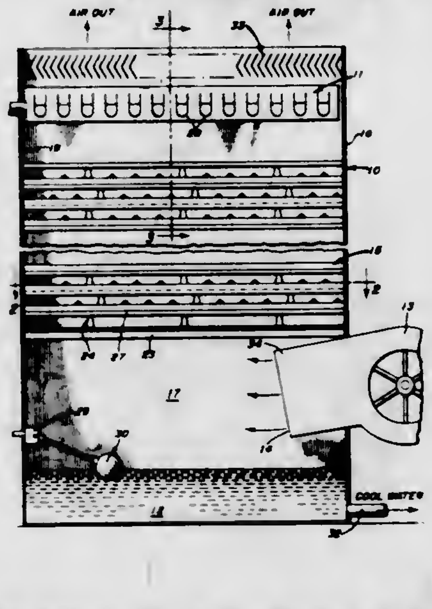
Robert S. Babington, 1113 Ingleside Ave., McLean, Va. 22067; Albert A. Yetman, 12316 Kembridge Drive, Bowie, Md. 20715; and William R. Slivka, 17 Shellflower Road, Levittown, Pa. 19056
Filed July 15, 1965, Ser. No. 472,178
8 Claims. (Cl. 261—26)



An air moisturizing apparatus comprising a porous mass mounted beneath the surface of a liquid reservoir, means to pass air through such mass to form a vapor cloud over said surface, and means to move air over said surface.

3,378,239
COUNTERFLOW COOLING TOWER

John Engalitcheff, Jr., Gibson Island, and Thomas F. Facius, Baltimore, Md., assignors to Baltimore Aircoil Company, Inc., Baltimore, Md., a corporation of Maryland
Continuation-in-part of application Ser. No. 465,273, June 21, 1965. This application Mar. 10, 1967, Ser. No. 622,307
Claims priority, application Canada, June 13, 1966, 962,784
5 Claims. (Cl. 261—29)

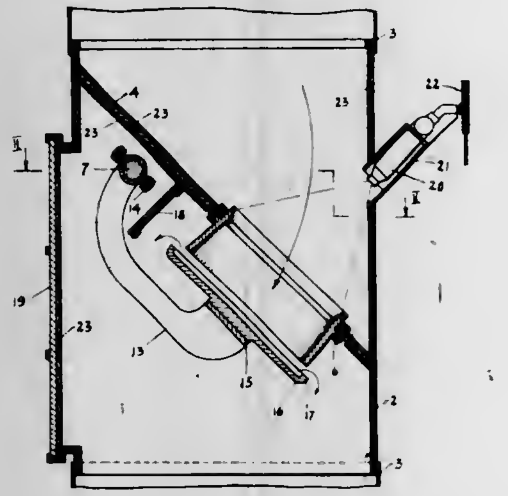


In an evaporative cooler in which air flows upwardly countercurrent to the water spray, regenerative means are positioned in the region of countercurrent flow. The regenerative means comprise stacked groups of inverted channel members, with some of the channel members of each group being of lesser height than the others, and with the lower wall portions of the channel members having indented edges to facilitate water distribution. The shape of the channel members causes the velocity of the air to alternately increase and decrease during its upward flow.

3,378,240
FURNACE GAS CLEANING AND COOLING APPARATUS

Selwyne P. Kinney, Pittsburgh, Pa., assignor to S. P. Kinney Engineers, Inc., Carnegie, Pa., a corporation of Pennsylvania

Filed Aug. 1, 1966, Ser. No. 569,394
7 Claims. (Cl. 261—115)

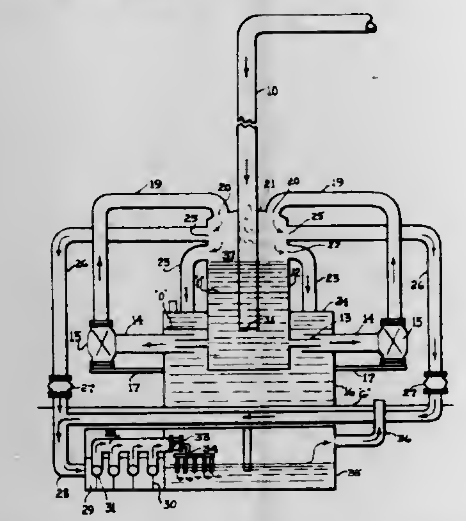


1. Gas cleaning apparatus comprising a gas main having a section in the form of a cylindrical shell through which flows the gas to be cleaned, a venturi support in said section diagonal to the longitudinal axis thereof, a venturi mounted in said support with the axis of its throat normal to the plane of the support, the support so blocking the flow of gas around the venturi as to direct its flow through the venturi, and a water nozzle within a gas-tight enclosure on the exterior of the section upstream of the venturi angled to direct a spray of water through an opening in the section into the full area of the venturi.

3,378,241
EXHAUST PURIFIER

Rufus Stokes, Chicago, Ill., assignor to R.S. Engineering Company, Inc., Chicago, Ill., a corporation of Illinois

Filed Jan. 17, 1966, Ser. No. 520,927
8 Claims. (Cl. 261—121)



1. An exhaust purifier for treating and purifying the exhaust from combustion chambers including an exhaust stack, said purifier comprising

(a) an exhaust induction tank surrounding the open end of the exhaust stack of the combustion chamber,

(b) said tank partially liquid-filled to provide a pressure chamber in the vacant portion thereof and with the open end of the exhaust stack immersed in the liquid within said tank,

(c) a liquid-filled recirculation tank into which a portion of the exhaust induction tank is immersed,

(d) means provided by the said vacuum induction tank and said recirculating tank forming a restricted communication between the liquid-filled portion of said exhaust induction tank and said recirculation tank,

(e) circulating means carried externally of said recirculation tank and having open communication therewith for mixing and circulating the liquids in said tanks through said exhaust purifier,

(f) conduit means connecting said means with the pressure chamber of said exhaust induction tank for circulating therethrough an admixture of fumous-liquid exhaust to create a pressure barrier upon the exposed surface of the liquid contained in said induction tank,

(g) means providing open communication between said pressure chamber of said exhaust induction tank and said recirculation tank for shunting a portion of the fumous-liquid exhaust out of the pressure chamber and into said recirculation tank to relieve backpressure created in the pressure chamber of said induction tank,

(h) conduit means for connecting a portion of said pressure chamber with a liquid-filled mixing tank,

(i) a liquid filled mixing tank for receiving the admixture of fumous-liquid exhaust from said pressure chamber of said induction tank,

(j) means within said mixing tank for scrubbing said admixture with additional liquids,

(k) conduit means for passing the scrubbed exhaust into a liquid-filled settling tank,

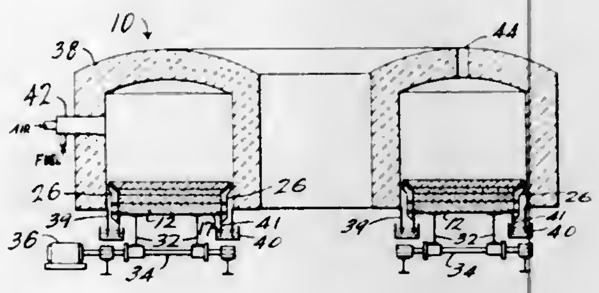
(l) a settling tank connected to said mixing tank by said last named conduit means for receiving said scrubbed exhaust, and

(m) an exhaust port carried by said settling tank for exhausting the purified exhaust into the atmosphere.

3,378.242
HEARTH DAM

Carroll Cone, Toledo, Ohio, Robert E. Pinney, Lambertville, Mich., and Franklin G. Rinker, Toledo, Ohio, assignors to Midland-Ross Corporation, Toledo, Ohio, a corporation of Ohio

Filed July 1, 1966, Ser. No. 562,245
8 Claims. (Cl. 263—7)

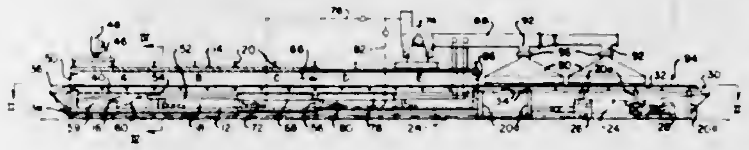


This invention relates to a hearth dam adapted to retain a refractory hearth layer that goes through a liquid phase. The hearth dam has a plurality of vertically extending ribs that are disposed about the perimeter of the hearth and a pad is attached to the top of each rib. These pads are disposed in an end to end relationship to form a retaining structure about the hearth and are disposed at an obtuse angle relative to the top layer of the hearth.

3,378,243
LEHR WITH TRANSVERSE TEMPERATURE CONTROL

William A. Morton, Pittsburgh, Pa., assignor, by mesne assignments, to Sunbeam Corporation, a corporation of Illinois

Filed Oct. 24, 1965, Ser. No. 504,321
14 Claims. (Cl. 263—8)

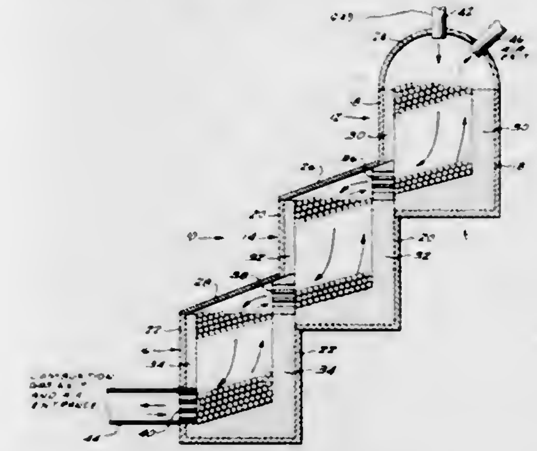


A tunnel type lehr is disclosed for annealing glassware and the like. The lehr is provided with means for controlling transverse temperature gradients as well as longitudinal temperature gradients in a novel manner. The lehr structure is provided with tandem groups of heat exchanging conduits spaced along the length of the lehr with each group of such conduits being spaced laterally across the width of the lehr. A group of valved tempering conduits are connected respectively to some or all of the conduits in each of the aforementioned groups of conduits or equivalent heat exchanging means for introducing individual quantities of tempering air. Thus, the amount of air introduced can be varied both transversely and longitudinally of the lehr structure to control the temperature gradients therein. Moreover, the control of transverse temperature gradients in a given zone of the lehr can be effected independently of other zones if desired.

3,378,244
PEBBLE HEAT EXCHANGER

Frank H. Walther, Jr., Bethel Park, Pa., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

Filed Jan. 12, 1966, Ser. No. 520,158
3 Claims. (Cl. 263—19)



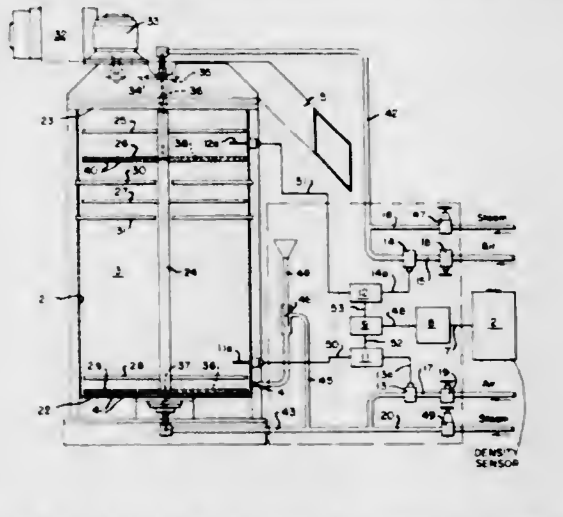
Pebble heat exchanger consisting of a plurality of interconnected relatively shallow containers for hot pebbles which permits the use of differently chemically composed pebbles in different temperature zones thereof.

3,378,245
APPARATUS FOR CONTROLLABLY EXPANDING EXPANDABLE MATERIAL

Alan I. W. Frank, Pittsburgh, Pa., assignor to The Alan I W Frank Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 14, 1966, Ser. No. 527,178
5 Claims. (Cl. 263—21)

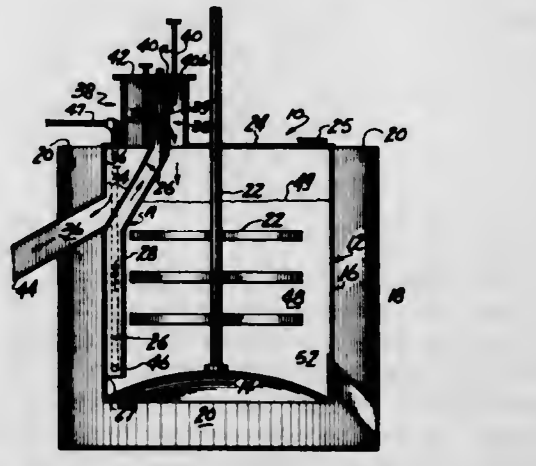
Apparatus for controllably expanding expandable material comprising an expander through which the material passes, means for introducing an expanding medium consisting of a mixture of steam and air into the expander, said means including an air valve, means for determining the bulk density of the expanded material and means actuated by changes in the bulk density of the expanded material for adjusting the air valve to alter the proportion of air in the mixture to control the temperature of the expanding medium to produce expanded material of desired bulk density. The apparatus may comprise a container, a source of expanding medium, means for introducing into the container material to be controllably expanded, means for delivering expanded material from the container, means for introducing expanding medium into the container at a location between the location of introduction of material into the container and the location of the means for delivering expanded material from the container, means for controlling the temperature of the expanding medium introduced into the container at a location between the location of introduction of material into the container and the location of the means for delivering expanded material from the container, means for determining the bulk density of the expanded material and means actuated by changes in the bulk density of the expanded material for controlling the temperature of the expanding medium introduced into the container at a location between the location of introduction of material into the container and the location of the means for delivering expanded material from the container.



3,378,246
CALCINING KETTLE DISCHARGE APPARATUS

Francis R. Leding, Clarendon Hills, Ill., assignor to United States Gypsum Company, Chicago, Ill., a corporation of Illinois

Filed Nov. 15, 1965, Ser. No. 507,909
7 Claims. (Cl. 263—26)

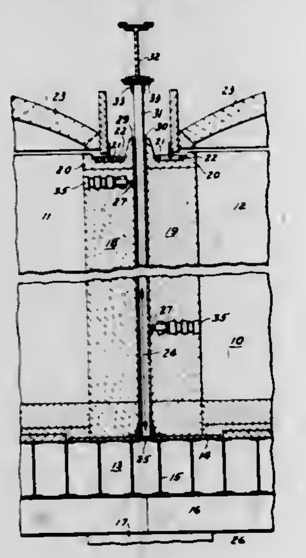


A calcining apparatus comprising a kettle, a heating jacket surrounding the kettle, a rising conduit having a lower end communicating with the interior of the kettle, and a valve operable selectively to bring the upper end of the conduit into discharging communication with the exterior or interior of the kettle, and processes whereby said calcining apparatus may be operated to calcine material in a continuous or batch process.

3,378,247

DIVISION WALL FOR SOAKING PITS

Frederick R. Pullen and Eugene K. McLachlan, Johnstown, Pa., assignors, by mesne assignments, to Bethlehem Steel Corporation, a corporation of Delaware
Filed Sept. 16, 1964, Ser. No. 396,931
4 Claims. (Cl. 263—44)

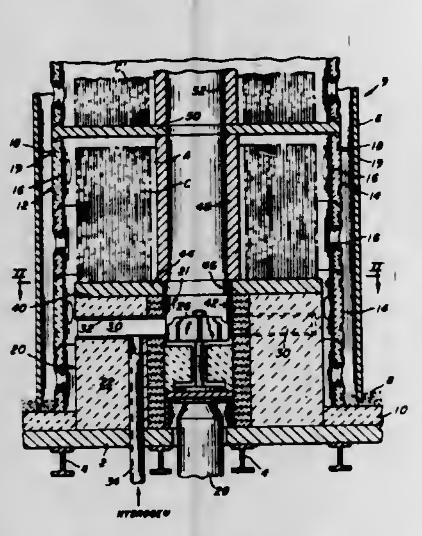


A division wall, separating adjacent furnace chambers, including refractory walls separated by a space which is divided into vertical flues through which air is circulated to cool the refractory.

3,378,248

COIL SUPPORT APPARATUS

Francis J. Krabe, Tarentum, and Stephen J. Rybarczyk, Vandergrift, Pa., assignors to United States Steel Corporation, a corporation of Delaware
Filed Apr. 26, 1966, Ser. No. 545,355
2 Claims. (Cl. 263—49)

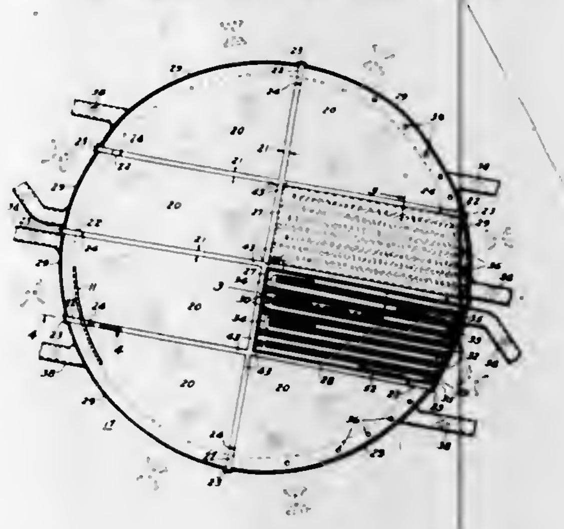


Apparatus for supporting steel coils in an annealing furnace, including a block of a relatively soft castable refractory material with a central opening lined with a relatively hard refractory material. A metal plate for supporting a first steel coil is placed on top of this refractory, and a tubular column for supporting a second plate and a second steel coil above the first coil is placed on the first metal plate and directly above the hard refractory lining of the base. Lateral passageways for circulation of gases are formed in the refractory base and extend between the central opening and the exterior of the base. These passageways are located entirely beneath the top surface of the refractory.

3,378,249

FURNACE UNDERHEARTH COOLING APPARATUS

George L. French, Center Valley, and William G. Seacrest, Limeport, Pa., assignors, by mesne assignments, to Bethlehem Steel Corporation, a corporation of Delaware
Filed Dec. 8, 1964, Ser. No. 416,784
5 Claims. (Cl. 266—32)

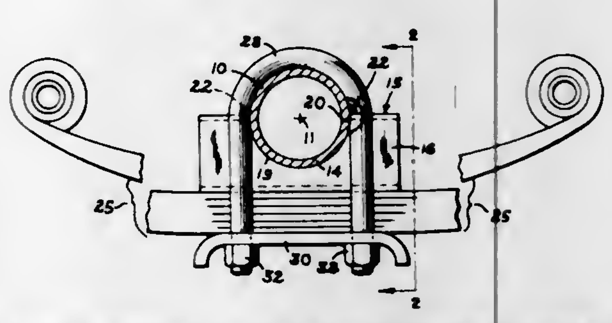


A composite cooler interposed between the hearth of a blast furnace and its foundation to cool the hearth bottom. The composite cooler is formed of several spaced sections each having cooling fluid inlet and outlet ducts. The sections are connected at their peripheries so that outward expansion is restrained while inward expansion toward the hottest inner area beneath the hearth is permitted.

3,378,250

AXLE AND SPRING ASSEMBLY

Milford F. Marti, Fayette, Ohio, assignor to The Dayton Steel Foundry Company, Dayton, Ohio, a corporation of Ohio
Filed Nov. 3, 1965, Ser. No. 506,290
4 Claims. (Cl. 267—52)



A spring support pad formed of sheet metal and secured to an axle by welds exclusively in regions defined by the neutral bending plane of the axle.

3,378,251

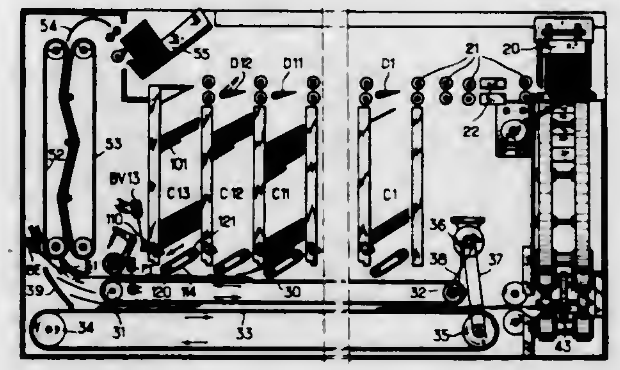
CARD FEEDING DEVICE

Claude Jules Donabin, Joinville-le-Pont, Val-de-Marne, France, assignor to Societe Industrielle Bull-General Electric (Societe Anonyme), Paris, France
Filed May 31, 1966, Ser. No. 553,872
Claims priority, application France, July 12, 1965, 24,371
6 Claims. (Cl. 271—3)

1. In a record-card machine comprising a plurality of receiving compartments, a card-feeding system adapted to carry along cards extracted from a supply magazine towards the said compartments along a first feeding path and in a direction parallel to their smaller dimension, and a plurality of card extracting devices each disposed below one of the said receiving compartments, the combination comprising:

a card-feeding device comprising an upper endless band extending horizontally below the receiving compartments to collect the cards extracted from any one of the compartments, and a lower endless band disposed below the upper endless band and in contact therewith,

driving means for continuously driving the upper endless band at a speed such as to enable the cards extracted from a compartment to be carried in the form of a string of partially overlapping cards along a second path parallel to the first path and in the same direction, towards one end of the said path,



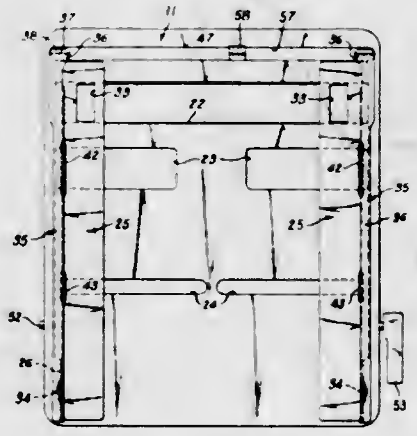
an abutment disposed close to the said end, at an appropriate distance for intercepting the cards continuing their movement, the lower endless band extending horizontally below the said abutment to receive the intercepted cards and to carry the partially overlapping cards, between two bands and in the opposite direction, towards the other end of a third feed path, and

a lifting device disposed close to the other end to receive the cards discharged at this other end and to carry them to the said supply magazine, in which they are deposited.

3,378,252

SHEET GUIDING AND RESTRAINING MECHANISM

Edward M. Springer, Chicago, Ill., assignor to Heyer Inc., Chicago, Ill., a corporation of Illinois
Filed May 26, 1966, Ser. No. 553,209
10 Claims. (Cl. 271—61)

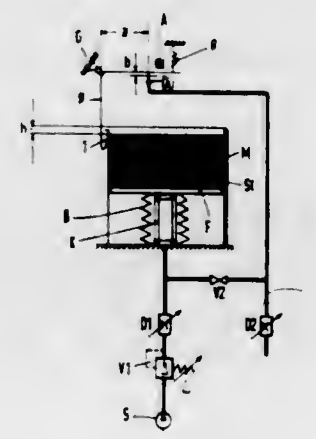


1. Sheet guiding and restraining mechanism for use with feed means for imparting forward movement to the uppermost sheet in a stack of sheets, comprising a table for supporting a stack of sheets, a horizontally disposed slide supported by and mounted on said table for lateral movement relative thereto and having a vertical flange upstanding therefrom, a side rail pivoted at the rear to said upstanding flange for vertical movement and having sheet corner engaging means at its forward end and depending portions spaced from each other and from its rear pivot for cooperation with said slide to guide and restrain the sheets against lateral movement into a jamming position under the lower edge of said side rail.

3,378,253

COMPARTMENT FOR A STACK OF SHEET-LIKE RECORD CARRIERS

Jong-Dok Kim, Munich, Germany, assignor to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany
Filed June 17, 1966, Ser. No. 558,312
Claims priority, application Germany, June 29, 1965, S 97,879
5 Claims. (Cl. 271—62)



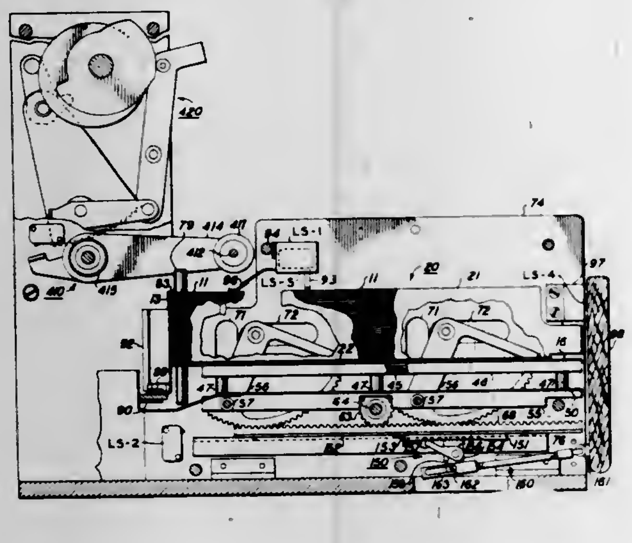
A device for filing or removing sheet-like record carriers in or from a stack thereof, disposed in a compartment having a vertically movable bottom wall on which the stack of record carriers is supported, to which wall is operatively connected spring means constructed to exert a supporting force thereon, with an expansible air chamber operatively connected to the bottom wall and constructed to provide an adjustable supplementary supporting force thereon in dependence upon the air pressure in said chamber, the bellows being connected to a pressure source, and controlled by a control valve disposed between such pressure source and the bellows, the latter having a nozzle connected thereto, adjacent the inlet opening at which atmospheric pressure exists, sensing means being disposed adjacent said nozzle having a portion cooperable with a stack of record carriers disposed on the bottom wall, operative to vary the air flow through said nozzle in dependence upon the distance between a cooperable record carrier transport device and the upper face of such a stack.

3,378,254

PACK ADVANCER

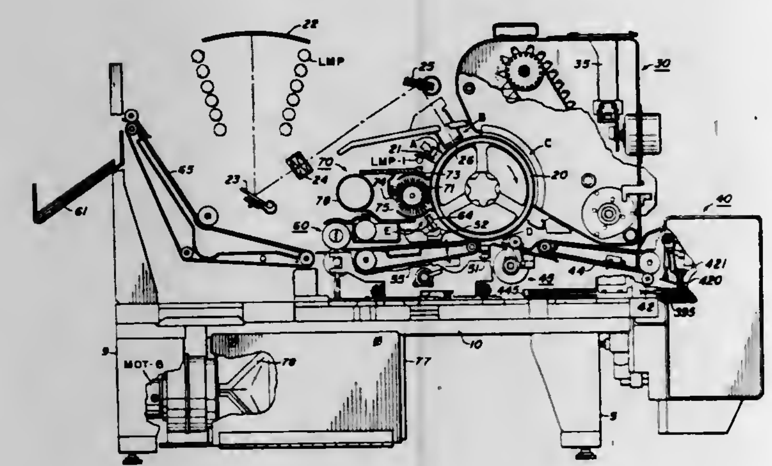
Roger H. Eichorn, Webster, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Jan. 3, 1966, Ser. No. 518,138
1 Claim. (Cl. 271—62)

A tray for supporting a quantity of sheet material to be sequentially fed therefrom. The tray includes a gear sector journaled at each corner thereof rotatable by means of a rack to raise the tray so that the paper thereon is always horizontally disposed. The tray also has associated therewith, switching means including a pivotable arm coactable with the topmost sheet of the stack to actuate a motor to raise the tray so that the topmost sheet of the stack is always at a predetermined level for being fed. The tray also has, associated therewith, a finger cooperable with an aperture in the tray so as to terminate



the operation of the device upon the depletion of the stack of sheet material.

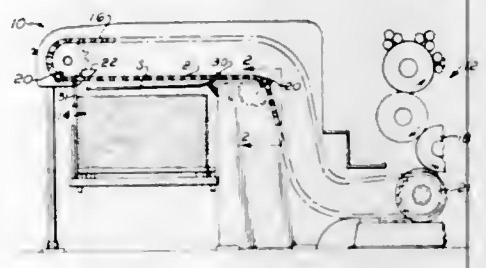
3,378,255
PAPER HANDLING APPARATUS
Valdevutis C. Draugelis, Rochester, and Jaol C. Jamison, Webster, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed June 13, 1966, Ser. No. 557,063
7 Claims. (Cl. 271—62)



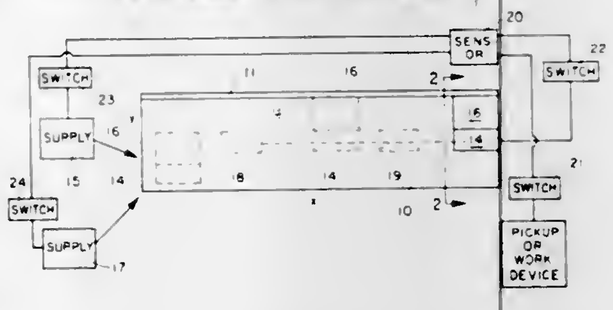
Paper handling apparatus for permitting the topmost sheet of a stack of sheets to be forwarded by reciprocating section tubes. The paper handling apparatus comprises a tray for supporting the stack, aerating elements to fan the topmost sheets from the rest of the stack and constraining elements including resilient tabs to limit the amount of vertical movement of the fanned sheets so that the topmost sheet is at the proper height for being forwarded by the suction tubes.

3,378,256
SHEET DELIVERY SLOWDOWN
Jarrett R. Ellis, Shaker Heights, and Howard J. Seel, Cleveland, Ohio, assignors to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Mar. 22, 1966, Ser. No. 536,437
17 Claims. (Cl. 271—68)

The present invention relates to a sheet slowdown mechanism for reducing the rate of speed of a moving sheet, and more particularly to a sheet slowdown mechanism for use in a sheet delivery for reducing the speed of the sheet prior to its being deposited onto a pile. The sheet slowdown mechanism includes a gripper which is moved in a substantially horizontal position along an elongated endless path.

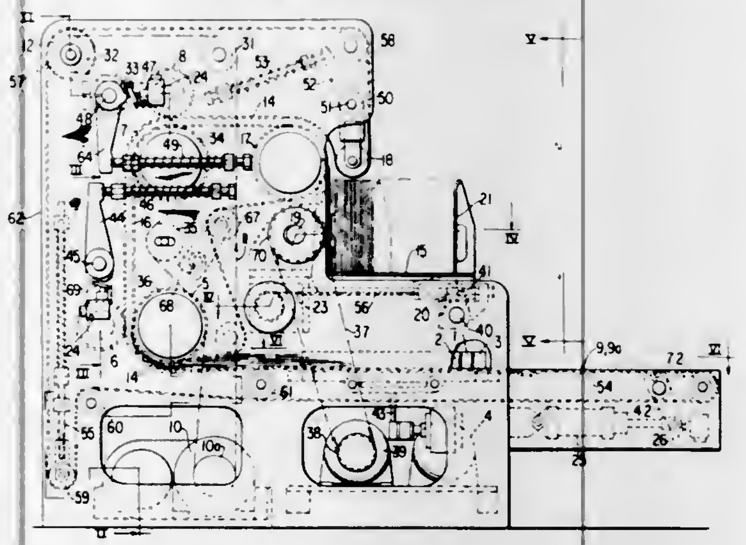


3,378,257
APPARATUS FOR MOVING AND ORIENTING LIMP PIECES OF MATERIAL
Ira D. Boynton, Lexington, and Robert H. Bode, Wenham, Mass., assignors, by mesne assignments, to the United States of America as represented by the Secretary of Commerce
Filed June 16, 1966, Ser. No. 557,992
10 Claims. (Cl. 271—84)



An arrangement for transporting at least one piece of limp material from an unaligned position on a platform to a delivery point in a desired alignment. The piece may be moved in the *x* direction by means of gravity and in the *y* direction by means of vibration, or in the *x* and *y* directions by means of vibration. Sensing means monitor the presence of the piece in the desired alignment.

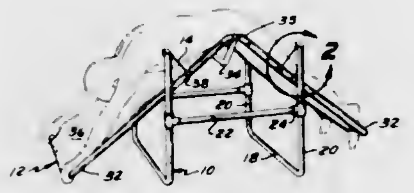
3,378,258
STACKER WITH HORIZONTAL PACKER BOX AND VERTICALLY DISPOSED SIGNATURES
Hans J. Luehrs, Westerly, R.I., assignor to The Cottrell Company, Westerly, R.I., a corporation of Delaware
Filed Feb. 21, 1966, Ser. No. 528,992
9 Claims. (Cl. 271—89)



A stacker for sheets or signatures comprising a horizontally disposed movable platform, endless conveyors

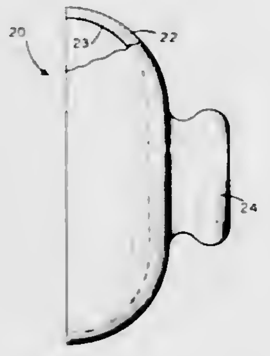
transporting, squeezing and controlling streams of overlapped products towards vertical disposition on said platform together with means for orbitally downwardly agitating and reciprocating the platform to advance the signatures disposed thereon to a suitable location for removal.

3,378,259
EXERCISING COT
Edward C. Kupchinski, 345 S. Hope St., Los Angeles, Calif. 90017
Filed Nov. 13, 1964, Ser. No. 410,922
4 Claims. (Cl. 272—58)



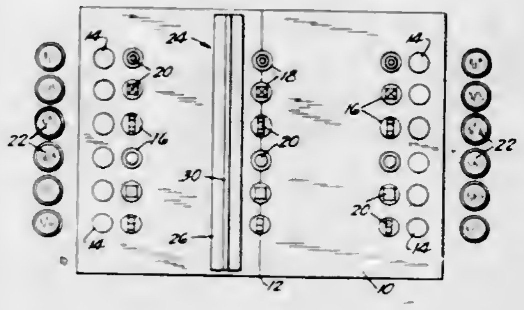
1. An exerciser comprising:
a base having a lower portion adapted to rest on the ground and an upper portion;
cot means having opposite sides and having at least one folding line extending between said opposite sides and forming two folding cot sections;
pulley means attached to said upper portion of said base;
a pair of spaced attach points located on each of said opposite sides of said folding cot sections; and
ropes of predetermined effective lengths extending about said pulley means, having ends attached to said attach points.

3,378,260
AERIAL DART GAME WITH SUCTION CUP DART AND CURVILINEAR RECEIVER THEREFOR
Eric E. Hartel, 103 Freeman Ave., Stratford, Conn. 06497
Filed Apr. 27, 1964, Ser. No. 362,737
4 Claims. (Cl. 273—95)



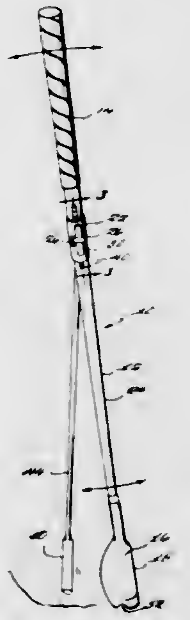
1. An aerial dart game comprising a hand-held dart catcher which is sized so that it can be readily held in one hand, said dart catcher including a bowl-shaped receiver having a smooth interior concave surface, a dart having a suction cup connected to the leading end thereof, and said inner smooth concave surface of said catcher defining an area against which the suction cup of the dart will adhere even though the trajectory of the dart to the bowl-shaped catcher is other than normal with respect to the impacted surface, and a handle connected to the exterior surface of the bowl to facilitate the maneuverability of said hand-held catcher to enhance the fielding of erratically thrown darts.

3,378,261
OBJECT MATCHING GAME APPARATUS
Raymond L. Schriber, 16 Ferndale St., St. Paul, Minn. 55119
Filed Feb. 25, 1966, Ser. No. 530,111
2 Claims. (Cl. 273—130)



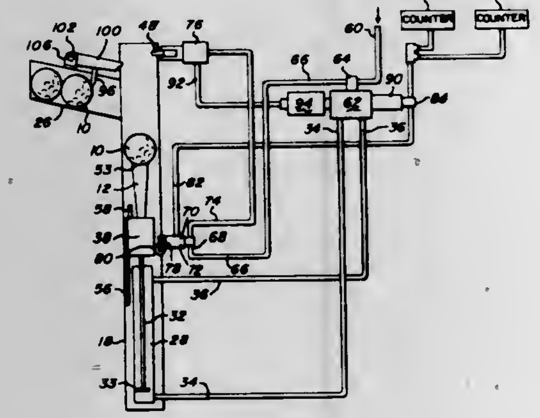
1. A game apparatus comprising a game board having adjacent rows of object receiving markings at opposite ends thereof and a central row of object receiving markings intermediate said opposite ends, the number of markings in each row being the same, said apparatus further including cups adapted to cover and conceal objects on one row of markings at each end of said board, and three identical sets of different objects adapted for placement on three of said rows of markings, the individual objects of each set being different and the number of objects in each set being the same as the number of markings in one of said rows whereby two sets of said different objects may be concealed on a row of markings at each end of the board under said cups while the third set of said objects may be moved onto one of the vacated rows of markings adjacent said cups in anticipated correspondence with the objects concealed under the cups of said adjacent row.

3,378,262
GOLF CLUB PUTTER AND TRAINER
John W. Haley, 524 S. D St., Lake Worth, Fla. 33460
Filed Nov. 2, 1964, Ser. No. 408,225
10 Claims. (Cl. 273—162)



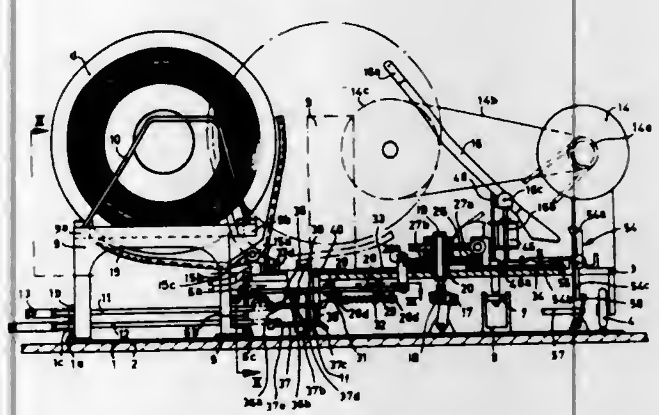
A golf club comprising an elongated shaft having a handle at one end and a putter head at the other end with a second shaft pivotally connected to the elongated shaft intermediate the ends of the elongated shaft. The second shaft has a ground engaging end portion extending below the putter head which is placed in contact with the ground so as to steady or guide the putting stroke.

3,378,263
FULLY AUTOMATIC GOLF BALL TEEING DEVICE
Robert R. Turnau and Donald B. Poynter, Cincinnati, Ohio, assignors to Automatic Golf Systems, Inc., Indian Hill, Ohio, a corporation of Ohio
Filed Dec. 6, 1965, Ser. No. 511,758
16 Claims. (Cl. 273—201)



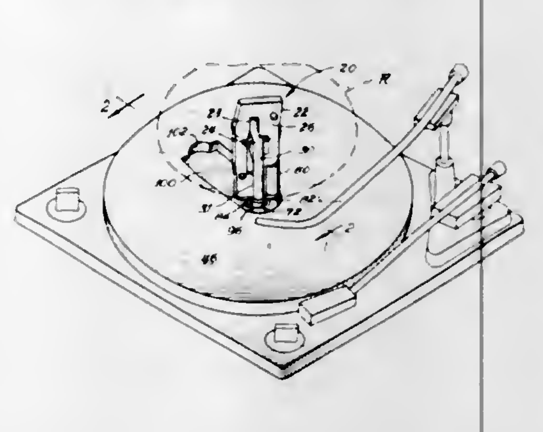
1. Apparatus to tee a succession of golf balls automatically, comprising in combination: an elongate earth-supported housing having a buried lower end, and a side-apertured upper end disposed approximately at ground level; a source of air pressure including tube means for conveying air from said source; a carriage shiftable lengthwise along the housing; a ball tee supported upon the carriage for displacement by club impact, from a normally extended position to a depressed position relative to the carriage; reversible pneumatic cylinder means associated with said air pressure source, for shifting the carriage along the housing between an elevated position at which the tee is disposed above ground level, and a fully lowered position at which the tee is disposed a substantial distance below ground level; an air pressure distribution valve connected with the compressed air source and the pneumatic cylinder means through the tube means, said valve including air-actuated control means shiftable to supply pressure of air alternately to opposite ends of the cylinder means, for fully elevating and fully lowering the carriage in alternation; and mechanically actuatable valve means having fluid communication with the air pressure source and the control means of the distribution valve, through the tube means aforesaid, said mechanically actuatable valve means being actuated upon movement of the carriage to lowered position, for sending compressed air to the control means of the distribution valve and actuating said control means to release air under compression from the distribution valve to one end of the pneumatic cylinder means to elevate the carriage, said mechanically actuatable valve means being actuated upon impact displacement of the ball tee to the depressed position while the carriage is elevated, to supply air to the control means of the distribution valve, for causing the distribution valve to supply air to the opposite end of the pneumatic cylinder means and thereby drive the carriage to the fully lowered position; and means for releasing a golf ball through the side aperture of the housing and onto the tee, while the carriage is displaced from the upper position.

3,378,264
AUTOMATIC RECORD PLAYER
Jean Foufounis, 27b Chemin du Chene, Renens, Switzerland
Continuation-in-part of application Ser. No. 330,350, Dec. 13, 1963. This application Jan. 10, 1967, Ser. No. 613,717
Claims priority, application Switzerland, Dec. 13, 1962, 14,618/62
37 Claims. (Cl. 274—10)



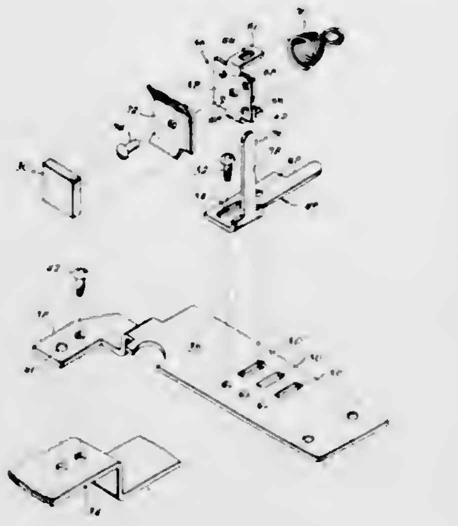
Automatic record player where a record magazine is moved relative to a record playing device by a predetermined amount corresponding to a selected record. A record is lifted to playing position and a pickup head is shifted into operation. Control is accomplished by operating two superposed rows of keys cooperating with feeler levers. A pivotal rack, that has parallel straight portions connected by two curved portions, cooperates with a driving pinion to relatively position the magazine and the player.

3,378,265
PIVOTALLY MOUNTED ADAPTER
Douglas W. Smith, St. Joseph, Mich., assignor to V-M Corporation, Benton Harbor, Mich., a corporation of Michigan
Filed Jan. 20, 1966, Ser. No. 521,986
12 Claims. (Cl. 274—10)



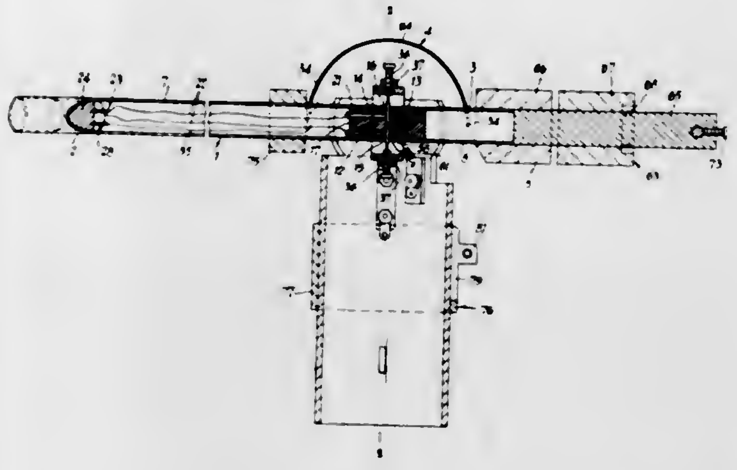
A phonograph capable of playing large and small centerhole records provided with a turntable having a recess in the record support surface thereof, and a first center spindle for supporting and lowering small centerhole records onto the turntable for playing. The phonograph is also adapted for playing large centerhole records by means of a unitary second spindle which is coupled to the first center spindle through an annular bearing rotatably and axially slidable on the first center spindle. The second spindle is pivotally supported on the bearing and has a recess in one side thereof to releasably partially enclose the first spindle when in an upstanding operative position, and is pivotable to an inoperative position within the recess in the turntable.

3,378,266
SELF-ALIGNING PRESSURE PAD FOR TAPE RECORDERS
Marion R. Karecki, St. Joseph, Mich., assignor to V-M Corporation, Benton Harbor, Mich., a corporation of Michigan
Filed Feb. 12, 1965, Ser. No. 432,298
11 Claims. (Cl. 274—11)



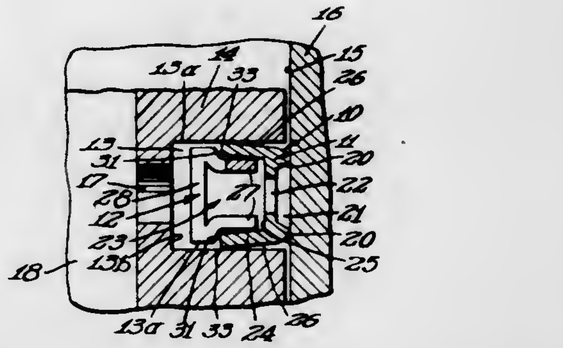
A pressure pad arrangement for yieldingly pressing a magnetic tape against a record-playback head including a movable support post, a bracket mounted on the support post for pivotal movement about both horizontal and vertical axes relative to the support post and thereby the record-playback head, a spring adapted to urge the bracket against the head, and a pressure pad on the bracket for yieldingly engaging the tape against the head.

3,378,267
PHONOGRAPH TONE ARM
Paul Leonard Anthony Davis, 7 The Grove, Osterley, England
Filed Feb. 7, 1966, Ser. No. 525,613
9 Claims. (Cl. 274—23)



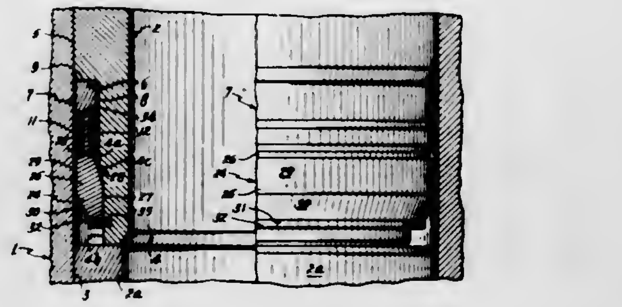
A phonograph pick-up arm assembly having transducer connection means at one end and a counterbalance means at its other end is provided with a gimbal bearing assembly for mounting the arm. The unique gimbal bearing assembly is provided with electrically conductive pivotal elements therein which serve the dual function of both the mechanical pivoting means for the arm mount and as electrical conductor elements utilized to transmit the transducer signals from the arm. This invention eliminates the prior art problem of pick-up arm drag associated with the previously utilized arm connecting wires.

3,378,268
PISTON RING ASSEMBLY
Roy D. Anderson, Ballwin, Mo., assignor to Ramsey Corporation, St. Louis, Mo., a corporation of Ohio
Filed Dec. 12, 1963, Ser. No. 330,133
8 Claims. (Cl. 277—143)



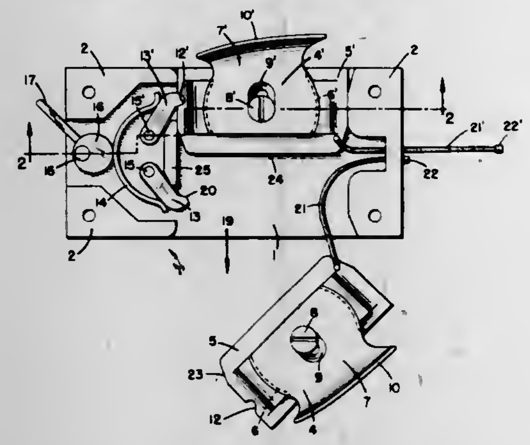
1. A side sealing oil control piston ring assembly which comprises an outer one piece radially and axially flexible split metal ring having a peripheral groove therearound, an inwardly facing channel therein and passages therethrough connecting the groove and channel around the periphery of the ring, said channel having side legs adapted to be spread apart into sealing contact with the side walls of a ring groove, and an inner circumferential expansion ring seated in said channel and having means acting against and flexing said side legs of the channel of said outer ring for exerting radial and axial expansion forces thereagainst around substantially the entire periphery of the outer ring.

3,378,269
METAL-TO-METAL SEAL DEVICES
Edward E. Castor, Houston, Tex., assignor to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio
Filed Jan. 27, 1965, Ser. No. 428,318
9 Claims. (Cl. 277—205)



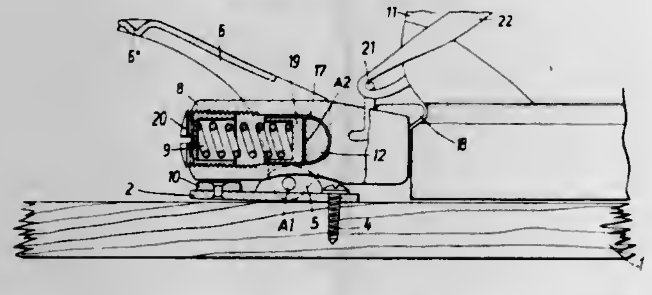
A metal seal ring arrangement of particular utility for sealing between two telescoping members. The seal ring has two spaced apart flanges which project from an integral base portion of the ring. The sealing surfaces at the sides of the flanges are spaced apart a distance greater than the base of the ring. Each flange has a thinned portion adjacent the base to enhance the flexibility of the flange so that fluid pressure in the recess between the flanges can readily urge the sealing surfaces of the flanges into engagement with the cooperating surfaces of the telescoping members. The sealing surfaces of the seal ring can be cylindrical or of arcuate radial cross section. A retaining ring fixed to one of the tubular members has an annular axially extending flange which maintains the ring in position adjacent a shoulder on one of the tubular members.

3,378,270
SAFETY SKI BINDING
Hannes Marker, Hauptstrasse 51–53,
Garmisch-Partenkirchen, Germany
Filed Sept. 7, 1965, Ser. No. 485,432
Claims priority, application Germany, Sept. 19, 1964,
M 62,501
6 Claims. (Cl. 280—11.35)



A safety ski binding consisting of a plate to be mounted onto the ski, which can be pivotally arranged or not, with the pivot axis arranged beneath the ski boot. The plate carries a pair of guiding jaws which engage opposite sides of the sole portion of the ski boot and which are slidably received in the guide plate so that their inner edges abut at the longitudinal axis of the plate. Detents or pawls engage corresponding cutouts in the jaws, and a spring holds the detents or pawls in position. When an excessive lateral thrust is experienced, the detents or pawls are caused to release from the cutouts, and one of the jaw members can slide out to the side, releasing the ski boot.

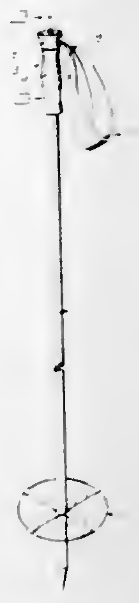
3,378,271
SAFETY BINDING FOR MOUNTING OF SKI
Paul Unger, Zirndorfer Weg 1, Altenberg,
near Nurnberg, Germany
Filed Dec. 29, 1965, Ser. No. 517,371
Claims priority, application Germany, Mar. 17, 1965,
U 11,534
19 Claims. (Cl. 280—11.35)



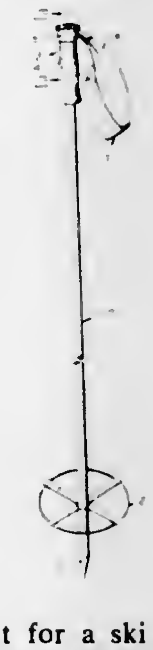
Ski binding to be mounted on a ski, comprising a housing, a release member and a spring adapted to yield to excess pressure on the binding in order to release a ski boot, where the housing is pivotally mounted on a base plate and the release member pivotally engages the housing and the spring therein.

3,378,272
SKI POLE STRAP SAFETY ATTACHMENT MEANS
Robert E. Lewis, 21911 Highview,
Mount Clemens, Mich. 48043
Filed Dec. 3, 1965, Ser. No. 511,387
8 Claims. (Cl. 280—11.37)

A safety attachment for a ski pole including a strap carrier member mounted on the upper open end of a ski pole and having an extension slidably mounted in said open end of the ski pole, and self-releasable means detachably connecting the strap carrier member extension to the ski pole, whereby if the ski pole is accidently engaged with an obstruction, the pole will be detached from the strap carrier member and prevent injury to the skier.



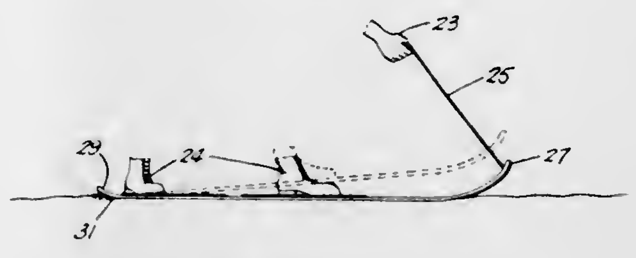
3,378,273
SAFETY RELEASABLE SKI POLE STRAP MEANS
Robert E. Lewis, 21911 Highview, Mount Clemens, Mich. 48043, and Robert G. Mentag, 13967 Manor, Detroit, Mich. 48238
Filed Dec. 3, 1965, Ser. No. 511,409
6 Claims. (Cl. 280—11.37)



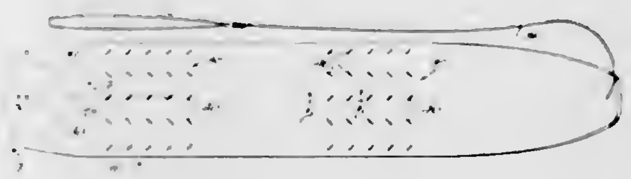
A safety attachment for a ski pole including a strap carrier member mounted on the upper open end of a ski pole and having an extension slidably mounted in said open end of the ski pole, and a self-releasable detent means detachably connecting the strap carrier member extension to the ski pole, whereby if the ski pole is accidently engaged with an obstruction, the pole will be detached from the strap carrier member and prevent injury to the skier.

3,378,274
SURF-TYPE SNOW SKI
Sherman R. Poppen, Muskegon, Mich., assignor to Brunswick Corporation, Chicago, Ill., a corporation of Delaware
Filed Mar. 17, 1966, Ser. No. 535,136
6 Claims. (Cl. 280—18)

A snow coasting device for use as a mono-ski with both feet of the skier thereon disposed fore and aft and unbound, in the form of an elongate board or the like generally flat transversely having a width greater than the normal ski of a pair of skis and a length less than the length of the normal ski of a pair of skis, there being an intermediate portion, an upwardly curved front end portion and an upturned rear end portion, with anti-skid foot rest means approximately midway the length of the board and the rear end thereof, a lanyard attached to the front end of the ski, laterally spaced grooves or ridges on the bottom of the ski, a durable waterproof plastic cover on the bottom of the ski and metal protection at the edges.



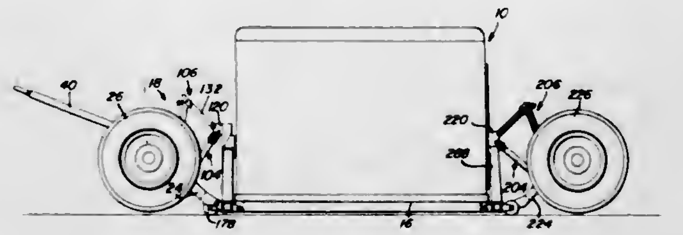
3,378,275
SKI BOARD
Albert M. Rockwood, North Muskegon, Michael G. Gautraud and David P. J. McLeod, Muskegon, and John J. Dragone, North Muskegon, Mich., assignors to Brunswick Corporation, a corporation of Delaware
Filed Mar. 24, 1966, Ser. No. 537,032
20 Claims. (Cl. 280—18)



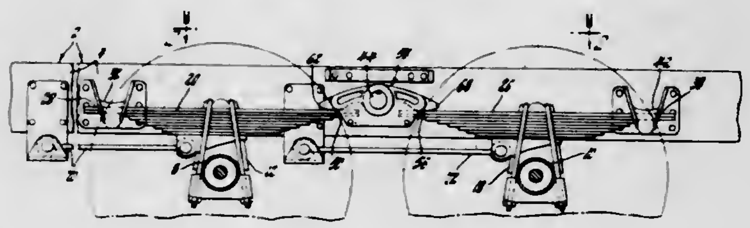
A ski having a longitudinal axis including a bottom surface having a generally flat intermediate portion, a front portion extending upwardly from the intermediate portion and a rear portion of generally V-shaped cross section taken transversely to the longitudinal axis and extending rearwardly from the intermediate portion with the center of the rear portion extending longitudinally in the plane of the intermediate portion.

3,378,276
HYDRAULICALLY OPERATED DEMOUNTABLE RUNNING GEAR WITH DIAGONAL RAMS
George M. Fulmer, Silver Spring, Md., assignor to Gichner Mobile Systems, Inc., a corporation of Maryland
Filed June 14, 1965, Ser. No. 463,510
13 Claims. (Cl. 280—43.23)

1. In a demountable running gear assembly used in combination with a body unit including a rear wheeled assembly and a front wheeled assembly, each wheeled assembly including an axle with wheeled units mounted on the outer ends thereof, a pair of laterally extending substantially parallel arms rigid with the axle, means connecting the ends of the arms remote from the axle to the body unit for relative pivotal movement therebetween, that improvement comprising a fluid pressure operated piston and cylinder assembly connected to each of said arms in spaced relation to the point of connection between the arms and body unit, means connected to the end of each piston and cylinder assembly remote from the point of connection thereof to the arm for attachment to the body unit in spaced relation to the point of connection between the body unit and arms whereby expansion and contraction of the piston and cylinder assembly will effect raising and lowering of the body unit, said piston and cylinder assemblies on at least one of said wheeled assemblies extending upwardly in a diverging relationship towards the body unit to provide access to the body unit over a lateral dimension greater than the distance between said arms, foldable brace means interconnecting each of said arms and the means at the outer end of the piston and cylinder assemblies for locking the piston and cylinder assemblies in extended position, said brace means including a pair of pivotally interconnected sections, abutment means on one of said sections to limit the pivotal movement of the sections relaive tto each other in one direction to a straight line condition, and releasable means on the other section for locking engagement with the abutment means on said one section when the sections are in alignment with each other for locking the sections in alignment thereby enabling the body unit to be retained in elevated position without retaining pressure in the piston and cylinder assemblies.



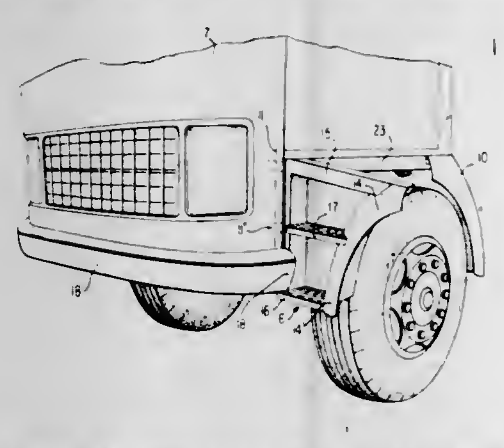
3,378,277
TANDEM AXLE SUSPENSION
Francis O. Gadd, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 11, 1966, Ser. No. 519,897
3 Claims. (Cl. 280—104.5)



In a conventional leaf spring tandem axle suspension, a pair of walking beams are mounted on a transverse torsion bar so that load imposed on one wheel of one axle will be transferred to both of the springs on the other axle.

3,378,278
STEP UNIT FOR DRIVER CAB OF MOTOR VEHICLES
Hans Froitzheim and Karl Letzel, Sindelfingen, Wurttemberg, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Aug. 4, 1965, Ser. No. 477,105
Claims priority, application Germany, Aug. 11, 1964,
D 45,160
8 Claims. (Cl. 280—163)

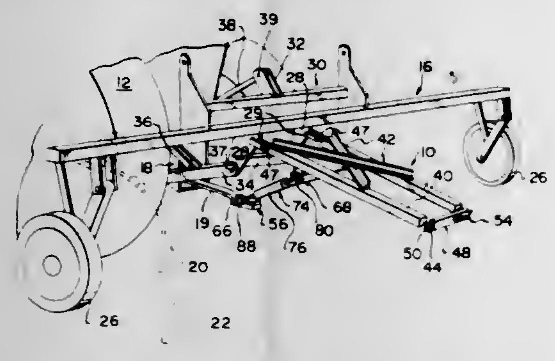
A step arrangement for providing access to the cab or driver compartment, especially of commercial-type motor vehicles with the cab located above the wheels



thereof, which is constructed as a pivotal or hinged cover for a space below the driver's cab.

3,378,279
HITCH MEANS FOR FARM IMPLEMENT

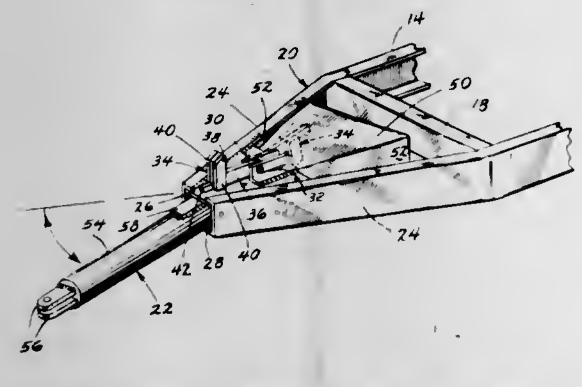
Carl M. Jacobs, Decatur, Ill., assignor to Fryco Manufacturing Co., Inc., a corporation of Illinois
Filed May 13, 1966, Ser. No. 549,937
9 Claims. (Cl. 280—461)



A hitch for connecting the lift mechanism of a tractor to a towed vehicle characterized in that the hitch includes a pivotally connected tongue at the rear, a pair of spaced pivotal connections at the front, and a depending link pivoted at one end of the hitch and having a pivoted connection means at the free end so that the hitch may be connected to a towed vehicle and to the three point lift mechanism at the rear of a tractor, with the towed vehicle remaining at a constant elevational attitude during raising and lowering of the tractor lift mechanism.

3,378,280
HITCH ASSEMBLY

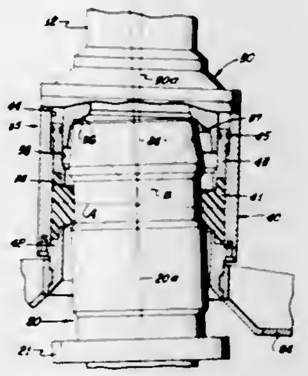
Jack E. Harms, Everly, Iowa 51338
Filed Oct. 21, 1965, Ser. No. 500,131
8 Claims. (Cl. 280—478)



A tongue assembly including a female socket member having converging side walls and top and bottom walls defining an opening through which a male member extends having a wedge shaped end portion matingly engaging the converging side walls of the socket member when the male and female members are in an extended position, an L-shaped locking member is pivotally mounted on the top wall of the socket member and includes a downwardly extending leg portion slidably engaging the top solid wall of the male member when said members are in their contracted position and adapted to drop by gravity only into locking engagement with the end edge of said wedge shaped portion when said male and female members are moved to their extended position, said top wall of said socket member engaging the other leg of said L-shaped locking member to limit its further downward pivotal movement. The L-shaped locking member is substantially narrower in width than the wedge shaped portion of the male member and the top wall of the female socket member. The side walls of the female socket member are channel shaped, facing inwardly and include top and bottom walls secured to the inner sides of the flanges of the channel side walls. The leg portion of the L-shaped locking member pivotally connected to the top wall of the socket member includes a finger engaging portion extending perpendicularly outwardly of the other leg portion.

3,378,281
UNIVERSAL CONNECTING JOINT

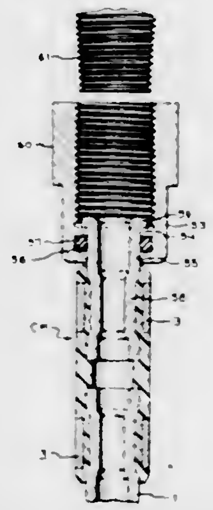
Warren W. Smith, Garden Grove, Calif., assignor to Shaffer Tool Works, Brea, Calif., a corporation of California
Filed Sept. 23, 1963, Ser. No. 310,631
7 Claims. (Cl. 285—27)



5. A flexible, safety, universal connecting joint adapted to permit limited pivotal movement of a drill pipe conductor from a normal vertical position, comprising:
  inner and outer hollow cylindrical members having axes which are coincident with each other and the axis of the drill pipe conductor when the drill pipe conductor and joint are in a normal vertical position,
  said inner member including an annular locking groove on the outer surface thereof,
  complementary mating means on said inner and outer members for permitting limited pivotal movement of said members with respect to each other;
  an annular resilient sealing and connecting element within said outer member and adapted to be longitudinally compressed and temporarily deformed radially inwardly to engage and cooperate with said locking groove in said inner member to assemble together said outer member with respect to said inner member; and
  a pressure operated, remotely controlled, annular piston means carried by said outer member for compressing said connecting element inwardly into engagement with said locking groove.

3,378,282
TUBE COUPLING

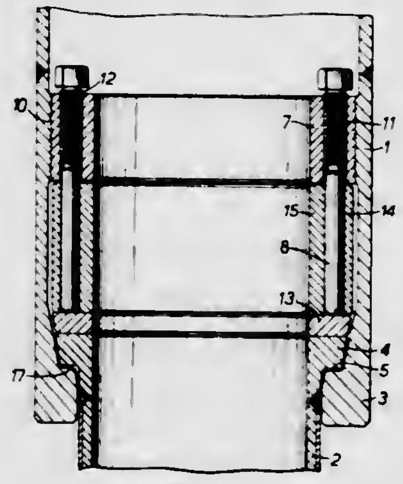
Henry William Demler, Sr., Lebanon, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Continuation-in-part of application Ser. No. 476,949, Aug. 3, 1965. This application Dec. 30, 1965, Ser. No. 517,747
15 Claims. (Cl. 285—174)



1. A device for being secured to an end of a tubular conduit member comprising a member of organic plastic having a tubular portion provided with an interior wall, said interior wall having a first section and a second section, said first section having a continuous surface corresponding to the configuration of said conduit member for providing an effective fluid-tight seal with said conduit member, said second section being closed circumferentially and having a noncontinuous area, said area having a plurality of surfaces extending substantially parallel with a longitudinal axis of said member, ferrule means disposable on an exterior surface of said member overlying said first and second sections, said ferrule means being reduceable in diameter upon radial pressure being applied thereto when said end of said conduit member is disposed within said portion to cause said member to sealingly engage said condiut member and deform said conduit member generally in accordance with the configuration of said noncontinuous area.

3,378,283
TUBE JOINTS

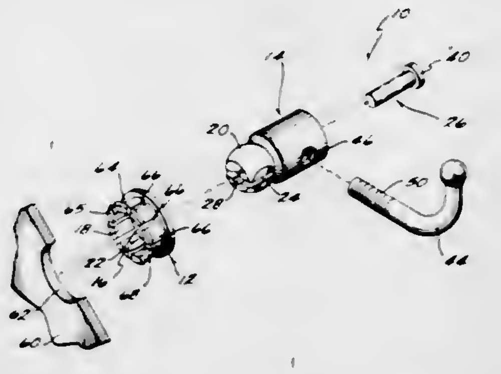
Peter Munro Boocock, Warrington, and George Angus Milne, Altrincham, England, assignors to United Kingdom Atomic Energy Authority, London, England
Filed Nov. 9, 1964, Ser. No. 409,875
Claims priority, application Great Britain, Nov. 20, 1963, 45,790/63
6 Claims. (Cl. 285—187)



A tube joint in which an end of an externally flanged tube is disposed within an end of an internally flanged tube and the flanges are sealingly thrust together by bolts supported from one of the tubes with resilient struts interposed between the bolts and the flanges.

3,378,284
UNIVERSAL COUPLING

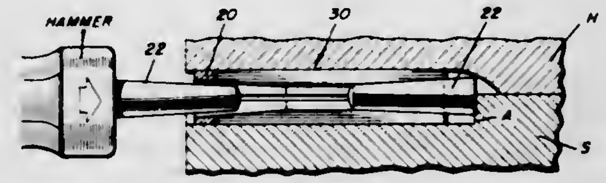
Clarence E. Blanchard, Jr., Kenosha, Wis., assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware
Filed Dec. 6, 1965, Ser. No. 511,726
6 Claims. (Cl. 287—21)



Disclosed herein is a connecting device comprising a first member having therein a bore defining a partially spherical socket, a second member having thereon a partially spherical ball portion receivable in said socket to afford universal movement therebetween, and means on the ball portion for affording resilient collapse thereof to afford insertion into the socket, together with means for preventing collapse of the ball portion comprising a locking member receivable in said second member and including means for preventing removal of said locking member.

3,378,285
KEYING DEVICE

William C. Staley, 8236 Burnley Road, Baltimore, Md. 21204
Filed Mar. 14, 1966, Ser. No. 534,230
2 Claims. (Cl. 287—52.05)

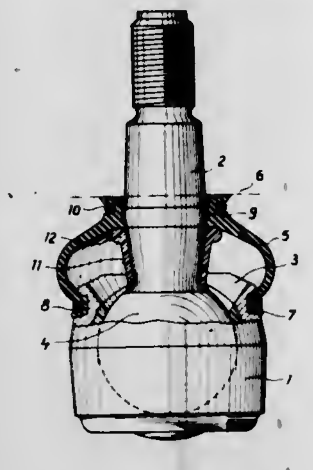


A spline of hardened, brittle material and square cross-section is divided into quarters by longitudinally intersecting slots, joined together by frangible bridges, and has a longitudinal tapered bore at least at one end thereof for receiving a tapered pin which drives the quarters outwardly filling the spline grooves in the hub and shaft being joined.

3,378,286
BALL JOINTS

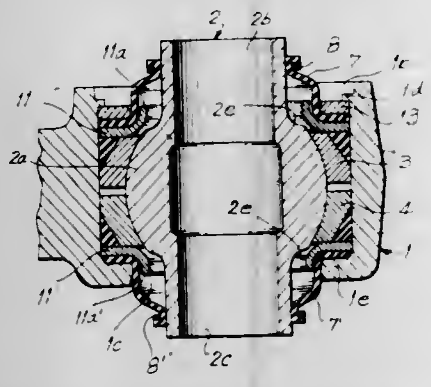
Rudolf Gottschald, Osterath, Germany, assignor to Messrs. A. Ehrenreich & Cie
Filed Sept. 7, 1966, Ser. No. 577,697
Claims priority, application Germany, Aug. 2, 1966, E 32,187
4 Claims. (Cl. 287—87)

A universal ball-and-socket joint with a joint housing and a pin positioned inside the housing over a ball end; the outlet opening of the joint housing is closed off by a



bellows which, on the one hand, is fastened to the joint housing and which, on the other hand, connects to the shaft of the joint pin in a manner providing sealing action, though still permitting the pin to be rotated. Inside the bellows, the joint pin is surrounded by a sleeve made of elastic material, one end of the sleeve resting against the ball end and the other end, provided with a contact surface, resting on the inside, against the edge of the bellows opening that adjoins the joint pin to prevent slipping.

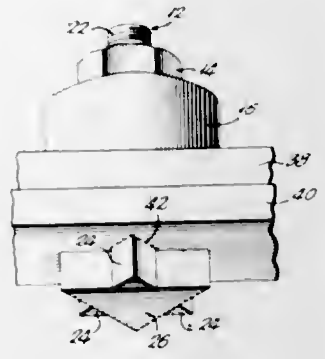
3,378,287
UNIVERSAL JOINT CONSTRUCTION
Jürgen Ulderup, Lemforde, Hannover, Germany
Filed Feb. 25, 1966, Ser. No. 530,065
Claims priority, application Germany, May 24, 1965, U 11,741
6 Claims. (Cl. 287—88)



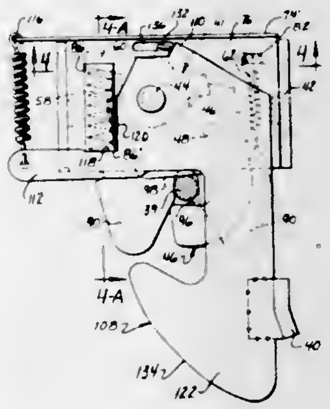
A universal joint comprises a housing which defines a generally cylindrical cavity which is open at each end. The housing includes an internal flange adjacent each open end and a bearing liner is positioned within the housing and includes a spherical surface which slidingly receives a ball-shaped portion of a hinge pin having portions which extend out the respective openings of the housing. A sleeve of flexible material is held around the pin and has its opposite end directed around the flange of the housing. The complete construction includes a ring of shock-resistant material clamped between the bearing liner and the flange and having an end portion which extends upwardly around the flange between the opposite end of the sleeve and the pin portion.

3,378,288
BLIND BOLT AND METHOD FOR ITS USE
Andreas Kanas, 481 Main St., Huntington, N.Y. 11743
Filed Feb. 23, 1966, Ser. No. 529,326
14 Claims. (Cl. 287—189.36)

A blind bolt assembly including a threaded bolt, a housing through which the threaded bolt passes with a nut adapted to be placed on the threaded bolt, the configuration of at least one of the bolt head and the nut (the "receivable member") and housing relative to one another being such that with the receivable member and housing in a first angular relationship, the bolt head and a portion of the housing may be passed through aligned apertures in a plurality of elements to be secured together and, with the receivable member and the housing in a second angular relationship, the blind bolt assembly may be fastened tight about the elements and the receivable member cannot be withdrawn back out through the apertures. A composite assembly including said blind bolt assembly and two elements bolted together by means of such assembly, and a method of bolting two elements together by means of such blind bolt assembly.



3,378,289
HOOD AND DECK LATCH
Ernest C. Beckman and Benard O. Anderson, Rockford, Ill., assignors to Modern Metal Products Co., Rockford, Ill., a corporation of Illinois
Filed Oct. 21, 1965, Ser. No. 499,211
4 Claims. (Cl. 292—31)



A detent and latch are pivotally mounted on a plate and have stop faces located a radial distance from the detent axis in latched position. Additional stop faces are located a radial distance from the latch axis in open position. A cover member and the plate form a cavity for a spring engaged with the detent. For use as a hood latch, a safety catch is mounted on the detent axis and operates to release the latch.

3,378,290
DOOR LOCKING AND LATCHING DEVICE
Mark M. Sekulich, 2442 Palm Drive, Long Beach, Calif. 90806
Filed Feb. 1, 1965, Ser. No. 429,544
5 Claims. (Cl. 292—40)

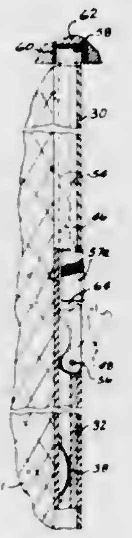
1. A locking and latching device for use with a pair of first and second swinging doors, the free end of said second door being provided with a lock having a retractable keeper, comprising:

a recessed vertical track extending along the free edge of the first of said doors;

an upper bolt vertically slidably disposed within the recess of said track;

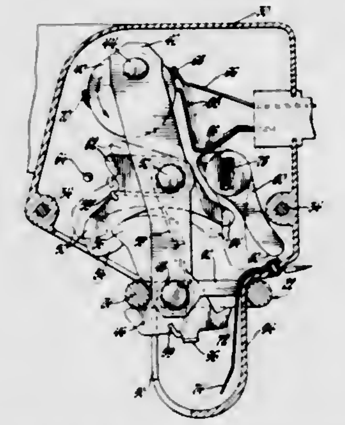
a lower bolt vertically slidably disposed within the recess of said track below the lower end of said upper bolt, the outer edges of said bolts being flush with said free end of said first door;

resilient means interposed between said bolts and said track yieldingly restraining said bolts against vertical movement in said track in either direction;



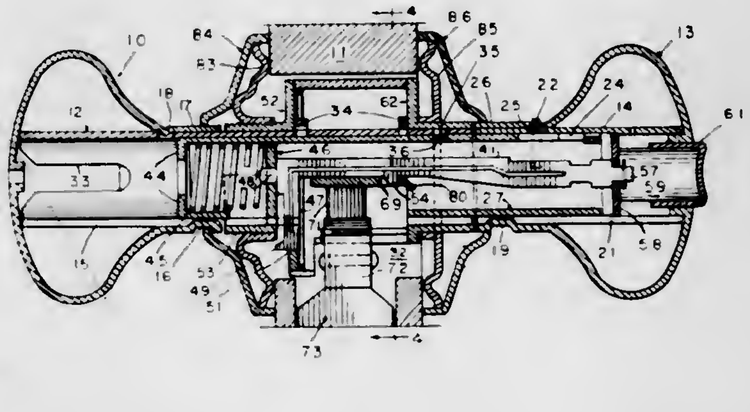
and handle means on said bolts, accessible from the edge of said first door, and manually operable to urge said bolts to a locking position to latch said first door independently of said second door wherein the upper end of said upper bolt extends above the top of said first door and the lower end of said lower bolt extends below the bottom of said first door with the adjacent ends of said upper bolt and said lower bolt defining a keeper-receiving space whereby the keeper of said lock of said second is receivable in said keeper-receiving space for engagement with both said adjacent ends to constrain both said bolts against movement toward one another, and said bolts being movable by said handle means from said locking position to an unlocked position wherein the upper end of said upper bolt is retracted downwardly to clear the top of said first door and wherein the lower end of said lower bolt is retracted upwardly to clear the bottom of said first door.

3,378,291
CLOSURE LATCH
Michael Brian, Utica, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 25, 1966, Ser. No. 545,093
9 Claims. (Cl. 292—68)



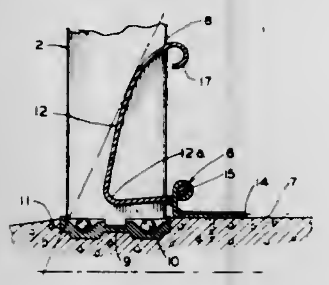
A vehicle rear deck lid is provided with a pull down latch. The latch comprises a rotatable disc upon which an elongated member is eccentrically mounted such that rotation of the disc will reciprocate the member. A latch member is pivotally mounted on the end of the elongated member for movement therewith so as to engage and disengage a striker. A detent member is rotatably mounted on the elongated member and is operative to retain the latching member in latched position and to be automatically or manually operated to release the latch member.

3,378,292
LOCKING MEANS FOR A DOOR LOCK
Carroll V. Spon, Rockford, Ill., assignor to National Lock Co., Rockford, Ill., a corporation of Delaware
Filed Jan. 27, 1965, Ser. No. 428,371
1 Claim. (Cl. 292—169)



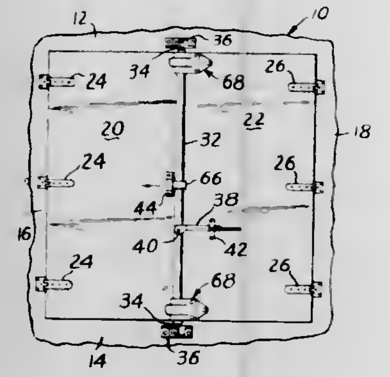
1. In a door lock, including an inner and an outer knob and a latch bolt, a stationary housing mounted in a door, a slotted cam tube having one end journalled in said housing and the outer knob anchored to the other end of the cam tube, a split sleeve upon which is mounted the inner knob, an inner concentric tube projecting through said sleeve and housing and into said cam tube, means for connecting said inner tube to said sleeve whereby said inner knob, sleeve and inner tube rotate together, means for connecting said inner tube to said cam tube for limited relative rotation therebetween, camming means on both said cam tube and said inner tube for retracting said latch bolt, a spring-loaded floating push plate mounted in said housing, said push plate being generally flat and extending substantially diametrically across said housing and adapted to be rocked about either of its opposite edges by rotation of either of said tubes, a spring-loaded and push button-actuated locking bar slidably mounted and longitudinally movable in said inner tube and having a laterally projecting leg with a projection at the end thereof adapted to be projected into and slidable in the slot of said cam tube when said bar is moved to its inner projected position by depressing the push button and in which projected position it engages a part on the stationary housing for retaining said cam tube and its outer knob against rotation, an inclined camming surface at the end of the push plate facing said inner knob, said push plate having a central opening therein adjacent said inclined camming surface, and a tooth formed on said locking bar intermediate the ends thereof projecting toward said push plate and adapted to be received in said opening to retain said locking bar in its inner projected position against release and retraction until said push plate is rocked by rotation of said inner knob and its associated split sleeve and inner tube, said tooth on said locking bar having an inclined cam edge facing the push plate when the locking bar is in unlocked position and adapted to cooperate with and ride over the inclined camming surface and depress the push plate as said locking bar is moved longitudinally over the push plate until said tooth is aligned with and enters the opening in the push plate for interlocking engagement.

3,378,293
BLOCKING ELEMENT FOR SLIDING CLOSURE
Herbert L. Silk, 2716 Lakeport Drive,
Bridgeton, Mo. 63042
Filed Aug. 30, 1966, Ser. No. 576,104
8 Claims. (Cl. 292—202)



A blocking element in the form of an angular hinged leaf pivotable to a position preventing opening of a sliding closure. A second leaf is secured to the angular leaf adjacent the closure and is covered by the angular leaf when it is pivoted to unlatching position.

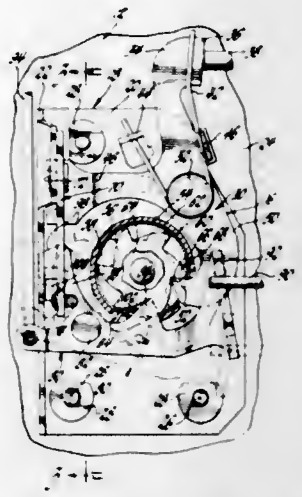
3,378,294
DOOR LOCKING MEANS
Roland J. Olander, La Grange, Ill., assignor to W. H. Miner, Inc., Chicago, Ill., a corporation of Delaware
Filed Nov. 1, 1965, Ser. No. 505,815
9 Claims. (Cl. 292—218)



A cargo container door fastener having a vertically disposed rotatable locking bar mounted on a hinged door in guide members having portions projecting beyond the closing edge of the door, a radially offset arm associated with each guide member for engagement with either the door frame or a second door, and a finger mounted on the bar for engagement with the inner forward surface of a keeper mounted on either the door frame or a second door, the oppositely acting arm and finger serving to align the first door and any second door in a substantially coplanar relationship with the door frame, the keeper having converging upper and lower surfaces to provide for vertical alignment.

3,378,295
CLOSURE LATCH
Sylvester F. Burns, Rochester, and Lester M. Goeman, Grosse Pointe Woods, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 28, 1966, Ser. No. 582,653
4 Claims. (Cl. 292—280)

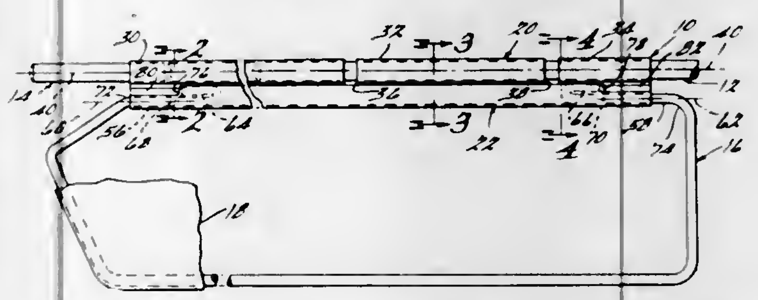
1. A closure latch comprising, in combination, support means, latch means rotatably mounted on the support means and including a plurality of latching abutments, detent means mounted on the support means and having a portion thereof engageable with one of the latching abutments to block rotational movement of the latch means in one direction, outside operating means for releasing the detent means, inside operating means for releasing the detent means, and locking means mounted on the support means for movement between locked and unlocked positions and including a pair of locking portions, one of said portions, when said locking means is in locked position, being engaged with another of the latching abutments of said latching means to block movement of said latching means in said one direction, the other of said locking portions being concurrently engaged with a portion of said inside operating means to block movement of said inside operating means.



3,378,296
VEHICLE BUMPER CUSHION
William P. Crocker, Carroll County, Tenn.
(Rte. 2, Box 53A, Trezevant, Tenn. 38258)
Filed June 21, 1965, Ser. No. 465,639
1 Claim. (Cl. 293—71)

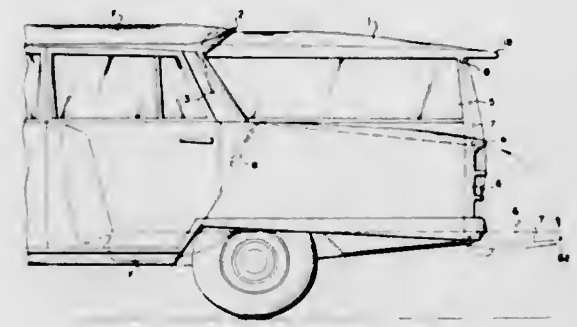
An impact absorber including a cap of hard rubber encasing a plurality of alternating layers of hard rubber and foam rubber, and hook members for securing the cap to the vehicle bumper.

3,378,297
SAFETY VISOR HINGE
Donald J. Ternes, Grosse Pointe Woods, and Ralph E. Ford, Harper Woods, Mich., assignors to Ternes Steel Company, Roseville, Mich., a corporation of Michigan
Filed May 27, 1966, Ser. No. 553,428
9 Claims. (Cl. 296—97)



A visor hinge assembly for automobiles has a hinge member with reversely bent opposite-side portions, one of which receives the hinge rod and the other of which receives and is crimped to form stops for the reversely bent end portions of a wire loop that serves as a frame for the visor material.

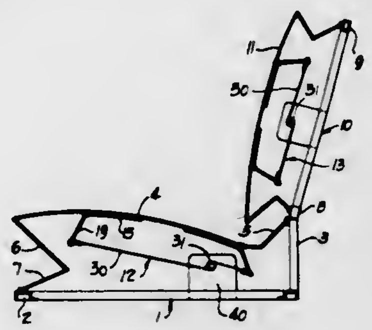
3,378,298
TAIL PORTION OF A MOTOR VEHICLE
Wilhelm Wingen, Munich, Germany, assignor to Georg Fritzmeier KG, Munich, Germany
Filed Feb. 14, 1966, Ser. No. 527,156
Claims priority, application Austria, Feb. 15, 1965, A 1,296/65
2 Claims. (Cl. 296—99)



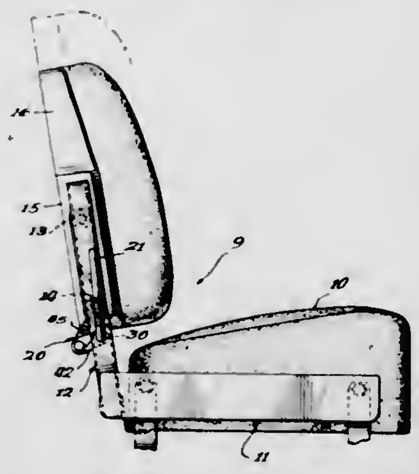
1. The tail portion of a motor vehicle having a roof with a rear edge, the tail portion comprising
- (1) two side walls and a rear wall defining a baggage compartment extending backwardly of the rear edge of the roof to said rear wall, the rear wall having an upper edge,
- (2) a first rear window mounted in the rear wall for upward movement beyond said upper edge,
- (3) a pivotal roof structure for the baggage compartment, said roof structure including
  - (a) a second rear window extending from the rear edge of the motor vehicle roof to the upper edge of the rear wall, and
  - (b) two side windows movable into and out of vertical channels in the baggage compartment.
- (4) a horizontally extending fulcrum axis from the pivotal roof structure, and
- (5) pivoting means for moving the pivotal roof structure about said fulcrum axis into a first position wherein the second rear window of the roof structure extends substantially along the line of the motor vehicle roof and the side windows of the roof structure extend upwardly from the side walls, and a second position wherein the second rear window extends downwardly from the rear edge of the motor vehicle roof to the upper edge of the rear wall and the side windows extend into said vertical channels.

3,378,299
AUTOMOBILE SEATING CONSTRUCTION
William C. Sandor, 8294 Chagrin Mill Road, Novelty, Ohio 44072
Filed July 5, 1966, Ser. No. 562,762
7 Claims. (Cl. 297—284)

This invention is directed primarily to automotive seat construction and incorporates therein means to adjust the seat portion of said automotive seat construction to support or change the support thereof for varying conditions and in accordance with the weight of the person seated thereon, or to make the seat less resilient relatively as the occasion may demand with adjustable means readily at hand to effect said adjustment. In addition, the invention contemplates the provision of a combination seat structure in which the back is of substantially the same construction as the seat and is likewise adapted to have the tension thereon changed in such a manner as to vary the support provided thereby, suitable instrumentalities being available to effect the adjustment readily to make the same stiffer in the same manner comparable to that of the seat, both being independently preferably arranged.



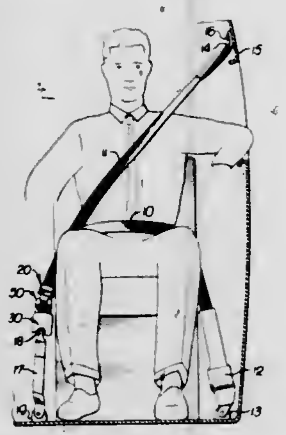
3,378,300
VERTICALLY ADJUSTABLE SEAT BACK ASSEMBLY
Robert W. Costin, Clawson, Mich., assignor to Coach and Car Equipment Corporation, Elk Grove Village, Ill., a corporation of Illinois
Filed Dec. 7, 1966, Ser. No. 599,771
11 Claims. (Cl. 297—357)



A seat back is vertically movable relative to a seat cushion. Rollers on the back ride on vertical guide members. An extendable-retractable linkage is operated by a handle to move the seat back. A pair of pivotally connected links pivot in respective opposite senses during extension and retraction of the linkage. Stops engage the links to limit pivotal movement. When the links are extended, the seat back is in its upper position. The weight of the seat back urges an extended link against an upper stop to prevent retraction of the linkage.

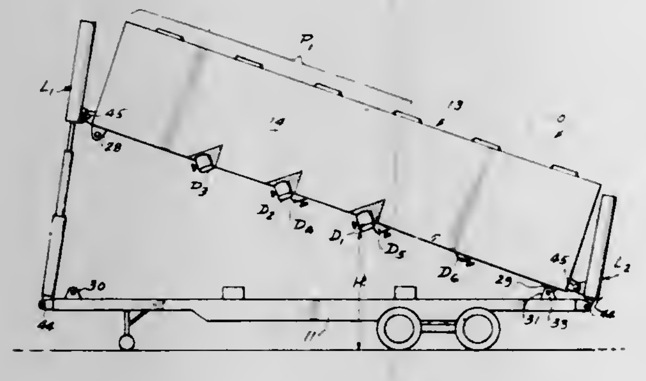
3,378,301
SHOULDER STRAP-LAP BELT BUCKLE CONNECTOR
Louis Romanzi, Jr., Detroit, and Jeffery Van Dorn, Southfield, Mich., assignors to American Safety Equipment Corporation, New York, N.Y., a corporation of New York
Filed Mar. 6, 1967, Ser. No. 620,721
9 Claims. (Cl. 297—389)

A connector device for releasably connecting an end of a shoulder harness strap directly to a buckling means provided in a lap-type safety belt employed in moving vehicles to transmit loading on the shoulder strap directly to the buckling means and its associated floor anchorage. A connector pin mounted on and extending laterally of a plate-like extension on a shoulder strap end fitting is releasably pivoted or journaled over an approximately 180 degree abutment surface formed integrally in an extension of the associated buckling means main frame member when assembled thereto and a spring means with an associated cover is positioned at the abutment surface with a split-ring spring body into which the pin is assembled and by which the pin is biased against removal from the buckling means main frame.



3,378,302
VEHICLE FOR THE TRANSPORT OF BULK MATERIAL

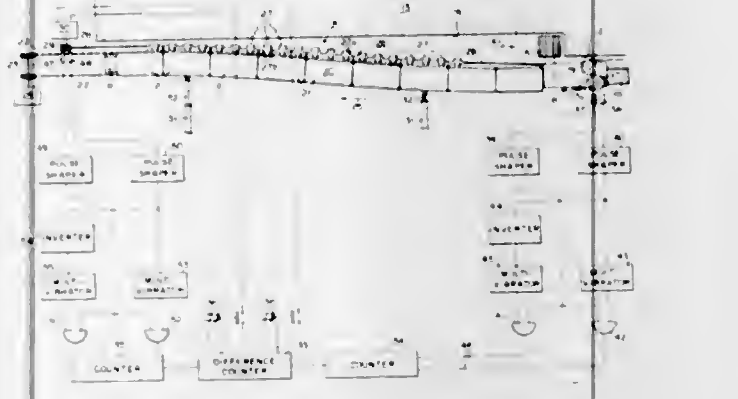
Marcus Hendrik Doeglas, Amsterdam, and Johannes Cornelis Heijdra, Rozenburg, Netherlands, assignors to Koninklijke Zwavelzuurfabrieken Voorheen Ketjen N.V., Amsterdam, Netherlands, a limited-liability company of Netherlands
Filed Aug. 18, 1966, Ser. No. 573,242
Claims priority, application Netherlands, Aug. 20, 1965, 65—10,904
8 Claims. (Cl. 298—8)



1. A vehicle for the transport of bulk material comprising an elongated, rigid wheeled chassis, an elongated body on said chassis having partition means extending laterally across the body intermediate its ends to divide the body into first and second portions defining compartments for containing the bulk material to be transported, said partition means being at an angle with respect to a perpendicular to the sides of said body so as to enclose, with said sides of the body, an acutely angled corner at one side of each of said body portions, each of said portions having discharge means opening from adjacent the bottom thereof at least in said acutely angled corner of the respective body portion for discharging bulk material from the respective compartments, means pivotally mounting said portions of the body for selective tilting relative to said chassis about first and second laterally extending axes, said first and second axes being spaced from said partition means in directions along said chassis toward the ends of the latter remote from said first and second body portions, respectively, a first lifting device connected between said chassis and said first body portion at a location on the latter spaced from said partition means and being operable to swing at least said first body portion upwardly about said first axis so that said first body portion is bodily raised from said chassis and tilted downwardly toward said discharge means of the first body portion adjacent said partition means, a second lifting device connected between said chassis and said second body portion at a location on the latter spaced from said partition means and being operable to swing at least said second body portion upwardly about said second axis so that said second body portion is bodily raised from said chassis and tilted downwardly toward said discharge means of the second body portion adjacent said partition means, and actuating means to selectively operate said first and second lifting devices individually.

3,378,303
METHOD AND APPARATUS FOR CONTROLLING LOADING MACHINES IN UNDERGROUND MINING

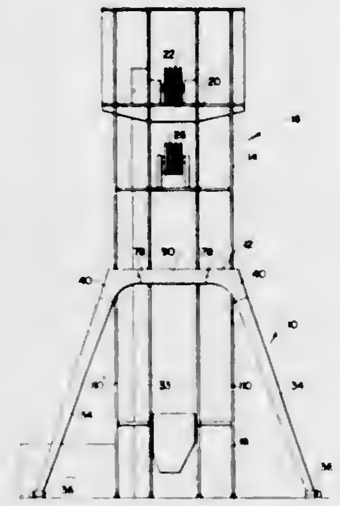
Karl-Heinz Weber, Witten-Heven, Germany, assignor to Gebr. Eickhoff Maschinenfabrik und Eisengiesserei m.b.H., Bochum, Germany, a corporation of Germany
Filed July 7, 1966, Ser. No. 563,470
Claims priority, application Germany, July 7, 1965, E 29,663
7 Claims. (Cl. 299—1)



1. Method for controlling the operation of a loading machine for receiving mineral mined by a mining machine that advances in front of the loading machine along a mineral seam and delivering the mined mineral to a conveyor the sections of which following the advancing mining machine are pushed gradually and sequentially toward a seam face exposed by the mining machine, the loading machine being disposed between the exposed seam face and the conveyor and being driven by drive means to carry out a to and fro motion along said conveyor, said method comprising the steps of producing a first quantity by means of a first position indicating means responsive to the motion of the loading machine along the conveyor, producing a second quantity by means of a second position indicating means responsive to the motion of the mining machine along the mineral seam, producing a first control signal when the difference between said first and second quantities coincides with a first reference quantity that corresponds to a predetermined maximum distance between said mining and loading machines, producing a second control signal when the difference between said first and second quantities coincides with a second reference quantity that corresponds to a predetermined minimum distance between said mining and loading machines, and changing the operating conditions of said drive means in response to said first and second control signals respectively for limiting the motion of said loading machine between said predetermined maximum and minimum distances.

3,378,304
SPREAD-FOOTED THREE-DIMENSIONAL HEADFRAME AND METHOD OF ERECTING SAME

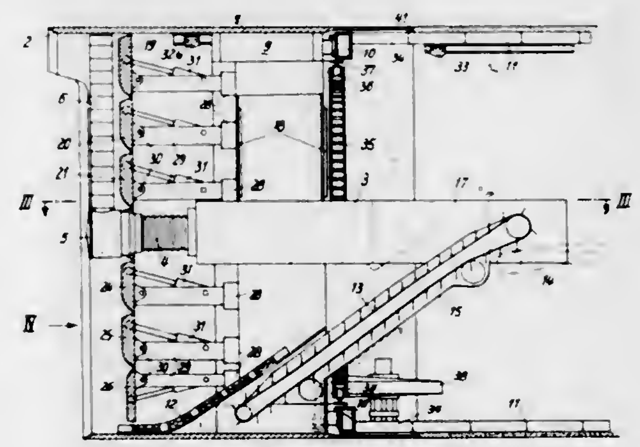
Leo Borasio, Denver, Svend A. Ronlov, Englewood, and Chester C. Jancewicz, Lakewood, Colo., assignors to The Stearns-Roger Corporation, Denver, Colo., a corporation of Colorado
Filed May 23, 1966, Ser. No. 552,020
14 Claims. (Cl. 299—18)



9. The improved method for sinking a vertical mine shaft and erecting a headframe thereupon adapted to house a skip-hoist which comprises the steps of: erecting an elevated horizontal platform over the site of the mine shaft supported upon downwardly and outwardly divergent legs, erecting the upper portion of the headframe atop the elevated platform while simultaneously sinking the shaft therebeneath, and erecting the lower portion of the headframe underneath the platform following completion of the mine shaft.

3,378,305
SHIELD DRIVING MACHINE FOR DRIVING TUNNELS AND GALLERIES

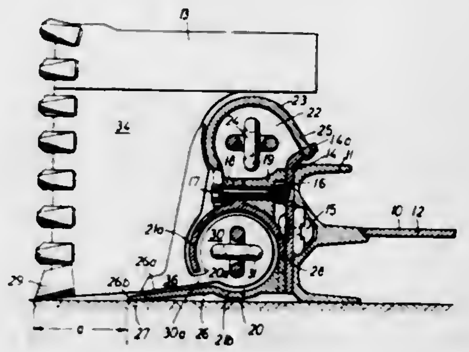
Ernst Geldmacher, Rheinhausen, Karl Heinz Kenn, Homburg, Werner Popp, Essen-Bredeney, and Josef Rusel, Bottrop, Germany, assignors to Beteiligungs- und Patentverwaltungsgesellschaft mit beschrankter Haftung, Essen, Germany
Filed Feb. 28, 1966, Ser. No. 530,298
Claims priority, application Germany, Feb. 27, 1965, B 80,747
7 Claims. (Cl. 299—33)



The present invention relates to a shield driving machine for driving tunnels and galleries, which is equipped with rotatable tools for digging the working.

3,378,306
PLANER, CONVEYOR AND/OR GUIDE ARRANGEMENT FOR EXTRACTING MINERAL

Armin Löbbe, Oberaden, Post Kamen, Germany, assignor to Gewerkschaft Eisenhutte Westfalia, Wethmar, near Lunen, Westphalia, Germany, a corporation of Germany
Continuation of application Ser. No. 252,528, Jan. 18, 1963. This application Oct. 11, 1966, Ser. No. 585,989
Claims priority, application Germany, Jan. 19, 1962, G 34,060
12 Claims. (Cl. 299—34)



Mining planer arrangement including planer support having lower guide track for continuous unyielding abutment with the mine face at the mine floor and planer slidably mounted on the track outwardly overlapping said track such that track extends partially under planer while outermost edge of planer extends a given distance beyond said track toward the mine face and carries cutting edge means extending outwardly therefrom, whereby the distance the track extends under the planer limits the depth of cut of the planer into the mine face, said support optionally including superimposed lower forward and upper return channels for a traction cable to drive the planer whereby such channels serve as additional slide surfaces for the planer which prevent rearward planer displacement.

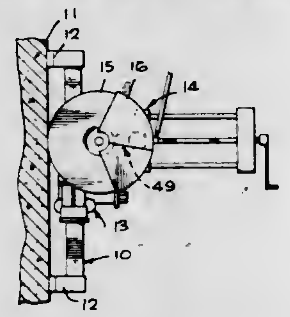
Mining conveyor including a pair of side walls interconnected by a central plate, having a guide wall at the side wall adjacent the mine face which extends rearwardly and upwardly away from the mine face to a level substantially above such side wall and terminates in an upper crest, said guide wall preferably including a lower edge portion extending forwardly and downwardly to the mine floor for anchoring unyieldingly at the intersection of the mine face and mine floor, and optionally including superimposed channels as mentioned above as part of the guide wall.

Mining planer including a base slidable in longitudinal direction along a support surface having mine face engaging cutting means shiftable limitedly linearly between a lower operative and higher inoperative position on the base along an essentially straight line in the longitudinal direction yet inclined with respect to the support surface, whereby planer movement in one direction will cause shifting of the cutting means to the lower position in operative contact with the support surface and in the other direction will cause shifting thereof to the upper position out of such operative contact.

3,378,307
CIRCULAR SAW FOR CUTTING CONCRETE SURFACES

Edward J. Dempsey and Kenyon C. Barnes, Hawthorne, Calif., assignors to Concrete Cutting Equipment Co. Inc., Hawthorne, Calif., a corporation of California
Filed July 22, 1965, Ser. No. 474,127
1 Claim. (Cl. 299—75)

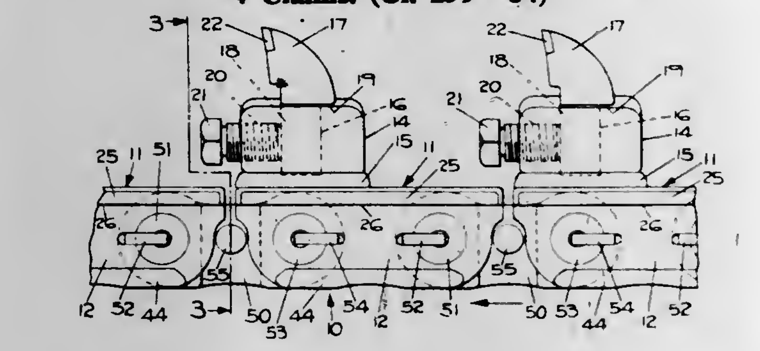
A rectangular rail spans a pair of stanchions which are firmly secured to a concrete surface to be cut. Movably mounted to the rail is a truck, which carries a circular saw movable toward and away from the concrete surface. The rail is provided with rack teeth which mesh with a drive gear mounted in the truck. The drive gear is rotated



by a pinion which is in turn meshed with a worm. The worm is turned to move the truck back and forth along the rail and also to lock it in place against unwanted displacement.

3,378,308
MINING MACHINE CUTTING CHAIN

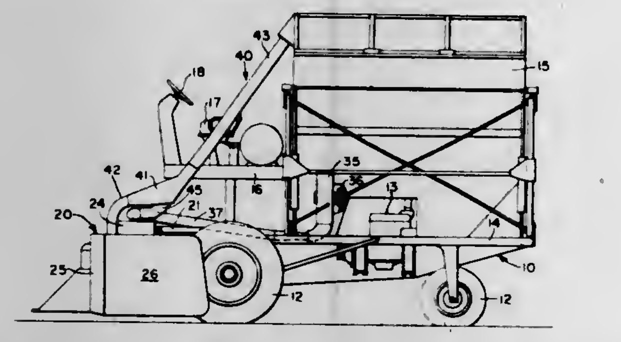
John E. Bennett, Columbus, and Warren G. Montgomery, Worthington, Ohio, assignors to Jeffrey Galion Manufacturing Company, a corporation of Ohio
Filed Feb. 9, 1966, Ser. No. 526,141
4 Claims. (Cl. 299—84)



A mining machine cutting chain with cutter links and articulated means to connect the cutter links in succession. There is a cutting bit holder on each cutter link and the cutting bit is secured in the cutting bit holder. The cutting chain travels on a supporting and guiding rail. There is a longitudinal bearing wing on the cutter link with a downwardly facing bearing surface that bears on the supporting and guiding rail.

3,378,309
COTTON HARVESTER

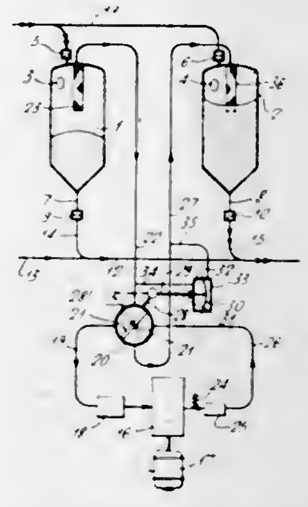
Russell Dean Copley, Ankeny, and Gail Russell Sutherland, Des Moines, Iowa, assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Aug. 29, 1966, Ser. No. 575,650
3 Claims. (Cl. 302—17)



1. A cotton conveying system for moving cotton to a material container from a cotton harvester in which harvested cotton is discharged laterally outwardly through an upright side opening of a harvester housing comprising: an outboard casing with front and rear compartments separated by an upright panel spaced from the floor of the casing to define a passage between the compartments, and one of the compartments being inwardly opening to receive the harvested cotton bolls through the upright side opening and the other compartment having an upwardly opening outlet means, a blower on the harvester, conduit means in a by-passing relation to the blower having an inlet end in communication with the outlet and a discharge end in communication with the material container, and a blower outlet juncture connected to and in communication with the conduit means above the casing and between the inlet end and discharge end and for directing air toward the discharge end.

3,378,310
GRAIN CONVEYOR

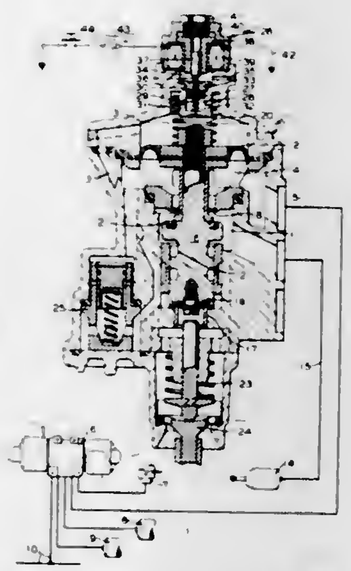
Hans Christensen, Visse, near Gug, Denmark, assignor to J. Morch & Sonner A/S, Sonder Tranders, Denmark
Filed Jan. 24, 1966, Ser. No. 522,799
Claims priority, application Denmark, Feb. 23, 1965, 93,065/65
6 Claims. (Cl. 302—17)



A closed circuit pneumatic grain conveyor system for continuously conveying granular material comprising two vessels, one connected as a pressure vessel and the other as a vacuum vessel, means for switching the function of both vessels simultaneously, and an air displacement means centrally disposed within said closed system.

3,378,311
BRAKE CYLINDER RELEASE VALVE

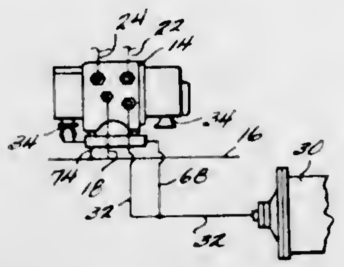
Carl D. Wright, Jr., Pittsburgh, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Sept. 29, 1965, Ser. No. 491,112
8 Claims. (Cl. 303—69)



A brake cylinder release valve adapted for optional manual operation or electrically controlled operation to vent pressure from a brake cylinder during a brake application without concurrently reducing the pressure in the supply reservoir. A solenoid operated valve vents the pressure balancing chamber of the lock-up piston of a conventional type brake cylinder release valve to effect actuation of the release valve to brake cylinder releasing position.

3,378,312
AIR BLEEDER DEVICE

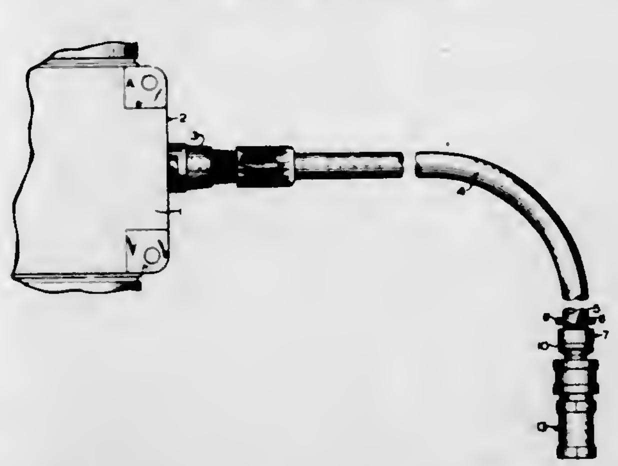
John Greene, Jr., Birmingham, Ala., assignor of fifty percent to Gregory S. Prince
Filed Mar. 5, 1965, Ser. No. 437,438
7 Claims. (Cl. 303—70)



An apparatus for operating the vent valve associated with a reservoir and multiple brake valve on a railway car. A piston of a piston and cylinder means is connected to operate the vent valve to release pressure from the reservoir. The piston is biased to a predetermined degree to an inoperative position as long as a normal brake pressure is used in the brake system. The piston is responsive to the pressure in the brake cylinder and will operate the vent valve when the pressure in the brake system is increased above normal and an emergency brake application made.

3,378,313
METHOD AND MEANS OF BRAKE CONTROL DURING CYCLING OPERATION EMPLOYING PORTABLE BRAKE CYLINDER PRESSURE RETAINING DEVICES

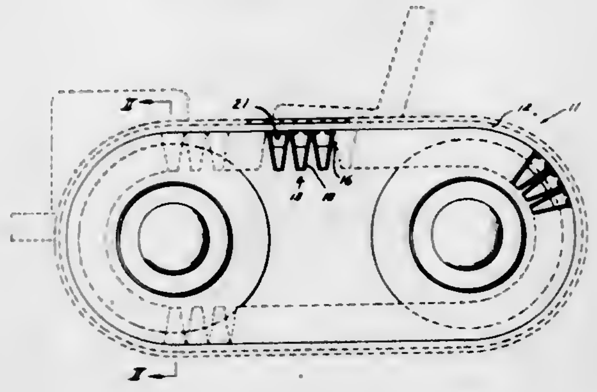
Fred Temple, Pittsburgh, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Nov. 30, 1965, Ser. No. 510,624
7 Claims. (Cl. 303—75)



A method and means of brake control during cycling operation of railway brakes whereby portable retaining valve devices which are preset for retaining the desired degree of brake cylinder pressure during such cycling operation and which are each provided with snap-on type latching means, may be rapidly installed on or removed from the end of a conduit extending from the release port of the brake control valve to an accessible location on the side of each car, by a crewman as the train slowly moves by a convenient point along the right-of-way.

3,378,314
ENDLESS BELT TREAD ASSEMBLY

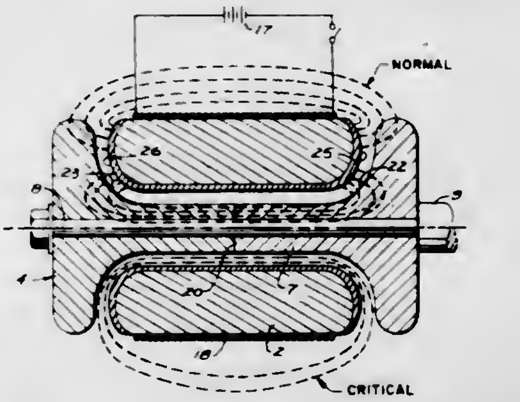
Jack V. Knowles, East Lansing, Mich., assignor to Globe Trotter Corporation, East Lansing, Mich., a corporation of Michigan
Filed May 27, 1966, Ser. No. 553,419
10 Claims. (Cl. 305—13)



An endless belt tread assembly consisting of a flexible endless belt provided with a plurality of elongate hollow wheel cleats transversely positioned on the inner surface thereof. The wheel cleats are open at each end towards and proximate to the sides of the flexible belt. Each of the wheel cleats is further configured to define a central depressed wheel engaging trough portion therein which is in open communication with the open ends of the wheel cleat through a connecting passage defined by the hollow wheel cleat.

3,378,315
HYBRID LUBRICATION SYSTEM AND BEARING

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Leonard S. Sauer, La Canada, Calif.
Filed June 17, 1965, Ser. No. 464,885
12 Claims. (Cl. 308—10)

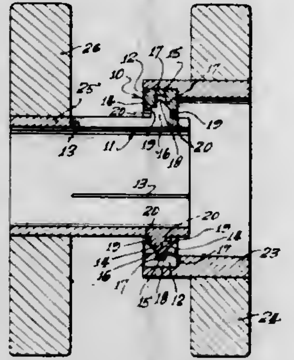


1. A hybrid lubrication system and bearing comprising:
(a) a first member consisting of a substantially thick-walled journal;
(b) a second member consisting of a spool-like spindle rotatably disposed within said first member;
(c) magnetic means capable of producing a toroidal magnetic flux field within said first member, disposed adjacent said bearing;
(d) said first and said second members including materials capable of becoming superconducting, said materials being disposed on said members in a manner so as to trap said flux field between the adjacent surfaces thereof when said materials become critical thus suspending said second member within said first member; and
(e) said second member being disposed within said first member in a manner so as to be adaptable to conventional lubrication methods.

3,378,316

WEAR-COMPENSATING BEARING

William Hotine, Idyllwild, Calif., assignor to General Dynamics Corporation (Pomona Division), Pomona, Calif., a corporation of Delaware
Filed May 28, 1965, Ser. No. 459,783
12 Claims. (Cl. 308—26)

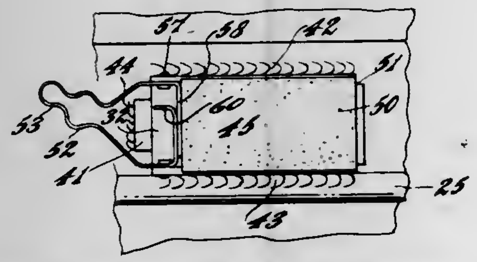


Broadly, this disclosure is directed to a non-lubricated, wear-compensating bearing adapted for use in difficult environments. More particularly the bearing comprises an outer race having a generally V-shaped groove or channel, which is adapted to cooperate with a complementary shaped surface on the inner race. The outer race is made of a rough surfaced metal having a layer of antifriction plastic such as Teflon deposited on the rough retaining area of the surface. The inner race is made of a spring material and, in the embodiment illustrated, is generally tubular in form, having thereon an annular flange of generally V-shaped configuration for cooperation with the V-shaped groove of the outer race. The bearing is preloaded by providing the inner race with axially extending slots so as to facilitate radial spring loading of the inner race into the outer race.

3,378,317

JOURNAL STOP

Franklin G. Fisher, Wyomissing, and Luther L. Bollinger, Sr., Reading, Pa., assignors to Reading Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Mar. 2, 1966, Ser. No. 531,105
3 Claims. (Cl. 308—40)



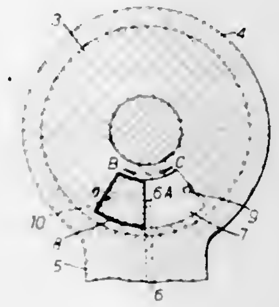
The present invention relates to a journal centering guide which is especially adapted for use in those journal boxes which have a waste retaining rib. Projections are made for easier welding of the journal centering guide to the journal box and also for flaring of the journal centering guide to compensate for the more restricted vertical positioning due to the presence of the waste retaining rib.

3,378,318

LUBRICATION OF PLAIN OSCILLATING BEARINGS

Syed Omar Zikria Mubarak Rafique, Pinner, and Joseph Dudley Shuldham de Guerin, Whitton, England, assignors to The Glacier Metal Company Limited, Wembley, England, a company of Great Britain
Filed Nov. 19, 1965, Ser. No. 508,782
Claims priority, application Great Britain, Nov. 20, 1964, 47,426/64
13 Claims. (Cl. 308—78)

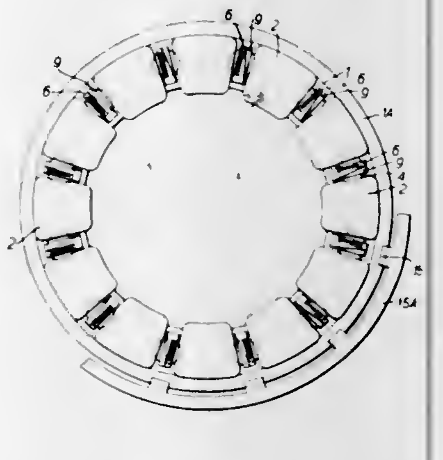
A bearing assembly connecting relatively oscillating parts in which one part is formed with an arcuate recess across which extends a projection constituting a displacement member carried by the other part to provide an oscillating vane type pump delivering oil to the bearing surfaces.



3,378,319

THRUST BEARING ASSEMBLIES

Edward John Cutting, Shepperton, Middlesex, and Leslie George Barley, Hayes End, Middlesex, England, assignors to The Glacier Metal Company Limited, Wembley, England, a British company
Filed Sept. 7, 1965, Ser. No. 485,492
Claims priority, application Great Britain, Sept. 10, 1964, 37,103/64
9 Claims. (Cl. 308—160)



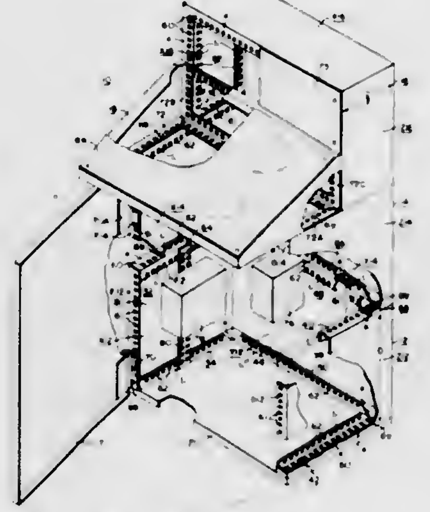
A tilting pad type thrust bearing in which the pads are spaced from one another on the carrier ring and wherein there is secured to the carrier ring in the space between each pair of pads a lubricant delivery device having at least one lubricant ejection aperture spaced from the leading edge of the appropriate adjacent pad and arranged to direct lubricant towards substantially the whole of the length of that leading edge.

3,378,320

MODULAR CONSTRUCTED ENCLOSURE FOR MOUNTING EQUIPMENT THEREIN

Stanley E. Morgan, Williamsville, and Norman L. Kingsley, Cheektowaga, N.Y., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 24, 1964, Ser. No. 384,912
17 Claims. (Cl. 312—108)

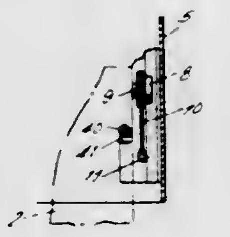
1. In an enclosure for mounting equipment therein, a first structural member having a main plate section defining at least a portion of a side of said enclosure, said plate section having at different borders thereof inwardly facing channel-shaped edges each comprising a flange extending from the plate section at an angle thereto and a reentrant lip extending from the flange at an angle thereto, whereby said plate section and said lip form opposite sides of said channel shape and said flange forms the bottom of said channel shape, said flange having a plurality of apertures spaced along the length thereof, said lip having a plurality of apertures spaced along the length thereof, whereby equipment may be secured to said lip, and at least one other structural member having at least one surface in connecting engagement with the flange of at least one of said channel edges, said surface having apertures in alignment with apertures of said flange connected to said surface.



3,378,321

FILING CABINETS

Martin B. Frederick, New York, and David Sobel, Oceanside, N.Y., assignors to Supreme Steel Equipment Corp., a corporation of New York
Filed Mar. 31, 1966, Ser. No. 539,103
4 Claims. (Cl. 312—215)



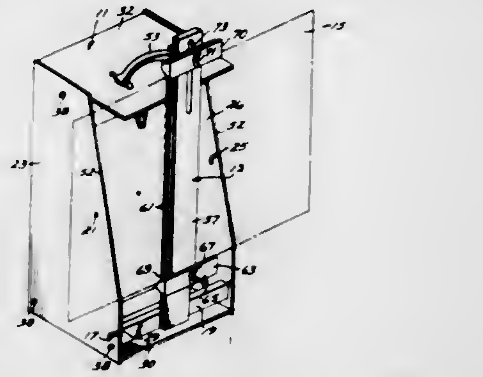
1. A filing cabinet having therein a plurality of superposed slidably mounted trays, a guide member at the rear wall of each tray, a longitudinal bar on the inside of the rear wall of said cabinet, a plurality of spaced guide elements on said bar, said elements being at points intermediate said members, a cable having one end fixed on one end of said cabinet, said cable being threaded successively over said members and elements in zigzag arrangement, the other end of said cable being anchored on said cabinet, the length of said cable being sufficient to allow only one of said trays to be extended out of said cabinet at a time.

3,378,322

ARTIST'S KIT AND EASEL SUPPORT

Richard V. Johnson, 440 W. San Antonio Drive, Long Beach, Calif. 90807
Filed Nov. 14, 1966, Ser. No. 594,225
4 Claims. (Cl. 312—231)

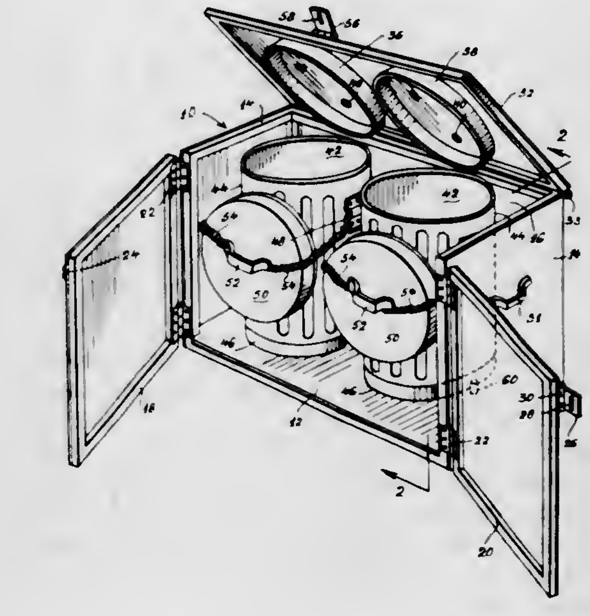
An artist's kit including an easel which can be detachably mounted on a box either in a painting position or in a carrying position. The box includes a cover underlying the easel in its carrying position, and pivotable to an inclined position for engagement of its free end with the upper extremity of the easel to prop the easel in its painting position.



3,378,323

GARBAGE CAN CLOSER

Isidor Goldberg, 147—28 84th Road, Jamaica, N.Y. 11435
Filed Aug. 31, 1966, Ser. No. 576,431
3 Claims. (Cl. 312—270)



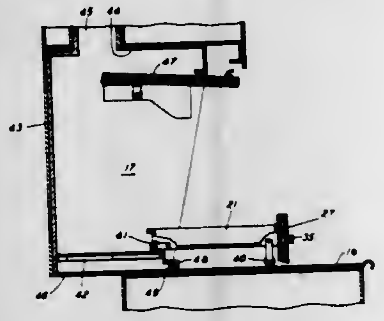
A walled enclosure with a bottom wherein the front wall is openable for the insertion of uncovered garbage cans and the top wall or lid is openable for the deposit of garbage in the cans. The top wall or lid is hingedly mounted and carries can covers opening downwardly for sealing the uncovered cans, means being provided for guiding the cans to proper sealing position. The individual covers that are normally used with the cans are secured at the sides thereof to the handles of the cans by spring means.

3,378,324

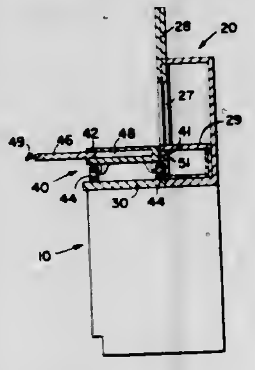
KITCHEN-UTILITY UNITS

Guyon L. C. Earle, 116 E. 63rd St., New York, N.Y. 10021
Filed Mar. 20, 1967, Ser. No. 624,518
10 Claims. (Cl. 312—278)

The principal embodiment is a kitchen-utility unit of the L-shaped type having a table-top member over a lower portion and in front of an intermediate portion and employing one or more pull-out units having rollers which ride out over the table-top member and are at least partially supported therefrom. Additional support can be provided from other parts of the intermediate portion. The table-top member can have a turned-up member which is located closely adjacent to and behind the rollers in their most rearward position.

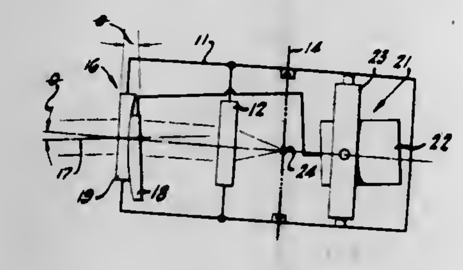


3,378,325
KITCHEN CABINET CONSTRUCTION
Raymond E. Mayer, 4634 Tolbut St., Philadelphia, Pa. 19136
Filed Nov. 22, 1966, Ser. No. 596,205
9 Claims. (Cl. 312—349)



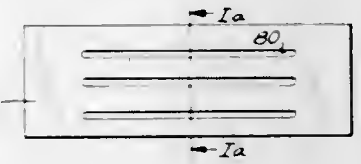
The disclosure relates to a kitchen cabinet construction in which there is provided a cart-like tray or caddy cooperative with a track provided adjacent to the kitchen countertop. The caddy is movable across the countertop and serves as a working area and for transporting kitchen articles between various areas of the kitchen. The cabinets are constructed with an upper row of cabinets extending upwardly from the countertop and set back from a lower row of cabinets beneath the countertop.

3,378,326
GYROSCOPICALLY CONTROLLED ACCIDENTAL MOTION COMPENSATOR FOR OPTICAL INSTRUMENTS
Luis W. Alvarez, Berkeley, Calif., assignor, by mesne assignments, to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Sept. 12, 1963, Ser. No. 308,486
9 Claims. (Cl. 350—16)



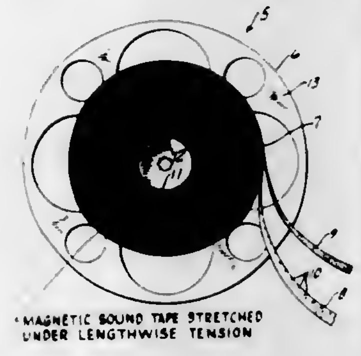
1. An accidental-motion compensator for an optical instrument having a housing with an optical system therein comprising at least one doublet lens including primary and secondary lens elements in rotatable-mating relation to each other, means mounting the primary lens element of each doublet lens in fixed relation to said housing in alignment with an optic axis of said optical system, and a free gyroscope disposed within said housing in connection with the secondary lens element of each doublet lens and together therewith balanced about two mutually perpendicular pivot axes intersecting said optic axis for maintaining the secondary lens element of each doublet lens in fixed angular orientation with respect to an original line-of-sight of said optical system despite accidental motion of said housing.

3,378,327
ELECTRICALLY CONDUCTIVE OPTICAL ELEMENT
Solomon Zaromb, 376 Monroe St., Passaic, N.J. 07055
Continuation-in-part of application Ser. No. 305,161, Aug. 28, 1963. This application Mar. 30, 1966, Ser. No. 538,793
4 Claims. (Cl. 350—319)



An optical element comprises a transparent electrically conductive coating on a light permeable substrate, said coating being broken up by one or more non-conductive longitudinal openings which are rendered inconspicuous by obturation with a transparent material of low electrical conductivity directly contacting said substrate and having substantially the same refractive index as the conductive coating. The obturating and the conductive coating materials may be two differently doped forms of tin oxide. The obturating low conductivity material may be either in the form of a continuous layer beneath the conductive coating or may merely fill the openings in the conductive coating.

3,378,328
METHOD AND MEANS FOR EXHIBITING SEPARATE AUDIO-VISUAL RECORDS IN SYNCHRONISM
Thomas G. Custin, Rte. 3, Doyle Road, Baldwinsville, N.Y. 13027
Original application Dec. 27, 1961, Ser. No. 162,419, now Patent No. 3,240,329, dated Mar. 15, 1966. Divided and this application Sept. 8, 1965, Ser. No. 485,889
7 Claims. (Cl. 352—31)



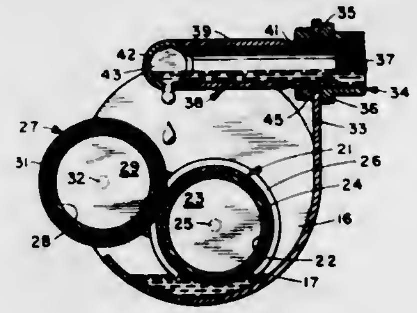
1. In combination with sound motion picture apparatus of the type comprising a transducer head for magnetic tape sound recordings and film guiding and advancing means for moving motion picture film along a defined path from a supply reel, through means for intermittently moving the film past a lens, and onto a takeup reel:

(A) tape drive means synchronized with the film advancing means for constraining magnetic tape to move along a defined path from the supply reel through the transducer head and to the takeup reel at the same linear speed at which film moves from the intermittent motion means to the takeup reel;

(B) tape draw-off guide means defining a path for magnetic tape interwound on the supply reel with film, along which path tape moves, separately from film, from the supply reel through the transducer head and to the tape drive means, the path defined by said tape draw-off guide means being outwardly relative to the supply reel from the path followed by film leaving the supply reel; and

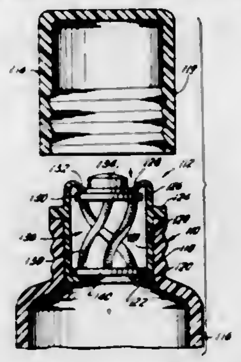
(C) tape windup guide means defining a path along which tape moves from the tape drive means to the takeup reel and which path lies outwardly relative to the takeup reel from the path of film being wound thereonto, so that the tape can be interwound with film on the takeup reel, and as a result of being wound outermost be tensioned lengthwise to a greater extent than the film.

3,378,329
CONTINUOUSLY SUPPLIED PAINT APPLICATOR
Nandor Lazar, 1210 Stockley Gardens, Norfolk, Va. 23517
Filed June 16, 1966, Ser. No. 558,036
1 Claim. (Cl. 401—218)



A paint applicator including an elongated, upwardly open container carrying a hard paint transfer roller having a circumferential ring element adjacent each end thereof rotatably secured between the container end walls and extending deeply thereinto; and a soft paint applicator roller in light, linear tangential contact with the paint transfer roller except in the vicinity of the ring elements. The paint applicator roller extends beyond one side of the container and a tubular handle extends beyond the other side thereof. Paint flows into the applicator through the handle and a distribution element interconnected therewith to drip upon the rollers at about their line of contact.

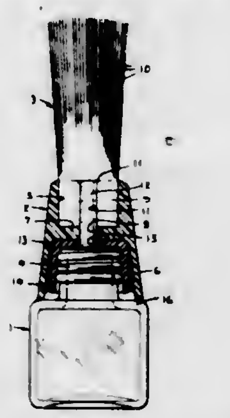
3,378,330
FLUID DISPENSER
Gilbert Schwartzman, 20 Wilmot Circle, Scarsdale, N.Y. 10583
Filed June 28, 1965, Ser. No. 467,774
6 Claims. (Cl. 401—260)



An applicator comprising a fluid container having a neck. A retaining ring which has a projecting portion is fitted in the neck. The retaining ring includes an arcuate inwardly turned re-entrant resilient free edge forming a valve seat. A stepped valve member is provided and is movable with respect to the valve seat to control fluid flow through the retaining ring. The re-entrant free edge engages the sides and upper surfaces of the stepped valve member to successively form an initial seal and a secondary seal.

3,378,331
SHAVING BRUSH DEVICE
Weldon A. Beasley, Gary, Ind., assignor to Miracle Products, Incorporated, Gary, Ind., a corporation of Indiana
Filed Oct. 19, 1965, Ser. No. 497,733
1 Claim. (Cl. 401—286)

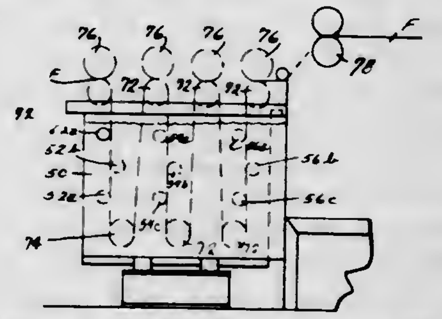
The invention is directed primarily to a unique mode of securing a brush head and an internally threaded cup in end sockets of a body by means of a tubular element having upset ends and the use of a mass of cement surrounding the cup whereby to additionally assist in securing the cup in place.



CHEMICAL

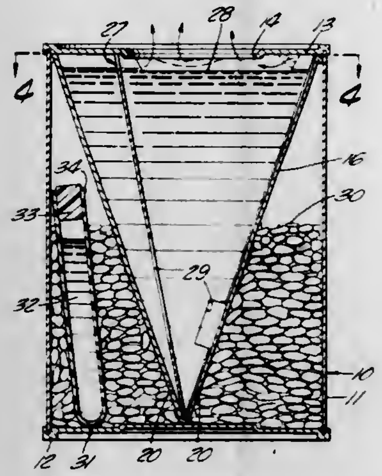
3,378,332
CONTINUOUSLY PASSING A FABRIC THROUGH A SCOURING BATH IN A PATH ADJACENT TO A SERIES OF PRESSURE STREAMS OF SCOURING LIQUID
Atlas Joseph Perry, Altavista, Va., assignor to Klopman Mills, Inc., Asheboro, N.C., a corporation of Delaware
Filed Dec. 23, 1963, Ser. No. 332,586
5 Claims. (Cl. 8—139)

There is provided a continuous process for treating a textile fabric whereby the fabric is efficiently washed and accomplishes removal of soil which is disposed within the fabric. The fabric is accumulated in a series of vertical, essentially wrinkle-free folds after which it is scoured by forcing scouring liquid alternately back and forth through the fabric by passing the fabric in a serpentine fashion adjacent to a series of pressure streams of scouring liquid.



3,378,333
WATER ACTIVATED VAPORIZER

Alan D. Brite, 5147 W. Jefferson Blvd., Los Angeles, Calif. 90016
Continuation-in-part of application Ser. No. 441,659, Mar. 22, 1965. This application Aug. 10, 1966, Ser. No. 571,499
12 Claims. (Cl. 21—110)



A self-contained and disposable article for producing steam and vapor of a desired vaporizable material, wherein alkaline earth oxide is provided in a container to which water is added for producing an exothermic reaction to produce the steam and vapor, and wherein the vaporizable material may be incompatible with the alkaline earth oxide. The vaporizable material is contained in a capsule which is impervious to the alkaline earth oxide and the vaporizable material, but serves to release the vaporizable material upon occurrence of the exothermic reaction.

3,378,334
OXIDATION OF WASTE GASES IN THE PRESENCE OF MIXED CATALYSTS

Herman S. Bloch, Skokie, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 75,666, Dec. 14, 1960. This application May 21, 1964, Ser. No. 369,279
5 Claims. (Cl. 23—2)

Catalytic oxidation of combustible gases by contacting said gases, in admixture with O_2, with a fixed bed of spherical platinum catalyst particles, about 8–30% of the particles being of high Pt content (up to about 5% Pt) and the remainder being of lower Pt content, the high platinum particles being uniformly distributed throughout the volume of the catalyst bed and the overall Pt content of the catalyst bed being about 0.05–0.2% by weight.

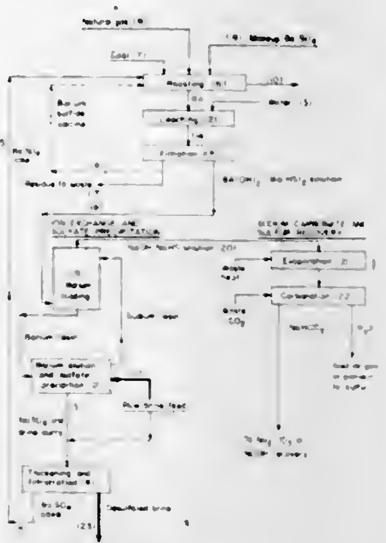
3,378,335
PREPARATION OF MIXED METAL OXIDES BY THERMAL DECOMPOSITION OF METAL SALTS

John David Ellis, Chalfont St. Giles, and Arthur Maxwell Nicholls, London, England, assignors to The Government of Israel as represented by the Director-General, the Director of Finance Division and the Accountant of the Ministry of Development
No Drawing. Filed Feb. 26, 1964, Ser. No. 347,375
6 Claims. (Cl. 23—51)

The present invention is a process for producing a magnetic metal oxide compound by disintegrating droplets of a feed solution containing at least two metal cations capable of forming a mixed oxide compound and at least one anion which with the metal cations constitute salts capable of thermal decomposition in a water vapor containing atmosphere. The decomposition results in the formation of the respective metal oxides. The droplets fall through a reaction vessel moving countercurrent to a contact stream of a hot gas in the presence of water vapor causing decomposition of the metal salts in the droplets and the formation of the magnetic oxide compound.

3,378,336
SULFATE REMOVAL FROM BRINES

D'Arcy R. George and James M. Riley, Salt Lake City, Utah, assignors to the United States of America as represented by the Secretary of the Interior
Filed June 17, 1966, Ser. No. 559,346
9 Claims. (Cl. 23—64)



A novel method for the removal of sulfates from brines is presented. It involves contacting the brine with an ion-exchange resin in the barium form thereby precipitating the sulfates as barium sulfate and converting the resin to an alternate metal form. This converted resin may then be reconverted to the barium form for further use by contact with a barium solution. A method is disclosed wherein the precipitated barium sulfate is reduced to barium sulfide and leached with water to form a barium hydroxide-barium hydrosulfide solution which is used to reconvert the resin to the barium form. In this reconversion step, a solution containing sodium hydroxide and sodium hydrosulfide is produced and is converted by evaporation and carbonation into valuble sodium and sulfur compounds. The process of this invention may be used to remove sulfates from brines in connection with a saline water conversion and/or a mineral recovery operation.

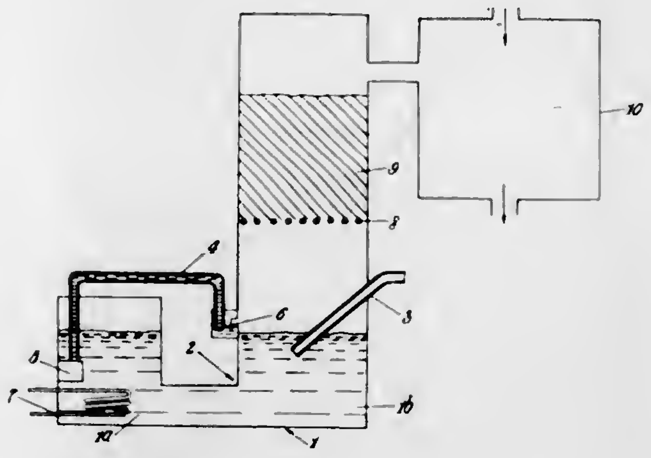
3,378,337
PREPARATION OF IODIC ACID AND DERIVATIVES THEREOF

Ricardo O. Bach, Gastonia, N.C., assignor to Lithium Corporation of America, Inc., New York, N.Y., a corporation of Minnesota
No Drawing. Filed May 17, 1965, Ser. No. 456,561
12 Claims. (Cl. 23—85)

A method of preparing solutions of substantially pure iodic acid from which salts of the acid, the anhydride thereof and/or the crystalline form of the acid can be directly obtained. The method involves reacting iodine with hydrogen peroxide in the presence of a relatively minor proportion of a solution of iodic acid. The hydrogen ions and iodate ions furnished by the iodic acid in solution are believed to catalyze or favor oxidation of the iodine to its pentavalent state thereby expediting the reaction between the iodine and the hydrogen peroxide.

3,378,338
PRODUCTION OF HIGH-PURITY ALUMINIUM CHLORIDE

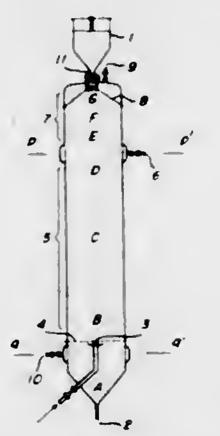
Leslie Jack Derham and Richard Jekyll Kingdom, Avonmouth, England, assignors to Imperial Smelting Corporation (N.S.C.) Limited, London, England, a British company
Filed Sept. 17, 1965, Ser. No. 488,000
Claims priority, application Great Britain, May 27, 1965, 25,012/65
6 Claims. (Cl. 23—93)



A method of preparing high-purity aluminium chloride comprises passing chlorine gas into a molten zinc-aluminium alloy hold at a temperature from 385° to 430° C. by way of a ceramic nozzle and keeping the aluminium chloride vapour evolved out of contact with materials other than aluminium.

3,378,339
METHOD OF REMOVING THE ACCOMPANYING LIQUID OF A CONTINUOUSLY TRANSFERRED ION EXCHANGE RESIN

Takashi Yamashiki, Yokohama, Japan, assignor to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan
Filed July 5, 1962, Ser. No. 207,556
Claims priority, application Japan, Sept. 7, 1961, 36/31,921, 36/31,922, 36/31,923, 36/31,924
6 Claims. (Cl. 23—100)



1. In a process for carrying out continuous ion exchange by countercurrent contact of granular ion exchange resin with the liquid to be treated, wherein liquid to be treated is introduced into a vertical zone containing the granular ion exchange resin, the liquid being introduced near the bottom of said zone, said liquid passing upwards and compacting the granular ion exchange resin located above the said liquid-introducing level to form a compact, bed-like upper layer, the treated liquid being withdrawn from an outlet located above the region of ion exchange in said zone, while simultaneously a lower layer consisting of waste resin located below the liquid-introducing level is discharged under the pressure of the liquid whereby a void zone is formed between the said upper layer and the lower layer which is filled only with the said liquid to be treated, the introduction of liquid being interrupted for a relatively short period of time, while simultaneously the liquid in said void zone is discharged whereby the pressure is decreased within said void zone and the discharge of said lower layer is terminated while the said upper layer descends and resin with accompanying liquid is introduced at the upper part of the vertical zone to fill the space produced by the descent of the upper layer, the introduction of liquid being resumed after a predetermined amount of the resin and liquid has been introduced, an improvement for removing the accompanying liquid of the resin, which comprises providing an outlet for the accompanying liquid at the upper part of the vertical zone at a level above the outlet for said treated liquid, and discharging from the treated liquid outlet the same amount of treated liquid as that of the introduced liquid to be treated while simultaneously discharging from the outlet for accompanying liquid the same amount of said liquid accompanying said resin.

3. In a process as claimed in claim 1 wherein the ion exchange material discharged from the first zone is transferred to the top of a second zone into which a solution containing a regenerating agent for the ion exchange material together with said accompanying liquid separated from the first zone is fed upwardly from the bottom of said second zone and is withdrawn at an intermediate level of the second zone while liquid accompanying the discharged ion exchange material from the first zone is separately discharged from said second zone at the top thereof, and recovering the separated liquid from the second zone and feeding the same to the liquid to be treated in the first zone.

5. A process for forming sodium sulfate and ammonium chloride from an ammonium sulfate solution according to the process of claim 3, which comprises feeding the ammonium sulfate solution into the first zone to contact the same with Na-form resin to concomitantly form Na_2SO_4 and NH_4-form resin, transferring the NH_4-form resin to the second zone contacting it therein with a NaCl solution to exchange Na ion for NH_4 ion and thus convert said NH_4-form resin and said NaCl to NH_4Cl and Na-form resin respectively, transferring the Na-form resin to the first zone, and withdrawing the formed sodium sulfate and NH_4Cl from the first and second zones respectively.

3,378,340
PROCESS FOR THE PREPARATION OF POTASSIUM PHOSPHATE

Jean Martin, Ermont, and Jean René Andrieu, Villiers-le-Bel, France, assignors to Societe d'Etudes Chimiques pour l'Industrie et l'Agriculture, Argenteuil, Seine-et-Oise, France
No Drawing. Filed Feb. 17, 1964, Ser. No. 345,089
Claims priority, application France, Feb. 26, 1963, 926,021
14 Claims. (Cl. 23—106)

Producing potassium metaphosphate by reacting phosphoric acid and potassium chloride at the surface of a fused bath containing a predominant amount of potassium metaphosphate, said bath being maintained at about 10–50° C. above the melting point of the bath and within a range of 560–850° C., and being heated by 5–50% of the heat being supplied internally to the body of the bath and the remainder of the heat being supplied externally to the surface of the bath by an overhead burner, said internal heating being conducted by passing a current between two electrodes immersed in said bath.

3,378,341

PROCESS FOR THE MANUFACTURE OF POLYPHOSPHATES OF LOW BULK DENSITY

Gerhard Hartlapp and Waldemar Bielenberg, Hermulheim, near Cologne, Germany, assignors to Knapsack Aktiengesellschaft, Cologne, Germany, a corporation of Germany

No Drawing. Filed Oct. 29, 1963, Ser. No. 319,669
Claims priority, application Germany, Nov. 27, 1962, K 48,306
14 Claims. (Cl. 23—107)

1. A one-step spray-drying process for the manufacture of polyphosphates having a bulk density of less than 0.7 kg./liter and defined by the general formula

$$Me^{I}_{n+2}[P_nO_{3n+1}]$$

wherein Me^{I} is a member selected from the group consisting of alkali metal and ammonium ions, and n is $\geqq 2$ to $\leqq 4$; comprising jointly spraying into a reaction zone under pressure

(a) phosphate solutions and suspensions, respectively; and
(b) a solution of material decomposible to form CO_2 on being sprayed, the said (a) and (b) material being mixed in the immediate neighborhood of the starting point of the spraying jet.

3,378,342

PROCESS FOR PREPARING PHOSPHITES

Robert E. Mesmer, George Douglas Nelson, and John H. Payne, St. Louis, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Dec. 21, 1964, Ser. No. 420,094
13 Claims. (Cl. 23—107)

A process is described for preparing dialkali metal phosphites by reacting white phosphorus and alkali metal hydroxide in an aqueous medium at temperatures above about 50° C. with the alkali metal hydroxide being present in amounts in excess of stoichiometry and in concentrations greater than 15% by weight.

3,378,343

PROCESS FOR THE PREPARATION OF BERYLLIUM OXIDE

Alain Baur, Paris, and Alfred Lecoco, Saint-Maur, France, assignors to Commissariat à l'Energie Atomique, Paris, France

No Drawing. Filed Mar. 19, 1964, Ser. No. 353,237
Claims priority, application France, Dec. 11, 1963, 956,787
3 Claims. (Cl. 23—183)

1. Process for preparation of beryllium oxide which comprises heating beryllium hydroxide under pressure in a sealed vessel in the presence of an added quantity of water at a temperature between 225–280° C. such that the steam pressure of the water of decomposition is higher than the pressure of the steam given off by the added quantity of water for a time sufficient to decompose the beryllium hydroxide to beryllium oxide.

3,378,344

HYDROGEN COMPOUNDS OF ELEMENTS OF THE THIRD AND FOURTH MAIN GROUP OF THE PERIODIC SYSTEM AND ORGANO-SUBSTITUTED DERIVATIVES THEREOF

Elmar-Manfred Horn, Aachen, Karl John, Leichlingen, and Konrad Lang, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed June 18, 1964, Ser. No. 376,273
Claims priority, application Germany, July 2, 1963, F 40,133
10 Claims. (Cl. 23—204)

Production of hydrogen compounds of the general formula MeH_nR_m in which Me is silicon, boron or aluminum, R is a hydrocarbon or halogen-substituted hydrocarbon, n is an integer from 1 to 4 and m is an integer from 0 to 3, such that $m+n$ is an integer from 3 to 4, by heating at a temperature between about 50–400° C., preferably 200–400° C., the corresponding halogen-substituted derivative of said compound with an alkali metal hydride in the presence of a catalyst which comprises an alkylmercapto borane of the general formula $H_nB(SR')_{3-n}$ in which R' is an alkyl radical having from 1 to 18 carbon atoms, preferably 1 to 12 carbon atoms, and n is an integer from 0 to 2, the catalyst preferably being used in an amount of 0.1 to 20 mol percent, based upon the alkali metal hydride used, and the alkali metal hydride preferably being sodium hydride, with the reaction being performed optionally in an inert suspending agent.

3,378,345

PROCESS FOR PRODUCING PYROLYTIC GRAPHITE WHISKERS

Romeo G. Bourdeau, Brookline, and Frank E. Papalegis, Woburn, Mass., assignors, by mesne assignments, to Union Carbide Corporation, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 413,637, Nov. 24, 1964. This application Mar. 22, 1965, Ser. No. 441,885
3 Claims. (Cl. 23—209.1)

A process is provided for producing graphite whiskers which comprises passing a hydrocarbon gas and an active gas, viz, carbon dioxide or water, in a volume ratio ranging between about 10 to 400 parts hydrocarbon gas to one part active gas through a pyrolysis zone having a substrate therein for the growth of whiskers thereon, the pyrolysis zone being maintained at a pressure less than atmospheric with the temperature in the pyrolysis zone initially being maintained above about 700° C. to promote nucleation of the whiskers and thereafter maintained above about 1200° C. to provide for whisker growth.

3,378,346

DIAGNOSTIC PREPARATION FOR THE DETECTION OF INDOLE

Glenville R. Watson, East Orange, and Benjamin S. Schwartz, Livingston, N.J., assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

No Drawing. Filed Feb. 5, 1965, Ser. No. 430,763
3 Claims. (Cl. 23—230)

2. A diagnostic preparation for the rapid and positive detection of indole which comprises a dry strip of a bibulous material previously impregnated with a 10 to 40% by weight solution of oxalic acid and a 1 to 10% by weight solution of p-dimethylaminobenzaldehyde in an inert volatile solvent followed by drying.

3. Process for the detection of indole produced by microorganisms which comprises allowing the test strip as defined in claim 2 to come in contact with an unknown organism and observing the color formed.

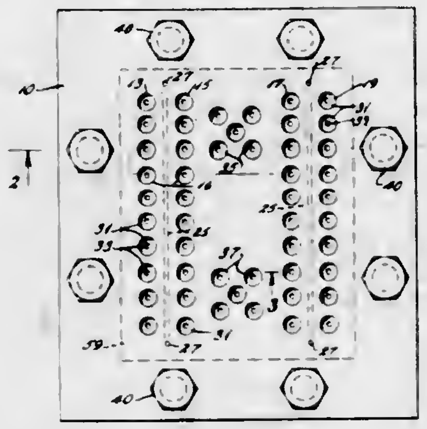
3,378,347

APPARATUS FOR SEMIQUALITATIVE, SEMI-QUANTITATIVE IMMUNODIFFUSION REACTIONS

Calvin A. Saravis, 110 Evelyn Road, Waban, Mass. 02168

Filed Feb. 12, 1965, Ser. No. 432,283
5 Claims. (Cl. 23—253)

1. An immunodiffusion test plate comprising:
a planar template containing an ordered plurality of spaced apart apertures therethrough;
a microporous film underlying said template;
a resilient pad underlying said microporous film; and
a back up plate,
said template, microporous film, resilient pad and back-up plate being securable to ensure that the microporous film is under a substantially uniform state of stress.

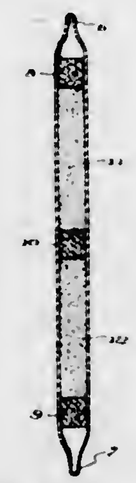


3,378,348

INDICATOR FOR THE DETERMINATION OF SULFUR DIOXIDE AND HYDROGEN SULFIDE

Paul W. McConnaughey, Pittsburgh, Pa., assignor to Mine Safety Appliances Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 6, 1964, Ser. No. 343,005
9 Claims. (Cl. 23—254)



A colorimetric indicator, responsive to sulfur dioxide, has a non-porous inorganic carrier with an alkaline clay coating impregnated with Phenol Red or Bromothymol Blue. When an elongate bed of the indicator is disposed in a transparent tube, sulfur dioxide can be detected or qantitatively determined by passing a gas sample through the bed. The indicator does not respond to or retain hydrogen sulfide; sulfur dioxide and hydrogen sulfide are simultaneously detected or quantitatively determined by passing the gas to be tested sequentially through the indicator and a second indicator responsive to hydrogen sulfide, as by passing gas through a transparent tube containing separate elongate beds of the two indicators.

3,378,349

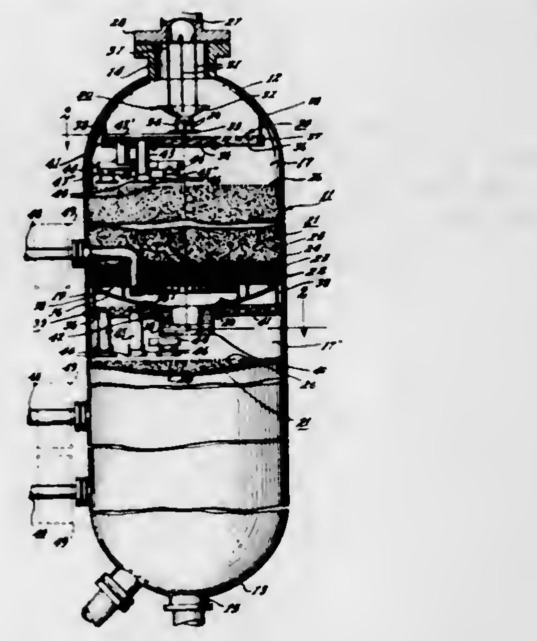
APPARATUS FOR TREATING MIXED-PHASE FLUID REACTANTS

Robert M. Shirk, Wilmington, Del., assignor to Air Products and Chemicals, Inc., Philadelphia, Pa., a corporation of Delaware

Filed Sept. 17, 1965, Ser. No. 488,218
6 Claims. (Cl. 23—288)

1. Apparatus for treating mixed-phase fluid reactants by serial flow through separate masses of contact material, comprising:

(a) an upright reactor vessel;
(b) an inlet for said reactants at the top and an outlet for reaction products at the bottom of said vessel;
(c) means for separating said vessel into a plurality of superimposed reaction chambers;
(d) a grating spaced from the bottom of each reaction chamber and arranged to support therein a porous fixed bed of contact material, the space beneath said grating forming a plenum for collection of mixed-phase fluid discharging from the bottom of said bed;
(e) means for introducing fluid from an external source directly into said plenum and for discharging said fluid in a manner to effect maximal contact and admixture with collected mixed-phase fluid therein;



(f) means for supporting a pool of the collected disengaged liquid in the confined space between said plenum and the surface of the below-adjacent bed;
(g) a draw-off conduit at the bottom of said plenum, having its discharge end submerged within said pool of liquid and being arranged and adapted to convey the mixed-phase fluid withdrawn from said plenum into said pool with minimal disruption of the body of liquid by excessive turbulence;
(h) means for withdrawing confined streams of overflow liquid from said pool and disengaged gaseous material from the space above the surface of the pool; and
(i) means for distributing and dispersing the liquid and gaseous components of said withdrawn streams upon and over the surface of said below-adjacent bed.

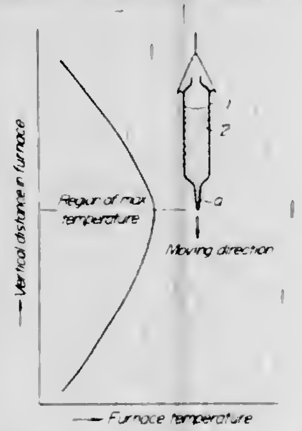
3,378,350

METHOD FOR GROWING SINGLE CRYSTALS OF VANADIUM DIOXIDE

Hiromu Sasaki, Osaka, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan

Filed June 1, 1965, Ser. No. 460,318
Claims priority, application Japan, June 2, 1964, 39/31,511; July 1, 1964, 39/37,856; Aug. 14, 1964, 39/46,962
10 Claims. (Cl. 23—301)

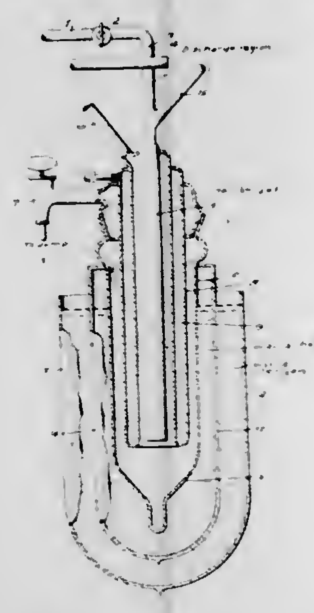
A method for growing single crystals of vanadium dioxide (VO_2) comprising heating vanadium pentoxide in an inert gas atmosphere at a temperature between the melting points of vanadium pentoxide and vanadium dioxide and maintaining the molten vanadium pentoxide at said temperature in said inert gas atmosphere so as to grow single crystals of vanadium dioxide in the molten vanadium pentoxide. The melt temperature is preferably



above 900° C., and the crystals obtained range up to 13 mm. in length.

3,378,351
METHOD OF STORING OXYGEN

Robert A. Ruehrwein, Clayton, Mo., and Joseph S. Hashman, Evans City, Pa., assignors to the United States of America as represented by the Secretary of the Army
Filed Oct. 24, 1961, Ser. No. 147,378
7 Claims. (Cl. 23—315)



1. A method for the preparation of a complex compound capable of storing oxygen at normal pressure comprising, blending oxygen gas in a vacuum with a material selected from the group consisting of water vapor, nitrogen dioxide gas, ethylene gas and isobutylene gas, solidifying by freezing the resulting blend to obtain a complexed product thereof, warming said product to a temperature between 66°-77° K. to render any uncomplexed oxygen gaseous for removal and utilizing the final solidified complexed product as a safe means of storing the complexed oxygen at normal pressure as long as the temperature of the solid product is maintained below 86° K.

3. A solid complexed compound for the safe storage of oxygen at normal pressure and at temperatures below 86° K. consisting of a stable solidified combination formed of oxygen and a material selected from the group consisting of water vapor, nitrogen dioxide gas, ethylene gas and isobutylene gas and free of uncomplex oxygen.

3,378,352
PROCESS FOR EXTRACTING THORIUM AND RARE EARTHS

Robert D. Hansen, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Dec. 15, 1965, Ser. No. 514,127
8 Claims. (Cl. 23—341)

An improved solvent extraction process for the recovery and separation of thorium and rare earth values from acidic aqueous solutions containing such values and which also can include a relatively large concentration of ferric iron which comprises contacting the aqueous acidic solution with a substantially water-immiscible liquid organic extractant comprising a mixture of a dialkyl substituted orthophosphoric acid and a second phosphonyl group containing member thereby to preferentially extract thorium and other rare earth metal values from the aqueous phase into the organic phase. Thorium and rare earth are separated by contacting the organic extract with either hydrochloric or nitric acid thereby to strip the rare earth metal values into the acid phase. Unexpectedly, excellent recoveries and separation of thorium and rare earths substantially free from iron are realized in this simple integrated process.

3,378,353
SEPARATION OF PHOSPHONITRILIC CHLORIDE MIXTURES

Clifford Henry George Hands, Pedmore, Stourbridge, England, assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Continuation of application Ser. No. 312,324, Sept. 30, 1963. This application Jan. 20, 1967, Ser. No. 610,715
Claims priority, application Great Britain, Oct. 4, 1962, 37,528/62
6 Claims. (Cl. 23—357)

The method of separating trimeric PNC from mixtures thereof with tetramer in proportions of trimer to tetramer of at least 70:30 by weight, which comprises dissolving the mixture in an organic solvent selected from the group consisting of petroleum ether, gasoline, kerosene, monochlorobenzene, carbontetrachloride, symmetrical tetrachloroethane, dioxane, benzene, toluene, xylene, carbon disulphide, and mixtures thereof at a temperature sufficient to effect complete dissolution and at a concentration less than that at which tetramer crystallizes at the constant temperature, cooling the solution until a constant temperature is observed, and filtering the solution substantially at the constant temperature to remove the crystals of substantially pure trimer which separate at that temperature.

3,378,354
SYNTHESIS OF CALCIUM CHLORSPODIOSITE

Robert L. Hickok, Euclid, Ohio, assignor to General Electric Company, a corporation of New York
No Drawing. Filed Dec. 8, 1965, Ser. No. 512,505
3 Claims. (Cl. 23—368)

A process for producing calcium chlorspodiosite, Ca_2ClPO_4, by reacting together at elevated temperatures $CaHPO_4$ and $CaCO_3$ to obtain a mixture of $Ca_3(PO_4)_2$ and CaO, then mixing granular NH_4Cl with this mixture and heating. $CaCl_2$ is formed in situ by reaction of HCl from the NH_4Cl with CaO. The $CaCl_2$ reacts with the $Ca_3(PO_4)_2$ to form the desired particulate Ca_2ClPO_4. Excess $CaCl_2$ can be removed by washing with water. The method avoids difficulties of the prior art stemming from deliquescence because of the formation of $CaCl_2$ in situ. Calcium chlorspodiosite produced by this process is especially useful in the production of lamp phosphors.

3,378,355
COMPOSITES OF BERYLLIUM-COPPER-ZINC

Earl I. Larsen, Indianapolis, Ind., and Richard H. Krock, Peabody, and Clintford R. Jones, Arlington, Mass., assignors to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware
Filed May 18, 1967, Ser. No. 639,579
5 Claims. (Cl. 29—182.1)

A composite material whose microstructure consists of beryllium dispersed in a copper-zinc-beryllium solid solution alloy matrix was produced by liquid phase sintering pressed powder mixtures of beryllium, copper and zinc or powder mixtures of beryllium and prealloyed copper-zinc.

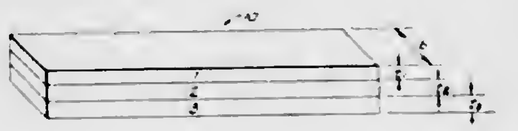
3,378,356
COMPOSITES OF BERYLLIUM-COPPER-MAGNESIUM

Earl I. Larsen, Indianapolis, Ind., and Richard H. Krock, Peabody, and Clintford R. Jones, Arlington, Mass., assignors to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware
Filed May 15, 1967, Ser. No. 638,467
4 Claims. (Cl. 29—182.1)

A two-phase composite material whose microstructure consists of beryllium dispersed in a copper-magnesium-beryllium solid solution alloy matrix was produced by liquid phase sintering pressed powder mixtures of beryllium, copper, magnesium or powder mixtures of beryllium and prealloyed copper-magnesium.

3,378,357
TEMPERATURE COMPENSATED MAGNETIC FIELD RESPONSIVE MATERIAL

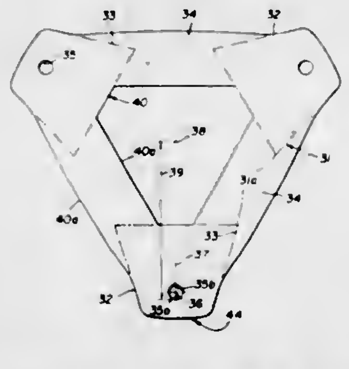
Clarence F. Alban, Detroit, Mich., assignor to W. M. Chace Company, Detroit, Mich., a corporation of Delaware
Filed Oct. 20, 1965, Ser. No. 498,485
9 Claims. (Cl. 29—183.5)



A laminated magnetic field responsive material consisting of two laminations formed of materials having substantially different coefficients of magnetostriction and a third temperature compensated lamination secured to one of the first two laminations. The third lamination is dimensionally proportioned relative to the first two so that changes in temperature of the ambient environment do not cause substantial lateral deflection of the material.

3,378,358
BLANK FOR FORMING A COVER PLATE

Richard L. Smirl, La Grange Park, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Original application Dec. 30, 1964, Ser. No. 422,107, now Patent No. 3,335,595, dated Aug. 15, 1967. Divided and this application July 12, 1967, Ser. No. 662,238
3 Claims. (Cl. 29—190)



A blank for forming a sheet metal cover plate, comprising: a flat sheet metal body provided with equi-spaced trapezoidal areas arranged about a geometrical center of said blank, elongated webs interconnecting the innermost adjacent corners of said areas, each said areas having a pear-shaped opening provided therein.

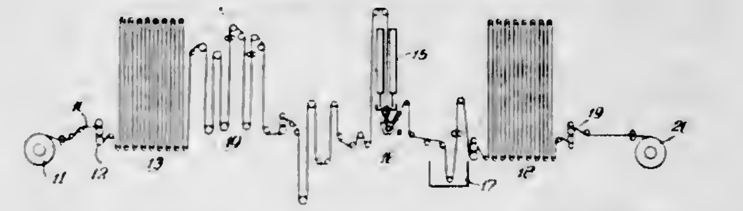
3,378,359
METHOD OF PROTECTING AUSTENITIC STAINLESS STEEL SUBJECT TO STRESS CORROSION

Kenneth R. Walston, Morristown, N.J., and Alistair S. Couper, Chicago, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Continuation of application Ser. No. 378,445, June 26, 1964. This application Jan. 31, 1967, Ser. No. 613,038
4 Claims. (Cl. 29—196.2)

Austenitic stainless steel, having its exposed surface partially coated with aluminum, is used in a process of the type wherein the surface area of the steel is to be exposed to a stress-corrosive environment.

3,378,360
MARTENSITIC STEEL

William H. McFarland, Hobart, Ind., assignor to Inland Steel Company, Chicago, Ill., a corporation of Delaware
Filed Sept. 23, 1964, Ser. No. 398,626
12 Claims. (Cl. 29—196.4)



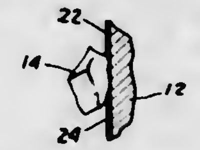
1. A continuous process for making thin gauge high tensile strength steel sheet or strip which comprises passing through a heating zone a continuous sheet or strip of plain carbon thin gauge steel in work hardened state and having a carbon content of from about .03 wt. percent to about .25 wt. percent, a manganese content of from about .20 wt. percent to about .60 wt. percent, and a thickness of from about .0002 to about .100 inch, and therein heating the sheet or strip to a temperature above the A_3 critical point so as to austenitize the steel, said work hardened sheet or strip being obtained by cold reduction by at least about 40% of an intermediate gauge material and said work hardened sheet or strip being characterized by a tensile strength on the order of about 100,000 p.s.i. and an elongation in two inches of less than about 1%, and immediately thereafter passing the sheet of strip through a quench zone and therein uniformly quenching the austenitized steel sheet or strip to obtain a product having a microstructure consisting essentially of tempered martensite, a tensile strength of at least about 130,000 p.s.i., and an elongation in two inches of at least about 1.5%.

9. The process of claim 1 further characterized in that said steel sheet or strip has a thickness of from about .002 to about .015 inch and said product is thereafter tin plated.

12. Tin plate made in accordance with the process of claim 9.

3,378,361
METHOD OF MAKING A TOOL FOR REMOVING MATERIAL FROM WORKPIECES AND PRODUCT THEREOF

William H. Harris, Jr., Detroit, Mich., assignor to Dexco Corporation, Detroit, Mich., a corporation of Michigan
Filed Jan. 29, 1965, Ser. No. 428,947
15 Claims. (Cl. 51—293)



A multiplicity of tungsten carbide grits are adhered to a nickel-chromium alloy coating on a metal substrate by means of a tacky brazing compound adjusted to contain less copper than that required to make an effective brazed connection. The assembly is heated to melt the copper which wets the alloy and the grits and which promotes the formation of an extremely strong bond between the alloy and grits when the assembly is further heated to the melting point of the alloy and subsequently cooled.

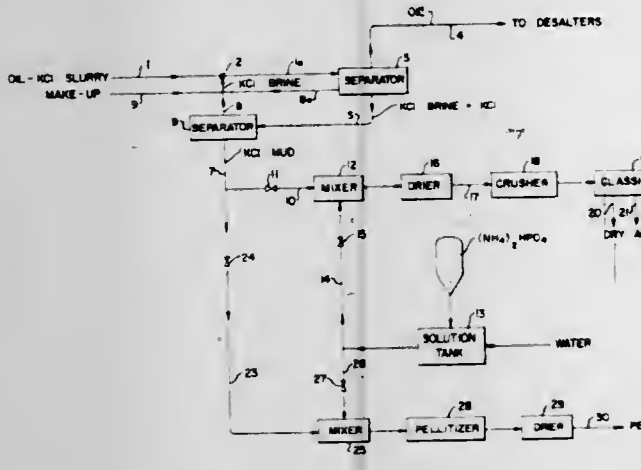
3,378,362
METHOD FOR MAKING THIN FILM GLASS ELEMENTS

John D. Mackenzie, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Original applications Aug. 1, 1961, Ser. No. 128,447, and Aug. 23, 1962, Ser. No. 219,045. Divided and this application Jan. 4, 1965, Ser. No. 423,196
4 Claims. (Cl. 65—21)

Calcium borate glasses and similar glasses containing from 20 to 40 mole percent of alkaline earth metal oxide and from 60 to 80 mole percent of boron oxide have been found to have high electrical resistivity and to be useful as mica substitutes for electrical applications when formed as sheets of thickness from one-half to 15 mils.

3,378,363
METHOD OF IMPARTING HARDNESS ON WATER-SOLUBLE PARTICLES

Paul E. Titus, Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Feb. 23, 1965, Ser. No. 434,587
10 Claims. (Cl. 71—64)

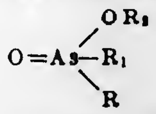


Particles of water-soluble crystalline material are mixed with a hardener material, which is also water soluble. Water is added to form a slurry. The slurry is by the hardener material.

3,378,364
DEFOLIATION OF PLANTS

Morris L. Neuville, Marinette, Wis., and Robert B. Carroll, Greenwich, Conn., assignors to Ansul Chemical Company, Marinette, Wis., a corporation of Wisconsin
No Drawing. Continuation of application Ser. No. 322,053, Nov. 7, 1963, which is a continuation of application Ser. No. 39,429, June 29, 1960. This application Oct. 12, 1966, Ser. No. 586,303
10 Claims. (Cl. 71—70)

Methods of defoliating and harvesting living cotton and soybean plants, as well as improving the product quality and yield of same are provided which comprise applying to the leaves of said plants a sufficient, but non-injurious, amount with respect to the remainder of the plant of a composition containing an active defoliating agent having the following structural formula:



$$O{=}As(OR_2)(R_1)R$$

wherein R and R_1 are members selected from the group consisting of univalent hydrocarbon groups of the aliphatic series having 1 to 4 carbon atoms, and R_2 is a member selected from the group consisting of hydrogen, ammonium, alkali metals and alkaline earth metals and defoliating said plants.

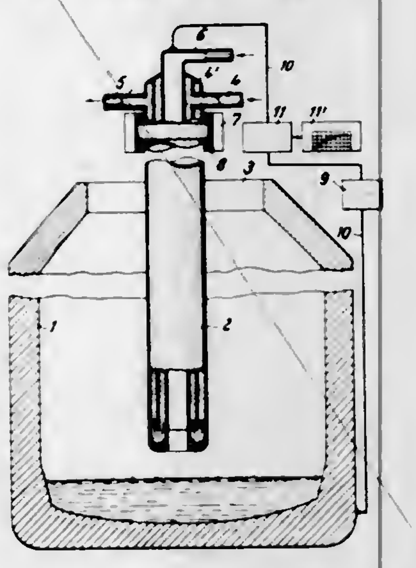
3,378,365
PROCESS FOR THE PRODUCTION OF POROUS METALS

Ludwig Bruns and Günther Schnuchel, Dormagen, Germany, assignors to Erdolchemie Gesellschaft mit beschrankter Haftung, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed May 27, 1964, Ser. No. 370,668
Claims priority, application Germany, July 15, 1963, E 25,153
8 Claims. (Cl. 75—20)

1. Process for the production of shaped highly porous metal structure, which comprises applying a metal compound, which is capable of being converted by heat to the corresponding metal, to a porous temporary support composed of a member selected from the group consisting of natural and synthetic particle material, which is capable of being substantially completely destroyed by combustion, sufficiently to fill substantially completely the pores of said support with said compound, and thereafter heating the filled support in the presence of oxygen for combustion substantially completely of said support and simultaneously for converting said metal compound to the corresponding metal, the resulting structure having a pore volume and structure corresponding exactly to said temporary support.

3,378,366
METHOD OF INSPECTION AND CONTROL OF THE REACTION PERFORMANCE DURING THE OXYGEN BLOWING PROCESS

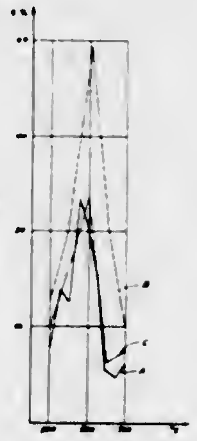
Kurt Borowski, Essen, Karl-Heinz Kluth, Essen-Bredeney, and Jürgen Maatsch, Essen, Germany, assignors to Beteiligungs- und Patentverwaltungsgesellschaft mit beschrankter Haftung, Essen, Germany, a corporation of Germany
Filed June 15, 1965, Ser. No. 464,145
Claims priority, application Germany, June 25, 1964, B 77,404
10 Claims. (Cl. 75—60)



A method of inspection and control of the conditions prevailing in a converter during the oxygen blowing process of refining molten metal which includes the steps of positioning a single electrically conductive and insulated member in the converter spaced above the surface of the metal bath therein, passing an electric current through a closed circuit which includes the member, the atmosphere in the space between the surface of the metal bath and the member, the metal bath, and a wall of the converter, providing an electrical resistance between the member and ground of about 10 ohms to about 10,000 ohms, measuring the electric current passing through the circuit during the refining of the metal, and varying the conditions under which the refining of the metal in the converter takes place in accordance with the variations in the flow of electric current through the circuit as determined by the measurement.

3,378,367
WELDABLE, CORROSION-RESISTING STEEL

Wilhelm Lars-Eije Friis and Tore Måns Ivan Norén, Oxelosund, Sweden, assignors to Aktiebolaget Bofors, Bofors, Sweden, a company of Sweden
Continuation-in-part of application Ser. No. 404,982, Oct. 19, 1964. This application Mar. 23, 1967, Ser. No. 625,452
Claims priority, application Sweden, June 24, 1959, 5,972/59
8 Claims. (Cl. 75—128)



A steel alloy comprising:

	Percent
Carbon	0.03–0.25
Manganese	0.25–2.00
Chromium	11–14
Nickel	4–8
Silicon	0.10–0.70

the remainder being iron; the ratio of the nickel to chromium equivalent being 0.4–1.0. The steel is martensitic in structure and has therein about 15–40% dispersed induced austenite. The steel is obtained by heating to effect complete austenization, cooling and reheating to about 550–650° C.

3,378,368
TITANIUM-BASE ALLOYS

Clive Dudley Thomas Minton, Shenstone, Lichfield, and Michael George Edwards, Birmingham, England, assignors to Imperial Metal Industries (Kynoch) Limited, London, England, a corporation of Great Britain
No Drawing. Filed June 7, 1965, Ser. No. 462,110
Claims priority, application Great Britain, Jan. 4, 1965, 278/65
19 Claims. (Cl. 75—175.5)

Titanium-base alloys useful for the manufacture of high-temperature components which can be fabricated by welding. The alloys consist essentially of aluminum with or without tin as an alpha stabilizer, zirconium, silicon and niobium or tungsten as a beta stabilizer. Optionally copper may be present also.

3,378,369
METHOD OF MOLDING POWDERED METAL

Bruce W. Smith, Pacoima, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Original application Apr. 6, 1964, Ser. No. 357,463, now Patent No. 3,283,365. Divided and this application Oct. 31, 1966, Ser. No. 590,986
8 Claims. (Cl. 75—206)

A method of molding a powdered metal body within a mold comprising the steps of placing a quantity of powdered metal within the mold, and selectively compacting a portion of the quantity of powdered metal while preventing the remaining portion from expanding.

3,378,370
RECORDING ELEMENTS FOR ELECTROSTATIC PRINTING

Sebastian T. Brancato, Queens Village, N.Y., assignor to Interchemical Corporation, New York, N.Y., a corporation of Ohio
No Drawing. Filed Feb. 6, 1964, Ser. No. 343,152
6 Claims. (Cl. 96—1.8)

A recording element for electrostatic-printing wherein the photoconductive coating contains zinc oxide dispersed in a film of two partially incompatible resins.

3,378,371
PHOTOCONDUCTIVE MATERIAL FOR ELECTROPHOTOGRAPHY

James G. Jarvis, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Continuation-in-part of application Ser. No. 19,040, Mar. 31, 1960. This application Apr. 8, 1965, Ser. No. 446,625
4 Claims. (Cl. 96—1.8)

1. A photoconductive sheet for use in xerography comprising a conducting support and on said support a photoconductive layer consisting of a vehicle, which relative to the support and to type F zinc oxide, is insulating and distributed substantially uniformly through the vehicle, particles of inorganic compounds whose total weight is made up of 80% to 98% by weight of particles of type F zinc oxide and 2% to 20% of particles of type A zinc oxide, whereby the electrostatic saturation potential of the sheet is less than that of a similar sheet with particles of type F zinc oxide only.

3,378,372
DURABILITY OF OFFSET PRINTING PLATES

Camille Angelina Vandeputte, Mortsel-Antwerp, Albert Petrus Wagemans, Schoten, and Arthur Henrica De Roeck, Edegem, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsel, Belgium, a Belgian company
No Drawing. Continuation-in-part of application Ser. No. 364,838, May 4, 1964. This application May 11, 1966, Ser. No. 549,137
Claims priority, application Belgium, May 2, 1963, 42,591, Patent 631,790
10 Claims. (Cl. 96—29)

A planographic printing plate carrying silver metal image (printing) areas obtained by diffusion transfer from an exposed silver halide photographic emulsion is improved as to durability by coating in the presence of water with a lithographic lacquer containing an alkyl resin alone or in admixture with a phenol-formaldehyde resin, which lacquer selectively adheres to the silver image areas. The lacquer may additionally contain a drying oil and is preferably dried by heating. An optional lacquer has the resin solution dispersed in an external aqueous phase.

3,378,373

WATER-INSOLUBLE NITROGENOUS PHOTOGRAPHIC PROTEIN HARDENER

Harald von Rintelen, Cologne-Rodenkirchen, Raymund Pfeiffenschneider, Leverkusen, Paul Fleiter, Opladen, and Karl-Heinz Britz, Leverkusen, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Dec. 27, 1961, Ser. No. 162,562

Claims priority, application Germany, Jan. 18, 1961, A 36,521

18 Claims. (Cl. 96—111)

1. A method of hardening a photographic protein comprising contacting said protein with a water soluble hydroxy alkyl ester of alginic acid while maintaining the protein and water soluble ester at a pH below 7 and while the protein and water soluble ester are in contact raising the pH above 7 to effect hardening.

3,378,374

METHOD FOR CONCENTRATING BREWERS' WORT

Alan G. Williamson, Pepper Pike, Ohio, and William E. Parker, Toronto, Ontario, Canada, assignors to Canadian Breweries Limited, Toronto, Ontario, Canada

Filed Jan. 24, 1964, Ser. No. 339,901

Claims priority, application Canada, Oct. 1, 1963, 885,701

3 Claims. (Cl. 99—52)

1. A method of concentrating brewers' wort which comprises subjecting it fo successive heat treatments each to achieve an aqueous boil-off, the total of said heat treatments being for a period of time sufficient to reduce the wort to a predetermined specific gravity that has more than 35% solids, the predetermined specific gravity for successive heat treatments being increased, each of said heat treatments comprising the step of heating the wort for a short interval of time that is less than one minute to a temperature below the caramelization temperature for such a short interval of time and said predetermined specific gravity while maintaining the pressure at less than atmospheric to achieve an aqueous boil-off.

3,378,375

METHOD OF PREPARING ACIDIFIED DAIRY PRODUCTS

Lawrence L. Little, Creve Coeur, Mo., assignor to The Battelle Development Corporation, Columbus, Ohio, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 173,833, Feb. 16, 1962. This application June 3, 1965, Ser. No. 461,194

3 Claims. (Cl. 99—59)

1. A process for making acidified milk products comprising:
   (a) mixing a colloid-forming stabilizer with milk in amounts of from about 0.05 percent to 1.0 percent, by weight, said colloid-forming stabilizer consisting of at least one material selected from the group consisting of gelatin, casein, flour, tapioca flour, increased nonfat milk solids, agar, locust bean gum, guar gum, cellulose gum, carrageenan, gum tragacanth, gum arabic, Danish agar, water-dispersible lecithin and gelatin hydrolyzate; and
   (b) mixing an edible acid with said milk in amounts disposed to effect casein coagulation, said acid being of a concentration to constitute no more than about 5 percent, by weight, of the milk.

3,378,376

EGG WHITE COMPOSITION, METHOD OF PREPARING AND PROCESS UTILIZING SAME

Michael Sebring, Westmont, Ill., assignor to Armour and Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed July 1, 1964, Ser. No. 379,707

12 Claims. (Cl. 99—92)

This invention relates to the use of guar gum to reduce the whipping time of egg white and improve the physical properties and characteristics of egg white and baked products made therefrom.

3,378,377

YEAST-STARCH DIETETIC TABLETS AND THEIR PRODUCTION

Henri Griffon, 2 Place Mazas, and Georges Tixler, 37 Ave. d'Iena, both of Paris, France

No Drawing. Continuation of application Ser. No. 314,554, Oct. 7, 1963, which is a continuation-in-part of application Ser. No. 136,190, Sept. 6, 1961. This application Aug. 23, 1966, Ser. No. 577,569

Claims priority, application France, Sept. 6, 1960, 837,875; May 12, 1961, 861,551

3 Claims. (Cl. 99—96)

Dehydration and compression of fresh yeast cells containing about 70% water, in the presence of starch, kills the yeast cells, but keeps them essentially intact as to morphological structure, color and organoleptic properties. The product has about 11% moisture content and is capable of dispersion in water.

3,378,378

FROZEN COMESTIBLE

Abraham H. Goodman, Great Neck, Edward F. Pettinato, Bronx, Alfred Kroll, Forest Hills, and David H. Lipka, Flower Hill, N.Y., assignors to DCA Food Industries, Inc., New York, N.Y., a corporation of New York

Filed Mar. 3, 1966, Ser. No. 530,776

22 Claims. (Cl. 99—136)

A frozen comestible comprising an aqueous admixture of a first fraction and a second fraction. The first fraction serves as a matrix for the second fraction and the second fraction includes a relatively coarse particulate prebaked farinaceous product. The resulting comestible has the texture, appearance and palatability of frozen baked cake. The comestible may be manufactured with substantially conventional equipment used for making ice cream.

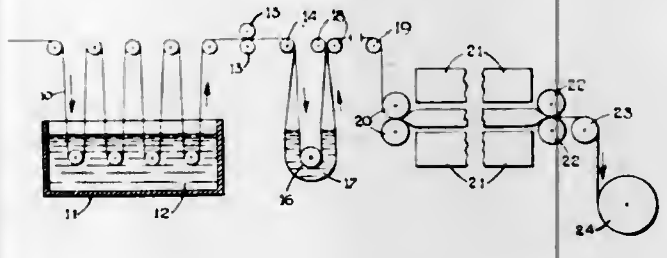
3,378,379

FOOD CASING AND METHOD OF PRODUCING SAME

Edward A. Shiner, Herman S. Chiu, and Frank T. Kambara, Chicago, Ill., assignors to Union Carbide Corporation, a corporation of New York

Continuation-in-part of application Ser. No. 281,926, May 21, 1963. This application July 8, 1966, Ser. No. 563,773

22 Claims. (Cl. 99—176)



Enhancing the ability of a dry sausage casing to adhere to a meat mass encased, processed and dried therein and improving the extensibility of fibrous webs utilized in the manufacture of fibrous food casings can both be accomplished by subjecting the casing and the fibrous web to treatment with a thermosetting resin acting as a bonding agent.

3,378,380

PROCESS FOR PRODUCING DEHYDRATED FREE FLOWING PARTICLES OF ONION, GARLIC OR HORSERADISH

James S. Yamamoto, King City, and Robert M. Stephenson, Vacaville, Calif., assignors to Basic Vegetable Products, Inc., San Francisco, Calif., a corporation of California

Continuation of application Ser. No. 210,101, July 16, 1962. This application June 7, 1966, Ser. No. 555,917

4 Claims. (Cl. 99—204)

Dehydration of onion, garlic and horseradish including the steps of cutting to form conventionally sized pieces, initial drying of those pieces to a moisture level at which enzymatic reactions and discoloration no longer occur upon cell rupture and free flowing granules can be produced by grinding at room temperatures, reducing the dried pieces to free flowing granular mix and rapidly finally drying the mix.

3,378,381

EMULSION FOR PRESERVATION AND FIREPROOFING OF WOOD

Samuel M. Draganov, Tustin, Calif., assignor to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada

No Drawing. Filed Oct. 9, 1963, Ser. No. 314,846

13 Claims. (Cl. 106—15)

1. A stable, oil-in-water emulsion having an oil-to-water phase weight ratio in the range of from about 1:1 to about 2.5:1, comprising a water phase containing from about 5% to about 40% by weight of an inorganic oxygen-bearing borate selected from boric acid, the water-soluble alkali metal and ammonium salts thereof, and mixtures thereof and from about 0.5% to about 2% by weight of alkaline lignin sulfonate, and an oil phase containing about 0.1% to about 10% by weight of a chlorinated phenol and from about 0.5% to about 25% by weight hydrocarbon wax dissolved in distilled petroleum oil, said oil phase having an average particle diameter of not more than about seven microns.

7. The method of simultaneously preserving and fireproofing wood which comprises impregnating said wood with an oil-in-water emulsion comprising a water phase containing from about 5% to about 40% by weight of an inorganic oxygen-bearing borate and from about 0.5% to about 2% by weight of alkaline lignin sulfonate, and an oil phase containing from about 0.1% to about 10% by weight of a chlorinated phenol and from about 0.5% to about 25% by weight hydrocarbon wax dissolved in distilled petroleum oil, in which the weight ratio of said oil-to-water phases is in the range of from about 1:1 to about 2.5:1 and said oil phase has an average particle diameter of not more than about seven microns.

3,378,382

HIGH-STRENGTH LIGHTWEIGHT AGGREGATE AND METHOD FOR ITS MANUFACTURE

William E. Burkett, Chino, Calif., assignor, by mesne assignments, to Pacific Vegetable Oil Corporation, San Francisco, Calif., a corporation of California

No Drawing. Filed June 25, 1965, Ser. No. 467,133

10 Claims. (Cl. 106—41)

A lightweight aggregate for use in concrete, bricks etc., having favorable strength characteristics is made by first mixing 90 to 99 parts by weight of ground clay, shale, or slate, 1 to 10 parts by weight of ground safflower seed hulls or other material having the water-absorbing characteristics, burnability, and gas-producing ability of safflower seed hulls, and 15 to 25 parts by weight of water. Then the mixture is quickly brought up to a sealing temperature (usually in the range of about 750° F. to 1100° F.). After sealing, the mixture is slowly heated to a bloating temperature (typically about 1600° F.), and then is heated to a higher firing temperature (typically 1800°–2000° F.) for providing a thick vitreous skin.

3,378,383

HIGH MAGNESIA PRODUCT AND PROCESS OF MAKING THE SAME

Merton L. Van Dreser, Campbell, Calif., assignor to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware

No Drawing. Filed Oct. 11, 1965, Ser. No. 494,891

11 Claims. (Cl. 106—58)

1. A fired refractory shape consisting essentially of nonfused periclase particles in brick-making size ranges substantially entirely directly bonded to each other, and not over 1.5% of impurities disposed in discrete, discontinuous zones, said shape containing at least 98.5% magnesium oxide, not over 0.75% silica, and not over 1.5% CaO, said CaO and silica being present in a weight ratio of at least 1:1, at least a major portion of the surfaces of said periclase particles being free of matrix film.

3,378,384

REFRACTORY BRICK AND METHOD OF MAKING

Joseph L. Stein, Cherry Hill, N.J., assignor to General Refractories Company, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Dec. 6, 1965, Ser. No. 512,007

13 Claims. (Cl. 106—65)

An unfired brick is prepared from a bloatable fire clay having a pyrometric cone equivalent of from 14 to 23, which has been precalcined to substantial densification but substantially free of bloating, with or without high alumina refractory filler and raw plastic clay, in defined proportions and particle sizes, the resulting brick being capable of bloating at elevated temperatures, as in a ladle lining, to form tight joints and fill in pits and crevices.

3,378,385

HIGH ALUMINA BRICK

Donald O. McCreight, Bethel Park, Eldon D. Miller, Jr., Bridgeville, and Stanley R. Pavlica, Irwin, Pa., assignors to Harbison-Walker Refractories Company, Pittsburgh, Pa.

No Drawing. Filed June 13, 1966, Ser. No. 556,876

6 Claims. (Cl. 106—65)

A ceramically bonded, high-alumina refractory made from a batch consisting essentially of fused alumina grain containing titania, finely divided chrome sesquioxide, and finely divided nonfused high alumina refractory material.

3,378,386

METHOD OF PREPARING COMPOSITE PIGMENTS

James J. Leddy, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Sept. 16, 1963, Ser. No. 309,086

9 Claims. (Cl. 106—288)

1. In a process for preparing a composite pigment by reacting titanium tetrachloride with oxygen on the surface of the particles of a substrate bed the improvement which comprises;
   (a) providing a particulate substrate bed member selected from the group consisting of kaolinite, hydrated calcium silicate, anhydrous calcium silicate, hydrated magnesium silicate, anhydrous magnesium silicate, hydrated silica, anhydrous silica, metakaolin, aluminum silicon spinel, talc and mixtures

thereof, the particles of said substrate bed having an average maximum dimension of from about 0.1 to about 1 mircon,

(b) passing a gas stream inert to said substrate up through said substrate bed while heating said bed to a temperature in the range of from about 850 to about 1200° C. thereby to fluidize said bed,

(c) providing a boiling mass of titanium tetrachloride separate from said substrate bed,

(d) passing a gas selected from the group consisting of dry air and oxygen through said boiling mass of titanium tetrachloride thereby providing a titanium tetrachloride vapor gas mixture,

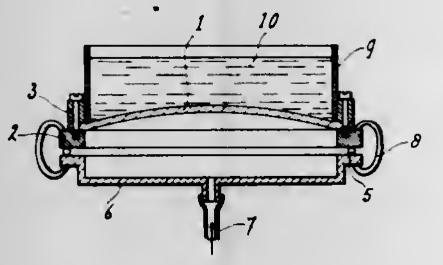
(e) transporting a predetermined amount of said titanium tetrachloride vapor-gas mixture to the heated fluidized substrate bed and passing said mixture up through said bed, the amount of said gas mixture being such to provide weight proportions of titanium chloride/particulate substrate bed at a minimum of about 1/10,

(f) stopping the flow of said titanium tetrachloride vapor-gas mixture up through said fluidized bed while maintaining the flow of the fluidizing gas stream up through the titanium tetrachloride contacted heated substrate bed thereby providing a composite pigment of said substrate particles having a coating of titanium dioxide thereon, said coating content at a minimum being about 4 per cent of the total pigment.

3,378,387
METHOD OF PREPARING SLURRIES OF SILICEOUS PIGMENT
Floyd J. DuBois, Pittsburgh, Pa., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 14, 1964, Ser. No. 389,661
11 Claims. (Cl. 106—309)

Dry siliceous pigments are prepared for use in a wet process stream by making an aqueous slurry of a siliceous pigment in a vessel into which water is supplied at the bottom of the vessel at a rate of flow such that the water rises upwardly throughout the pigment mass without appreciably displacing the mass in an upward direction.

3,378,388
METHOD FOR MANUFACTURING FLUORESCENT X-RAY SCREENS
Arjen Nawijn, Delft, Netherlands, assignor to N.V. Optische Industrie de Oude Delft, Delft, Netherlands
Continuation-in-part of application Ser. No. 206,607, July 2, 1962. This application Sept. 17, 1965, Ser. No. 488,227
Claims priority, application Netherlands, July 20, 1961, 267,329
4 Claims. (Cl. 117—7)



1. A method for manufacturing a fluorescent X-ray screen comprising the steps of:

stretching an elastic membrane on a rigid supporting frame;

positioning said frame so that the stretched membrane is in a horizontal plane;

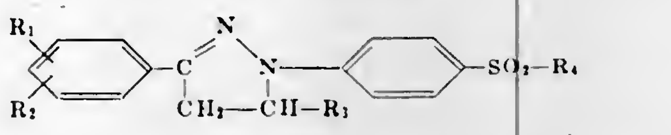
applying pressure to said stretched membrane to thereby cause the same to bulge upwards;

applying to said membrane a column of liquid containing particles of a fluorescent material for sedimentation onto the upper side of said membrane;

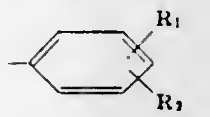
and removing said pressure after sedimentation is completed to allow the coated membrane to return to a flat condition.

3,378,389
1,3 - DIPHENYL PYRAZOLINES AND METHOD FOR BRIGHTENING SYNTHETIC MATERIAL THEREWITH
Carl-Wolfgang Schellhammer, Opladen, and Annemarie Wagner, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation
No Drawing. Filed Mar. 26, 1963, Ser. No. 267,920
Claims priority, application Germany, Mar. 31, 1962, F 36,436
11 Claims. (Cl. 117—33.5)

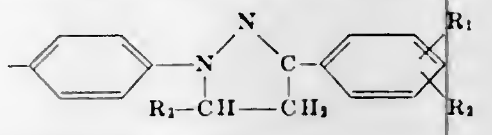
1. A method for brightening synthetic materials selected from the group consisting of polyacrylonitrile, polyamide and cellulose esters comprising impregnating said materials with a heated aqueous solution or a dispersion containing as active ingredient, a brightening amount of a compound of the formula



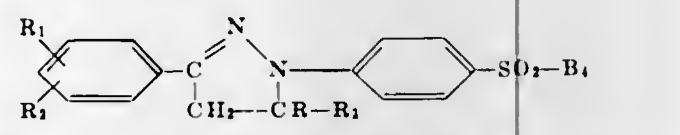
wherein R_1 and R_2 are independently defined as members selected from the group consisting of hydrogen, halo, alkyl, and alkoxy; R_3 is a member selected from the group consisting of hydrogen and



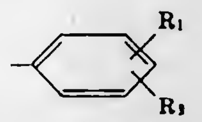
R_4 is a member selected from the group consisting of alkyl, haloalkyl, cyanoalkyl, carboxyalkyl, methyl sulfonyl substituted alkyl, dimethylamino alkyl and



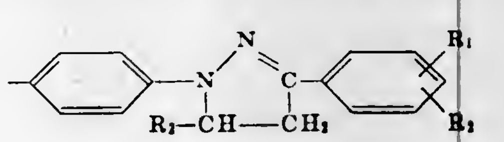
10. A compound of the formula



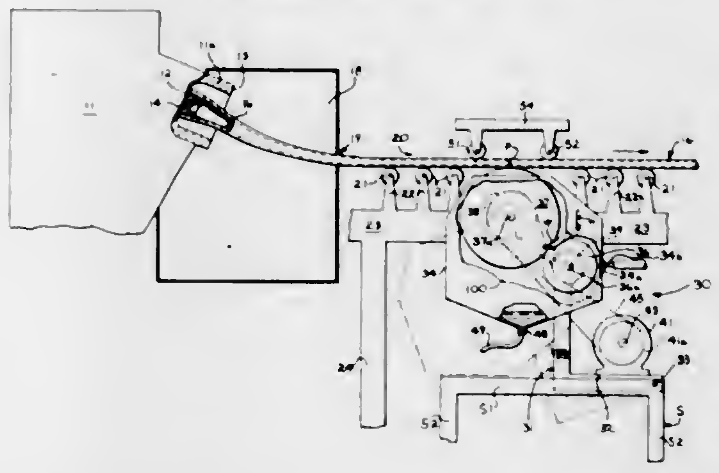
wherein R_1 and R_2 are independently defined as members selected from the group consisting of hydrogen, halo, alkyl, and alkoxy; R_3 is a member selected from the group consisting of hydrogen and



R_4 is a member selected from the group consisting of alkyl, haloalkyl, carboxy alkyl, cyanoalkyl, methylsulfonyl substituted alkyl, dimethylamino alkyl and

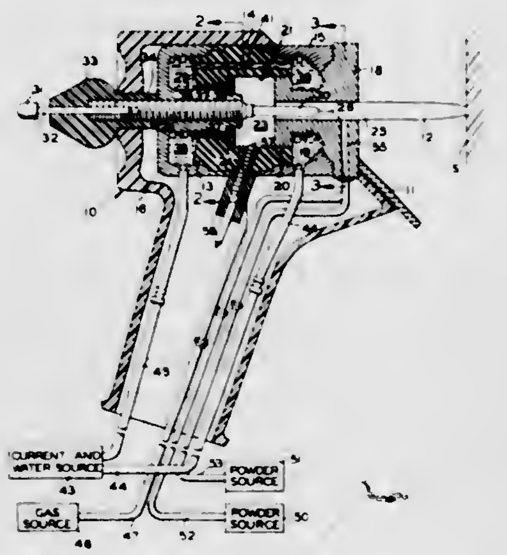


3,378,390
COLOR INDICIA FOR GLASS AND METHOD OF APPLYING SAME
Josef Francel and Alfred D. Pinotti, Toledo, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio
Filed Aug. 15, 1963, Ser. No. 302,342
14 Claims. (Cl. 117—43)



This invention relates to a method of and compositions for applying an integral permanent indicia to continuously drawn lengths of glass tubing or rod without deleterious effects upon their physical or chemical properties.

3,378,391
METHOD FOR COATING PLASTICS ONTO A SUBSTRATE EMPLOYING A PLASMA
John W. Winzeler and James F. Tucker, Santa Ana, Calif., assignors, by mesne assignments, to Giannini Scientific Corporation, Amityville, N.Y., a corporation of Delaware
Continuation-in-part of application Ser. No. 126,402, June 13, 1961. This application Dec. 20, 1962, Ser. No. 246,170
The portion of the term of the patent subsequent to Apr. 20, 1982, has been disclaimed
3 Claims. (Cl. 117—93.1)

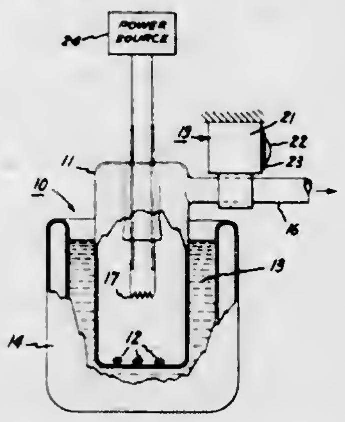


1. A method of applying a plastic onto a substrate, which comprises providing an electrical plasma-jet torch having a nozzle passage, supplying gas and electrictiy to said torch and generating an electric arc therein with consequent formation of a plasma jet which emanates from said nozzle passage, directing said jet toward a substrate which it is desired to coat with a plastic, providing a plastic, regulating the parameters of said torch in such manner that the region of said nozzle passage which is relatively adjacent said substrate does not contain any portion of said electric arc and is at a temperature insufficiently highto effect deterioration of said plastic but sufficiently high to melt the same, and introducing said plastic into said nozzle passage at said region thereof which is relatively adjacent said substrate whereby said plastic is melted therein and entrained in said jet for impingement against said substrate, said plastic then solidifying on said substrate to form a coating thereon.

3,378,392
HIGH TEMPERATURE FLAME SPRAY POWDER AND PROCESS
Frank Nicholas Longo, Mineola, N.Y., assignor to Metco, Inc., Westbury, N.Y., a corporation of New Jersey
No Drawing. Original application July 24, 1963, Ser. No. 297,198, now Patent No. 3,313,633, dated Apr. 11, 1967. Divided and this application Oct. 21 1966, Ser. No. 606;480
10 Claims. (Cl. 117—93.1)

Spray-welding boron-containing nickel and/or cobalt base self-fluxing alloys and obtaining dense coherent coatings without the necessity of the conventionally required fusing step by effecting the initial flame spraying of the self-fluxing alloy powder together with a refractory metal powder having a melting point above 3500° F., as for example, tungsten, rhenium, tantalum, molybdenum, columbium metal or metal alloy powders heated to above this melting point temperature and present in a quantity between 5 and 95% by weight of the total thereof with the self-fluxing alloy powder, to carry sufficient heat to effect the fusing step in situ, forming a dense, coherent, as sprayed, coating.

3,378,393
EVAPORATIVE APPLICATION OF METAL COATINGS TO DIAMOND
Richard W. Roberts, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Nov. 19, 1964, Ser. No. 412,556
1 Claim. (Cl. 117—100)

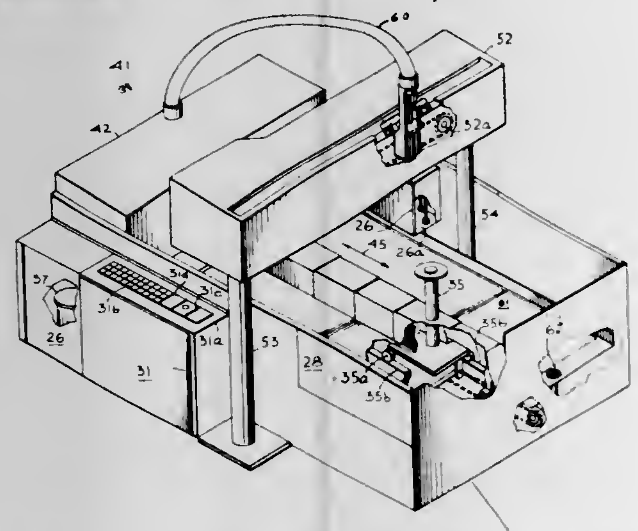


This application describes the evaporative deposition of a firmly bonded metal film over diamond surfaces while simultaneously lowering the temperature of the diamond material to quickly conduct away heat reaching the diamond during the deposition process. The cooling medium employed in the description of the invention is liquid nitrogen, which has a temperature of −196° C., but other cooling mediums may be employed as long as the criterion of providing a temperature below about −78° C. is adhered to.

3,378,394
METHOD AND APPARATUS FOR COATING MAGNETIC DISCS
Charles W. David, Los Angeles, Calif., assignor to Data Products Corporation, Culver City, Calif., a corporation of Delaware
Filed Mar. 29, 1965, Ser. No. 443,237
8 Claims. (Cl. 117—105.3)

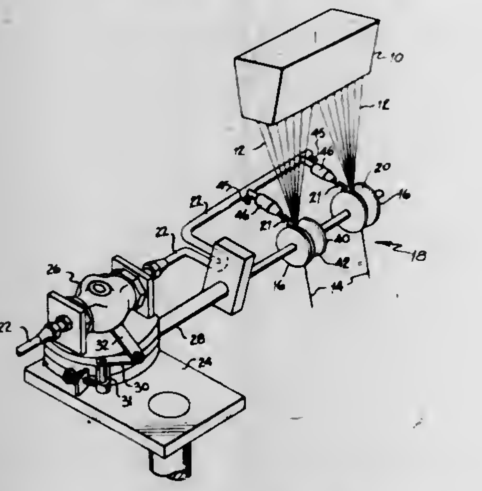
1. An apparatus for coating an exposed surface of an element with material to a predetermined thickness and

uniformity comprising first means for supporting the element having an exposed surface to be coated; second means for storing material to be coated under a predetermined pressure; dispensing means coupled to said second means to be supplied with said material therefrom; and control means for reciprocating said first means and said dispensing means in two paths having a predetermined relationship with one another to control the number and thickness of coats of material deposited on the exposed surface of said supported element, so as to control the uniformity and thickness of the material deposited thereon.



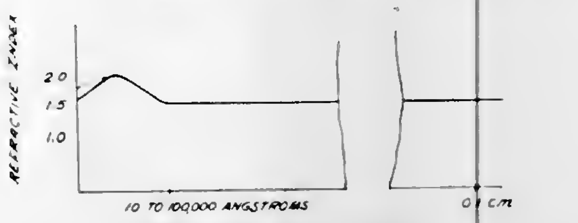
7. A method for depositing a uniform coat of material on an exposed flat surface of an element the steps comprising reciprocating an element having an exposed flat surface in a first path at a first predetermined rate; supplying at a predetermined pressure material to be coated on the surface of said element to a spray nozzle assembly; and reciprocating said spray nozzle assembly in a path which traverses said first path at a second rate substantially greater than said first rate so that material is sprayed by said spray nozzle assembly unto the exposed flat surface of said element when the reciprocating assembly and element are adjacent one another.

3,378,395
METHOD AND APPARATUS FOR TREATING CONTINUOUS FILAMENTS
Richard A. Faber, Swanton, Ohio, assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Filed Dec. 23, 1963, Ser. No. 332,366
9 Claims. (Cl. 117—120)



In the art of applying solubilized treating material to advancing filaments, by means of a positionable treating material applicator, closing off the supply of treating material by the same motion of the applicator employed to reposition the applicator out of the normal advancing filament path.

3,378,396
CONDUCTIVE OXIDE-COATED ARTICLES
Solomon Zaromb, 376 Monroe St., Passaic, N.J. 07055
Continuation of application Ser. No. 293,450, July 8, 1963. This application Mar. 27, 1967, Ser. No. 626,337
1 Claim. (Cl. 117—123)

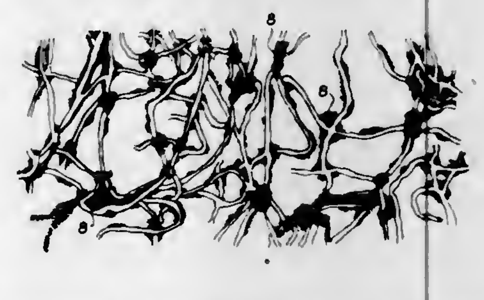


A transparent conductive article comprises a silicon-base light-permeable substrate coated with tin and silicon oxides varying gradually in composition from the coating-substrate interface to the outer surface of the coating, the coating being about 100% silicon dioxide at said interface, being a mixture of up to 60% silicon dioxide and not less than 40% stannic oxide at said outer surface, and being about 100% stannic oxide part way between said surfaces. Said article may be obtained by simultaneously directing separate sprays of a tin chloride solution and of a silicon chloride solution onto a heated substrate so as to thermally convert the chlorides to oxides, and gradually varying the ratio of the sprays to each other to vary the ratio of the oxides.

3,378,397
HIGHLY ALKYLOLATED TEXTILE FINISHING COMPOSITION AND PROCESS FOR TREATING TEXTILE FABRIC THEREWITH
Michael A. Silvestri and Herman B. Goldstein, Cranston, and Gerhard E. Sprenger, Ashaway, R.I., assignors to Sun Chemical Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 9, 1964, Ser. No. 358,652
18 Claims. (Cl. 117—139.4)

The reaction of compounds having at least one active hydrogen atom attached to the nitrogen atom of an amino or an amido group included therein with formaldehyde at a pH of at least 10.5, the highly alkylolated compositions produced by said reaction, a textile fabric treated with said compositions and a process for treating a textile fabric with said compositions.

3,378,398
SELF-SUSTAINING HIGHLY POROUS REGENERABLE THERMOPLASTIC FIBER MAT
Carl Ludwig Nottebohm, Robert Schabert, and Albrecht Burk, Weinheim an der Bergstrasse, Germany, assignors to Carl Freudenberg Kommanditgesellschaft auf Aktien, Weinheim an der Bergstrasse, Germany, a corporation of Germany
Continuation-in-part of application Ser. No. 172,712, Feb. 12, 1962. This application Mar. 6, 1963, Ser. No. 263,347
Claims priority, application Germany, Sept. 25, 1956, F 21,305
6 Claims. (Cl. 117—140)



1. Self-sustaining highly porous regenerable thermoplastic fiber mat having a specific gravity between 0.007 and 0.05 and a thickness of at least 4 mm. and an air permeability which is less than 5 mm. water column at a speed of streaming air of 1.5 meters per second even after prolonged use and in which the fibers are bonded together at their crossing points in any part of said mat with the same strength so that solid particles incorporated in the fiber mat may be removed by washing with water.

3,378,399
ORGANIC MATERIALS, ESPECIALLY PAPER, TREATED WITH DISTALLY PERFLUOROALKYL AMINE
George M. Rambosek, Maplewood, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Filed Apr. 13, 1964, Ser. No. 359,431
5 Claims. (Cl. 117—154)

Compounds in which perfluoroalkyl groups and amine groups are situated at the opposite ends of a linking chain are applied as beater additives to paper pulp or as coatings or impregnants to paper or fabrics and are found to be substantive thereon to an extent sufficient to provide organic materials and especially papers, which are oleophobic.

3,378,400
AUTOCATALYTIC DEPOSITION OF NICKEL, COBALT AND ALLOYS THEREOF
Ralph E. Sickles, 6833 Stonecreek Drive NE., Canton, Ohio 44721
No Drawing. Filed July 30, 1965, Ser. No. 476,183
10 Claims. (Cl. 117—160)

1. A bath for use in autocatalytic nickel, cobalt or nickel-cobalt alloy plating and comprising between a total of about 0.1 and 35.0 oz./gallon of at least one material from the group consisting of nickel sulfamate, and cobalt sulfamate, and at least one material from the group consisting of nickel chloride, and cobalt chloride; at least about 0.5 oz./gallon of a citrate; at least about 0.5 oz./gallon of an acetate; and at least about 0.2 oz./gallon of a hypophosphite.

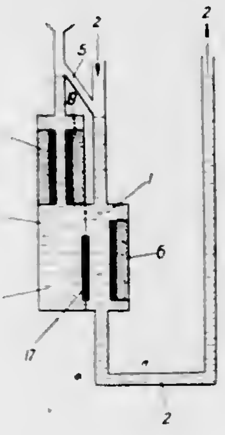
3,378,401
PROCESS FOR THE FORMATION OF VISIBLE IMAGES ON A SUBSTRATE
Alfred F. Kaspaul and Erika E. Kaspaul, Fairview, Pa., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Filed Feb. 11, 1964, Ser. No. 343,953
5 Claims. (Cl. 117—212)

Process for the formation of visible images on the surface of thermally stable substrates, consisting in producing an invisible latent image by impingement of an electron beam upon said substrate while in contact with the vapor of a photolytically or heat decomposable metallic compound, and thereafter, with or without removing said metallic compound, vapor depositing upon the latent image thus produced organic, inorganic or metallic developing agents to produce a visible image corresponding to said latent image. When metallic or semi-conducting compounds are employed, electronic circuits or components are provided.

3,378,402
PROCESS OF PRODUCING A COPOLYESTER-COATED OBJECT
Maria V. Wiener, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
No Drawing. Filed Mar. 13, 1964, Ser. No. 351,851
1 Claim. (Cl. 117—232)

A copolyester is formed from 60 to 100 mol percent of terephthalic acid, 40 to 0 mol percent isophthalic acid; and alcohols which contain 15 to 40 mol percent of polyols which contain 3 to 6 hydroxy groups, the remainder of the alcohols being diols of which at least 50 mol percent is 1,4-cyclohexanemethanol and the balance is diols containing 1 to 6 carbon atoms. The copolyester makes good electrical insulation and other coatings.

3,378,403
METHOD AND APPARATUS FOR REGENERATING A FUEL CELL ELECTROLYTE BY ELECTRODIALYSIS AND REMOVING EXCESS WATER
Nils V. Waubke, August Winsel, and Eduard Justi, Braunschweig, Germany, assignors to Varta Aktiengesellschaft, Hagen, Westphalia, and Siemens Aktiengesellschaft, Berlin and Erlangen, Germany, both corporations of Germany
Filed Sept. 19, 1962, Ser. No. 224,635
Claims priority, application Germany, Sept. 22, 1961, A 38,387
23 Claims. (Cl. 136—86)

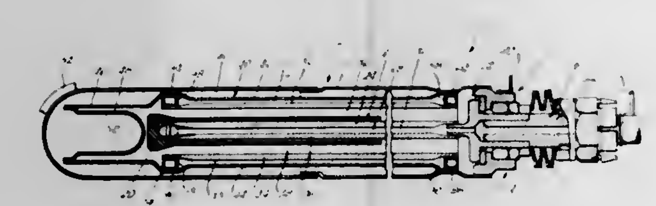


1. A method of removing excess water from an electrolyte contained in the electrode chamber of a fuel cell, said electrolyte consisting of an aqueous alkali metal solution and said excess water being formed by the electrochemical reaction of a hydrogen-containing fuel in the electrode chamber, comprising the steps of placing an electrodialysis chamber in communication with said electrode chamber, said electrodialysis chamber including an anode compartment, separating said anode compartment from said electrolyte in said electrode chamber by a cation exchanger membrane, continuously circulating a carbonate solution of said alkali metal through the anode compartment, transferring alkali metal cations from said carbonate solution through the membrane into the electrolyte by electrodialysis, transferring excess electrolyte diluted by the water formed in said reaction to the continuously circulating carbonate solution, continuously separating a portion of the water from said solution and removing said portion of water.

3,378,404
SCABBARD TYPE FUEL CELL
Mario J. Diotalevi, Somers, and Robert W. Dixon, Glastonbury, Conn., assignors, by mesne assignments, to Leesona Corporation, Cranston, R.I., a corporation of Massachusetts
Filed Apr. 10, 1963, Ser. No. 272,153
8 Claims. (Cl. 136—86)

1. A fuel cell for generating electricity directly from a fuel and oxidant comprising a housing, fuel electrodes, oxidant electrodes, an electrolyte and means for feeding reactants to said cell characterized in that the cell comprises a sheath unit having an outer sheath having an open side, first reactant electrodes having a first polarity and first reactant chambers for supplying reactant to said first reactant electrodes located within said outer sheath and positioned in spaced relation on opposite sides of said outer sheath to define a hollow center therewithin,

a cover unit received in said sheath open side and hermetically joined thereto to produce a sealed container, said cover unit including two second reactant electrodes having a second and opposite polarity from said first polarity positioned by and extending from said cover unit to form a centrally located second reactant chamber between said second reactant electrodes in the approximate center of said hollow center of said sheath unit and cooperating with said sheath unit to define electrolyte chambers between said second reactant electrodes and said first reactant electrodes, and a plate member extending across said outer sheath opening and being hermetically joined thereto.

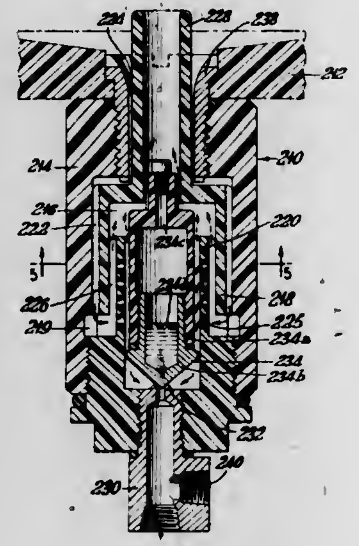


3,378,405
ANODIC MATERIAL AMALGAM-OXIDANT FUEL CELL

Erwin A. Schumacher, Cleveland, and Lawrence J. Uline, Lakewood, Ohio, and Helio A. Trull, St. Petersburg, Fla., assignors to Union Carbide Corporation, a corporation of New York

Filed Dec. 23, 1963, Ser. No. 332,385

6 Claims. (Cl. 136—86)



2. An anodic material amalgam-oxidant fuel cell comprising:

(a) at least one cell comprising an electrolyte, an anode, and a cathode in electrochemical relationship with each other;

(b) an electrolyte circulation system in communication with said cell for removing electrolyte therefrom and introducing electrolyte thereinto;

(c) an oxidant supply system communicating with said cathode;

(d) an anodic material amalgam supply system communicating with said anode, said amalgam supply system comprising amalgam conveying means the inlet end of which communicates with the top end of said anode and the effluent end of which communicates with the bottom of said cell, an amalgam regenerating means disposed in said amalgam conveying means for replenishing the anodic material content of said amalgam;

(e) said amalgam regenerating means comprising a housing having a reaction chamber therein, depleted amalgam inlet means near the top of said chamber, an annular insert spaced from the wall of said chamber to form an annular space there around communicating with said amalgam inlet means, said insert at its bottom fitting against the wall of said chamber and its top forming a weir over which depleted amalgam can flow, means within said annular space for imparting a circular motion to said depleted amalgam as it flows over said weir, enriched amalgam outlet means near the bottom of said chamber but above the lowest part of said chamber to allow a pool of amalgam to collect in said chamber, a sodium inlet nozzle at the top of said chamber, and means communicating with said nozzle for injecting liquid sodium into said pool of amalgam;

(f) at least one dielectric interrupter for preventing flow of electric current disposed in said conveying means; and

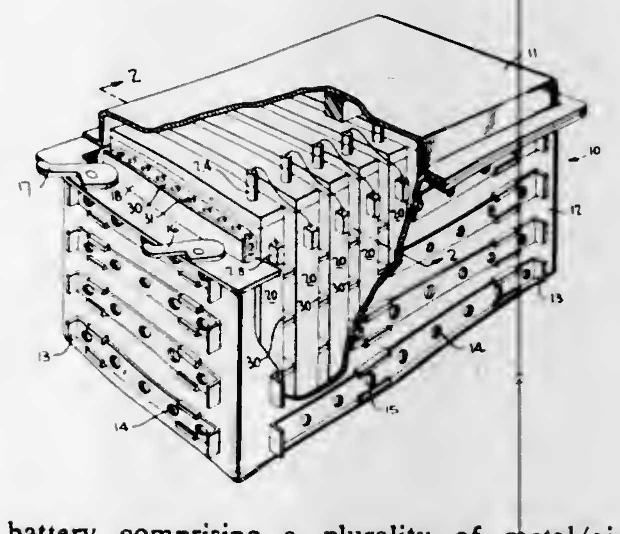
(g) pumping means for circulating the amalgam in said conveying means.

3,378,406
METAL-OXYGEN-CONTAINING ELECTROCHEMICAL BATTERY

Martin G. Rosansky, Forest Hills, N.Y., assignor to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts

Filed Dec. 30, 1965, Ser. No. 517,604

10 Claims. (Cl. 136—86)



A battery comprising a plurality of metal/air or metal/oxygen cells each containing an envelope cathode, a metal anode positioned within the envelope cathode, and an electrolyte in the space separating the cathode and anode, intercell spacers having openings to permit access of air or oxygen to the envelope cathodes between adjacent cells and a support for retaining the plurality of cells, and intercell spacers in operable structural association is described. The envelope cathode comprises a hydrophobic polymeric membrane in contact with a catalytic layer. In operation, air or oxygen passes through the hydrophobic polymeric membrane where it reacts at the catalytic layer with hydroxyl ions being transferred to the anode to complete the electrochemical reaction.

3,378,407
SOLAR CELL MODULE

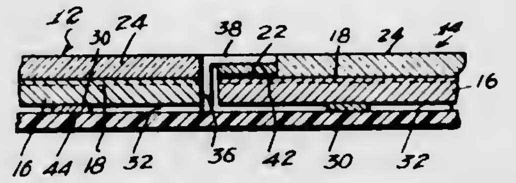
Richard V. Keys, Whittier, Calif., assignor, by mesne assignments, to Globe-Union Inc., Milwaukee, Wis., a corporation of Delaware

Filed Mar. 16, 1964, Ser. No. 352,102

13 Claims. (Cl. 136—89)

A solar cell module having a metallic grid to which

the bottom contacts of a plurality of solar cells are connected and a metallic bar connecting the contact strips of the cells, the grid having a tab that extends past the cells for connection to the bar of the next module.



3,378,408
ELECTROLYTIC CELL EMPLOYING ALUMINUM AS NEGATIVE ELECTRODE AND AN ALKALINE ELECTROLYTE CONTAINING HYPOCHLORITE ANIONS

Robert P. Hamlen, Scotia, and Randall N. King, Johnstown, N.Y., assignors to General Electric Company, a corporation of New York

Filed Mar. 8, 1965, Ser. No. 437,724

7 Claims. (Cl. 136—100)

An electrolytic cell has a negative electrode of aluminum, a positive electrode of a metal lower in the electromotive series than aluminum, and an alkaline aqueous electrolyte containing hypochlorite anions. An electrolytic battery has a plurality of spaced plates containing both of the above electrode materials which are in contact with the electrolyte.

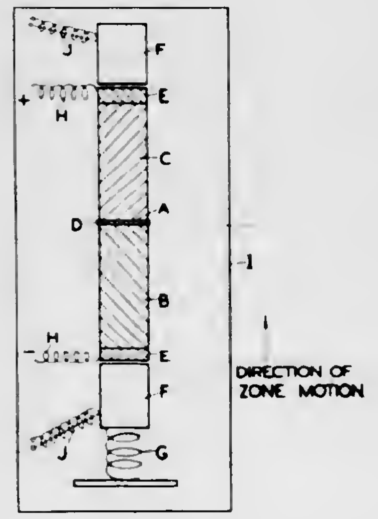
3,378,409
PRODUCTION OF CRYSTALLINE MATERIAL

Donald Thomas James Hurle and John Brian Mullin, Malvern, England, assignors to Minister of Aviation, in Her Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, London, England

Filed May 14, 1964, Ser. No. 367,503

Claims priority, application Great Britain, May 14, 1963, 19,029/63

3 Claims. (Cl. 148—1.6)



1. A process for the production of microscopically uniform single crystal material from material which is subject to constitutional supercooling including the steps of forming a thin concentrated liquid alloy zone in starting material said zone being less than 0.01 inch thick, and moving said thin concentrated liquid alloy zone by causing an electric current to flow in the material said process being carried out substantially isothermally such that temperature gradients which might aid or deter the movement of the liquid alloy zone are substantially absent.

3,378,410
CORROSION-RESISTANT COATING FOR MAGNESIUM DIE CASTINGS

Helen B. Barlett, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

No Drawing. Filed Apr. 26, 1965, Ser. No. 451,009

13 Claims. (Cl. 148—6.27)

1. A method of preparing a magnesium die casting having a corrosion resistant surface which comprises means of cleaning the surface of said casting, applying a silicate coating to the surface of said casting, drying said coating, and the heating of said magnesium die casting until said coating has been dehydrated and has reacted with the underlying metal, said coating composition comprising 0.6 to 1.0 part by weight of a complex magnesium-aluminum silicate, 2 to 4.5 parts by weight of an aqueous solution of low alkaline type sodium silicate, 2 to 4.5 parts by weight of an aqueous solution of low alkaline type potassium silicate, 90 to 95 parts by weight of water, said sodium silicate solution consisting of 32 to 40% by weight sodium silicate and the balance water, said potassium silicate solution consisting of 27 to 28% by weight potassium silicate and the balance water.

3,378,411
STRESS CORROSION CRACK INHIBITORS

Charles R. Bergen, Franklin, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

No Drawing. Filed Nov. 27, 1964, Ser. No. 414,467

5 Claims. (Cl. 148—6.35)

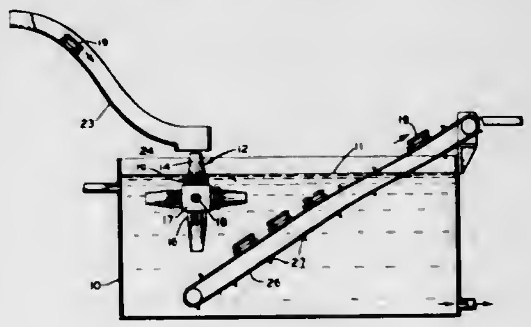
A process for inhibiting stress corrosion cracking in austenitic stainless steels subjected to chloride environments wherein the surface of the steel is provided with an oxide film containing ions of silver, lead and/or cobalt in amounts of less than 2 µgm. per square centimeter.

3,378,412
QUENCH HARDENING METHOD FOR RING-LIKE ARTICLES

Herman Mansfield, Fairlawn, N.J., and Jo Chian Hoo, Bronx, N.Y., assignors to Norma-Hoffmann Bearings Co., a Division of Universal American Corporation, Stamford, Conn.

Filed Oct. 22, 1965, Ser. No. 501,134

3 Claims. (Cl. 148—130)



Method of hardening a bearing ring which consists in heating it to the austernizing temperature, placing it onto a solid mandrel in a quenching medium to rapidly cool it down throught the M_s point and continuing the cooling until the ring reaches the temperature of the quenching medium, during which time a compound dimensional change is occurring characterized by a thermal contraction and a simultaneous crystallographic volume increase which is greater than the thermal contraction.

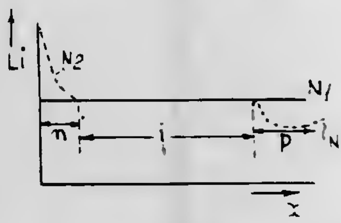
3,378,413
METHOD OF HEAT TREATING AN ALUMINUM BRONZE ALLOY

Quentin F. Ingerson, Milwaukee, Wis., assignor to Ampco Metal, Inc., Milwaukee, Wis., a corporation of Wisconsin
No Drawing. Filed Oct. 28, 1964, Ser. No. 407,229
3 Claims. (Cl. 148—160)

1. A method of heat treating an aluminum bronze alloy, comprising the steps of heating the aluminum bronze alloy consisting essentially of 10 to 12% aluminum, 2 to 10% nickel, and 1 to 6% iron and the balance copper to a temperature in the range of 1500 to 1850° F., quenching the alloy to room temperature, heating the alloy to a temperature in the range of 800 to 1050° F. to effect stress relieving of the alloy and precipitate secondary alpha phase, and cooling the alloy to room temperature.

3,378,414
METHOD FOR PRODUCING P-I-N SEMICONDUCTORS

David Vernon Freck, Basingstoke, Robert Lindsay Rouse, Caversham, Reading, and James Wakefield, Woolhampton, England, assignors to Associated Electrical Industries Limited, London, England, a British company
Filed Oct. 31, 1963, Ser. No. 320,338
Claims priority, application Great Britain, Nov. 2, 1962, 41,584/62
7 Claims. (Cl. 148—186)



1. The method of manufacturing solid state p-n junction devices consisting in diffusing lithium into a semiconductor material of a conductivity type opposite to lithium so as partially to compensate the charge throughout the semi-conductor without changing the type of conductivity, then diffusing further lithium vapour part of the way through the semi-conductor so as to change the type of the conductivity and form a p-n junction and thereafter applying a reverse electrical bias across the junction to form an intrinsic region between the opposite conductivity zones.

3,378,415
EXPLOSIVE SLURRY CONTAINING AN AGGLOMERATE OF AN INORGANIC NITRATE OXIDIZER AND A FUEL AND METHOD OF MAKING

George L. Griffith, Coopersburg, Pa., assignor, by mesne assignments, to Commercial Solvents Corporation, a corporation of Maryland
No Drawing. Filed Oct. 12, 1964, Ser. No. 403,365
20 Claims. (Cl. 149—2)

1. An explosive slurry characterized by a high sensitivity comprising an agglomerate of an inorganic nitrate oxidizer and a fuel in particulate form, the fuel selected from the group consisting of carbonaceous fuels, meal fuels, and mixtures of carbonaceous fuels and metal fuels being present in an amount of at least 75% of the amount required to oxygen-balance the inorganic nitrate, and a fluid selected from the group consisting of water, oil, and mixtures of water and oil in an amount in the range from about 7 to about 50% by weight of the slurry sufficient to suspend the said particles and form a slurry.

19. A process for preparing an explosive slurry, comprising, in combination, forming a melt comprising an inorganic nitrate, blending therewith a fuel selected from the group consisting of carbonaceous fuels, metal fuels, and mixtures of carbonaceous fuels and metal fuels in an amount of at least 75% of the amount required to oxygen-balance the inorganic nitrate, forming the resulting blend into particles, and mixing the particles with a fluid selected from the group consisting of water, oil and mixtures of water and oil in an amount sufficient to suspend the particles and form a slurry.

3,378,416
NOVEL HIGH EXPLOSIVE COMPOSITIONS

Donald D. Perry, Morristown, and Marvin M. Fein, Westfield, N.J., and Carl W. Schoenfelder, Livermore, Calif., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
Filed Nov. 13, 1963, Ser. No. 324,169
46 Claims. (Cl. 149—22)

41. Stabilized liquid explosive composition comprising a homogeneous mixture of a major amount of a polynitroaliphatic reactant and a carborane reactant and a minor amount of a mononitrated paraffin stabilizer, said major reactants being present in proportions ranging from ⅕ to 2 times the theoretical stoichiometric ratios required to form gaseous products.

3,378,417
EXPLOSIVE COMPOSITION CONTAINING INORGANIC NITRATE SALT OF PARTICULAR SIZE DISTRIBUTION

William Don McFerrin, 10 State St., Suite 410, Reno, Nev. 89501
No Drawing. Filed Aug. 22, 1966, Ser. No. 573,806
10 Claims. (Cl. 149—39)

An explosive composition wherein a desired explosive equivalent relative to blasting gelatine (having a 100% relative weight strength) is effected by using a direct one to one percentage ratio of ammonium nitrate having a critical grain size distribution; wherein the explosion characteristics can be modified by the appropriate substitution of inexpensive ingredients; and wherein the specific gravity of the explosive composition can be altered by the use of preselected indensifying agents to permit of marine and wet bore hole usages.

3,378,418
METHOD OF RESOLVING THIXOTROPIC JET AND ROCKET FUEL EMULSIONS

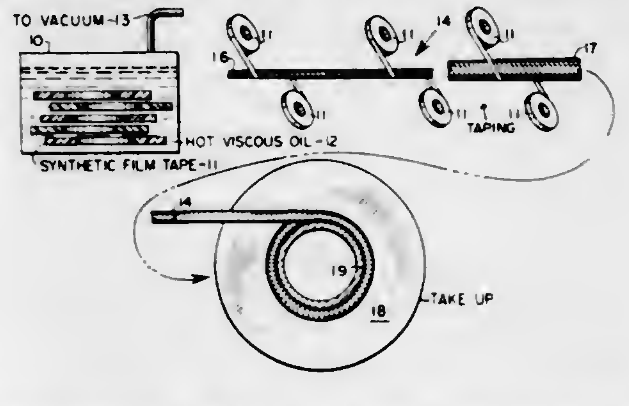
Kenneth J. Lissant, St. Louis, Mo., assignor to Petrolite Corporation, Wilmington, Del., a corporation of Delaware
Filed Apr. 11, 1966, Ser. No. 541,738
8 Claims. (Cl. 149—109)

A process of resolving jet and rocket thixotropic hydrocarbon-in-water emulsions comprising water, an emulsifiable hydrocarbon and an emulsifying agent, said hydrocarbon being present in said emulsion fuel in an amount of at least 80% hydrocarbon by volume of the emulsion, which process is characterized by contacting said emulsion with a substantially insoluble breaker-absorber such as argillacious earth or clayey materials, thereby breaking the emulsion and also removing the water-type external phase.

3,378,419
METHOD OF MAKING SYNTHETIC-FILM INSULATED HIGH-VOLTAGE CABLE

Edward D. Eich, Tarrytown, Eric O. Juhlin, Hastings-on-Hudson, and Eckart Berling, New York, N.Y., assignors to Anaconda Wire and Cable Company, a corporation of Delaware
Filed June 22, 1964, Ser. No. 376,770
10 Claims. (Cl. 156—53)

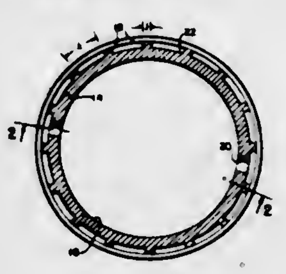
In the manufacture of high-voltage power cables with an insulating layer built up of wrappings of synthetic tapes,



the tapes are coated with high-viscosity oil before they are wound onto the cable cores.

3,378,420
PROCESS FOR MAKING WELL SCREEN

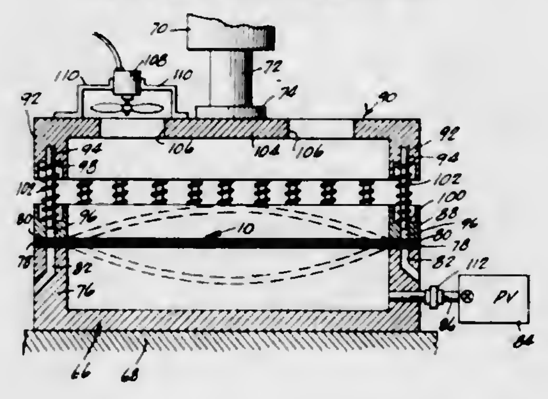
Richard E. Dickinson and Roger W. Dickinson, both of Rte. 2, Box 308, Theodore, Ala. 36582
Application May 1, 1964, Ser. No. 364,218, now Patent No. 3,221,819, dated Dec. 7, 1965, which is a continuation-in-part of application Ser. No. 265,550, Mar. 15, 1963. This application Dec. 2, 1965, Ser. No. 511,034
14 Claims. (Cl. 156—172)



A method of making a water well screen in which a plastic tube having longitudinally extending ribs projecting therefrom is chemically welded to a plastic screen element which has a generally wedge-shaped cross-sectional area by softening the surface of the ribs with a chemical welding agent, wrapping the screen element around the ribs, and holding the screen element in place until the softened ribs set to form a chemical weld. In the preferred embodiment, the plastic material is polyvinylchloride and the chemical welding agent is tetrahydrofuran.

3,378,421
METHOD OF PRODUCING AMBIENT LIGHT TRAPPING FILTER

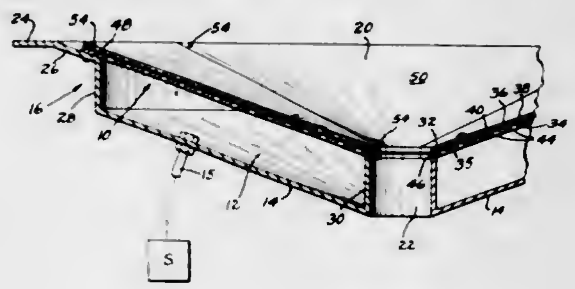
Vern E. Hamilton, Palos Verdes Estates, Calif., assignor, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
Filed Apr. 8, 1964, Ser. No. 358,297
12 Claims. (Cl. 156—224)



Method of producing concavo-convex space lattice filter includes providing flat blank of plurality of layers of heat formable plastic material united by thin films of cement, the layers bearing grid patterns in depthwise registry to provide substantially collimated depthwise viewing cells, partially setting the cement, heating the blank, bulging it to dome shape with diverging cells, cooling the blank, bulging it in the opposite direction with diverging cells, continuing the setting of the cement and returning the cells toward collimation by creep of the layers with respect to each other.

3,378,422
METHOD OF FORMING A PERMEABLE STRUCTURE

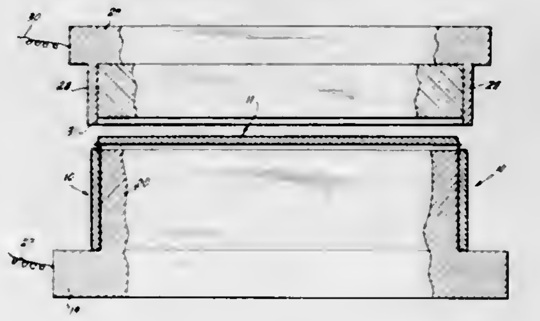
Willard E. Kemp, Bridgeton, Mo., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed June 29, 1964, Ser. No. 378,549
5 Claims. (Cl. 156—247)



A method of making a permeable wall in place within an outlet structure with the permeable wall forming a portion of a plenum chamber. The method comprises securing a perforated rigid sheet to the outlet structure, applying a layer of adhesive to the perforated sheet, applying a deformable porous sheet on the layer of adhesive with a removable gas impermeable cover adhesively secured over the porous sheet, applying a vacuum from the plenum chamber with the vacuum drawing the porous sheet against the perforated sheet to form an integral permeable wall in place within the outlet structure. The gas permeable cover is peeled or stripped from the porous sheet after the forming of the permeable wall.

3,378,423
FUSED CONTAINER STRUCTURE AND METHOD AND APPARATUS FOR PRODUCING IT

Edgwin R. Polk and Antonio La Grassa, Fords, N.J., assignors to Keene Packaging Associates, Elizabeth, N.J., a corporation of New Jersey
Filed Jan. 13, 1965, Ser. No. 425,209
4 Claims. (Cl. 156—273)



1. The method of fusing a plastic-coated cross wall of a container to a plastic-coated side wall thereof, which consists in bringing said walls into edge-to-edge relation with the margin of one wall partially overlying the peripheral edge of the other, thereby forming an outwardly exposed reentrant angle between the peripheral edges of said walls, and generating a fusion-producing high frequency field in a diagonal direction from the apex of said reentrant angle inward toward the line of intersection of

the inner surfaces of said walls, said field being produced simultaneously along the entire length of said reentrant angle and said field being in a plane arranged at an angle to the planes containing said walls.

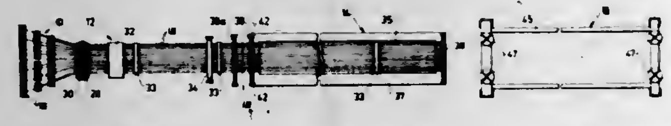
3,378,424
LAMINATION OF FIBROUS SUBSTRATES

Webster M. Sawyer, Jr., Orinda, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 2, 1964, Ser. No. 408,379
5 Claims. (Cl. 156—332)

An improved method of adhering polymeric films to fibrous substrates by (1) treating at least one surface of the substrate with an aqueous emulsion, the dispersed phase of which is a mixture of petroleum wax and a copolymer of ethylene and a C_{3-8} comonomer, the comonomer being an α-olefin, an ester of terminally ethylenically unsaturaed carboxylic acids and saturated aliphatic alcohols or an ester of saturated monocarboxylic acids and terminally ethylenically unsaturated aliphatic alcohols, (2) removing the emulsion water from the treated substrate, and (3) laminating a polymeric film to the thus-treated substrate surface at a temperature at least approximately as high as the softening point of the polymeric film. Useful substrates are paper and carton boards especially for use in wrapping and containing dairy products and other food products.

3,378,425
METHOD AND APPARATUS FOR MANUFACTURE OF LAMINATED OBJECTS COMPRISED OF WOOD AND SIMILAR VEGETABLE FIBROUS MATERIALS

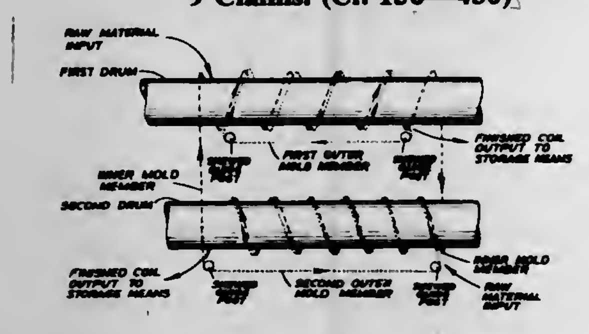
Josef Eric Marian, 2560 Cedar St.,
Berkeley, Calif. 94708
Filed July 18, 1966, Ser. No. 565,893
5 Claims. (Cl. 156—380)



A method and apparatus of manufacturing articles of wood or the like made up of several parts joined together by means of glue joints in which are mounted spaced electrical resistance wires for supplying the necessary heat to bind the adhesive. The wires are drawn from supply rolls and, while being held in fixed positions relative to each other between the surfaces being joined, they are energized to bond the parts together firmly.

3,378,426
APPARATUS FOR FORMING CONTINUOUS HELICAL COILS OF RESIN BONDED GLASS FIBERS

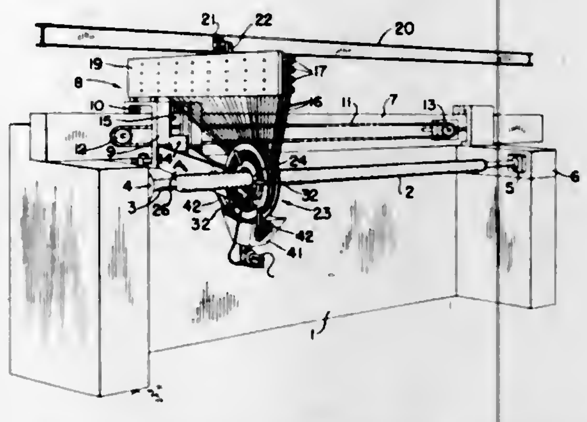
Jonas Medney, Oceanside, N.Y., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Oct. 5, 1964, Ser. No. 401,527
9 Claims. (Cl. 156—430)



First and second parallel, spaced apart drums are power driven in opposite rotation and an endless flexible inner mold member is helically arranged on each drum. First and second endless outer mold members cooperate respectively with the inner mold member on the first and second drums. Resin impregnated filamentary material is fed into the space between the coacting inner and outer mold members at one end of the drums and a product, formed as the endless members advance helically around the drums, is removed at the other end of the drums.

3,378,427
APPARATUS FOR WINDING ARTICLES

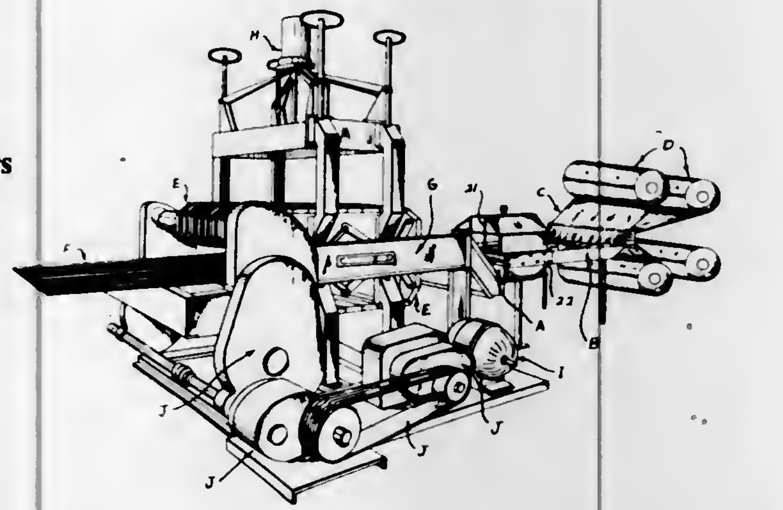
William George McClean, Milwaukee, Wis., assignor, by mesne assignments, to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed June 26, 1964, Ser. No. 378,305
5 Claims. (Cl. 156—431)



The invention relates to a filament winding apparatus and particularly to a delivery mechanism for guiding a strand of fibrous material onto a rotating mandrel and for impregnating the strand with a binder. The delivery mechanism includes an annular member spaced outward of the mandrel and having a radially extending passage which defines a reservoir adapted to contain the liquid binder. A series of circumferentially spaced strands are passed through the reservoir thereby coating the strands with the binder prior to being wound on the mandrel.

3,378,428
APPARATUS FOR MAKING FIBER REINFORCED RESIN ARTICLES WITH HOLLOW CHANNELS THERETHROUGH

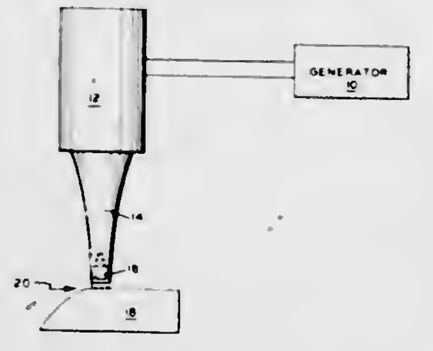
Le Roy R. Boggs, Bristol, Tenn., assignor, by mesne assignments, to Koppers Company, Inc., Pittsburgh, Pa., a corporation of Delaware
Filed July 7, 1964, Ser. No. 380,793
11 Claims. (Cl. 156—462)



Apparatus for making fiber reinforced resin articles in sheet form having hollow channels extending lengthwise of the sheets includes a die structure having a forming and resin curing passage, with core members arranged in the die. Folding means positioned ahead of the die fold sheets of resin impregnated webs to certain contours before the folded sheets enter the forming passage of the die and are bonded to flat sheets passing through the die simultaneously.

3,378,429
METHOD AND APPARATUS FOR TREATING MATERIAL WITH SONIC ENERGY

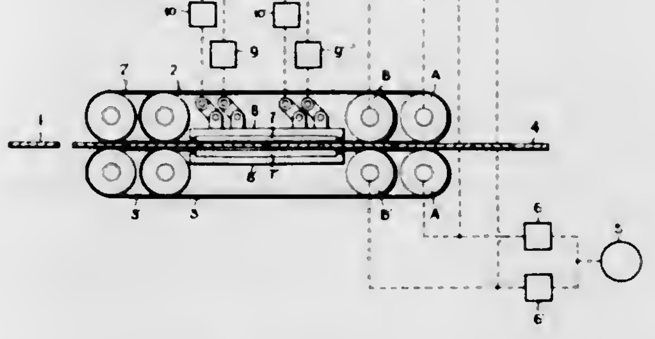
Edward G. Obeda, Brookfield, Conn., assignor, by mesne assignments, to Branson Instruments, Incorporated, a corporation of Delaware
Filed Jan. 4, 1965, Ser. No. 423,236
4 Claims. (Cl. 156—515)



An ultrasonically activated tool is used to seal and slit textile material made of synthetic fibers. The process is particularly suited for woven and tufted material, preventing frayed edges and unraveling of threads. In one embodiment, the tool has a first surface for sealing the material and a second surface adjacent the first surface for severing the material along its sealed portion, whereby to accomplish sealing and cutting in a single pass as the material is fed between the tool and an opposing anvil.

3,378,430
LATERALLY CONNECTING APPARATUS FOR VENEER

Tadashi Aizawa, 24 5-chome, Datoku-Shinmachi, Minami-ku, Nagoya-shi, Aichi-ken, Japan
Filed Dec. 8, 1965, Ser. No. 512,361
Claims priority, application Japan, Dec. 11, 1964, 39/69,401
10 Claims. (Cl. 156—556)



1. A butt sealing apparatus for veneer manufacture comprising a first set of rollers and a second set of rollers; a plurality of belts wound about the first set of rollers and a plurality of belts wound about said second set of rollers, the belts on the first rollers being interleaved with the belts on the second rollers; means to drive said first and second rollers with a phase difference in speed between first and second rollers and at variable speeds so that the speed of each set of belts may be fast or slow; and a plurality of pressure means associated with each belt to apply pressure periodically, said pressure means being positioned inside said belts and divided into an input section and an output section, the pressing force on the belts of the first roller having a phase difference in relationship to the pressing force on the belts of the second roller and each belt being periodically pressed in its input section and its output section by its associated pressing means; wherein the pressing force of each of said pressure applying means is directly proportional to change in speed of its associated belt in its input section and inversely proportional in its output section.

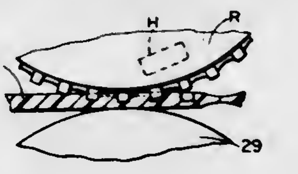
3,378,431
METHOD OF MAKING CARBON-CONTAINING GLASS AND PRODUCT THEREOF

Carlyle F. Smith, Jr., Rochester, and William B. Crandall, Fairport, N.Y., assignors to Pfaudler Permutit Inc., Rochester, N.Y., a corporation of New York
No Drawing. Continuation of application Ser. No. 347,354, Feb. 26, 1964. This application Mar. 20, 1967, Ser. No. 624,635
8 Claims. (Cl. 161—1)

A devitrification resistant bonded mass of vitreous SiO_2 and C physically inseparable and microscopically indistinguishable from silica and a method of making such a glass including the steps of heating to at least sintering temperature a glass-making composition of SIO_2 and a carbon-containing compound which will readily disassociate at a temperature below a selected elevated temperature to which the glass is heated, but not in excess of about 1250° C. leaving free carbon.

3,378,432
LIMP AND DRAPEABLE POLYURETHANE FOAM SHEETING AND METHOD OF MAKING IT

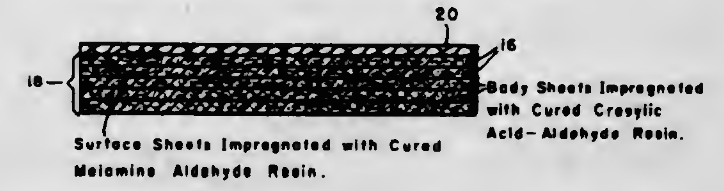
Francis T. Spencer, Biddeford, Maine, assignor to West Point-Pepperell, Inc., Boston, Mass., a corporation of Georgia
Continuation-in-part of application Ser. No. 184,822, Apr. 3, 1962. This application May 20, 1966, Ser. No. 551,747
The portion of the term of the patent subsequent to June 27, 1984, has been disclaimed
2 Claims. (Cl. 161—116)



Process of so treating single-ply, commercial, fully cured plastic foam sheeting as to reduce its natural stiffness and make it soft and limp, and the product of said process.

3,378,433
POSTFORMABLE DECORATIVE LAMINATES

Salvatore E. Palazzolo and William C. Hood, Varnville, S.C., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Continuation-in-part of abandoned application Ser. No. 813,569, May 15, 1959. This application May 31, 1961, Ser. No. 116,650
3 Claims. (Cl. 161—156)


20
16
18
Body Sheets Impregnated with Cured Cresylic Acid-Aldehyde Resin.
Surface Sheets Impregnated with Cured Melamine Aldehyde Resin.

1. A composite decorative postformable resinous laminate comprising (A) an overlay sheet of fibrous material impregnated with a clear, thermoset melamine-aldehyde resin, (B) a decorative layer comprising a decorated sheet

of fibrous material impregnated with a thermoset melamine-aldehyde resin, and (C) a body layer comprising a plurality of sheets of a stretchable, relatively dense, uncreped paper web formed of water laid, adherent cellulose fibers in their natural physical shape impregnated with from about 28% to about 100% of its weight of a thermoset resin consisting of a mixture of a rosin-modified phenol-formaldehyde resin and an epoxide resin derived from the reaction of bisphenol-A and epichlorohydrin, said thermoset resin characterized by thermal stability, desirable post-forming property, and a post-forming softening point range of from about 150° C. to 170° C.

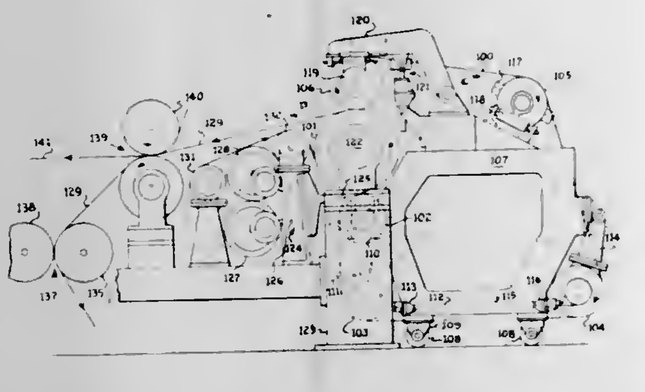
3,378,434
FIRE-RESISTANT PAPER-BASE EPOXY RESIN LAMINATES

John A. Harrington, Varnville, S.C., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed June 18, 1964, Ser. No. 376,245
6 Claims. (Cl. 161—184)

Paper-based laminates are impregnated with a resinous composition containing a brominated epoxide, up to an equal amount of a non-halogenated epoxide and a halogenated anhydride. The halogen of the epoxide resin-anhydride combination is from about 20% to about 50%, by weight. Antimony trioxide, flexiblizing agents such as polyesters, tricresyl phosphate and chlorinated biphenyl may also be included. Bonded together into a unitary structure by the cured solid resin, the laminate has high electrical and physical properties together with outstanding fire-resistance.

3,378,435
FELT AND FABRIC PRESS TYPE PAPERMAKING MACHINE

James Loynd, Neenah, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Feb. 19, 1965, Ser. No. 433,934
7 Claims. (Cl. 162—273)



A papermaking machine including a forming fabric supported by a set of rolls and a felt supported by a second set of rolls including a forming roll around which both the felt and fabric travel and a carriage for mounting the set of rolls for the forming fabric so as to allow the forming fabric to be moved away from and disassociated from the felt.

3,378,436
PROCESS FOR CONTROLLING INSECTS WITH PHENYLTHIOCROTONATE

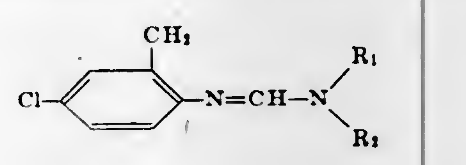
Edward Everett Ivy, Devon, Pa., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Mar. 22, 1966, Ser. No. 536,302
1 Claim. (Cl. 167—30)

Control of insects with phenyl thiocrotonate.

3,378,437
ACARICIDAL AGENTS

Horst Arndt, Berlin-Schoneberg, and Walter Steinhausen, Grossburgwedel, Germany, assignors to Schering, A.G., Berlin, Germany
No Drawing. Filed Dec. 20, 1963, Ser. No. 332,255
Claims priority, application Germany, Jan. 18, 1963, Sch 32,614
2 Claims. (Cl. 167—30)

A method of treating plants with an acaricidal composition containing one or more compounds of the generic formula,



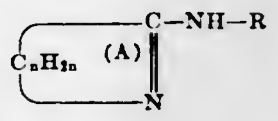
wherein R_1 is H or an alkyl radical having one to four C atoms, and R_2 is an alkyl radical of one to four C atoms, and their salts, with or without other pesticidal agents, in solid form for dusting powders, or in liquid or aerosol suspension for spraying or aerosol application.

3,378,438
COMPOSITIONS AND METHODS FOR CONTROLLING FUNGI

Karl Gätzi, Basel, Switzerland, assignor to J. R. Geigy A.G., Basel, Switzerland
No Drawing. Continuation-in-part of application Ser. No. 290,208, June 25, 1963. This application June 25, 1963, Ser. No. 290,343
Claims priority, application Switzerland, July 10, 1962, 8,320/62
9 Claims. (Cl. 167—33)

1. A method for controlling the growth of fungi comprising the application to a fungi-infested area, of a member selected from the group consisting of

(a) a compound of the formula


(I)

(b) a fungicidally effective salt of the compound of Formula I and an acid, and

(c) a fungicidally effective guaternary salt thereof with an agriculturally acceptable quaternizing agent, in an amount of from about 1 to 20 kilograms per hectare of organic substrate;

R in Formula I being a member selected from the group consisting of

alkyl with from 8 to 15 carbon atoms, alkoxy-alkyl with a total of from 4 to 20 carbon atoms, alkythio-alkyl with a total of from 4 to 20 carbon atoms, alkoxy-alkoxy-alkyl with a total of from 5 to 15 carbon atoms, alkoxy-alkoxy-alkoxy-alkyl with a total of from 7 to 15 carbon atoms,

all alkyl and alkoxy portions except the terminal alkoxy and alkylthio groups of the last-mentione four members having at least 2 carbon atoms,

bromoalkyl with from 4 to 15 carbon atoms, chloroalkyl with from 4 to 15 carbon atoms, alkylamino with from 1 to 15 carbon atoms, benzylamino, phenyl, lower alkyl-phenyl, lower alkoxy-phenyl, chloro-phenyl, bromo-phenyl, phenyl-lower alkyl, lower alkyl-phenyl-lower alkyl, lower alkoxy-phenyl-lower alkyl, chloro-phenyl-lower alkyl, bromo-phenyl-lower alkyl, cycloalkyl with from 5 to 7 carbon atoms, lower alkyl-cycloalkyl with from 5 to 7 ring carbon atoms,

and a radical of the formula

$$—(CH_2)_y—NH—R_1$$

wherein

R_1 is a member selected from the group consisting of hydrogen, alkyl with from 1 to 15 carbon atoms, alkoxy-alkyl with from 3 to 15 carbon atoms, alkylthioalkyl with from 3 to 15 carbon atoms, chloroalkyl with from 3 to 15 carbon atoms, bromoalkyl with from 3 to 15 carbon atoms,

phenyl, lower alkyl-phenyl, lower alkoxy-phenyl, chlorophenyl, bromo-phenyl, phenyl-lower alkyl, lower alkyl-phenyl-lower alkyl, lower alkoxy-phenyl-lower alkyl, chlorophenyl-lower alkyl, bromophenyl-lower alkyl, cycloalkyl with from 5 to 7 carbon atoms, lower alkyl-cycloalkyl with from 5 to 7 ring carbon atoms, $\Delta^{1,5}$-azacyclopentenyl-(5), lower alkyl-$\Delta^{1,5}$-azacyclopentenyl-(5), $\Delta^{1,7}$-azacycloheptenyl-(7), lower alkyl-$\Delta^{1,7}$-azacycloheptenyl-(7), $\Delta^{1,9}$-azacyclononenyl-(9) and lower alkyl-$\Delta^{1,9}$-azacyclononenyl-(9);

y being an integer ranging from 2 to 6, and

n being an integer ranging from 3 to 15, from 3 to not more than 7 of the carbon atoms of grouping C_nH_{2n} being ring members of ring A.

3,378,439
METHODS OF REPELLING BIRDS

Andrew J. Reinert and Kenneth E. Cantrel, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Feb. 16, 1966, Ser. No. 527,741
6 Claims. (Cl. 167—46)

1. A method of repelling birds from a roosting surface, which method comprises exposing said birds to the action of an effective amount of 4-(methylamino)pyridine which has been applied to said surface, said exposure being accomplished in the absence of oral ingestion of said 4-(methylamino)pyridine by said birds.

3,378,440
METHOD FOR TREATING UROLOGICAL DISORDERS WITH A SILICONE COMPOSITION

Robert L. Rowan and Yetta Rowan, both of 33 E. 30th St., New York, N.Y. 10016
No Drawing. Continuation-in-part of application Ser. No. 247,286, Dec. 26, 1962. This application May 25, 1964, Ser. No. 370,086
1 Claim. (Cl. 167—55)

1. A method for treating bladder disorders, which comprises the step of introducing into the bladder of a patient via the urethra a non-toxic organopolysiloxane liquid polymer selected from the group of methylphenylpolysiloxane, diethylpolysiloxane, methylpolysiloxane and copolymers of at least two of the aforementioned organopolysiloxanes, said organopolysiloxane liquid polymer having a viscosity within the range of 350–1000 centistokes.

3,378.441
TETRAENE ANTIBIOTIC PURIFICATION

Homer J. Bridger, New York, N.Y., assignor to S. B. Penick & Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 17, 1963, Ser. No. 317,041
8 Claims. (Cl. 167—65)

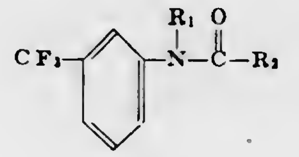
1. The process of extracting and purifying tetraene antibiotics selected from the class consisting of Pimaricin and Tennecetin, which comprises:

(a) the step of salting out with inorganic salts the crude antibiotic activity from acidified clear beers;
(b) collecting the precipitate;
(c) purifying by washing the crude antibiotic activity with a solvent in which the antibiotic activity is relatively insoluble;
(d) dissolving the purified antibiotic in a lower alkanol;
(e) recovering the antibiotic activity by evaporating the alkanol.

3,378,442
COMPOSITIONS FOR PRODUCING ANALGESIA AND ANTIPYRESIS

Bernard Loev, Broomall, and Donald T. Walz, Drexel Hill, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Continuation of application Ser. No. 309,895, Sept. 18, 1963. This application Nov. 13, 1964, Ser. No. 411,091
5 Claims. (Cl. 167—65)

1. A dosage unit in the form of a tablet, capsule, troche, lozenge or ampule for internal administration having analgesic and antipyretic activity substantially without methemoglobin formation comprising a pharmaceutical carrier combined with from about 50–500 mg. of a compound selected from the group consisting of an anilide of the formula:



in which:

R_1 is a member selected from the group consisting of hydrogen and lower alkyl, and

R_2 is a member selected from the group consisting of lower alkyl, lower alkenyl having 2–4 carbon atoms, lower alkynyl having 2–4 carbon atoms and cycloalkyl having 3–6 carbon atoms.

3,378,443
ANHYDROUS LIQUID SUSPENSIONS OF BIOLOGICS

Murray Sam Cooper, Dumont, N.J., and Irvin Sigwald Danielson, Pearl River, and Henry Michael Kroll, Nanuet, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Continuation-in-part of application Ser. No. 46,045, July 29, 1960. This application Apr. 5, 1966, Ser. No. 540,219
5 Claims. (Cl. 167—78)

Bulk shippable, storage stable compositions containing a dried, preferably freeze-dried, biological such as a vaccine, serum or antigen suspended in a dry liquid polyorganosiloxane such as a silicone.

3,378,444
HAIR BLEACHING COMPOSITION

Betty F. Swanson, White Bear, Minn., assignor to Rayette-Faberge, Inc., St. Paul, Minn., a corporation of Minnesota
No Drawing. Continuation-in-part of application Ser. No. 145,780, Oct. 17, 1961. This application June 3, 1966, Ser. No. 554,980
5 Claims. (Cl. 167—88)

1. A dry powder for admixture with hydrogen peroxide and liquid ammonium soap to form a hair bleach of gelatinous consistency, comprising a persulfate salt of a cation selected from the group consisting of alkali metals and ammonium, and anhydrous alkali metal silicate, the silicate and persulfate salts being present in a ratio range

of about 1:4 to1:7 and forming, upon wetting with both of said liquids, a gel in the pH range of about 9.3 to 10.0.

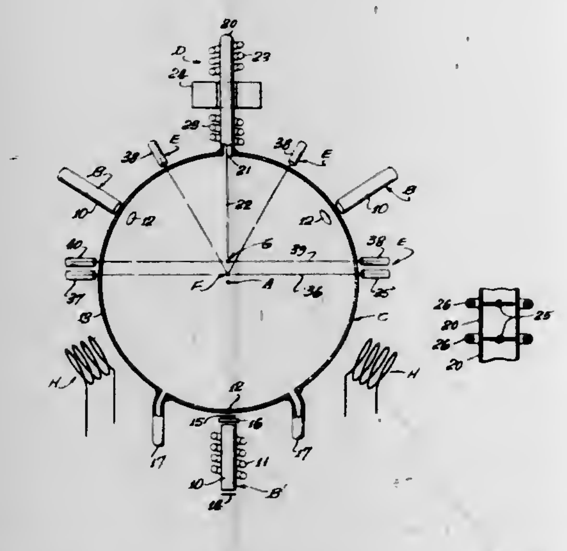
3,378,445
PROPHYLACTIC DENTAL PASTE COMPOSITIONS COMPRISING ZIRCONIUM SILICATE AND TIN DIOXIDE

Joseph C. Muhler, Indianapolis, Ind., assignor to Indiana University Foundation, Indiana Memorial Union, Bloomington, Ind., a not for profit corporation of Indiana
No Drawing. Continuation-in-part of application Ser. No. 374,257, June 11, 1964. This application June 17, 1966, Ser. No. 558,270
The portion of the term of the patent subsequent to June 21, 1983, has been disclaimed
17 Claims. (Cl. 167—93)

1. A dental prophylaxis composition for cleaning and polishing teeth comprising as a cleaning and polishing component a mixture of uncoated zirconium silicate, $ZrSiO_4$, and uncoated tin dioxide, SnO_2, wherein the zirconium silicate, $ZrSiO_4$, has a distribution of mean diameter particle sizes in the range of up to about 75 microns and the tin dioxide, SnO_2, has a distribution of mean diameter particle sizes in the range of up to about 3 microns and wherein the zirconium silicate, $ZrSiO_4$, is provided in said mixture at a level of at least about 50 and up to about 99%, by weight of said mixture, the balance of said mixture being tin dioxide, SnO_2.

3,378,446
APPARATUS USING LASERS TO TRIGGER THERMONUCLEAR REACTIONS

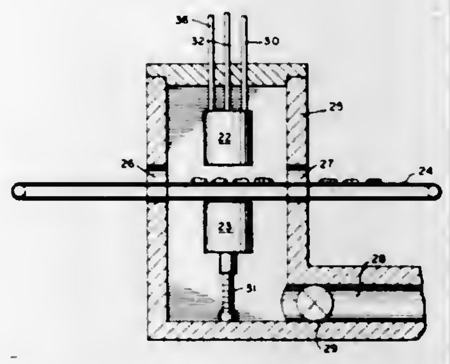
John R. B. Whittlesey, 1328 23rd St., Santa Monica, Calif. 90404
Filed Mar. 9, 1964, Ser. No. 350,176
1 Claim. (Cl. 176—1)



1. Apparatus for substantially instantaneous heating of a test particle comprising: means defining an hermetically sealed test chamber; means for evacuating said chamber; a plurality of lasers focused in balanced arrangement upon a reaction point within said chamber; a fall-directing barrel communicating with the top of said chamber; a test pellet supporting seat of magnetic material; means adjacent said barrel for creating a magnetic field for holding said pellet supporting seat within said barrel and then releasing it for free fall of said pellet along a path intersecting said reaction point; and means responsive to the passage of said particle through a trigger point above said reaction point in the path of free fall, for energizing said lasers and then firing them simultaneously so as to apply their beams to said particle symmetrically, whereby to apply balanced pressures to said particle to effect said substantially instantaneous heating.

3,378,447
REACTOR SYSTEM FOR GAMMA IRRADIATION

Phillip S. Mittelman, Armonk, N.Y., assignor to United Nuclear Corporation, White Plains, N.Y., a corporation of Delaware
Filed Feb. 9, 1966, Ser. No. 526,222
9 Claims. (Cl. 176—12)



1. A method for utilizing a nuclear reactor as a gamma ray irradiator for selective materials which comprises:

(a) placing in, or adjacent to, the reactor core of said nuclear reactor a gamma ray emitting material or a parent isotope capable of yielding a gamma emitting daughter when subjected to neutron irradiation;

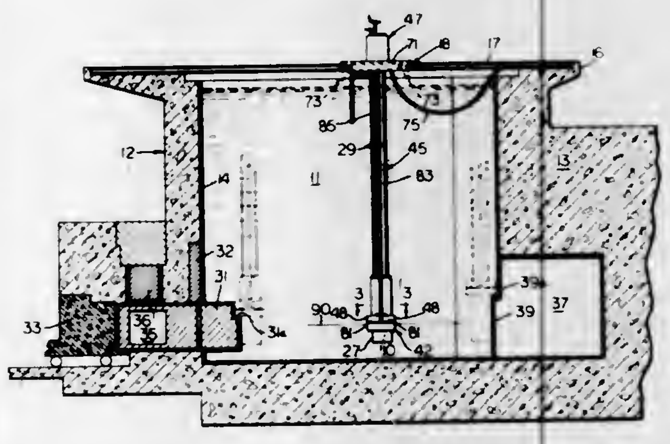
(b) cyclically operating said reactor to provide alternating periods of operation and shutdown after an initial operating period of a sufficient length of time to build up a stable inventory of gamma emitting fission products;

(c) introducing the selected material into the reactor during each of said shutdown periods for irradiation with gamma ray; and

(d) withdrawing said material from the reactor in the same shutdown period after said material received a predetermined dosge of gamma ray.

3,378,448
IRRADIATION APPARATUS

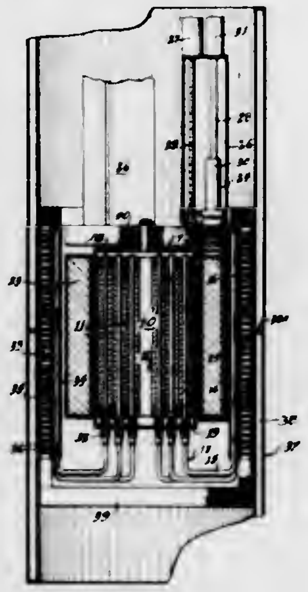
John R. Humphries, Jr., San Diego, Calif., assignor, by mesne assignments, to Gulf General Atomic Incorporated, San Diego, Calif., a corporation of Delaware
Filed Mar. 9, 1966, Ser. No. 533,042
15 Claims. (Cl. 176—15)



A nuclear reactor is described having an annular rack for supporting specimens to be irradiated. The rack surrounds the core and it is movable circumferentially by mechanical drive and is movable axially by flotation tanks which may be selectively filled with liquid or gas. Both the core and the support rack are suspended from a movable bridge and are movable together in the tank with the bridge in order that the core may be positioned adjacent irradiation facilities at each end of the tank.

3,378,449
NUCLEAR REACTOR ADAPTED FOR USE IN SPACE

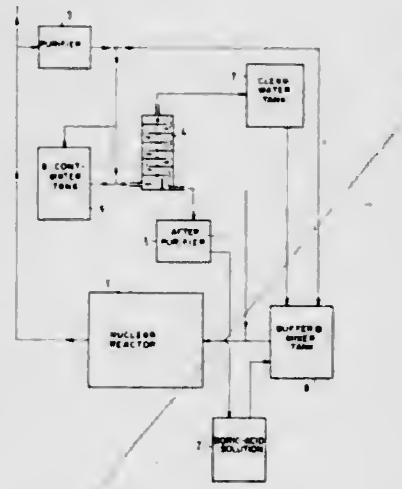
John J. Roberts, Chicago, and Edward J. Croke, River Forest, Ill., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed July 27, 1967, Ser. No. 656,996
10 Claims. (Cl. 176—33)



A nuclear reactor for use in space incorporating plutonium monophosphide as fuel, heat pipes employing lithium as working fluid to conduct the heat developed in the fuel to thermoelements, and heat pipes employing potassium as working fluid for rejecting waste heat to space.

3,378,450
METHOD AND APPARATUS FOR RECOVERING BORIC ACID IN NUCLEAR REACTOR PLANTS CONTROLLED WITH BORIC ACID

Gottfried Grämer, Furth, and Ivan Kausz, Erlangen, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany
Filed Jan. 11, 1967, Ser. No. 608,648
Claims priority, application Germany, Jan. 14, 1966, S 101,450
5 Claims. (Cl. 176—37)



Method of recovering boric acid in nuclear reactor plants controlled with boric acid by passing fluid medium mixed with boric acid, after it has traversed a reactor core and a purifier connected in parallel with the main flow loop of the reactor plant, through a rectification column adapted to separate a vapor-liquid mixture so as to concentrate the boric acid in liquid medium, passing the liquid medium concentrated with boric acid to an after-purifier for removing radioactive impurities therefrom, collecting the purified liquid medium concentrated with boric acid for recycling to the reactor, and also distilling vaporous medium separated in the rectification column and collecting the distillate substantially devoid of boric acid for recycling to the reactor.

Apparatus for carrying out the method comprising, in parallel connection with a main flow loop of a nuclear reactor, a purifier connected with a series arrangement of an intermediate tank for containing medium mixed with boric acid, a rectification column, an after-purifier, a supply tank for boric acid solution and a buffer and mixer tank, and parallel arrangement of a clear water supply tank connected between said rectification column and said buffer and mixer tank.

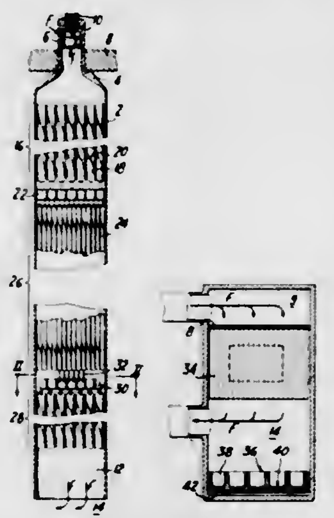
3,378,451
NEUTRON IRRADIATION METHOD OF SYNTHESIZING ETHYLENE GLYCOL AND FORMALDEHYDE

Bernard H. Hamling, Warwick, N.Y., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed July 28, 1965, Ser. No. 475,586
1 Claim. (Cl. 176—39)

1. The process which comprises dissolving uranium tetrachloride in methanol in an amount equivalent to at least 4 grams of uranium per liter of solution, and subjecting the solution to thermal neutron flux to produce at least ethylene glycol and formaldehyde.

3,378,452
FUEL ASSEMBLY FOR FAST NUCLEAR REACTORS

Didier Costes, Paris, France, assignor to Commissariat à l'Energie Atomique, Paris, France
Filed Sept. 14, 1966, Ser. No. 579,256
Claims priority, application France, Oct. 8, 1965, 34,364, Patent 1,443,907
5 Claims. (Cl. 176—40)

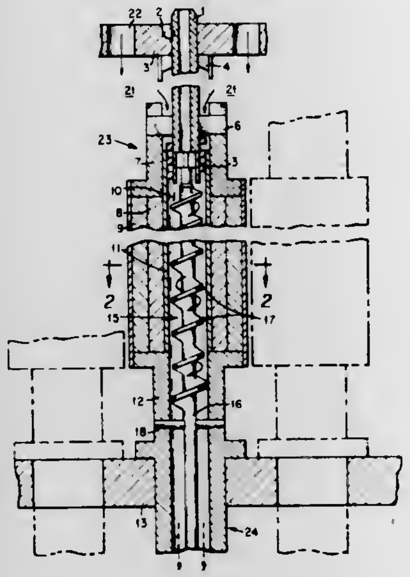


A fuel assembly for a fast reactor has the lowest fuel rod cluster suspended from the cluster located above it. The clusters are mounted in a sleeve having a bottom opening large enough for the lowest cluster to fall freely upon failure of the suspension cluster.

3,378,453
HIGH HEAT FLUX NEUTRONIC FUEL ELEMENT

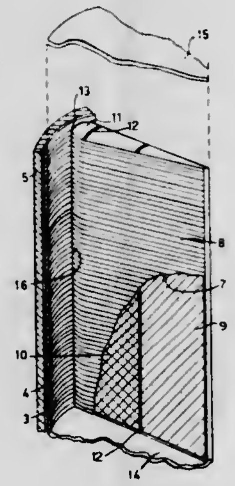
George E. Gorker, Cincinnati, Ohio, assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed July 13, 1966, Ser. No. 565,012
6 Claims. (Cl. 176—43)

A fuel element for a boiling water neutronic reactor. Fissionable fuel is disposed about a cylindrical coolant channel containing an elongated insert centrally disposed along the length of the channel. The central insert comprises a helical rib fixed to and spiraling about a central shank. The helical rib is spaced apart from the coolant channel wall along that portion of the channel surrounded by fissionable fuel. Means are provided for



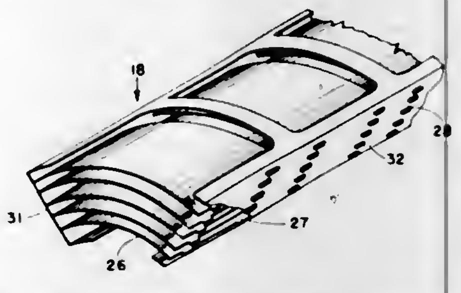
imparting an initial vortex flow to liquid coolant entering the coolant channel. The liquid coolant is maintained in vortex flow along the remaining length of the coolant channel by the action of vaporized coolant generated in the coolant channel as it flows along a spiral path defined by the helical rib and shank portion of the central insert.

3,378,454
NUCLEAR FUEL ARRANGEMENT
Peter Fiebelmann, Besozzo, Italy, assignor to European Atomic Energy Community (Euratom), Brussels, Belgium
Filed Aug. 22, 1966, Ser. No. 574,011
Claims priority, application Germany, Sept. 17, 1965, E 30,113
2 Claims. (Cl. 176—72)



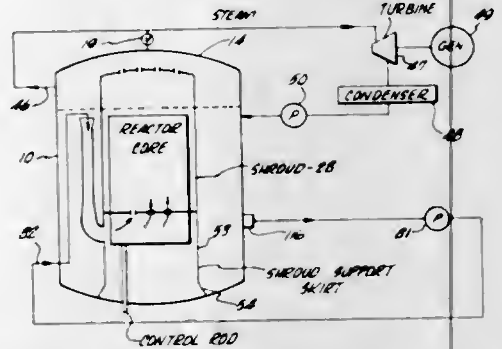
A nuclear fuel arrangement in which the fuel is divided into parallel strips, the interspace between the strips forming gas-tight chambers which contain a liquid metal heat carrier and have capillary grooves on the chamber walls extending transversely to the axis of the strips. The chambers thus act as heat pipes which transport thermal energy in a radial direction.

3,378,455
REACTOR FUEL ELEMENT FOR A NUCLEAR ROCKET MOTOR
Frank E. Rom, Avon Lake, and Armin F. Lietzke and Robert E. Hyland, Westlake, Ohio, assignors to the United States of America as represented by the National Aeronautics and Space Administration
Application Dec. 16, 1964, Ser. No. 420,249, now Patent No. 3,336,749, dated Aug. 22, 1967, which is a division of application Ser. No. 260,085, Feb. 20, 1963. Divided and this application Jan. 19, 1967, Ser. No. 610,725
2 Claims. (Cl. 176—75)



A reactor fuel element for rocket propulsion having a plurality of tungsten clad tungsten 184 uranium dioxide plates mounted in spaced relationship provide passages for conducting a fluid propellant.

3,378,456
JET PUMPING MEANS FOR A NUCLEAR REACTOR
John M. Roberts, San Jose, Calif., assignor to General Electric Company, a corporation of New York
Filed Apr. 5, 1965, Ser. No. 445,382
7 Claims. (Cl. 176—61)

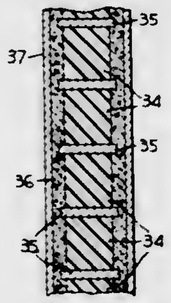


The invention relates to a system of jet pumps for circulating a cooling fluid such as water through a nuclear reactor core contained within a pressure vessel. The jet pumps are located in a downcomer annulus between a shroud surrounding the core and the interior of the pressure vessel whereby the coolant is forced downward into the inlet end or bottom of the core. The nozzles of the pumps are supplied with driving fluid via a distributor, near the bottom of the vessel, and riser pipes extending upward adjacent the pumps.

3,378,457
CERMET AND CERAMIC FUEL ELEMENT
John K. Davidson, Rome, Italy, and Richard S. Miller, Brookfield, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Continuation-in-part of application Ser. No. 391,396, Aug. 24, 1964. This application Aug. 18, 1965, Ser. No. 480,637
3 Claims. (Cl. 176—77)

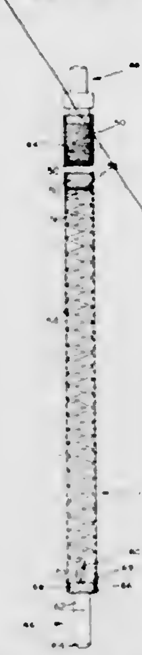
1. A fuel element for a fast neutron reactor comprising in combination a tubular shaped cermet fuel member defining a cylindrical chamber; a metallic sheath surrounding and engaging the outer surface of said tubular shaped cermet member; a plurality of metallic disks spaced within said cylindrical chamber rigidly secured to the inside surface of said tubular shaped cermet member dividing

said cylindrical chamber into a plurality of smaller chambers; and a ceramic fuel pellet disposed within each of



said smaller chambers, the outer periphery thereof in contact with the inner surface of the tubular cermet member.

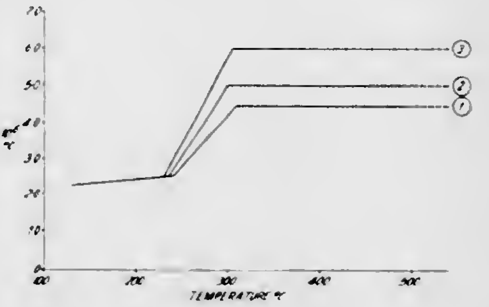
3,378,458
NUCLEAR REACTOR FUEL ELEMENT
Wilfred T. Ross and Dominic A. Venier, San Jose, Calif., assignors to General Electric Company, a corporation of New York
Filed Oct. 19, 1965, Ser. No. 497,788
11 Claims. (Cl. 176—79)



1. In a nuclear reactor fuel element which comprises a tube, first and second end plugs sealing the ends of said tube, a body of nuclear fuel disposed in one part of said tube thereby forming a plenum chamber adjacent one end of said tube, and a plenum spring extending in compression through said plenum chamber between the end of said body of fuel and the inner surface of the adjacent end plug, the improvement which comprises a coating integrally secured to the surface of said plenum spring at least in the region adjacent said end plug, said coating being of a material which forms with the material of said end plug a eutectic mixture having a melting temperature substantially higher than that of the eutectic mixture formed of the materials of said spring and said end plug.

3,378,459
GRAPHITE STRUCTURES IN NUCLEAR REACTORS
Harry Bridge and Brian Thomas Kelly, Culcheth, near Warrington, England, assignors to United Kingdom Atomic Energy Authority, London, England
Continuation of application Ser. No. 250,599, Jan. 10, 1963. This application June 23, 1966, Ser. No. 560,017
Claims priority, application Great Britain, Jan. 12, 1962, 1,212/62; Feb. 7, 1962, 4,806/62
7 Claims. (Cl. 176—84)

In a graphite moderator structure which is to be exposed to irradiation by neutrons in a nuclear reactor during operation and to be subjected to determined temperature distribution during normal operation, there is placed in each region of the structure a graphite whose coefficient of thermal expansion in at least one given direction is selected in accordance with the normal operating tempera-



ture in that region to dimensionally stabilize the graphite in such direction under neutron irradiation.

3,378,460
PROCESS FOR THE PRODUCTION OF β-CAROTENE
Leon Ninet and Jacques Albert Renaut, Paris, and Robert Charles François Tissier, Maisons-Alfort, France, assignors to Rhone-Poulenc S.A., Paris, France, a French body corporate
No Drawing. Filed Aug. 16, 1965, Ser. No. 480,145
Claims priority, application France, Aug. 17, 1964, 985,362; July 8, 1965, 23,958
7 Claims. (Cl. 195—28)

The use of isonicotinoylhydrazine and derivatives thereof to augment the production of β-carotene in aerobic fermentation in a culture medium is disclosed.

3,378,461
PROCESS FOR MAKING 5(4)-AMINO-4(5)-IMIDAZOLECARBOXAMIDE RIBOSIDE - 5' - PHOSPHORIC ACID
Hsing T. Huang, Groton, and Gilbert M. Shull, Old Lyme, Conn., assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware
No Drawing. Original application Aug. 28, 1963, Ser. No. 305,223. Divided and this application Dec. 7, 1966, Ser. No. 616,142
4 Claims. (Cl. 195—28)

5(4)-amino - 4(5) - imidazolecarboxamide riboside-5'-phosphoric acid produced by enzymatic phosphorylation of 5(4)-amino-4(5)-imidazole-carboxamide riboside, using an orthophosphate in the presence of actively fermenting yeast under certain conditions of temperature and pH. The product is a flavor enhancer for foodstuffs.

3,378,462
PROCESS FOR STARCH LIQUEFACTION
Leo John Denault and Peter Raymond Casey, Elkhart, Ind., assignors to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana
No Drawing. Filed Nov. 12, 1964, Ser. No. 410,713
9 Claims. (Cl. 195—31)

1. A process for liquefaction of starch which comprises adding to an aqueous slurry of starch-containing material a water-soluble calcium compound so as to form a calcium content molarity of from about 0.003 to about 0.03, adding a water-soluble sodium compound so as to form a sodium content molarity of from about 0.006 to about 0.06 and wherein the molar ratio of sodium/calcium in said slurry is about 2/1, and subjecting the resulting slurry to the action of an amylase to liquefy substantially all the starch in said slurry.

3,378,463

METHOD OF MEASURING ENZYME ACTIVITY

George G. Guilbault, Edgewood, and David N. Kramer, Stevenson, Md., assignors to the United States of America as represented by the Secretary of the Army

Filed June 22, 1965, Ser. No. 466,138

9 Claims. (Cl. 195—103.5)

Resorufin esters serve as fluorogenic substrates in determining the activity of cholinesterase and phosphatase.

3,378,464

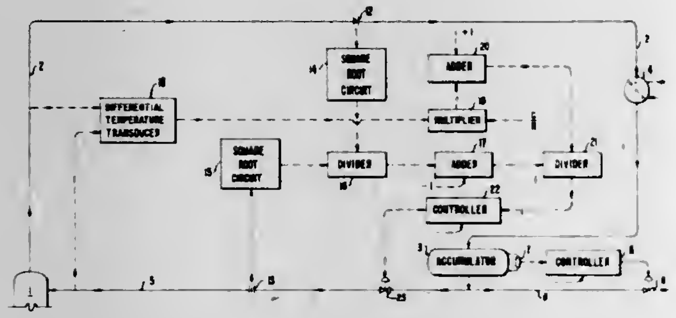
METHOD AND APPARATUS FOR THE CONTROL OF A CONTINUOUSLY OPERATING DISTILLATION PROCESS BY MAINTAINING THE RATIO OF VAPOR FLOW TO INTERNAL REFLUX FLOW CONSTANT

Johannes E. Rijnsdorp, Amsterdam, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Nov. 24, 1964, Ser. No. 413,437

Claims priority, application Netherlands, Dec. 13, 1963, 301,834

3 Claims. (Cl. 203—1)



A control system for distillation columns wherein the internal vapor flow and internal reflux flow are maintained constant. A signal related to the ratio of internal vapor flow to internal reflux flow is generated and used to control the external reflux flow to maintain the ratio at the desired value.

3,378,465

PURIFICATION OF SOLVENTS CONTAINING C_5 DIMERS BY AZEOTROPIC DISTILLATION WITH WATER

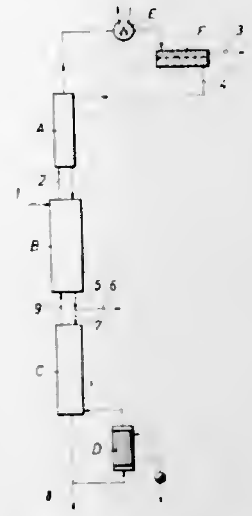
Hans-Walther Brandt, Cologne-Flittard, Bernhard Schleppinghoff, Dormagen, Feliks Bitners, Leverkusen, and Erich Meier, Cologne-Deutz, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, and Erdalchemie Gesellschaft mit beschrankter Haftung, both of Leverkusen, Germany, both corporations of Germany

Filed Aug. 20, 1964, Ser. No. 390,918

Claims priority, application Germany, Aug. 28, 1963, E 25,424

7 Claims. (Cl. 203—25)

A process is disclosed for the regeneration of solvents used in the separation of hydrocarbons contained in the C_5 hydrocarbon fractions produced in the pyrolysis of mineral oils or their fractions, which comprises taking said spent solvent which contains C_5 dimers and subjecting the same to an azeotropic distillation with water. There is thereby obtained at the top of the column a fraction comprising water and C_5 dimers and a bottom fraction comprising solvent substantially free of C_5 dimers. A small portion of the C_5 dimer free solvent is subjected to a further distillation wherein there is obtained a bottom fraction comprising higher polymeric materials and decomposition products and a top fraction composed of vaporous substance completely regenerated solvent. The solvent vapors in accordance with the invention are thereafter introduced into the azeotropic distillation wherein the same serves to heat up further quantities of solvent to be treated by removal of C_5 dimers.



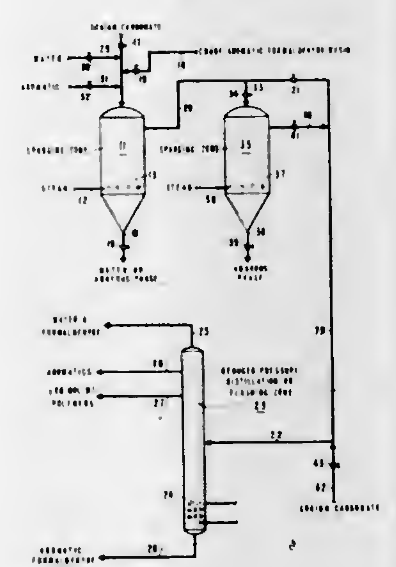
3,378,466

RECOVERY OF AROMATIC FORMALDEHYDE RESINS BY STEAM SPARGING WITH AN ALKALI AND VACUUM DISTILLATION

Bruce R. Coltharp, Raymond L. Heinrich, Ira G. Thompson, and Charles L. Thorpe, Baytown, Tex., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed June 14, 1966, Ser. No. 557,520

12 Claims. (Cl. 203—33)



1. A method of recovering aromatic formaldehyde resins from a crude reaction product containing said resins, unreacted aromatics and low boiling condensation products which comprises the steps of:

introducing steam into said crude reaction product for a period of time sufficient to form an aqueous acid phase and an oil phase;

separating said phases; and

distilling said oil phase under subatmospheric pressure conditions to obtain a resin product as a bottoms fraction and unreacted aromatics, low molecular weight polymers, free formaldehyde and water as overhead;

whereby loss of color and oxygen content of said resin product during recovery is minimized.

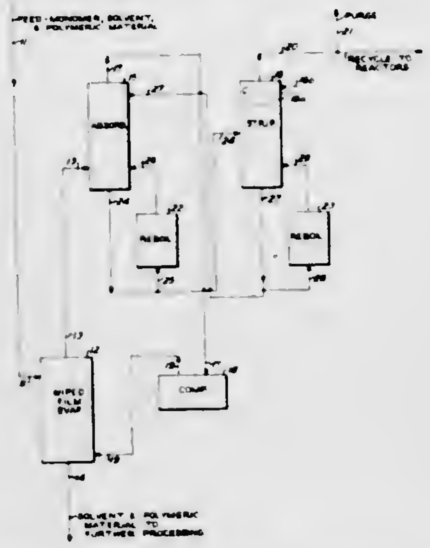
3,378,467

METHOD OF RECOVERING UNSATURATED MONOMER BY THIN FILM EVAPORATION WITH A GAS AND ABSORPTION WITH A SOLVENT

John White Colton, Pelham Manor, and Joseph E. Jewett, Jr., Larchmont, N.Y., assignors to Halcon International, Inc., a corporation of Delaware

Filed May 20, 1964, Ser. No. 368,830

10 Claims. (Cl. 203—42)



1. A process for recovering an unsaturated monomer selected from the group consisting of mono-olefins and diolefins from a solution polymerization reactor effluent comprising monomer, inert organic solvent, and polymer formed from said monomer which comprises passing said reactor effluent to a vaporization zone, countercurrently sweeping a thin film of said reactor effluent in said vaporization zone with an inert gas substantially saturated with solvent thereby removing monomer as vapor from the solvent and polymer in the film by vaporization, and passing the vaporized monomer to an absorption zone and absorbing the vaporized monomer with an inert organic solvent passed to said absorption zone.

3,378,468

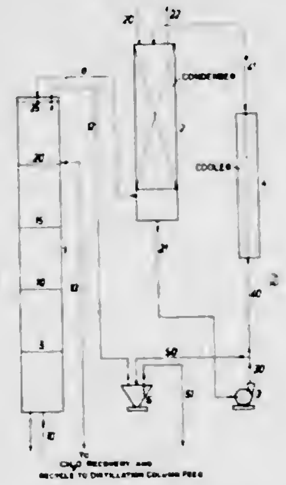
DISTILLATION AND RECOVERY OF TRIOXANE FROM AQUEOUS FORMALDEHYDE - ACIDIC CATALYST SOLUTIONS

Gerhard Langecker, Cologne-Lindenthal, Germany, assignor to Josef Meissner, Kommanditgesellschaft, Cologne-Bayenthal, Germany

Filed Nov. 29, 1965, Ser. No. 510,326

Claims priority, application Germany, Nov. 28, 1964, M 63,295

7 Claims. (Cl. 203—44)



A method for the improved production of trioxane from an aqueous formaldehyde solution in the presence of an acidic catalyst followed by continuous distillation of the produced trioxane through a distillation column and the recovery thereof from the distillate by solvent extraction, the novel method including withdrawing two streams which are independent of each other from the distillation column, these being an upper stream withdrawn from the head of the distillation column and a lower stream withdrawn from the distillation column at a point below the head thereof, the upper stream being subjected to a trioxane extraction by means of a solvent and a recycling back to the head of the distillation column, while the lower stream is reconcentrated in formaldehyde and recycled to the feed end of the distillation column.

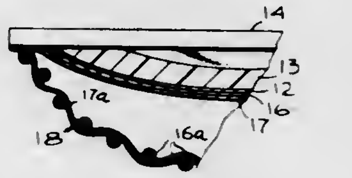
3,378,469

ELECTROFORMING TECHNIQUE AND STRUCTURE FOR REFLECTING MIRRORS

Perry Rex Jochim, Temple City, Calif., assignor to Electro-Optical Systems, Inc., Pasadena, Calif.

Filed Apr. 3, 1964, Ser. No. 357,170

7 Claims. (Cl. 204—7)



1. A reflecting mirror comprising: a layer of metal electroformed as the reflecting surface of the mirror; and a rigid mesh backing structure mounted on said metal layer at least substantially on the edge thereof for the firm and undistored support thereof, said backing structure including a pliable mesh material and an electroformed film of said metal that covers said pliable mesh material to rigidize it, said metal film blending with said metal layer as a continuation thereof to firmly and permanently mount said backing structure as an integral part of said reflecting surface layer.

3,378,470

ELECTRODEPOSITION OF NICKEL

Harry Kroll, Warwick, R.I., assignor, by mesne assignments, to John S. Guleserian, Warwick, R.I.

No Drawing. Filed May 17, 1965, Ser. No. 456,531

13 Claims. (Cl. 204—49)

Bright nickel plating baths comprising aqueous nickel salt solution containing an ester reaction product of maleic acid and acetylenic alcohol as a brightener.

This invention relates to compounds useful as additives to nickel electroplating baths and more particularly to the electrodeposition of smooth, lustrous deposits of nickel from baths containing these additives.

3,378,471

ANODIZED TANTALUM AND NIOBIUM AND METHOD OF FORMING AN OXIDE COATING THEREON

David A. Vermilyea, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed June 17, 1965, Ser. No. 464,758

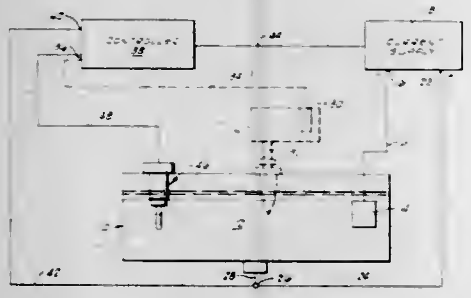
2 Claims. (Cl. 204—56)

1. A process for producing a dielectric oxide film on a body of a metal selected from the group consisting of tantalum, niobium and alloys thereof comprising immersing the body in an aqueous solution of an ionizable substance imparting electrical conductivity to the solution, which solution also contains hydrogen peroxide dissolved therein, electrically connecting the body to an electrode which is also immersed in the solution, and applying an electric potential to the body in a manner rendering it anodic and thereby causing the formation of a dielectric oxide film on the surface thereof.

2. An anodized body of a metal selected from the group consisting of tantalum, niobium and alloys thereof produced by immersing the metal body in an aqueous solution of an ionizable substance imparting electrical conductivity to the solution, which solution also contains hydrogen peroxide dissolved therein, electrically connecting the body to an electrode which is also immersed in the solution, and applying an electric potential to the body in a manner rendering it anodic and thereby causing formation of a dielectric oxide film on the surface of said body.

3,378,472
ANODIC PASSIVATION USING STAINLESS STEEL REFERENCE ELECTRODE

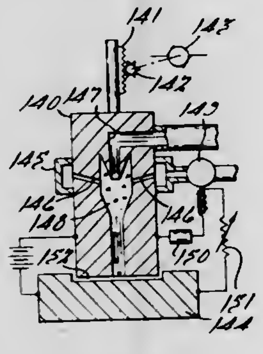
William P. Banks and Merle Hutchison, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Oct. 12, 1964, Ser. No. 403,138
2 Claims. (Cl. 204—147)



A method of anodically protecting a metallic vessel containing ammonium nitrate fertilizer solutions or solutions containing nitrate, ammonium, or hydroxide ions, from corrosion, wherein the reference electrode is made of stainless steel.

3,378,473
METHOD OF ELECTROCHEMICALLY MACHINING INCLUDING CONTROLLING THE FLOW OF GAS-CONTAINING ELECTROLYTE IN RESPONSE TO GAP VOLTAGE

Kiyoshi Inoue, 182 3-chome, Tamagawayoga-machi, Setagaya-ku, Tokyo, Japan
Continuation-in-part of application Ser. No. 342,565, Feb. 4, 1964. This application Apr. 2, 1964, Ser. No. 356,713
Claims priority, application Japan, Feb. 5, 1963, 38/5,435, 38/5,436; Mar. 1, 1963, 38/10,885; Mar. 19, 1963, 38/14,735, 38/14,737; Apr. 13, 1963, 38/19,277; May 13, 1963, 38/25,068; Aug. 12, 1963, 38/42,704
2 Claims. (Cl. 204—143)



1. A method of machining a conductive workpiece, comprising the steps of spacedly, juxtaposing an electrode with a surface of said workpiece, passing an electrolyte through said gap between the opposed surfaces of said electrode and said workpiece, injecting a gas into the electrolyte prior to its entry to said gap, passing an electrical current across said surfaces to remove electrolytically portions of said workpiece, maintaining a relative feed movement between said electrode and workpiece as material is removed, sensing gap voltage which is representative of gap spacing, and increasing and decreasnig the flow of gas and of electrolyte through said gap responsive to said gap voltage in a manner proportioned to gap spacing whereby the current densi.y in said gap is maintained substantially constant during machining.

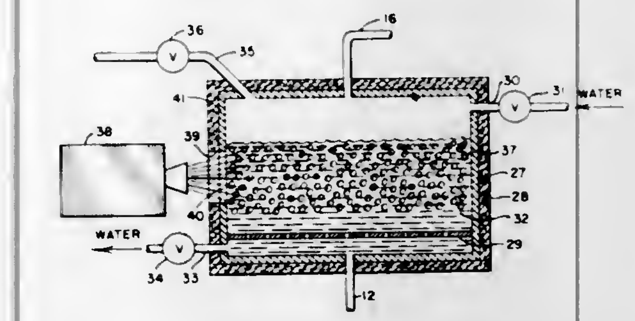
3,378,474
PROCESS OF REMOVING ALKYL BENZENE SULFONATE

William G. Green, 4925 Camellia Way S., St. Petersburg, Fla. 33705
No Drawing. Filed May 28, 1964, Ser. No. 371,086
6 Claims. (Cl. 204—149)

A composition of chemicals and means for applying same for increasing the foaming action and the precipitation of solids which coagulate effectively with alkyl benzene sulfonate to remove this and other deleterious substances from waste water including laundry water, consisting of combining alum, calcium chloride, sodium carboxy methyl cellulose and di methyl sulfoxide, and applying same by inducing turbulance and aeration and electrolytic means for inducing fine bubbles with a jet exhauster for ejecting the foam.

3,378,475
PROCESS FOR THE FIXATION OF NITROGEN BY MEANS OF HIGH ENERGY IONIZING RADIATION

Jerome G. Morse, Baltimore, Md., assignor to Martin-Marietta Corporation, New York, N.Y., a corporation of Maryland
Filed Oct. 12, 1962, Ser. No. 230,100
8 Claims. (Cl. 204—157.1)



1. An improvement in a process for the fixation of nitrogen comprising the step of subjecting a fluidized bed, wherein particles of a catalyst of the type which reduces the strength of the bond between the atoms in a molecule of nitrogen are suspended in a body of water by the passage of air through said water, to high energy radiation effective to produce ionized particles of said water.

3,378,476
PHOTOHALOGENATION OF HYDROCARBONS

Thomas Hutson, Jr., and Allan D. Holiday, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Mar. 12, 1964, Ser. No. 351,480
7 Claims. (Cl. 204—163)

The ratio of monohalogenated hydrocarbons to dihalogenated hydrocarbons, in the light catalyzed halogenation of liquid hydrocarbons containing about 8 to 20 carbon atoms per molecule, is increased by conducting the halogenation in the presence of an aromatic hydrocarbon containing not more than 7 carbon atoms per molecule.

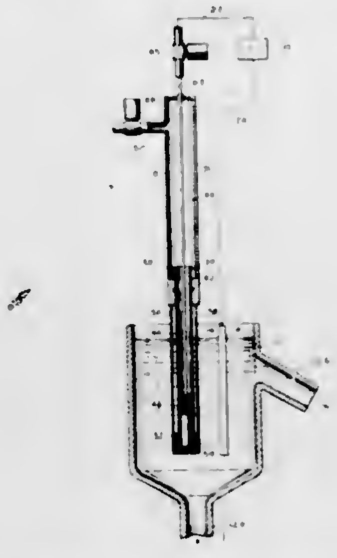
3,378,477
PROCESS FOR THE DEPOSITION OF RESINOUS FILMS ON METAL OBJECTS

James Keith Gentles and Jack Blatchley Harrison, Liverpool, England, assignors to Goodlass, Wall & Co., Limited, Liverpool, England, a British company
No Drawing. Filed Feb. 26, 1963, Ser. No. 261,564
Claims priority, application Great Britain, Feb. 27, 1962, 7,677/62
4 Claims. (Cl. 204—181)

Bonding of a pigmented resin film on a metal surface by electrodeposition wherein a pigment is first incorporated into a selected synthetic resin having free acid groups and which resin is not soluble in an aqueous medium, and thereafter dispersing the pigmented resin in an aqueous medium in the presence of base to form a stable aqueous dispersion of the pigmented resin. An electrolytic cell is then formed wherein the metal surface to be coated constitutes the anode of the cell. Electrophoresis results in deposition of the pigmented resin on the metal surface. Subsequently, the coated metal surface is heated to achieve crosslinking of the resin which is then bonded to the surface of the metal. Preferably the selected resin is an alkyd resin derived from drying oil fatty acids, polyhydric alcohols and trimellitic anhydride or an acrylic resin which is the copolymer of an acrylamide, an alkyl acrylate, acrylic acid or a methacrylic acid and styrene or vinyl toluene.

3,378,478
APPARATUS FOR CONTINUOUS OXYGEN MONITORING OF LIQUID METALS

Morris Kolodney, River Edge, N.J., and Hyman Steinmetz, Monsey, N.Y., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Feb. 20, 1963, Ser. No. 260,086
3 Claims. (Cl. 204—195)

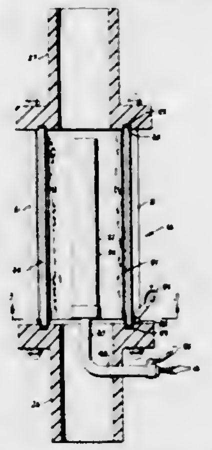


1. A galvanic cell for the detection of oxygen dissolved in liquid sodium, comprising,

- (a) an electrode assembly adapted to be immersed in a bath of sodium, said assembly including a hollow body of solid electrolyte of impervious ZrO_2 containing oxygen carrier CaO;
- (b) a pellet of Ni-NiO in intimate mixture within said hollow body with separate phases of both the metal and metal oxide in contact with said electrolyte;
- (c) a relatively inert metal electrode adapted to be immersed in said bath spaced from said assembly and
- (d) means for detecting the EMF development between said electrode and said pellet for indicating the presence of oxygen in said molten sodium, the last-named means including a rod conductor extending from said pellet, a wire mesh of highly conductive material providing electrical contact between said pellet and the end of said rod conductor, and mean for clamping said rod conductor tightly against said mesh.

3,378,479
ELECTROLYTIC CELL AND CHLORINATING SYSTEM USING SAME

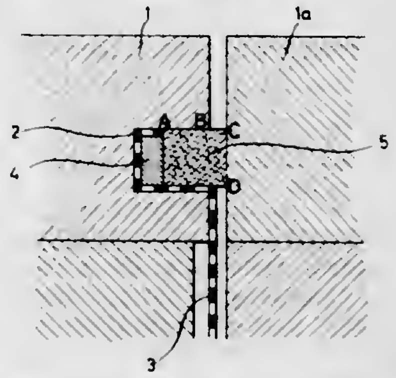
Donald Colvin, San Francisco, and Vernon A. Schultz, El Sobrante, Calif., assignors to Simplex Manufacturing Co., Richmond, Calif., a corporation of California
Filed June 26, 1964, Ser. No. 378,411
11 Claims. (Cl. 204—248)



An electrolytic cell for chlorinating swimming pools, in which the electrolytic cell is constructed to solve scale problems heretofore encountered when using the cell to form chlorine from aqueous salt solution; the cell containing a transparent housing, a sleeve-like see-through anode fitting within the housing and near the transparent wall thereof, and an elongated cathode adapted to be centrally aligned in the cell, the anode and the cathode being constructed of dissimilar metals so that a galvanic cell is provided during the off period, said cathode being characterized by containing a smooth surface from which scale formed during electrolysis is easily shed and a variable radius of curvature influenced by the temperature thereof, and an auxiliary heater for increasing the temperature gradient during operation; the system also being provided with an accumulator downstream of the electrolytic cell to collect scale formed in the cell and sloughed off therefrom.

3,378,480
PROCESS FOR CLAMPING AND TIGHTENING DIAPHRAGMS IN FILTER PRESS TYPE CELLS FOR THE ELECTROLYSIS OF AQUEOUS HYDROCHLORIC ACID

Paul Reinshagen, Heinz Schmidt, and Waldemar Ziemer, Frankfurt am Main, and Heinrich Henkel, Espa, Kreis Butzbach, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany
Filed July 29, 1965, Ser. No. 475,733
Claims priority, application Germany, July 30, 1964, F 43,615
1 Claim. (Cl. 204—253)

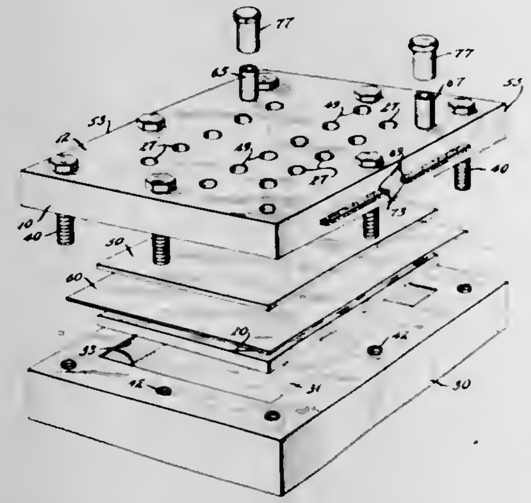


1. A process for clamping and tightening diaphragms in filter press type cells for the electrolysis of aqueous

hydrochloric acid, which comprises inserting the diaphragm into a groove of the electrode frame and clamping it with a V-ledge, then inserting an endless packing cord into the groove and pressing it against the frame of the neighbouring electrode.

3,378,481
BIOCHEMICAL TEST PLATE

Calvin A. Saravis, 110 Evelyn Road, Waban, Mass. 02168, and Herbert Goldsmith, 238 Congressional Lane, Rockville, Md. 20852
Filed Jan. 3, 1966, Ser. No. 518,159
5 Claims. (Cl. 204—299)

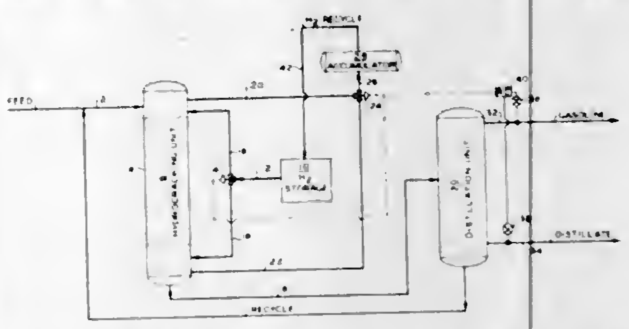


1. A biochemical electrophoresis test plate comprising: a planar template containing an ordered plurality of spaced apart apertures and reactant wells therethrough, said template having a central boss on the underside thereof; a microporous film underlying said template at the central boss thereof; a resilient pad essentially coextensive with the boss; a back-up plate containing a central recess into which said resilient pad and said central boss fit closely, the height of said pad being less than the recess depth; and attachment means associated with the marginal edge portions of the back-up plate surrounding said recess and with the marginal edge portions of the template surrounding the boss for securing together the test plate, the microporous film then being under a substantially uniform state of stress, said template further having an elongated liquid electrode slot adjacent each of two opposing side marginal edges and parallel thereto, the slot extending up through the central boss into the main body of said template, at least one port extending from the upper surface of the template through to each slot for filling the slots with liquid electrode solution: at least one side slit extending from the slot through to the side marginal edge of the template adjacent thereto; a wick in each slit, the wick being dimensioned overlength for the slit and extending outward of the side marginal edge of the template, whereby an electrically conductive path exists for current flow from one side marginal edge of the template successively through a wick, a liquid electrode slot, the microporous film, the other liquid electrode slot and wick associated therewith to the opposing side marginal edge of the template.

3,378,482
CONTROLLED HYDROCRACKING

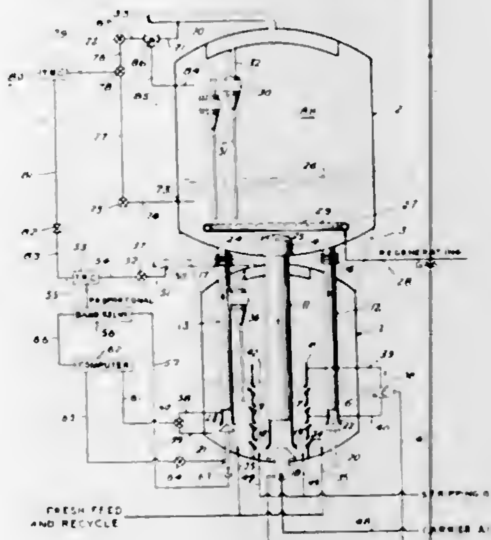
Elliott P. Doane, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Continuation-in-part of application Ser. No. 399,362, Sept. 25, 1964. This application Sept. 9, 1966, Ser. No. 578,388
3 Claims. (Cl. 208—108)

Process and apparatus for the controlling of distillate to gasoline ratio in the product obtained by the hydrocracking of gas oil wherein the desired ratio of gasoline to distillate is achieved by utilization of either cocurrent or countercurrent hydrogen flow.



3,378,483
CONTROL OF CATALYST RECIRCULATION RATE

George R. Worrell, Media, Robert C. Hicks, Drexel Hill, and Robert J. Durney, Philadelphia, Pa., assignors to Atlantic Richfield Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Nov. 22, 1966, Ser. No. 596,206
13 Claims. (Cl. 208—164)



A method of control of a process wherein fluids are transferred from a first zone to a second zone through a third zone wherein a control valve responsive to a temperature controller hereinafter defined is positioned within said third zone comprising measuring the temperature of said second zone, producing a first signal proportional to said temperature and directing said signal to a temperature controller having a proportional band adjusting means, measuring the pressure drop across said control valve, measuring the valve position, i.e., the position of the valve as related to the degree of opening from the full-open to the full-closed position, computing a proportional band setting for said temperature controller based upon said valve position and said pressure drop across said valve, producing a second signal proportional to said proportional band setting, and adjusting said proportional band adjusting means of said temperature controller in response to said second signal.

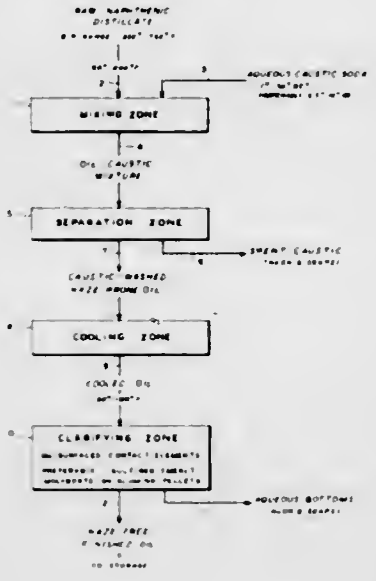
3,378,484
SWEETENING HYDROCARBON LIQUIDS

John M. Ferrara and John E. Ryder, Chicago, Ill., assignors to Howe-Baker Engineers, Inc., Tyler, Tex., a corporation of Texas
No Drawing. Continuation-in-part of application Ser. No. 537,285, Mar. 25, 1966. This application Sept. 23, 1966, Ser. No. 581,434
17 Claims. (Cl. 208—191)

A process for sweetening hydrocarbon compositions in which sour hydrocarbons are placed in contact with particulate ion exchange materials containing metal ions at their functional sites. The mercaptans are converted in part to disulfides and in part are taken up by the ion exchange materials.

3,378,485
CLARIFICATION OF CAUSTIC TREATED DISTILLATE FUELS

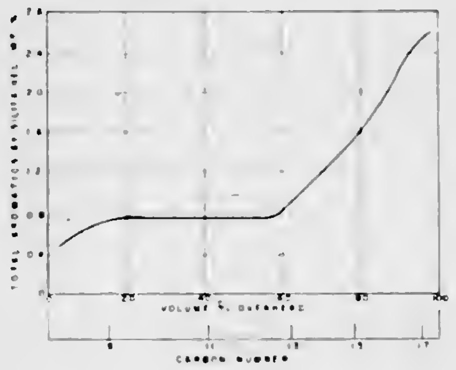
Louis D. Rampino, Concord, Calif., assignor to Getty Oil Company, a corporation of Delaware
Filed Aug. 23, 1965, Ser. No. 481,567
11 Claims. (Cl. 208—263)



Haze generating materials (such as metallic soaps) present in caustic-treated diesel fuel distillates, and similar light oils, are removed by passing the liquid oil through a bed of hydrodesulfurization catalyst. Temperatures below about 140° F. are used and below 100° F. are preferred. Preferred contact materials are sulfided cobalt-molybdate, molybdena-on-alumina, and other materials having molybdenum-containing acidic surfaces.

3,378,486
PURIFICATION OF NORMAL PARAFFINS

John M. Powers and Delbert E. Coker, Baytown, Tex., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Dec. 28, 1965, Ser. No. 516,955
4 Claims. (Cl. 208—310)



In contacting a 300° F.–600° F. kerosene with a molecular sieve, the distribution of aromatic hydrocarbon impurities in the desorbate is shifted in favor of higher boiling materials. It has been found that an incremental improvement in the high-purity n-paraffin product can be obtained by fractionating the product and removing that portion which boils above 485° F. (preferably removing that portion which boils above 470° F.).

3,378,487
METHOD OF TREATING WASTE WATER CONTAINING NICKEL

Earl Jacob Chaney, R.R. 3, Tiffin, Ohio 44883
No Drawing. Filed Oct. 13, 1965, Ser. No. 495,693
5 Claims. (Cl. 210—11)

Nickel in sewage is rendered harmless to bacteria by chelating the nickel and adjusting the pH value to between about 6 and about 8.

3,378,488
CORROSION INHIBITOR AND METHOD OF INHIBITING CORROSION IN OIL WELLS

Kenneth H. Nimerick, Tulsa, Okla., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Apr. 29, 1965, Ser. No. 451,993
15 Claims. (Cl. 252—8.55)

Corrosive ingredients present in such fluids as natural gas, petroleum and petroleum derivatives are inhibited from attack on metals in contact therewith by admixing with said fluid or in a noncorrosive ingredient-containing fluid and applying such treated fluid to the metal surfaces prior to contact with the fluid containing the corrosive ingredients, the following mixture: (1) a monocarboxylic fatty acid having between about 10 and about 24 carbon atoms per molecule; (2) a polymeric acid having between about 24 and about 48 carbon atoms per molecule; (3) aminoethylethanolamine; and (4) a partial ester of glycerol or an alkylene glycol of 2 to 5 carbon atoms and a polymeric acid of the nature of that required for ingredient (2) which also contains therein the unreacted acid and glycerol or glycol.

3,378,489
PROCESS FOR TREATING A SODIUM CHLORIDE BRINE TO INHIBIT PRECIPITATION OF SODIUM CHLORIDE FROM SAID BRINE

Reginald M. Lasater, Duncan, Okla., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 303,175, Aug. 19, 1963. This application May 9, 1967, Ser. No. 637,055
7 Claims. (Cl. 252—8.55)

Processes and compositions for inhibiting the precipitation of sodium chloride. Compositions comprising phosphate-containing materials in combination with compositions capable of modifying sodium chloride such that the phosphate materials are capable of effectively inhibiting the precipitation thereof. The composition capable of modifying sodium chloride such that the phosphate materials are capable of effectively inhibiting precipitation thereof is selected from the group consisting of urea, certain natural gums, metal diphenylamine sulfonates, di-beta napthol and mixtures thereof.

3,378,490
LUBRICANT COMPOSITIONS AND ANTIOXIDANTS THEREFOR

Bruce W. Hotten, Orinda, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed Oct. 8, 1965, Ser. No. 494,234
8 Claims. (Cl. 252—42.1)

Lubricant compositions having superior antioxidant properties comprising a major portion of an oleaginous lubricant and a minor portion of an N^2, N^4, N^6 trihydrocarbyl melamine in which the hydrocarbyl groups are aralkyl or alkaryl groups.

3,378,491
STABILIZED ORGANIC COMPOSITIONS

Milton Braid, Barrington, and Derek A. Law, Pitman, N.J., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Feb. 18, 1966, Ser. No. 528,351

23 Claims. (Cl. 252—47.5)

Lubricating oil compositions and other organic compositions normally subject to oxidation have improved stability by the presence of an arylazoarylamine or an arylazophenolic compound.

3,378,492
DIENE POLYMERS GRAFTED WITH DIENOPHILE MONOMERS AS OIL ADDITIVES

Won-Ryul Song, Jersey City, and Darrell W. Brownawell, Scotch Plains, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed June 30, 1966, Ser. No. 561,729

6 Claims. (Cl. 252—51)

Multi-functional, thermally stable oil additives are prepared by grafting a C_3–C_{25} ethylenically unsaturated, nitrogen-containing monomer such as acrylonitrile onto a polymeric hydrocarbon backbone such as a polymerized conjugated C_4–C_5 diolefin.

3,378,493
ANTI-FREEZING ADDITIVES

Charles H. Jacoby, Grosse Ile, and Frank V. Whelply, Dearborn, Mich., assignors to International Salt Company, Clarks Summit, Pa.

No Drawing. Continuation-in-part of application Ser. No. 345,859, Feb. 19, 1964. This application Mar. 29, 1965, Ser. No. 443,668

9 Claims. (Cl. 252—70)

1. An additive for inhibiting freezing and caking of particulate sodium chloride, consisting of:
   one part by weight of a nonionic synthetic surface active agent,
   and about 10 to about 200 parts by weight of calcium chloride.

6. Conditioned sodium chloride particles resistant to freezing and/or caking, comprising sodium chloride particles having at least a partial coating of a compound consisting of:
   (a) a nonionic synthetic surface active agent
   (b) calcium chloride, and
   (c) a water soluble complex iron cyanide selected from the group consisting of alkali metal ferrocyanide salts and alkaline earth metal ferrocyanide salts

in which the calcium chloride is present in an amount of about 10 to about 200 times the quantity of the water soluble synthetic detergent and is at least about 3 pounds per ton of sodium chloride, the water soluble complex iron cyanide is present in an amount sufficient to provide ferrocyanide ion in amount of about .5 to about 9 times the quantity of nonionic surface active agent and at least about .13 pound per ton of sodium chloride, and the nonionic synthetic surface active agent is present in an amount at least about 10 parts per million of the sodium chloride by weight.

3,378,494
WATER-IN-OIL EMULSION FLUIDS

Jerry E. Berger, Edwardsville, Ill., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 388,261, Aug. 7, 1964. This application Oct. 1, 1965, Ser. No. 492,335

10 Claims. (Cl. 252—77)

Water-in-oil emulsions comprising a combination of two additives, one of which is a succinic anhydride or imide derivative thereof and the other a polyalkoxylated partial ester, possess good emulsion stability over a wide range of temperatures.

3,378,495
DEODORANT AND GERMICIDAL BODIES FOR TOILETS AND URINALS

Fred H. Buck, Jr., Boonton Township, Morris County, N.J. 07005

No Drawing. Continuation-in-part of application Ser. No. 508,585, Nov. 18, 1965. This application July 8, 1966, Ser. No. 563,689

1 Claim. (Cl. 252—107)

A deodorant or germicidal in compressed body form for use with toilets and urinals having a predetermined controlled solubility through controlling the ratio of the components of soap, alkali, and water forming the body in which is incorporated the germicidal agent.

3,378,496
DETERGENT COMPOSITIONS USEFUL FOR DRY CLEANING

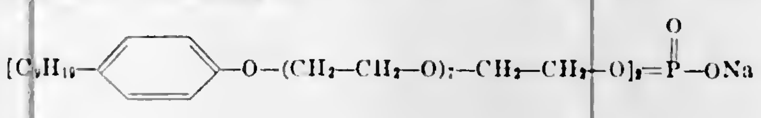
Gerard Leon Alphonse Mangeney, Deuil-la-Barre, and Jacques Pierre Edmond Pechmeze, Paris, France, assignors to Etablissements Kuhlmann, Paris, France

No Drawing. Filed May 8, 1964, Ser. No. 366,147

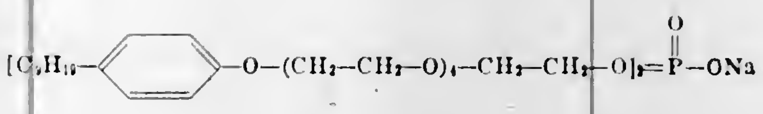
Claims priority, application France, May 10, 1963, 934,385

1 Claim. (Cl. 252—161)

1. A composition useful for dry-cleaning consisting essentially of a surface active agent mixture for each 100 parts of which there are (a) from 50 to 80 parts of nonionic agent resulting from the condensation of an ethylene oxide with an alkylphenol selected from the group consisting of nonyl phenol and octyl phenol, (b) from 7 to 35 parts of anionic agent selected from the group consisting of dedecylbenzene-sodium sulfonate and the sodium salt of an alkylsulphonic acid wherein the alkyl group contains an average of 16 carbon atoms, (c) from 7 to 20 parts of anionic agent having the formula selected from the group consisting of:



and



3,378,497
STABILIZED POLYOLS

William M. Lanham, Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Feb. 8, 1965, Ser. No. 431,199

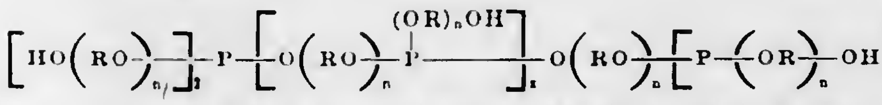
12 Claims. (Cl. 252—182)

1. A stabilized polyol composition suitable for reacting with an organic polyisocyanate to produce a urethane polymer, which comprises:
   (a) a polyol having an average hydroxyl number in the range of from about 20 to about 1000,
   (b) an organic phosphorus-containing composition in an amount sufficient to improve the flame resistance of said urethane polymer, said organic phosphorus-containing composition being selected from the group consisting of:
      (1) tris(polyalkylene glycol) phosphites of the formula:

$$P\left[\left(OR\right)_n OH\right]_3,$$

wherein each R individually represents alkylene of from 2 to 4 carbon atoms, and wherein n represents a number having an average value of from 2 to about 50;

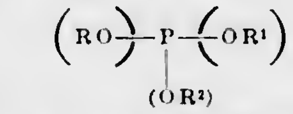
(2) poly(alkylene glycol phosphite) esters of the formula:



$$\left[HO\left(RO\right)_n\right]_2 P\left[O\left(RO\right)_n \overset{(OR)_nOH}{\overset{|}{P}}\right]_x O\left(RO\right)_n\left[P\left(OR\right)_n OH\right]_2,$$

wherein each R individually represent alkylene of from 2 to 4 carbon atoms, wherein n represents a number having an average value of from 2 to about 50, and wherein x is a number having an average value of from 0 to about 20;

(3) tertiary phosphites of the formula:

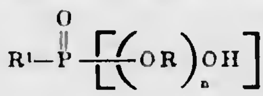


$$\left(RO\right)-\underset{(OR^2)}{\underset{|}{P}}-\left(OR^1\right)$$

wherein R, R^1 and R^2 individually represent alkyl, aralkyl, haloalkyl, aryl, alkaryl, haloaryl, and 2 of the R, R^1 or R^2 variables together represent a 2 or 3 carbon chain in a 5- or 6-membered heterocyclic ring;

(4) the reaction product of the tertiary phosphites defined in (3) with a polyol;

(5) alkylene oxide adducts of phosphonic acid that are represented by the formula:

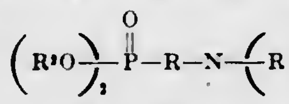


$$R^1-\overset{O}{\overset{\|}{P}}\left[\left(OR\right)_n OH\right]_2,$$

wherein R^1 represents alkyl, haloalkyl, aryl, haloaryl, alkaryl, or aralkyl of up to 20 carbon atoms, wherein R represents alkylene of from 2 to 4 carbon atoms, and wherein n represents a number having an average value of from 1 to about 50;

(6) pentaerythritol phosphites;

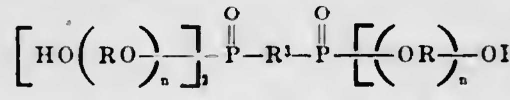
(7) O,O′-disubstituted N,N-bis(hydroxyalkyl) amino-alkylphosphonates of the formula:



$$\left(R^2O\right)_2\overset{O}{\overset{\|}{P}}-R-N-\left(ROH\right)_2$$

wherein each R^2 individually represents alkyl, aryl, hydroxyalkyl, or haloalkyl of up to 10 carbon atoms, and wherein each R individually represents alkylene of up to 6 carbon atoms; and

(8) diphosphonates of the formula:



$$\left[HO\left(RO\right)_n\right]_2\overset{O}{\overset{\|}{P}}-R^3-\overset{O}{\overset{\|}{P}}\left[\left(OR\right)_n OH\right]_2,$$

wherein R represents alkylene of from 2 to 4 carbon atoms, wherein R^3 represents lower alkylene of up to 10 carbon atoms, and wherein n represents a number having an average value of from 1 to about 50;

(c) an organotin compound in an amount sufficient to catalyze the reaction of said polyol with an organic polyisocyanate, and

(d) a small amount of a vicinal epoxide sufficient to stabilize the polyol-organotin compound mixture against loss of reactivity towards organic polyisocyanates.

3,378,498
PROCESS FOR DIFFUSING METAL INTO A REFRACTORY OR CERAMIC OXIDE USING A NITRATE PROMOTER

Eric George Weatherley, % Metal Diffusions Limited, Tower Works, Fengate, Peterborough, England

Filed Jan. 25, 1965, Ser. No. 427,894

24 Claims. (Cl. 252—301.1)

1. A method of modifying an article of the class consisting of refractory and ceramic oxide articles, which comprises: contacting the article with a member selected from the group consisting of the metals uranium, thorium, cadmium, beryllium, magnesium, zirconium, titanium, lead chromium, platinum, iridium, copper, silver, gold, barium, aluminium and boron, salts of said metals and mixtures of the foregoing, and maintaining said member in contact with the article in the presence of a promoter selected from the group consisting of ammonium nitrate and a nitrate of a metal of said member at an elevated temperature effective to permit diffusion of the metal of said member into the article.

15. A method of modifying an article of the class consisting of refractory and ceramic oxide articles, which comprises applying to the article an aqueous composition comprising a member selected from the group consisting of the metals uranium, thorium, cadmium, beryllium, magnesium, zirconium, titanium, lead, chromium, platimum, iridium, copper, silver, gold, barium, aluminium and boron, salts of said metals, and mixtures of the foregoing, in the presence of a nitrate salt promoter, thereafter maintaining the article at a temperature such that diffusion into the article of part at least of said member occurs.

3,378,499
SYNTHESIS OF HALOPHOSPHATE PHOSPHORS USING CALCIUM CHLORSPODIOSITE

Robert L. Hickok, Euclid, Ohio, assignor to General Electric Company, a corporation of New York

No Drawing. Filed Dec. 8, 1965, Ser. No. 512,537

3 Claims. (Cl. 252—301.4)

A method for preparing chlorine-containing calcium halophosphate phosphors activated by antimony and manganese by firing a batch wherein the chlorine ingredient is supplied in the batch at least predominantly as calcium chlorspodiosite, Ca_2ClPO_4. Since the Ca_2ClPO_4 decomposes above the temperatures at which most volatiles are expelled from the batch, and at about the temperature of formation of the halophosphate phosphor, its chlorine content is used effectively and need not be supplied in the excesses needed in the prior art.

3,378,500
PROCESS FOR BREAKING DOWN FOAM

Carl Robert Sahlberg, 1 Ingentingsgatan, Solna, Sweden

No Drawing. Filed Nov. 15, 1965, Ser. No. 507,646

Claims priority, application Sweden, Nov. 16, 1964, 13,807/64

5 Claims. (Cl. 252—321)

In the production of pulp from cellulosic fibrous material by conventional aqueous alkaline methods, the process of breaking down foam which comprises separating same and bringing it into contact with an inorganic acid in liquid or gaseous form.

3,378,501
CATALYST FOR THE PRODUCTION OF SATURATED ALDEHYDES

Shigeo Kawasaki and Katsumi Nakamura, Tokyo, Japan, assignors to Chisso Corporation, Osaka, Japan, a corporation of Japan

No Drawing. Original application June 11, 1962, Ser. No. 201,268, now Patent No. 3,278,605, dated Oct. 11, 1966. Divided and this application July 7, 1966, Ser. No. 563,384

Claims priority, application Japan, June 13, 1961, 36/20,446; May 18, 1962, 37/20,289

1 Claim. (Cl. 252—457)

A catalyst useful for the production of a saturated aldehyde by the hydrogenation of the corresponding unsaturated aldehyde and consisting essentially of metallic nickel and iron as the active catalytic components and an activator therefor. The catalyst is supported by a carrier, preferably pumice. The ratio of nickel to iron in the catalyst is 4.0–9.5 to 6.0–0.5 by weight while the total amount of nickel plus iron in the catalyst is 2–15 grams per 100 ml. of the catalyst. The catalyst is preferably prepared by dipping the carrier into an aqueous solution containing nickel nitrate, iron nitrate and a suitable activator, drying, heating (to 400–500° C.) and reducing (at 400–500° C.).

3,378,502

PROCESS FOR PREPARING POLYMERS OF CYCLIC ACETALS USING COMPLETELY ESTERIFIED POLYPHOSPHORIC ACID CATALYST

Hans Fernholz, Bad Soden, Taunus, and Friedrich, Wunder, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Apr. 21, 1964, Ser. No. 361,555

Claims priority, application Germany, Apr. 30, 1963, F 39,625

6 Claims. (Cl. 260—2)

A process in which completely esterified polyphosphoric acid or completely esterified polyphosphoric acid containing phosphite is used as a catalyst in the cationic homopolymerization and copolymerization of cyclic acetals.

3,378,503

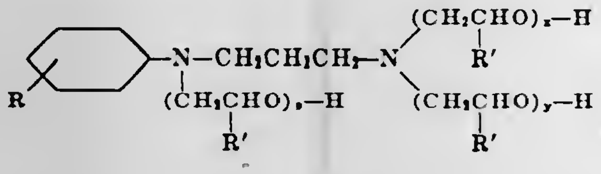
ALKYLENE OXIDE ADDUCTS OF N-ALKYLCYCLOHEXYL-1,3-PROPANEDIAMINES

George P. Speranza and Ernest L. Yeakey, Austin, Tex., assignors to Jefferson Chemical Company, Inc., Houston, Tex., a corporation of Delaware

No Drawing. Filed Oct. 21, 1964, Ser. No. 405,578

10 Claims. (Cl. 260—2)

A product having the formula:



wherein R is a C_4–C_{14} alkyl group, R′ is selected from the group consisting of hydrogen, methyl, ethyl, chloromethyl, and mixtures thereof, and the sum of *x* plus *y* plus *z* is 1 to 100.

The adducts are useful as detergents and as polyol intermediates in the preparation of polyurethane foam. Also, they may be reacted with diepoxides to provide resinous mixtures in the preparation of coatings and adhesives.

3,378,504

FOAMED EPOXY RESIN USING TRIALKOXYBOROXINES AS CATALYTIC BLOWING AGENTS

Henry L. Lee, Jr., San Marino, Calif., assignor to Callery Chemical Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 840,805, Sept. 18, 1959. This application Oct. 21, 1964, Ser. No. 405,590

8 Claims. (Cl. 260—2)

3,4 - epoxy - 6 - methylcyclohexylmethyl-3,4-epoxy-6-methylcyclohexanecarboxylate is cured to a solid or rigid foam by reaction with trialkoxyboroxine. Foaming or accelerating agents may be used in foam cures.

3,378,505

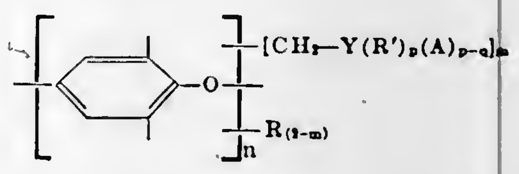
SUBSTITUTED POLYPHENYLENE ETHERS

Allan S. Hay, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Nov. 29, 1961, Ser. No. 155,829

19 Claims. (Cl. 260—2.1)

1. A composition comprising a polyphenylene ether having the structural formula



where Y is selected from the group consisting of nitrogen, sulfur and phosphorus, each R′ is a substituent selected from the group consisting of polyvalent hydrocarbon when joined to more than one Y group and monovalent hydrocarbon when joined to only one Y group and, in addition, hydroxyaliphatic and hydrogen when Y is nitrogen, *n* is a positive integer and is at least 10, *m* is a number from 0.01 to 2 inclusive, with the proviso that the product obtained by multiplying *m* by *n* is at least 1, *p* is an integer from 2 to 3 inclusive and *q* is an integer from 1 to 2 inclusive with the provisos that *q* is 2 when Y is nitrogen, *p* is 3 and *q* is 2 when Y is phosphorus, and *p* is 2 and *q* is one when Y is sulfur, A is a substituent selected from the group consisting of chlorine, bromine and hydroxyl with the proviso that when A is hydroxyl and Y is nitrogen, the nitrogen is free of directly bonded hydrogen substituents and *p* is 3, and R is a monovalent substituent selected from the group consisting of hydrogen, halogen, hydrocarbon, free of an aliphatic, tertiary α-carbon atom, halohydrocarbon free of an aliphatic, tertiary α-carbon atom and —OR^a where R^a is a monovalent substituent selected from the group consisting of hydrocarbon free of an aliphatic, tertiary α-carbon atom and halohydrocarbon free of an aliphatic, tertiary α-carbon atom.

3,378,506

ELASTOMERIC POROUS MATERIAL AND METHOD FOR MANUFACTURING SAME

Joseph Rockoff, Dayton, Ohio, assignor to Dayco Corporation, Dayton, Ohio, a corporation of Ohio

No Drawing. Filed Oct. 7, 1963, Ser. No. 314,486

11 Claims. (Cl. 260—2.5)

1. A porous product comprised of a mass of powdered rubber and Factice particles bonded together by heating and vulcanizing to cohere said particles to form a resilient stereoreticulate structure, said particles uniformly distributed throughout the mass.

3,378,507

PRODUCING MICROPOROUS POLYMERS

Donald E. Sargent and Moyer M. Safford, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 160,953, Dec. 20, 1961. This application July 1, 1965, Ser. No. 468,937

18 Claims. (Cl. 260—2.5)

Microporous polymers of monoethylenically unsaturated hydrocarbon are made by heating a mixture of the polymer and a water-soluble, anionic surfactant to a temperature where a homogeneous solution of the two components is obtained and thereafter cooling the composition to a temperature where the surfactant and polymer form two intermingled separate phases and thereafter dissolving the surfactant phase from the polymer. These compositions have a fibrillous structure having extremely fine pores. Such materials are useful as filters, filter media, or as binding compositions for ion-exchange resins.

3,378,508

TACKIFYING CEMENTS FOR EPM AND EPDM RUBBER USING CYCLIZED NATURAL RUBBER

Parviz Hamed, Akron, and Everett T. McDonel, Brecksville, Ohio, assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Sept. 28, 1965, Ser. No. 491,031

4 Claims. (Cl. 260—5)

Tackifying cements for EPM and EPDM rubbers comprise mixture of (1) reinforced base polymer, (2) a raw polymer cohesive agent, and (3) a combination of tackifying resin and a softening agent. The raw polymer cohesive agent may be cyclized natural rubber when that material is first dissolved in a high boiling, non-volatile polar liquid which is in turn miscible with aliphatic hydrocarbon solvents.

3,378,509

THERMOSETTING HOT MELT COMPOSITIONS COMPRISING HYDROXYL GROUP CONTAINING POLYMER, NORMALLY SOLID SOLVENT AND CROSS-LINKING AGENT

Robert D. Jerabek, Glenshaw, Pa., assignor, by mesne assignments, to Chemical Decoration Company, Glenshaw, Pa., a corporation of Pennsylvania

No Drawing. Filed Aug. 21, 1964, Ser. No. 391,295

8 Claims. (Cl. 260—21)

1. A hot metal coating composition comprising a binder and a solvent in the range of from 20 to 50% binder and 20 to 60% solvent and a coloring agent in the range of 0 to 40% wherein the binder comprises

a vinyl chloride-vinyl acetate-vinyl alcohol copolymer resin in the range of about 20% to 60% by weight, the components of which are in the approximate monomer weight ratio of 91/3/6 respectively,

a modifying resin in the range from 0 to 60% by weight selected from the group consisting of vinyl chloride-vinyl acetate copolymer of a monomer weight ratio of 80/20 respectively, vinyl chloride-vinyl acetate-maleic acid copolymer of a monomer weight ratio of 86/13/1 respectively, and ethyl methacrylate-methyl acrylate copolymer of a monomer weight ratio of 80/20 respectively and combinations thereof,

a plasticizer selected from the group consisting of low molecular weight phthalate diesters and chlorinated bi- and ter-phenyls in the range of 5 to 30% by weight,

an epoxy stabilizer containing an epoxy-oxygen group in the range of 2 to 10% and selected from the group consisting of epoxidized vegetable oils and bisphenol polyglycidyl ethers,

and a cross-linking agent to thermoset the composition upon heating to a baking temperature comprising from 3% to 10% of a compound selected from the group consisting of partially and fully etherified methylolated derivatives of melamine,

the solvent comprising an aromatic compound in the range of 80% to 100% by weight of the solvent and selected from the group consisting of biphenyl, paradichlorobenzene and naphthalene and oxygenated solvent in the range of 0 to 20% of the total weight of the solvent and selected from the group consisting of methylpyrrolidone, butyrolactone, isophorone, methylbenzoate, dimethyl sulfoxide, dimethyl sulfone, and diethylene glycol monobutyl ether acetate.

3,378,510

SCORCH RETARDERS FOR ETHYLENE-COPOLYMER RUBBER

Robert C. Wheat, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Feb. 14, 1963, Ser. No. 258,654

12 Claims. (Cl. 260—23.7)

1. In the peroxide curing of rubbery copolymers of ethylene and at least one additional 1-olefin, the improvement comprising adding a cupric dialkyldithiocarbamate to reduce the scorching tendency of said rubbery copolymer.

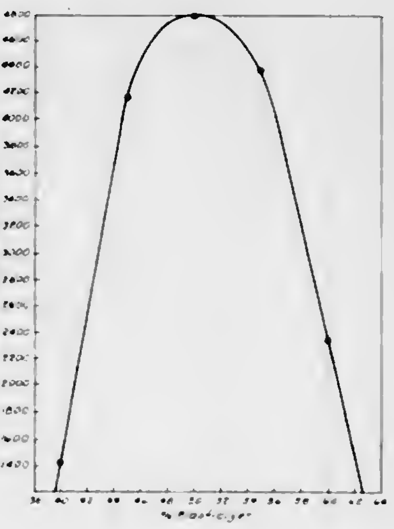
3,378,511

POLYMERIC URETHANE COMPOSITIONS

Harold Gene Newton, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Jan. 15, 1965, Ser. No. 425,892

8 Claims. (Cl. 260—31.8)



Compositions comprising the reaction product of a polyisocyanate polyether and a polyol that is the adduct of a polyhydric alcohol having from 3 to 8 hydroxyl groups in the molecule and from 1 to 1.33 moles of propylene oxide per OH group and an ester of a dicarboxylic acid having from 2 to 20 carbon atoms, the ester being employed in amounts of from 40 to 60 percent by weight of the composition.

3,378,512

TACKIFYING CEMENTS FOR EPM AND EPDM RUBBERS

Parviz Hamed, Akron, and Everett T. McDonel, Brecksville, Ohio, assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Sept. 28, 1965, Ser. No. 491,035

3 Claims. (Cl. 260—33.6)

A tackifying cement is supplied for EPDM terpolymers. The cement is formed by blending solutions of (1) EPDM polymer compounded for reinforcement and sulfur cure, (2) a polymeric cohesive agent, and (3) a combination of a tackifying resin and a polymeric softening agent.

3,378,513

COPOLYMERS OF VINYL TOLUENE, ISOMERIC BUTYL METHACRYLATES AND LONG CHAIN ALKYL METHACRYLATES

Daniel B. Witwer, Lynn, Mass., assignor to Polyvinyl Chemicals, Inc., Peabody, Mass., a corporation of Massachusetts

No Drawing. Filed May 31, 1966, Ser. No. 553,730

5 Claims. (Cl. 260—33.6)

Film forming agents and polishing compositions consist of solutions of the agents in a hydrocarbon solvent. The film forming agents are hydrocarbon soluble terpolymers of vinyl toluene, i-butyl methacrylate, and lauryl or stearyl methacrylate. The full specification should be consulted for an understanding of the invention.

3,378,514
PROCESS FOR MAKING POLYCARBONAMIDE YARNS

Lilburn Lafayette Norton, Seaford, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Feb. 9, 1965, Ser. No. 431,447
7 Claims. (Cl. 260—37)

Polycarbonamides having reduced friction in yarn form are made by carrying out the polymerization in the presence of kaolinite then melt extruding the mixture. The tendency for excessive build-up of spinnerette pack pressure during spinning caused by accumulation of solids in the pack can be reduced by pretreating the kaolinite to deposit aluminum oxide on the surface thereof.

3,378,515
ELASTOMERIC REACTION PRODUCTS OF PARTIALLY HYDROLYZED COPOLYMERS OF ETHYLENE AND VINYL ACETATE WITH TOLYLENEDIISOCYANATES AND COMPOSITIONS COMPRISING SAME

Ival O. Salyer, Dayton, and Carmen L. Bellanca, Centerville, Ohio, assignors to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Dec. 28, 1964, Ser. No. 421,659
18 Claims. (Cl. 260—41)

Elastomers comprising the reaction product of partially hydrolyzed copolymers of ethylene and vinyl acetate with tolylenediisocyanates, and the process of preparing same. Said elastomers may be blended with fillers such as carbon black, plasticizers, stabilizers, flameproofing agents, etc., prior to curing, and they are useful for ring seals in hydraulic systems.

3,378,516
POLYOLEFINS AND PARAFFIN WAXES STABILIZED WITH THIODIALKANOATE POLYESTERS

Clarence E. Tholstrup, Alan Bell, and Charles J. Kibler, all of P.O. Box 511, Kingsport, Tenn. 37662
No Drawing. Continuation of application Ser. No. 309,309, Sept. 16, 1963. This application Nov. 21, 1966, Ser. No. 596,005
4 Claims. (Cl. 260—45.8)

Stabilized compositions comprising poly-α-olefins, paraffin waxes and copolymers including at least 40% of an α-olefin which contains a polyester obtained from a thiodialkanoic acid and a diol having a molecular weight in the range of about 500 to about 4000.

3,378,517
POLYETHER POLYURETHANES

Ulrich Knipp and Wolfram Neumann, Leverkusen, Albert Awater, Cologne-Mulheim, and Harald Oertel, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation
No Drawing. Filed Oct. 20, 1964, Ser. No. 405,256
Claims priority, application Germany, Oct. 25, 1963, F 41,097
3 Claims. (Cl. 260—45.9)

1. A polyalkylene ether polyurethane polymer stabilized against light and heat by having incorporated therein a stabilizing amount of an organic carbodiimide selected from the group consisting of aliphatic carbodiimides, aromatic carbodiimides, and cycloaliphatic carbodiimides.

3,378,518
POLYPROPYLENE STABILIZER WITH DURYLENE BIS-PHENOLS

Marshall E. Doyle, Alameda, Calif., assignor to Shell Oil Company, a corporation of Delaware
No Drawing. Filed Sept. 28, 1959, Ser. No. 842,579
2 Claims. (Cl. 260—45.95)

1. A composition comprising normally solid polypropylene stabilized against embrittlement by incorporation of from about 0.01 to about 2% by weight of bis(2-hydroxy-3-tert-butyl-5-methylphenyl)durene.

3,378,519
ULTRAVIOLET LIGHT STABILIZED POLYPROPYLENE WITH HYDROXYANTHRAQUINONES

Gordon C. Newland and John W. Tamblyn, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 413,358, Nov. 23, 1964, which is a continuation-in-part of application Ser. No. 162,963, Dec. 28, 1961. This application Mar. 16, 1966, Ser. No. 534,685
10 Claims. (Cl. 260—45.95)

A normally solid thermoplastic composition comprising a poly-α-olefin and, at a concentration sufficient to substantially inhibit ultraviolet light degradation of said poly-α-olefin, at least one substituted anthraquinone.

3,378,520
ORGANOPOLYSILOXANE COMPOSITIONS CONVERTIBLE INTO ELASTOMERS

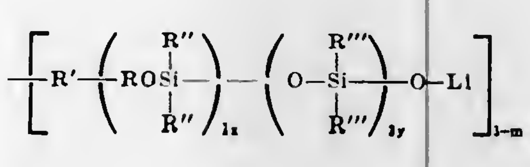
Hans Sattlegger, Cologne-Buchheim, Walter Noll, Opladen, Klaus Damm, Cologne-Flittard, and Hans Dietrich Gölitz, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Mar. 21, 1967, Ser. No. 624,707
Claims priority, application Germany, Apr. 1, 1966, F 48,830
4 Claims. (Cl. 260—46.5)

An organopolysiloxane composition capable of being plastically shaped and which is storable under exclusion of water and convertible into the solid elastic state in the presence of water, including atmospheric humidity, at a temperature of from room to 50° C., comprising a hydroxy or alkoxy terminated linear organopolysiloxane and a carboxylic acid amido substituted silane or siloxane as cross-linking agent is improved by the addition of a complex compound prepared from an alcoholate or phenolate of titanium, zirconium or aluminum with a diketone, a keto alcohol, a ketonic acid or a ketonic acid alkyl ester. This additive prevents the composition from premature cross-linking and increases the adhesion of the resulting elastomer to any substrate.

3,378,521
ORDERED ORGANOPOLYSILOXANES

Edgar E. Bostick, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 541,539, Apr. 11, 1966. This application Mar. 8, 1967, Ser. No. 621,449
10 Claims. (Cl. 260—46.5)

Organopolysiloxane-alkanol amine copolymers and block organopolysiloxane-oxyalkylene amine copolymers having the general formula



$$-\left[R'-\left(RO\overset{R''}{\underset{R''}{\mathrm{Si}}}-\right)_{3x}-\left(O-\overset{R'''}{\underset{R'''}{\mathrm{Si}}}-\right)_{3y}-O-Li\right]_{3-m}$$

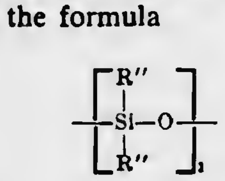
where R is a monovalent hydrocarbon radical, R′ is an alkylene radical of from 0 to 1 carbon atoms, or an arylene radical containing up to 20 carbon atoms, R″ and R‴ are organic radicals free of aliphatic-substituted halogen and are members of the class consisting of monovalent hydrocarbon radicals, cyanoalkyl radicals, and halogenated aryl radicals, *m* is a whole number from 0 to 2 inclusive, *x* is an interger having a value of at least 1 and

y is an integer having a value of 0, 1 or more, are produced by forming an admixture of (a) an organo-lithium compound of the formula

$$R_m-N-\left(R'-O-Li\right)_{3-m}$$

where R, R′ and *m* are as previously defined with (b) a cyclic siloxane of the formula

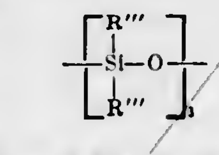
IIa



$$-\left[\overset{R''}{\underset{R''}{\mathrm{Si}}}-O-\right]_3$$

where R″ is as above-defined and need not represent the same entity on the same silicon atom, in (c) an aprotic solvent for at least one of the reactants and maintaining the admixture at a temperature at which the organolithium compound and the cyclic siloxane react to produce the organosiloxane-oxyalkylene amine copolymers, where *x* is an integer and *y* is 0. To produce the block-block copolymers, a second cyclic siloxane different from the first and having the formula

IIb



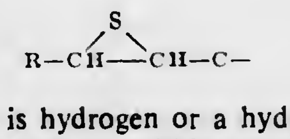
$$-\left[\overset{R'''}{\underset{R'''}{\mathrm{Si}}}-O-\right]_3$$

where R‴ is as above-defined and need not represent the same entity on the same silicon atom, is added and the mixture heated to cause reaction of the copolymer with the second cyclic siloxane to produce the block-block copolymer of Formula I, wherein *x* and *y* are integers having values of at least 1. The copolymers of Formula I are useful as dielectric fluids, lubricants, foam additives, etc.

3,378,522
EPITHIO COMPOUNDS, THEIR PREPARATION AND POLYMERS

Robert W. Martin, Walnut Creek, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 29, 1961, Ser. No. 155,844
18 Claims. (Cl. 260—47)

Novel polyepithio compounds are disclosed. These compounds contain more than one

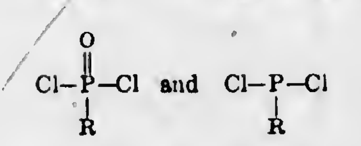


group, wherein R is hydrogen or a hydrocarbon radical, such as, for example, di(2,3-epithiopropyl)ether of 2,2-bis-(4-hydroxyphenyl)propane. Hard insoluble, infusible products obtained by reacting said novel polyepithio compounds with nucleophilic materials, are also disclosed.

3,378,523
BISPHENOL POLYESTERS CONTAINING PHOSPHORUS

John R. Caldwell and Winston J. Jackson, Jr., Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Sept. 14, 1961, Ser. No. 137,978
14 Claims. (Cl. 260—47)

2. A thermoplastic linear polyester consisting of alternately recurring units which are polycondensation residues of a mixture of diacid chlorides and alternately recurring units which are polycondensation residues of a bisphenol, said residues of a mixture of diacid chlorides consisting of from 80 to 50 mole percent of polycondensation residues of at least one diacid chloride selected from the group consisting of phosgene and diol bischloroformates and from 20 to 50 mole percent of polycondensation residues of a member selected from the group consisting of phosphorus dichlorides having the general formulas:



$$Cl-\overset{\overset{O}{\|}}{\underset{R}{P}}-Cl \quad \text{and} \quad Cl-\underset{R}{P}-Cl$$

wherein R is a radical selected from the group consisting of alkyl, aryl, alicyclic, alkoxy, aryloxy, amino, alkylamino and arylamino radicals.

3,378,524
TETRACHLORO BISPHENOL A PHOSPHITE RESINS

Millard S. Larrison, Livingston, N.J., assignor, by mesne assignments, to First National Bank of Morgantown, Morgantown, W. Va., and Small Business Administration, Richmond, Va.
No Drawing. Filed May 12, 1964, Ser. No. 366,891
2 Claims. (Cl. 260—47)

Polymeric phosphites are prepared by reacting a hydrogenated dihydric phenol or an aromatic dihydric alcohol with a tertiary alkyl aryl or halo aryl phosphite and stopping the condensation when 50 to 90%, most preferably 65 to 75%, of the theoretical amount of monohydric alcohol or phenol is formed. The most preferred material is that made from hydrogenated bisphenol-A and triphenyl phosphite in which the product obtained has 6.3 to 6.8% posphorus. The polymeric phosphites are useful in stabilizing vinyl chloride resins, hydrocarbon polymers, cellulose, cellulose acetate, cellulose nitrate and cellulose acetate-butyrate.

3,378,525
EPOXY RESINS FROM POLYHYDRIC PHENOL-TERPENE ADDITION PRODUCTS

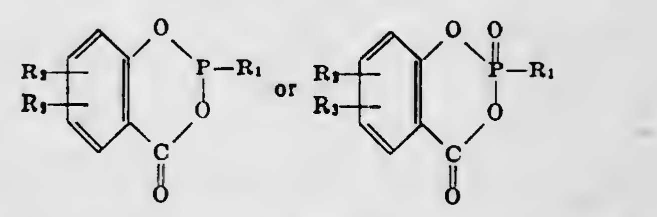
Ralph F. Sellers, Somerset, N.J., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Dec. 3, 1964, Ser. No. 415,821
8 Claims. (Cl. 260—47)

This invention relates to a polyglycidylether of a polyhydric phenol, which phenol has at least two phenolic hydroxyl groups per molecule and is derived from a phenol and a cyclic terpene.

3,378,526
PROCESS OF PRODUCING FLAME-RESISTANT MOLDED ARTICLES FROM EPOXY RESINS

Wilhelm Vogt, Cologne-Sulz, Paul Janssen, Cologne, and Hermann Richtzenhain, Cologne-Sulz, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Bezirk Cologne, Germany, a corporation of Germany
No Drawing. Filed Nov. 23, 1965, Ser. No. 509,433
Claims priority, application Germany, Nov. 24, 1964, D 45,906
21 Claims. (Cl. 260—47)

1. The process of production of molded articles and coatings by hardening flame retardant resins which comprises reacting an epoxy compound having at least 2 1,2-epoxy groups per molecule with a mixed ester anhydride of an aromatic ortho-hydroxy carboxylic acid of the formula



or mixtures of such wherein R_1 is chlorine or bromine, R_2 and R_3 is each hydrogen, alkyl, alkoxy, halogene or a condensed ring at a temperature of from 0 up to 80° C. and thereafter hardening the resin thus produced by heating the same to a temperature of from 80–200° C.

3,378,527
ESTER ETHER-ACETAL COPOLYMERS AND PROCESS OF PREPARING SAME

Leslie C. Case and Laura K. Case, both of 14 Lockland Road, Winchester, Mass. 01890

No Drawing. Continuation-in-part of application Ser. No. 168,062, Jan. 23, 1962. This application Sept. 8, 1966, Ser. No. 578,425

62 Claims. (Cl. 260—67)

Ternary copolymers containing ester, ether, and aectal units and having chemically reactive hydroxyl or carboxyl chain-end groups are described. Two general types of ternary copolymers are provided, one containing the ester, ether, and acetal units in random sequences, the other containing polyacetal blocks terminated and/or linked together by ester-ether copolymer segments. The first type of terpolymer is prepared by reacting together an aldehyde, a cyclic anhydride of an organic dicarboxylic acid and an epoxide or oxetane, and, preferably, a starter with active hydrogen-containing radicals. The second type of terpolymer is prepared by employing a hydroxyl-terminated polyacetal as the starter.

3,378,528
CHLORINE - CONTAINING POLYACETAL POLYMERS AND PROCESS FOR PREPARING THEM

Hans Fernholz, Bad Soden, Taunus, and Friedrich Wunder, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Apr. 28, 1964, Ser. No. 363,276

Claims priority, application Germany, Apr. 30, 1963, F 39,626

13 Claims. (Cl. 260—67)

Chlorine-containing polymers and their preparation by copolymerizing a monocyclic ether, such as trioxane, with chloral in the presence of a catalytic amount of a completely esterified polyphosphoric acid.

3,378,529
N,N'-SULPHONYL NITROGENOUS MONOMERS AND COPOLYMERS THEREOF

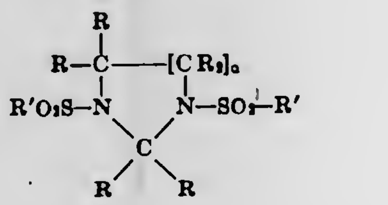
Ernst-Ulrich Kocher, Kuno Wagner, and Wolfgang von der Emden, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Continuation-in-part of application Ser. No. 396,705, Sept. 15, 1964. This application Feb. 3, 1965, Ser. No. 430,181

Claims priority, application Germany, Apr. 20, 1964, F 42,667; May 5, 1964, F 42,794; May 8, 1964, F 42,824

25 Claims. (Cl. 260—67.5)

Monomers of the formula



wherein R is hydrogen, lower alkyl or lower haloalkyl, R' is alkyl, aryl, aralkyl or alkaryl containing up to 20 carbon atoms and *n* is an integer from 1 to 3 and thermostable copolymers thereof with formaldehyde and its oligomers, especially trioxane.

3,378,530
PROCESS OF PREPARING COPOLYMERS OF TRIS(2 - HYDROXYETHYL)ISOCYANURATE AND FORMALDEHYDE

Edwin D. Little, Hopewell, Va., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Mar. 15, 1965, Ser. No. 439,982

1 Claim. (Cl. 260—67.6)

A novel copolymer and method for making same by heating tris-(2-hydroxyethyl)isocyanurate and formaldehyde in the presence of a condensation catalyst, such as sulfuric acid, at a temperature within the range of 95° C. to 160° C. to produce a resinous copolymer which is solid at temperatures of about 20° C.

3,378,531
LACQUER COMPOSITIONS HARDENABLE TO A POLYURETHANE LACQUER PREPARED FROM DIMERIZED OR TRIMERIZED FATTY ALCOHOLS OR THE ALKYLENE OXIDE ADDUCTS THEREOF

Arnold Heins, Hilden, Rhineland, Wilhelm Offermann, Dusseldorf, and Heinz Linden, Dusseldorf-Holthausen, Germany, assignors to Henkle & Cie, G.m.b.H., Dusseldorf-Holthausen, Germany, a corporation of Germany

No Drawing. Filed Jan. 28, 1964, Ser. No. 340,829

Claims priority, application Germany, Mar. 6, 1963, H 48,442

3 Claims. (Cl. 260—77.5)

Lacquer compositions hardenable to a polyurethane lacquer comprising (1) polyhydric alcohols selected from the group consisting of (a) dimeric higher fatty alcohols having from 16 to 44 carbon atoms, (b) trimeric higher fatty alcohols having from 24 to 66 carbon atoms, (c) mixtures thereof, and (d) mixtures thereof with up to 50% by weight of lower alkylene oxide addition products of the aforesaid dimeric and trimeric higher fatty alcohols, (2) polyisocyanates selected from the group consisting of alkane-polyisocyanates, aromatic hydrocarbon polyisocyanates, addition products of the aforesaid polyisocyanates with polyhydric low molecular weight alcohols and mixtures thereof, where said polyisocyanates contain at least two isocyanate groups per molecule, and (3) inert organic solvents.

3,378,532
POLYMER COMPOSITIONS HAVING AN INCREASED MELT VISCOSITY

Gerhard Fritz, Krefeld, Karl-Heinz Hermann, Krefeld-Gartenstadt, and Hermann Schnell, Krefeld-Urdingen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Jan. 25, 1967, Ser. No. 611,565

Claims priority, application Germany, Sept. 21, 1963, 40,811; May 23, 1964, 42,966

6 Claims. (Cl. 260—78)

This specification describes a technique of increasing the melt viscosity of polyamide polymers. These polymers are set forth as exemplified by polyesteramides, polyurethanes and polyamides. The melt viscosity increasing material is suitably admixed with the polymer to form a composition which is melted and then formed into a shaped article. The melt viscosity improving materials are the ester reaction products of either carbonic acid or cycloaliphatic hydrocarbon dicarboxylic acids or aryl hydrocarbon dicarboxylic acids with phenols. Further, the carbonic acid ester may be the reaction product of carbonic acid with a polyhydric phenol or alcohol.

3,378,533
PROCESS FOR THE PRODUCTION OF STABLE PREPOLYMERIZATES AND SHAPED ARTICLES THEREOF

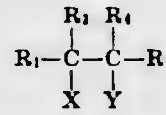
Hermann Schnell, Krefeld-Urdingen, Helmut Mylenbusch, Gummersbach-Karlskamp, and Heinrich Krimm, Krefeld-Bockum, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Mar. 31, 1964, Ser. No. 356,056

Claims priority, application Germany, Apr. 3, 1963, F 39,397

7 Claims. (Cl. 260—78.5)

1. Process for the stepwise production of polymerizates from monomers selected from the group consisting of styrene, divinyl benzene, acrylic esters, acrylic amides, acrylic nitriles, methacrylic esters, methacrylic amides, methacrylic nitriles, 1,3-dienes and allyl esters comprising heating, at polymerization temperature, a mixture of said monomer and a polymerization catalyst of the general formula:



$$R_1-\overset{R_2}{\underset{X}{C}}-\overset{R_4}{\underset{Y}{C}}-R_3$$

wherein R_1 and R_2 are substituents selected from the group consisting of unsubstituted and substituted aromatic radicals, R_3 is a substituent selected from the group consisting of hydrogen, unsubstituted and substituted aliphatic radicals and unsubstituted and substituted aromatic radicals, R_4 is a substituent selected from the group consisting of unsubstituted and substituted aliphatic radicals and unsubstituted and substituted aromatic radicals, and X and Y are substituents selected from the group consisting of free and blocked hydroxy groups, unsubstituted and substituted amino groups, halogen atoms and the nitrile group, the mixture consisting of said monomers and said catalysts being heated until the desired degree of prepolymerization is reached prior to the time the catalyst is deactivated, cooling the prepolymerizate to stop polymerization and thereafter heating the said prepolymerizate with no additional initiator having been added to complete the polymerization.

3,378,534
COPOLYMERS OF OLEFINES WITH DITHIADIENES

Janine Ourgaud, Paris, France, assignor to Societe Nationale des Petroles d'Aquitaine, Tour Aquitaine, Courbevoie, France

No Drawing. Filed May 27, 1966, Ser. No. 553,307

Claims priority, application France, May 29, 1965, 18,846

8 Claims. (Cl. 260—79.5)

The present invention relates to a new type of copolymers of olefines, particularly α-olefine, with dithiadienes. It is concerned more especially with copolymers of α-olefines with those dienes which contain sulphur. Among the new copolymers, the invention concerns more especially the terpolymers obtained from ethylene, an aliphatic α-olefine and a dithiadiene, of which the molecule contains two —CH_2S groups connected by an aliphatic chain and two alkenyl groups. The products mainly envisaged by the invention are copolymers of high molecular weight, the said copolymers being practically linear, amorphous, unsaturated and vulcanizable.

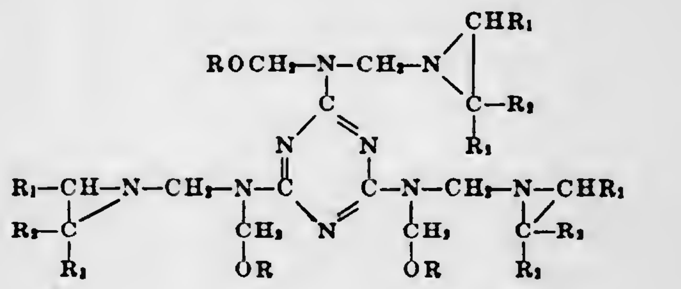
3,378,535
AZIRIDINYLMETHYL-ALKOXYMETHYL-MELAMINES

Joseph Adrian Hoffman, Bridgewater Township, Somerset County, and John Christian Oppelt, Manville, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Dec. 4, 1964, Ser. No. 416,151

5 Claims. (Cl. 260—82.1)

1. A compound of the formula:



wherein R is lower alkyl and each of the R_1, R_2 and R_3 symbols is a member selected from the group consisting of hydrogen and lower alkyl.

3. The method of curing a carboxy-terminated rubbery polymer characterized by the use of a compound of claim 1 as the cross-linkage agent.

3,378,536
POLYMERIZATION PROCESS USING A CATALYST COMPRISING A SUPPORTED DIARENE METAL AND SUPPORTED CHROMIUM OXIDE

Darrell W. Walker and Grant C. Bailey, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

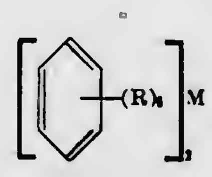
No Drawing. Continuation-in-part of application Ser. No. 332,260, Dec. 20, 1963. This application Sept. 24, 1964, Ser. No. 399,097

16 Claims. (Cl. 260—88.2)

1. A process for polymerizing ethylene comprising the steps of:

(1) passing an olefin feed consisting of at least 75 weight percent ethylene into an enclosed polymerizing zone;

(2) introducing to said zone a two component catalyst system of
   (a) chromium oxide deposited on a support selected from the group consisting of silica, alumina, thoria, zirconia, and mixtures thereof;
   (b) an organic solution of diarene metal designated by the structure



wherein M is selected from the group consisting of Cr and V, and R is selected from the group consisting of hydrogen alkyl, cycloalkyl, and aryl radicals of 1 to 20 carbon atoms and combinations thereof;

(3) intimately contacting the feed of step (1) with the catalyst of step (2) under polymerizing conditions so as to form solid polymer; and

(4) recovering said solid polymer.

3,378,537

HOMOPOLYMERS OF METHYL VINYL ETHER AND PROCESSES FOR MAKING SAME USING BOROTRIFLUORIDE OR ETHERATES THEREOF, DIOXANE AS CATALYST AND AROMATIC HYDROCARBON AS SOLVENT

Herman S. Schultz, Easton, Pa., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 6, 1964, Ser. No. 409,601
2 Claims. (Cl. 260—91.1)

1. A process for preparing a homopolymer of methyl vinyl ether, said homopolymer being characterized by the following properties

(1) insoluble in water down to about 10° C.
(2) precipitates from water solution at about 26° C. to 30° C.
(3) a birefringent melting point of from about 60° C. to 70° C.

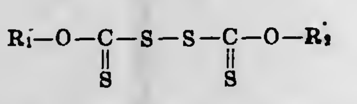
said process comprising polymerizing methyl vinyl ether by contacting, at a temperature in the range of from about −100° C. to about −55° C., a substantially anhydrous liquid solution of methyl vinyl ether in a nonreactive aromatic hydrocarbon solvent consisting essentially of toluene, with from about 0.01 mol percent to about 2.0 mol percent based on said methyl vinyl ether, of a catalyst of 1,4-dioxane with a member of the class consisting of boron trifluoride and boron trifluoride-dialkyl-etherate, the ratio of 1,4-dioxane to boron trifluoride being 1:2 to 100:1 and the ratio of 1,4-dioxane to boron trifluoride-dialkyletherate being from 3:1 to 100:1.

3,378,538

PROCESS FOR PREPARING SULFUR MODIFIED POLYCHLOROPRENE

Anthony Archibald Sparks, Epsom Downs, England, assignor to The Distillers Company Limited, Edinburgh, Scotland, a British company
No Drawing. Filed Oct. 7, 1965, Ser. No. 493,886
Claims priority, application Great Britain, Oct. 24, 1964, 43,454/64
10 Claims. (Cl. 260—92.3)

Sulphur modified polychloroprene rubber having superior storage properties superior to known sulphur modified polychloroprene rubbers are obtained by polymerizing chloroprene monomer, 2-chloro-1,3-butadiene, either alone or with a minor proportion of a coplymerizable monomer in an aqueous emulsion system in the presence of sulphur and a dialkyl xanthogen disulphide of the formula:



$$R_1{-}O{-}\underset{\underset{S}{\|}}{C}{-}S{-}S{-}\underset{\underset{S}{\|}}{C}{-}O{-}R_2$$

wherein R_1 and R_2 are alkyl of 1 to 8 carbon atoms, wherein the proportion of the dialkyl xanthogen disulphide in relation to the chloroprene monomer is insufficient to prevent the formation of "solid" polymer, i.e., a polymer having a Mooney viscosity ML 1+4′ (100° C.) of at least 25 as determined by the method described in British standard specification No. 1,673, part 3, 1951, when the rubber is passed ten times through a mill with the rolls at a temperature of 20±5° C. and with a nip gap of eighty thousandths of an inch.

3,378,539

PROCESS AND CATALYST FOR PRODUCTION OF SOLID POLYMERS

Gene Nowlin and Harold D. Lyons, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed July 28, 1955, Ser. No. 525,067
40 Claims. (Cl. 260—93.7)

1. A method for polymerizing a polymerizable hydrocarbon having at least three carbon atoms which comprises contacting said hydrocarbon at a pressure within the range of 100 to 1000 p.s.i.g. with a catalyst comprises contacting said hydrocarbon at a pressure within from the group consisting of titanium, zirconium, hafnium, thorium, tin, lead, and germanium of Group IV of the formula MR_4 where M is one of said metals and each R is individually selected from the group consisting of alkyl, alkenyl, cycloalkyl, cycloalkenyl, aryl, and combinations thereof, each R containing not to exceed 12 carbon atoms and (b) a halide of a metal selected from the group consisting of titanium, zirconium and hafnium of Group IV–A and complex alkali metal halide and ammonium halide salts of said halides.

3. A method for polymerizing a polymerizable hydrocarbon which comprises contacting said hydrocarbon at a pressure within the range of 100 to 1000 p.s.i.g. with a catalyst comprising (a) a hydrocarbon derivative of a metal selected from the group consisting of titanium, zirconium, hafnium, thorium, tin, lead, and germanium of Group IV of the formula MR_4 where M is one of said metals and each R is individually selected from the group consisting of alkyl, alkenyl, cycloalkyl, cycloalkenyl, aryl, and combinations thereof, each R containing not to exceed 12 carbon atoms, (b) a halide of a metal selected from the group consisting of titanium, zirconium and hafnium of Group IV–A and complex alkali metal halide and ammonium halide salts of said halides, and (c) a halide of a metal selected from the group consisting of aluminum, gallium, indium, and thallium of Group III–B.

3,378,540

POLYMERIZATION OF 1-OLEFINS AND CATALYST

Donald R. Witt, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed May 25, 1964, Ser. No. 370,072
1 Claim. (Cl. 260—94.9)

Polymers of 1-olefins having controlled melt index are obtained by polymerizing same in the presence of a catalyst system formed by the impregnation of a hydrous oxide gel having a controlled water content with a chromium oxide yielding compound and thereafter activated so as to produce at least 0.1 weight percent hexavalent chromium in the catalyst.

3,378,541

METHOD FOR DEPOLYMERIZING CARRAGEENANS AND PRODUCTS PRODUCED THEREBY

Joseph A. Colquhoun, Prestonpans, and Eric T. Dewar, Dalkeith, Scotland, assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware
No Drawing. Filed Mar. 17, 1965, Ser. No. 440,605
9 Claims. (Cl. 260—209)

1. A method for depolymerizing carrageenan without substantial loss of sulphate ester content which comprises, reacting carrageenan in an aqueous solution with an aqueous solution of hypochlorite ions in an amount sufficient to cleave galactopyranosyl linkages forming the carrageenan.

3,378,542

PURIFYING ESTERS OF POLYHYDRIC ALCOHOLS

Charles J. O'Boyle, Gramercy, La., assignor to North American Sugar Industries Incorporated, New York, N.Y., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 263,349, Mar. 6, 1963. This application July 13, 1964, Ser. No. 382,391
15 Claims. (Cl. 260—210)

A method for removing extraneous solvents from preparations of polyhydric alcohols is disclosed wherein the ester-containing mass is dispersed in a wash solvent in which the extraneous solvent to be removed is soluble, but in which the ester to be purified is of limited solubility. Wash solvents disclosed in this application are volatile ketones, ethers, esters, and alcohols. Method for the preparation and partial purification of polyhydric alcohol esters are also described.

3,378,543

PURIFYING ESTERS OF POLYHYDRIC ALCOHOLS

Charles J. O'Boyle, Gramercy, La., assignor to North American Sugar Industries Incorporated, New York, N.Y., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 263,349, Mar. 6, 1963. This application July 13, 1964, Ser. No. 382,392
14 Claims. (Cl. 260—210)

A method for removing extraneous solvents from preparations of polyhydric alcohols is disclosed wherein the crude ester-containing mass is dispersed in a wash solvent with which the extraneous solvent to be removed is soluble, but in which the ester to be purified is of reduced solubility. Where the wash solvent is water, the acid moiety of the polyhydric alcohol ester should have from 14 to 24 carbon atoms and a titre of at least about 50° C. Methods for the preparation and partial purification of polyhydric alcohol esters are also described.

3,378,544

PURIFYING ESTERS OF POLYHYDRIC ALCOHOLS

Charles J. O'Boyle, Gramercy, La., assignor to North American Sugar Industries Incorporated, New York, N.Y., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 263,349, Mar. 6, 1963. This application July 13, 1964, Ser. No. 382,394
11 Claims. (Cl. 260—210)

A method for removing extraneous solvents from preparations of polyhydric alcohols is disclosed wherein the ester-containing mass is dispersed in a wash solvent in which the extraneous solvent to be removed is soluble, but in which the ester to be purified is of limited solubility. Wash solvents disclosed in this application are aqueous salt solutions of common inorganic salts. Methods for the preparation and partial purification of polyhydric alcohol esters are also described.

3,378,545

RECOVERY OF NITROCELLULOSE FROM SURPLUS POWDERS

Samuel A. Riccardi, Godfrey, Ill., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Oct. 5, 1965, Ser. No. 493,170
17 Claims. (Cl. 260—223)

A process for the recovery of nitrocellulose from ground surplus powder containing nitrocellulose and non-nitrocellulose organic materials, comprising slurrying the ground surplus powder in a solvent to effect solvation of the non-nitrocellulose organic materials, the solvation being carried out in an inert gaseous atmosphere and at an elevated temperature.

3,378,546

HYDROXYPROPYL STARCH ETHER

Toshio Tsuzuki, Oak Lawn, Ill., assignor to American Maize Products Company, a corporation of Maine
No Drawing. Filed Mar. 3, 1965, Ser. No. 436,927
7 Claims. (Cl. 260—233.3)

An aqueous mixture of starch granules, alkali catalyst and propylene oxide is held for at least ¼ hour at a temperature up to about 94° F., prior to reacting the starch and propylene oxide at higher temperatures. The holding step enhances the reaction efficiency to produce granular hydroxypropyl starch ether having an increased quantity of hydroxypropyl substituents.

3,378,547

CATIONIC STARCH

Chim P. Patel, Granite City, Ill., Mark A. Jaeger, Lemay, Mo., and Ronald E. Pyle, Granite City, Ill., assignors to Union Starch & Refining Co., Inc., Columbus, Ind., a corporation of Indiana
No Drawing. Filed Aug. 4, 1966, Ser. No. 570,182
6 Claims. (Cl. 260—233.3)

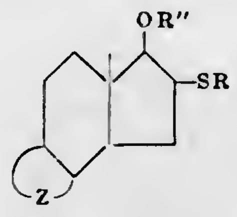
1. Process for preparing cationic starch comprising reacting starch suspended in as aqueous medium with 4-halo-2-butenyl-trimethyl ammonium halide in the presence of an alkali.

3,378,548

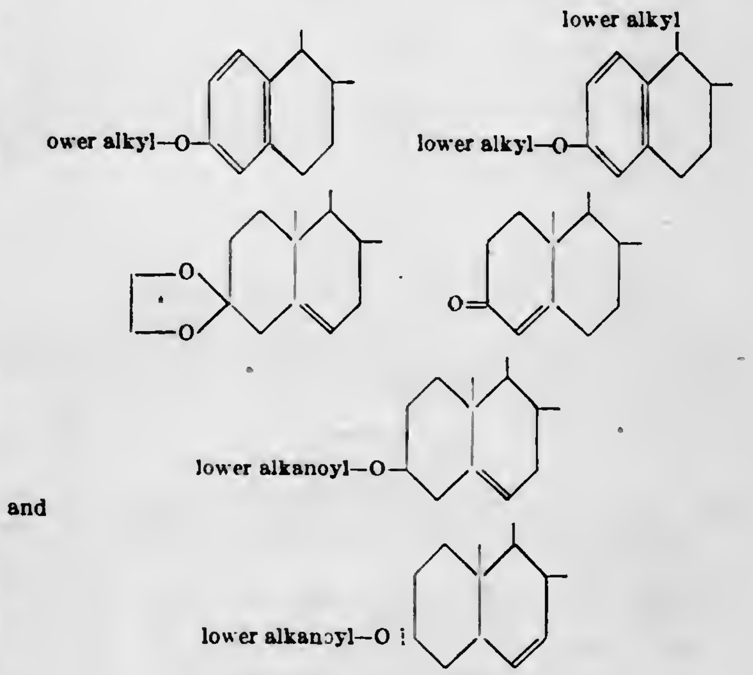
16β-ALKYLTHIO-17β-HYDROXY-STEROIDS AND 17-ACYLATES THEREOF

Taichiro Komeno, Osaka, and Norio Tokutake, Kobe, Japan, assignors to Shionogi & Co., Ltd., Osaka, Japan
No Drawing. Filed Mar. 1, 1963, Ser. No. 262,213
Claims priority, application Japan, Mar. 20, 1962, 37/11,348
14 Claims. (Cl. 260—239.55)

1. A steroid represented by the formula:



wherein R is lower alkyl, R″ is a member selected from the group consisting of hydrogen and lower alkanoyl and Z is a ring system selected from the group consisting of



3,378,549

2,3 - ACETONIDES OF POLYHYDROXY BIS NORCHOL-7-ENOIC ACID DERIVATIVES

John A. Edwards, John H. Fried, and John B. Siddall, Palo Alto Calif., assignors to Syntex Corporation, Panama, Panama, a corporation of Panama
No Drawing. Filed Nov. 4, 1965, Ser. No. 506,410
29 Claims. (Cl. 260—239.55)

Synthesis of the insect hormone ecdysone, novel polyhydroxy steroids, and novel intermediates therefor.

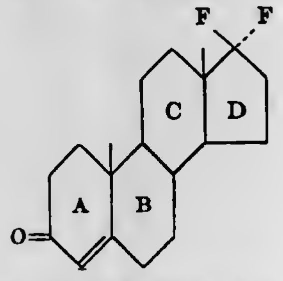
3,378,550
SELECTED DERIVATIVES OF 17,17-DIFLUORO-4-ANDROSTENE-3-ONE

George A. Boswell, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

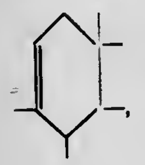
No Drawing. Filed Nov. 15, 1966, Ser. No. 594,412

9 Claims. (Cl. 260—239.55)

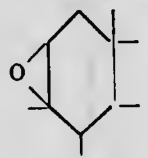
Compounds of the formula



where the C ring is of the structures

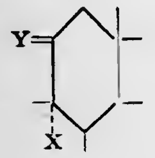


(I)



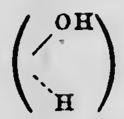
(II)

or

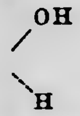


(III)

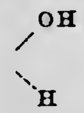
where Y is =O or



and X is halogen. The compounds are prepared through a series of steps, outlined as follows: Adrenosterone and sulfur tetrafluoride give 17,17-difluoro-4-androstene-3,11-dione, which, upon blocking the 3-position with pyrrolidine and treating with lithium aluminum hydride followed by acid, gives 17,17 - difluoro - 11β - hydroxy-4-androstene-3-one. Treatment of the latter compound with N-bromoacetamide gives compound I. Treatment of I with HOBr gives compound III where X is Br and Y is



Reaction of the latter compound with sodium hydroxide produces compound II and treatment of II with HX gives compound III where Y is



This latter compound is converted to compound III where Y is =O by mild oxidation. The products possess therapeutic properties.

3,378,551
16β - AMINO - 3β,17α - DIHYDROXYPREGN - 5 - EN-20-ONE 20-KETALS AND ACYL DERIVATIVES THEREOF

Clarence G. Bergstrom, Chicago, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed July 17, 1967, Ser. No. 653,654

11 Claims. (Cl. 260—239.55)

16β-amino-3β,17α-dihydroxypregn - 5 - en - 20-one 20-ketals and acyl derivatives thereof useful as pharmacological agents, as exemplified by their central nervous system-stimulant, anti-depressant, hypotensive, analgesic, pepsin-inhibitory, anti-ulcerogenic, anti-bradykinin, anti-inflammatory, anti-bacterial, anti-protozoal, anti-fungal, anti-algal and dicotyledonous seed germination-inhibitory activity. These compounds are prepared by reaction of the corresponding 16α,17α-epoxide with the appropriate amine or, alternatively, by acylation of the amino function followed by reduction of the amide moiety.

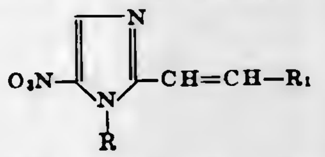
3,378,552
IMIDAZOLE COMPOUNDS AND METHODS OF MAKING THE SAME

David W. Henry, Plainfield, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Aug. 7, 1963, Ser. No. 300,634

8 Claims. (Cl. 260—240)

4. A compound having the formula



where R is selected from the class consisting of hydroxyloweralkyl having at least two carbon atoms and loweralkyl, and R_1 is selected from the class consisting of phenyl, furyl, halophenyl and tolyl.

5. The process for producing 1-methyl-2-(β-phenylvinyl)-5-nitroimidazole that comprises reacting 1,2-dimethyl-5-nitroimidazole with benzaldehyde in a strongly basic reaction medium containing an alkali metal lower alkoxide, an alkaline earth metal lower alkoxide, an alkali metal hydroxide or an alkali metal amide.

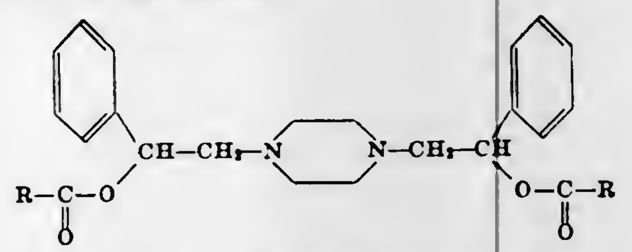
3,378,553
SUBSTITUTED 1,4 - BIS(β - PHENYL - β - ACYLOXYETHYL)PIPERAZINES AND THEIR PHARMACEUTICALLY ACCEPTABLE ACID ADDITION SALTS

Wolf-Dieter Vigelius, Memmingen, Germany, assignor to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

No Drawing. Filed Feb. 11, 1965, Ser. No. 432,016

30 Claims. (Cl. 260—240)

1. A member selected from the group consisting of a compound of the formula:



wherein R is a member selected from the group consisting of lower alkyl and substituted lower alkyl, wherein the substituent is a member selected from the group consisting of lower alkoxy, chloro, and phenyl, phenyl, tolyl, benzyl, styryl and substituted phenyl wherein the substituent is a member selected from the group consisting of nitro, amino and lower alkoxy, R_1, R_2, R_3, and R_4 are each a member selected from the group consisting of hydrogen and methyl.

19. 1,4-bis(β-phenyl-β-cinnamoyloxyethyl)piperazine.

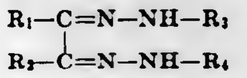
3,378,554
DICARBONYL-DIHYDRAZONES

Walter Püschel and Hans Schellenberger, Leverkusen, Germany; Karl Löffler, deceased, late of Leverkusen, Germany, by Monika Laux nee Löffler, heir, Berlin, Germany, Klaus-Richard Löffler and Claudia Maria Löffler, minor heirs, and Beate Elisabeth Löffler, heir and legal representative of minor heirs, Leverkusen, Germany; and Othmar Wahl, Leverkusen, and Willibald Pelz, Baden-Baden, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Continuation-in-part of application Ser. No. 858,052, Dec. 8, 1959. This application Apr. 6, 1965, Ser. No. 446,795

12 Claims. (Cl. 260—240)

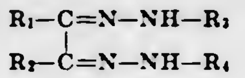
1. A compound of the formula



$$\begin{array}{l} R_1-C=N-NH-R_3 \\ \qquad | \\ R_2-C=N-NH-R_4 \end{array}$$

wherein R_1 and R_2 are defined as a hydrogen, alkyl having up to 20 carbon atoms, phenyl, naphthyl, benzyl and heterocyclic radicals selected from the group consisting of furyl, thienyl coumaronyl, thionaphthenyl and pyridyl, R_1 and R_2 together with the connecting carbon atoms being further defined as a 5–6 membered ring comprising cyclopentanedione, cyclohexanedione, benzofurane and indolyl moiety; R_3 and R_4 are members selected from the group consisting of a phenyl, naphthyl, pyridyl, benzthiazolyl, thiazolyl, oxazolyl, benzimidazolyl, pyrazolyl and thienyl; R_1, R_2, R_3 or R_4 containing a substituent radical selected from the group consisting of alkyl of 6–20 carbon atoms, alkoxy of 6–20 carbon atoms, and alkyl amino having an alkyl group containing up to 20 carbon atoms when R_2 is defined other than alkyl having 6–20 carbon atoms.

2. A compound of the formula



$$\begin{array}{l} R_1-C=N-NH-R_3 \\ \qquad | \\ R_2-C=N-NH-R_4 \end{array}$$

wherein R_1 and R_2 are individually defined as members selected from the group consisting of hydrogen, alkyl of 1–20 carbon atoms, phenyl, naphthyl, alkyl phenyl, furyl, thienyl, 2-benzofuranyl, benzothienyl and pyridyl; R_1 and R_2 together with the connecting carbon atoms being further defined as a 5–6 membered ring comprising cyclopentanedione, cyclohexanedione, benzofurane and indolyl moiety; R_3 is defined as naphthyl or phenyl radicals substituted by members selected from the group consisting of sulfonic acid, alkoxy, N-phenylamino, carboxy-hydroxy phenyl sulfonyl, dialkylamino, 3-alkyl-benzimidazole-6-sulfonic acid, nitro, carboxy, phenoxy, chloro, methyl and phenylamino; and R_4 is naphthyl, phenyl or substituted naphthyl or phenyl radicals having, as substituent groups, members selected from the group consisting of sulfonic acid, alkoxy, chloro, carboxy-hydroxyphenyl sulfonyl, acetamido, methylphenylsulfonyl, 3-alkylbenzimidazole-6-sulfonic acid, phenoxy, N-oxalylamino, carboxy, methyl, methyl sulfonic acid, sulfamino, and benzthiazoyl-hydrazino-5-sulfonic acid.

3,378,555
THIAZINE COMPOUNDS AND PRODUCTION THEREOF

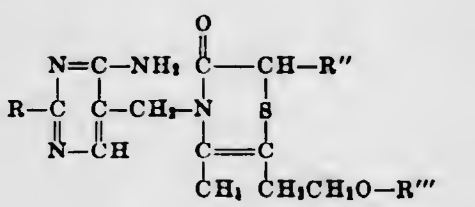
Akira Takamizawa, Ibaraki-shi, and Yoshiro Sato, Takatsuki-shi, Japan, assignors to Shionogi & Co., Ltd., Osaka, Japan

No Drawing. Original application Feb. 23, 1965, Ser. No. 434,647, now Patent No. 3,316,255, dated Apr. 25, 1967. Divided and this application Oct. 21, 1966, Ser. No. 619,081

Claims priority, application Japan, Feb. 24, 1964, 39/9,962; June 8, 1964, 39/32,490; Sept. 12, 1964, 39/52,312, 39/52,315

9 Claims. (Cl. 260—243)

Thiazines of the formula



wherein R is lower alkyl, R″ is a member selected from the group consisting of phenyl, lower alkylphenyl, lower alkoxyphenyl and halogenophenyl, and R‴ is a member selected from the group consisting of hydrogen, benzoyl, lower alkanoyl and lower alkylbenzoyl are useful as analgesics.

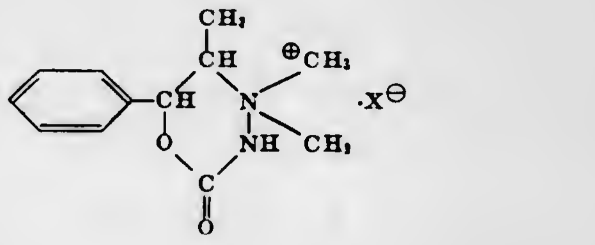
3,378,556
3,4,5,6 - TETRAHYDRO - 2 - KETO - 6 - PHENYL-4,4,5 - TRIMETHYL - 2H - 1,3,4 - OXADIAZINIUM HALIDES

Donald L. Trepanier, Indianapolis, Ind., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Sept. 23, 1966, Ser. No. 581,446

2 Claims. (Cl. 260—244)

1. The 3,4,5,6-tetrahydro - 2 - keto - 6-phenyl-4,4,5-trimethyl-2H-1,3,4-oxidiazinium halide compound corresponding to the formula



wherein X represents a member of the group consisting of iodide and bromide.

3,378,557
5-ALKYL-2-AMINO-3-AMINOALKYL-6-ARYL-4(3H)-PYRIMIDINONES AND CONGENERS

Kurt J. Rorig, Glenview, and Hans A. Wagner, Skokie, Ill., assignors to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 285,218, June 4, 1963. This application Aug. 31, 1965, Ser. No. 484,124

5 Claims. (Cl. 260—247.2)

5-hydrocarbon 2-amino-3-aminoalkyl-6-aryl-4(3H)-pyrimidinones and congeners useful as diuretics. The compounds are prepared by alkylating the appropriate 4-pyrimidinol with an amino alkyl halide.

3,378,558
DOUBLE ALKALI METAL SALT OF THEOPHYLLINE AND CYCLOHEXANESULFAMIC ACID

James D. Keiser and Donald G. Midyett, Seymour, Ind., assignors to The Central Pharmacal Company, Seymour, Ind.

No Drawing. Filed May 1, 1964, Ser. No. 364,294

2 Claims. (Cl. 260—253)

1. The double alkali metal salt of theophylline and cyclohexanesulfamic acid.

3,378,559
HEPTACHLOROQUINOLINE

Horst Tarnow, Leverkusen, Hans Holtschmidt, Cologne-Stammheim, and Otto Bayer, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Continuation of application Ser. No. 310,913, Sept. 23, 1963. This application Feb. 14, 1967, Ser. No. 616,132

Claims priority, application Germany, Oct. 20, 1962, F 38,107

1 Claim. (Cl. 260—283)

1. Heptachloroquinoline.

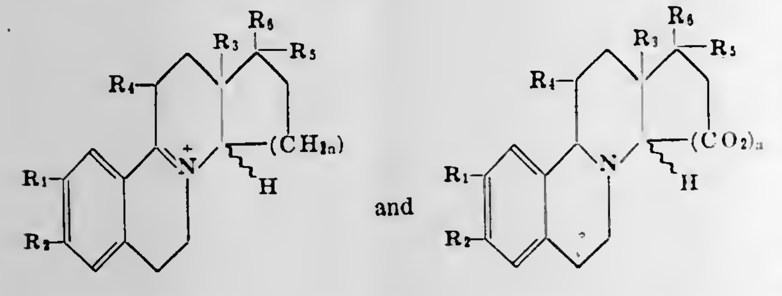
3,378,560
ACYLOXY AND HYDROXY SUBSTITUTED QUINOLIZINES

Richard E. Brown, Hanover, and Robert I. Meltzer, Rockaway, N.J., assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

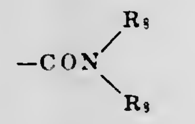
No Drawing. Filed July 21, 1965, Ser. No. 473,810

10 Claims. (Cl. 260—286)

1. A member selected from the group consisting of compounds of the formula:



in which R_1 and R_2 are each a member of the group consisting of hydrogen, hydroxy, lower alkoxy and R_1 and R_2 taken together form a methylenedioxy group; R_3 is a member selected from the group consisting of hydrogen, methyl or ethyl, R_4 is a member selected from the group consisting of hydroxy, lower alkanoyloxy and keto; R_5 is a member selected from the group consisting of hydrogen, carboxy and



$$-\text{CON}\genfrac{}{}{0pt}{}{R_6}{R_6}$$

in which R_6 is a member selected from the group consisting of hydrogen and lower alkyl; R is a member of the group consisting of hydrogen, hydroxy, lower alkanoyloxy and R_5 and R_6 taken together form a cyclic ketal group and ketone.

2. 2,3,3a,5,6,11,12,12a - octahydro-8-methoxy-11-acetoxy-1H-benz[a]cyclopenta[f]quinolizinium perchlorate.

3,378,561
1-β-ARYLTHIOETHYLTETRAHYDROISOQUINOLINES

Thomas A. Montzka, Manlius, N.Y., assignor to Bristol-Myers Company, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of applications Ser. No. 440,928, Mar. 18, 1965, and Ser. No. 520,861, Jan. 17, 1966. This application May 18, 1966, Ser. No. 550,961

14 Claims. (Cl. 260—286)

1 - β-arylthioethyl-2-methyl-6,7-dimethoxy-1,2,3,4-tetrahydroisoquinolines, wherein aryl is substituted phenyl, pyridyl, thiazolyl or thienyl, are useful as analgesic and muscle-relaxing agents. The most preferred embodiment of the present invention is the compound known as 1-(β-p - chlorothiophenoxyethyl) - 6,7 - dimethoxy - 2-methyl-1,2,3,4-tetrahydroisoquinoline.

3,378,562
C-CHLORINATION OF SATURATED AMINES

Janos Kollonitsch, Westfield, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed May 4, 1964, Ser. No. 364,749

13 Claims. (Cl. 260—293)

Saturated aliphatic and alicyclic amines containing at least 2 carbon atoms are C-chlorinated by reaction with chlorine in a strongly acidic medium and in the presence of a catalyst. Haloalkyl amines useful as chemical intermediates are obtained.

3,378,563
BIS-PHENYLALKYLPIPERIDIDES

Francis E. Cislak, Indianapolis, Ind., assignor to Reilly Tar & Chemical Corporation, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed Apr. 5, 1965, Ser. No. 445,734

6 Claims. (Cl. 260—294)

Bis-phenylalkylpiperidides are disclosed. They are prepared by the interaction of a phenylalkylpiperidine with a dicarboxylic acid, a dicarboxylic acid ester, or a dicarboxylic acid chloride. They are useful as plasticizers for polyvinylchlorides, etc.

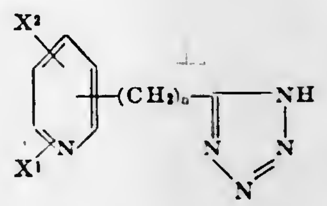
3,378,564
CERTAIN PYRIDYL TETRAZOLE DERIVATIVES

Gerald F. Holland, Groton, Conn., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 15, 1964, Ser. No. 418,527

9 Claims. (Cl. 260—294.8)

1. A compound selected from the group consisting of those of the formula:



wherein X^1 is selected from the group consisting of halogen, hydroxy, acetylamino, amino, alkoxy, carboalkoxy, alkylthio, mono- and dialkylamino, N-alkylcarbamyl, N,N-dialkylcarbamyl, alkylsulfonyl, said alkyl groups containing from 1 to 4 carbon atoms, trifluoromethyl, trifluoromethoxy, trifluoromethylthio, methoxymethyl, carboxy, carbamyl, alkanoyloxy containing up to 4 carbon atoms, phenyl, p-chlorophenyl, p-methylphenyl and p-aminophenyl; X^2 is selected from the group consisting of halogen, alkanoyloxy containing from 1–4 carbon atoms, carboalkoxy containing from 2 to 5 carbon atoms, carbamyl, N-alkyl carbamyl and N,N-dialkylcarbamyl wherein said alkyl groups contain from 1–4 carbon atoms and trifluoromethyl; *n* is a whole number from 0 to 4; and N-oxides thereof.

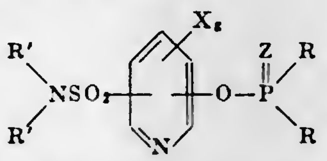
3,378,565
SULFAMOYLPYRIDYL PHOSPHOROTHIOATES AND INTERMEDIATES THEREFOR

Raymond H. Rigterink, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 25, 1966, Ser. No. 544,825

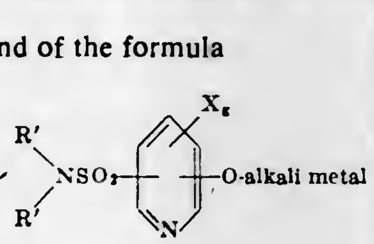
5 Claims. (Cl. 260—294.8)

1. Compound of the formula



wherein each R independently represents a member selected from the group consisting of loweralkoxy, amino, and loweralkylamino; each R′ independently represents a member selected from the group consisting of hydrogen and loweralkyl; X represents halo; Z represents a member selected from the group consisting of oxygen and sulfur; and *g* represents an integer of from 0 to 1, both inclusive.

5. Compound of the formula



wherein each R′ independently represents a member selected from the group consisting of hydrogen and lower-alkyl; X represents halo, *g* represents an integer of from 0 to 1, inclusive; and alkali metal designates a member selected from the group consisting of sodium and potassium.

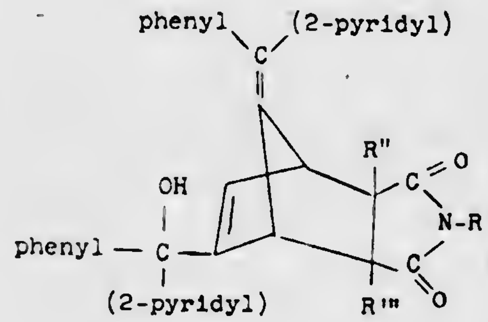
3,378,566
CERTAIN 5-(R-R_1-R_2-METHYL)-7-(R_3-R_4-METHYLENE) - (R_6) - 5 - NORBORNENE - 2,3 - DICARBOXIMIDES

Richard Joseph Mohrbacher, Fort Washington, George Ireland Poos, Ambler, and Adolph P. Roszkowski, Willow Grove, Pa., assignors to McNeil Laboratories, Incoporated, a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 350,541, Mar. 9, 1964. This application Mar. 10, 1966, Ser. No. 533,261

23 Claims. (Cl. 260—295)

2. A chemical compound selected from the group consisting of a 5-norbornene-2,3-dicaboximide having the formula:



wherein R′ is a member selected from the group consisting of hydrogen, lower alkyl other than tertiary-lower alkyl, lower alkenyl and substituted lower alkyl in which the substituent is a member selected from the group consisting of lower alkoxy, di-(lower alkyl)-amino and di-(lower alkyl)-amino-carbonyl; and R″ and R‴ are each a member selected from the group consisting of hydrogen, lower alkyl and halo, provided that at least one of said R″ and R‴ is hydrogen; and the corresponding acid addition salts thereof.

3,378,567
5-DILOWERALKYLAMINOALKOXY ETHERS OF 4-AZA - 10,11 - DIHYDRO - 5H - DIBENZO[a,d] - CYCLOHEPTENE DERIVATIVES

Frank J. Villani, West Caldwell, N.J., assignor to Schering Corporation, Bloomfield, N.J., a corporation of New Jersey

No Drawing. Filed Dec. 20, 1965, Ser. No. 515,157

9 Claims. (Cl. 260—296)

1. 5-(dilower-alkylamino lower-alkoxy)-4-aza-10,11-dihydro-5H-dibenzo-[a,d] - cycloheptene characterized by having at the 5-position a further substituent selected from the group consisting of hydrogen and lower alkyl.

3,378,568
METHOD FOR MAKING SULFUR-CONTAINING PHTHALOCYANINE DYESTUFFS

Wilson J. Bryan, Jr., Charlotte, and William S. Griffith, Mount Holly, N.C., assignors to Martin-Marietta Corporation, a corporation of Maryland

No Drawing. Filed Dec. 20, 1965, Ser. No. 515,192

3 Claims. (Cl. 260—314.5)

There is disclosed herein a method for making vattable, sulfur-containing dyestuffs of the phthalocyanine series, comprising heating phthalocyanine sulfinates, copper phthalocyanine sulfinates or nickel phthalocyanine sulfinates, in which the sulfinate groups are pendant and are substituents for hydrogen in the arylene nuclei of the phthalocyanines, with $X_2S_2O_3$ or sodium polysulfides, wherein X is Na, K or NH_4. The phthalocyanines may contain in addition pendant thiolsulfonate groups or pendant sulfonate groups. Solubilization of the resulting dye to its leuco form with sodium sulfide, and production of wet-fast green dyeings with the dyestuff on cotton fabric is also disclosed.

3,378,569
ARENE METAL CARBONYLS

Roy L. Pruett, Charleston, and John E. Wyman, St. Albans, W. Va., and Donald R. Rink and Leo Parts, Buffalo, N.Y., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Sept. 12, 1958, Ser. No. 760,558

5 Claims. (Cl. 260—340.9)

2. 4-methyl-2-phenyl - 1,3 - dioxolane chromium tricarbonyl.

3,378,570
17 - HYDROXY - 17α - OXA - D - HOMOANDROST-4 - EN - 3 - ONE, Δ¹ AND 19 - NOR DERIVATIVES CORRESPONDING, ETHERS THEREOF AND INTERMEDIATES THERETO

John S. Baran, Morton Grove, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed July 20, 1964, Ser. No. 383,932

11 Claims. (Cl. 260—345.2)

17-hydroxy-17α-oxa-D-homoandrost-4-en-3-one, Δ^1 and 19-nor derivatives corresponding and ethers thereof useful as potent anti-estrogenic agents. The androstene derivatives are manufactured by reduction of the corresponding 17-oxo-17α-oxa compounds, in the case of the Δ^4 compounds preferably after ketalization of the 3-keto group, followed by removal of the ketal function. The 19-nor compounds are manufactured by Birch reduction of the corresponding novel intermediate 17-oxygenated estra-1,3,5(10)-trienes which are obtained by reduction of 3-methoxy-17α-oxa-D-homoestra-1,3,5(10)-trien-17 - one. The instant ethers are produced by etherification of the corresponding lactols.

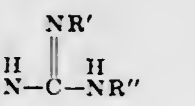
3,378,571
HIGH NITROGEN POLYMERS AND PROCESS FOR PREPARATION THEREOF

Ernst J. Peterli, Pleasant Hill, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Jan. 24, 1962, Ser. No. 169,176

6 Claims. (Cl. 260—349)

A novel process for preparing polymers having a high nitrogen content and N/C ratios greater than 1 which comprises passing an amine based compound corresponding to the formula



$$\begin{array}{c} \text{NR}' \\ \overset{\text{H}}{\text{RN}}-\overset{\|}{\text{C}}-\overset{\text{H}}{\text{NR}''} \end{array}$$

wherein R, R′ and R″ are either —H or —NH_2, monoazide salts of such compounds or mixtures thereof into a reaction zone at from about 150 to about 259° C. and having an inert atmosphere thereby pyrolyzing said amine and autocondensing it into the corresponding polymer in liquid form and removing said liquid polymer from said reaction zone. These polymers are useful as nitrogen oxidizer source materials in the "B-N" propellant system, as gas generators, and as binders in conventional propellant systems.

3,378,572

CHLORINATION OF ANTHRAQUINONE-SULFONIC ACIDS USING NASCENT CHLORINE AND AN INORGANIC AMMONIUM SALT (ADDED SLOWLY) IN DILUTE SULFURIC ACID

Richard S. Wilder, Penns Grove, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 28, 1964, Ser. No. 340,779

11 Claims. (Cl. 260—384)

Chlorination of anthraquinone sulfonic acids and alkali metal salts thereof to the corresponding chloroanthraquinones by reaction with nascent chlorine in the presence of dilute sulfuric acid and an inorganic ammonium salt.

3,378,573

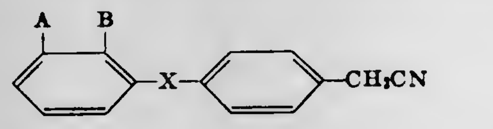
AROMATIC NITROCYANOMETHYL COMPOUNDS

John S. Heckles, Lancaster, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania

No Drawing. Filed Aug. 10, 1965, Ser. No. 478,750

2 Claims. (Cl. 260—396)

1. A nitrocyanomethyl compound of the structure



wherein one and only of A and B is a nitro group, and X is selected from the group consisting of a covalent bond, —O—, and —CH_2—.

3,378,574

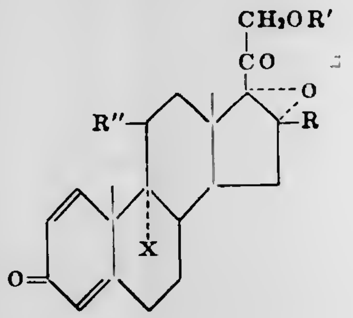
PROCESS OF HYDROLYZING 16β-ALKYL-16α,17α-OXIDO - 11,20 BIS - OXYGENATED - 1,4 - PREGNADIENE-3,20-DIONES

David Taub and Robert D. Hoffsommer, Jr., Metuchen, and Norman L. Wendler, Summit, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

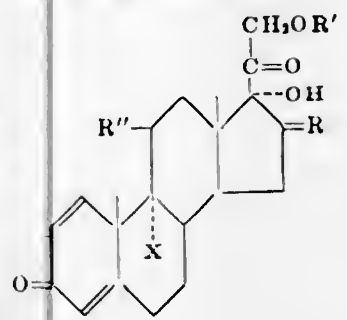
No Drawing. Continuation-in-part of application Ser. No. 818,017, June 4, 1959. This application Mar. 30, 1966, Ser. No. 538,579

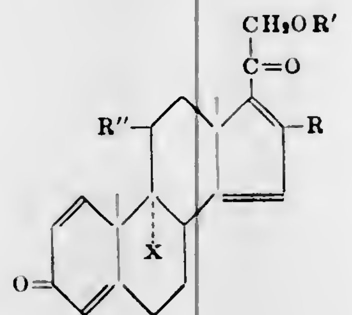
2 Claims. (Cl. 260—397.45)

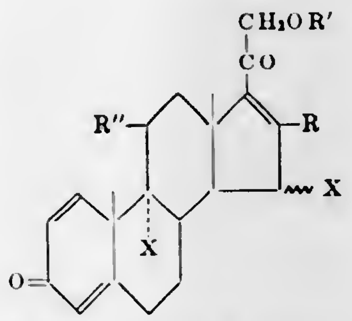
1. The process which comprises reacting a compound of the following formula:



wherein R is lower alkyl, R' is selected from the group consisting of hydrogen and acyl, R'' is selected from the group consisting of hydroxy and oxygen, and X is selected from the group consisting of hydrogen and halogen, with a hydrogen halide in the presence of an organic solvent to form a mixture of compounds having the following formulae:







wherein R, R', R'' and X are as above.

3,378,575

PROCESS FOR MAKING CYCLOTETRASILOXANETETROL

John F. Brown, Jr., Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed July 29, 1964, Ser. No. 386,050

4 Claims. (Cl. 260—448.2)

Tetrahydrocyclotetrasiloxanes containing four phenyl groups or four cyclohexyl groups attached to each silicon atom of the cyclotetrasiloxane, are produced by dissolving a phenyltrihalosilane or cyclohexyltrihalosilane in an aprotic water-soluble solvent and adding this mixture to a mixture of ice and water maintained at a temperature of from −10° to 30° C. These hydroxy-containing cyclotetrasiloxanes prevent the bodying of silica-filled silicone rubber prior to peroxide curing of these rubbers.

3,378,576

NITRATE ESTERS OF TETRAHYDROXY-3,6-DINITROCYCLOHEXANE

Andrew H. Dinwoodie, Dalry, and Godfrey Fort, Ardrossan, Scotland, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Nov. 28, 1966, Ser. No. 597,198

Claims priority, application Great Britain, Dec. 9, 1965, 52,330/65

4 Claims. (Cl. 260—466)

Nitrate ester derivatives of 1,2,4,5-tetrahydroxy-3,6-dinitrocyclohexane, e.g., 1,2,4,5-tetranitrato - 3,6-dinitrocyclohexane. These derivatives are explosive and useful high-energetic constituents of propellant compositions and blasting explosives. They are made by reacting 1,2,4,5-tetrahydroxy-3,6-dinitrocyclohexane with a nitrating agent.

3,378,577

METHOD FOR MANUFACTURING PURIFIED BIS-(β-HYDROXYETHYL)TEREPHTHALATE

Tadao Tsutsumi, Mishima-shi, Japan, assignor to Toyo Rayon Kabushiki Kaisha, Tokyo, Japan

No Drawing. Filed Apr. 20, 1964, Ser. No. 361,241

Claims priority, application Japan, Apr. 30, 1963, 38/22,188

2 Claims. (Cl. 260—475)

The invention relates to the production of substantially nitrogen-free, relatively colorless bis(β - hydroxyethyl) terephthalate. More specifically, the invention relates to

a process of purifying bis(β-hydroxyethyl)terephthalate obtained by reacting terephthalonitrile, ethylene glycol and water by contacting the bis(β-hydroxyethyl)terephthalate with liquid chloroform.

3,378,578

PROCESS OF PREPARING ARALKYL ESTERS

Edward S. Blake, Dayton, Ohio, assignor to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Aug. 28, 1964, Ser. No. 392,938

5 Claims. (Cl. 260—476)

The method of preparing a β,β-dimethylphenethyl ester by reaction of benzene and a methallyl ester in the presence of anhydrous aluminum chloride.

3,378,579

URETHANES OF TRIARYLACRYLAMIDES

Robert Edward Allen, Walnut Creek, and Laszlo Ambrus, Berkeley, Calif., assignors to Cutter Laboratories, Inc., Berkeley, Calif., a corporation of Delaware

No Drawing. Filed July 2, 1964, Ser. No. 380,085

15 Claims. (Cl. 260—479)

Urethanes of triarylacrylamides wherein at least one of the aryl groups contains a carbamoyloxy substituent. The compounds are characterized by gonadotrophic inhibitory and uterotrophic activity; also by herbicidal and insecticidal activity.

3,378,580

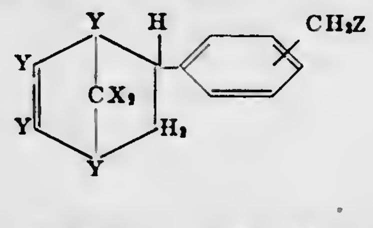
2-ARYL-POLYHALO-BICYCLOHEPT-5-ENES

Carleton W. Roberts, Midland, and Daniel H. Haigh, Beaverton, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 240,136, Nov. 26, 1962. This application Mar. 18, 1965, Ser. No. 440,913

6 Claims. (Cl. 260—488)

1. Compound of the formula



wherein X is selected from hydrogen and halogen of atomic weight less than 50 Y represents chloro or bromo, and Z represents a member of the group consisting of halogen, hydroxy, and loweralkanoyloxy radical derived from a monocarboxylic loweralkanoic acid by removal of the active hydrogen from the carboxyl group, wherein a monocarboxylic loweralkanoic acid as here understood contains a total of up to about four carbon atoms.

3,378,581

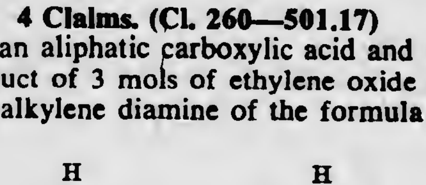
DIAMINE SALTS USEFUL FOR INHIBITING THE CORROSION IN RETURN STEAM CONDENSATE LINES

Louis E. Hummel, East View, San Pedro, Calif., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Original application May 10, 1956, Ser. No. 583,397, now Patent No. 3,029,125, dated Apr. 10, 1962. Divided and this application July 31, 1961, Ser. No. 127,821

4 Claims. (Cl. 260—501.17)

1. Salts of an aliphatic carboxylic acid and salts of the reaction product of 3 mols of ethylene oxide per mol of a substituted alkylene diamine of the formula



$$R-\overset{\displaystyle H}{\overset{|}{N}}-CH_2-CH_2-CH_2-\overset{\displaystyle H}{\overset{|}{N}}-H$$

wherein R is a long chain acyclic hydrocarbon radical containing 10 to 32 carbon atoms, the salt forming aliphatic carboxylic acid being selected from the group consisting of acetic, propionic, n-butyric, isobutyric, n-heptylic, caprylic, pelargonic, oxalic, malonic, succinic, glutaric, adipic, pimelic, suberic, azelaic, sebacic, glycolic, gluconic, glyceric, lactic, malic and citric.

3,378,582

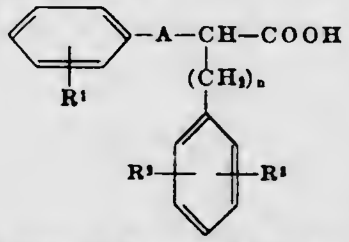
(α-PHENOXY)- AND (α-PHENYLTHIO)-OMEGA-PHENYL-ALKANOIC ACIDS

William A. Bolhofer, Frederick, Pa., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 353,579, Mar. 20, 1964. This application Jan. 29, 1965, Ser. No. 429,130

6 Claims. (Cl. 260—520)

1. A member selected from the group consisting of a compound of the formula:



wherein A is a member selected from the group consisting of oxygen and sulfur; R^1 is a member selected from the group consisting of halogen, lower alkenyl, haloalkyl, lower alkanoyl, aryl, aralkyl, aralkenyl, aryloxy, aralkoxy, arylthio, arylamino, carboxy, lower alkylthio, lower alkyl sulfonyl, cyano, nitroso, amino, mono-alkylamino and dialkylamino; R^2 and R^3 are the same or different members selected from the group consisting of hydrogen, halogen, lower alkyl and lower alkoxy; and *n* is an integer having a value of one to two; and the non-toxic, pharmacologically acceptable acid addition salts, lower alkyl esters, amides, lower alkylamides and di-lower alkylamide derivatives thereof.

3,378,583

INDUSTRIAL MANUFACTURE OF KETENE AND ACETIC ANHYDRIDE

Gustaaf Edmond van Bogaert, Westerloo, Belgium, assignor to Gevaert Photo-Producten N.V., Mortsel, Belgium, a Belgian company

Continuation-in-part of application Ser. No. 255,733, Jan. 30, 1963. This application Nov. 30, 1965, Ser. No. 510,528

5 Claims. (Cl. 260—547)

1. In a process for the manufacture of ketene and acetic anhydride by thermal dehydration of acetic acid vapor at a temperature of between 500 and 1000° C., the step of passing the thermal dehydration mixture comprising ketene and water vapor through a heat exchanger in heat transfer relationship with the acetic acid vapor feed, the thermal dehydration mixture being cooled in said heat exchanger to a temperature not lower than 350° C. and the ketene being in contact with the water vapor for at most 0.4 sec. at 350° C.

3,378,584

PROCESS FOR REDUCING THE CAKING TENDENCY OF CRYSTALLINE UREA

Eugene G. Hollowell, St. Louis, Mo., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Continuation-in-part of application Ser. No. 293,154, July 5, 1963. This application Jan. 26, 1967, Ser. No. 611,813

10 Claims. (Cl. 260—555)

In abstract, this invention is directed to a process for reducing the caking tendency of crystalline urea by freeing the urea of particles retained on about an 8 mesh U.S. Standard screen and of particles passing about a 40 mesh U.S. Standard screen, adjusting the moisture content of the thus screened urea to about 0.3–0.8%, and bagging said urea, all as described hereafter.

3,378,585
PROCESS FOR THE PRODUCTION OF UREA

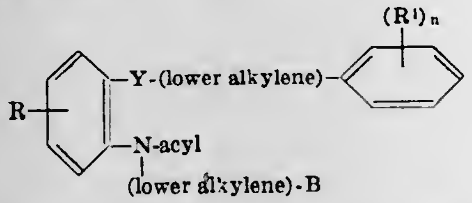
Giacomo Fauser, Novara, Italy, assignor to Montecatini Edison S.p.A., a corporation of Italy
Filed July 26, 1963, Ser. No. 297,956
Claims priority, application Italy, July 27, 1962, 15,496/62
1 Claim. (Cl. 260—555)

1. The process for the production of urea from ammonia, carbon dioxide and recycled ammonium carbamate in the form of a suspension of ammonium carbamate in liquid ammonia, which includes the steps of reacting ammonia, carbon dioxide and ammonium carbamate suspended in liquid ammonia in a pressure vessel at pressures in excess of 150 atmospheres, reducing the pressure of the reactant solution in three stages, the first stage of the reduction being to pressures in the range of 60 to 120 atmospheres, and recovering the ammonia thereby vaporized; the second stage of reduction being to pressures in the range of 13 to 25 atmospheres, wherein the residual reaction solution is cooled to a temperature below 150° C., said residual reaction solution containing urea, ammonium carbamate and more than 2% of ammonia, rapidly heating said reaction mixture containing more than 2% ammonia to temperatures in the range of 150 to 190° C. and distilling the ammonium carbamate from the urea solution, said ammonium carbamate being condensed as solid ammonium carbamate suspended in liquid ammonia, said condensation being effected in a vessel, cooling said vessel with water and agitating said suspension in said vessel; then finally reducing the pressure of said residual solution to the atmospheric range wherein excess water vapor is removed and the urea is recovered.

3,378,586
PHENYL LOWER ALKYLTHIO-ALKYLAMINO ACETANILIDE DERIVATIVES

John Krapcho, Somerset, N.J., assignor to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 365,812, May 7, 1964. This application June 13, 1967, Ser. No. 645,634
7 Claims. (Cl. 260—558)

The invention relates to new chemical compounds of the general formula



and to salts of these compounds which have serotonin inhibiting and central depressant activity and are also disinfectants.

3,378,587
3,3′-DIAMINOMETHYL-1,1′-BIADAMANTANE

Heinz Fritz Reinhardt, Claymont, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Original application Mar. 14, 1963, Ser. No. 265,062, now Patent No. 3,342,880, dated Sept. 19, 1967. Divided and this application Feb. 8, 1967, Ser. No. 646,765
1 Claim. (Cl. 260—563)

1. 3,3′-diaminomethyl-1,1′-biadamantane.

3,378,588
PREPARATION OF TERTIARY AMINES FROM ALKYL SULFATES

Sydney H. Shapiro, Chicago, Ill., assignor, by mesne assignments, to Armour Industrial Chemical Company, a corporation of Delaware
No Drawing. Filed Sept. 1, 1964, Ser. No. 393,750
2 Claims. (Cl. 260—583)

An alkyl sulfate, in which the hydrocarbon radical has from 6–22 carbon atoms, is reacted directly and under pressure with a secondary amine in the presence of a strong base and at a temperature of about 100°–200° C. to prepare tertiary amines.

3,378,589
PROCESS OF PREPARING THE RING B CARBON ANALOG OF GRISEOFULVIN

Howard Newman, Spring Valley, and Robert Bruce Angier, Pearl River, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed May 1, 1967, Ser. No. 634,823
8 Claims. (Cl. 260—590)

The novel compound herein disclosed is 4′-chloro-2,-5′,7′ - trimethoxy - 6 - methylspiro[2-cyclohexene-1,2′]-indan-1′,4-dione, the ring B carbon analog of griseofulvin. Furthermore, a process of preparing said compound is disclosed, which comprises:

(a) Condensing equimolar quantities of 2-chloro-3,5-dimethoxybenzyl bromide with 2-carbethoxy-5-ethylenedioxy-3-methyl-cyclohexanone in the presence of sodium ethoxide in ethanol to 1-carbethoxy-1-[2-chloro-3,5-dimethoxy benzyl] - 4 - ethylenedioxy-6-methyl-2-cyclohexanone;

(b) Hydrolyzing the latter compound in an aqueous-ethanolic hydrochloric acid to 1-carbethoxy-1-[2-chloro-3,5-dimethoxybenzyl]-6-methyl-2,4-cyclohexanedione;

(c) Hydrolyzing the latter compound with sodium hydroxide to the corresponding acid compound, 1-carboxy-1-[2-chloro - 3,5 - dimethoxybenzyl]-6-methyl-2,4-cyclohexanedione;

(d) Treating said acid compound, to effect ring closure, with boron trifluoride etherate and trifluoroacetic anhydride in ether to the trione, 4′-chloro-5′,7′-dimethoxy-6-methylspiro[cyclohexane-1,2′-indan]-1′,2,4-trione;

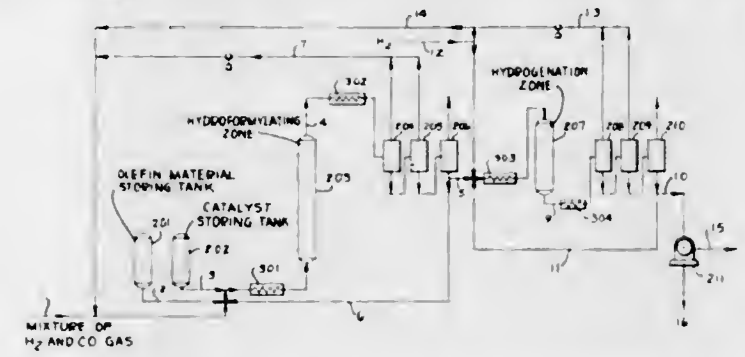
(e) Methylating the trione with diazomethane to the ring B carbon analogs of griseofulvin and isogriseofulvin, and

(f) Chromatographically separating the ring B carbon analog of griseofulvin from the ring B carbon analog of isogriseofulvin.

3,378,590
PRODUCTION OF ALDEHYDES AND/OR ALCOHOLS FROM COMPOUND HAVING OLEFINIC DOUBLE BONDS

Seiji Usami, Takayoshi Kondo, and Kotaro Nishimura, Ohimura, and Yuzo Koga, Tokyo, Japan, assignors to Toa Nenryo Kogyo Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan
Filed May 24, 1965, Ser. No. 458,129
Claims priority, application Japan, May 27, 1964, 39/29,716; Apr. 13, 1965, 40/21,550
14 Claims. (Cl. 260—598)

A process for producing oxygen-containing compounds, such as aldehydes and alcohols, in which an olefinic compound, carbon monoxide and hydrogen are reacted in the presence of a cobalt catalyst and a promoter selected from the group consisting of palladium supported on carbon and platinum supported on carbon, in a hydroformylating reaction zone, then the resulting reaction product can be introduced without change into a hydrogenating reaction zone and hydrogenated in the presence of hydrogen, and the cobalt catalyst is separated by decomposing the cobalt carbonyl in the hydrogenated product and by depositing it on the promoter.



3,378,591
PRODUCTION OF 1-NAPHTHOL

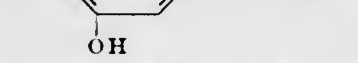
Benjamin T. Freure, Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Feb. 14, 1964, Ser. No. 344,813
6 Claims. (Cl. 260—621)

1. In a process for dehydrogenation 3,4-dihydro-1-(2H)-naphthaleneone to produce 1-naphthol, the improvement of conducting said process in contact with a catalyst consisting essentially of from 0.5 to 5 weight percent platinum, from 0.25 to 1.5 weight percent sodium in the form of sodium chloride and sodium sulfate, and from 0.15 to 1.5 weight percent sulfate, and the balance a support material consisting essentially of gamma-alumina, said sulfate based on a sulfate analysis of said catalyst and said support material.

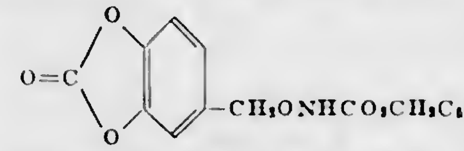
3,378,592
PROCESS FOR THE PRODUCTION OF 3,4-DIHYDROXYBENZYLOXYAMINEHYDROBROMIDE

Wilson B. Lutz, North Manchester, Ind., assignor to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware
No Drawing. Filed June 4, 1963, Ser. No. 285,198
1 Claim. (Cl. 260—621)

1. Process for the production of the hydrobromide of the compound of the formula:



which comprises contacting a compound of the formula:

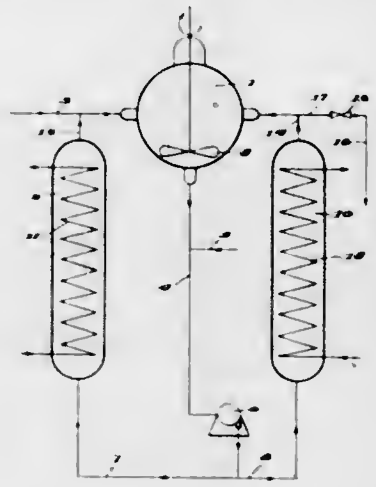


in an acetic acid solution with hydrogen bromide and heating the mixture to produce an intermediate reaction product, which intermediate reaction product is put in aqueous solution, heated at reflux under nitrogen and then evaporated to dryness to produce said hydrobromide compound.

3,378,593
PREPARATION OF 2,3-DIBROMOPROPANOL

Herbert Jenkner, Cologne-Deutz, and Otto Rabe, Cologne-Hohenberg, Germany, assignors to Chemische Fabrik Kalk G.m.b.H., Cologne-Kalk, Germany
Filed Dec. 10, 1965, Ser. No. 512,987
Claims priority, application Germany, Dec. 14, 1964, C 34,635
2 Claims. (Cl. 260—633)

Process for the production of 2,3-dibromopropanol by reaction of about equimolar quantities of allyl alcohol and bromine wherein allyl alcohol is first mixed with 2,3-dibromopropanol in a molar ratio of 1:1 to 1:8, and the bromine is introduced into the resulting mixture and the reaction temperature is maintained at 10–20° C. In the continuous embodiment the allyl alcohol and bromine are supplied to and mixed with the 2,3-dibromopropanol at spaced locations and the quantities supplied are such that the reaction mixture exhibits only a weakly reddish color and the 2,3-dibromopropanol produced is withdrawn from the reaction mixture.



3,378,594
HYDRAZINE NITROFORM AND METHOD OF PREPARATION

John R. Lovett, Edison, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Aug. 3, 1960, Ser. No. 47,322
10 Claims. (Cl. 260—644)

1. Process for preparing hydrazine mononitroform which comprises reacting hydrazine with nitroform in an equimolar proportion in an inert organic liquid diluent, precipitating the resulting formed hydrazine mononitroform from the diluent in a nonpolar organic liquid nonsolvent for the hydrazine mononitroform, and recovering the precipitated hydrazine mononitroform.

5. High-purity hydrazine mononitroform of increased stability consisting of hydrazine mononitroform washed with and wet with carbon tetrachloride.

3,378,595
STABILIZATION OF NITROFORM SALTS

John A. Brown, Berkeley Heights, and John R. Lovett, Edison, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Feb. 27, 1961, Ser. No. 92,088
6 Claims. (Cl. 260—644)

1. Hydrazine nitroform stabilized by about 1 to 5 wt. percent of an admixed compound selected from the group consisting of P_2O_5, H_3PO_4, oxalic acid, picric acid, and nitroform.

3,378,596
PROCESS FOR PRODUCING NITROHYDROCARBONS

Emory E. Toops, Jr., Terre Haute, and Richard S. Egly, West Terre Haute, Ind., assignors to Commercial Solvents Corporation
Continuation-in-part of application Ser. No. 376,861, June 22, 1964. This application June 27, 1966, Ser. No. 560,437
23 Claims. (Cl. 260—644)

1. A process for producing nitrohydrocarbons which comprises contacting atomized nitric acid and a molar excess of a hydrocarbon containing from about 1 to 10 carbon atoms in the gaseous phane in a reaction zone under nitration conditions including superatmospheric

pressure, a temperature of at least 300° C. and sufficient to nitrate the hydrocarbon but insufficient to decompose the nitrohydrocarbon, and a residence time sufficient to nitrate the hydrocarbon and up to about 350 milliseconds, and immediately quenching the resultant reaction products to freeze the equilibrium of the reaction.

3,378,597
METHOD OF RECOVERING HIGH PURITY ETHYLENE DICHLORIDE FROM ETHYLENE DICHLORIDE GAS STREAM

Frederick C. Dehn, New Martinsville, W. Va., and William L. Deppe, Wilmington, Del., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Continuation of application Ser. No. 182,959, Mar. 27, 1962. This application Apr. 22, 1966, Ser. No. 544,393

9 Claims. (Cl. 260—652)

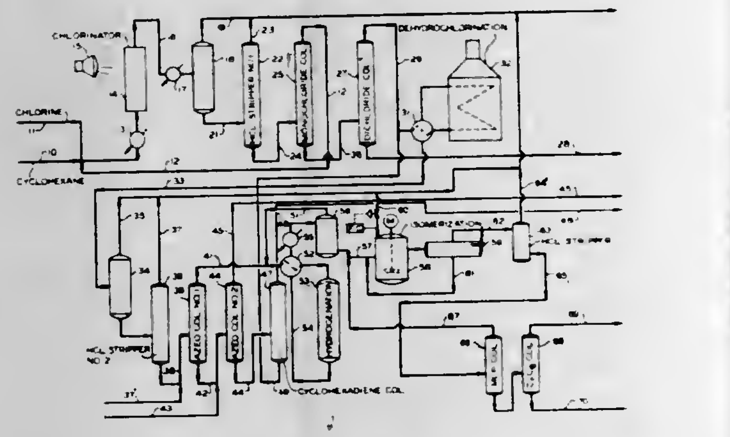
Process for recovering high purity ethylene dichloride from gas streams of ethylene dichloride containing HCl, water and chloral is provided wherein gas streams are condensed to form an organic and an inorganic liquid phase. The phases are separated and the organic phase, which contains ethylene dichloride and chloral components of the gas stream, treated with aqueous hydroxide to decompose the chloral to chloroform and formate. Alkali metal hydroxides are specifically disclosed as the preferred alkali hydroxides. Temperatures of 50 to 150° F. are disclosed and concentrations of hydroxide are maintained below those which would decompose the ethylene dichloride, typical range being 5 to 20 percent by weight.

3,378,598
PRODUCTION AND PURIFICATION OF CYCLOHEXADIENE

Allan D. Holiday and Thomas Hutson, Jr., Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed May 20, 1965, Ser. No. 457,418

2 Claims. (Cl. 260—666)



1. A method for producing substantially pure cyclohexadiene consisting essentially of the steps of:

(a) reacting chlorine with cyclohexane in a chlorination zone under chlorination conditions so as to produce a substantial amount of dichlorocyclohexane;

(b) dehydrochlorinating said dichlorocyclohexane in a dehydrochlorination zone under dehydrochlorination conditions;

(c) distilling the effluent from said dehydrochlorination step in a first azeotropic distillation step in the presence of methylcyclopentane so as to remove an azeotropic mixture of methylcyclopentane and benzene;

(d) hydrogenating said mixture of methylcyclopentane and benzene in a hydrogenation zone under hydrogenation conditions to convert the benzene substantially completely to cyclohexane;

(e) isomerizing the effluent from said hydrogenation step in an isomerization zone under isomerization conditions to convert the methylcyclopentane substantially to cyclohexane;

(f) passing the cyclohexane produced in steps (d) and (e) to said chlorination zone;

(g) distilling the kettle product from said first azeotropic distillation step in a second azeotropic distillation step with a mixture of water and isobutyl alcohol so as to remove an azeotropic mixture of cyclohexene, water, and isobutyl alcohol;

(h) separating and recovering substantially pure cyclohexadiene from the kettle product of said second azeotropic distillation step.

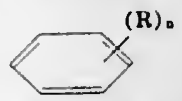
3,378,599
PROCESS FOR THE PREPARATION OF POLYALKYLCYCLOHEXENES

Masataka Amagasa and Tadashi Yamaguchi, Sendai-shi, Japan, assignors to Chiyoda Kakokensetsu Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Mar. 17, 1965, Ser. No. 440,640

4 Claims. (Cl. 260—667)

1. A process for the production of polyalkylcyclohexenes which consists essentially in reacting in liquid ammonia a compound of the formula



wherein R is an alkyl group of from 1–3 carbon atoms and *n* is 2 or 3, with a reducing agent selected from the group consisting of alkali metals and alkaline earth metals in the presence of a proton donor, said proton donor being present in an amount less than equivalent to said reducing agent.

3,378,600
NON-TOXIC EPOXY COATING CONTAINING A POLYKETIMINE CURING AGENT

William C. Hodges, Palo Alto, and Harold R. Harlan, Jr., San Bruno, Calif., assignors to Ritter Pfaudler Corporation, a corporation of New York

No Drawing. Filed Apr. 17, 1964, Ser. No. 360,776

12 Claims. (Cl. 260—830)

1. A blush-resistant moisture-sensitive curing agent for coatings of glycidyl polyethers of polyhydric alcohols or phenols comprising as the essential curing ingredient one part by weight of an alkyl ketone polyketimine of a polyamine capable of releasing a curing amount of amine on exposure to moisture adducted under moisture-free conditions at about 160° to 170° F. with about ½ to ⅔ part by weight of said polyether.

3,378,601
RESINOIDS OF CARBOXY CONTAINING COPOLYMERS CONTAINING UNSATURATED ACIDS, AMIDES, OTHER VINYL MONOMERS AND EPOXIDES

Shigeyoshi Tanaka and Toshiro Minami, Hitachi-shi, Japan, assignors to Hitachi Kasei Kogyo Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Mar. 26, 1964, Ser. No. 355,058

Claims priority, application Japan, Mar. 28, 1963, 38/13,996; Aug. 28, 1963, 38/45,217

9 Claims. (Cl. 260—831)

Resinoids may be prepared by copolymerizing 4–40 parts of a mixture consisting of 2–20 parts of an alpha-beta unsaturated monocarboxylic acid and 2–20 parts of an alpha-beta unsaturated carboxylic acid amide and/or monoalkyl substituted amides, with 30–80 parts of a vinyl monomer and 3–35 parts of polyepoxide, wherein the epoxide is incorporated into the polymer. Phenoplasts or aminoplasts may be added to the copolymer.

3,378,602
TIRE CORD PREPARED FROM BLOCK COPOLYMERS OF POLYAMIDES AND POLYESTERS

James J. Robertson, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Continuation of application Ser. No. 307,895, Sept. 10, 1963. This application Feb. 16, 1967, Ser. No. 616,737

11 Claims. (Cl. 260—857)

The flat spotting of nylon tires is overcome by copolymerizing 30 to 40 percent of a polyester with a melting point of at least 200° C. with 70 to 60 percent of a polyamide with a melting point of at least 175° C. to produce a copolymer with a melting point above 200° C.

3,378,603
PROCESS FOR THE POLYMERIZATION OF UNSATURATED POLYESTER RESINS

Franz-Josef Meyer, Gladbeck, and Leo Rensmann, Dorsten, Germany, assignors to Scholven-Chemie Aktiengesellschaft, Gelsenkirchen-Buer, Germany, a corporation of Germany

Filed Mar. 9, 1966, Ser. No. 532,925

10 Claims. (Cl. 260—861)

The invention herein concerns catalysts for unsaturated polyester/vinyl monomer systems which impart rapid gel times and improved cure rates in the absence of promoters. The catalyst is hydroxy-1′-hydroperoxy-bis (3,3,5-trimethylcyclohexylperoxide).

3,378,604
VULCANIZABLE COMPOSITION CONTAINING A THIOCARBOXYLIC ACID FLUORIDE POLYMER AND A POLYUNSATURATED COMPOUND

Donald S. Acker, Waynesboro, Va., and Arthur L. Barney, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 106,512, May 1, 1961. This application May 7, 1965, Ser. No. 454,183

20 Claims. (Cl. 260—874)

1. The process of curing a polymer of at least one hydrogen-free thiocarboxylic acid fluoride which comprises reacting the same, in the presence of a member of the group consisting of free radical-liberating polymerization initiators and ionizing radiation, with

2 to 60% by weight, based on the weight of the polymer, of a polyunsaturated composition consisting of at least one compound of the group consisting of monocyclic carbocyclic aromatic compounds having at least two vinyl substituents, heterocyclic compounds having oxygen as the heteroatom and at least two vinyl substituents, and polyglycol esters of acrylic and methacrylic acids,

said polymer being of the class consisting of the homopolymers of the acid fluorides, the inter se copolymers thereof, and the copolymers of the same with at least one hydrogen-free ethylenically unsaturated monomer, said copolymers containing at least 50 mole percent of thiocarboxylic acid fluoride moiety.

3,378,605
BLEND OF N-TERT. BUTYLACRYLAMIDE TERPOLYMER AND GRAFT COPOLYMER THEREOF ONTO RUBBER SUBSTRATE

Massimo Baer, Longmeadow, Mass., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Sept. 21, 1965, Ser. No. 489,074

14 Claims. (Cl. 260—876)

Blends are prepared of (A) 50–99 wt. percent of a terpolymer of a nitrile, a vinylidene aromatic compound and N-tertiary butylacrylamide and (B) 1–50 wt. percent of a graft copolymer having a diene rubber substrate and a terpolymer superstrate of a nitrile, a vinylidene aromatic compound and N-tertiary butylacrylamide. The compositions have improved thermal properties.

3,378,606
SEMICRYSTALLINE STEREOBLOCK COPOLYMERS

Emmanuel G. Kontos, New Haven, Conn., assignor to Uniroyal, Inc., a corporation of New Jersey

Filed Sept. 10, 1962, Ser. No. 222,547

19 Claims. (Cl. 260—878)

1. A semicrystalline block copolymer characterized by having the properties of a plastic material in the unoriented state and elastomeric properties in the oriented state and selected from the group consisting of the copolymers represented by the following formulae:

(I) $[A—B]_n$

(II) $[A—A]_n$

and

(III) $[B—B]_n$

in which A is a copolymer block derived from at least two dissimilar 1-olefins, B is a homopolymer block formed from a 1-olefin, *n* is a member of the series consisting of 0.5X, where X is an integer greater than 1, and in which,

in the case of Formula I, when block B is a homopolymer having a crystallinity content above 40 percent, an adjacent block A is a copolymer having a crystallinity content of 40 percent or less; when block B is a homopolymer having a crystallinity content of from 4 to 40 percent, an adjacent block A is any copolymer; when block B is a homopolymer which is amporphus in the undeformed state but crystallizes upon being stretched, an adjacent block A is a copolymer having a crystallinity content of 4 percent or more; and when block B is an amorphous homopolymer, and adjacent block A is a copolymer having a crystallinity content above 40 percent;

in the case of Formula II, when a given block A is a copolymer having a crystallinity content of 4 percent or more, an adjacent block A is a copolymer having a crystallinity content of 40 percent or less, dissimilar combinations of monomers or different molar ratios of the same combination of monomers being used in forming each alternate block; and,

in the case of Formula III, when a given block B is a homopolymer having a crystallinity content of 4 percent or more, an adjacent block B is a homopolymer having a crystallinity content of 40 percent or less, dissimilar 1-olefins being used in forming each alternate block;

said block copolymer having a crystallinity content, as determined by X-ray analysis, ranging from about 4 to about 40 percent.

3,378,607
PRODUCTION OF SOLID COPOLYMERS

Alva M. Jones, Jerome A. Planchard, Jr., and Raymond A. Speed, Baytown, Tex., assignors, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware

Filed Dec. 19, 1963, Ser. No. 331,749

4 Claims. (Cl. 260—878)

An ethylene-propylene block copolymer which has good flexural stiffness, good tensile strength, and minimizes the loss of its impact strength when cooled over the temperature range of 0° F. to −40° F. may be produced in a two-stage polymerization reaction process using a titanium halide-triethyl aluminum catalyst in both stages, wherein the conditions are correlated so as to consume in the first stage from 78% to 85% of the total reacted propylene and the remaining portion of the total reacted propylene during the second stage of the polymerization process, and wherein the conditions within the second stage are correlated so as to obtain a final product containing from 6 to 10 weight percent combined ethylene.

3,378,608

ELASTOMERIC ALPHA OLEFIN BLOCK COPOLYMERS

Howard L. Hassell, San Leandro, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 20, 1963, Ser. No. 332,246

6 Claims. (Cl. 260—878)

A self curing elastomeric block copolymer having the configuration:

$$C—A—B—A$$

wherein C is a copolymer block of two alpha olefins each olefin being present in an amount of at least 8 mole percent, each A is a non-elastomeric alpha olefin polymer block and B is an elastomeric copolymer block of ethylene with a higher alpha olefin. The invention also covers a novel method of making such a block copolymer employing a catalyst consisting of vanadium diisopropyl salicylate and aluminum ethyl dichloride.

3,378,609

OIL- AND WATER-REPELLENT COMPOSITIONS

Ross Wade Fasick, Wilmington, Rulon Edward Johnson, Jr., Newark, and Stuart Raynolds, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 107,330, May 3, 1961. This application June 19, 1963, Ser. No. 288,894

6 Claims. (Cl. 260—890)

An oil- and water-repellent composition consisting essentially of (1) either a polymer of

$$CH_2{=}C(CH_3)CO_2CH_2CH_2C_nF_{2n+1}$$

or a copolymer of $CH_2{=}C(CH_3)CO_2CH_2CH_2C_nF_{2n+1}$ and a vinyl monomer free of non-vinylic fluorine and (2) either a polymer of a monovinyl monomer free of non-vinylic fluorine or a non-fluorinated conjugated diene. The compositions impart oil- and water-repellent properties to fabrics when the fabrics are treated with compositions in an aqueous bath.

3,378,610

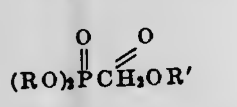
PHENOXYACETYL PHOSPHONATES

Delta W. Gier, Parkville, Mo., assignor to Chemagro Corporation, New York, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 412,263, Nov. 18, 1964. This application Apr. 20, 1965, Ser. No. 449,640

12 Claims. (Cl. 260—940)

Compounds are provided, which are useful as herbicides, defoliants and desiccants, having the formula



$$(RO)_2\overset{\overset{O}{\|}}{P}\overset{\overset{O}{\|}}{C}H_2OR'$$

where R is alkyl of up to 18 carbon atoms, phenyl, alkyl phenyl, chloroalkyl and cyanoalkyl and R′ is mono, di and trihalophenyl and monohalo monomethyl phenyl.

3,378,611

PROCESS FOR PRODUCTION OF NITROCELLULOSE PROPELLANTS

John F. Kincaid, Annandale, Va., and Henry Miller Shuey, Huntsville, Ala., assignors to the United States of America as represented by the Secretary of the Navy

No Drawing. Continuation of application Ser. No. 588,065, Apr. 12, 1945. This application June 9, 1961, Ser. No. 113,726

12 Claims. (Cl. 264—3)

1. The process for the production of propellant grains which comprises:

(a) forming a substantially bubble-free mixture of (1) a solid component comprising nitrocellulose and (2) a liquid component comprising at least one plasticizer for said nitrocellulose, said plasticizer being selected from the group consisting of at least one explosive plasticizer, at least one nonexplosive plasticizer and mixtures thereof, said explosive plasticizer being selected from the group consisting of nitric esters of glycerin, nitric esters of glycol, their polymers and copolymers and said nonexplosive plasticizer being selected from the group consisting of the lower alkyl tartrates, the lower alkyl citrates, the lower alkyl phthalates, the lower alkyl levulinates, cyclic ketones, n-alkyl amides of fatty acids and glyceryl esters of fatty acids where, in said mixtures, the ratio of explosive plasticizer to nonexplosive plasticizer is from about 60:40 to about 80:20, said solid component being capable of absorbing a substantial proportion of said liquid component, the solid-liquid ratio of the mixture being such that the mixture contains not less than about 35 weight percent solid component and not more than about 65 weight percent liquid component, said mixture being formed at a temperature of about 40° C., and

(b) forming said mixture into a propellant grain by curing the mixture in a mold at atmospheric pressure and at a temperature and for a time sufficient to accomplish substantially complete sorption of said liquid component by said solid component.

8. In the art of making powder grains by a molding process, the method which comprises preparing a substantially uniform pourable paste by mixing together particles of gelatinized nitrocellulose propellant and a liquid plasticizer for the nitrocellulose in the amount of at least about 25% by volume of the resulting mixture and at a temperature at which substantially no dissolution of the nitrocellulose particles in the plasticizers takes place and thereafter maintaining said composition at atmospheric pressure, and at a temperature at which the nitrocellulose will dissolve, until the nitrocellulose is completely dissolved and the resulting substantially homogeneous mass has solidified into a powder grain.

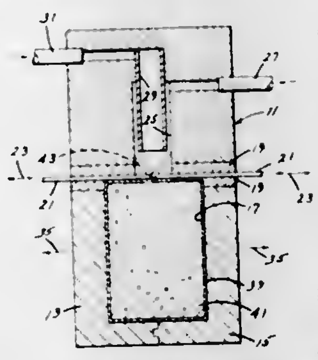
3,378,612

METHOD OF MAKING FOAMED ARTICLES

Thomas J. Dietz, Chester Heights, Pa., assignor to FMC Corporation, Philadelphia, Pa., a corporation of Delaware

Filed Jan. 7, 1964, Ser. No. 336,243

7 Claims. (Cl. 264—45)



Method of forming an article having a core of generally closed cell cellular construction and an unbroken seamless outer covering by foaming a polymeric material within a mass or partially formed envelope of fluid film-forming material so as to expand the latter, and thereafter setting the foamed and film-forming materials.

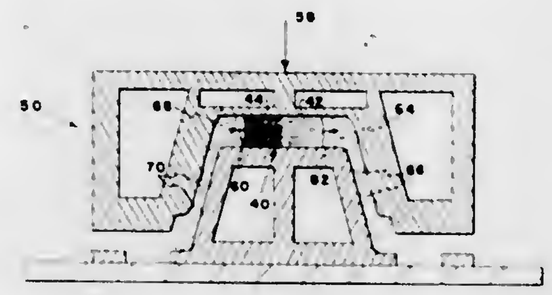
3,378,613

METHOD FOR MAKING A FIBER REINFORCED MATERIAL

William J. Hampshire, Cuyahoga Falls, Ohio, assignor to Goodyear Aerospace Corporation, Akron, Ohio, a corporation of Delaware

Filed May 6, 1965, Ser. No. 453,592

7 Claims. (Cl. 264—45)



A method of making a fiber reinforced molded material which simulates a woven material by laying a mixture of resin and elongated fiber glass strands in ribbon-like overlapping streams to form layers onto a receiving sheet to thereby form a plurality of sequentially advancing diamond-shaped patterns equally spaced from each other and having a fabric-like consistency. The elongated glass fibers are substantially aligned with the laid ribbon-like streams. The uncured material is produced in flat layered sheets and is subsequently press molded in a manner to cause adjacent layers to slide over each other wherein the fabric-like consistency is retained without losing the strength features of the fabric-like quality.

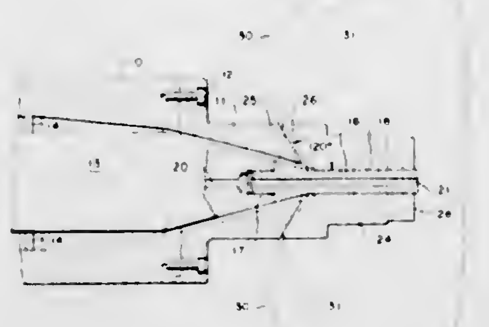
3,378,614

APPARATUS AND METHOD FOR EXTRUDING THERMOPLASTIC MATERIALS

Robert H. Overcashler, Walnut Creek, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Aug. 9, 1965, Ser. No. 478,090

3 Claims. (Cl. 264—51)



1. A method of preventing furrows in a foamed thermoplastic tubular extrudate that moves in a forward direction comprising extruding said thermosplastic from an extruder apparatus at an angle substantially greater than 90° with respect to said forward direction, and flowing the extrudate thence outwardly along a curved path to said forward direction.

3,378,615

PROCESS FOR THE MANUFACTURE OF LOW-POROSITY BURNT MAGNESIA

Tuvia Zisner, Ra'anana, Israel, assignor to Mifalei Yam Hamelah, B.M., Beersheba, Israel, a company of Israel

No Drawing. Filed Apr. 5, 1965, Ser. No. 445,713

Claims priority, application Israel, Apr. 15, 1964, 21,180

4 Claims. (Cl. 264—66)

A process for the manufacture of highly pure dead-burnt magnesia of low porosity and a high bulk specific gravity approaching that of crystalline periclase by forming a dried compacted paste of magnesium hydroxide and firing the compacts in three distinct stages, a first one up to about 500° C., during which the rate of temperature rise does not exceed 20° C. per minute; a second stage between about 500° and about 1000° C., during which the compacts are moved as little as possible relative to one another for avoiding dusting and crumbling, and a third stage in which the compacts are sintered.

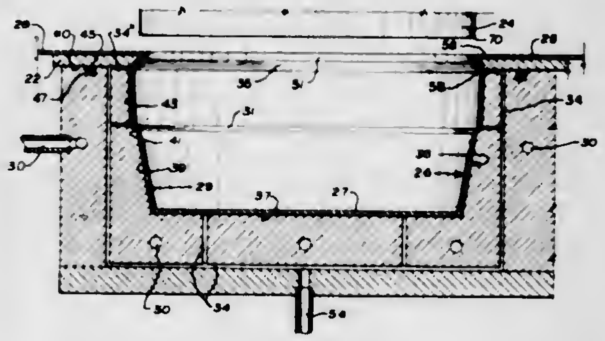
3,378,616

METHOD OF FORMING THIN WALLED PLASTIC ARTICLES

Harold E. Best, Grand Junction, Colo., assignor to Best Quality Plastics, Inc., Denver, Colo., a corporation of Colorado

Continuation of application Ser. No. 454,577, May 10, 1965, which is a continuation-in-part of application Ser. No. 62,275, Oct. 12, 1960. This application June 19, 1967, Ser. No. 647,260

2 Claims. (Cl. 264—92)



A process of forming an article which comprises the steps of (1) supporting a first portion of a preheated drawable sheet of synthetic resin on a die plate which overlies a mold cavity, has an orifice therein smaller than the mouth of the cavity and is liftable away from said cavity; (2) drawing a second portion of said sheet through said orifice and expanding said second portion to fill the cavity and form an article therein; (3) lifting the first portion of said sheet by the die plate to remove said article from the cavity; and (4) severing the sheet at said orifice to release the article from the die plate.

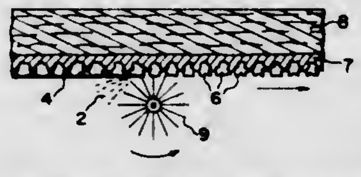
3,378,617

METHOD OF FACING BUILDING PRODUCTS WITH EXPOSED MINERAL GRANULES

Armin Elmendorf, 860 Charleston Road,
Portola Valley, Calif. 94025

Filed Feb. 24, 1965, Ser. No. 434,913

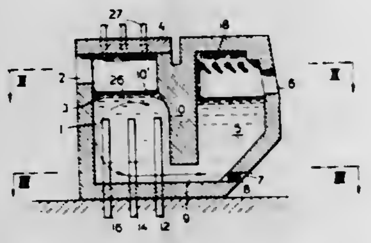
2 Claims. (Cl. 264—162)



A method of facing building products with exposed mineral granules is disclosed wherein a layer of inert particles is spread upon a supporting surface to a depth at least substantially no greater than will reach the medium plane of the resultant embedded mineral granules, disposing mineral granules larger than the inert particles in the layer until the mineral granules contact the supporting surface, spreading an inorganic binder on the layer of granules and then removing the inert particles from the space between the granules when the binder has set. The disclosure also includes provision for depositing inert particles in excess of that required for a single layer and removing excess granules not held by the inert particles as well as provision for different backing structures to the binder.

ELECTRICAL

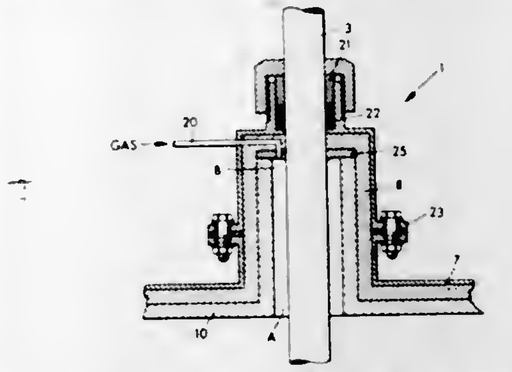
3,378,618
ELECTRIC GLASS FURNACE
Josef Vach and Václav Süsser, Hradec Kralove, Czechoslovakia, assignors to Statni Vyzkumny ustav Sklarsky, Hradec Kralove, Czechoslovakia
Filed Dec. 13, 1965, Ser. No. 513,863
Claims priority, application Czechoslovakia Dec. 15, 1964, 7,077/64
9 Claims. (Cl. 13—6)



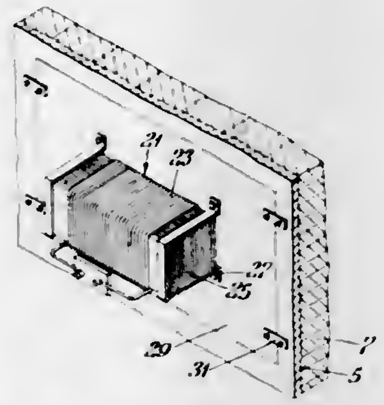
1. An electric glass furnace comprising, in combination, wall means defining a melting chamber, an adjacent working chamber, and a passage extending from the lower end of one wall of said melting chamber into a lower portion of said working chamber so that molten glass may flow through said passage from said melting into said working chamber; three groups of electrodes, with at least two electrodes in each group, arranged in said melting chamber, the electrodes in the respective group being arranged in vertical planes extending substantially parallel to said one wall, the electrodes of one of the three groups being arranged adjacent said one wall of said melting chamber, the second group of electrodes being arranged intermediate said one wall and a wall of said melting chamber opposite said one wall, and the third group of electrodes being arranged adjacent said opposite wall; means for supplying electric energy to the electrodes of each group; and regulating means for regulating at least the energy supplied to said one group of electrodes adjacent said one wall of said melting chamber in such a manner that the energy supplied to said one group is greater than the energy supplied to the two other groups of electrodes so as to produce an updrift in the molten glass in said melting chamber along said one wall and so that molten glass will be circulated in said melting chamber and flow upwardly along said one wall, across the level of molten glass in the melting chamber to said opposite wall, downwardly along said opposite wall and along a bottom wall of said melting chamber toward the passage.

3,378,619
SEAL DESIGN FOR ELECTRIC FURNACE
Richard P. Rhodes, Roselle, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Oct. 2, 1967, Ser. No. 672,237
3 Claims. (Cl. 13—9)

The present invention is concerned with an improved seal design assembly for an electric furnace employed in the distillation of metals, especially at atmospheric pressures. It is more particularly concerned with the use of seals or closures wherein a gradient of the axial wall temperature is maintained in the seal or closure together with a flow of low density gas in the direction of the temperature gradient in order to control the refluxing metal level and thus secure a more effective high temperature metal distillation operation, and also to prevent the destruction of the seal material.



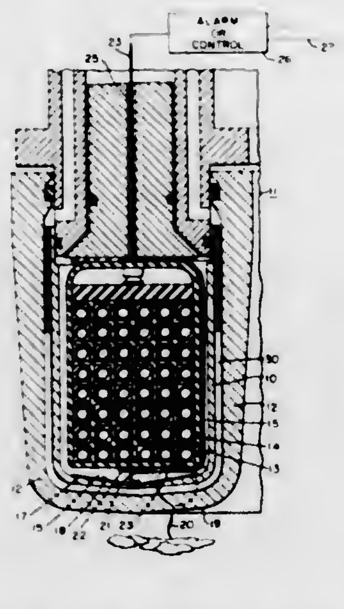
3,378,620
ELECTRIC FURNACE CONTROL
William E. Schwabe and Jon A. Ciotti, Niagara Falls, N.Y., assignors to Union Carbide Corporation, a corporation of New York
Filed Mar. 23, 1965. Ser. No. 441,977
5 Claims. (Cl. 13—9)



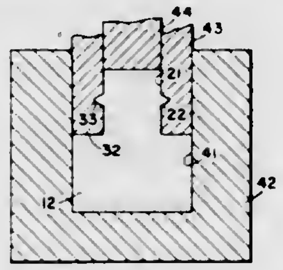
1. Apparatus for determining the scrap charge configuration during melting of the charge in a three-phase electric furnace having three vertical electrodes arranged substantially centrally and equidistant within a furnace shell, said apparatus comprising:
- (i) coil means arranged adjacent a non-magnetic portion of the electric furnace shell at a predetermined location whereby electromagnetic flux emanating from within the electric furnace shell causes a voltage to be induced in the coil means and
- (ii) means connected to the coil means for measuring any change in the voltage induced in the coil means during melting of the scrap charge in the furnace.

3,378,621
ELECTRODE TIP FAILURE DETECTOR
George A. Kemeny, Export, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 10, 1967, Ser. No. 622,188
12 Claims. (Cl. 13—18)

A detector for an electrode having a hollow tip with a fluid flow passageway or passageways for conducting fluid near the arcing surface of the tip, and having a field coil disposed within the hollow tip, comprises a thin layer of insulation on the inside metallic wall of the tip near the arcing surface, and a coating of thin metal foil or metal paint on the interior exposed surface of the insulating layer. A lead wire is connected to the metal foil or metal paint and may extend outside of the electrode to an indicating device. Other circuit means are also used for getting a signal from the failure detector to a utilization device. When a burn through of the electrode tip occurs, the arc burns through the thin layer of insulation and makes contact with the thin metal foil or metallic paint producing a potential on the lead which provides an indication that burn through has occurred. In another embodiment, I coat the bottom of the insulating coil housing with foil or metal paint, and a lead is connected thereto. In this embodiment, no burn through of the insulating layer is necessary.

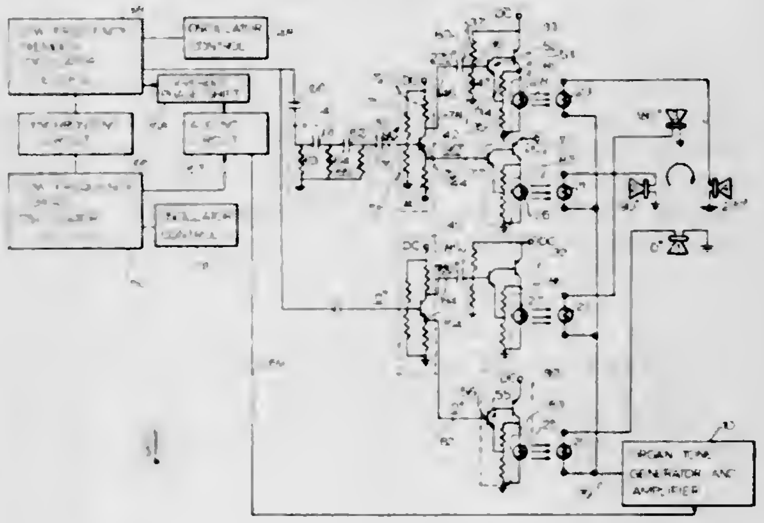


3,378,622
METHOD OF JOINING ELECTRODE BODIES OF DISSIMILAR THERMAL COEFFICIENTS OF EXPANSION
Glenn R. Marin, North Tonawanda, N.Y., assignor to The Carborundum Company, Niagara Falls, N.Y., a corporation of Delaware
Filed June 15, 1967. Ser. No. 646,348
11 Claims. (Cl. 13—18)



A mechanical joint between two bodies of different coefficients of thermal expansion which remains tight even though the bodies expand and contract at different rates. A first body of lower coefficient of thermal expansion is provided on the face to be joined with a recessed area having a groove in the side wall thereof. A second body of higher coefficient of thermal expansion is provided on the face to be joined with an extension carrying a lip. When joined the extension and lip of the second body is contained in the recessed area and groove of the first body thereby locking the bodies together. The joint is formed at high temperatures and as the joined bodies cool, the extension of the second body carrying the lip contracts longitudinally at a greater rate than the walls of the recessed area of the first body. The lip bears against the groove and as the extension longitudinally contracts the face of the first body is drawn against the face of the second body.

3,378,623
TREMOLO-VIBRATO CIRCUITRY FOR USE WITH A SIMULATED MOVING SOUND SOURCE OR THE LIKE
Donald M. Park, deceased, late of Raleigh, N.C., by Mary S. Park, executrix, Raleigh, N.C., assignor to The Seeburg Corporation, Chicago, Ill., a corporation of Delaware
Continuation-in-part of application Ser. No. 425,353, Jan. 13, 1965. This application May 7, 1965, Ser. No. 454,771
5 Claims. (Cl. 84—1.18)



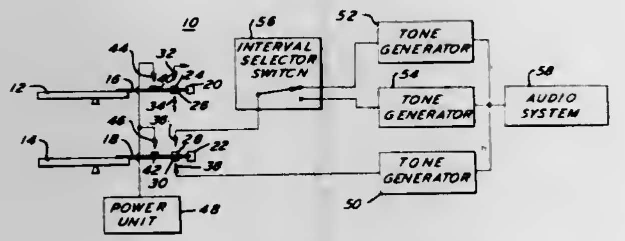
3. In an electric musical instrument including a tone generator; a plurality of speakers each having an electrical connection to said generator; a plurality of light sensitive impedances, one being connected in series for each speaker connection and effective when illuminated to make such connection and when not illuminated to block such connection; a plurality of light sources, one for each impedance and effective when energized to illuminate said impedance; a tremolo oscillator source operative at a tremolo frequency in the order of six cycles per second; a vibrato oscillator source operative at a vibrato frequency in the order of twelve cycles per second; electrical phase shift and drive means connected to said tremolo oscillator and having a plurality of outputs, one for each of said light sources, said electrical phase shift and drive means being effective to provide on said outputs smoothly varying energizing voltages for said light sources, said voltages being at said tremolo frequency but sequentially stepped out of phase whereby to cause a repetitive smoothly varying sequential energization of said light source and illumination of said impedances, said speakers thereby being sequentially and smoothly connected to said generator in the same sequential phase relation as said voltages and in the repetitive order in which the respective speaker connections are made; a synchronizing circuit connected to synchronize the output frequencies of said tremolo and vibrato oscillators; an adding circuit connected to modulate said tone generator with the sum of the outputs of said tremolo and vibrato oscillators; said tone generator thereby being effective to produce an audible tone whose source moves smoothly at said tremolo frequency from speaker to speaker in a sequence corresponding to said repetitive order while said tone is simultaneously modulated both in amplitude and frequency at said respective different frequencies.

3,378,624
ELECTRICAL MUSICAL INSTRUMENT WITH TREMOLO

Jerome Markowitz, Allentown, Pa., assignor to Allen Organ Company, Inc., Macungie, Pa., a corporation of Pennsylvania

Filed June 25, 1964, Ser. No. 378,022

14 Claims. (Cl. 84—1.25)



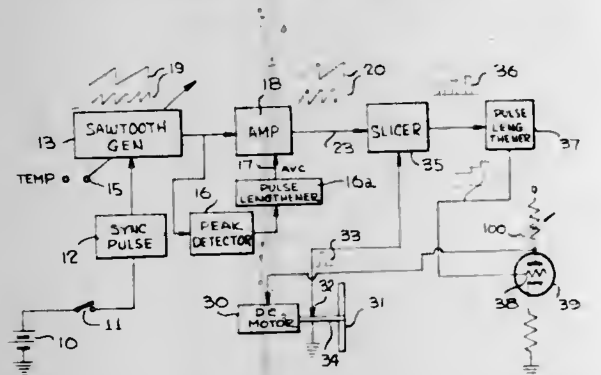
An electronic musical instrument for producing tremolo having at least a pair of electronic tone generators, each set to generate a different audio frequency, a loudspeaker audio system for transducing said audio frequencies into sound, a switch connected in circuit with the tone generators to alternately complete the circuit between a power source and the audio system, and keys comprising a portion of the keyboard for controlling the switch.

3,378,625
ELECTRONIC PERCUSSION INSTRUMENT HAVING INTERPOSED RHYTHMIC PATTERNS EACH WITH ITS OWN TONE COLOR

Hyman Hurvitz, Washington, D.C., assignor to D. H. Baldwin Company, Cincinnati, Ohio, a corporation of Ohio

Continuation of application Ser. No. 337,820, Jan. 15, 1964. This application Mar. 17, 1966, Ser. No. 541,890

7 Claims. (Cl. 84—1.28)



A rhythmic interpolator in which rhythmic patterns are read off a cyclic record and each pattern is associated with its own tone color or voice, which may be the same or different, so that a pattern in a first voice may be interpolated with a different pattern which itself has a different voice.

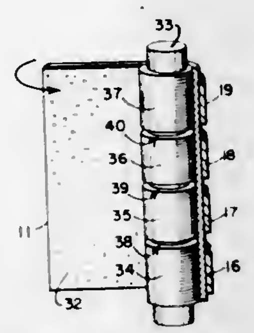
3,378,626
METHOD AND PRODUCT FOR SHIELDING WINDINGS

Noel C. Tucker, Los Angeles, Calif.
(7754 Densmore Ave., Van Nuys, Calif. 91406)

Filed Jan. 6, 1966, Ser. No. 532,018

9 Claims. (Cl. 174—35)

This disclosure relates to a method and product for covering transformer windings on a stick core to shield the windings wherein a plurality of shielding foil strips together with adjacent conductors are formed on a sheet of backing material and a plurality of windings on an elongated stick are simultaneously wrapped. The stick is then cut between the respective foil strips to provide a plurality of separate windings all properly covered and shielded by the foil. An end of the adjacent conductors for the strips is readily grounded, the other end being in conductive relationship with the strip.

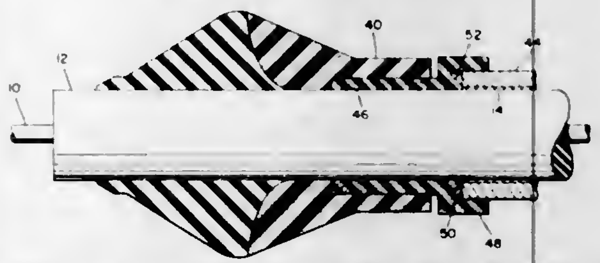


3,378,627
ADAPTORS FOR TERMINATING DEVICES IN HIGH VOLTAGE POWER CABLES

Rudolph P. Aldighieri, Long Valley, N.J., assignor to Elastic Stop Nut Corporation of America, Union, N.J., a corporation of New Jersey

Filed Apr. 16, 1965, Ser. No. 448,716

4 Claims. (Cl. 174—73)



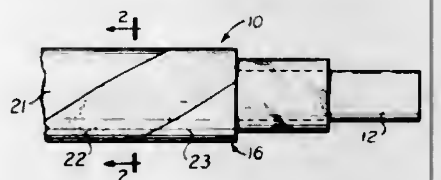
A bedding tape adaptor for enabling the use of cable terminating devices of the type ordinarily designed for concentric neutral cables in terminating high voltage power cables of the type having an electrically conductive bedding tape wrapped around the insulation which surrounds the conductor of the cable, the adaptor being in the form of a relatively thin-walled tubular member of electrically conductive elastomeric material which is readily dilatable so as to be easily slipped over the bedding tape for effectively securing the end of the tape against the insulation and providing a relatively firm foundation including an external cylindrical surface for receiving a complementary cylindrical bore of the terminating device in watertight electrical contact therewith.

3,378,628
DUAL INSULATED TELEPHONE WIRE

Oscar G. Garner, Westfield, N.J., assignor to General Cable Corporation, New York, N.Y., a corporation of New Jersey

Continuation-in-part of application Ser. No. 442,296, Mar. 24, 1965. This application Jan. 9, 1967, Ser. No. 608,192

6 Claims. (Cl. 174—112)



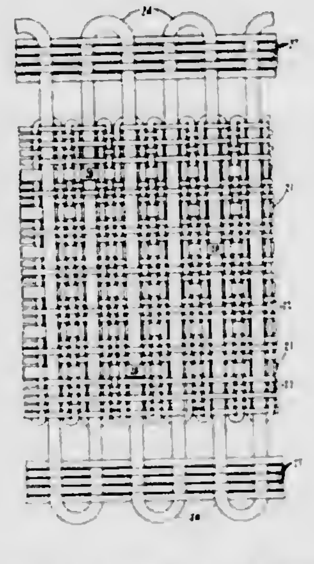
Insulated electrical conductor for telephone and other communication cables, the conductor having a first layer of extruded polyolefin having good insulating properties, but subject to mechanical damage and to heat damage during normal indoor installation procedures, and a color-coded seamless outer layer of extruded semi-rigid polyvinyl chloride insulation directly overlying and in continuous intimate contact with the first layer, the outer layer being mechanically stronger, more resistant to abrasion, and more resistant to heat than the first layer, the outer layer being made up of non-overlapping helically extending zones of different colors bonded together into one piece.

3,378,629
WOVEN CONDUCTOR AND METHOD OF FORMING THE SAME

Stanley Rask, New York, N.Y., assignor to Continental Copper & Steel Industries, Inc., New York, N.Y., a corporation of Delaware

Filed Aug. 9, 1965, Ser. No. 478,264

5 Claims. (Cl. 174—117)



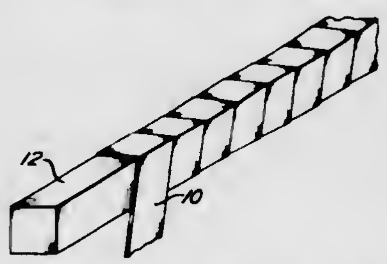
1. A woven matrix comprising: a plurality of conductive warp members; a plurality of insulating warp members substantially parallel to each other and forming a first band having a pre-determined width and two narrower bands, one on each side of said first band and spaced therefrom; a conductive fill member; and a plurality of insulating fill members woven with those of said insulating warp members in said first band to form an insulating fabric and woven with said conductive warp members to bind them to said fabric, said conductive fill member being woven back and forth across all of said insulating warp members to be bound by those of said insulating warp members in said first band to said fabric, said conductive fill member being spaced from said conductive warp members by said insulating fabric except at nodal points, said conductive fill member being woven into direct contact with said conductive warp members at selected intersections to define said nodal points.

3,378,630
PRESSURE SENSITIVE THERMOSETTING RESINOUS ADHESIVES AND TAPES

Morris A. Mendelsohn and Dow A. Rogers, Jr., Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 27, 1964, Ser. No. 340,278

11 Claims. (Cl. 174—121)



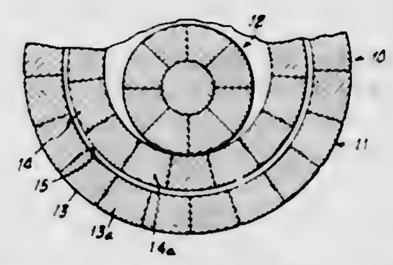
A thermosetting pressure sensitive adhesive is made from a saturated polyester resin and small amounts of melamine-formaldehyde resin, epoxy resin, flexibilizer and anti-oxidant. Mineral fillers, in finely divided form, may be included. The saturated polyester resin is derived from a trihydric polyol, a hydroxy derivative of benzoic acid, a natural oil and an aromatic dicarboxylic acid, in specified proportions. The adhesive can be applied to fibrous backing to provide a pressure sensitive tape that can be cured to a thermoset state with excellent electrical insulating properties.

3,378,631
CONDUCTOR WITH SELF-DAMPING CHARACTERISTICS

Aubrey Thomas Edwards, Oakville, Ontario, Canada, assignor to Aluminium Laboratories Limited, Montreal, Quebec, Canada, a corporation of Canada

Filed Dec. 30, 1966, Ser. No. 606,337

3 Claims. (Cl. 174—130)



A cable for use in an overhead transmission line, including a vibration self-damping sheath of conductor wires surrounding a core, the sheath having at least two spiral tubular layers of conductor wires with a gap therebetween when said layers are under service loads, the individual wires having cross-sections such that each layer maintains its shape under circumferential forces, and each layer being free of forceful radial contact.

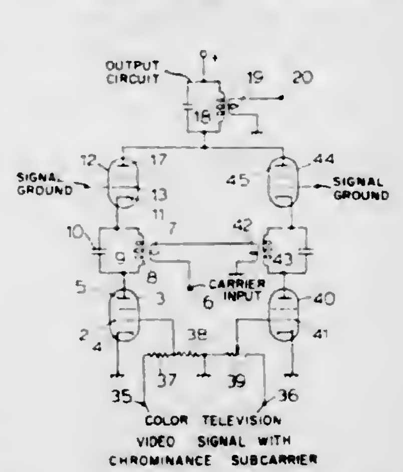
3,378,632
DISTORTION REDUCING MODULATOR

Geoffrey John Lomer, Crowthorne, England, assignor to Electric & Musical Industries Limited, Hayes, England, a company of Great Britain

Filed Sept. 22, 1964, Ser. No. 398,281

Claims priority, application Great Britain, Sept. 25, 1963, 37,645/63

7 Claims. (Cl. 178—5.4)



1. A modulator circuit including a first and a second modulating device, each of said modulating devices being such that the impedance presented by said modulator to an applied modulating signal changes substantially in correspondence with the magnitude of the applied modulating signal, a source of modulating signal including a first signal component of varying amplitude and a second component comprising a sub-carrier oscillation the phase of which is significant additively combined therewith, a source of carrier signal, carrier feeding means for applying said carrier signal to said modulating devices, modulating signal feeding means for feeding said modulating signal to said modulating devices so that the respective carrier

frequency outputs are amplitude modulated thereby in anti-phase, output circuit means, output circuit feeding means for feeding the modulated carrier outputs of said respective modulators to said output circuit in which said modulated carrier output oscillations are added in anti-phase relationship to provide an unbalanced carrier modulation, and control means for controlling the relative amplitudes of said modulating signals fed to said modulating devices, said control means being adjusted so that there is substantially cancellation in said output circuit of the differential phase shift of the modulated sub-carrier oscillation components of the outputs of the respective modulating devices.

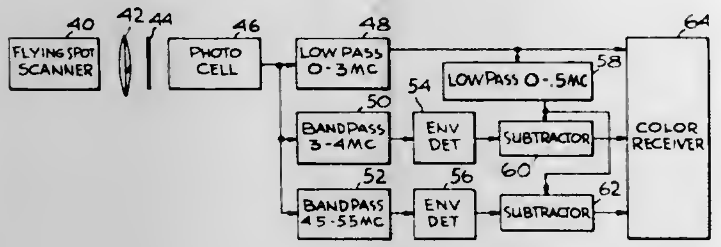
3,378,633

MONOCHROME PHOTOGRAPHY SYSTEM FOR COLOR TELEVISION

Albert Macovski, Palo Alto, Calif., assignor to Stanford Research Institute, Menlo Park, Calif., a corporation of California

Filed June 24, 1965, Ser. No. 466,624

11 Claims. (Cl. 178—5.4)



A filter is provided which has the property that light from a color transparency is projected therethrough, it encodes the different colors of that light, so that a single television camera can produce signals from the encoded light, which are readily separable into signals suitable for applying to a color television receiver, whereby the scene on the transparency may be reproduced in color. The encoding filter has two grids of lines which are of different substractive primary colors and which are angularly superimposed upon one another.

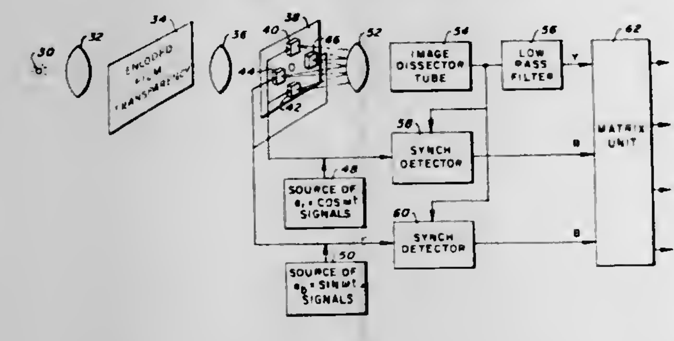
3,378,634

SYSTEM FOR SCANNING COLOR ENCODED FILM WITH A MONOCHROME TELEVISION CAMERA

Albert Macovski, Palo Alto, Calif., assignor to Stanford Research Institute, Menlo, Park, Calif., a corporation of California

Filed Oct. 22, 1965, Ser. No. 501,673

14 Claims. (Cl. 178—5.4)



1. A system for generating electrical signals required for a color television receiver to reproduce in color an image photographed on a monochrome negative through a spatial filter which comprises two relatively angularly disposed grids of lines each grid of lines being of a different subtractive primary color, said system comprising coherent light means, means for directing light from said coherent light means at one side of said monochrome negative, means for focusing the light which is passed through said negative, means for separating the light passing through said negative into first, second and third light components respectively containing information as to first and second primary color components at the luminance of the image photographed on said negative, television camera means, means for directing said first, second and third light components at said camera means, and means for deriving from the output of said television camera means electrical signals representative of the luminance and primary color information in said image photographed on said negative.

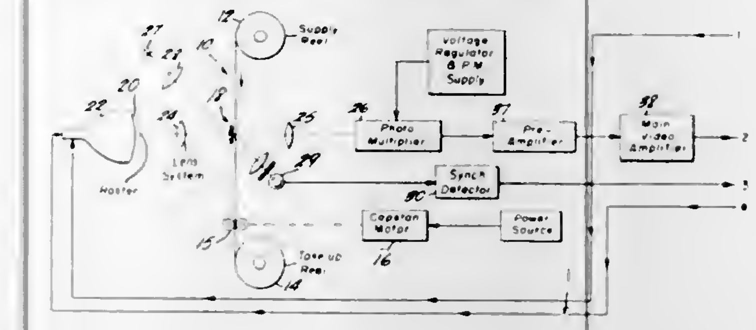
3,378,635

TELEVISION FILM SCANNER SYNCHRONIZATION SYSTEM

Peter C. Goldmark, Stamford, and John M. Hollywood, Greenwich, Conn., assignors to Columbia Broadcasting Systems, Inc., New York, N.Y., a corporation of New York

Original application Dec. 12, 1963, Ser. No. 330,193, now Patent No. 3,333,058, dated July 25, 1967. Divided and this application Dec. 21, 1964, Ser. No. 419,762

4 Claims. (Cl. 178—7.2)



1. In apparatus for reproducing information recorded in a succession of frames on a record strip having longitudinally spaced apart synchronizing indicia recorded therein in predetermined relation to said frames, the combination of

(a) means for transporting a record strip through a scanning zone,

(b) scanner means for subjecting said record strip, in said zone, to a plurality of longitudinally spaced apart transverse line scans executed in succession in the direction of movement of the record strip, to generate first signals representing information recorded in said frames,

  (1) said succession of line scans defining a raster extending in the direction of record strip movement a distance equal to twice the frame pitch distance on the record strip,

(c) means for scanning synchronizing indicia recorded on said record strip to generate second signals representative thereof,

(d) control signal responsive vertical scanning signal generator means for said scanner means, and

(e) means responsive to the output of said scanning signal generator means and to said second signals for supplying a control signal output to said scanning signal generator means.

3,378,636

COLOR TELEVISION TUBE WITH AMBIENT LIGHT FILTER

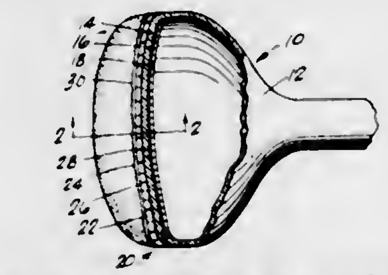
Vern E. Hamilton, Palos Verdes Estates, Calif., assignor, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland

Filed May 20, 1965, Ser. No. 457,446

23 Claims. (Cl. 178—7.82)

Ambient light trapping filter mountable in juxtaposition to outer face of color television tube having discrete phosphor dots in regular pattern producing raster lines of greater and lesser prominence extending in various

angular directions. Filter is space lattice type having depthwise spaced tiers of grid lines at substantial angles to primary raster lines to avoid major moire patterns but smaller angles to secondary lines to produce minor moire



patterns. Outer surface of filter is a light diffusing surface which obscures minor moire patterns without affecting sharpness of image signals. Surface is preferably etched, with rugosities in random pattern.

3,378,637

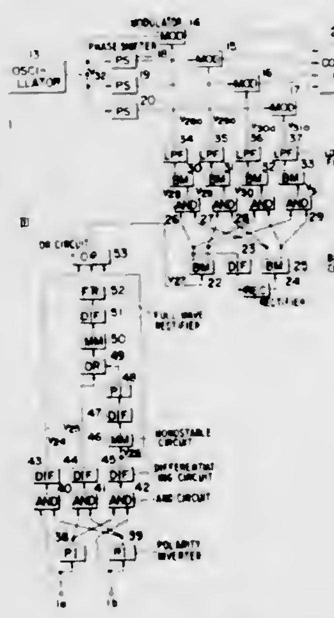
SYSTEM FOR GENERATING SINGLE SIDEBAND PHASE MODULATED TELEGRAPHIC SIGNALS

Kazuo Kawai and Hiroshi Kurihara, Tokyo-to, Japan, assignors to Kokusai Denshin Denwa Kabushiki Kaisha, Tokyo-to, Japan, a joint-stock company of Japan

Filed June 12, 1964, Ser. No. 374,602

Claims priority, application Japan, June 17, 1963, 38/30,718

10 Claims. (Cl. 178—67)



A system for generating single side-band phase-modulated telegraphic waves by successively applying, in one and the same direction, phase shifts determined respectively in accordance with two possible instantaneous polarities of a telegraphic signal or combinations of respective two possible instantaneous polarities of a plurality of telegraphic signals, to a phase position of the continuous sinusoidal wave in response to significant instants of the telegraphic signal or signals.

3,378,638

HIGH FREQUENCY CIRCUIT ARRANGEMENT FOR CAPACITIVE TRANSDUCER

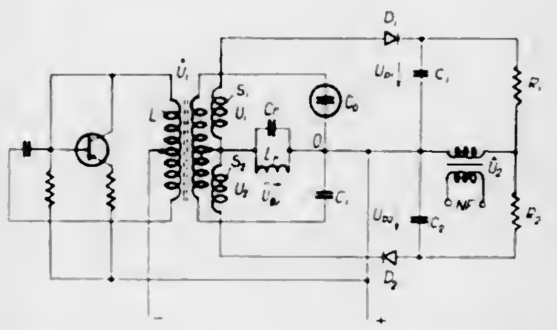
Bernhard Weingartner, Vienna, Austria, assignor to Akustische u. Kino-Gerate Gesellschaft m.b.H., Vienna, Austria, a firm

Filed May 18, 1964, Ser. No. 368,246

Claims priority, application Austria, May 20, 1963, A 4,072/63

7 Claims. (Cl. 179—1)

An electrostatic microphone circuit includes a transformer having a center tapped secondary winding connected together with a capacitor microphone and a fixed capacitor in a bridge circuit. The primary winding of the transformer is connected to the output of a high frequency oscillator. A parallel resonant L-C circuit is connected between the center tap of the secondary and the junction of the microphone and fixed capacitor. The nominal operating frequency of the oscillator is determined by the bridge circuit and lies between the resonant frequency and



the cut-off frequency of the resonant circuit. A demodulating circuit is coupled to the secondary winding and to one end of the resonant circuit. A variation in the capacitance of the microphone produces an unbalance of the bridge circuit and also produces a frequency modulation of the oscillator output signal whereby the sensitivity of the circuit to the signal frequency is increased to produce an increase in the signal-to-noise ratio of the circuit.

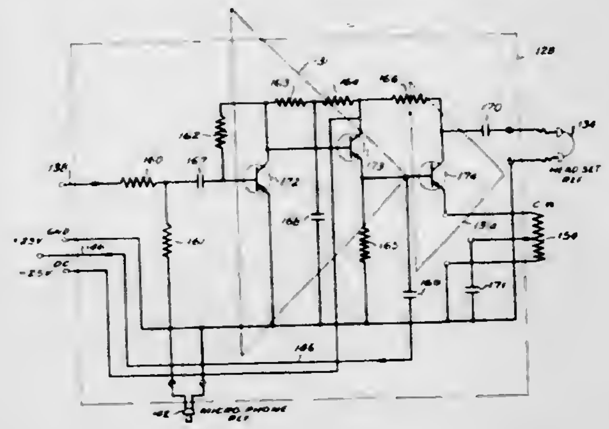
3,378,639

INSTRUCTION APPARATUS FOR CLASSROOMS

William R. Dufendach and Merlin J. Applegate, Grand Rapids, Mich., assignors to American Seating Company, Grand Rapids, Mich.

Original applications Sept. 12, 1960, Ser. No. 60,111, now Patent No. 3,147,555, dated Sept. 8, 1964, and May 5, 1964, Ser. No. 365,029. Divided and this application June 9, 1965, Ser. No. 462,571

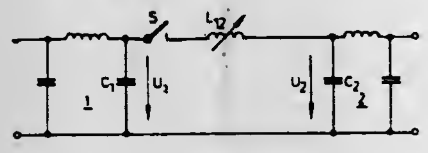
4 Claims. (Cl. 179—1)

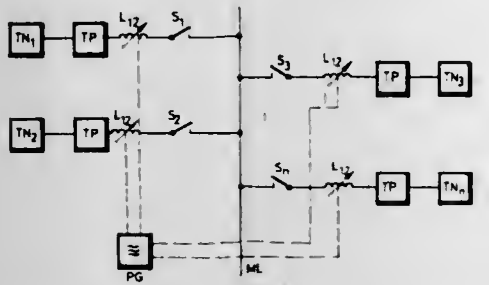


A communication system which includes two amplifiers, each amplifier having first and second stages. Two microphones are connected to the input circuits, respectively, of the first stages and two sound-producing devices are connected to the output circuits, respectively, of the second stages. A volume control is included in the second stage of each amplifier, and a signal circuit connects the output circuits of the two first stages. Each first stage includes an emitter follower as the output circuit thereof, and each second stage includes a transistor having base, emitter and collector elements. The second stage input circuit includes the base element, and the second stage output circuit includes the collector element. The potentiometer is connected in series between the emitter and a ground source of reference potential, the potentiometer having a slider capacitively coupled to the source of reference potential for controlling the gain of the second stage.

3,378,640
TRANSFER CIRCUIT INCLUDING A PARAMETRIC AMPLIFIER

Klaus Sabban and Max Schlichte, Munich, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany
Filed July 15, 1963, Ser. No. 294,891
Claims priority, application Germany, July 19, 1962, S 80,489
8 Claims. (Cl. 179—15)

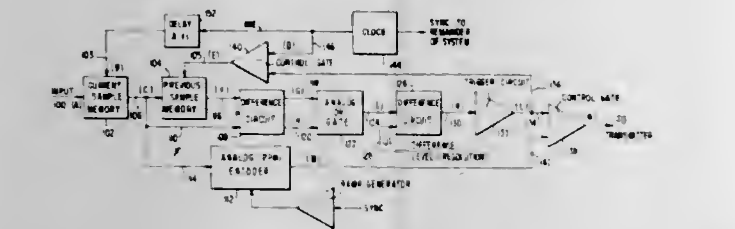




1. An amplifier for electrical signal oscillations, comprising an input signal storer, an output signal storer, a line operatively connecting said storers for simultaneous signal transfer from one storer to the other, a resonant transfer means including a switch and a transfer reactance operatively disposed in said connecting line whereby the operative connection for the signal transfer from the one storer to the other is effected on the resonant transfer principle, in dependence upon the opening and closing of said switch, the latter being operable to transform the signal oscillations to be amplified into a succession of scanning pulses, whose sequence frequency is equal to at least twice the highest frequency of the signal, and means operatively connected with said transfer reactance for effecting a change in the reactance value thereof, in accordance with a pump frequency, during the time in which transfer is effected from one storer to the other as determined by said switch, to effect a parametric amplification of the signal oscillation so transferred.

3,378,641
REDUNDANCY-ELIMINATION SYSTEM FOR TRANSMITTING EACH SAMPLE ONLY IF IT DIFFERS FROM PREVIOUSLY TRANSMITTED SAMPLE BY PRE-DETERMINED AMOUNT

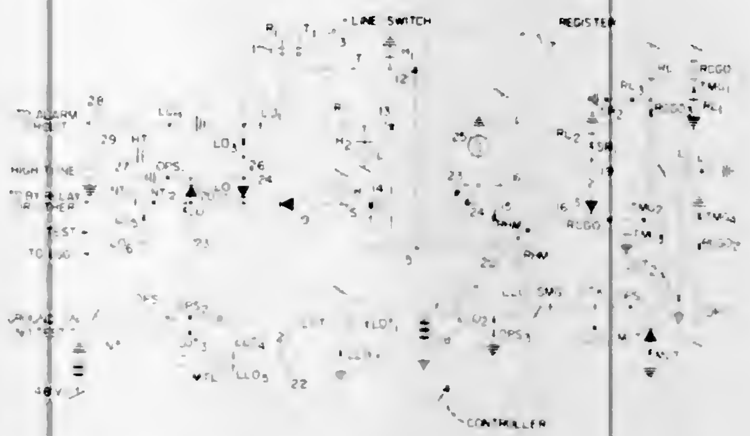
Spyros G. Varsos, Maitland, and William Taylor Douglas, Jr., Winter Park, Fla., assignors to Martin-Marietta Corporation, Middle River, Md., a corporation of Maryland
Filed Oct. 15, 1965, Ser. No. 496,495
19 Claims. (Cl. 179—15.55)



1. In a communication system, means for reducing the degree of redundancy in the information to be transmitted comprising: means to sample the information to be transmitted; a first memory to store signals representative of the information samples; a second memory to store information representative of the most recently transmitted information; comparator means to provide an indication when the contents of the first and second memories differ by more than a predetermined amount; transmitter means; and means responsive to an indication of the predetermined difference to provide the transmitter means and the second memory with signals representative of the contents of the first memory whereby the information stored in the first memory may be transmitted and info.mation representative of the transmitted information may be stored in the second memory.

3,378,642
LINE LOCKOUT CIRCUIT

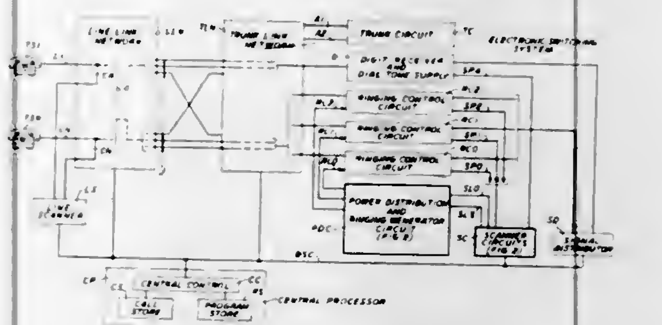
Real Gagnier, Hull, Quebec, and Robert Kenedi and William C. Klassen, Ottawa, Ontario, Canada, assignors to Northern Electric Company Limited, Montreal, Quebec, Canada
Filed Aug. 10, 1964, Ser. No. 388,426
14 Claims. (Cl. 179—18)



A lockout system for one of a plurality of lines, preferably in a telephone system, in which each of the plurality of lines is individually accessible to one another is described. A lockout relay is provided in connection with at least one of the lines, and a marginal relay is provided in central equipment whereby the prolonged appearance of a reference potential condition on any one of the lines causes operation to connect the marginal relay to that line. If the lockout relay is associated with that one line current flow is sufficient to operate the marginal relay which then initiates action to break connection between itself and the lockout relay, and causes the lockout relay to be held by connection to a conductor carrying the reference potential.

3,378,643
IMMEDIATE RINGING EQUIPMENT FOR COMMUNICATION SYSTEMS

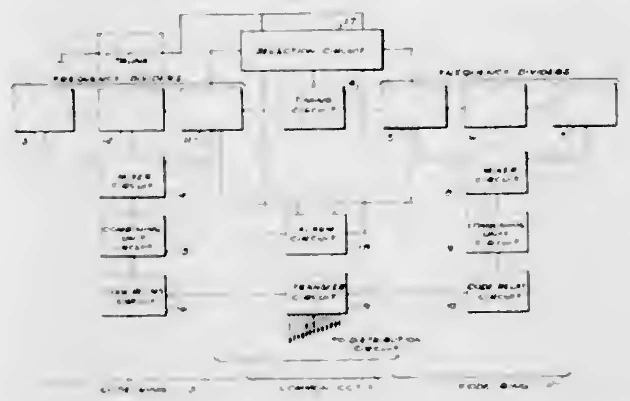
Leopold F. Goeller, Jr., Holmdel Township, Monmouth County, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 10, 1964, Ser. No. 417,444
14 Claims. (Cl. 179—18)



A program controlled telephone system is disclosed having switching equipment which provides immediate ringing power to each called telephone at the instant that call connections are established to the called line. The equipment includes a distribution circuit which successively connects ringing power from a generator individually to each of a plurality of ringing control circuits so that continually at least one such control circuit has ringing power available for immediate connection to a called phone. Data processor facilities determine the control circuit presently having available ringing power and control its connection through the network to the called telephone.

3,378,644
TELEPHONE CODE RINGING CIRCUITS

Zenon A. Kular, Dollard des Ormeaux, Quebec, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada
Continuation-in-part of application Ser. No. 258,863, Feb. 15, 1963. This application Dec. 28, 1964, Ser. No. 421,264
13 Claims. (Cl. 179—84)



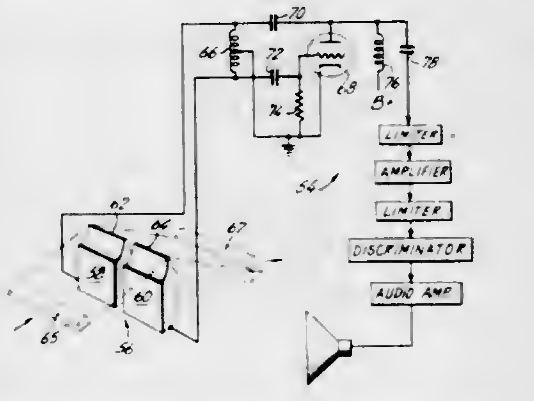
The invention provides an apparatus comprising a timing circuit for generating a basic train of pulses, a plurality of cascaded frequency dividers responsive to the timing circuit, each frequency divider generating a train of pulses having a submultiple frequency of the basic train of pulses and lagging the same in phase relationship, and a code circuit comprising a mixer circuit for generating a plurality of pulse trains having a space interval between pulses longer than a ringing cycle and a combining circuit for combining said plurality of pulse trains to generate various combinations of code signals.

The invention also contemplates the feature of providing two code ringing interrupters operating alternately under normal conditions, and a failure alarm circuit which, in case of failure of one of the interrupters, automatically connects the other interrupter to the distribution circuit and stops the alternating operation of the interrupters.

3,378,645
RECORDED DIELECTRIC MEDIUM AND RECORDING AND PLAYBACK METHODS AND APPARATUSES

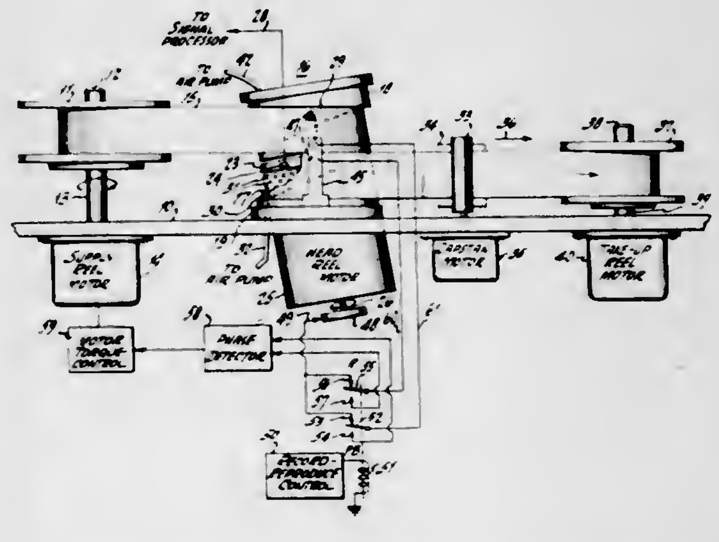
Joseph I. Heller, Brooklyn, N.Y., assignor to Belock Instrument Corporation, College Point, N.Y., a corporation of New York
Filed Sept. 29, 1964, Ser. No. 400,184
19 Claims. (Cl. 179—100.1)

19. A method for recording and reproducing an information signal comprising the steps of:
(a) providing a dielectric carrier;
(b) electrostatically charging successive areas on the carrier in accordance with an information signal;
(c) depositing quantities of powder dielectric particles on the successive areas of a face of the carrier as a function of the change in intensity of the electrostatic charges on the successive areas while leaving the other face of the carrier deposit-free;
(d) superposing an electrically conductive layer over the particle-bearing face of the carrier;
(e) feeding the recorded dielectric medium thus formed through a path of travel by a pair of side-by-side spaced electrodes constituting with the medium twin continuously variable capacitors, said electrodes being oriented so that the faces of said electrodes are athwart and abut the deposit-free face of the medium; and
(f) utilizing the continuously variable capacitors to provide an output signal.



3,378,646
CONTROL SYSTEM FOR HELICAL SCAN RECORDER

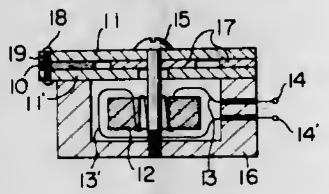
Fred E. Shashoua, Cherry Hill, and Furman D. Kell, Haddonfield, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Mar. 8, 1963, Ser. No. 263,801
20 Claims. (Cl. 179—100.2)



1. A control system for use in a system of the type in which a movable record medium describes a helical path comprising, in combination
means for driving said medium through a first helical path,
second means for recording a pair of control tracks on said medium during a first passage of said medium through said first helical path,
said control tracks having information recorded thereon as to the tension in said medium as it describes said first helical path,
said second means being arranged to reproduce said information recorded on said control tracks during a second passage of said medium through a second helical path similar to said first helical path, and
means responsive to said reproduced information for controlling the operation of said driving means to cause the tension in said medium during said second passage to be substantially the same as during said first passage of said medium irrespective of the velocity of said medium during said second passage.

3,378,647
MAGNETIC HEAD WITH REMOVABLE HEAD TIP ASSEMBLY

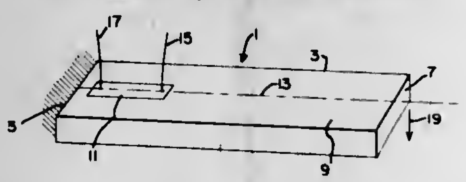
Akira Hirota, Ohta-ku, Tokyo, Japan, assignor to Victor Company of Japan, Limited, Kanagawa-ku, Yokohama-shi, Kanagawa-ken, Japan
Filed June 1, 1964, Ser. No. 371,556
Claims priority, application Japan, June 5, 1963, 38/29,410
4 Claims. (Cl. 179—100.2)



A magnetic head wherein a transformer core is coupled electromagnetically with a magnetic head core by one turn of a closed loop in a manner such that the magnetic head core can be readily exchanged. The head is simple and very compact in construction and is particularly advantageous for use in recording and reproducing high frequency signals.

3,378,648
DOPED PIEZORESISTIVE PHONOGRAPH PICKUP

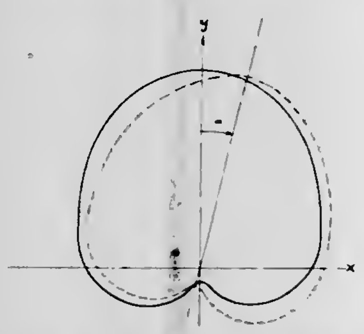
Gunther E. Fenner, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 31, 1964, Ser. No. 422,623
5 Claims. (Cl. 179—100.41)



A phonograph pickup which utilizes a single crystal of semiconductor material having an area thereof doped with an impurity to provide an element with piezoresistive characteristics.

3,378,649
PRESSURE GRADIENT DIRECTIONAL MICROPHONE

Harold S. Mawby, Niles, Mich., assignor to Electro-Voice, Incorporated, Buchanan, Mich., a corporation of Indiana
Filed Sept. 4, 1964, Ser. No. 394,508
20 Claims. (Cl. 179—121)

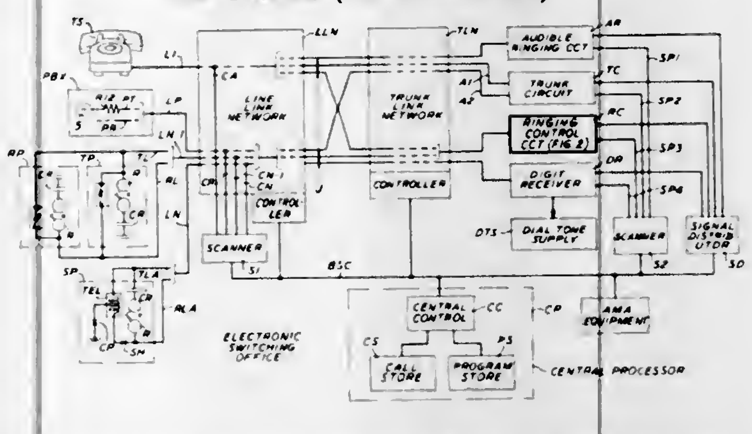


The specification discloses a pressure gradient unidirectional microphone which utilizes an electromagnetic transducer. The transducer has a diaphragm with one side exposed to the sound field surrounding the microphone and a cavity on the other side of the diaphragm. Two spaced parallel tubes extend from the cavity and communicate with the cavity. Each of the tubes is provided with a sound window along its length, and a layer of acoustical resistance material is disposed over the sound windows. The tubes and resistance material layers form acoustical transmission lines.

The specification also discloses an acoustical transmission line formed by a tubular screen with a layer of acoustical resistance material in the form of a winding of thread extending along the exterior surface of the tubular screen and a plug of solid material within the tubular screen provided with an axial channel.

3,378,650
COMMUNICATION SYSTEM SIGNALING AND TESTING EQUIPMENT

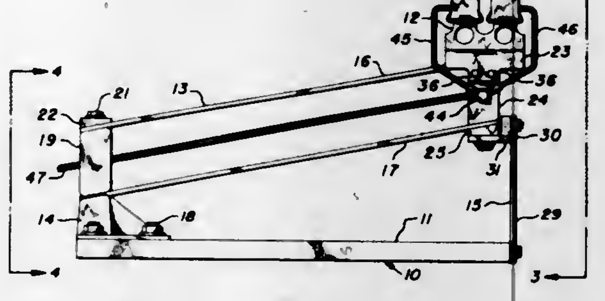
Leopold F. Goeller, Jr., Holmdel Township, Monmouth County, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 15, 1964, Ser. No. 403,989
26 Claims. (Cl. 179—175.2)



A program controlled telephone system is disclosed having equipment which provides for the testing of a called telephone line for excessive leakage and foreign potential prior to the ringing of the called phone. The equipment also includes magnetic latching relays for establishing the test configurations and ferrods for sensing the results of the tests as well as the supply of ringing to the called phone and the tripping of that ringing.

3,378,651
TRAVELING ELECTRIC POWER COLLECTOR

Thomas H. Sawyer, Mansfield, Ohio, assignor to The Ohio Brass Company, Mansfield, Ohio, a corporation of New Jersey
Filed July 27, 1965, Ser. No. 475,205
12 Claims. (Cl. 191—58)

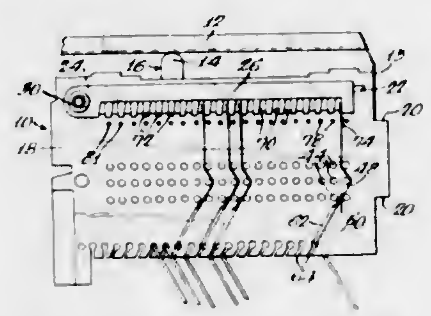


This patent discloses electric power collectors for rail cars in which the collector head is carried by a boom of structural insulating material and in which the contact means is carried by a body of structural insulating material.

3,378,652
KEYBOARD SWITCH ASSEMBLY WITH IMPROVED CONTACT MEANS

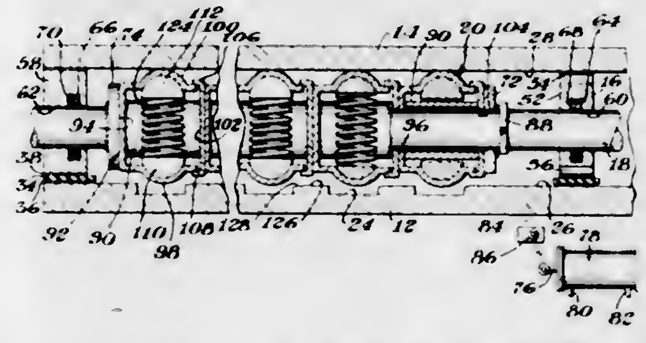
Charles A. Dyle, Chicago, Ill., assignor to Hammond Corporation, a corporation of Delaware
Filed June 20, 1966, Ser. No. 558,714
9 Claims. (Cl. 200—5)

A playing key actuated switch assembly for organs in which playing any key brings a multiplicity of switch blades for that key into contact individually with a multiplicity of bus bars which are common to a group of the switch assemblies. One switch assembly is provided for each playing key. In each assembly the switch blades are parallel and self-spring biased against their bus bars and normally are held out of engagement therewith by a slide which engages the blades and is spring biased in the opposite direction by a force greater than the sum of the spring forces provided by all of the blades in the switch assembly. The switch assemblies are on cards which are mounted in aligned parallel relation in a row, one under each playing key, and the bus bars are wires which pass through aligned loose fitting holes in the row of cards.



3,378,653
ELECTRICAL SLIDER SWITCH

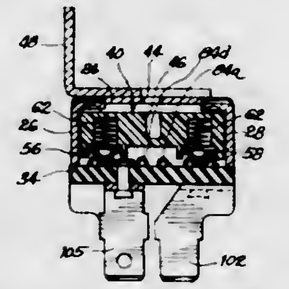
Scott Lynn, Walnut Creek, Calif., and Jack N. Wilson, Kalama, Wash., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Dec. 21, 1966, Ser. No. 603,622
6 Claims. (Cl. 200—16)



The invention concerns a switch for low voltage, high current application. It is a sliding contact type switch, totally enclosed and submerged in oil, has few parts and is compact. The switch is especially well adapted to be connected in ganged assemblies and for operation by air cylinder or similar means.

3,378,654
ELECTRICAL SWITCH WITH MULTIPLE CONTACT RAILS

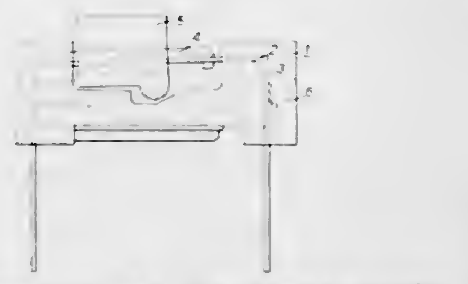
Leland C. Hoy, Skokie, and Borys Hazek, Mount Prospect, Ill., assignors to Indak Manufacturing Corp., Northbrook, Ill., a corporation of Illinois
Filed Feb. 27, 1967, Ser. No. 618,901
16 Claims. (Cl. 200—16)



An electrical switch having a plurality of contactors adapted to ride along a plurality of tracks, each of which is formed by two or more rail segments, certain rail segments on adjacent tracks being preferably formed integrally with each other, the contactors preferably being adapted to connect four terminals together in at least one position of the switch.

3,378,655
CONTACT INTERRUPTER

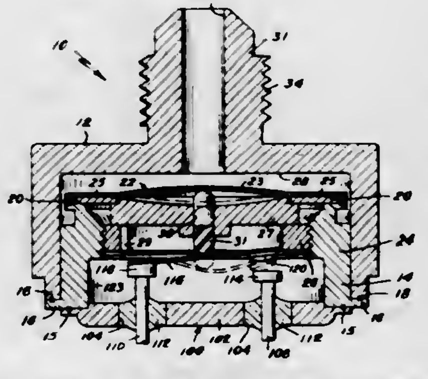
Lodewijk Viktor Hendrik Maria Ghys, Edegem, and Francois Jeanne Charles Leyssens, Borgerhout, Belgium, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 10, 1967, Ser. No. 629,528
Claims priority, application Netherlands, Apr. 14, 1966, 66—4,966
7 Claims. (Cl. 200—16)



1. Contact interrupter, e g. for printed circuits, characterized in this, that it includes, an insulated support having a central longitudinal part extending between a first and a second end part, a fixed contact member located in said first end part, a substantially F-shaped conductive piece having its parallel legs spring biased, and an insulated switching means, said F-shaped piece being housed in said support so that one of said parallel legs rests against one side of said central part whereas the other parallel leg which constitutes the movable contact member is at a certain distance from the other side of central part and has its free end normally resting against said fixed contact member or removed therefrom under the action of said switching means.

3,378,656
ADJUSTMENT MEANS FOR ELECTRICAL SWITCH

Carl N. Johnson, Braintree, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Jan. 3, 1966, Ser. No. 518,404
8 Claims. (Cl. 200—83)

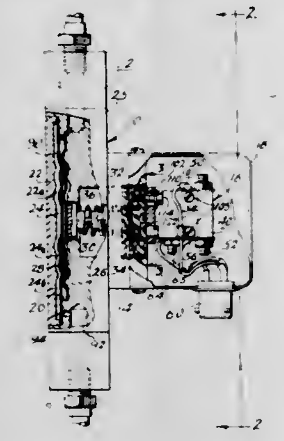


Electrical switches are shown with improved means for adjusting the snap-acting characteristics of a snap-acting diaphragm. An exemplary pressure responsive electrical switch is shown having upper and lower casing members provided with cavities which are hermetically sealed from one another by a snap-acting diaphragm mounted therebetween. One cavity admits pressure to one side of the diaphragm while the other cavity houses an electrical switch which is actuated in response to movement of the diaphragm. The adjustment of the pressure differential of the snap-acting diaphragm is such that it can be effected without affecting the hermetic seal. In one embodiment the diaphragm is mounted on a flexible annular ring which cooperates with a threaded annular member which can be moved upwardly to stress and bend the flexible annular ring and hence the peripheral portions of the diaphragm which results in changing of the pressure differential of the diaphragm.

Another embodiment shows the peripheral portion of the diaphragm projecting axially beyond the casing members and mounted between flexible ring flanges of the casing members. A force can be directly applied to the ring flanges to thereby bend the projecting peripheral portion of the diaphragm. A way of applying a force to the ring flanges is shown employing threaded rings which are movable to bring abutments on the rings into pressure engagement with the ring flanges to bend the flanges and projecting peripheral portions of the diaphragm. The casing members are shown to be cylindrical in configuration however could be varied to include rectangular, octagonal or other polygonal shapes.

3,378,657
CALIBRATING PRESSURE SWITCH

Norman J. Smith, 2123 Middle Drive, Slidell, La. 70458
Filed May 4, 1966, Ser. No. 547,643
9 Claims. (Cl. 200—83)

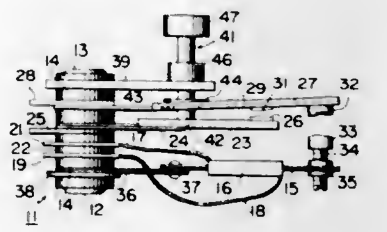


A pressure switch assembly comprising a body portion and a switch mechanism having a contact element operable between opposite limit positions. A diaphragm chamber is provided in the body portion which mounts therein a system diaphragm and a calibration diaphragm which are of generally the same configuration and having outer faces conforming to the inner and outer walls of the diaphragm chamber. The space between the inner faces of the diaphragms defines a first chamber section and the space between the outer face of one of the diaphragms and the outer wall of the diaphragm chamber defines a second chamber section. The body portion includes a system pressure port communicating with one of the chamber sections and a calibration pressure port communicating with the other chamber section. An actuator connected to one of the diaphragms and the contact element of the switch operates upon pressure change in the diaphragm sections to move said contact element between limit positions.

3,378,658
MAGNETICALLY CONTROLLED RESETTABLE SWITCH

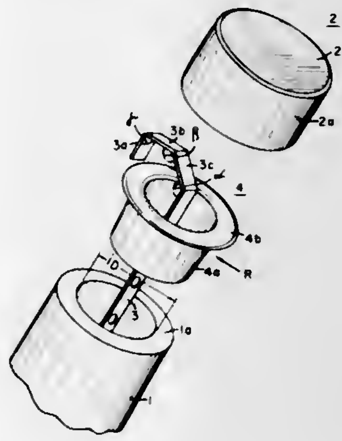
Edward S. Arlin, Norwalk Township, Huron County, and Wayne T. Watson, Mansfield, Ohio, assignors to Norwalk Thermostat Company, Norwalk, Ohio, a corporation of Ohio
Filed Apr. 4, 1966, Ser. No. 540,059
15 Claims. (Cl. 200—122)

1. A resettable electric switch comprising a first contact; a second contact; a first contact support assembly for said first contact having a first stable position, a second stable position and a region intermediate said first and second positions; a displaceable contact support for said second contact; means resiliently biasing said second contact to a position engaging said first contact when said first contact support is in its first stable position; means to trip said first contact support to said second stable position; a first magnetic element included in said first contact support assembly and movable therewith; a second magnetic element engageable with said first magnetic element to develop a mutual magnetic attraction therewith; reset means for said first contact support assembly to move said support from said second to said first position, said reset means moving one of said magnetic elements into a range of magnetic attraction of said other magnetic element during said resetting function.



3,378,659
CARTRIDGE FUSES

Paul C. Hitchcock, Plum Island, Mass., assignor to The Chase-Shawmut Company, Newburyport, Mass.
Filed Apr. 24, 1967, Ser. No. 633,081
5 Claims. (Cl. 200—132)

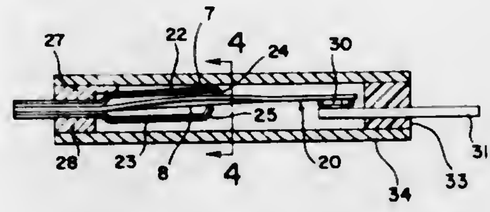


The fuse disclosed herein includes a fusible element conductively interconnecting a pair of terminal caps mounted on the outer ends of the casing of the fuse. The conductive connections between the ends of the fusible element and the terminal caps are established in a novel way by mechanical action, i.e., by pressure, rather than by solder joints.

3,378,660
THERMOSTAT

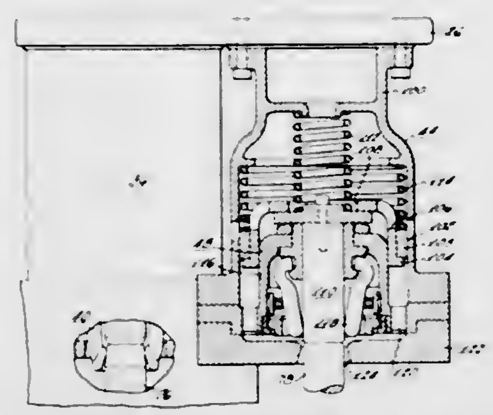
George Franklin Dales, Akron, Ohio, assignor to The Franklin Dales Company, Akron, Ohio, a corporation of Ohio
Continuation-in-part of abandoned application Ser. No. 401,288, Sept. 24, 1964. This application June 7, 1965, Ser. No. 461,830
8 Claims. (Cl. 200—138)

A thermostat with two bimetals and a snap element and a pressure element which presses one bimetal toward the snap element with a portion of the snap element and a portion of each of the bimetals and the pressure element held in a fixed relation. A contact area on the snap element is adapted to be snapped into and out of contact with another contact area.



3,378,661
AUXILIARY CONTACT STRUCTURE WITH ARC SUPPRESSING MEANS

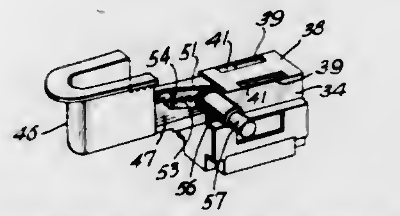
Joseph Maria Ramrath, Mattapan, Mass., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Oct. 20, 1965, Ser. No. 498,209
4 Claims. (Cl. 200—150)



1. A circuit interrupter comprising a pressure confining structure for accommodating an arc extinguishing fluid,
- said structure having an end wall with an opening therethrough,
- stationary contact means mounted in said structure and spaced from but adjacent to said opening,
- movable contact means movable through said opening for cooperation with said stationary contact means,
- means for closing and for separating said stationary and movable contact means to draw an arc to be extinguished by fluid blast action,
- a spring biased piston arranged within said structure and axially aligned with said stationary and movable contact means,
- said piston having a fluid passage therethrough,
- and a spring biased piston rod movable independently of said piston during movement in contact opening direction,
- said piston rod mounted to abut said piston and to block said fluid passage therethrough,
- said piston rod and said movable contact means being adapted to abut each other in contact closed position,
- said movable contact means being operative during circuit closing movement to move through said opening in said end wall to abut said piston rod and drive said piston rod and said piston to their biased positions so that during a circuit opening operation said piston moves in contact opening direction for blasting fluid transversely through the space between said stationary contact means and said opening and axially through said opening,
- said piston rod being independently movable during a circuit opening operation to accelerate said movable contact means.

3,378,662
VARIABLE SPEED CONTROL TRIGGER FOR ELECTRIC SWITCH

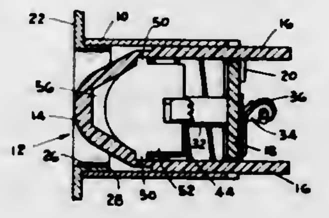
Wesley T. Sorenson, West Hartford, Conn., assignor to Carling Electric, Inc., West Hartford, Conn., a corporation of Connecticut
Filed July 25, 1967, Ser. No. 655,888
12 Claims. (Cl. 200—157)



Plunger latch means for trigger control for operating variable speed switch for hand tool or the like.

3,378,663
PUSHBUTTON SWITCH WITH IMPROVED GUIDE MEANS

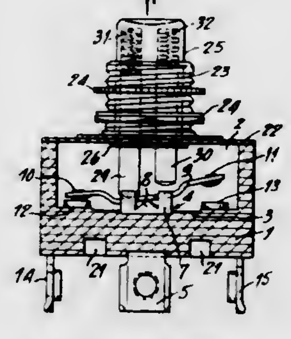
Mark H. Abramowitz, Bergenfield, N.J., assignor to Lee Electric, Inc., West New York, N.J., a corporation of New Jersey
Filed Mar. 10, 1966, Ser. No. 533,351
11 Claims. (Cl. 200—159)



The disclosed pushbutton switch has a housing sleeve with a button member supported in the sleeve for inward and outward movement, the button member having a nose with a cam surface normally projecting from one end of the sleeve and having a pair of diametrically opposed fins which extend from the nose along the inner surface of the sleeve and pass through a contact-supporting disc at the other end of the sleeve. Movable contacts are supported within the button member, the nose of which is urged outwardly of the sleeve by a compression spring. The fins guide the movement of the button member longitudinally within the sleeve and prevent turning or tilting of the button member when lateral forces are exerted upon the cam surface of the nose.

3,378,664
MOMENTARY ACTUATION PUSH-BUTTON SWITCH

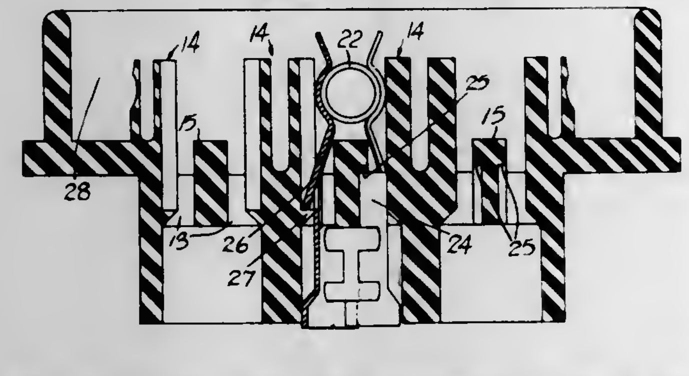
Victor Russenberger, 40 Ave. de la Source, Nogent-sur-Marne, France
Filed Feb. 18, 1966, Ser. No. 528,651
Claims priority, application France, Mar. 18, 1965
9,777
2 Claims. (Cl. 200—160)



A momentary-contact pushbutton operated switch having a conductive rocker bar adapted to rotate about an axis to close contacts, a pushbutton carrying first and second springs to apply forces to the rocker bar on opposite sides of the axis, with one spring being longer to bias the rocker bar in one direction against one stationary contact during non-actuation of the pushbutton, and the other spring being shorter and stronger and adapted to engage the rocker bar during actuation of the pushbutton.

3,378,665
FUSE HOLDERS

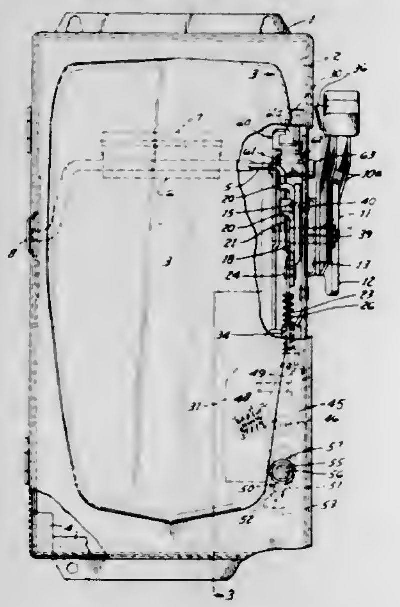
Edward Henry Pater, Smethwick, and Benjamin William Matthews, Birmingham, England, assignors to Joseph Lucas (Industries) Limited, Birmingham, England, a British company
Filed Jan. 9, 1967, Ser. No. 607,933
Claims priority, application Great Britain, Jan. 7, 1966, 793/66
1 Claim. (Cl. 200—166)



A fuse holder of the kind including a pair of spaced clips for gripping the ends of a cartridge fuse, the two arms of each clip being in contact with resilient walls on a body supporting the clip. The walls flex to permit the insertion of the fuse, and such an arrangement removes the necessity of the two arms constituting a clip being interconnected, so that each clip can be made from two identical separate connectors.

3,378,666
SWITCH ENCLOSURE WITH MULTIPLE INTERLOCKS

Tadeusz J. Rys, Lexington, Ky., assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan
Filed May 3, 1967, Ser. No. 635,824
11 Claims. (Cl. 200—168)

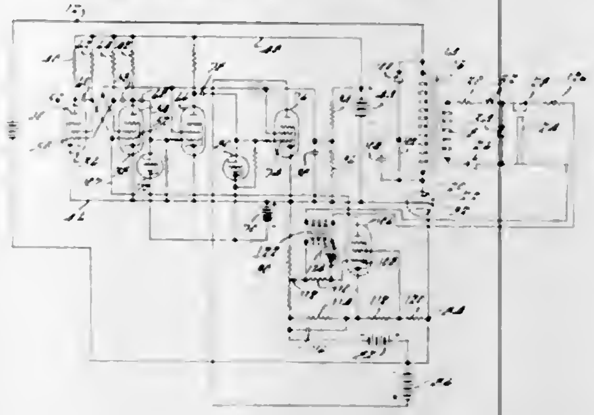


The switch enclosure comprises a box **1** having a front door **3**. A switch operating bar **5** within the box is operated with a snap action by a cam **18** driven by a shaft **11** connected to an exterior handle **10**. A gasket **4** is arranged for sealing between the door and box. A sealing mechanism, including a sliding interlock bar **39** within the box, cooperates with fingers **32** and **34** on the door for drawing the door tightly into sealing position upon operation of the bar by a lug **38** extending into the box from an exteriorarily operated sealing lever **36** on the shaft **11**. A rocker **45** is mounted in the box and is movable to interlocking position by a spring **48** wherein an end portion **49** blocks the movement of the bar out of sealing position until the rocker **45** is tripped. The rocker is movable to release position by an interlock release **50**.

Interlock means within the box are operative when both the handle **10** and lever **36** are in OFF position to prevent movement of the handle **10** to ON position and are operative to release the handle **10** for movement to ON and OFF positions when the lever **36** is moved to sealing position.

3,378,667
PER PULSE CUTOFF ELECTRICAL DISCHARGE MACHINING APPARATUS

Robert S. Webb, Bloomfield Hills, Mich., assignor to Elox Corporation of Michigan, Troy, Mich., a corporation of Michigan
Continuation-in-part of application Ser. No. 43,361, July 18, 1960. This application Oct. 2, 1963, Ser. No. 313,369
8 Claims. (Cl. 219—69)



A power supply circuit and method for relatively high voltage electrical discharge machining in which machining pulses are inspected and those not in excess of the normal arc drop voltage are interrupted.

3,378,668
METHOD OF MAKING NON-POROUS WELD BEADS

Allan A. Dolomont, North Haven, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
No Drawing. Filed Jan. 24, 1964, Ser. No. 339,880
9 Claims. (Cl. 219—74)

This invention relates generally to improvements in processing of aluminum welding wire, and more particularly to electrochemical treatment continuously applied to indefinite lengths of material to produce an aluminum welding wire which yields a high quality nonporous weld bead when used in welding components of aluminum articles.

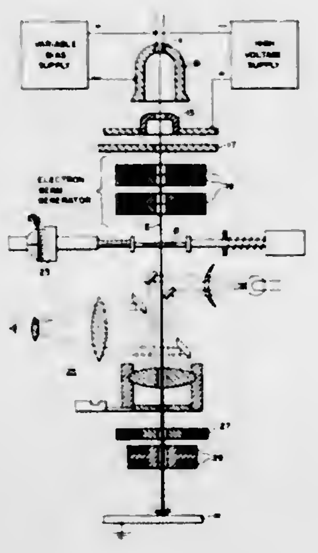
3,378,669
METHOD OF MAKING NON-POROUS WELD BEADS

Allan A. Dolomont, North Haven, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
No Drawing. Continuation of application Ser. No. 339,853, Jan. 24, 1964. This application June 30, 1967, Ser. No. 650,547
6 Claims. (Cl. 219—74)

This invention relates generally to improvements in processing of aluminum welding wire, and more particularly to electrochemical treatment continuously applied to indefinite lengths of material to produce an aluminum welding wire which yields a high quality nonporous weld bead when used in welding components of aluminum articles.

3,378,670
METHOD OF CRATERLESS ELECTRON BEAM WELDING

James F. Smith, Snowden Township, and Richard Miller, Circleville, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 23, 1964, Ser. No. 353,752
5 Claims. (Cl. 219—121)



Method of craterless welding of work W (FIG. 1) with a focused electron beam E. The crater (K, FIG. 5) tends to form at the end of a welding seam and is suppressed (FIG. 6) by reducing the current of the beam E by increasing the negative bias on electrode 15 (FIG. 1) at the instant when the crater would tend to start to form. The reduction of the current not only reduces the electron energy flowing into the work W but also increases the voltage across the beam E (FIG. 3), increasing the speed of the now lower number of electrons in the beam, and defocusing the beam E. The defocusing aids the elimination of the crater because it reduces the penetration of the beam into the work. In addition the amount of defocusing varies with the magnitude of the beam welding current, being small for small current so that a smooth weld termination is produced regardless of the magnitude of welding currents.

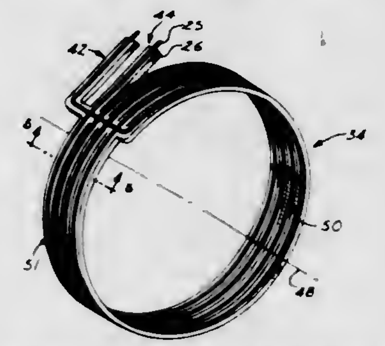
3,378,671
NONCONSUMABLE ARC-MELTING AND ARC-WELDING ELECTRODES

Robert W. Harrison, Cincinnati, Ohio, and Eugene J. Delgrosso, Wallingford, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Continuation-in-part of application Ser. No. 341,135, Jan. 29, 1964. This application Oct. 14, 1965, Ser. No. 505,099
20 Claims. (Cl. 219—145)

Nonconsumable arc-melting and arc-welding electrodes and a process for using such electrodes are provided. The electrodes are formed of a composition consisting essentially of 0.5–10% by weight of yttrium with the balance a reactive-refractory metal composition selected from titanium, zirconium, metals having a melting point of at least 1875° C., and alloys having as their base at least one of these metals. Typical electrode compositions include (a) 0.8% by weight of yttrium, about 1% by weight of zirconium, and balance essentially columbium, (b) 0.8% by weight of yttrium and balance essentially tantalum; and (c) 1.5% by weight of yttrium and balance essentially titanium. In the process, a nonconsumable electrode of the composition described is placed adjacent a metallic composition to be melted and an electric current is passed through the electrode and the metallic composition to establish an electric arc between them.

3,378,672
INSULATED, ELECTRICAL RESISTANCE WIRE AND WELDING SLEEVE MADE THEREFROM

James J. Blumenkranz, Hollywood, Calif., assignor to The Susquehanna Corporation, a corporation of Delaware
Filed Mar. 18, 1966, Ser. No. 535,555
8 Claims. (Cl. 219—200)

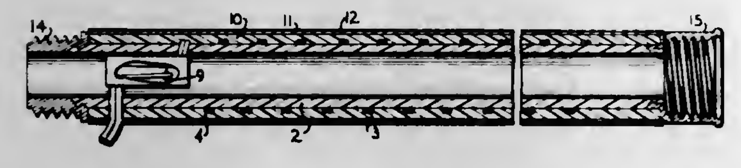


An improved welding sleeve comprising a plurality of turns of insulated, electrical resistance wire that are joined together. The insulated resistance wire is embedded throughout its length in a sheath of thermoplastic material having a rectangular cross section wherein one pair of opposed sides is substantially longer than the second pair of opposed sides. The welding sleeve is formed by fusing together, throughout their length, helically wound abutting turns of the insulated resistance wire to provide a unitary coil. In one embodiment, the wire is oriented with the elongated opposed sides of the sheath parallel to the direction in which the coil turns are serially aligned. The resistance wire is coated with an insulator prior to being embedded in the sheath, the insulator being adapted to retain its integrity as an insulation coating at the temperature at which the sheath fuses.

3,378,673
ELECTRICALLY HEATED HOSE ASSEMBLY

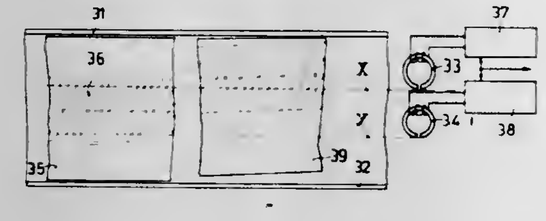
Thomas O. Hopper, 145 N. Grant, Colby, Kans. 67701
Filed Oct. 18, 1965, Ser. No. 496,785
1 Claim. (Cl. 219—301)

A water supply conduit protected from freezing under cold conditions, and including an elongate flexible tubular body in the form of a hose having couplings at opposed ends. The hose has a heater structure spirally wrapped thereon and in the form of a double row of high resistance electrical wires covered with heat transmittable electrical insulation, the wires being connectable to a source of electrical power, and having a thermostat in contact with the body for controlling electrical supply, a layer of molding material covering the heater and thermostat and maintaining the same against the surface of the body, and a layer of reflective covering secured by adhesive to the surface of the retaining material to reflect inwardly heat radiated from the heater tape.



3,378,674
INFORMATION STORAGE SYSTEM

Jacob Marinus Unk, The Hague, and Oscar Augustus Guinau, Haarlem, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed May 13, 1963, Ser. No. 279,941
Claims priority, application Netherlands, May 15, 1962, 278,483
2 Claims. (Cl. 235—61.12)

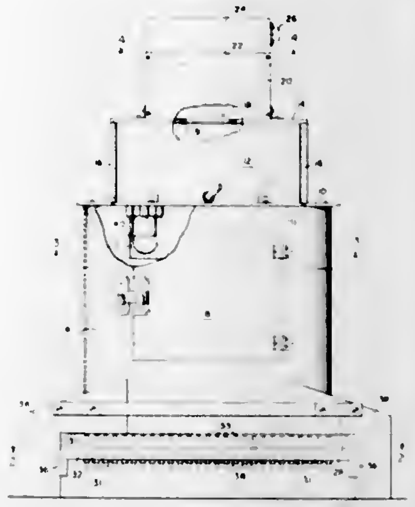


1. An information storage system comprising a substantially rectangular printed document of predetermined size with coded information printed thereon corresponding at least in part to readable information printed on said document, said coded information being positioned in a zone on said document, said zone extending parallel with one edge of said document and having a width not substantially less than one quarter of the corresponding predetermined dimension of said document, a plurality of parallel linear variably spaced code marks in said zone, said marks extending the full width of said zone; a conveyor means for transporting said printed documents, said conveyor means having a width larger than said predetermined width of said printed document for receiving said printed documents which may vary in size and vary in position; and means for reading said coded information on said document, said reading means including at least one scanning head, said scanning head being positioned adjacent said conveyor for scanning said zones on said variably sized and variably positioned printed documents.

3,378,675
MOTOR ACTIVITY INDICATOR

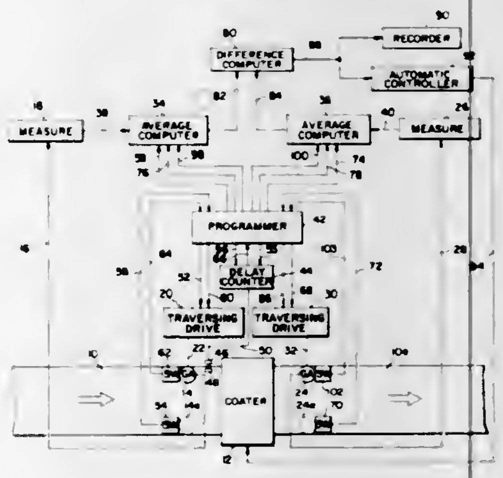
William H. Cromley, Springfield, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
Filed Sept. 1, 1964, Ser. No. 393,504
4 Claims. (Cl. 235—92)

An apparatus for indicating the degree of activity of laboratory animals comprises an illuminated platform and a lens for projecting the image of an animal on the platform onto an array of photocells, electrically connected in parallel. A differentiator provides an output whenever a change occurs in the number of photocells covered by the image of the animal. A counter receives the output of the differentiator and counts the number of such changes.



3,378,676
SYSTEM EMPLOYING PLURAL TIME-SPACED AVERAGE COMPUTATIONS FOR MEASURING A SECOND VARIABLE CHARACTERISTIC IMPARTED TO A MATERIAL INITIALLY HAVING A FIRST VARIABLE CHARACTERISTIC

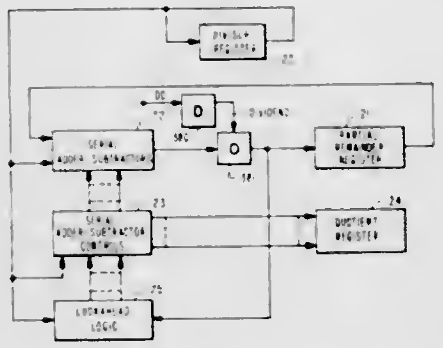
John C. Clement, Devon, Pa., assignor to Industrial Nucleonics Corporation, a corporation of Ohio
Filed July 16, 1963, Ser. No. 295,337
13 Claims. (Cl. 235—151.3)



1. In combination with apparatus wherein a base material having a first variable characteristic is passed through a process for imparting to the material a second variable characteristic to form a modified material, a first means gauging said base material for providing a first signal that is variable with said first characteristic, a second means gauging said modified material for providing a second signal that is variable with both said first and second characteristics, means for generating a mathematical integral of said first signal computed over a first time period, means for generating a mathematical integral of said second signal computed over a second time period, means controlling the operation of said integral generating means in a time sequence whereby the beginning of said second time period follows the beginning of said first time period after a time interval equal to the delay between said gauging of said base material and said gauging of said modified material, and means for mathematically combining said generated integrals of said first and second signals to provide an output signal indicating a function of said second characteristic that is corrected for variations in said first characteristic.

3,378,677
SERIAL DIVIDER

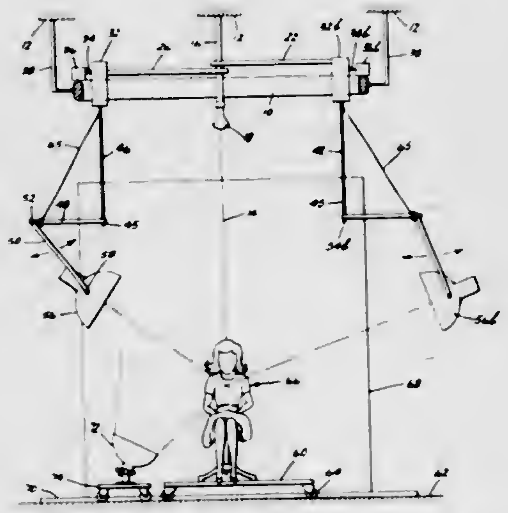
Donald E. Waldecker and Leonard C. Higby, Jr., Endicott, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Oct. 4, 1965, Ser. No. 492,551
12 Claims. (Cl. 235—164)



A serial divider is provided with an arithmetic device having a plurality of adder-subtracter units in tandem each of which yields a quotient but during each iteration, and control means is provided with logic circuits which sample the results during one iteration to provide appropriate control signals for the adder-subtracter units during the next iteration.

3,378,678
LIGHTING SYSTEM FOR PHOTOGRAPHY

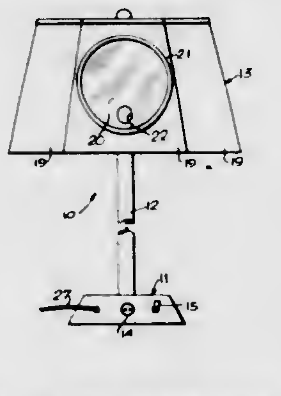
Kenneth C. De Groff, 1920 S. Michigan St., South Bend, Ind. 46618
Filed June 17, 1965, Ser. No. 464,724
18 Claims. (Cl. 240—1.3)



A lighting apparatus for photography having a circular track mechanism and a plurality of photographic lighting devices mounted on the track mechanism for independent movement. Each of the lighting devices are connected to the track mechanism by an elongated arm. Each arm is connected at one end to a member depending from the track mechanism in a manner allowing universal swiveling movement between the arm and the depending member and is similarly connected at the other end to one of the lighting devices. The arms and lighting devices depend from the track. The lighting devices are universally movable into a desired position by means of a remote control mechanism. A single beam-producing lamp is mounted in the center of the track mechanism to emit a beam of light downwardly and thereby to indicate the intersection of a vertical axis passing through the center of the track mechanism with the floor surface therebelow. A platform mounted on rollers and movable over the floor surface below the track mechanism is provided for supporting the subject to be photographed. A back drop and a lighting device mounted on a track mechanism in the floor is provided for controlled shadow effects.

3,378,679
COMBINATION LAMP AND MIRROR

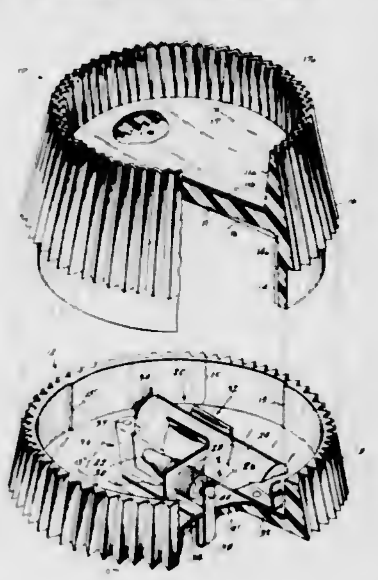
Aime Trudeau, P.O. Box 3734, Miami, Fla. 33101
Filed Apr. 18, 1966, Ser. No. 543,298
7 Claims. (Cl. 240—4.2)



A translucent floor or table lamp shade having a mirror fixed against the side thereof and being at least partially transparent or translucent for illumination, by an associated light source surrounded by the shade, of the face of the person observing his image in the mirror.

3,378,680
COMBINED ILLUMINATED COASTER AND HOLDER

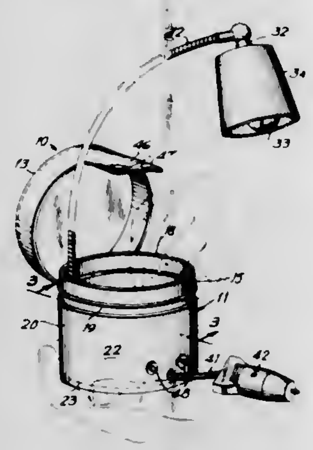
Elmer D. Moxley, 14 Narcissa Drive, Palos Verdes Peninsula, Calif. 90274
Filed Mar. 16, 1966, Ser. No. 534,797
11 Claims. (Cl. 240—6.4)



A holder or coaster for beverage glasses comprising a truncated, cone-shaped assembly including separable lower base and upper receptacle members having inner and outer light-diffusing, serrated surfaces formed from transparent, high-impact polystyrene wherein adjacent portions of said base and receptacle portions comprise overlapping, eccentric and rotatably interlocking portions forming an enclosure for electrical circuit means for illuminating said coaster, beverage glass and contents.

3,378,681
TRAVELING LAMP CONSTRUCTION

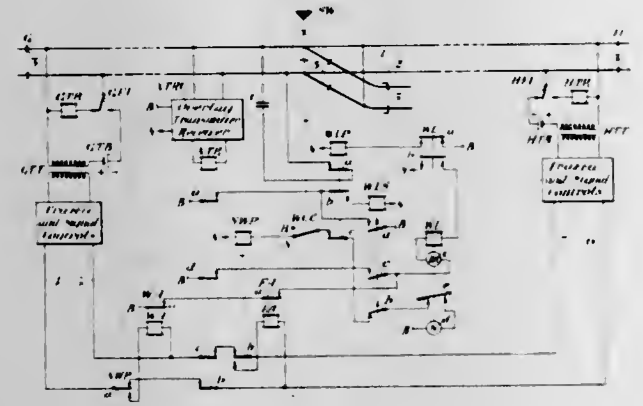
Elliott Meyer, New York, and Marvin Cooper, New Rochelle, N.Y., assignors to Dynamic Classics Ltd., New York, N.Y., a corporation of New York
Filed Oct. 23, 1965, Ser. No. 502,968
5 Claims. (Cl. 240—8.18)



A lamp construction employing a gooseneck-type socket support and a spool-wound electric supply cord, all of which are quickly and easily removable from a single, extremely small container for use, and returnable to the container for storage.

3,378,682
RAILROAD SWITCH LOCK RELEASE CIRCUITS

Charles W. Failor, Forest Hills, Pa., assignor to Westinghouse Air Brake Company, Swissvale, Pa., a corporation of Pennsylvania
Filed Aug. 9, 1966, Ser. No. 571,209
12 Claims. (Cl. 246—219)



1. In a railroad signal system for a stretch of single track over which trains move in both directions, said system including apparatus for controlling train carried signal apparatus, a control arrangement for switch lock apparatus applied to an intermediate track switch within said stretch, comprising in combination,

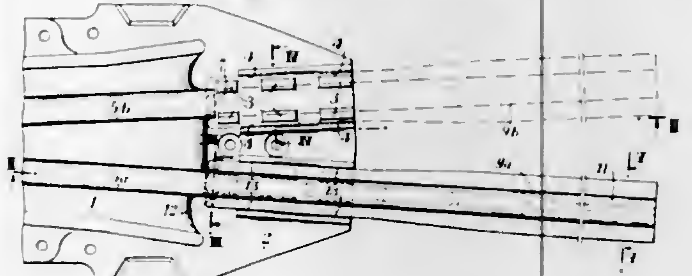
(a) transmitting and receiving means adapted to be connected to the rails in the vicinity of said intermediate switch for detecting independent of said signal system a train occupying a predetermined zone of said stretch,

(b) auxiliary circuit means connected for cooperating with said transmitting and receiving means and controlled by said switch lock apparatus for activating said transmitting and receiving means to detect train occupancy of said predetermined zone only when preliminary preparations for releasing said switch lock apparatus have been completed,

(c) unlocking circuit means controlled by said transmitting and receiving means and further responsive to said preliminary preparations of said switch lock apparatus for completing the full release of said switch lock apparatus when said transmitting and receiving means detects a train occupying said predetermined zone.

3,378,683
CAST-STEEL RAILWAY CROSSING PIECES

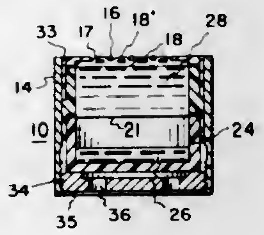
Robert Perrot, Pont-de-Briques, France, assignor to Acieries de Paris et d'Outreau, Societe Anonyme, Paris, France, a French company
Filed Apr. 24, 1967, Ser. No. 633,003
Claims priority, application France, Apr. 26, 1966, 59,114
1 Claim. (Cl. 246—454)



Cast-iron crossing piece for railway tracks, wherein the running heads thereof terminate with a tubular portion, each end of said crossing piece comprising a bearing plate, this crossing piece being characterized in that said tubular portion is truncated in order to provide a clearance under the remaining tubular portion, above the bearing plate, and that said bearing plate is formed with bearing bosses and guiding bosses adapted to permit the proper positioning and welding of connecting members extending between the aforesaid tubular portions and the Vignoles rails of the track, in perfect alignment with said tubular ends of the running heads.

3,378,684
FLUID SAMPLE CELL WITH MEANS TO KEEP CONSTANT PRESSURE ON THE SAMPLE FLUID

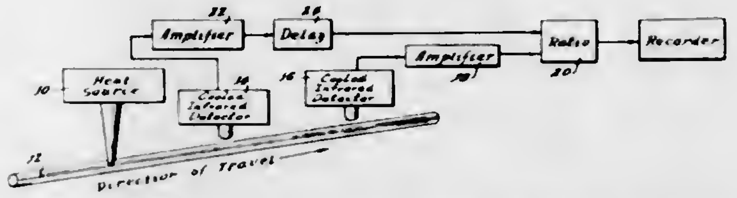
Raymond C. Mentink, Greendale, and Le Roy F. Shadd, Hales Corners, Wis., assignors to General Electric Company, a corporation of New York
Filed June 16, 1965, Ser. No. 464,424
7 Claims. (Cl. 250—51.5)



A sample cell for radiation emission analysis in a vacuum comprises a cup and a coaxially interfitting cylinder. A thin diaphragm serves as the bottom of the cylinder and separates the latter from the cup. The cylinder may be filled with fluid to be analyzed and covered with a pliable radiation transparent film. The film is secured to the cylinder with a cap having a window across which there are a few grid bars. Before assembly, the cup is partially filled with a fluid of a certain vapor pressure. When the cell is in a vacuum, the vapor pressure acts through the diaphragm to keep constant pressure on the sample fluid.

3,378,685
INFRARED NONDESTRUCTIVE TESTING TECHNIQUE INDEPENDENT OF SAMPLE SURFACE EMISSIVITY

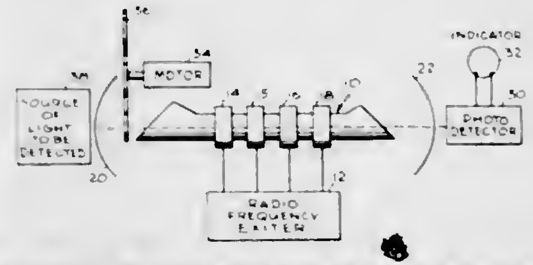
Donald R. Green and Hugo L. Libby, Richland, Wash., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed May 20, 1965, Ser. No. 457,538
9 Claims. (Cl. 250—83.3)



A sample is nondestructively tested by heating a surface portion thereof and sequentially scanning the heated surface portion with two cooled infrared detectors mounted a predetermined distance apart. The output from the first infrared detector is delayed to be coincident in time with the output from the second infrared detector. The ratio of the delayed output of the first infrared detector with respect to the ouput from the second infrared detector is measured to obtain a signal characteristic of the surface heat of said test sample and independent of surface emissivity.

3,378,686
METHOD OF OPERATING A LASER AS A SUPER-REGENERATIVE DETECTOR

Robert V. Langmuir, Altadena, Calif., assignor to California Institute Research Foundation, Pasadena, Calif., a corporation of California
Filed Apr. 8, 1963, Ser. No. 271,263
3 Claims. (Cl. 250—199)



1. A method of operating a laser as a superregenerative detector comprising:

the steps of substantially continuously applying stimulating emission to said laser, periodically interrupting the light path of said laser within the laser cavity, and shining a radiation to be detected into said laser during the intervals when the light path within said laser cavity is not interrupted.

3,378,687
SCANNING SYSTEM WHICH OPTICALLY LOCKS ON OBJECT AND MECHANICALLY SCANS SURROUNDING FIELD

Herman C. Schepler, Torrance, Calif., assignor, by mesne assignments, to TRW Inc., a corporation of Ohio
Filed June 25, 1963, Ser. No. 290,367
6 Claims. (Cl. 250—203)

4. In combination,

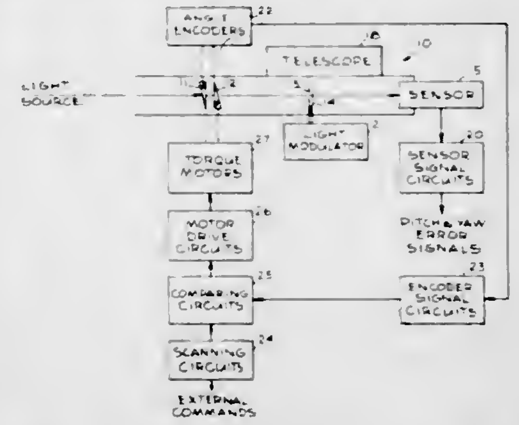
aperture means having a preferred field of view for passing a focussed image of energy from said field of view,

energy detecting means aligned with said aperture means for detecting said focussed image of energy passing through said aperture means,

means for generating signals connected to said energy detecting means indicative of the deviation of said focussed image of energy from a preferred location on said energy detecting means,

servo means in combination with said signal generating means and controlled by said signals for repositioning said energy detecting means whereby said focussed image of energy is maintained on said preferred location,

external observing means aligned with said energy detecting means and moved and controlled as said energy detecting means is controlled,

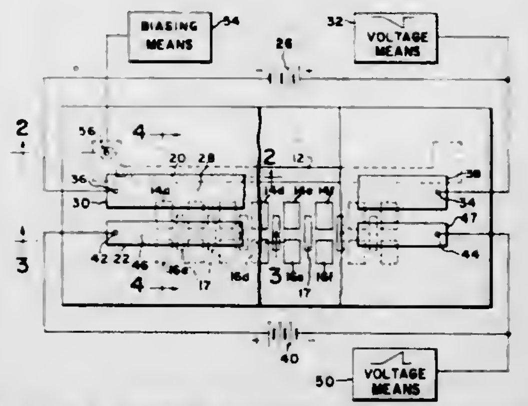


a plurality of independently rotatable prisms aligned with said aperture means and said light detecting means for intersecting said focussed image of energy, and

means for selectively and independently rotating each of said prisms whereby said observing means is caused to scan an area within said field of view while said energy detecting means remains locked on said focussed image of energy.

3,378,688
PHOTOSENSITIVE DIODE ARRAY ACCESSED BY A METAL OXIDE SWITCH UTILIZING OVERLAPPING AND TRAVELING INVERSION REGIONS

Louis J. Kabell, Palo Alto, Calif., assignor to Fairchild Camera and Instrument Corporation, Syosset, N.Y., a corporation of Delaware
Filed Feb. 24, 1965, Ser. No. 434,916
12 Claims. (Cl. 250—211)



1. An array of semiconductor devices, comprising:
a first plurality of PN junctions;
a second plurality of PN junctions; and
a means for selectively connecting at least one of the PN junctions from said first plurality with at least one of the PN junctions from said second plurality, said means including inversion means for forming a pair of traveling overlapping inversion regions.

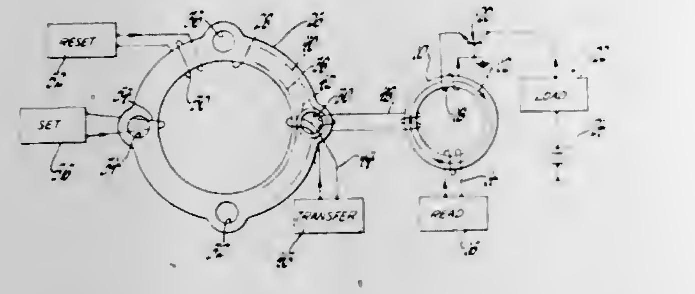
9. A solid state photosensitive device comprising:
a biasing means for supplying a reverse bias;
a solid state photosensitive diode;
a metal oxide switch connected to said photosensing diode and said biasing means to apply a reverse bias thereto when closed and to connect a very large resistance in circuit with said photosensitive diode when open, whereby a solid state photosensitive device that operates in a storage mode is formed.

3,378,689
SINGLE TRANSISTOR SYNCHRONOUS BISTABLE MAGNETIC DEVICE

William G. Trabold, Royal Oak, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Feb. 20, 1964, Ser. No. 346,134

3 Claims. (Cl. 307—88)



A bistable circuit including two magnetic core devices and a single transistor. A toroidal core is linked by output and read windings. A multiapertured core is linked with set, reset and transfer windings. A passive winding links both cores in opposite sense such that in the set condition, time-staggered transfer and read signals cause complementary magnetic reversals in the cores.

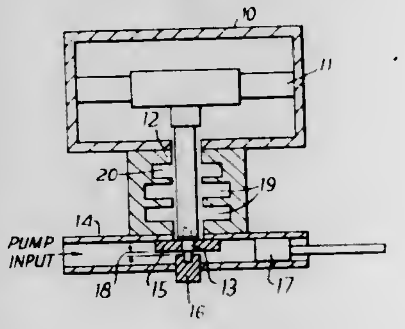
3,378,690
PARAMETRIC DEVICES INCORPORATING VARACTOR DIODES

John Arthur Dodson, Chelmsford, England, assignor to G. & E. Bradley Limited, London, England

Filed Jan. 10, 1966, Ser. No. 519,496

Claims priority, application Great Britain, Jan. 13, 1965, 1,563/65

19 Claims. (Cl. 307—88.3)



Amplifiers, frequency multipliers, and up, or down, converters are described in each of which a varactor diode is mounted in a waveguide whose cut-off frequency is above the frequency of one of the signals which must propagate if the device is to function efficiently. The cut-off frequency in the vicinity of the diode is then reduced, preferably by means of dielectric material surrounding the diode, so that the above mentioned signal can propagate in the region of the diode. A wide-band circuit for this signal is thus provided and the device also has a wide bandwidth.

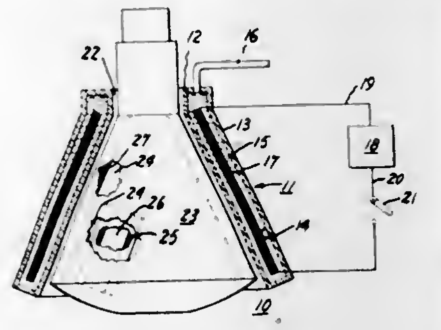
3,378,691
SUPERCONDUCTIVE SHIELD

Paul S. Swartz, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Sept. 26, 1963, Ser. No. 311,714

2 Claims. (Cl. 307—91)

2. A method of shielding a first high magnetic field strength region from a second low magnetic field strength region which comprises providing a plurality of concentric superconductive members surrounding said first region, providing an initial high magnetic field strength, cooling said first superconductive member adjacent to and immediately surrounding said first region below its critical temperature thereby causing said first member to become superconducting, decreasing the initial magnetic field strength by an amount supportable by said first member thereby causing said first member to support such a drop in magnetic field strength, cooling separately below its critical temperature each of the other superconductive members in sequence from said first superconductive member, and decreasing the magnetic field strength after the cooling of each subsequent member by an intensity equal to the drop in magnetic field strength supportable by each of said members.

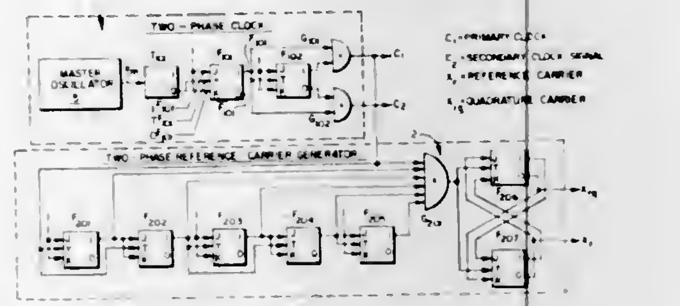


3,378,692
DIGITAL REFERENCE SOURCE

Charles E. Lenz, Fullerton, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware

Filed Sept. 8, 1964, Ser. No. 394,977

7 Claims. (Cl. 307—106)



A digital reference source providing a pair of square waves of equal period and controlled 90° phase relationship. A master oscillator produces a train of pulses at regularly spaced intervals. A counter counts the pulses and produces an output when a predetermined count has been reached. The counter output is ANDed with pulses from the clock to provide trigger pulses at regular predetermined intervals. A pair of flip-flops, responsive to the trigger pulses, are interconnected so that consecutive trigger pulses change the state of alternate flip-flops. The flip-flops provide square wave outputs, the leading and trailing edges of which are accurately synchronized with the clock pulses.

3,378,693
IMPULSE SENDER FOR THE DRIVE OF TIMING DEVICES, PREFERABLY AUTOMATIC PERMANENT CALENDARS

Karl Wilhelm Schmidt, Idar-Oberstein, Germany, assignor to Firma Gebruder Schmidt Metallwarenfabrik, Idar-Oberstein, Germany, a corporation of Germany

Filed July 21, 1965, Ser. No. 473,799

Claims priority, application Germany, July 25, 1964, Sch 35,527

4 Claims. (Cl. 307—132)

1. An impulse sender for the drive of timing devices, comprising

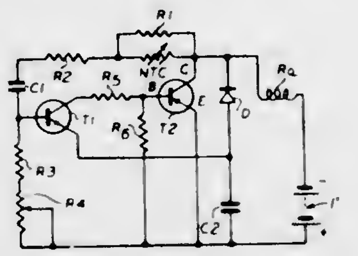
a multivibrator including

a voltage source and an outer resistance disposed in series,

a condenser disposed in parallel with said voltage source and said resistance and charged from said voltage source during the impulse spacing,

a time condenser disposed in parallel with said voltage source and said outer resistance, and

switching means disposed in series with said condenser for separating said condenser from said voltage source during the impulse duration, and charging said time condenser from said condenser.

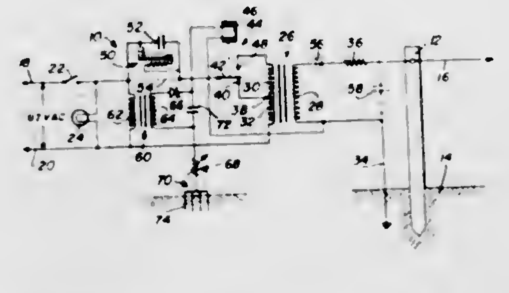


3,378,694
VOLTAGE CHANGING POWER SUPPLY FOR ELECTRIC FENCES

Thurman F. Griffeth, % Cache Valley Enterprises, Inc., Preston, Idaho 83263

Filed Feb. 4, 1966, Ser. No. 525,255

8 Claims. (Cl. 307—132)



1. In combination with a fence or the like having an electrically conductive element adapted to be grounded by an object in contact with the soil, a voltage changing power supply connected to said conductive element comprising a power transformer having an output winding and at least two input winding sections, a current limiting resistor connecting said output winding to the conductive element, a constant voltage source, relay means connecting said transformer to the voltage source for energization of at least one of the input winding sections, and condition sensing circuit means connected to the relay means for increasing the number of input winding sections energized by the voltage source in response to changes in the conductivity of the soil to thereby reduce the potential applied to the conductive element.

3,378,695
INTEGRATED MAJORITY LOGIC CIRCUIT UTILIZING BASE-CONNECTED PARALLEL-TRANSISTOR PAIRS AND MULTIPLE-EMITTER TRANSISTOR

George F. Marette, Minneapolis, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed July 30, 1964, Ser. No. 386,157

13 Claims. (Cl. 307—211)

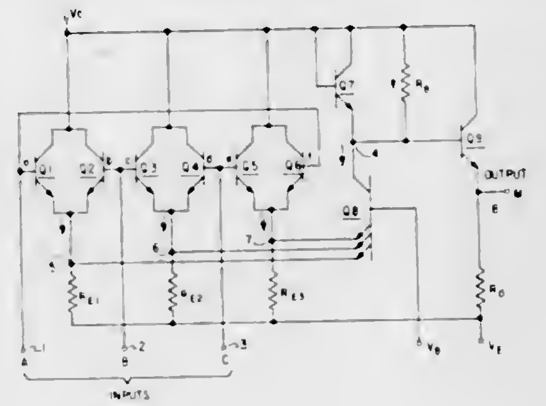
1. A solid state logic circuit comprising:

(a) three pairs of like polarity transistors, the transistors of each said pair having the same electrodes of their emitter-collector paths connected to a first source of biasing potential, having the other electrodes of their emitter-collector paths connected together and to a second source of biasing potential through a common impedance individual to said pair, and having their base electrodes adapted to receive at least one input electrical signal to selectively vary conduction in each said transistor;

(b) a multiple-emitter transistor having three emitter electrodes each of which is connected to both of said other electrodes of a different said transistor pair, said multiple-emitter transistor further having its base electrode connected to a source of biasing potential, and its collector electrode connected to a source of biasing potential through an impedance;

(c) an output terminal connected to said last named collector electrode; and

(d) a voltage clamping means connected across said last named impedance for substantially maintaining the voltage at said output terminal constant for any number of forward biased emitters of said multiple-emitter transistor.

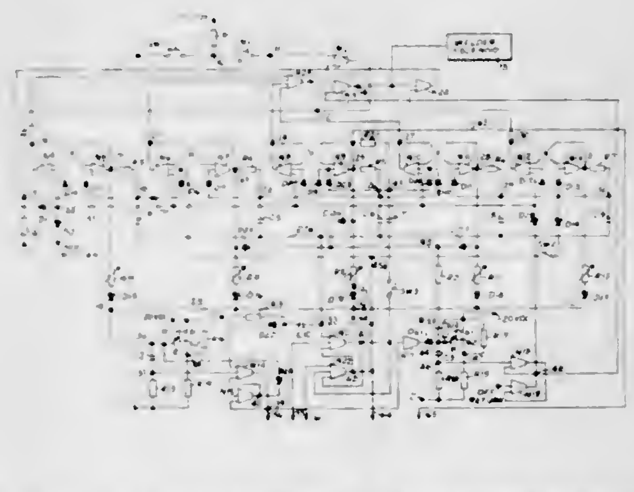


3,378,696
SOLID STATE SEQUENCING AND TIMING AND HEAT CONTROL CIRCUIT FOR A RESISTANCE WELDER

James J. Eckl and Marvin A. Guettel, Milwaukee, Wis., assignors to Square D Company, Park Ridge, Ill., a corporation of Michigan

Filed Dec. 24, 1964, Ser. No. 420,897

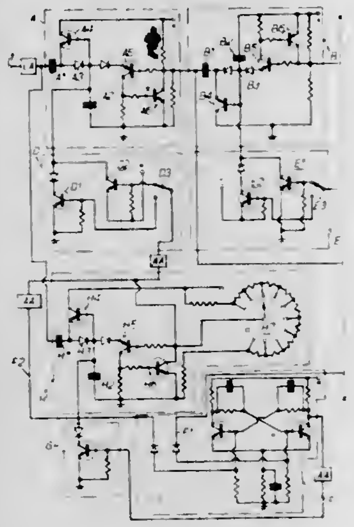
13 Claims. (Ci. 307—221)



A solid state circuit having a shift register to control the sequencing and the rate of discharge of a single timing capacitor for timing the duration of a plurality of operations, an emergency stop circuit which checks the duration of each operation, a circuit which eliminates false starts due to leakage current around the initiating switch and a circuit wherein the transformers for providing the lead-trail, delayed firing and heat control functions in a resistance welder control circuit are eliminated.

3,378,697
FREQUENCY DIVIDERS ADJUSTABLE OVER A WIDE RANGE OF DIVISION FACTORS

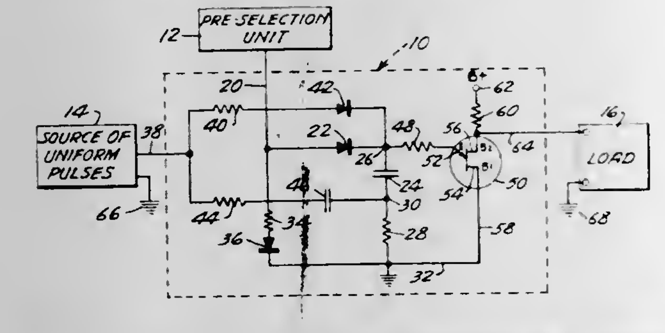
Brian Preston, Chelmsford, and Anthony Denis Carroll, Writtle, England, assignors to The Marconi Company Limited, London, England, a British company
Filed Mar. 11, 1965, Ser. No. 438,980
Claims priority, application Great Britain, Mar. 18, 1964, 11,415/64
15 Claims. (Cl. 307—225)



An adjustable frequency divider is provided which may readily be adjusted to give any desired factor of division over a wide range. The divider consists of a frequency dividing unit of the staircase voltage type which, if undisturbed, will provide a predetermined count. A control arrangement is provided whereby either the staircase voltage reached by the unit may be returned to its initial value after the unit has made a count which is less than its normal predetermined count, thereby causing the unit to commence a new count or the staircase voltage reached by the unit may be increased after the unit has made a count less than its normal predetermined count to the value of voltage which would normally be reached only at the end of the unit's predetermined count. The unit is connected to apply output pulses to a further frequency dividing unit of the staircase voltage type, this second unit being adjustable in count and the control means for disturbing the count of the first-mentioned unit being activated by pulses derived from the second, adjustable unit.

3,378,698
PULSE RESPONSIVE CONTROL UNIT

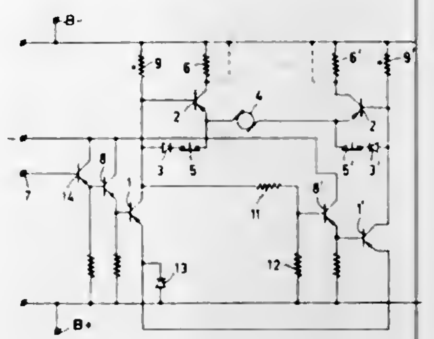
Hassan B. Kadah, Manlius, N.Y., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Apr. 23, 1965, Ser. No. 450,355
10 Claims. (Cl. 307—225)



A pulse responsive control unit comprising a control circuit having a storage capacitor and a device exhibiting negative resistance characteristics which is actuated when the capacitor charge reaches a predetermined level and a separate precharge circuit for applying a precharge level to the capacitor for selectively determining the number of pulses required to actuate the control circuit for operating an output device is shown.

3,378,699
ELECTRICAL CONTROL CIRCUITS

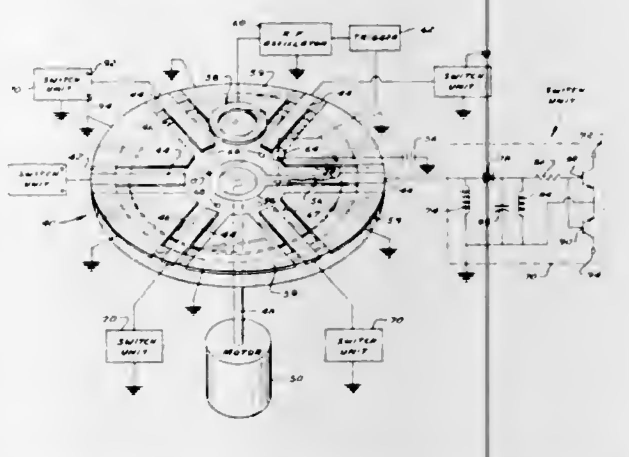
Anne Hendrik Bruinsma and Johannes Meyer Cluwen, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 22, 1965, Ser. No. 427,234
Claims priority, application Netherlands, Feb. 11, 1964, 64—1,113
5 Claims. (Cl. 307—241)



5. An electrical control device for reversing the current through a load, comprising: first, second, third and fourth transistors, circuit means for connecting the emitter-collector paths of the first and second transistors in series with a source of supply voltage and with a diode connected between the collector of the first transistor and the emitter of the second transistor, circuit means for connecting the emitter-collector paths of the third and fourth transistors in series with a source of supply voltage and with a diode connected between the collector of the third transistor and the emitter of the fourth transistor, means for applying control signals to the bases of said first and third transistors, a load connected to the junction between said diode and the emitter of the second transistor, a first common current-limiting element having a non-linear current-voltage characteristic curve coupled to the collector circuit of the first transistor and the base circuit of the second transistor, and a second common current-limiting element having a non-linear current-voltage characteristic curve coupled to the collector circuit of the third transistor and the base circuit of the fourth transistor.

3,378,700
HIGH FREQUENCY SWITCHING SYSTEM

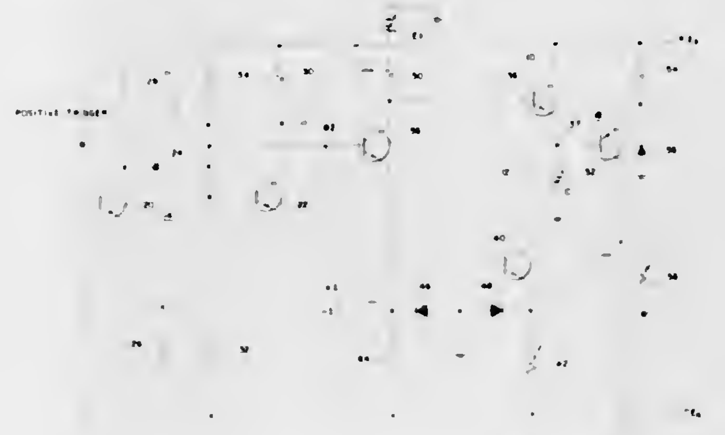
John L. Stewart, Menlo Park, Calif., assignor to Santa Rita Technology, Inc., Menlo Park, Calif., a corporation of Arizona
Filed Sept. 21, 1965, Ser. No. 488,984
5 Claims. (Cl. 307—254)



A plurality of fixedly disposed capacitor plates are arranged in an angularly spaced relation with each other and a second capacitor plate is rotated relative to the fixed plates. A transistorized switching unit is connected to each of the fixedly disposed plates so that whenever the movable plate comes into juxtaposition with a given fixed plate, the switch is changed from one conductive state to a different conductive state. Photoelectric means are employed for assuring that the switching unit is switched only when the movable capacitor plate is in alignment with one of the fixed plates.

3,378,701
DIRECT COUPLED PULSE TIMING APPARATUS

Richard W. Frank, Concord, Mass., assignor to General Radio Company, Concord, Mass., a corporation of Massachusetts
Filed May 21, 1965, Ser. No. 457,566
6 Claims. (Cl. 307—265)



The present disclosure deals with a direct coupled pulse timing apparatus that, through a novel combination of a ramp generator, bistable control means initiating the ramp generator and terminating the same, and trigger means for setting the control of the bistable control means, obviates the complexity of prior art AC coupled circuits and their susceptibility to "lock-out" and other disadvantages.

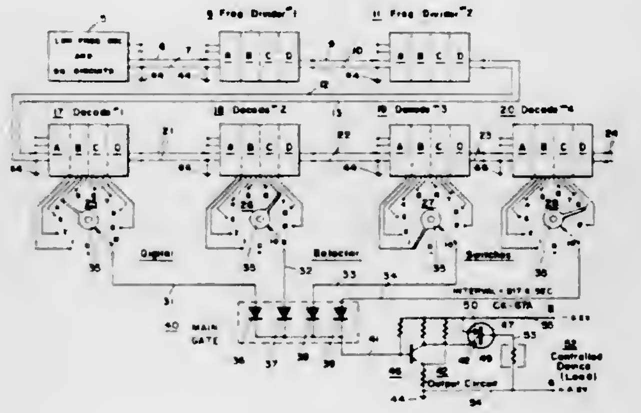
3,378,702
PULSE GENERATOR EMPLOYING UJT RELAXATION OSCILLATOR WITH PARTICULAR CONTROL CIRCUITRY

Nelson W. Burke, Stoneham, Mass., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Sept. 29, 1965, Ser. No. 491,104
10 Claims. (Cl. 307—265)

A pulse generator using a unijunction transistor relaxation oscillator has a constant charging current transistor for charging the timing capacitor and a gated discharge transistor to rapidly discharge the capacitor to a pre-set voltage level. Pulse control of the peak point voltage for the unijunction transistor improves the precision of timing to correspond to that of the pulse source and a control of the discharge transistor from the circuit's own pulse output permits the device to be used as a precision delay for the start of the pulse output.

3,378,703
TEMPERATURE COMPENSATED DIGITAL TIMER FOR PRECISELY CONTROLLING TRIGGERING OF FUZE

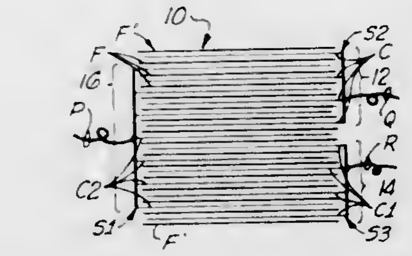
Robert G. Huxster, Oak Ridge, and Walter S. Katz, Sparta, N.J., assignors to The United States of America as represented by the Secretary of the Army
Filed July 6, 1964, Ser. No. 380,715
4 Claims. (Cl. 307—293)



An electronic timing system having four stage binary decade frequency divider and counter circuits which reduce the basic frequency supplied by temperature compensated inductively coupled oscillator and provide the desired time delay. A load circuit including an SCR is connected to receive a final single output pulse at the end of each timing cycle to control the initiation of pulse-responsive devices.

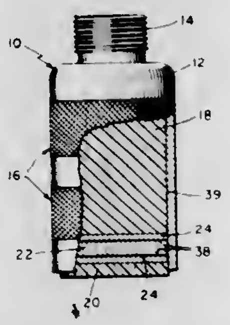
3,378,704
PIEZOELECTRIC MULTILAYER DEVICE

Kenneth F. Miller, Riverside, and Melvin H. Smith, Perris, Calif., assignors to Bourns, Inc., a corporation
Filed Jan. 5, 1966, Ser. No. 518,902
5 Claims. (Cl. 310—9)



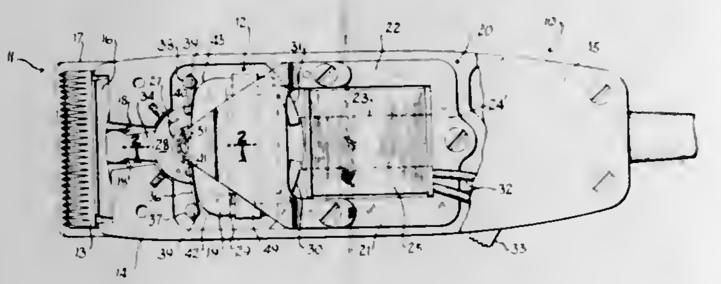
1. A piezoelectric device comprising:
an integral block-like structure comprising a unitary mass of polarized polycrystalline piezoelectric material comprising structurally integral first and second sets of individually-insulated superposed thin electrically-conductive elements more than two in number and said portions each containing a respective portion of a third set of individually-insulated thin electrically-conductive elements, the said conductive elements of said third set thereof being distributed among and alternating with conductive elements of the said first and second sets of elements; and
first and second electric terminal means the first of which is connected to said third set of conductive elements and the second of which is connected to said first and second sets of conductive elements.

3,378,705
ULTRASONIC TRANSDUCERS AND METHOD OF MANUFACTURE THEREOF
John P. Bacon, Delran, N.J., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Jan. 26, 1966, Ser. No. 523,161
5 Claims. (Cl. 310—9.5)



1. In an ultrasonic transducer, a transducer element, an electrically conductive metallic foil electrode bonded to at least one face of said transducer element, said one face of said transducer element including said electrode having a multiplicity of discontinuities formed over substantially the entire said one face to thereby cancel local stress areas produced by unintentional local stress buildup areas on said one face by distributing stresses substantially evenly between a multiplicity of stress risers introduced by said discontinuities.

3,378,706
VIBRATORY MOTOR, ESPECIALLY FOR HAIR CLIPPERS
Robert D. Franzene, Chicago, Ill., assignor to Deltrol Corp., Bellwood, Ill., a corporation of Delaware
Filed Oct. 8, 1965, Ser. No. 494,045
10 Claims. (Cl. 310—29)



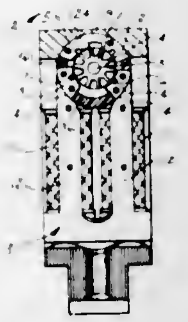
8. In combination with a vibratory motor having a permanent magnet armature mounted to oscillate about a fixed axis past a center position of the armature, and electromagnetic means to impositively effect such oscillation of the armature, means to limit oscillatory motion of the armature and to cushion the same as it approaches its limits of motion, comprising:

(A) a pair of fixed anchor members equidistantly spaced to opposite sides of the armature axis;

(B) a shoulder on the armature at each side of said axis, said shoulders having convex surfaces which extend substantially equal distances outwardly of the armature axis and face toward but recede from a plane containing said anchor members;

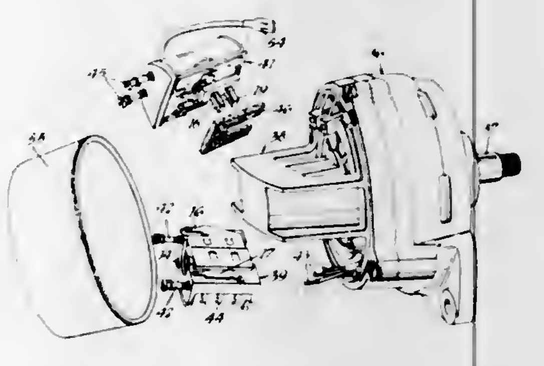
(C) and spring blade means having arms connected with the anchor members and extending toward the armature axis to cooperate with said shoulders, the portions of the arms remote from said anchor members being adapted to substantially lightly resist oscillatory motion of the armature in a zone extending a short distance to each side of its center position, and portions of the arms nearer the anchor members being adapted to yielding resist oscillatory motion of the armature beyond said zone with a force that rises substantially abruptly to a value equaling the magnetomotive force exerted on the armature as each shoulder portion nears its adjacent anchor member, so as to limit motion of the armature and cushion the same as it nears its limits of motion.

3,378,707
STEP MOTOR INCLUDING A U-SHAPED CORE WITH ALTERNATELY ENERGIZABLE FIELD WINDINGS THEREON
Eugen Schweitzer, Munich, Germany, assignor to Movit Industrieanstalt, Schaan, Liechtenstein, a corporation of Liechtenstein
Filed Jan. 7, 1965, Ser. No. 424,048
Claims priority, application Germany, Jan. 22, 1964, M 59,640
14 Claims. (Cl. 310—49)



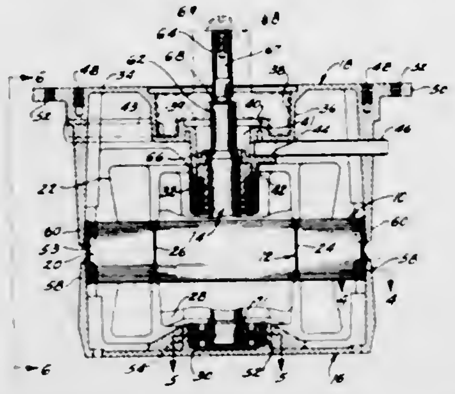
A step motor having a toothed rotor supported on a rotatable axis within a rotor housing and a stator which is provided with at least two alternately excitable field windings carried by magnetic cores. The magnetic cores are held in contact at one end thereof with radially arranged pole shoes, which pole shoes comprise a portion of the rotor housing and are spaced around the periphery of the rotor with the pole shoes associated with one field winding being displaced approximately a half tooth spacing relative to the pole shoes associated with the other field winding.

3,378,708
ALTERNATORS
Alfred Dickens Baker, Solihull, England, assignor to Joseph Lucas (Industries) Limited, Solihull, England
Filed Apr. 12, 1965, Ser. No. 447,275
Claims priority, application Great Britain, Apr. 28, 1964, 17,502/64
1 Claim. (Cl. 310—68)



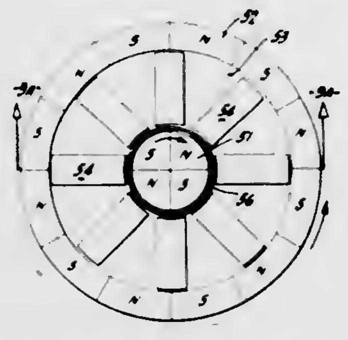
An alternator includes a casing, a rotor mounted for rotation in the casing and carrying a field coil, brushes through which the field coil is energised, a stator surrounding the rotor and having windings from which the alternator output is obtained, and a voltage regulator controlling curent flow to the field winding. The brushes are carried by an insulating member which is formed with recesses within which components of the voltage regulator are located.

3,378,709
ELECTRIC MOTOR CONSTRUCTION INCLUDING IMPELLER CAVITY
Neal B. Royer, Des Peres, Clinton H. Dederick, Brentwood, and John G. Lewis, Dellwood, Mo., assignors to Emerson Electric Co., St. Louis, Mo., a corporation of Missouri
Filed June 30, 1965, Ser. No. 468,439
6 Claims. (Cl. 310—90)



5. An end shield for an electric motor comprising an end wall having a flat mounting surface on one side thereof, a plurality of circularly arranged integral leg portions projecting from the other side thereof for attachment to a motor stator, a central integral boss projecting from said other side of said end wall to a lesser extent than said leg portions, a longitudinal bore through said boss and a motor shaft bearing fitted in said bore near the projecting end of said boss, and an impeller cavity formed in said boss concentric with said bearing and entering from said one side of said end wall.

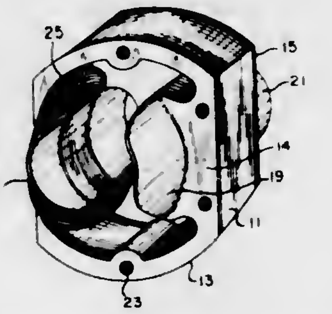
3,378,710
MAGNETIC TRANSMISSION
Thomas B. Martin, Jr., Danville, Calif., assignor to Micro Pump Corporation, Danville, Calif., a corporation of California
Filed June 1, 1964, Ser. No. 371,479
17 Claims. (Cl. 310—104)



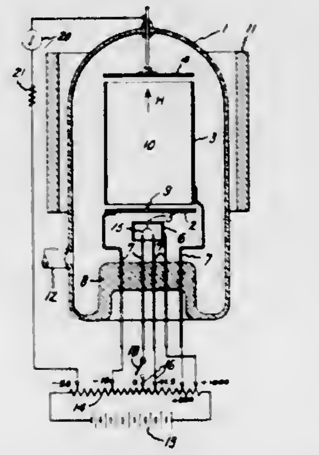
A magnetic drive similar to a planetary gear mechanical drive is provided. Thre elements having a common axis of revolution are provided, namely—an outer ring magnet, an intermediate planet ring having a plurality of substantially radial magnetically permeable bars, and a sun magnet. One of the elements is power-driven and a second element is then driven. The drive may be used to achieve a speed increase or decrease.

3,378,711
STATOR STRUCTURE FOR DYNAMO-ELECTRIC MACHINES
Roy L. Swanke, Newington, Conn., assignor to Dynamics Corporation of America, New York, N.Y., a corporation of New York
Filed Oct. 19, 1965, Ser. No. 497,620
7 Claims. (Cl. 310—260)

An end lamination which becomes an integral part of the lamination stack of the field structure of an electric motor. The end lamination includes a plurality of arcuate shroud members extending outwardly therefrom so as to provide a means for winding the associated coil in a rigid position.



3,378,712
FIELD EMISSION IONIZATION GAUGE WITH RESTRICTED LINE OF SIGHT BETWEEN FIELD EMISSION ANODE AND ION COLLECTOR
James M. Lafferty, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Nov. 18, 1966, Ser. No. 595,468
8 Claims. (Cl. 313—7)



1. An ionization device adapted to produce or measure ultra high vacua in a closed system of the order of 10^{-13} mm. Hg or less and comprising an evacuable envelope adapted to be connected to a vacuum system and including:

(a) A cylindrical anode member;

(b) A cathode and shield member at one end of said anode member and electrically insulated therefrom,

(b1) Said cathode and shield member having a small aperture at substantially the center thereof which is substantially along the longitudinal axis of said cylindrical anode member;

(c) An ion collector means at the end of said anode opposite from said cathode and shield member and electrically insulated therefrom;

(d) Said anode member, said cathode and shield member and said ion collector means defining an interaction space wherein electrons, may describe elongated curvilinear paths with a high probability of collision with gas molecules to produce positive ions,

(e) Means external of said interaction space for injecting electrons through said apertured cathode and shield member and including

(e1) A pointed field emission cathode, and

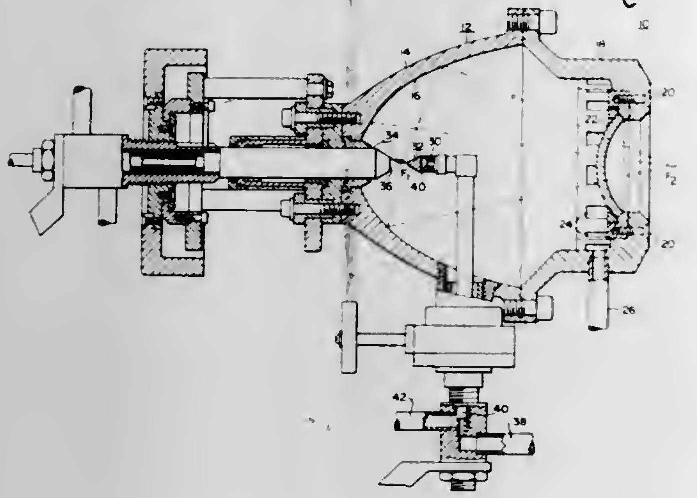
(e2) A cylindrical field emission anode surrounding said field emission cathode and located substantially on said longitudinal axis, said field emission anode having a central aperture on said axis larger than said small aperture, whereby the area of said ion collector within line of sight of said field emission anode is minimized.

3,378,713
HIGH-INTENSITY RADIATION SOURCE COMPRISING ROTATING ARC

Howard C. Ludwig, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 8, 1965, Ser. No. 462,359

7 Claims. (Cl. 313—32)



An arc-discharge apparatus particularly adapted as a high intensity light source with an improved electrode structure. The arc-discharge is constricted as a small cross-sectional plasma and a portion of the plasma is circulated through an aperture extending through the anode. The hollow elongated anode has an internal core portion with a conductor spirally wound thereabout, in order to provide an exterior magnetic field transverse to the arc path. The resulting force causes the arc to be displaced in a rotational direction on the anode end surface allowing for improved heat dissipation.

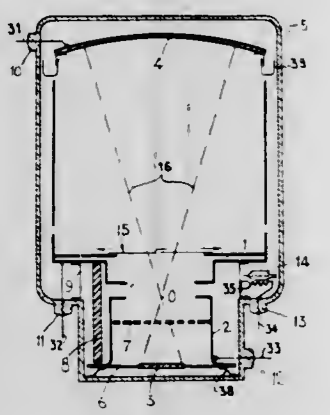
3,378,714
IMAGE CONVERTER TUBES WITH IMPROVED DUST SCREEN AND DIAPHRAGM MEANS

Lucien F. Guyot and Bertrand M. Driard, Paris, and Francis Sirou, Epernon, France, assignors to Compagnie Francaise Thomson Houston-Hotchkiss Brandt, Paris, France, a corporation of France

Filed Jan. 10, 1967, Ser. No. 608,314

Claims priority, application France, Jan. 18, 1966, 46,245; Mar. 11, 1966, 53,055

11 Claims. (Cl. 313—65)



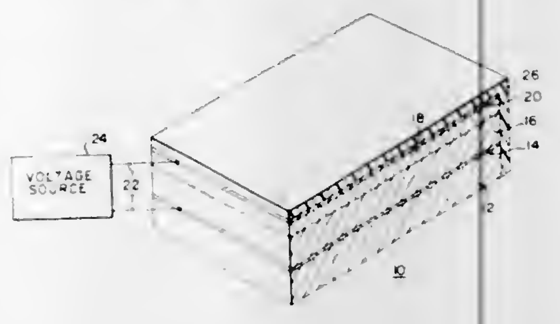
An image converter such as a brightness amplifier, having a fine-mesh conductive wire screen extending across the electron path beyond the lens and ahead of the viewing screen, for protecting the inner face of the viewing screen against dust particles generated in the major cavity of the tube. The dustshield screen is positioned to cause minimal distortion of the equipotential surfaces of the lens, and is mounted on a supporting diaphragm plate which affords protection against stray electrons.

3,378,715
ELECTROLUMINESCENT DEVICE WHICH INCORPORATES BARIUM OXIDE FILMS AS BREAKDOWN PROTECTION

William A. Thornton, Jr., Cranford, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 16, 1966, Ser. No. 527,819

7 Claims. (Cl. 313—108)



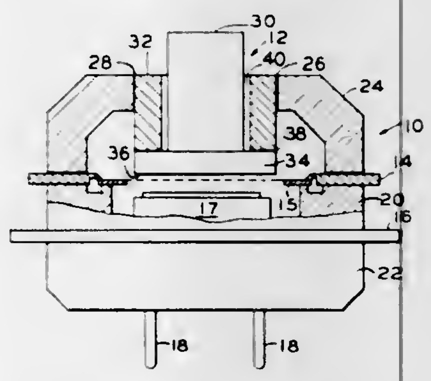
1. An electroluminescent device which is energizable to a high brightness with a low applied potential, said device comprising:
- a substrate means;
- a first electrode carried on said substrate means;
- a substantially continuous phosphor layer disposed over said first electrode;
- a thin continuous barium oxide dielectric film tightly tightly adhered to said phosphor layer, said barium oxide film having a high electrical breakdown strength and a high dielectric constant, and said barium oxide film constituting a desiccant for moisture; and
- a second electrode over said barium oxide layer, said first and second electrodes adapted to have a potential applied thereacross for energizing said device; whereby said barium oxide film serves the plural functions of protecting said device from electrical breakdown across said electrodes, permitting a more intense electric field to be applied across said phosphor layer to increase the brightness of said device, and also protecting said phosphor layer from the deleterious effects of moisture through the desiccant properties of barium oxide.

3,378,716
DISCHARGE DEVICE

Gary J. Braswell and Preston L. Jolly, Owensboro, Ky., assignors to General Electric Company, a corporation of New York

Filed Apr. 2, 1965, Ser. No. 445,109

3 Claims. (Cl. 313—252)



An anode subassembly for an electric discharge device comprising a ceramic header member having an axially extending bore therethrough, and a composite anode structure having a generally tubular sheath of titanium with an outer surface portion sealed to the surface of the bore and a cylindrical molybdenum core sealed only to at least one portion of said sheath axially spaced from the portion of the sheath sealed to said ceramic.

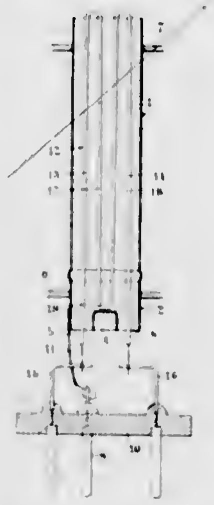
3,378,717
INDIRECTLY HEATED TUBULAR CATHODES

Jacques Deblay, Courbevoie, France, assignor to Compagnie Industrielle Francaise des Tubes Electroniques, Societe Anonyme, Courbevoie, France, a French company

Filed Dec. 9, 1965, Ser. No. 512,683

Claims priority, application France, Dec. 30, 1964, 386, Patent 1,430,195

1 Claim. (Cl. 313—337)



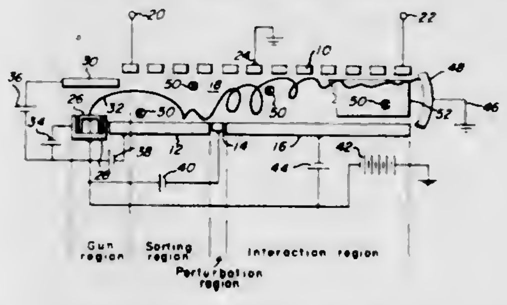
1. An indirectly heated tubular cathode comprising a metal tube of which the outer surface is coated at least partially with a thermionic emission substance and a filament bent into several sections, this filament being disposed within said tube, the cathode being characterized in that the lower end of said metal tube is pressed symmetrically from opposite sides to half the tube thickness, this double pressing operation forming a vertical partition in the median plane of the lower end of the cathode tube but only in the central portion of this tube end, whereby two apertures disposed laterally at either end of said partition are created, the two end sections of the heater filament inserted from the upper end of the tube extending through these apertures, the intermediate sections of said filament being supported by the top of said partition and thus prevented from collapsing.

3,378,718
CROSSED-FIELD TRAVELING WAVE ELECTRON REACTION DEVICE EMPLOYING CYCLOTRON MODE INTERACTION

John M. Osepchuk, Concord, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware

Continuation-in-part of application Ser. No. 106,266, Apr. 28, 1961. This application June 2, 1966, Ser. No. 562,030

5 Claims. (Cl. 315—3.5)



1. A crossed-field traveling wave electron reaction device of the cyclotron mode interaction type comprising:
- means for providing a periodic nonlinear beam of electrons along a path;
- means including a slow wave structure for guiding an electromagnetic wave;
- an elongate electrode member spaced from said slow wave structure and bounding therewith an electron beam path including a sorting region, a perturbation region and an interaction region;
- means for establishing an electric field in each of said regions transverse to the path of said electron beam and means for establishing a uniform magnetic field transverse to said electric field and said electron beam in each of said region;
- said crossed electric and magnetic fields in said sorting region initiating removal of electrons having a large transverse component of motion to result in a beam trajectory in said perturbation and interaction regions having an orbital diameter of gradually reducing dimensions about a fixed reference midplane defined by the average trajectory of translation of said beam along said path and cause said electrons to interact with said high frequency electromagnetic waves to establish a cyclotron mode velocity-phase resonance relationship defined by the equation:

$$C/V_o = C/V_e[1 \pm \lambda/\lambda_c].$$

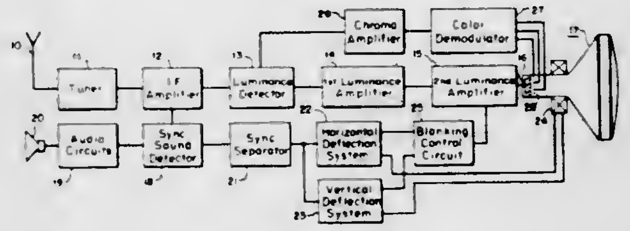
where C is the velocity of light, V_o is the phase velocity of said interacting wave, V_e is the average velocity of said electron beam, λ is the free-space wavelength of said propagated wave, λ_c is the free-space wavelength corresponding to the cyclotron frequency and the ratio C/V_o is in the range of unity to 15.

3,378,719
BLANKING SYSTEM

Eugene M. Cummings, Park Ridge, Ill., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware

Filed Mar. 31, 1966, Ser. No. 539,062

7 Claims. (Cl. 315—22)



A blanking system for a television picture tube has a source of horizontal retrace pulses, a source of vertical retrace pulses and a control circuit for deriving a composite blanking signal therefrom. One terminal of each source is returned to a plane of reference potential. The control circuit includes a pair of diodes with the anode electrode of each coupled to a common junction and to a terminal of the horizontal pulse source. The diodes are so poled at this juncture as to be reversed biased to the horizontal retrace pulses. The cathode of one diode is returned to reference potential and the cathode of the other is coupled to the source of vertical pulses. The aforesaid one diode is reversed biased relative to the vertical pulses while the other diode is forwardly biased relative thereto. A composite blanking signal is developed at the diode juncture and is coupled to the cathode of the picture tube to blank the beam during intervals corresponding to the periods of the retrace pulses.

3,378,720
ELECTRON BEAM DEFLECTION SPEED-UP CIRCUIT

Melvin V. Duerr and Mauritz L. Granberg, Minneapolis, and Jerome J. Stoffel, Farmington, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

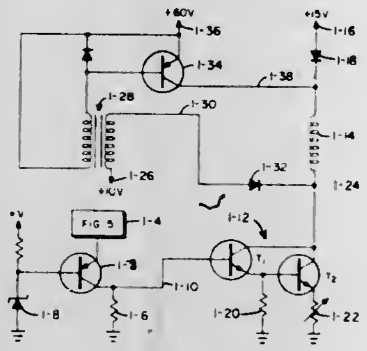
Filed Apr. 1, 1966, Ser. No. 539,443

4 Claims. (Cl. 315—27)

1. In an electron beam deflection circuit including a deflection coil having first and second terminals, a first source of potential coupled to said first terminal of said

deflection coil, an amplifier coupled to said second terminal of said deflection coil and means connected to said amplifier for causing step variations of current to flow through said coil for point-to-point tracing by said electron beam and for causing the magnitude of said step variations to increase for map and vector tracing, the improvement comprising a beam speed-up circuit for said map and vector tracing, said speed-up circuit comprising:

(a) a second source of potential having a magnitude greater than said first source of potential,



(b) means coupled to said second terminal of said deflection coil for detecting said magitude increase of step variations and producing a signal indicative thereof, and

(c) means connected to said second potential, to said detecting means, and to said first terminal of said deflection coil for applying said second potential to said coil in response to and for the duration of said signal.

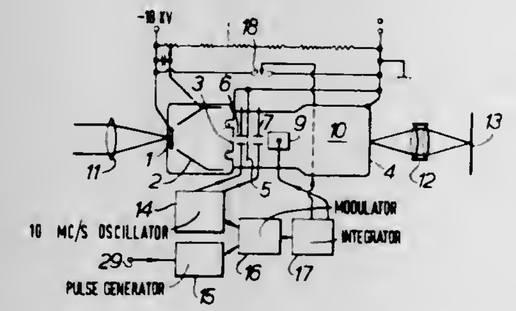
3,378,721
CAMERA TUBE DEFLECTION SYSTEM FOR PROVIDING BEAM SHUTTER ACTION

Alexander Edward Huston, Earley, Reading, England, assignor to United Kingdom Atomic Energy Authority, London, England

Filed June 1, 1964, Ser. No. 371,350

Claims priority, application Great Britain, Jan. 3, 1964 434/64

3 Claims. (Cl. 315—30)



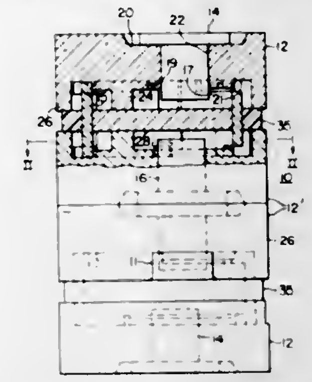
An image-tube camera includes an image-tube having a screen, an aperture plate arranged in the path of the electron beam of the image-tube, a pair of shutter deflection plates arranged to be traversed by the beam at one side of the aperture plate and a pair of compensating deflection plates arranged to be traversed by the beam at the other side of the aperture plate. First and second trains of electrical oscillations of the same frequency and wave form are applied between the pairs of shutter and compensating plates. The first train is applied between the shutter plates to sweep the beam periodically across the aperture to provide shutter action and the second train is applied between the compensating plates to produce an opposing field to immobilize the beam. The second train is displaced in phase relatively to the first train to provide two residence positions on the screen as the oscillation sweep alternately in positive and negative directions.

3,378,722
SERIES SPARK GAPS ARRANGED TO PRODUCE A MAGNETIC FIELD

Joseph C. Osterhout and Charles H. Carothers, Bloomington, Ind., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 13, 1965, Ser. No. 495,491

15 Claims. (Cl. 315—36)



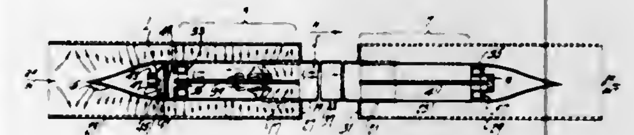
A lightning or voltage surge asserter is so constructed that upon breakdown, the arc discharge generates its own magnetic field for moving the arc from the point of sparkover and to finally interrupt it.

3,378,723
FAST WAVE TRANSMISSION LINE COUPLED TO A PLASMA

Louis S. Napoli, Hamilton Square, and George A. Swartz, Princeton Junction, N.J., assignors to Radio Corporation of America, a corporation of Delaware

Filed Jan. 2, 1964, Ser. No. 335,139

10 Claims. (Cl. 315—39)



1. Means for coupling a fast wave transmission line to a plasma at a given frequency, comprising:

(a) means for producing a plasma in a given region;

(b) means for coupling a fast wave transmisison line to the plasma in a first portion of said region to excite a fast backward wave at said frequency on said plasma for propagation to a second portion of said region; and

(c) means for changing the phase velocity of said fast backward wave during said propagation to a different value at the some frequency in said second portion.

10. A beam-plasma interaction tube comprising:

(a) means for producing a plasma in a given region;

(b) means for coupling a fast wave transmission line to the plasma in a first portion of said region to excite a fast backward wave at said frequency on said plasma for propagation to a second portion of said region;

(c) means for projecting a stream of electrons through said region in a direction parallel to the direction of propagation of said fast backward wave;

(d) means for changing the phase velocity of said fast backward wave during said propagation to a lower value at the same frequency in said second portion, for exciting a slow forward wave of said low phase velocity at said frequency on said electron stream;

(e) means for directing said electron stream from said second portion to a third portion of said region, for interaction with the plasma therein to increase the amplitude of said slow forward wave; and

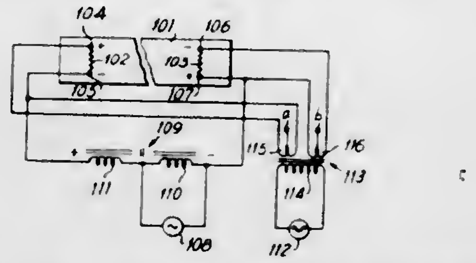
(f) means for coupling said amplified slow forward wave to a fast wave transmission line.

3,378,724
TWO-FILAMENT ARC DISCHARGE LAMP HAVING ALTERNATING DISCHARGE SPOTS THEREON

Isao Kaneda and Ikuo Kanayama, Otsu Shiga, Yoshiro Kitagawa, Kusatsu Shiga, and Hiroshi Kita, Otsu Shiga, Japan, assignors to New Nippon Electric Company Ltd., Osaka, Japan

Filed Aug. 3, 1965, Ser. No. 476,895

11 Claims. (Cl. 315—97)



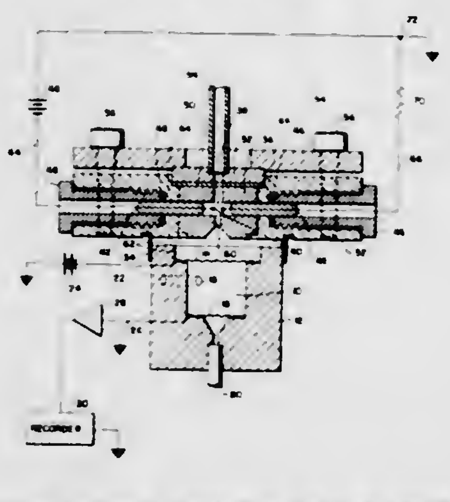
To provide a high output apparatus for a discharge lamp without reducing the lamp life and efficiency as compared with that of conventional operation, it is incorporated into a circuit which causes alternating discharge spots to be formed on the filaments. This is achieved by applying a different frequency across the filaments than the frequency applied between the filaments.

3,378,725
ELECTRON CAPTURE DETECTOR HAVING SEPARATE IONIZATION AND SENSING REGIONS

Julius H. Bochinski, Pasadena, and James C. Sternberg, Fullerton, Calif., assignors to Beckman Instruments, Inc., a corporation of California

Filed Apr. 15, 1964, Ser. No. 359,827

7 Claims. (Cl. 315—111)



An electron capture detector for use such as in gas chromatography having separate ionization and sensing portions with discharge electrodes and a gas chemically inert with respect to the detector in the discharge portion. An anode and cathode are positioned in the sensing portion having a gradient established thereacross not exceeding approximately .7 of a volt per centimeter per millimeter of mercury pressure therebetween to provide for electron capture operation. A sample gas contained in a carrier, inactive with respect to the sample and having no electron capture capability, flows past the anode into the sensing portion and is exhausted from a point between the anode and cathode together with the inert gas from the discharge portion.

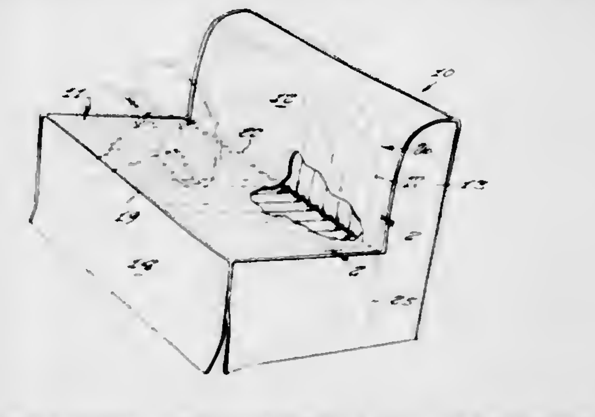
3,378,726
SHOCKPROOF AUTO SEAT AND SEAT COVER

Norman L. Lankow, 320 N. Locust, Vandalia, Ill. 62471

Filed June 6, 1966, Ser. No. 555,512

3 Claims. (Cl. 317—2)

A seat and seat cover for an automobile having a seat panel of woven fabric that is interwoven with metallic wire, the metallic wire being connected to a cable having an extending tail that is grounded to any metallic surface



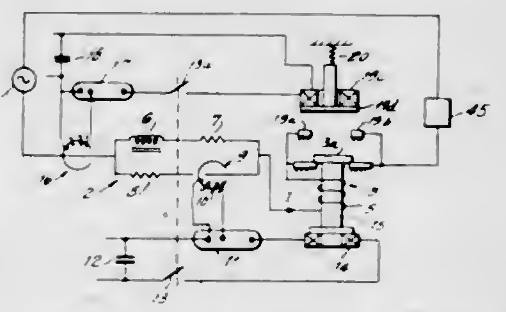
of the automobile, thus preventing the development of static electricity upon the seat which would otherwise cause a shock upon contact with a person.

3,378,727
CIRCUIT BREAKER FOR INTERRUPTING AT ZERO CURRENT AND AUTOMATICALLY RECLOSING AFTER UNSUCCESSFUL INTERRUPTION

Fritz Kesselring, Kusnacht, Zurich, Switzerland, assignor to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany

Continuation-in-part of application Ser. No. 27,437, May 6, 1960. This application May 14, 1965, Ser. No. 455,824

3 Claims. (Cl. 317—11)



A circuit breaker having a movable contact which is connected to an operating mechanism operated by two separate current sensing structures. The first current sensing structure operates to move the operating mechanism immediately prior to zero current through the contacts in order to open the contacts at substantially zero current. The second current sensing means is responsive to continued current through the contacts after current zero, which indicates a failure for the contacts to interrupt the current, and immediately closes the contacts before the current can rise to substantial values. The operating mechanism may be electrical in nature or pneumatic in nature. The first current sensing means includes a phase shift means which causes a leading relation of the output signal of the current sensing means in relation to the current being measured to permit generation of an output operating signal just prior to current zero.

3,378,728
ELECTRICAL PROTECTIVE RELAY EMPLOYING PHASE ANGLE COMPARATORS

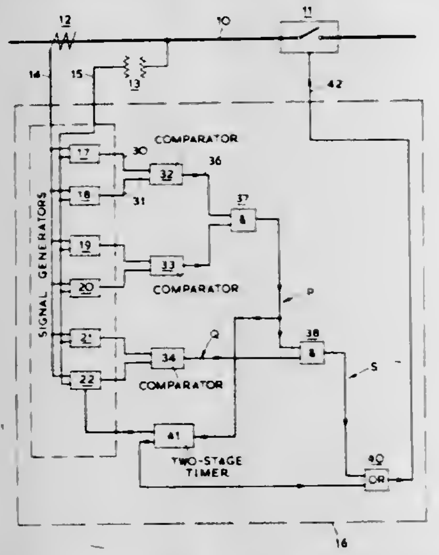
William Derek Humpage, Glossop, and Sudesh Parkash Sabberwal, Coventry, England, assignors to The English Electric Company Limited, London, England, a British company

Filed Apr. 26, 1965, Ser. No. 450,699

Claims priority, application Great Britain, Apr. 28, 1964, 17,651/64, 17,652/64

10 Claims. (Cl. 317—36)

This invention relates to an electrical protective relay whose operating characteristic, on a complex impedance plane, may be readily adjusted to closely coincide with all expected fault impedance values in a given electrical system to be protected. This versatility is derived chiefly from the use of an asymmetrical phase angle comparator which is sensitive not only to the phase angle between two input signals but also to the phase sequence of these signals, this comparator being operative to produce an output whenever its input signals occur within different predetermined phase angles lying on opposite sides of a predetermined electrical vector quantity.

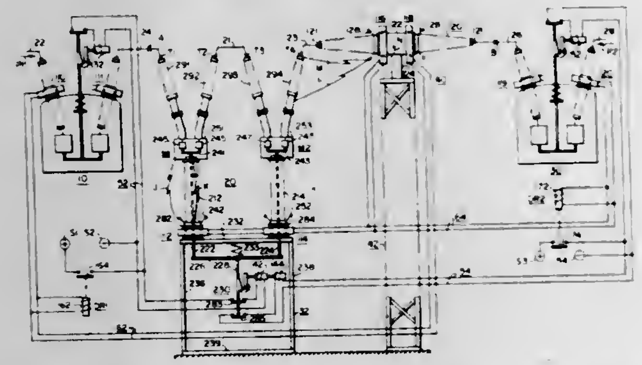


3,378,729
ELECTRICAL PROTECTIVE SYSTEM

Benjamin P. Baker, deceased, late of Monroeville, Pa., by Mellon National Bank and Trust Co., executor, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 28, 1966, Ser. No. 531,016

9 Claims. (Cl. 317—58)



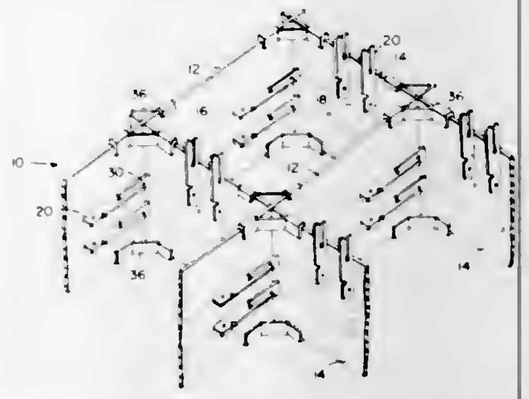
7. In combination, a circuit breaker comprising a plurality of circuit interrupting units each having separable contacts supported on a common metal supporting means through a separate insulating column, the separable contacts of the interrupting units being electrically connected in series when closed, a current transformer assembly disposed on one side of the breaker and comprising a pair of axially spaced current transformer windings mounted on and intermediate the ends of an elongated insulating bushing, said bushing having a conductor extending axially therethrough and electrically connected in series with the separable contacts of the interrupting units, the bushing being supported intermediate its ends between the pair of current transformer windings on a conducting supporting means, conductive shielding disposed on the pair of current transformer windings and the bushing and extending axially along the bushing between and beyond the pair of current transformer windings in each direction, the conductive shielding being electrically connected to the last-mentioned supporting means to provide a path for any fault along the bushing to the associated supporting means through the conductive shielding which passes through only one of the pair of current transformer windings, an additional current transformer winding disposed between each insulating column and the common supporting means, and additional conductive shielding disposed inside each additional current transformer winding and extending between the common supporting means and the associated insulating column to provide a path for any fault along each insulating column to the common supporting means through the associated additional conductive shielding which passes through the associated current transformer winding.

3,378,730
PRINTED CIRCUIT BOARD ASSEMBLY WITH RELEASABLE SECURING AND ENGAGING MEANS

Vernon J. Poehls, El Cajon, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed Sept. 1, 1966, Ser. No. 577,113

7 Claims. (Cl. 317—101)



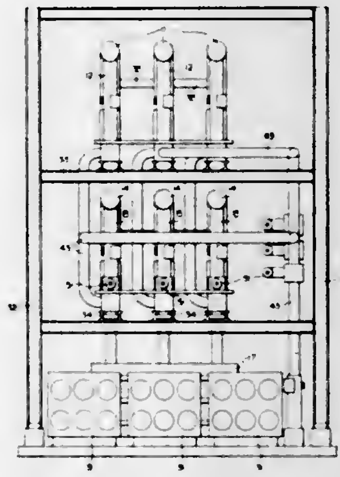
A printed circuit board interconnection apparatus including a plurality of mutually perpendicular intersecting printed circuit boards having conductors mounted thereon in correspondingly spaced relation. A connector member is mounted on each board, on the side opposite the conductors, and extends through the boards for contact with the conductors of the boards. A securing member is mounted on the edges of both boards at the position of intersection of the boards for retention of the boards in the mutually perpendicular intersecting relationship.

3,378,731
HIGH VOLTAGE SUBSTATION FOR METROPOLITAN AREAS

Daniel L. Whitehead, Franklin Township, Export, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 26, 1965, Ser. No. 474,779

4 Claims. (Cl. 317—103)



This invention relates, generally, to electric power distribution and, more particularly, to high voltage substations. More specifically, the components of a substation including a transformer, circuit breakers and disconnect

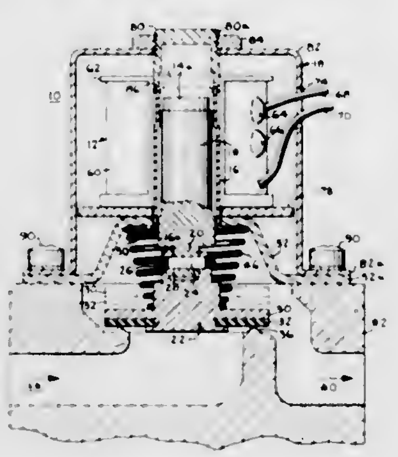
switches are mounted at different vertically spaced levels in a sectionalized structure. All of the high voltage conductors interconnecting the components of the substation are enclosed in grounded conducting pipes containing a pressurized high dielectric insulating medium, such as SF_6 gas. The components of the substation are mounted above as well as alongside the transformer to permit short bus runs with the components above the transformer being supported on a framework.

3,378,732
ELECTROMAGNETIC ACTUATOR

Gerald E. Dietz, Milwaukee, and Russell B. Matthews, Oconomowoc, Wis., assignors to Penn Controls, Inc., Goshen, Ind., a corporation of Indiana

Filed Apr. 15, 1965, Ser. No. 448,534

14 Claims. (Cl. 317—123)



A non-impact solenoid in which the path of the plunger is extended beyond the coil end by means of a hollow magnetic cap which terminates one end of the non-magnetic plunger guide. When the coil is energized, the plunger attains a magnetic "null" position without impacting the end cap. This null position is attained by balance of the magnetic forces interconnecting the plunger with the end cap and a substantially large washer of magnetic material positioned encircling the open end of the plunger guide.

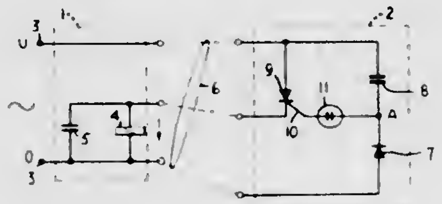
3,378,733
SUPERVISORY SWITCHING ARRANGEMENT

Arne Jensen, Havnbjerg, Als, Denmark, assignor to Danfoss A/S, Nordborg, Denmark, a corporation of Denmark

Filed May 19, 1965, Ser. No. 457,017

Claims priority, application Germany, May 22, 1964, D 44,538

6 Claims. (Cl. 317—130)



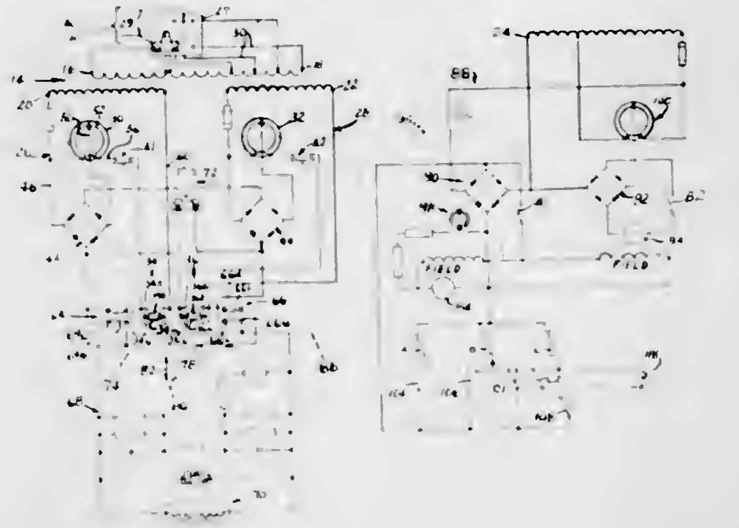
A supervisory switching arrangement to detect the presence of a flame. A sensor senses ultraviolet radiation from the flame and is rendered conductive and a solid state gate electrode is rendered conductive thereby. A potential multiplier circuit operates the sensor and a condenser therein discharges through the tube when it is conductive and has such a low value that accurately controlled current through the tube is small so that the life of the sensor is maximized.

3,378,734
METHOD OF DEMAGNETIZING

Arthur K. Littwin, Lincolnwood, Ill., assignor to Arthur K. Littwin, Robert L. Littwin, Donald F. Littwin, and Horace A. Young, Chicago, Ill., as trustees of Littwin Family Trust No. 1

Original application May 15, 1961, Ser. No. 110,116, now Patent No. 3,218,522, dated Nov. 16, 1965. Divided and this application Oct. 13, 1965, Ser. No. 495,552

10 Claims. (Cl. 317—157.5)



1. The method of demagnetizing an object comprising
(a) providing an AC source and circuit means including the object,
(b) converting the AC to DC,
(c) utilizing the circuit means for transmitting the DC to the object,
(d) reducing the voltage of the DC successively in a number of intervals in a predetermined cycle,
(e) reversing the polarity of the DC in a number of steps simultaneously with step (d) in the same cycle, and
(f) varying at least one of the two steps (d), (e) during the cycle; in the case of (d) varying the degree of reduction of voltage at each interval, and in the case of (e) varying the number of reversals.

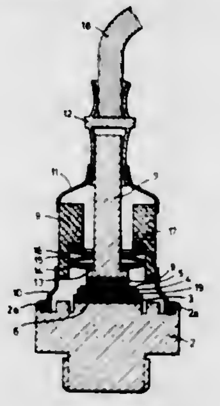
3,378,735
SEMICONDUCTOR DEVICE HOUSING WITH SPRING CONTACT MEANS AND IMPROVED THERMAL CHARACTERISTICS

Reimer Emeis, Ebermannstadt, Germany, assignor to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany

Filed June 9, 1964, Ser. No. 373,689

Claims priority, application Germany, June 12, 1963, S 85,642

10 Claims. (Cl. 317—234)



A housing for an encapsulated semiconductor device has a copper base portion with a planar upper surface. The housing includes an upper portion, a lower portion affixed to the base portion and an intermediate portion of sintered aluminum oxide of high tensile and compression strength joining the upper and lower portions. The intermediate portion is of cylindrical configuration having a lip formed therein. A spring is positioned in abutment with the lip of the intermediate portion and with a semiconductor device on the planar upper surface of the copper base portion and maintains a pressure of 100 to 500 kg./cm.^{2}.

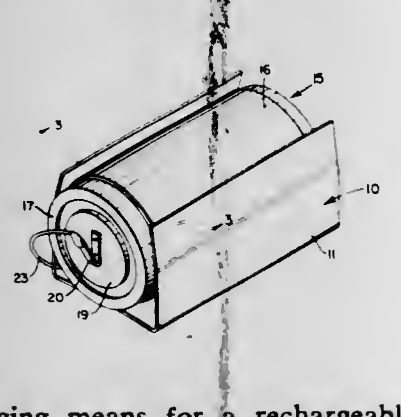
3,378,736

DIODE PACKAGING WITH INTEGRAL HEAT SINK

John S. Vale, Malden, and Daniel I. Pomerantz, Lexington, Mass., assignors to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware

Filed Oct. 20, 1965, Ser. No. 498,411

12 Claims. (Cl. 317—234)



A recharging means for a rechargeable battery cell comprised of a heat sink and a semiconductor having at least two terminals mounted on the heat sink in heat exchange contact therewith. The heat sink includes means for retaining the rechargeable battery cell.

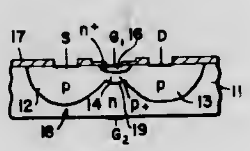
3,378,737

BURIED CHANNEL FIELD EFFECT TRANSISTOR AND METHOD OF FORMING

Joseph M. Welty, Los Altos Hills, Calif., assignor to Teledyne, Inc., Hawthorne, Calif., a corporation of California

Filed June 28, 1965, Ser. No. 467,196

2 Claims. (Cl. 317—235)



A field effect transistor having a channel which is formed by double diffusion through a single window. Two spaced p-type regions are diffused into an n-type substrate. A first p-type diffusion across the spaced regions forms a saddle where the length of the bottom of the saddle is the effective channel length. A second diffusion with an n-type material over the saddle determines the thickness of the channel.

3,378,738

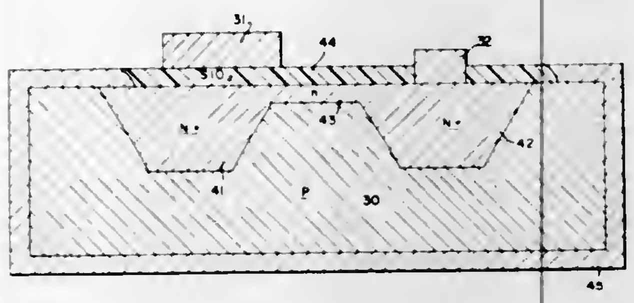
TRAVELING WAVE TRANSISTOR

George W. McIver, Playa Del Rey, Calif., assignor to TRW Inc., Redondo Beach, Calif., a corporation of Ohio

Filed Aug. 25, 1965, Ser. No. 482,348

11 Claims. (Cl. 317—235)

A field effect transistor is described in which the gate and the connector for connecting the drain define a four terminal device. The lateral distances between the input terminal on the gate and the output terminal on the gate define an input transmission line having a characteristic impedance. The space between the input and output terminals on the drain output line also define an output transmission line having a given characteristic impedance.



By careful selection of parameters it is possible to construct a field effect transistor having a definite characteristic impedance predictable in advance.

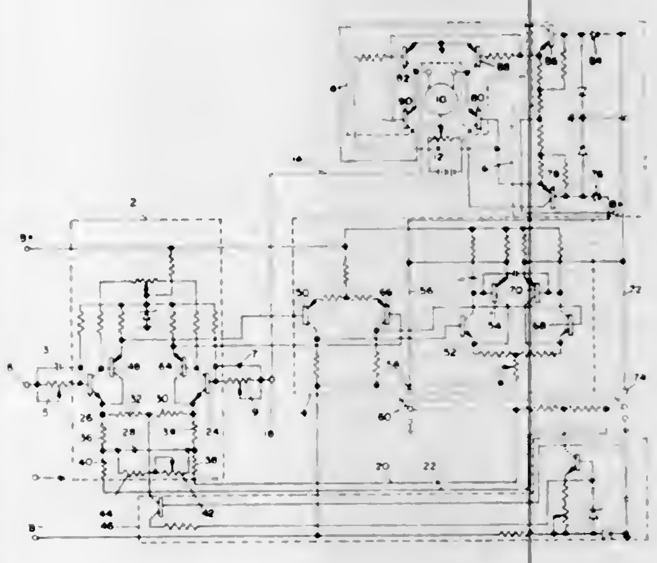
3,378,739

SERVO AMPLIFIER INCLUDING FILTER MEANS FOR REDUCING RESPONSE TIME

Ray K. Livengood, Torrance, Calif., and Robert N. Miller, Dallas, Tex., assignors to Ling-Temco-Vought, Inc., Dallas, Tex., a corporation of Delaware

Filed Aug. 20, 1964, Ser. No. 390,829

2 Claims. (Cl. 318—18)



This invention relates to servo amplifiers having filter means interposed in the command input circuit to shape the command signal in a manner to reduce the response time of the associated servomechanism and having similar filter means interposed in the feedback input circuit to shape the feedback signal in a manner to reduce the response time of the servo amplifier.

3,378,740

DIRECT-CURRENT MOTOR CONTROL CIRCUIT EMPLOYING A PARALLEL DAMPING MEMBER

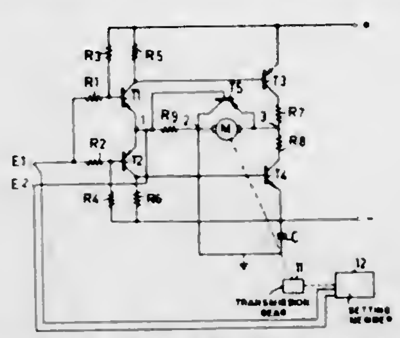
Rolf Cruel, Hamburg, Germany, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Apr. 27, 1964, Ser. No. 362,776

Claims priority, application Germany, Apr. 27, 1963, P 31,690

3 Claims. (Cl. 318—18)

A control system for a reversible motor having a constantly excited field, consisting of a difference amplifier connected to apply current in different directions through the armature. A damping member, such as a resistor, is connected in parallel with the armature. The damping member may also be a transistor connected to conduct only when the motor approaches the desired position from one direction.



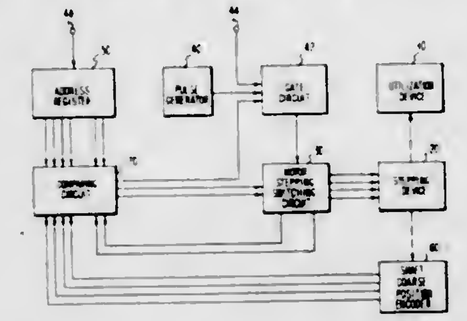
3,378,741

DIGITAL COARSE AND FINE STEPPING MOTOR CONTROL USING AN ENCODER FOR COARSE POSITION

John Stuart Sutton, San Jose, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Sept. 18, 1964, Ser. No. 397,395

8 Claims. (Cl. 318—18)



A utilization device is positioned by a stepping motor or the like in response to the entry of a binary coded address in an address register. The instantaneous position of the device is obtained in binary coded form for comparison in a logic circuit arranged to gate pulses to the stepping motor at constant speed until the addresses are identical at which time the motor is stopped and detented. The coarse positioning of the motor and the device is obtained by a mechanical position encoder. The fine positioning of the device and the motor is obtained from the output terminals of bistable electric switching circuits which cyclically and selectively energize windings of the motor to step it in response to the pulses gated by the logic circuit.

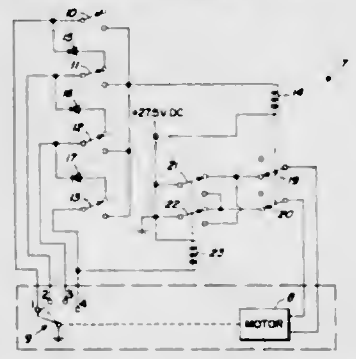
3,378,742

SEEKING SWITCH MOTOR CONTROL SYSTEM

Donald L. Telkamp, Dallas, Tex., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed July 15, 1964, Ser. No. 382,737

18 Claims. (Cl. 318—33)



This invention describes a circuit for accurately controlling the angular position of a shaft by means of an electrical motor control circuit. The circuit includes a seeking switch, the rotor of which is constrained to rotation with the motor shaft. The switch is connected in the circuit controlling motor energization. The inventive motor control circuit is capable of both controlling energization of a reversible motor and sensing the direction of operation necessary for the motor shaft to reach the desired angular position.

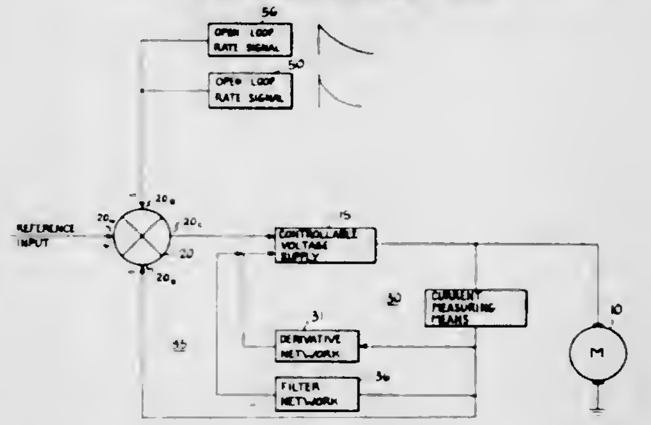
3,378,743

CURRENT REGULATOR FOR MOTOR CONTROL SYSTEMS INCLUDING AN OPEN LOOP SIGNAL WHICH IS COMBINED WITH A CURRENT FEEDBACK SIGNAL UPON OCCURRENCE OF AN EVENT

Earnest F. Weiser, Erie, Pa., assignor to General Electric Company, a corporation of New York

Filed Feb. 26, 1965, Ser. No. 435,647

9 Claims. (Cl. 318—52)



A control circuit for causing a current regulator in a motor control system to provide a predetermined degree of regulation upon the occurrence of some event, such as a wheel slip or the addition of a step-like increase in the voltage applied to a motor armature, regardless of the level of the motor current at the time of this occurrence. The control circuit causes an open loop signal to be developed which, when added to a signal proportional to the motor current, comprises a feedback signal of preselected magnitude that produces the predetermined degree of regulation. After the occurrence of the event, the open loop signal decays at a controlled rate which limits the maximum rate at which the motor current can be increased due to the action of the current regulator itself.

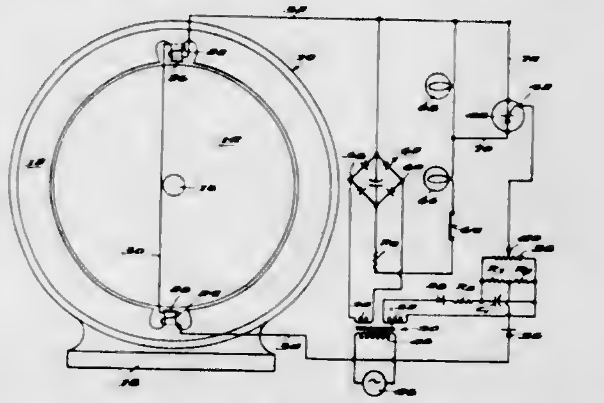
3,378,744

SLIP DETECTION CIRCUIT

John Seymour Seney, Seaford, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Oct. 19, 1965, Ser. No. 497,790

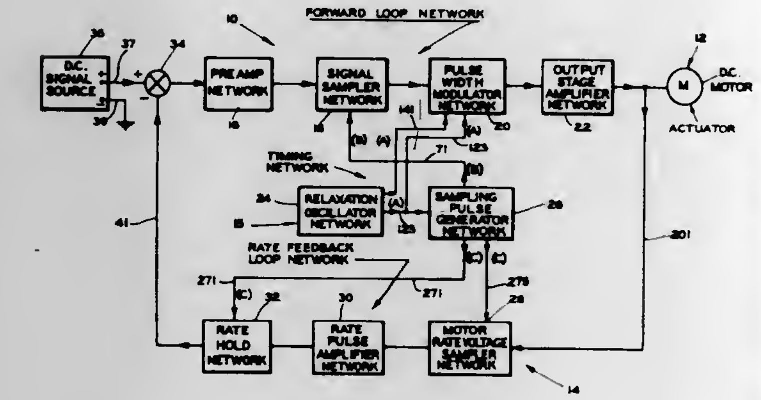
4 Claims. (Cl. 318—167)



An auxiliary circuit has flux-sensing coils located adjacent the stator of a synchronous motor and connected to both an avalanche device and a component for indicating variations of the current induced in the coils which variations, in turn, indicate occurrence of pull-out.

3,378,745
RATE FEEDBACK LOOP NETWORK

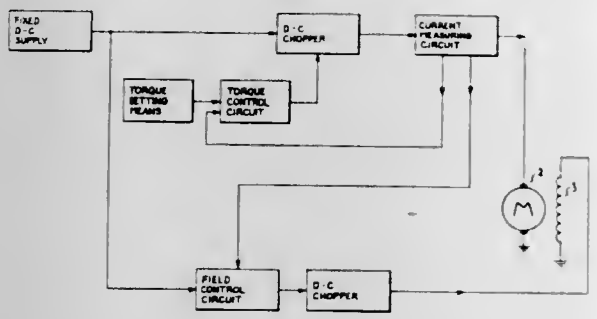
Robert L. James, Bloomfield, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Filed Oct. 15, 1965, Ser. No. 496,577
5 Claims. (Cl. 318—331)


FORWARD LOOP NETWORK
10
36
37
34
D.C. SIGNAL SOURCE
PREAMP NETWORK
SIGNAL SAMPLER NETWORK
PULSE WIDTH MODULATOR NETWORK
OUTPUT STAGE AMPLIFIER NETWORK
12
M
D.C. MOTOR
ACTUATOR
16
18
20
22
141
123
71
TIMING NETWORK
24
15
RELAXATION OSCILLATOR NETWORK
125
SAMPLING PULSE GENERATOR NETWORK
26
41
201
RATE FEEDBACK LOOP NETWORK
271
32
30
275
28
RATE HOLD NETWORK
RATE PULSE AMPLIFIER NETWORK
MOTOR RATE VOLTAGE SAMPLER NETWORK
14

A rate feedback loop network including means effective to sample back electromotive forces generated by rotation of a motor during intervals of interruption of direct current pulses for effecting the rotation of the motor, a hold network including a capacitor for storing the sampled back electromotive forces during the sampling intervals, said hold network including a circuit for charging said capacitor with the sampled back electromotive forces, another circuit for discharging the capacitor to vary the duration of the controlling pulses, together with means for controlling said charging and discharging circuits operative in one sense to render said charging circuit effective during the sampling intervals and operative in another sense to render said discharging circuit effective during intervals of time between said sampling intervals.

3,378,746
MOTOR CONTROL FOR CONTROLLING BOTH ARMATURES AND FIELD CIRCUITS

Earnest F. Weiser, Erie, Pa., assignor to General Electric Company, a corporation of New York
Filed Nov. 20, 1964, Ser. No. 412,809
6 Claims. (Cl. 318—332)

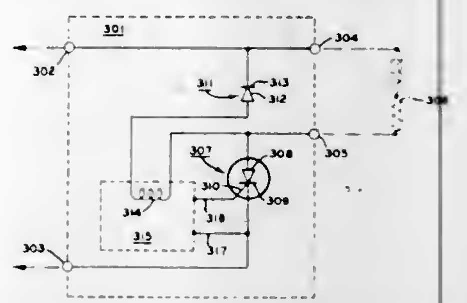


A D-C motor control system having first and second chopper circuits of controllable repetition frequency supplying power to the armature and field, respectively.

3,378,747
ELECTRICAL CONTROL SYSTEMS

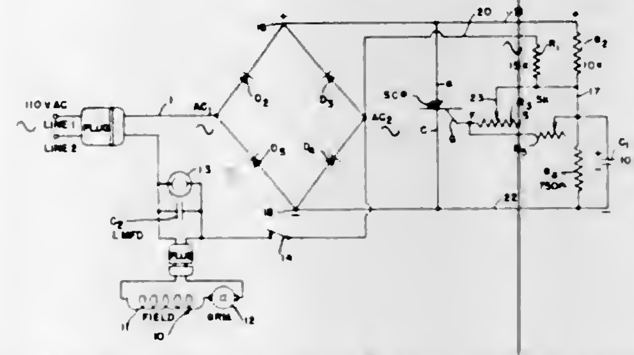
Walter J. Brown, 71 Gurley Road, Stamford, Conn. 06902
Filed Feb. 19, 1965, Ser. No. 433,863
15 Claims. (Cl. 318—345)

A closed loop electrical control system comprises a controlled rectifier supplying an inductive load and having an output which varies according to the current flow in a back rectifier which is connected across the load. The system will alternatively or additionally regulate the output, limit the maximum output current, and interrupt the output current if excessive.



3,378,748
SPEED REGULATING SYSTEM INCLUDING A RECTIFIER BRIDGE WITH A CONTROLLED RECTIFIER CONNECTED FROM ITS POLES

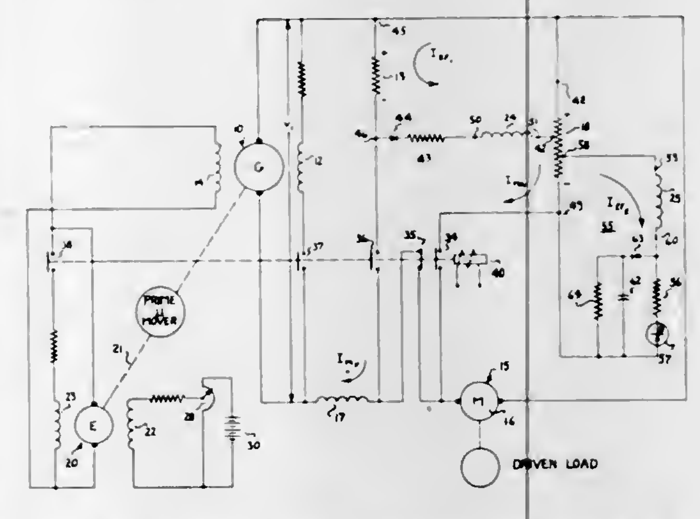
Donald E. Bull, Northlake, Ill., assignor to Webcor, Inc., Chicago, Ill., a corporation of Illinois
Filed June 14, 1965, Ser. No. 463,517
11 Claims. (Cl. 318—345)



A speed regulator for an inductive load in which a full-wave rectified signal and an alternating current or half-wave rectified signal connected to one of the terminals of the load are applied through parallel connections to the gate of a silicon controlled rectifier through a variable resistance to control the power current through the anode-cathode terminals connected across the full-wave rectified current potential.

3,378,749
DYNAMIC BRAKING EXCITATION CONTROL SYSTEM FOR DYNAMOELECTRIC MACHINES

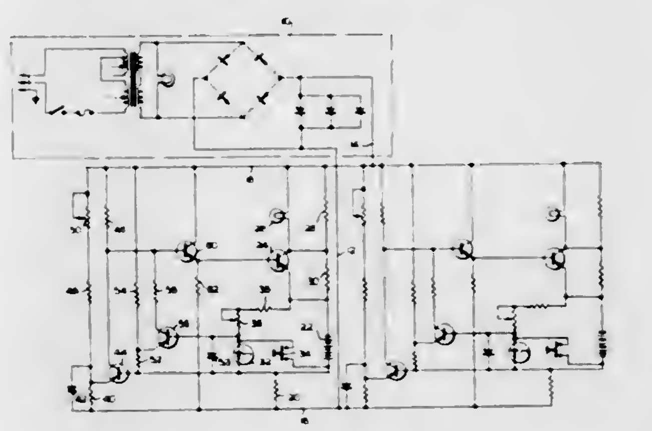
Clarence V. Cunningham, Erie, Pa., assignor to General Electric Company, a corporation of New York
Filed Apr. 17, 1964, Ser. No. 360,554
5 Claims. (Cl. 318—381)



A dynamic braking system wherein the output of a generator is connected to provide field excitation for a motor having its armature connected to a braking resistance features a regulating circuit for limiting motor armature current including an independent voltage reference with a shunt capacitance to provide a transient current by-pass path allowing energization of the motor field excitation control when a voltage derived from armature current changes.

3,378,750
TUNNEL DIODE CONTROLLED BATTERY CHARGER CIRCUIT

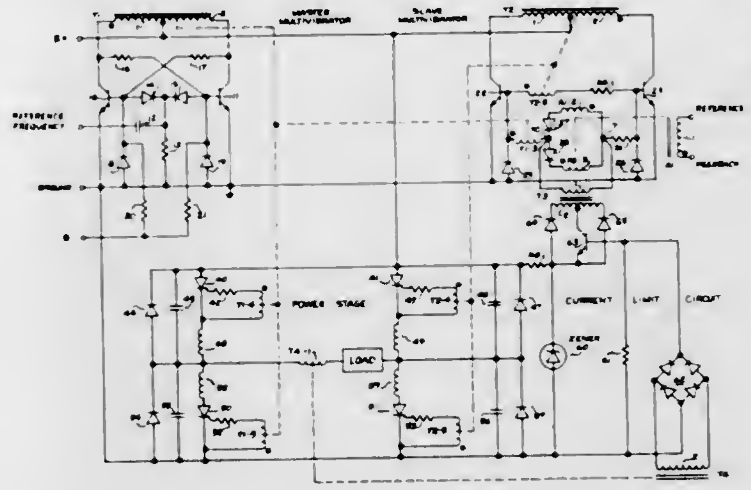
Joseph C. Hastings, Wayne, Pa., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Dec. 23, 1965, Ser. No. 515,920
3 Claims. (Cl. 320—23)



A battery charger circuit includes a power source for connection to a battery through a switching circuit. The switching circuit is switched on or off by a tunnel diode switching from one state to another dependent upon the voltage at the battery. The battery is charged at a relatively constant current while charging.

3,378,751
CURRENT LIMIT CIRCUIT FOR AN INVERTER UTLIZING A MASTER AND A SLAVE MULTIVIBRATOR

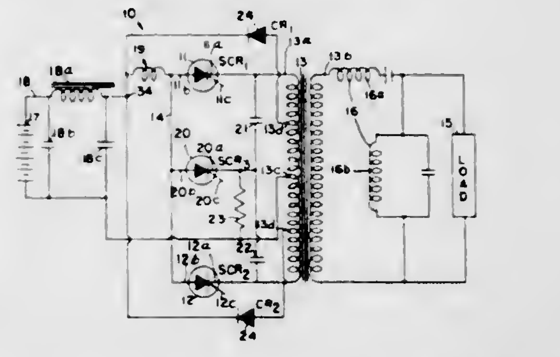
Loren H. Walker, Waynesboro, Va., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Dec. 14, 1964, Ser. No. 418,032
5 Claims. (Cl. 321—14)



A current limit circuit for an inverter wherein the inverter utilizes a master multivibrator to trigger a slave multivibrator. The phase of the slave multivibrator relative to the master multivibrator determines the magnitude of the output current and is controlled by a magnetic amplifier. The output current is sensed and compared to a maximum reference, whereby if the output current exceeds the maximum reference, the magnetic amplifier is effectively short circuited, thereby controlling the relative phase of the master and slave multivibrators to reduce the current output.

3,378,752
SILICON CONTROLLED RECTIFIER INVERTER

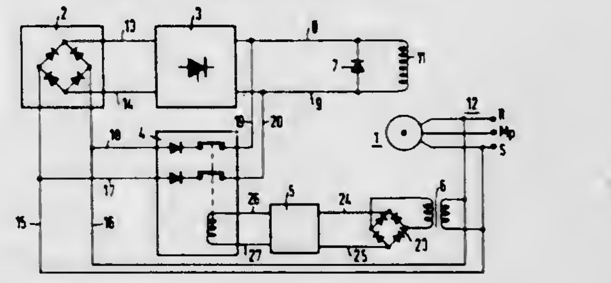
Robert W. Naylor, Weston, Ontario, Canada, assignor to CTS of Canada, Ltd., Streetsville, Ontario, Canada, a corporation of Ontario
Filed Mar. 30, 1965, Ser. No. 443,950
Claims priority, application Canada, Nov. 14, 1964, 915,627
12 Claims. (Cl. 321—18)



Improved inverter wherein a pair of parallel connected main silicon controlled rectifiers are capable of being fired 180° out of phase by the application of pulse signals to the gate electrodes thereof. Conduction of the main silicon controlled rectifiers is stopped by the firing of a third silicon controlled rectifier connected in the inverter circuit. When conducting, the third silicon controlled rectifier effectively shorts out the last triggered main silicon controlled rectifier. Feed-back means comprising a sensing circuit monitors the inverter output voltage and shifts the firing angle of the third silicon controlled rectifier to alter the firing cycle of the main silicon controlled rectifiers. In this manner a predetermined output voltage is supplied to a load. Input and output filters are also provided to improve the wave form of the inverter output voltage.

3,378,753
CIRCUIT-INITIATING SELF-EXCITATION OF A THREE-PHASE ALTERNATOR

Herbert Poppinger, Munich, Germany, Werner Volkmann, Erie, Pa., and Manfred Liska, Munich, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany
Filed May 11, 1965, Ser. No. 454,876
Claims priority, application Germany, May 14, 1964, S 91,059
14 Claims. (Cl. 322—28)

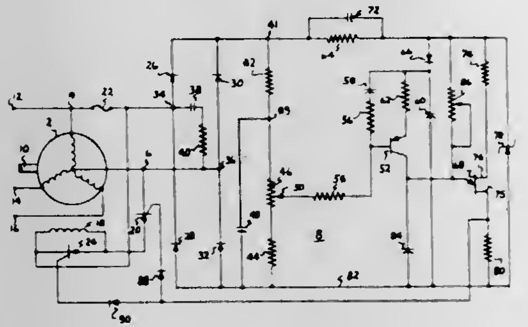


A voltage regulator provides a substantially constant DC voltage and is connected between the output terminals of an alternator and the excitation winding thereof. A switch is connected as a bridge across the voltage regulator between the output terminals of the alternator and the excitation winding thereof. A control circuit is coupled to the output terminals of the alternator for controlling the conductive condition of the switch to switch the switch to its current conducting condition thereby to short-circuit the voltage regulator and apply the output voltage of the alternator directly to the excitation winding of the alternator when the output voltage has a magnitude which is below that required for self-excitation of the alternator.

3,378,754
VOLTAGE REGULATOR WITH INVERTING CAPABILITY

George M. Rosenberry, Jr., Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Dec. 21, 1965, Ser. No. 515,436
13 Claims. (Cl. 322—28)



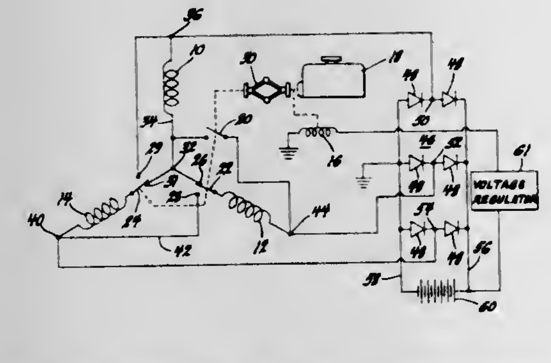
13. An excitation controller for a dynamoelectric machine having an inductive field excitation means, said controller comprising:

(a) a source of alternating-current power;
(b) means including a first controllable semiconductive device coupling said source to said field excitation means;
(c) a second controllable semiconductive device shunting said field excitation means; and
(d) regulator means including a trigger pulse circuit connected to said devices and adapted to render said devices alternately conductive in response to a sensed condition, said trigger pulse circuit providing at least one trigger pulse to said devices during each half-cycle of said source of alternating-current power even in the absence of a demand indicated by the state of said sensed condition.

3,378,755
ALTERNATOR POWER SUPPLY SYSTEM

Elbert M. Sawyer, Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Apr. 10, 1964, Ser. No. 358,909
5 Claims. (Cl. 322—29)

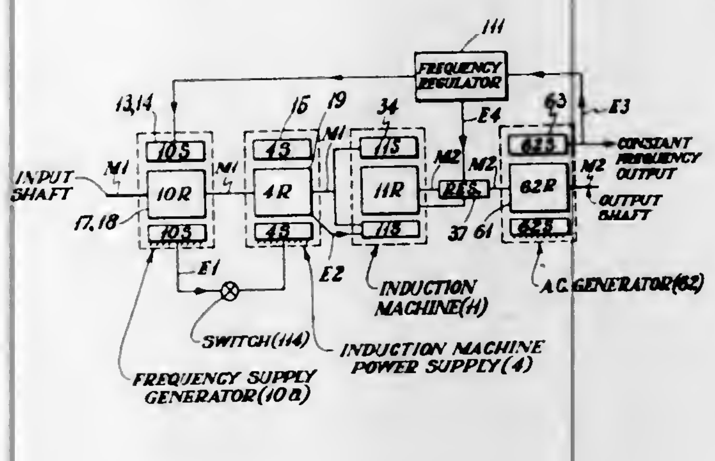


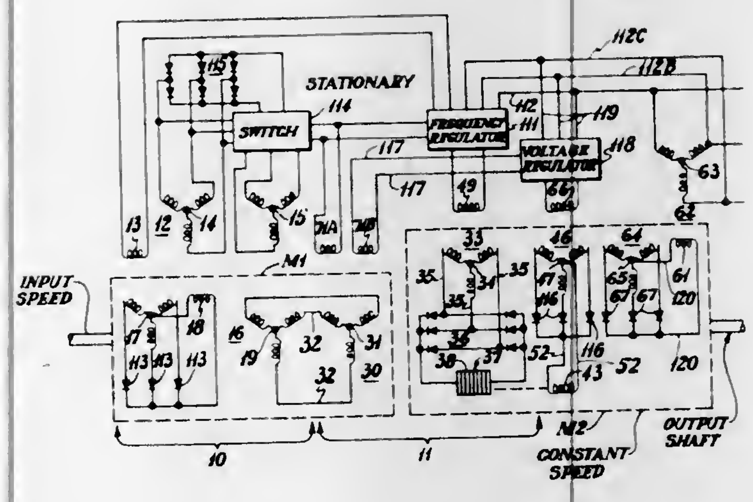
An alternating current generator is provided for feeding an electrical load. The generator has a polyphase winding which can be switched into a Y or a delta connection. The switching of the polyphase winding is controlled by various control arrangements. In one arrangement the winding is switched from Y to delta when the speed of the generator exceeds a predetermined value. The switching from Y to delta can also be accomplished in response to load current and in response to the output frequency of the voltage developed by the generator.

3,378,756
VARIABLE SPEED CONSTANT FREQUENCY GENERATING SYSTEM

Frederick M. Potter, Little Silver, N.J., assignor to The Bendix Corporation, Eatontown, N.J., a corporation of Delaware

Filed June 18, 1965, Ser. No. 465,0[illegible]3
26 Claims. (Cl. 322—32)





A constant frequency generating system in which an induction machine is provided with a frequency determined by driving speed to reduce slip losses to a minimum in providing a constant output speed therefrom.

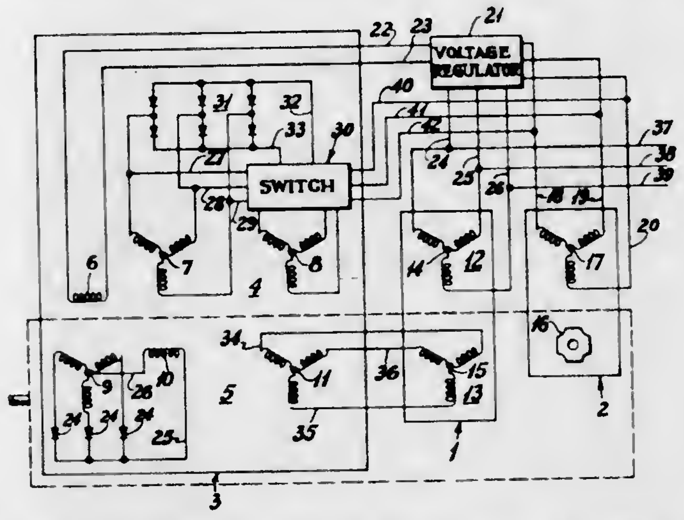
3,378,757
NARROW FREQUENCY RANGE, WIDE SPEED RANGE, BRUSHLESS A.C. GENERATOR

Frederick Milton Potter, Little Silver, N.J., assignor to The Bendix Corporation, Eatontown, N.J., a corporation of Delaware

Filed Aug. 4, 1965, Ser. No. 477,260
5 Claims. (Cl. 322—32)

An arrangement wherein an output generator is supplied with excitation of a frequency as determined by the speed

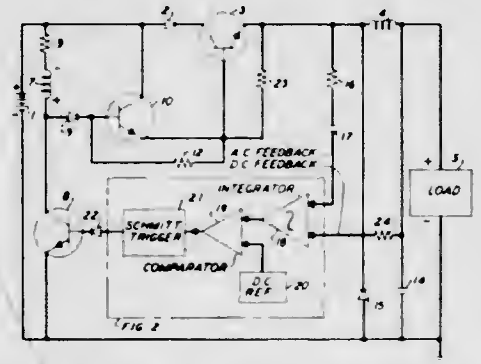
of the driving member. Means are provided for selecting the frequency for predetermined speed ranges thus enabling the output frequency to be maintained within a predetermined range.



3,378,758
SWITCHING VOLTAGE REGULATOR

Theodore C. Goodenow, Oceanport, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 29, 1964, Ser. No. 421,772
6 Claims. (Cl. 323—18)

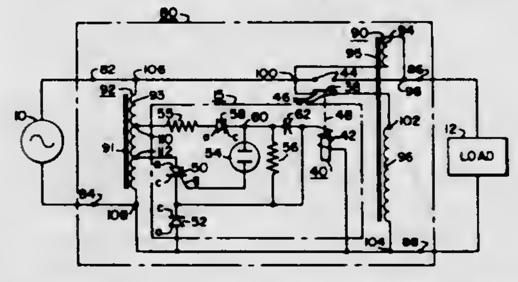


A switching voltage regulator wherein an inductor is alternately connected between the input source and the base electrode of the regulating transistor in accordance with load voltage variations to switch the regulating transistor in a substantially power lossless manner without the need for resistors in the regulating path.

3,378,759
TRANSFORMER VOLTAGE REGULATING SYSTEM

Charles A. Eaves, Jamestown, Rodney L. Peckham, Transfer, and Ralph A. Prunty, Greensburg, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 29, 1965, Ser. No. 468,026
14 Claims. (Cl. 323—43.5)

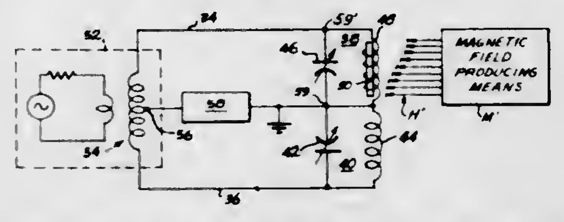


A step voltage regulator adapted for connection to a source of alternating potential and to a load circuit. The step voltage regulator includes a transformer, a relay connected to provide a first transformer output voltage when deenergized, and a second transformer output voltage when energized, and a trigger circuit adapted to be responsive to the magnitude of the source of alternating potential. The trigger circuit energizes and deenergizes the relay at substantially the same magnitude of the source of alternating potential.

3,378,760
REACTANCE-COMPENSATED PARTICLE-RESONANT, FREQUENCY-SELECTIVE LIMITER

Darrell R. Jackson and Roger W. Orth, Seattle, Wash., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware

Continuation-in-part of application Ser. No. 357,092, Apr. 3, 1964. This application May 27, 1966, Ser. No. 556,536
8 Claims. (Cl. 324—.5)

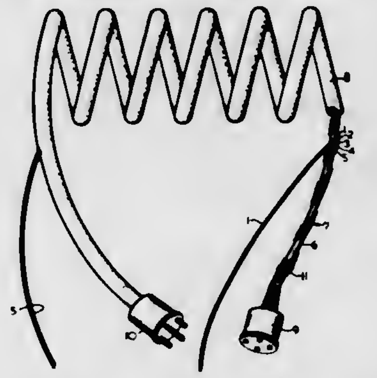


This invention relates to a frequency-selective limiter using particle resonance effects, and more particularly to a reactance-compensated limiter for use as an anti-interference device. Known frequency-selective limiters of the type which are improved by the present invention generally employ a gyromagnetic resonant material or the like disposed in a magnetic field and coupled with circuitry conditioning the system for resonance of gyromagnetic bodies in the material, and are operable to limit or filter interference signals selectively so as to permit detection of an otherwise masked input signal. The unusual improvement provided herein utilizes a reactance (or dispersion) compensation technique permitting the limiter to have a relatively wider bandwidth, low insertion loss, and a high limiting range.

3,378,761
NONDESTRUCTIVE TESTING DEVICE FOR TESTING WIRE ROPES AND SIMILARLY SHAPED OBJECTS

John Philip Morgan, South Coogee, near Sydney, New South Wales, Australia, assignor to Unisearch Limited, Kensington, New South Wales, Australia, a company of Australia

Filed Dec. 21, 1965, Ser. No. 515,345
Claims priority, application Australia, Jan. 4, 1965, 53,549/65
4 Claims. (Cl. 324—37)

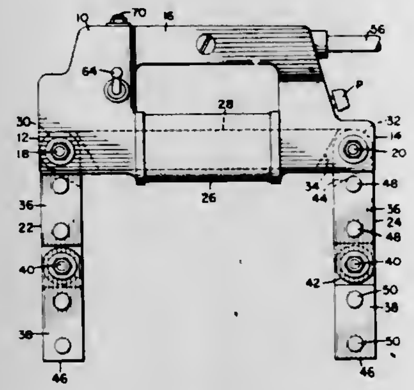


A search coil of the solenoid type, primarily used for testing wire ropes or similar elongated objects for breakages therein, is made up of a plurality of insulated conductors which are curved spirally and parallel to each other on a flexible core of non-magnetic material. This conductor combination is wound around the rope to be tested and means are provided at the conductor ends to connect all conductors in series and the free ends of the first and last conductor respectively to an indicating device or meter.

3,378,762

MAGNETIC PARTICLE INSPECTION PROBE WITH ADJUSTABLE PROBE LEGS AND SELF-CONTAINED CIRCUITRY FOR A.C. OR D.C. TESTING

Phillip J. Parker, 1714 Santa Anna Drive,
Dunedin, Fla. 33528
Continuation of application Ser. No. 394,028, Sept. 2, 1964. This application July 5, 1967, Ser. No. 651,321
8 Claims. (Cl. 324—38)

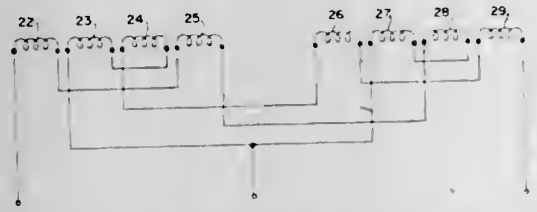


1. A portable magnetic device for revealing by magnetic particle orientation defects in ferrous objects, and comprising in combination: an elongate hollow nonferrous housing including a handle, and having a forward end and a rear end spaced apart; a hollow electrical magnetizing coil intermediate said spaced ends; an elongate magnetizable core supported by the housing and passing lengthwise through the hollow coil, said core having opposite ends disposed exteriorly of the coil; a pair of elongate magnetizable probe legs each having a free end and a mounting end; said legs each comprising an upper section, a lower section, and means pivoting the lower section to the upper section whereby said pivoted sections may be disposed angularly to one another; means adjacent to each end of the magnetizable core for pivotally supporting the mounting end of each probe leg; a first electric circuit within the housing for delivering alternating electric current to the said magnetizable coil; a second electric circuit within the housing including means therein for converting alternating electric current to a pulsating direct current and delivering pulsating direct current to said magnetizable coil, and electrical switch means on the housing handle connected in said circuits, for alternatively connecting the first and second electric circuits to a common source of alternating current for providing said magnetizing coil and its associated probe legs with an alternating magnetizing current from the first circuit, or with a pulsating direct magnetizing current from said second circuit.

3,378,763

EDDY CURRENT PROBE WITH TEMPERATURE COMPENSATION

Joseph C. Hastings, Wayne, Pa., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 305,468, Aug. 29, 1963. This application Sept. 14, 1967, Ser. No. 667,861
1 Claim. (Cl. 324—40)

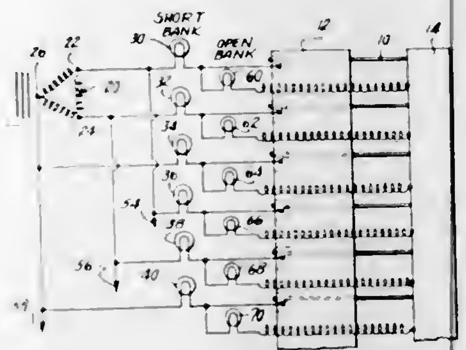


An eddy current test probe includes two groups of coils with each group including four coils. The coils are wound in a bifilar relationship and connected to provide a balanced circuit having temperature compensation.

3,378,764

ELECTRICAL CONTINUITY AND SHORT CIRCUIT TESTING DEVICE EMPLOYING ILLUMINATED INDICATORS

John Robert Peltz and Clayton L. Stoldt, Warren, Pa., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed July 20, 1966, Ser. No. 566,635
7 Claims. (Cl. 324—51)

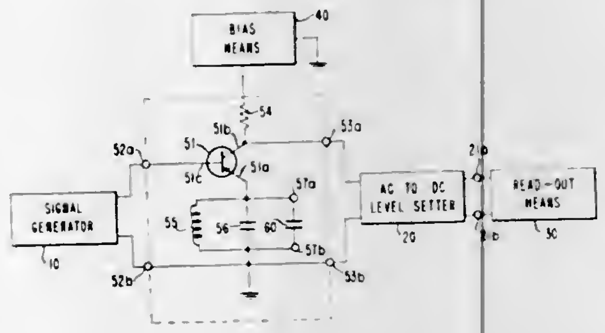


An electrical continuity and short circuit testing device utilized for checking a plurality of electrode means insulatively spaced from one another whereof each has a contact portion and an end terminal. The device employs a source of electrical potential and at least two sets of a like number of lamps, the lamps of the first set or "Short Bank" function as visual short circuit indicators while those of the second set or "Open Bank," which have lower current ratings, provide individual continuity indicators. The lamp circuits of the two banks are interconnected in a manner whereby a pair of lamps in each of the banks functions in a related manner to indicate discontinuities in the electrode means or short circuits therebetween.

3,378,765

DEVICE FOR THE DIRECT MEASUREMENT OF CAPACITANCE

Manfred Hilsenrath, Los Gatos, Calif., and Terence J. McGurn, East Orange, N.J., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Jan. 6, 1964, Ser. No. 335,935
8 Claims. (Cl. 324—60)

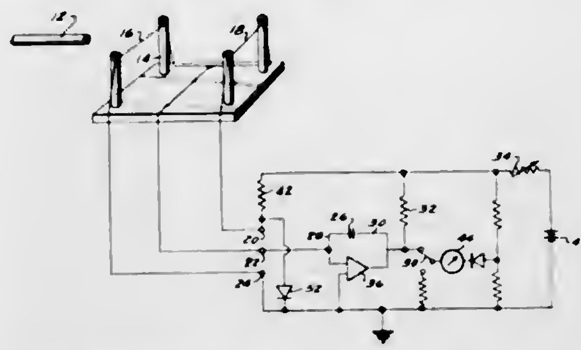


An apparatus for the direct measurement of capacitance of an unknown capacitor. A constant signal is applied to the input of a transistor circuit which includes the parallel combination of an inductor and a capacitor. By utilizing a voltage readout means connected across the output of said circuit, the capacitance of an unknown capacitor introduced across said combination can be read directly on said readout means.

3,378,766

A TIME MEASURING CIRCUIT FOR DETERMINING PROJECTILE VELOCITY

Richard Tobey, 1124 N. Mayfair,
Anaheim, Calif. 92801
Filed Mar. 17, 1965, Ser. No. 440,499
7 Claims. (Cl. 324—68)

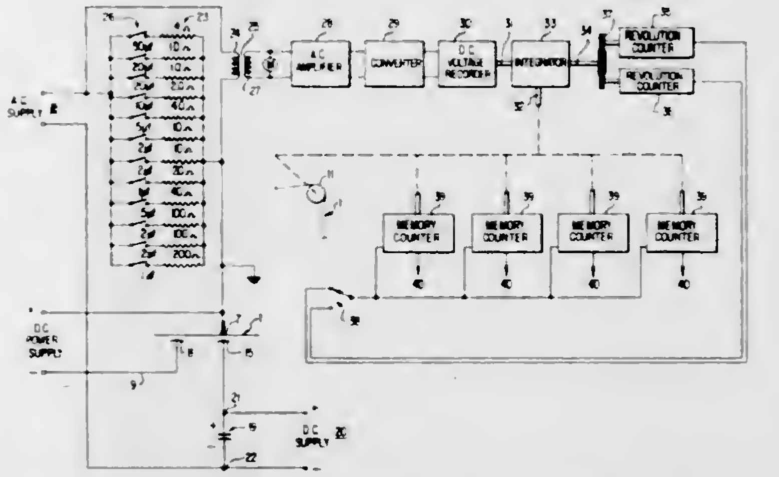


A circuit for measuring the speed of bullets wherein a gun is aimed at two wires spaced a foot apart and a measurement is made of the time elapsed between the breaking of the first and second wires by the bullet. The timing circuit is of the type which measures the amount by which a capacitor is discharged between wire breaks.

3,378,767

MARKING INCREMENTAL LENGTHS OF INSULATED FOIL STRIP ELECTRODES IN EQUAL CAPACITANCES IN RESPONSE TO INTEGRATED SPEED AND CAPACITANCE SIGNALS

William R. Moore, Columbia, and Jacob T. Zeigler, Cayce, S.C., assignors to General Electric Company, a corporation of New York
Filed Oct. 5, 1964, Ser. No. 401,401
10 Claims. (Cl. 324—71)



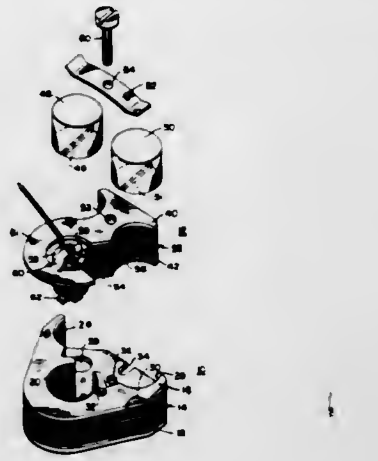
An insulated foil electrode is measured in length of equal capacitance values by correlating a continuous capacitance measurement of the electrode with a measured rate of its passage through an electrolytic bath.

3,378,768

MOVING COIL INSTRUMENT WITH ROTARY PERMANENT MAGNETS

Heinrich Hautmann, Erlangen, Bavaria, Germany, assignor to P. Gossen & Co., G.m.b.H., Erlangen, Bavaria, Germany, a firm
Filed July 6, 1964, Ser. No. 380,538
5 Claims. (Cl. 324—150)

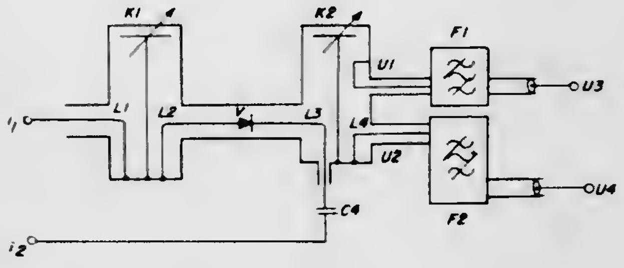
A moving coil instrument which has rotary permanent magnets. A pair of the latter magnets are provided. An outer pole piece, which has a supporting base plate, is formed with a pair of opposed magnet-receiving recesses extending at one end from the base plate. An inner, independent pole piece has an integral annular core and is, in part, surrounded by the outer pole piece and supported on the base plate of the latter, this inner pole piece having a pair of opposed recesses respectively directed toward the opposed recesses of the outer pole pieces and defining therewiith a pair of receiving spaces in which the permanent magnets are respectively received with these magnets resting on the supporting base plate of the outer pole piece. A coil is mounted on the inner pole piece for rotation around the core thereof and a retainer spring engages the permanent magnets for urging them toward the base plate of the outer pole piece while retaining the permanent magnets in the receiving spaces, respectively. The retainer spring, the inner pole piece, and the base plate of the outer pole piece are respectively formed with aligned apertures, and a single fastening screw extends through these aligned apertures for securing together the retainer spring, the inner pole piece, and the outer pole piece, while the permanent magnets are supported on the base plate for rotary adjusting movement.



3,378,769

HETERODYNE GENERATORS IN MICROWAVE RADIO SYSTEM REPEATERS

Giorgio Luzzatto, Genoa, Italy, assignor to Società Italiana Telecomunicazioni Siemens S.p.A.
Filed Mar. 18, 1965, Ser. No. 440,690
Claims priority, application Italy, Mar. 24, 1964, 6,545/64
2 Claims. (Cl. 325—11)

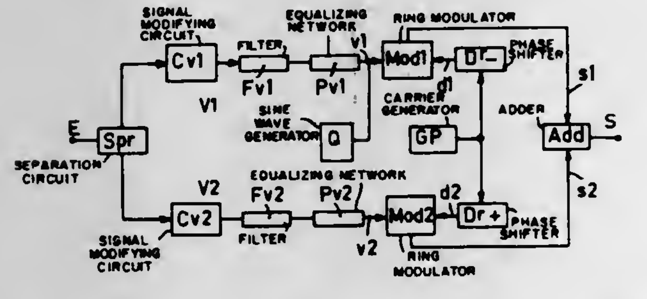


A heterodyne generator of oscillations at frequency f_T and $f_T \pm f_S$ in radio-link repeaters comprises a quartz-stabilized local oscillator, followed by an amplifier and a chain of frequency multiplier elements disposed in series, whose output frequency has the value f_T; a quartz-stabilized shift oscillator whose signal at frequency f_S is coupled to the diode of the last multiplier element; and two filters derived at the output of the last multiplier whose pass-band corresponds respectively to that of the two heterodyne frequencies f_T and $f_T \pm f_S$.

3,378,770

SYSTEM FOR QUADRATURE MODULATION OF TERNARY SIGNALS WITH AUXILIARY OSCILLATION FOR USE IN CARRIER REGENERATION AT RECEIVER

Jacques Lucien Daguet, Paris, France, assignor to Telecommunications Radioelectriques & Telephoniques T.R.T., Paris, France
Filed Aug. 3, 1964, Ser. No. 386,993
Claims priority, application France, Aug. 23, 1963, 945,536
7 Claims. (Cl. 325—38)

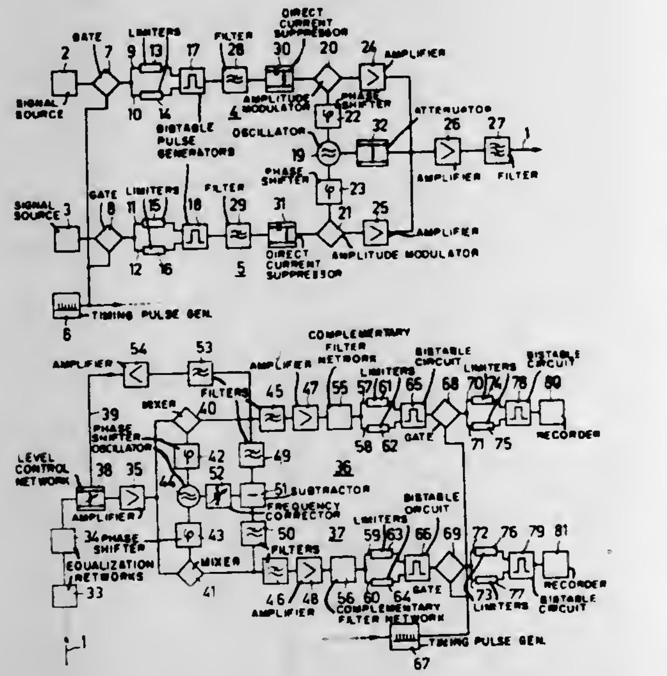


A pulse transmission system in which two ternary signals are modulated in quadrature on a carrier wave, and an auxiliary oscillation is modulated on the carrier with only one of the ternary signals. In the receiver the auxiliary oscillation is employed in the regeneration of the carrier oscillation, and to form a timing signal for sampling the demodulated signals. The demodulated signals are sampled at the zero crossovers of the auxiliary oscillation.

3,378,771

QUADRATURE MODULATION PULSE TRANSMISSION SYSTEM WITH IMPROVED PULSE REGENERATION AT RECEIVER

Petrus Josephus Van Gerwen and Frank de Jager, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed May 28, 1964, Ser. No. 371,062
Claims priority, application Netherlands, June 21, 1963, 294,442
11 Claims. (Cl. 325—42)

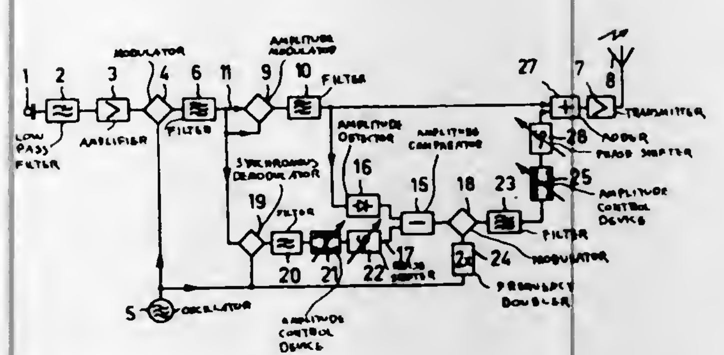


A pulse transmission system for the transmission of pulses occurring at clock instants. The transmitter has two channels, the outputs of which are modulated on a common carrier at a relative phase of 90 degrees. At least one of the transmitter channels has a direct current suppressor. The receiver receives and demodulates the signals corresponding to the two channels. A demodulated signal corresponding to a transmitter channel having direct current suppression is passed through a filter network. The sum of the characteristics of the filter network and suppressor is the equivalent of a subtracting network to which signals are applied directly and by way of a delay network.

3,378,772

APPARATUS FOR CORRECTING THE TRANSMITTED SIGNAL ENVELOPE OF A COMPATIBLE SINGLE SIDEBAND TRANSMITTER

Theodorus Jozef van Kessel and Joannes Maria Albertus Uijen, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Original application Apr. 9, 1962, Ser. No. 186,255, now Patent No. 3,274,492, dated Sept. 20, 1966. Divided and this application July 21, 1966, Ser. No. 566,863
Claims priority, application Netherlands, May 16, 1961, 264,824
5 Claims. (Cl. 325—137)



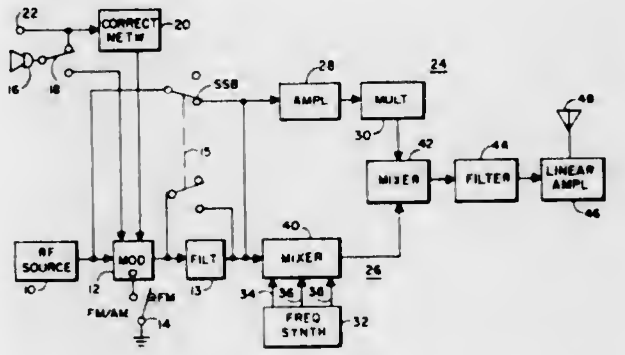
1. A transmitter for transmitting single sideband signals comprising a source of information signals, a source of oscillations of predetermined frequency, means for amplitude modulating said oscillations with said information signals to provide first single sideband signals including said oscillations and one modulated sideband thereof, an amplitude modulator, first and second paths for applying said first single sideband signal to said amplitude modulator, said amplitude modulator comprising means for multiplying the signals applied by way of said first and second paths, whereby said amplitude modulator produces a second single sideband signal in a frequency band at twice the frequency of said oscillations, said second single sideband signal including a carrier oscillation at twice the frequency of said oscillations, means for synchronously demodulating a portion of said first single sideband signal, means for detecting a portion of said second single sideband signal, means for comparing the outputs of said demodulating and detecting means to provide a correction signal, means for correcting the envelope of said second single sideband signals with said correction signal, and means for transmitting said envelope corrected second single sideband signal.

3,378,773

FREQUENCY AND AMPLITUDE MODULATION TRANSMITTER AND MODULATOR

Robert K. Jeffers, Penfield, N.Y., assignor to General Dynamics Corporation, a corporation of Delaware
Filed Sept. 13, 1965, Ser. No. 487,005
8 Claims. (Cl. 325—139)

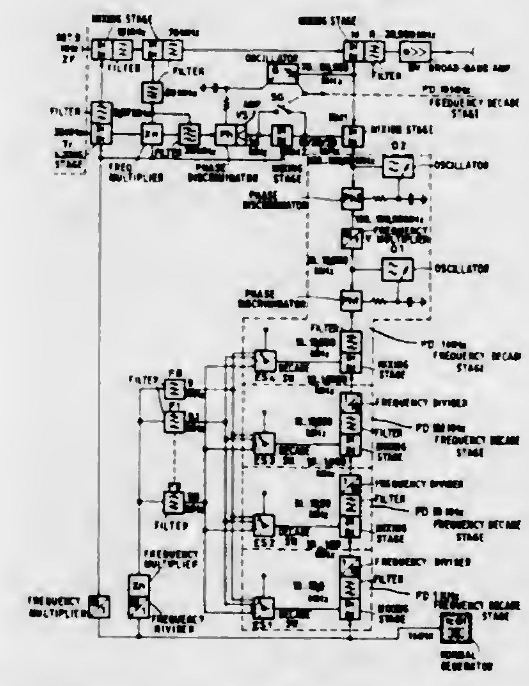
The disclosure of this patent describes a system for transmitting signals which are either AM modulated, FM modulated, or both AM and FM modulated. The system includes a modulator circuit having two signal paths for an input carrier signal. In one of these paths, the carrier is shifted in phase by 90°. A balanced modulating circuit to which input signals to be FM modulated are applied is connected to the other path. A diode to which input signals which are to be AM modulated are applied is connected to the path which carries the phase shifted signals. The output of the modulator contains signals which are FM modulated and also signals which are AM modulated. The system also includes a heterodyning channel and a frequency multiplying channel to which the modulated signals from the modulator are simultaneously applied. Although the amplitude modulated signals are lost in the multiplying channel, they are preserved in the heterodyning process. The frequency deviation of the FM signals is increased in the frequency multiplying channel. The outputs of the respective channels are mixed with each other to provide a high frequency output signal for transmission.



3,378,774

REMOTELY CONTROLLABLE TRANSMITTER

Dieter Leypold, Munich-Solln, Germany, assignor to Siemens Aktiengesellschaft, a German corporation
Filed Aug. 10, 1964, Ser. No. 388,730
Claims priority, application Germany, Aug. 13, 1963, S 86,716
4 Claims. (Cl. 325—184)

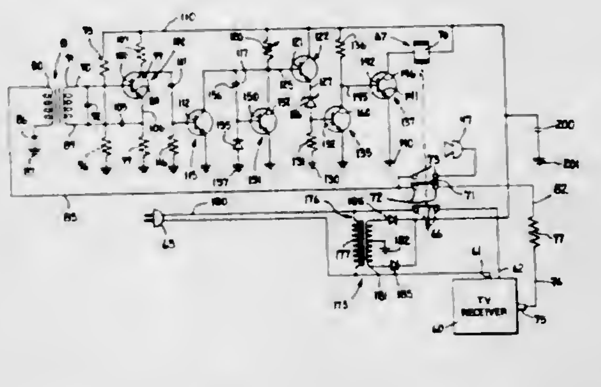


Electronically remotely controllable transmitter with adjustable oscillator whose frequency is derived in several adjustable frequency decade stages by frequency-analysis and/or frequency-synthesis process from a standard frequency and its harmonics, and in which, making use of a predetermined frequency preparation plan, the frequency variation at the output of the mixing stage of each frequency decade stage does not exceed one-tenth of the converted frequency, and in which for the frequency preparation in the highest frequency decade stage, following mixing of the oscillator frequency with the frequencies prepared in the other frequency decade stages, the differential frequencies obtained are compared in a phase discriminator with harmonics of the standard frequency for the formation of a readjusting voltage for the adjustable oscillator, the circuit utilizing permanently adjusted filters and requiring no mechanically movable parts.

3,378,775

METHOD AND APPARATUS FOR CONTROLLING A TELEVISION RECEIVER

William T. Joseph, 702 Lexington Ave., Indianapolis, Ind. 46203
Filed Aug. 19, 1964, Ser. No. 390,571
6 Claims. (Cl. 325—395)

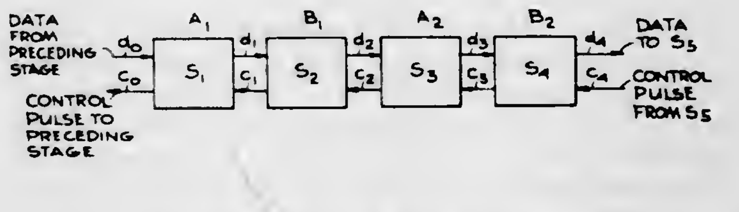


A control circuit for a television receiver wherein the power supply line for the receiver has a pair of contacts in it which are controlled by a power switching device. A signal sensing device senses the information including blanking pulses on the kinescope. The power switching device opens the contacts, terminating the power supply to the receiver when the signal sensing device senses that blanking pulses are no longer present on the kinescope.

3,378,776

DATA SHIFTING LOGIC SYSTEM WITH DATA AND CONTROL SIGNALS ADVANCING THROUGH THE SYSTEM IN OPPOSITE DIRECTIONS

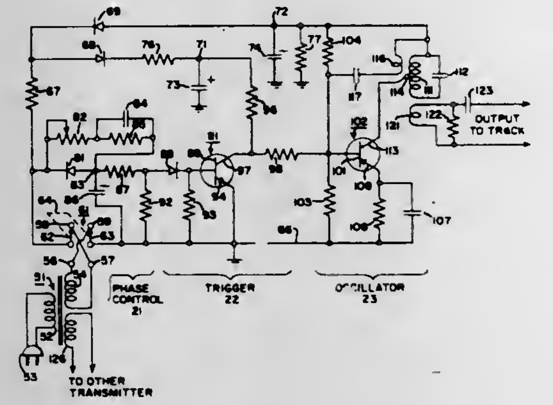
Jacob Goldberg, Palo Alto, and Robert A. Short, Redwood City, Calif., assignors to Stanford Research Institute, Menlo Park, Calif., a corporation of California
Filed Oct. 9, 1964, Ser. No. 402,799
18 Claims. (Cl. 328—37)



1. A controlled data shifting system comprising a plurality of stages interconnected in an ordered succession, each of said stages including first means for providing a control signal to a preceding stage thereof in said ordered succession, by regenerating a control signal supplied thereto from a succeeding stage thereof, second means connected to said first means, responsive to said regenerated control signal for storing in said stage data supplied from the preceding stage thereof, and third means for controlling the data stored in said stage as a function of the time period between successive control signals supplied to said stage from the succeeding stage thereof.

3,378,777
MOTOR CONTROL CIRCUIT WITH PHASING MEANS FOR PREVENTING ERRATIC MOTOR OPERATION

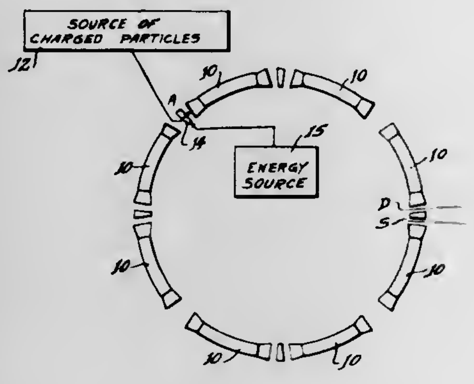
William L. Ferrigno, Jr., Barneveld, N.Y., assignor to General Electric Company, a corporation of New York
Filed Jan. 30, 1964, Ser. No. 341,367
3 Claims. (Cl. 328—155)



A motor control circuit including a trigger circuit for triggering a control pulse oscillator, the trigger circuit including phasing means for preventing erratic motor operation.

3,378,778
APPARATUS FOR DAMPING AXIAL COHERENT BEAM INSTABILITIES IN A SYNCHROTRON PARTICLE ACCELERATOR

Richard H. Hilden, Minneapolis, Minn., John H. Martin, Lisle, Ill., Frederick E. Mills, Madison, Wis., and Russell A. Winje, Naperville, Ill., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Sept. 7, 1966, Ser. No. 577,782
3 Claims. (Cl. 328—235)



1. In a synchrotron particle accelerator having a source of increasing-frequency RF energy for accelerating bunches of charged particles in a fixed, closed orbit defined by a magnetic field increasing in intensity as the frequency of said RF energy source increases, the instantaneous frequency of revolution of said bunches being a number, *f*, apparatus for damping betatron oscillations of said orbiting bunches comprising:

means associated with a sensing location of said orbit for generating a displacement signal representative of the axial displacement of an orbiting bunch from a predetermined desirable orbit:

forcing means located at a driving location of said orbit a total number, R, of orbital revolutions downstream from said sensing location, R being approximately an odd number of quarter wave lengths of said betatron oscillations;

discretely variable slave delay means receiving said displacement signal for delaying said displacement signal;

discretely variable master delay means receiving the output signal of said RF energy source for delaying said signal for a time, $T_M=P/hf$, where P is the number of wavelengths of said RF energy source signal in the master delay and *h* is the number of bunches in the accelerator, whereby the total delay time, T_M, of said master delay means is related to the time, T_S, required for said displacement signal to propagate from said sensing location to said forcing location by the expression $T_M/T_S=P/Rh$;

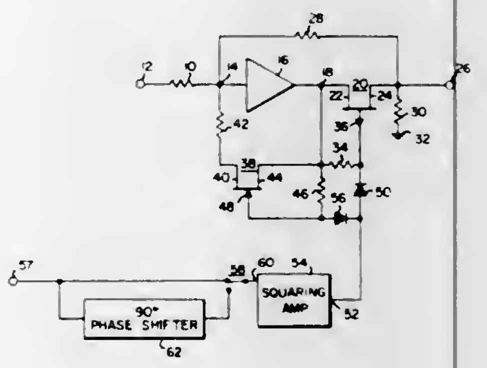
detector means receiving said RF energy source output signal and the output signal of said master delay means for detecting deviations from a quadrature phase relationship between said source signal and said delayed signal and for generating an error signal representative of said deviation;

means responsive to said error signal for varying said master delay means in discrete increments to reduce said error signal, and for varying the delay of said slave delay means in discrete increments to be related to the delay time, T_M, of said master delay by the relationship $T_M/T_S=P/Rh$, thereby adjusting the propagation time of said displacement signal from said sensing location to said forcing location to be related to the total delay time T_M of master delay means by the said relationship;

means receiving said delayed displacement signal for generating a forcing signal proportional to said displacement signal and for applying said forcing signal to said forcing means thereby correcting deviation of said displaced bunch from said predetermined desirable orbit.

3,378,779
DEMODULATOR CIRCUIT WITH CONTROL FEEDBACK MEANS

Lloyd W. Priddy, Mahtomedi, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Apr. 26, 1965, Ser. No. 450,936
10 Claims. (Cl. 329—101)

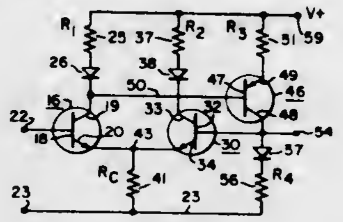


Demodulator circuitry with means for eliminating spikes at the output caused by switching and for reducing the output due to leakage while a demodulating switch is off by reducing an amplifier output through the use of an alternate feedback path inserted while the main feedback loop is open during the off times of the switch.

3,378,780
TRANSISTOR AMPLIFIER

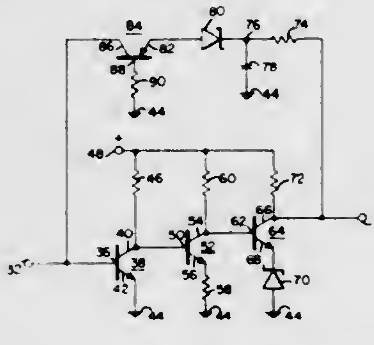
Hung C. Lin, Silver Spring, Md., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 7, 1964, Ser. No. 402,172
9 Claims. (Cl. 330—24)

A high input-low output impedance buffer amplifier includes an input transistor stage providing an output signal to a phase inverting transistor stage from which an output signal is provided at an output terminal. Connected between the output terminal and the input stage is a transistor feedback stage to provide a feedback signal to the input stage. Each of the transistors is located in a respective current path having a respective resistance and diode(s) to compensate for various base emitter voltage drops. The input and feedback transistor stages each have an emitter electrode connected to a common point with a resistor connected between ground potential and the common point and for faithful reproduction of the input signal in both phase and amplitude the values of the resistors bear a particular relationship.



3,378,781
CONTROL APPARATUS

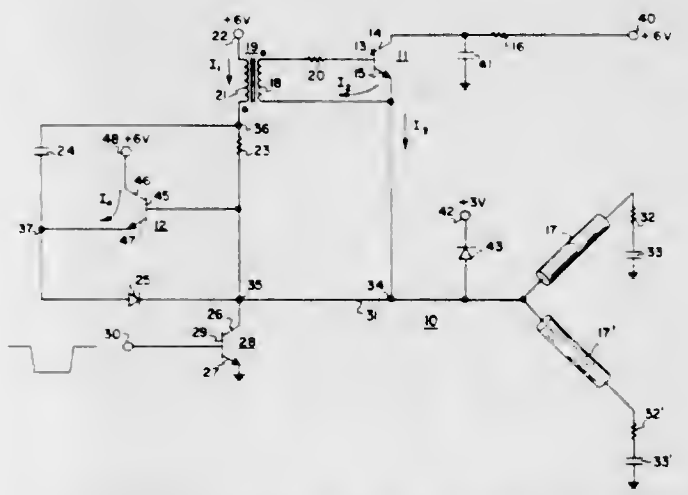
Charles E. Hill, Fridley, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Jan. 4, 1965, Ser. No. 423,144
6 Claims. (Cl. 330—24)



An amplifying circuit whereby the quiescent operating condition is established by a feedback circuit utilizing a filter, a Zener diode, and an amplifier.

3,378,782
REGENERATIVE AMPLIFIER FOR CHANGING VOLTAGE LEVELS

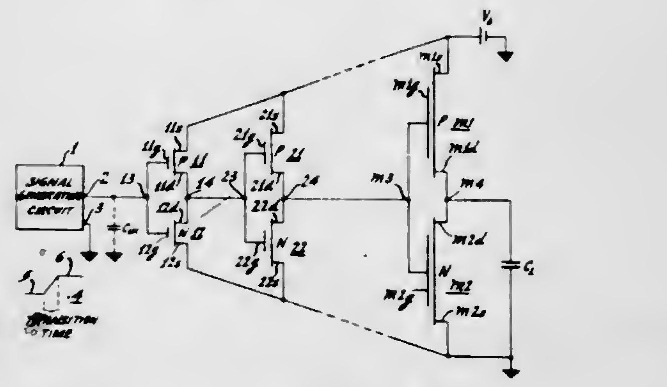
Lloyd B. Guernsey, Phoenix, Ariz., assignor to General Electric Company, a corporation of New York
Filed Dec. 20, 1965, Ser. No. 515,120
10 Claims. (Cl. 330—26)



1. A regenerative amplifier for changing a voltage level in one direction only comprising: first and second transistors each having a base, a collector and an emitter; a transformer having a primary winding and a secondary winding; a voltage potential; said collector of said first transistor being connected to said potential, means for coupling a first end of said primary winding to said emitter of said first transistor, a second end of said primary winding being connected to said potential, said base of said first transistor being coupled to said emitter of said second transistor; resistive means connected between said first end of said primary winding and said base of said first transistor; input means for coupling signals to said primary winding of said transformer; and output means connected to said emitter of said second transistor, coupling means connecting a first end of said secondary winding to said base of said second transistor, said secondary winding having a second end connected to said emitter of said second transistor to provide a feedback voltage to said primary winding in phase with the change in voltage on said base of said second transistor to provide regeneration, said secondary winding causing regeneration to be effective during at least a part of one-half of the voltage cycle; and means connecting said collector of said second transistor to said potential.

3,378,783
OPTIMIZED DIGITAL AMPLIFIER UTILIZING INSULATED-GATE FIELD-EFFECT TRANSISTORS

John James Gibson, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Dec. 13, 1965, Ser. No. 513,292
8 Claims. (Cl. 330—35)



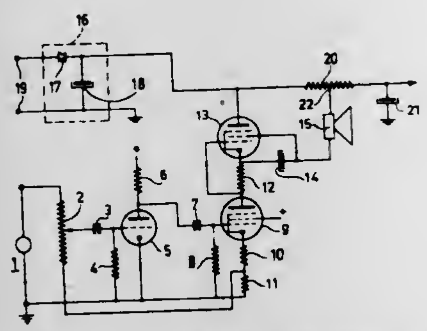
An "optimized digital amplifier" is disclosed in which each amplifier stage includes at least one field-effect transistor having a source and a drain separated by a gap to define a conduction path. The gap of the transistor in the first stage has a width *w*; and the width of the gaps in succeeding stages increases in a geometric progression as set forth. The gain per stage and the number of stages is selected so as to yield a minimum delay of the entire amplifier.

3,378,784
AMPLIFYING CIRCUIT HAVING MEANS FOR REDUCING OPERATING VOLTAGE SOURCE HUM

Peter Johannes Hubertus Janssen, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 4, 1966, Ser. No. 539,941
Claims priority, application Netherlands, May 8, 1965, 65—5,865
5 Claims. (Cl. 330—70)

1. An amplifying circuit comprising first and second amplifier devices each having an input electrode, an output electrode and a common electrode, a source of direct voltage having first and second terminals, means connecting the common electrode of said first device to said first terminal, a source of signals connected to the input

electrode of said first device, means connecting the input electrode of said second device to the output electrode of said first device, first resistor means connected between the output electrode of said first device and the common electrode of said second device, means connecting the output electrode of said second device to said second terminal, second resistor means having one end connected to said second terminal, third resistor means having one end connected to the other end of said second resistor means, capacitor means, means connecting said capacitor means between the other end of said third resistor means and said first terminal, and load circuit means and capacitor means serially connected between the common electrode of said second device and the junction of said second and third resistor means, the ratio of resistances of said second and third resistor means being substantially equal to:

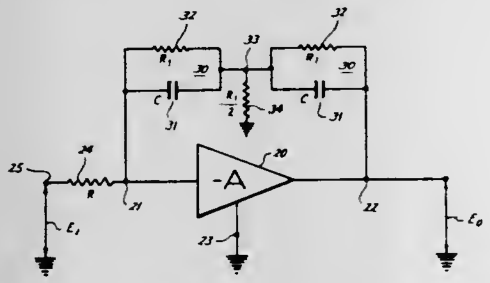


$$\frac{R_{i_2}}{R_{i_1}}(1+SR)$$

wherein R_{i_2} and R_{i_1} are the internal resistances of said second and first devices respectively, S is the mutual conductance of said second device, and R is the resistance of said first resistor.

3,378,785
NINETY-DEGREE AMPLIFIER PHASE SHIFT CIRCUIT

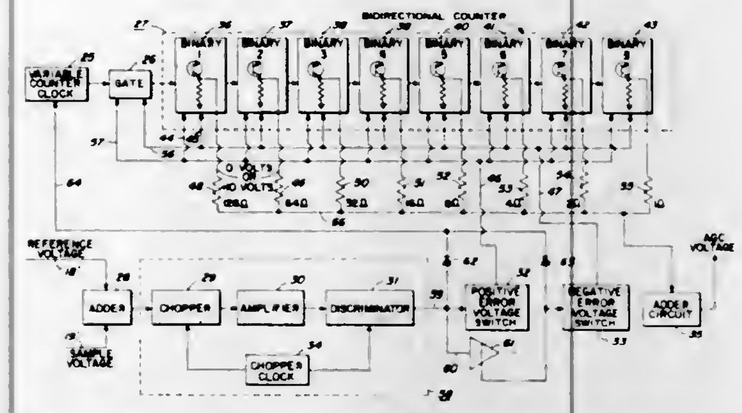
John G. Nordahl, Lexington, Mass., assignor to Weston Instruments, Inc., a corporation of Texas
Filed Nov. 2, 1964, Ser. No. 408,028
3 Claims. (Cl. 330—107)



A circuit is provided for shifting the input signals received at the circuit input terminal by exactly 90 degrees. The circuit includes an amplifier having a high negative gain and respective input and output terminals. The amplifier input terminal is connected to the circuit input terminal via a resistor to receive the input signals from the circuit input terminal. A feedback circuit couples the amplifier output terminal to the amplifier input terminal and includes first and second series-connected parallel circuits, each parallel circuit having a resistor and a capacitor connected in parallel relationship. The resistance-capacitance product value of one parallel circuit is equal to the resistance-capacitance value of the other paral'el circuit, this relationship being readily effected by having the resistors and capacitors comprising the parallel circuits of respective equal values. A resistor connects the junction common to both parallel circuits to constant level of potential, for example, ground potential, and preferably has a resistance value equal to one-half that of a resistor in one of the parallel circuits.

3,378,786
DIGITALIZED SIGNAL GAIN CONTROL CIRCUIT

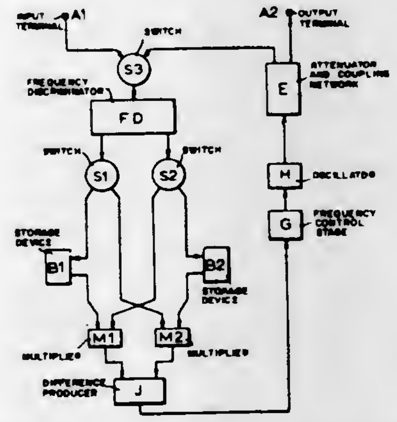
John J. Andrea, Marion, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Nov. 14, 1966, Ser. No. 594,159
5 Claims. (Cl. 330—137)



A sample voltage proportional to the output amplitude of an amplifier and reference signals are compared to produce an error signal whose magnitude and polarity indicate the amount and direction of gain change desired. A bidirectional counter responds to the error signal polarity to count forwards or backwards as input clock pulses are supplied thereto from a variable controlled oscillator (VCO). The VCO output frequency varies with the absolute magnitude of the error signal so that for large desired gain changes said output frequency is high to obtain quick gain response, and for low desired gain changes, is low, thus avoiding overshoot and hunting. Suitable load circuit means responds to the count in the counter to produce the desired gain control voltage.

3,378,787
SYSTEM FOR SYNCHRONIZING AN OSCILLATOR WITH OSCILLATIONS OF UNKNOWN FREQUENCY

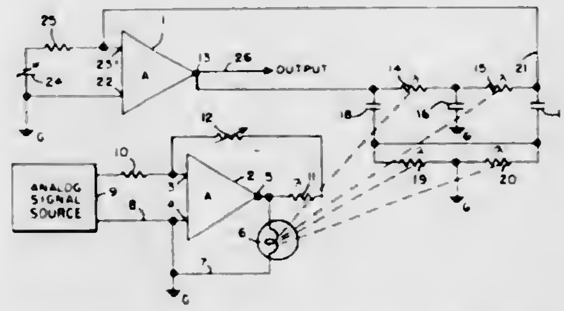
Stephen Joseph Robinson, Reigate, Surrey, Ralph Levy, Carshalton, Beeches, Surrey, and Robert Nicholas Alcock, Ewell, England, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed June 13, 1966, Ser. No. 557,125
Claims priority, application Great Britain, June 14, 1965, 25,122/65
5 Claims. (Cl. 331—14)



An oscillator synchronizing system comprises means for deriving direct current voltages having amplitudes proportional to the sines and cosines of $m\omega_o$ of an oscillator frequency, and $m\omega_s$ of an unknown signal frequency. (*m* is a constant). The direct current voltages are cross-multiplied, and a difference voltage of the form $m(\omega_s-\omega_o)$ is derived from the result of the cross-multiplication. The difference voltage is employed to control the frequency of the oscillator.

3,378,788
VOLTAGE RESPONSIVE LIGHT SOURCE FOR CONTROLLING VARIABLE FREQUENCY R-C OSCILLATORS

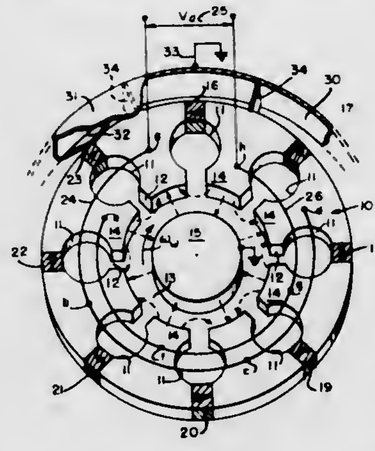
Alfred W. Barber, Bayside, N.Y.
(32—44 Francis Lewis Blvd., Flushing, N.Y. 11358)
Filed June 30, 1966, Ser. No. 561,805
9 Claims. (Cl. 331—66)



An operational amplifier, a lamp and two or more photoconductive cells are used to control the frequency of an oscillator in accordance with an input voltage. The input voltage is applied to the operational amplifier which is connected to drive the lamp which illuminates at least two photocells, one cell is connected in the feedback path of the operational amplifier and the other or others are used as voltage controlled resistors. The circuit operates to control the lamp so that the feedback cell resistance is inversely proportional to the input voltage to the amplifier. Since the remaining cell or cells receive the light from the programmed lamp, they too vary in resistance inversely proportional to the input voltage. If the remaining cell or cells are connected in an oscillator circuit where the frequency is inversely proportional to the resistance, such as in an R–C bridge oscillator, the oscillator frequency will vary directly in accordance with the input voltage.

3,378,789
SOLID STATE OSCILLATOR HAVING PLURAL RESONATING CAVITIES AND TUNNEL DIODES

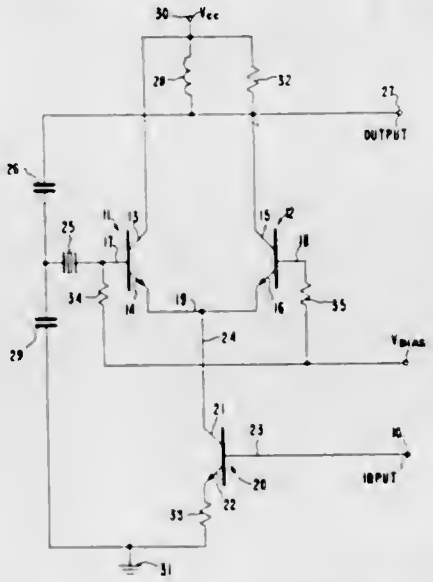
Horst W. A. Gerlach, Bethesda, Md., assignor to the United States of America as represented by the Secretary of the Army
Filed Nov. 16, 1966, Ser. No. 595,318
8 Claims. (Cl. 331—107)



A solid state oscillator employing a magnetron structure with a plurality of resonating cavities and having a plurality of tunnel diodes associated respectively with the cavities or resonator portions of said structure. The tunnel diodes are appropriately located so as to act as current generators operating to add energy to the resonators in such a manner that a standing wave pattern is achieved in the interaction space of the magnetron where the device acts as an oscillator.

3,378,790
READILY INTEGRABLE COLOR OSCILLATOR CIRCUIT

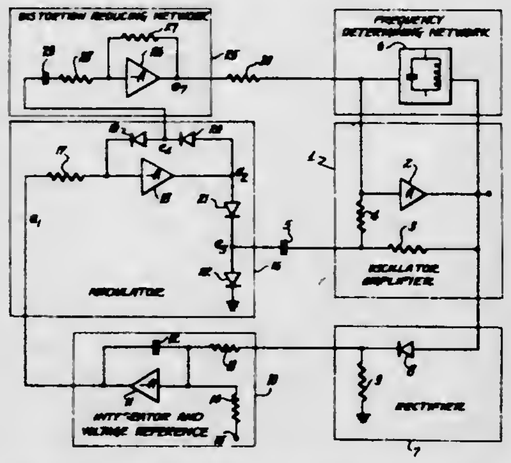
Derek Bray, Los Altos, Calif., assignor to Fairchild Camera and Instrument Corporation, Syosset, N.Y., a corporation of Delaware
Filed Nov. 7, 1966, Ser. No. 592,498
9 Claims. (Cl. 331—116)



A circuit for coupling the burst signal in a television receiver to the crystal and for providing feedback of a portion of the crystal oscillator's output to the crystal, using a pair of coupled solid state signal-handling devices. A third solid state signal-handling device, such as a transistor, is connected as a current source to the coupled pair of devices. A frequency-determining circuit is coupled to this control electrode of the third device for setting the frequency of oscillation of the oscillator circuit substantially at the given frequency.

3,378,791
OSCILLATOR WITH LOW DISTORTION FEEDBACK GAIN CONTROL

Walter T. Towner, Canton, Mass., assignor to Weston Instruments, Inc., Newark, N.J., a corporation of Delaware
Continuation-in-part of application Ser. No. 592,523, Nov. 7, 1966. This application Apr. 14, 1967, Ser. No. 633,350
9 Claims. (Cl. 331—183)


DISTORTION REDUCING NETWORK
FREQUENCY DETERMINING NETWORK
MODULATOR
OSCILLATOR AMPLIFIER
ATTENUATOR AND VOLTAGE REFERENCE
RECTIFIER

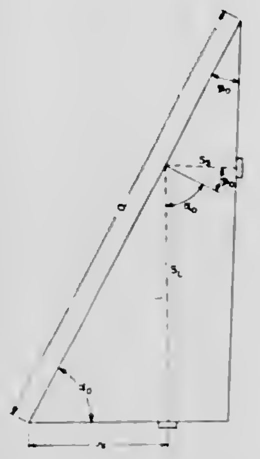
An oscillator including a main amplifier and a linear modulator for amplitude control is provided with a distortion reducing network connected between the modulator and an input to the main amplifier. In one embodiment the network includes a coupling capacitor, a resistor and an inverting operational amplifier connected in series. In a second embodiment the network includes a coupling capacitor and series and shunt resistors, and the input stage to the main amplifier is a differential amplifier stage.

3,378,792
TEMPERATURE STABLE ELASTIC WAVE DELAY DEVICE

Harold B. Holton, Winston-Salem, N.C., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Mar. 22, 1965, Ser. No. 441,798

6 Claims. (Cl. 333—30)



A temperature stabilized elastic wave delay line in which the complementing delay versus temperature characteristics of the longitudinal and the shear modes, respectively, in certain flint glasses are used by launching one of the modes, converting it into the other by reflection at a critical angle from a boundary of the medium and receiving the converted mode after a distance selected so that the sum of successive delays in each mode equals the desired delay over a broad range of temperatures.

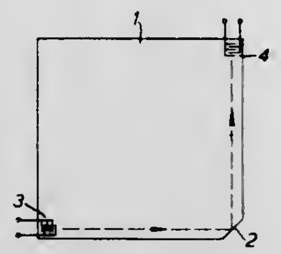
3,378,793
DISPERSIVE DELAY CELLS

Wilfrid Sinden Mortley, Great Baddow, England, assignor to The Marconi Company Limited, London, England, a British company

Filed Nov. 24, 1965, Ser. No. 509,538

Claims priority, application Great Britain, Nov. 30, 1964, 48,506/64

12 Claims. (Cl. 333—30)



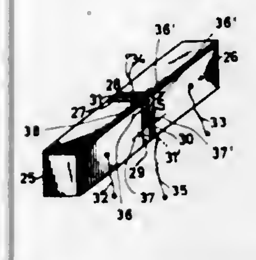
A dispersive delay cell is provided including a cube-like body of fused quartz having, in one corner, an input signal device including an inter-leaved grating which propagates beams of waves of differing frequencies within a predetermined range of frequencies in differing frequency-dependent directions toward an extended wave reflector. The wave reflector includes a graded grating having line spacings which increase from one end thereof to the other. The reflector is formed on one edge surface of the cube-like body between two flat faces thereof. An output signal device is provided and includes an inter-leaved grating positioned in the further corner of the cube-like body to receive beams of waves reflected by the aforementioned reflector. The input and output signal devices and the reflector are disposed such that the frequency-dependent directions in which the beams of waves are propagated from the signal input device to the reflector lie in one plane and the directions in which the beams of waves are propagated from the reflector to the output signal device lie in a second plane. The total wave path length from input to output varies according to frequency to provide propagation times which similarly vary according to frequency.

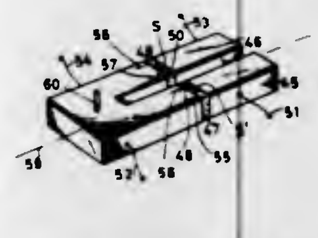
3,378,794
ELECTROMECHANICAL TRANSDUCER AND FILTER

Karl Traub and Johann Magerl, Munich, Germany, assignors to Siemens Aktiengesellschaft, Munich, Germany

Filed May 19, 1964, Ser. No. 368,716

18 Claims. (Cl. 333—71)





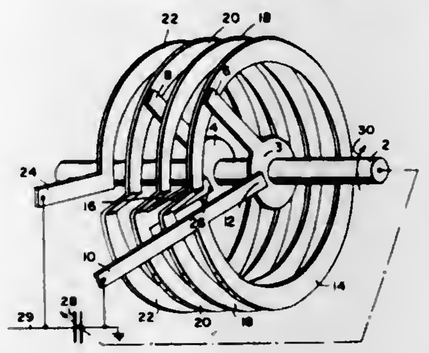
A pair of electrostrictive plate members is interposed in an elastically bendable vibrator structure such as between two coaxially aligned portions of a bar or rod of steel or quartz glass. The conductively coated faces of each electrostrictive member extend transverse to the neutral bending axis of the vibrator structure. The two members of the pair are spaced laterally from and, located on opposite sides of the axis and are electrically polarized in mutually opposed directions substantially parallel to the axis. Two such pairs of electrostrictive members may be provided in axially spaced relation to form part of a vibration excitation circuit and part of a voltage output circuit respectively. The transducer structure may also be designed as a tuning fork whose tines incorporate the electrostrictive members.

3,378,795
TUNEABLE INDUCTOR HAVING A FIXED ARCUATE CONDUCTOR TURN IN SERIES WITH AN INDUCTIVELY COUPLED VARIABLE ARCUATE CONDUCTOR TURN

Samuel J. Harris, Cherry Hill, N.J., and Eugene J. Caron, St. Petersburg, Fla., assignors to TRW Inc., a corporation of Ohio

Filed Apr. 29, 1965, Ser. No. 451,864

4 Claims. (Cl. 334—65)



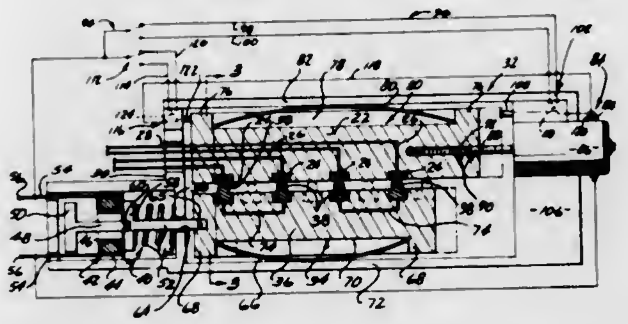
1. A tunable inductor comprising a first arcuate conductive turn having a fixed self-inductance, and a second arcuate conductive turn connected in series with said first turn, said turns being disposed in mutual additive inductive relation to each other, a conductive wiped mounted for relative rotation with respect to said turns and having one end in variable electrical engagement with and along said second turn and conductively connected to a point on said second turn so that it provides a short circuit of the portion of said second turn between its contact therewith and said point and provides an unshorted portion of said second turn, the arrangement being so disposed that, as the wiper progressively increases the shorted portion of said second turn, it progressively decreases the unshorted portion thereof.

3,378,796
SLIDING - ACTION, MULTIPLE - CONTACT, MULTIPLE-INITIAL-CONDITION RELAY

Dante A. Caputo, Los Angeles, Calif.
(8129 Greenbush Ave. Van Nuys, Calif. 91402)

Filed July 25, 1966, Ser. No. 567,698

16 Claims. (Cl. 335—72)



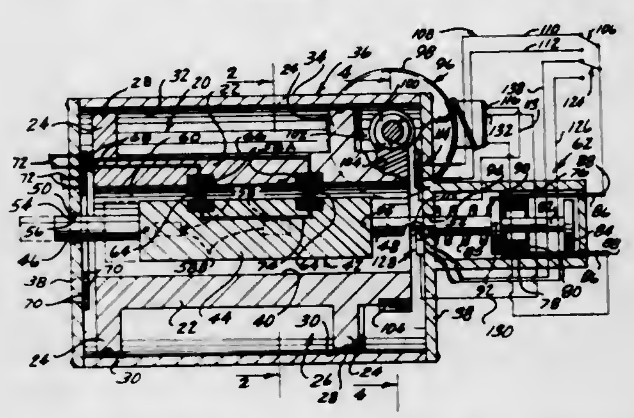
1. A sliding-action, multiple-contact, multiple-initial condition relay including apparatus for selecting and adjusting the initial relative positioning of multiple contacts thereof, comprising: first contact mounting means normally positioned in a pre-determined location during operation of a relay; second contact mounting means normally movably positioned closely adjacent to said first contact mounting means for slidable movement relative thereto during operation of the relay, said first contact mounting means having first electrical contact means carried thereby and directed toward said second contact mounting means, said second contact mounting means having second electrical contact means carried thereby and directed toward said first contact mounting means and having at least a portion thereof positioned for electrical engagement with a corresponding portion of said first electrical contact means when in a first relative contact position with respect to said first contact mounting means and for electrical disengagement from said corresponding portion of said first electrical contact means when in a second relative contact position with respect to said first contact mounting means; electrically energizable main operating motor means effectively inter-connecting said first contact mounting means and said second contact mounting means for causing main operating relative movement thereof in one manner between said relative contact positions in response to a change in electrical energization condition of said main operating motor means in one manner during operation of the relay and for causing main operating relative movement thereof in another manner between said relative contact positions in response to a change in electrical energization condition of said main operating motor means in another manner during operation of the relay; and initial-condition-selecting motor means effectively interconnecting said second contact mounting means and said first contact mounting means for causing initial-condition-selecting relative movement thereof, and of said first and second electrical contact means carried thereby, in one manner from one initial relative contact position thereof to another different initial relative contact position thereof in response to operation in one manner of said initial-condition-selecting motor means usually prior to normal operation of said main operating motor means and for causing initial-condition-selecting relative movement thereof in another manner between said different initial relative contact positions in response to operation in another manner of said initial-condition-selecting motor means usually prior to normal operation of said main operating motor means.

3,378,797
SLIDING - ACTION, MULTIPLE - CONTACT, MULTIPLE-INITIAL-CONDITION RELAY

Dante A. Caputo, Los Angeles, Calif.
(8129 Greenbush Ave., Van Nuys, Calif. 91402)

Filed July 25, 1966, Ser. No. 567,780

10 Claims. (Cl. 335—72)

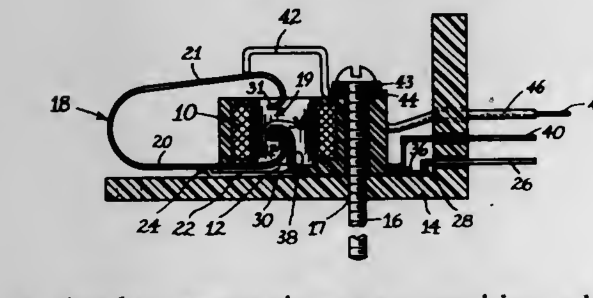


1. A sliding-action, multiple-contact, multiple-initial condition relay including apparatus for selecting and adjusting the initial relative positioning of multiple contacts thereof, comprising: first contact mounting means normally positioned in a pre-determined location during operation of a relay; second contact mounting means normally movably positioned closely adjacent to said first contact mounting means for slidable movement relative thereto during operation of the relay, said first contact mounting means having first electrical contact means carried thereby and directed toward said second contact mounting means, said second contact mounting means having second electrical contact means carried thereby and directed toward said first contact mounting means and having at least a portion thereof positioned for electrical engagement with a corresponding portion of said first electrical contact means when in a first relative contact position with respect to said first contact mounting means and for electrical disengagement from said corresponding portion of said first electrical contact means when in a second relative contact position with respect to said first contact mounting means; electrically energizable main operating motor means effectively interconnecting said first contact mounting means and said second contact mounting means for causing main operating relative movement thereof in one manner between said relative contact positions in response to a change in electrical energization condition of said main operating motor means in one manner during operation of the relay and for causing main operating relative movement thereof in another manner between said relative contact positions in response to a change in electrical energization condition of said main operating motor means in another manner during operation of the relay; and initial-condition-selecting motor means effectively interconnecting said second contact mounting means and said first contact mounting means for causing initial-condition-selecting relative movement thereof, and of said first and second electrical contact means carried thereby, in one manner from one initial relative contact position thereof to another different initial relative contact position thereof in response to operation in one manner of said initial-condition-selecting motor means usually prior to normal

operation of said main operating motor means and for causing initial-condition-selecting relative movement thereof in another manner between said different initial relative contact positions in response to operation in another manner of said initial-condition-selecting motor means usually prior to normal operation of said main operating motor means; said initial-condition-selecting motor means comprising electrically energizable and de-energizable rotative-movement-producing reversible initial-condition-selecting motor means effectively connected between said first contact mounting means and said second contact mounting means.

3,378,798
ELECTROMAGNETIC RELAY UTLIZING A SINGLE-LEAF, MAGNETICALLY CONDUCTIVE AND RESILIENT CORE STRUCTURE

Rudolf Steiner, Van Nuys, Calif.
(3624 Inglewood Blvd., Los Angeles, Calif. 90016)
Filed Oct. 20, 1965, Ser. No. 498,517
5 Claims. (Cl. 335—93)

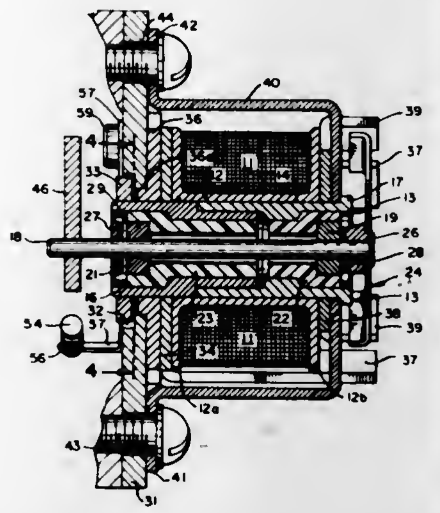


1. An electromagnetic motor comprising: a base having at least one mounting hole formed therein, an electromagnetic coil mounted on said base, a physically continuous, metallic, inherently resilient, substantially C-shaped, magnetically conductive member having lips facing each other across a magnetically operational, variable gap and capable of reciprocating toward and away from each other, said so shaped magnetically conductive member mounted on said base with respect to said electromagnetic coil so as to form the magnetic circuit to said electromagnetic coil, a first electric circuit termination, electrically insulated from said magnetically conductive member, positioned within said gap, a second electric circuit termination connected to said resilient, magnetically conductive member, said second electric circuit termination utilizing said resilient, magnetically conductive members as an electrically conductive internal motor circuit member so as to make and break, selectively, the contact with said first electric circuit termination upon the electromagnetic coil energizing and de-energizing, respectively.

3,378,799
ROTARY SOLENOID

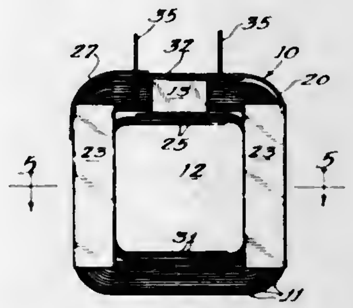
Chester V. Ouellette, Manchester, Conn., assignor to Consolidated Electronic Industries Corp., New York, N.Y., a corporation of Delaware
Filed Sept. 8, 1966, Ser. No. 577,938
11 Claims. (Cl. 335—272)

1. A rotary solenoid comprising: a coil; a central, hollow, ferromagnetically soft core extending through said coil; bearing means attached to said core; a shaft supported by said bearing means and extending through said hollow core; a stator pole structure comprising a first set of ferromagnetically soft stator poles magnetically linked to one end of said coil to have a magnetic field induced in said poles, said poles extending longitudinally along the outside of said coil and beyond the other end thereof; a second set of ferromagnetically soft stator poles magnetically linked to the other end of said coil to have a magnetic field induced therein of the opposite polarity from that induced in said first set of poles, the number of said poles of said second set being equal to the number of poles of said first set and each pole of said second set extending axially in the same direction as said first set and spaced from said first set of poles by a relatively small spacing on one side and a relatively large spacing on the other side, whereby the ends of said poles extending beyond said coil lie in a circle and are spaced in pairs; and a ferromagnetically soft rotor attached to said shaft outside of said core and at the same end thereof as the ends of said stator poles and magnetically linked with the magnetic field of said coil at said same end, said rotor having a plurality of arms, one arm for each pair of said poles.



3,378,800
ELECTROMAGNETIC WINDING HAVING COIL WRAPPER WITH WINDOW INSULATING FLAPS

Arnold J. Liberman, Skokie, Ill., assignor, by mesne assignments, to Electric Products Manufacturing Co., Bellwood, Ill., a corporation of Delaware
Filed Jan. 25, 1967, Ser. No. 611,595
10 Claims. (Cl. 336—192)



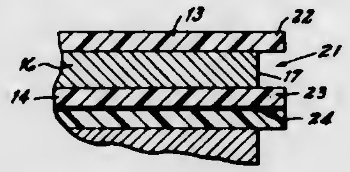
A circumferential wrapper for a transformer coil has flaps extending from its side edges. The flaps are tucked into the coil window to insulate same. Tabs on the flaps provide complete coverage of all four inner faces of the window. Extended portions of the tabs protect those of the inner coil edges which are not overlain by the flaps.

3,378,801
STRIP ELECTRICAL COILS

Addison Romaine Smith II, Louisville, Ky., assignor to Anaconda Aluminum Company, a corporation of Montana
Continuation-in-part of application Ser. No. 80,546, Jan. 4, 1961. This application Oct. 12, 1965, Ser. No. 495,297
The portion of the term of the patent subsequent to Dec. 13, 1983, has been disclaimed
5 Claims. (Cl. 336—206)

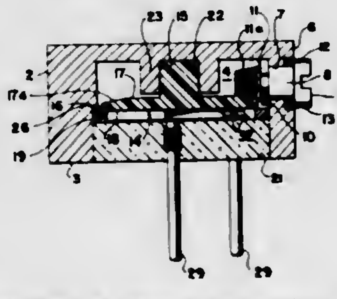
1. A roll of strip conductor formed for rewinding into electrical coils comprising an extended length of conductive metal strip wound into a multi-layer roll, said strip

having a dielectric film adherent to at least one face thereof which is disposed between successive layers of the roll, side edges on said strip which are free from said film and are etched back to a width less than the width of said film to define integral marginal portions of said insulating films which extend beyond the side edges of said strip, and a sealant disposed between and sealing the turns of the roll on at least the marginal edge portions of the strip on at least one side thereof with the side edges of the strip being free from said sealant, said roll being wound with the successive layers formed by adjacent turns of the strip being free from blocking and separable from each other so that rewinding into electrical coils is permitted.



3,378,802
VARIABLE RESISTANCE DEVICE

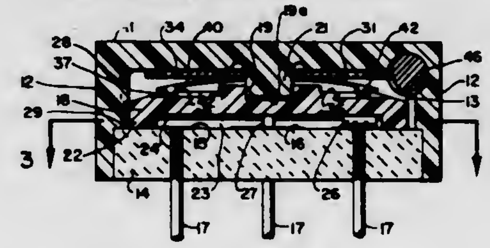
Ralph Ephraim Mishler, Diamond Bar, Leslie Thomas Peart, Santa Ana, and Donald Dalton Pettit, Thousand Oaks, Calif., assignors to Beckman Instruments, Inc., a corporation of California
Filed June 25, 1965, Ser. No. 467,042
2 Claims. (Cl. 338—174)



A variable resistance device including a housing defining a recess in which there is mounted for rotational motion a nonconductive rotor having one edge beveled around its outer periphery. The rotor is supported by spacer means above a nonconductive base member carrying an arcuate shaped resistance element with the wiper of the rotor extending into contact therewith. In order to rotate the rotor there is provided an adjustment screw mounted through a side wall of the housing and including a beveled drive head engaged against the beveled surface of the rotor so that rotation of the adjustment screw and its drive head cause the rotor and its electrical contact wiper to rotate within the recess.

3,378,803
VARIABLE RESISTANCE DEVICE

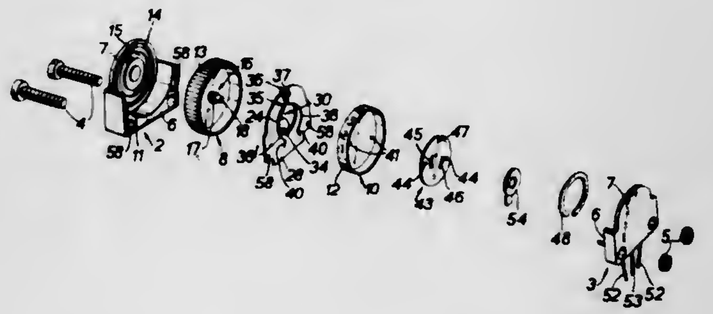
Charles W. Yungblut and Leslie T. Peart, Santa Ana, Calif., assignors to Beckman Instruments, Inc., a corporation of California
Filed July 1, 1966, Ser. No. 562,281
10 Claims. (Cl. 338—174)



A variable resistance device including an annular resistance element supported within a cavity of a housing in which there is mounted a rotatable wiper adapted to traverse a path over the resistance element. Stop means are provided within the housing for limiting the excursion of the wiper. An improved clutch arrangement is provided for permitting a clutch action between the rotatable wiper and the driving mechanism to prevent damage to the wiper or the driver mechanism when further excursion of the rotatable wiper is prevented by the stop means.

3,378,804
RESISTIVE DEVICES

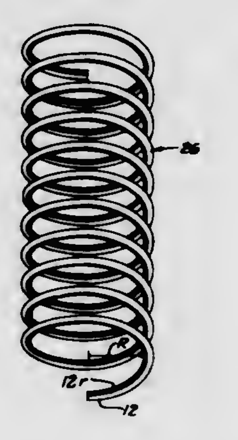
John Antony Cartwright, Links Estate, Northampton, England, assignor to Painton & Company Limited, Kingsthorpe, Northampton, England, a British company
Filed Jan. 26, 1966, Ser. No. 523,186
Claims priority, application Great Britain, Mar. 30, 1965, 13,490/65
7 Claims. (Cl. 338—174)



This application discloses a manually adjustable resistance device having connecting elements between which the resistance is varied by relative rotation between an arcuate resistive element and pick-up means engaged therewith. A follower wheel carrying said pick-up means is rotated by speed reduction gearing from a manually regulated thumbwheel. Both the follower wheel and the thumbwheel have a portion of their rims projecting from a casing housing said device and are so arranged that a given rotational movement of the thumbwheel produces a substantially parallel lesser movement of the carrier.

3,378,805
VARIABLE RESISTOR ELEMENT

Robert L. Jones, Riverside, Calif., assignor to Bourns, Inc., a corporation of California
Filed June 30, 1965, Ser. No. 468,508
3 Claims. (Cl. 338—300)

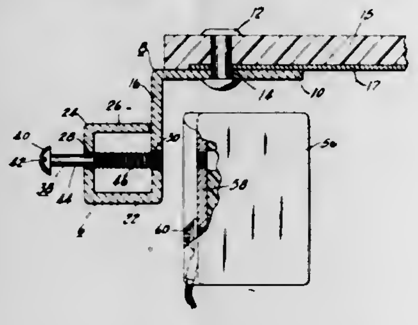


A resistance element of helical configuration adapted for use in potentiometers and like variable resistors, the element comprising an elongate mass of resistive material adherent on the inner surface of a relatively rigid wire, the latter being stressed by being curved in such a way as to place and maintain the resistive material under longitudinal compressive stress whereby likelihood of transverse cracking under tensile stress, and resultant circuit-opening or degradation, is avoided.

3,378,806
ELECTRICAL CONNECTOR

Alan W. Wilkerson and Richard D. Horbinski, Thiensville, Wis., assignors, by mesne assignments, to Web Press Engineering, Inc., Addison, Ill., a corporation of Illinois

Filed Oct. 23, 1965, Ser. No. 503,698
8 Claims. (Cl. 339—17)

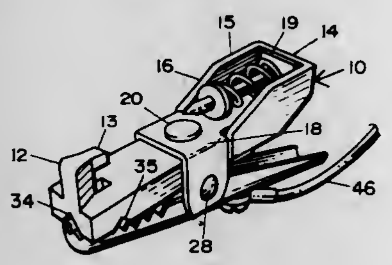


An electrical connector for a base member containing an electrical circuit comprising a frame member having a portion connected to the electrical circuit and a portion forming a screw retaining means. A captive screw is mounted and retained in the screw retaining means to engage other connection means to form an electrical connection for the electrical circuit.

3,378,807
WIRE CONNECTOR CLIP

George B. Glover IV, Hialeah, Fla., assignor to Lumidor Products Corporation, Hialeah, Fla., a corporation of Maryland

Filed Mar. 28, 1966, Ser. No. 537,962
3 Claims. (Cl. 339—32)

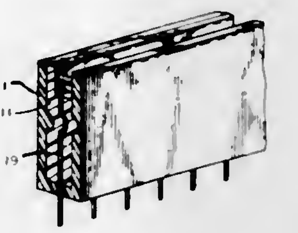


1. A wire connector clip comprising a substantially elongated base member having a post mounted at one end of said base member and an end wall at the other end thereof, said end wall having an opening, said base member being a nonconductor of electricity, a conductor strip lying on said base member and having a leg portion lying along said end wall, means fastening said conductor strip to said base member, said leg portion having an opening in alignment with said opening in said end wall, tab portions mounted on said conductor strip and extending on each side of said base member, and alligator clip means pivotally mounted between said tab portions, spring means resiliently maintaining said alligator clip means in contact relation with said base member, contact pin means extending through said openings having a point at one end extending in the direction of said post, a head mounted on the other end of said contact pin means engaging an outer portion of said end wall, a retaining washer mounted on said contact pin means intermediate said ends and a coil spring mounted on said contact pin means and extending between said retaining washer and said leg portion of said conductor strip.

3,378,808
ELECTRICAL CONNECTOR FOR TERMINATING FLAT WIRE CABLES

Harry H. French, Wanamassa, Asbury Park, N.J., assignor to the United States of America as represented by the Secretary of the Army

Filed Jan. 9, 1967, Ser. No. 608,224
3 Claims. (Cl. 339—59)

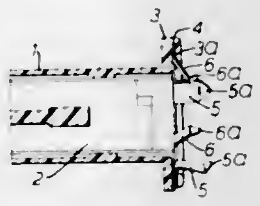


This invention relates to an electrical connector for terminating flat wire cable and comprises essentially a generally rectangular pliable body portion having opposing respective concave track and convex bead segments on opposing side walls and a plurality of conductive leads extending through the body portion and a shell adapted to receive said pliable body. The shell of general rectangular configuration includes concave track and convex bead segments that mesh with the respective bead and track segments of the pliable body portion.

3,378,809
HOLDER FOR AN ELECTRIC LAMP OR VALVE

Clarence Willans Heath, Bleasby, England, assignor to United-Carr Incorporated, Boston, Mass., a corporation of Delaware

Filed Dec. 22, 1966, Ser. No. 603,968
Claims priority, application Great Britain, Jan. 19, 1966, 2,489/66
3 Claims. (Cl. 339—91)

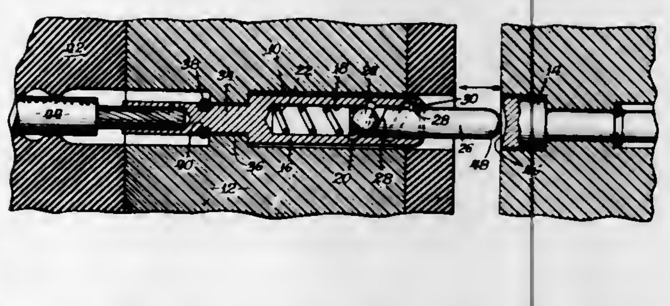


A lampholder is provided with two sets of resilient fingers, one set for snapping into an aperture in a support and the other for engaging a lamp assembled in the holder.

3,378,810
SELF-CLEANING ELECTRICAL CONNECTOR

Robert F. Dorrell, Des Plaines, I'l., assignor to Amphenol Corporation, Broadview, Ill., a corporation of Delaware

Filed May 13, 1966, Ser. No. 549,986
5 Claims. (Cl. 339—95)

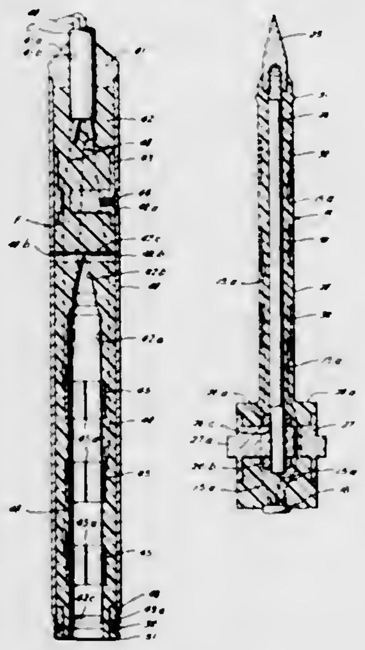


An electrical connector wherein at least one contact is mounted in a cavity in a contact body and extends longitudinally therefrom into mating engagement with another contact. Means are provided to urge the contact longitudinally outward from the cavity while causing lateral engagement between the contact and the contact body, and helical guide means are disposed along the cavity and the contact to impart rotative motion to the contact upon relative longitudinal motion between the contact and the contact body thereby resulting in a wiping or cleaning action on the contact surface.

3,378,811
DOWNHOLE ELECTRICAL CONNECTOR APPARATUS AND METHOD OF CONNECTING SAME

Roy H. Cullen, Ronald G. Zilliox, Charles H. Elliott, and Jimmie R. Aker, Houston, Tex., assignors, by direct and mesne assignments, to The Youngstown Sheet and Tube Company, a corporation of Ohio

Filed Jan. 10, 1966, Ser. No. 519,537
3 Claims. (Cl. 339—96)

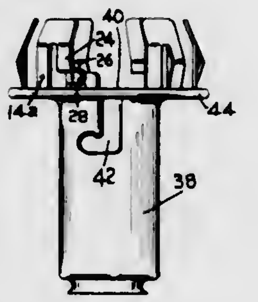


An electric connector apparatus for use in a well wherein male and female electrical connectors are provided with multiple longitudinally spaced electrical contacts and wherein means are provided for maintaining a hydrostatic balance on the connectors at all times.

3,378,812
PANEL-MOUNTED LAMP SOCKET

Robert E. FitzGerald, Quincy, Mass., assignor to United-Carr Incorporated, Boston, Mass., a corporation of Delaware

Filed Feb. 13, 1967, Ser. No. 615,564
5 Claims. (Cl. 339—127)

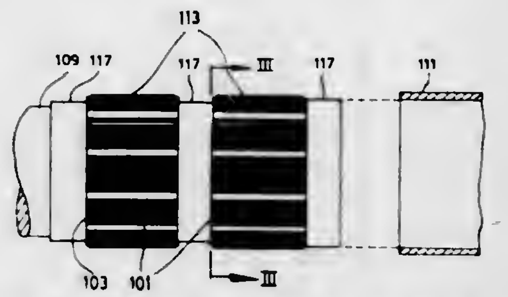


This invention relates to a lamp socket mounting having a prong ring fastening device with means for making locking engagement to an apertured support. Locking engagement is made by a V-shaped flexing arm engaged against a V-shaped extension formed on the wall of the aperture.

3,378,813
ELECTRICALLY CONDUCTIVE COUPLING

Ernst Eichenberger and Rudolf Ramel, Wettingen, Aargau, Switzerland, assignors to Motor-Columbus A.G., Baden, Aargau, Switzerland, a corporation of Switzerland

Filed Jan. 4, 1966, Ser. No. 518,694
Claims priority, application Austria, Jan. 15, 1965, 314/65; Nov. 19, 1965, 10,436/65
8 Claims. (Cl. 339—255)

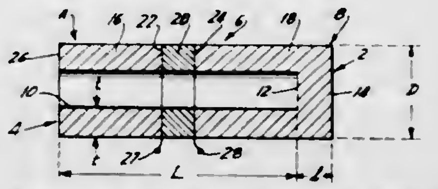


An electrically conductive coupling in which a cylindrical plug is connected to a socket by stacks of spring wire turns flattened so as to be elongated in the axial direction of plug movement. The longitudinal portions of each wire turn abuttingly engage, under their resilient force, conductive faces of the plug and socket. The stacks are secured to the plug face by axially elongated frames which are radially open, and are circumferentially uniformly spaced on the plug face.

3,378,814
DIRECTIONAL TRANSDUCER

John L. Butler, Lexington, Mass., assignor to General Instrument Corporation, Newark, N.J., a corporation of New Jersey

Filed June 13, 1966, Ser. No. 557,257
14 Claims. (Cl. 340—8)



An electromechanical transducer having a tubular body with the tube closed at one end and open at the other end so designed that the vibrations produced at the open end by the solid and open portions respectively cancel one another, thereby to produce a transducer which radiates substantially only from the closed end thereof.

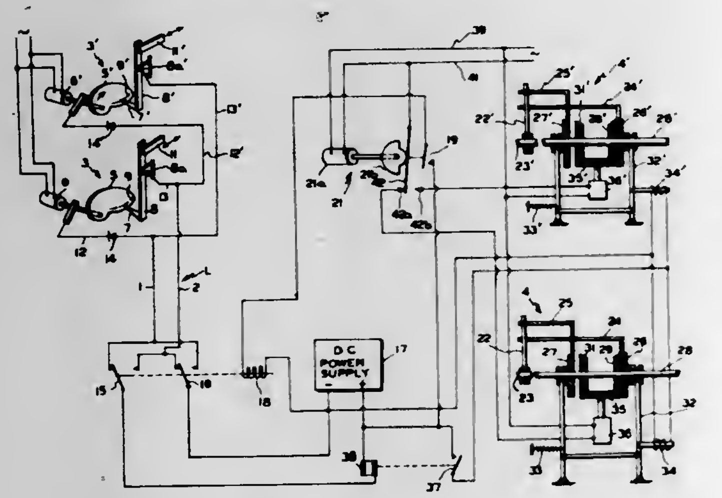
3,378,815
HYDROPHONE EEL STRUCTURE FOR UNDERWATER SEISMIC EXPLORATION

Stephen V. Chelminski, Wilton, Conn., assignor to Bolt Associates, Inc., East Norwalk, Conn., a corporation of Connecticut

Filed Sept. 16, 1966, Ser. No. 580,092
16 Claims. (Cl. 340—7)

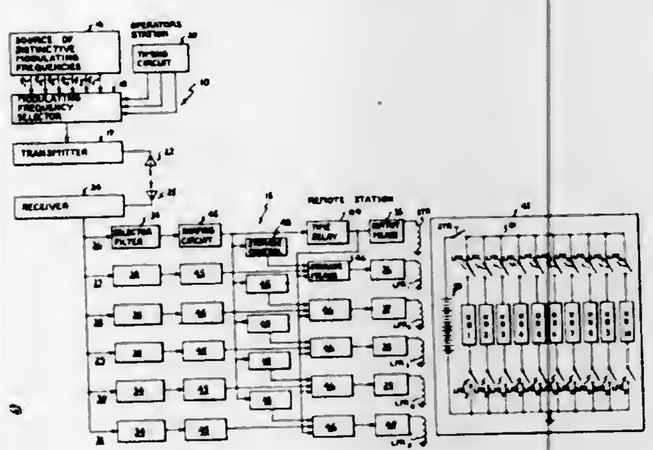
A hydrophone eel structure for underwater seismic exploration is provided which is sensitive and accurate in response, is easily towed and is readily coiled for storage, wherein both ends of each hydrophone unit are responsive to the acoustical impulses, being non-responsive to axial acceleration, and the length of the tubular casing from end to end can be filled with liquid or emptied by removing the tail plug. The pressure of the liquid throughout the length of the casing is equalized by providing for passage of the liquid throughout the length of the casing, and because of the sealed arrangement of each hydrophone unit and the associated connection wires, it is possible to use fresh or salt water as the interior liquid. At the nose of the eel structure a towing assembly provides a flexural transition between the cable and the eel for preventing flexing stress concentration and for isolating the wire connections from towing stress, while the cable covering has braided filaments embedded therein surrounding its electrical wires for carrying the towing stress.

3,378,816
TELEMETER SYSTEM
Bamby Lawrence Soscia, Cranston, R.I., assignor to General Signal Corporation, a corporation of New Jersey
Filed Nov. 16, 1964, Ser. No. 411,396
8 Claims. (Cl. 340—147)



1. A telemeter system including
(a) a transmission line, including first and second electrical conductors, leading from a transmitting station to a remotely located receiving station;
(b) first and second electrical signal transmitters located at the transmitting station and connected with said conductors, each transmitter being capable of sending cyclic, time duration signals;
(c) means responsive to the relative polarities of the two conductors for preventing the first transmitter from sending signals along the conductors when the first conductor is positive relative to the second conductor and for preventing the second transmitter from sending signals along the conductors when the second conductor is positive relative to the first conductor;
(d) a source of direct current located at the receiving station and having positive and negative terminals;
(e) switching means for selectively connecting the terminals of the source with said conductors and having a first condition in which the positive and negative terminals are connected with the first and second conductors, respectively, and a second condition in which the connections between the terminals and the conductors are reversed;
(f) timing means for changing the condition of the switching means in cycles related to the cycles of the transmitter signals;
(g) a pair of electrical signal receivers located at the receiving station; and
(h) means at the receiving station effective when the first transmitter is sending a signal along said conductors for causing only the first receiver to operate in response to said signal, and effective when the second transmitter is sending a signal along said conductors for causing only the second receiver to operate in response to said signal.

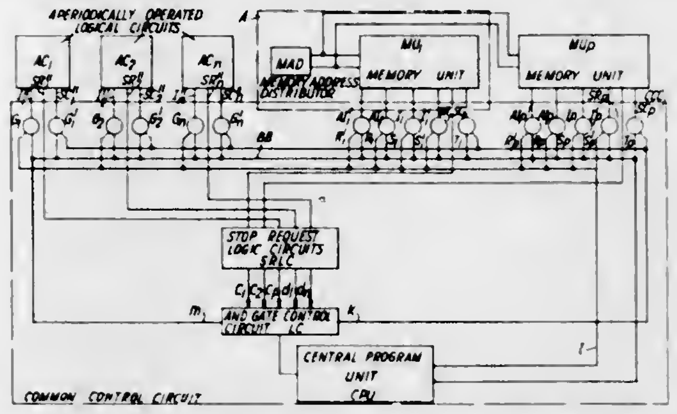
3,378,817
SIGNALLING SYSTEMS
Hillert Vitt, Erie, Pa., assignor to General Electric Company, a corporation of New York
Filed Dec. 9, 1964, Ser. No. 417,151
13 Claims. (Cl. 340—171)



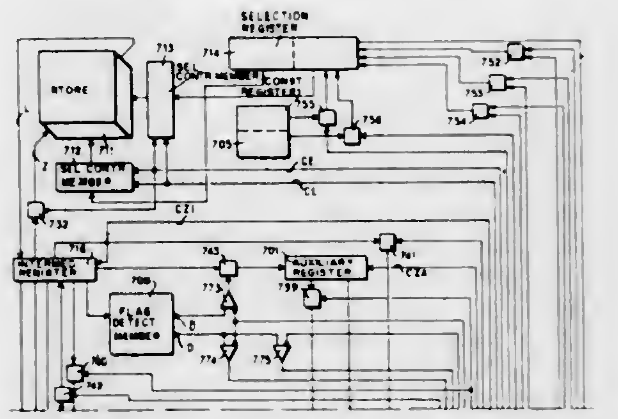
1. A signalling system comprising: operator station means for selecting and transmitting distinctive function command signals each composed of a safety tone signal and a given number of successive control tone signals in a predetermined timed relationship therewith; and remote station means for receiving, selecting and translating said function command signals to provide a preselected one of a plurality of functions in accordance with the received function command signal, said means including;
(a) means for receiving said function command signals and providing an output corresponding to the safety tone and control tones selected at said operator station,
(b) means for directing the output of said receiver means to a plurality of separate channels each including frequency selective means adapted to pass only a preselected one of said safety tone and control tone signals so that a safety tone channel and a number of control tone channels are provided;
(c) output means associated with each of said separate channels;
(d) means associated with said safety tone channel arranged to cause the output means thereof to remain energized for a predetermined time period after its initial energization resulting from application of the safety tone to said safety tone channel;
(e) storage means, one associated with each of said control tone channels;
(f) and means responsive to said safety tone for controlling each of said storage means so that the presence of the control tone signal assigned to a given control tone channel is operative to allow the output means thereof to assume its energized condition.

3,378,818
DATA PROCESSING SYSTEM
Hans Helmut Adelaar, Ekeren, Jean Louis Masure, Wilrijk, and Pe Tsi Chu, Antwerp, Belgium, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 22, 1964, Ser. No. 361,692
Claims priority, application Netherlands, May 7, 1963, 292,449
23 Claims. (Cl. 340—172.5)

A data processing system for controlling an automatic switching system. A plurality of logic circuits, controlled by a wired configuration, are able to perform the more routine switching control operations. The data processor is central to the logic, commonly controlled, and able to perform the more complex non-routine operations. As long as the logic circuits are able to handle the switching requirements of the system, they do so. But, when the operations become too complex, the logic circuits request the processing system to intervene. When it does so, virtually all logic circuits stop their operations while the requesting logic circuit and the processor exchange information.


APERIODICALLY OPERATED LOGICAL CIRCUITS
MAD
MEMORY ADDRESS DISTRIBUTOR
MU₁
MEMORY UNIT
MUp
MEMORY UNIT
BB
STOP REQUEST LOGIC CIRCUITS SRLC
AND GATE CONTROL CIRCUIT LC
CENTRAL PROGRAM UNIT CPU
COMMON CONTROL CIRCUIT

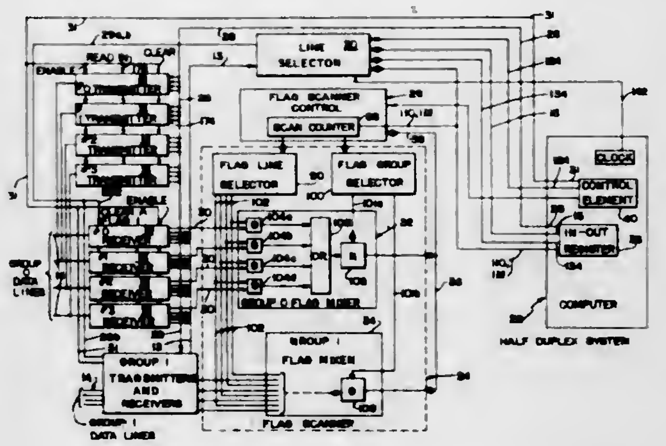
3,378,819
DATA PROCESSING SYSTEM WITH INDIRECT ADDRESSING
Jacques Georges Lucien Hannicq, Bagnolet, and Maurice Guillaume Jean Burel, Courbevoie, France, assignors to Societé Industrielle Bull-General Electric (Societé Anonyme), Paris, France
Filed Mar. 8, 1965, Ser. No. 437,714
Claims priority, application France, Mar. 17, 1964, 967,652, Patent 1,404,464
4 Claims. (Cl. 340—172.5)



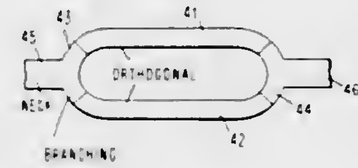
In a data processor, a storage system, organized on a character-bias, contains addresses, instructions and operands in specialized storage sections. Besides In-Out registers, selection registers, address registers, instruction registers and address incrementing means, there is provided a constant register which can be connected, under control of a control unit, to one of the two stages of the selection register for adjoining an ordinate or Y part of an address to the abscissa or X part of said address stored in the other stage of the selection register, in order to constitute a direct address of two characters, whereby an instruction, including an Operation code and two indirect addresses for A and B operands, is comprised of only three characters.

3,378,820
DATA COMMUNICATION SYSTEM
Donald L. Smith, Stow, Mass., assignor to Digital Equipment Corporation, Maynard, Mass.
Filed Aug. 13, 1964, Ser. No. 389,242
18 Claims. (Cl. 340—172.5)

Interface apparatus for establishing communication between a digital data processor and plural data lines automatically identifies which data transmitter and/or receiver connected to the data lines is ready to transfer information with the data processor and sends this information to the data processor. Upon instruction, the interface apparatus channels data between the data processor and a selected data line. Also upon command, the interface apparatus causes a receiver to monitor the transmission from a selected transmitter, thereby enabling the data processor to check the accuracy of the transmission.



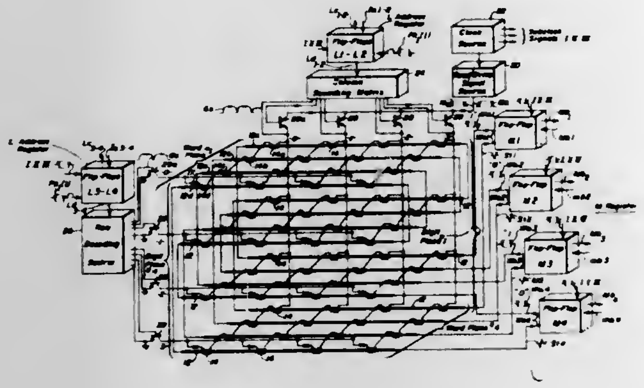
3,378,821
MAGNETIC THIN FILM MEMORY APPARATUS WITH ELONGATED APERTURE
Hans-Otto G. Leilich, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 23, 1963, Ser. No. 332,588
3 Claims. (Cl. 340—174)



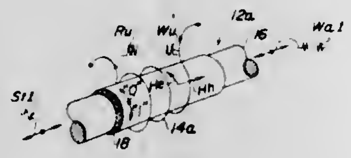
1. A chain memory, comprising
an electrically conductive strip having at least one aperture therein and having magnetic material deposited around the aperture and including an area of the strip contiguous to the aperture having a greater amount of magnetic material deposited thereon than the remaining area.

3,378,822
MAGNETIC THIN FILM MEMORY HAVING BIPOLAR DIGIT CURRENTS
Bruce A. Kaufman, Los Angeles, and Eduardo T. Ulzurrun, Hollywood, Calif., assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Mar. 12, 1963, Ser. No. 264,532
17 Claims. (Cl. 340—174)

A magnetic memory including a three dimensional coordinate array of anisotropic magnetic thin film storage elements formed on conductors wherein individual digit storage positions comprise a portion of the magnetic thin film and a solenoidal winding. A pulse source providing unipolar current pulses is connected selectively to the solenoidal windings of any desired word for producing a unidirectional magnetic field transverse to the circumferential easy axis of the magnetic thin film in order to read-out the digits stored at the digit storage positions. A bipolar digit current pulse source for each digit position is connected to respective groups of storage elements to produce alternating first and second magnetic fields circumferentially along the easy axis of the magnetic thin film. In order to write-in digits at the digit storage positions of any desired word, concurrent transverse magnetic fields are produced at respective ones of the digit storage positions by selectively producing said unidirectional magnetic fields and individually producing said alternating magnetic fields at each of the digit storage positions of the desired word. Coincidence of the unidirectional magnetic field and each of the alternating magnetic fields determines the direction of the remanent state of the magnetic thin film at the respective digit positions of the desired word.

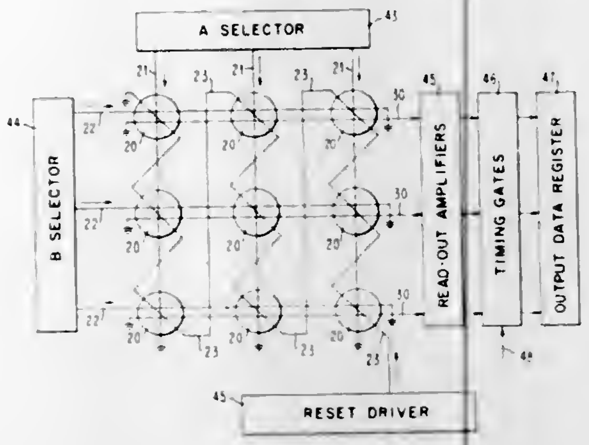


3,378,823
THIN-FILM MAGNETIC MEMORY EMPLOYING COINCIDENT A.C. AND D.C. DRIVE SIGNALS
Bruce A. Kaufman, Los Angeles, and Eduardo T. Ulzurrun, Hollywood, Calif., assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Continuation-in-part of application Ser. No. 264,532, Mar. 12, 1963. This application Nov. 6, 1963, Ser. No. 321,759
18 Claims. (Cl. 340—174)



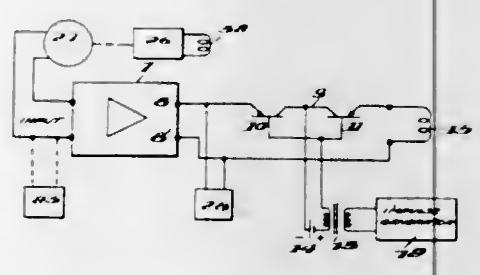
1. A single frequency, thin-film magnetic memory comprising:
a plurality of word storage locations including digit storage positions, said digit storage positions comprising an anisotropic thin-film of ferromagnetic material having a preferred easy axis of magnetic domain orientation and a transverse hard axis;
a digit position circuit means for producing an alternating magnetic field along said easy axis and unidirectional magnetic field along said hard axis; and
circuit means coupled to said digit position circuit means for applying write A.C. digit current and unipolar pulses having the same repetition rate and relative timing to said digit position circuit means to produce said alternating and unidirectional magnetic fields concurrently on alternate half cycles of said A.C. digit current, said A.C. digit current being of one phase state or another phase state representing a binary digit "1" or "0," respectively, said digit position circuit means being constructed and arranged whereby said thin-film is responsive to said concurrent magnetic fields during alternate half cycles of the A.C. digit current to produce switching of said thin-film by domain rotation and in a direction along the easy axis corresponding to the direction of the alternating magnetic field during said alternate half cycles to magnetically store a corresponding binary digit "1" or "0."

3,378,824
NON-DESTRUCTIVE READOUT MEMORY EMPLOYING BIAXIAL ANISOTROPY
Henri J. Oguey, Oberrieden, Switzerland, assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Feb. 12, 1964, Ser. No. 344,310
10 Claims. (Cl. 340—174)



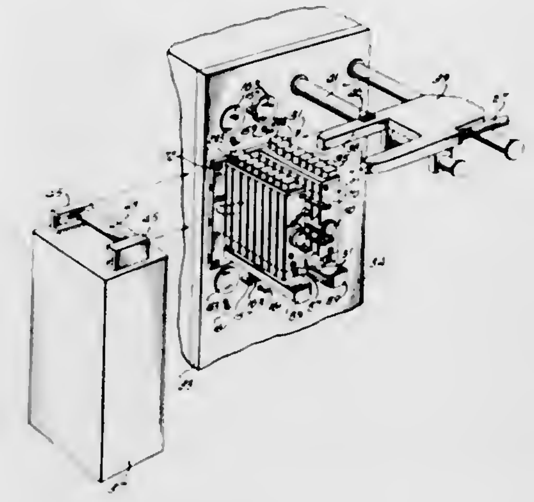
1. Memory apparatus, comprising:
(a) an array of pulse responsive memory elements, each having four stable states corresponding respectively to 0, 1, 0′, 1′;
(b) a first array of drive lines, each coupled to a plurality of said elements and each effective when pulsed to shift only those coupled elements in a state other than the 0 state to the 1′ state;
(c) a second array of drive lines, each coupled to a plurality of said elements and each effective when pulsed to shift only those coupled elements in a state other than the 1 state to the 0′ state; and
(d) a third array of drive lines, each coupled to a plurality of said elements and each effective when pulsed to shift those coupled elements in the 0′ state to the 0 state and those coupled elements in the 1′ state to the 1 state;
(e) each said element being coupled to one and only one of the first array of drive lines, one and only one of the second array of drive lines, and one and only one of the third array of drive lines.

3,378,825
APPARATUS FOR SUMMATION OF SIGNALS BY PULSE SAMPLING
Franklin F. Offner, 1890 Telegraph Road, Deerfield, Ill. 60015
Filed Nov. 21, 1963, Ser. No. 325,409
13 Claims. (Cl. 340—174.1)



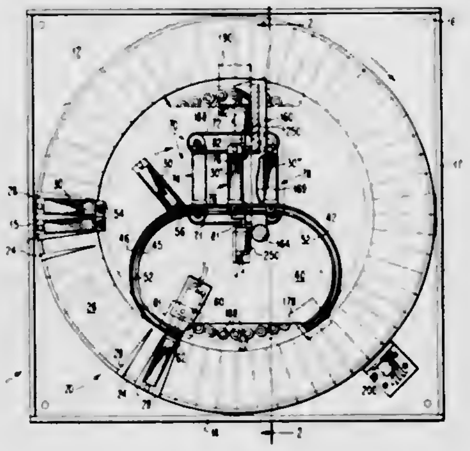
Apparatus for summating electrical signals operates by sampling the signal with repetitive, brief pulses which are amplitude modulated by the signal. The pulses are repetitively applied to a magnetic tape loop at a low mark-space ratio so that few of the pulses from one recording will fall on pulses from succeeding recordings. The total signal is read out as the average of the pulses resulting from the sum of the individual recordings.

3,378,826
RANDOM ACCESS STORAGE DEVICE EMPLOYING FLEXIBLE TAPES
Andrew Gabor, Huntington, N.Y., assignor to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York
Filed July 28, 1964, Ser. No. 385,727
11 Claims. (Cl. 340—174.1)



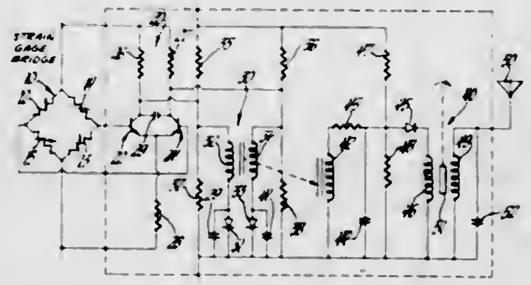
This disclosure contains drawings and a description of information storage apparatus which includes a plurality of cartridges, unlimited in number, each containing a plurality of information storage tapes. The apparatus includes supporting and transducing means by which each cartridge may be mounted interchangeably with the others of the cartridges to perform transducing operations on the tapes and to provide random access to any selected address on storage tracks on each tape within a minimum amount of time.

3,378,827
DIRECT ACCESS DATA STORAGE
Friedrich Rudolph Hertrich, San Jose, Calif., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed May 24, 1965, Ser. No. 458,134
14 Claims. (Cl. 340—174.1)



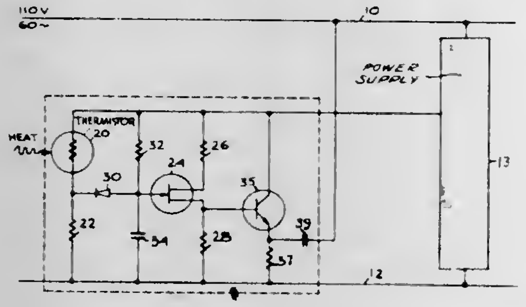
6. A direct access data storage, comprising
a bin of annuloidal configuration having a central longitudinal cylindrical axis and a multiple of compartments arranged radially of said axis,
means for rotating said bin continually about said axis in a given direction,
a multiple of tubular cells of rectangular cross-section arranged in said compartments and maintained there substantially by centrifugal force,
a plurality of records arranged in each cell and each capable of bearing information or data,
each of said cells bearing magnetic identifying indicia,
means arranged adjacent said rotating bin for sensing the identity of each cell,
means responsive to said sensing means for drawing a selected cell inwardly,
each of said cells having axially aligned pins on said interior facing surface,
an interrupted ovoid track assembly arranged internally of said bin to accommodate said pins of a cell,
means arranged internally of said bin adjacent said track assembly and above said cell for reading from and writing on a selected strip arranged at a handling station,
a standing station along said track prior to said translating station,
a selected cell being moved into said standing station by the action of tangential force as the cell moves along the track,
a resting station beyond said translating station along said track of said track assembly,
means for arresting said selected cell at said standing station and for moving it into said translating station and said resting station,
a cell restoring arm assembly,
pins for actuating said cell restoring arm assembly on said bin at each cell location,
means for identifying a cell at said resting station,
means for comparing the identities of said cell at said resting station and the compartment from which that all was withdrawn for setting said pins on said bin corresponding to said cell to be returned,
said arm having a camming surface thereon contacting said pin and serving to accelerate the arm gradually from zero to full bin speed,
said arm having another camming surface guiding said cell into alignment with a compartment of said rotating bin, and
said arm having a further camming surface for droping said pin and removing the driving force as said cell is forced into said compartment by movement of the bin and the shape of said track assembly,
said cell being returned to its place in said bin by centrifugal force.

3,378,828
SHORT RANGE RADIO TELEMETRY
Marvin K. Stark, Milford, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 16, 1965, Ser. No. 464,498
3 Claims. (Cl. 340—206)



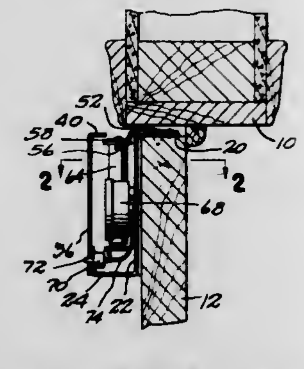
A telemetry system including a tone transmitter and a demodulator receiver. The transmitter, which may be miniaturized, includes a tunnel-diode multivibrator to produce a width modulated control signal for application to a voltage controlled oscillator which generates the tone.

3,378,829
FIRE WARNING DEVICE
Moshe Alafi and Wallace Birnbaum, Berkeley, Franklin C. Ford, Pleasanton, and Charles S. Godfrey, Berkeley, Calif., assignors, by mesne assignments, to Berkeley Scientific Laboratories, a corporation of California
Filed Apr. 2, 1965, Ser. No. 444,952
1 Claim. (Cl. 340—228)



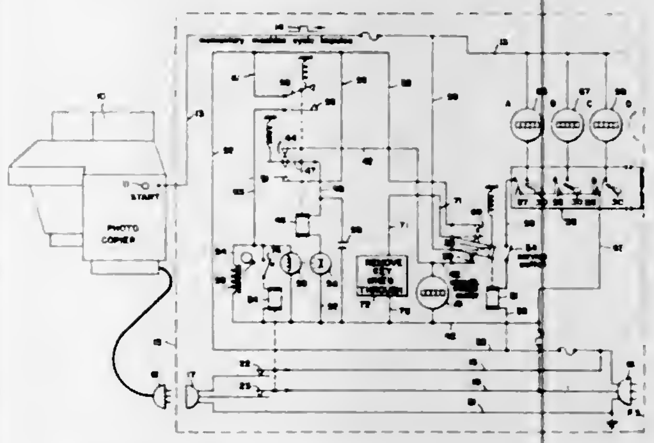
1. Apparatus for generating at one location signals indicative of a predetermined temperature being exceeded and for transmitting these along the power lines to a second location for detection thereat comprising means for generating a signal having a predetermined value when the temperature of said means exceeds said predetermined value including a thermistor, a first resistor connected in series with said thermistor, and means for applying operating potential across said serially connected resistor and thermistor, oscillator means inoperative except in the presence of said predetermined voltage comprising a unijunction transistor having a first and a second base and an emitter, means for applying operating potential across a first and second base of said unijunction transistor, a second resistor, a capacitor connected in series with said second resistor, means for applying operating potential across said resistor and second capacitor, means connecting the junction of said second resistor and capacitor to said unijunction emitter, and diode means connecting said junction between said thermistor and first resistor to the junction between said second resistor and capacitor, and means for applying the output of said oscillator means to said power lines.

3,378,830
ALARM DEVICE
George D. Patrick, 2385 Murray Ridge Road, San Diego, Calif. 92123
Filed Aug. 4, 1965, Ser. No. 477,091
5 Claims. (Cl. 340—274)



1. An alarm device adapted to be mounted on a building in association with a closure member to signal opening of said closure member, said device comprising a supporting bracket having a plurality of angularly extending integral panels, a cover releasably carried by said bracket and cooperating therewith to define a compartment, an electric signal device carried by said bracket in said compartment, a battery carrier mounted on said bracket in said compartment, a battery removably mounted in said carrier, a manual switch mounted on said carrier in said compartment and having an actuator extending externally of said compartment, one bracket panel projecting from said compartment and having means for attachment thereof to one of a cooperating pair of building closure and closure frame members, an elongated resilient switch arm carried by said last named bracket panel and having an end portion projecting into said compartment, and a switch contactor carried by said bracket in said compartment and normally engaged by said switch arm end portion, said manual switch, battery, signal device and switch contactor being electrically connected in a circuit controlled by said resilient switch arm and said manual switch, said switch arm and last named bracket panel being interposed between said closure member and closure frame to flex said switch arm to disengage said contactor when said closure member is in closed position.

3,378,831
MACHINE USAGE ACCOUNTING SYSTEM
William Metcalf, 5400 Fulton St., San Francisco, Calif. 94121
Filed Aug. 11, 1965, Ser. No. 478,934
8 Claims. (Cl. 340—274)

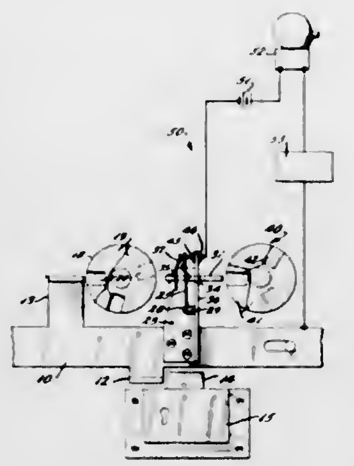


1. An accounting control system adapted to record the individual usage by a number of users of utilization means of a type generating a pulse for each cycle of operation thereof and to inhibit unauthorized usage of the utilization means, said control system comprising alarm means normally coupled to be adapted to sense said pulse and emit an alarm signal of predetermined duration indicative of unauthorized usage of the utilization means, a bank of switches lockable by keys unique to each, each switch being movable between locked and unlocked states by its associated key, counting registers operatively associated with respective ones of each of said switches, said switches being operatively coupled to said alarm means and said registers, so as to serve, when unlocked, to disable the alarm circuit means and feed said pulse to the register associated with the unlocked switch for recording each occurrence of a cycle of operation of the utilization means.

3,378,832
BURGLAR ALARM SYSTEM
Shu-Lien Liou, 195 Sec. 3, Chungking Road N., Taipei, Taiwan
Filed Aug. 16, 1965, Ser. No. 480,075
13 Claims. (Cl. 340—274)

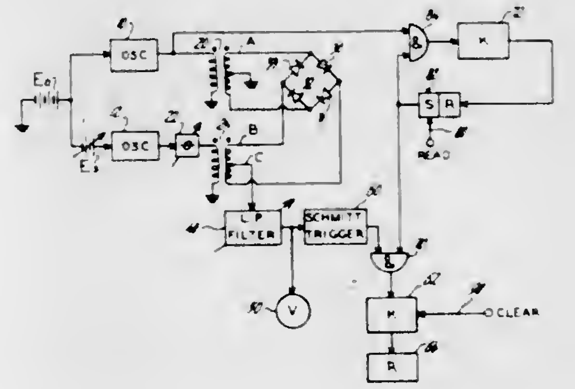
1. A device for indicating unauthorized operation of a mechanism having relatively movable members comprising,

(A) a first member having
  (1) a first part mounted thereon,
  (2) a second part mounted for movement relative to the first part,
(B) a second member
  (1) mounted for movement relative to the first member,
  (2) means to selectively provide an opening in the second member of an appropriate size and shape to receive the second part of the said first member during operation of the mechanism, and,



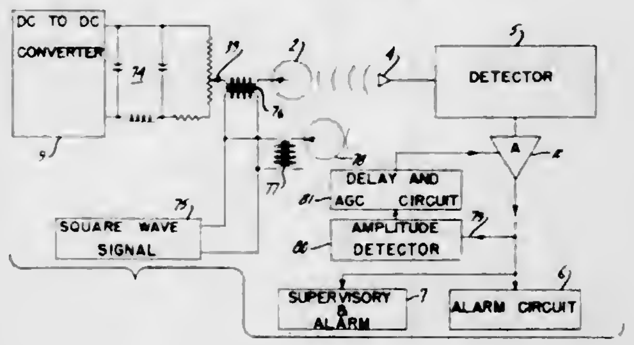
  (3) means to move the said second part of the first member relative to the first part as the first member moves toward the second member at times when said means for forming an opening are not actuated,
(C) an alarm signal means, and,
(D) means to activate said alarm signal means when relative movement occurs between the first part and the second part of the first member.

3,378,833
ANALOG-DIGITAL CONVERTER EMPLOYING A RING DEMODULATOR
Wilmer C. Anderson, Greenwich, Conn., assignor to General Time Corporation, New York, N.Y., a corporation of Delaware
Filed July 9, 1964, Ser. No. 381,330
10 Claims. (Cl. 340—347)



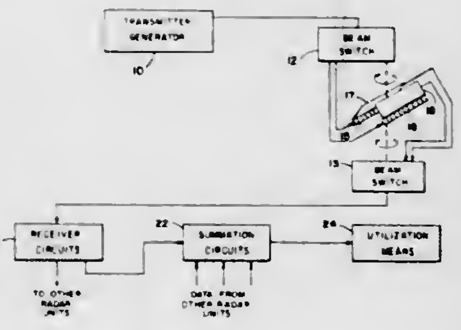
The analog-digital converter of this invention includes a reference oscillator operating at a fixed frequency, and another oscillator operating at a frequency which is varied as a function of the analog input signal. The output signals of the two oscillators are beat together in a ring demodulator circuit to produce an output signal including a frequency equal to the difference between the variable oscillator frequency and the fixed oscillator frequency. The numerical output indication is provided by counting the number of cycles of the difference frequency occurring within a measured time interval. An adjustable phase shifter is provided to control the relative phase of the oscillator output signals, to eliminate a spurious output signal indication which might otherwise occur. The bridge output signal is passed through a low frequency filter, tunable to select only the fundamental frequency, and is then shaped into a rectangular wave form prior to application to a read-out device.

3,378,834
PERIMETER INTRUSION DETECTION SYSTEM
Paul I. Corbell, Milwaukee, Wis., assignor to Johnson Service Company, Milwaukee, Wis., a corporation of Wisconsin
Filed May 10, 1966, Ser. No. 548,983
17 Claims. (Cl. 343—5)



A perimeter type control controls entrance to an area and includes a transmitter at one end and a receiver at the opposite end. A beam of high or radiofrequency energy of the order of 200 megacycles or higher is established. The receiver, such as a radiofrequency detector, is fed into a high gain amplifier the output of which is fed through a temperature stabilizing circuit. An alarm circuit and a supervisory circuit are parallel connected to the amplifier. The alarm circuit is selected such that it will not detect the change in the Doppler frequency signal established by slow movement within the beam. The supervisory circuit however detects the continued proper operation of the circuit and the state of the carrier signal. Slow moving targets substantially decrease the carrier signal which in turn will trigger the alarm and indicate the malfunctioning of the circuit and/or the presence of a slow moving target. Further the amplifier section is provided with a feedback circuit including an amplitude detector and a delayed automatic gain control circuit. The output of the amplifying section can be fed into a timing capacitor to introduce a preselected time delay in the transfer of a proportional signal which will be fed into a control transistor having a variable impedance to vary the gain of the control transistor and thereby the amplifying section.

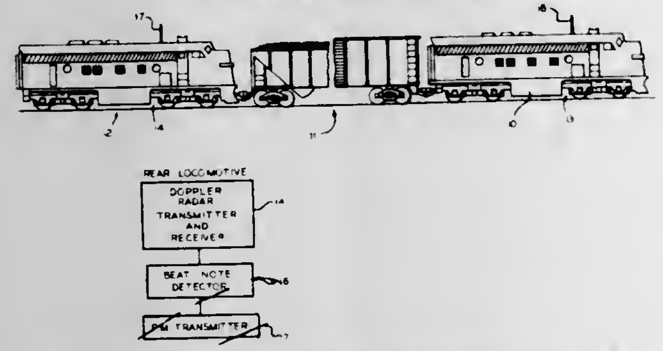
3,378,835
SECTORIZATION FOR APERTURE ADDED RADARS
David H. Mooney, Jr., and Spencer D. Coleman, Jr., Severna Park, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Nov. 17, 1966, Ser. No. 596,048
10 Claims. (Cl. 343—5)



A plurality of radar vehicle units each having back-to-back antennas mounted on a common rotating pedestal are provided. The antennas of all the radar units rotate in azimuth synchronization and alignment. The antennas are paired off by antenna switching so that each pair searches a different portion of the hemisphere and will combine their information by aperture adding.

3,378,836
TRAIN SLACK MEASURING APPARATUS

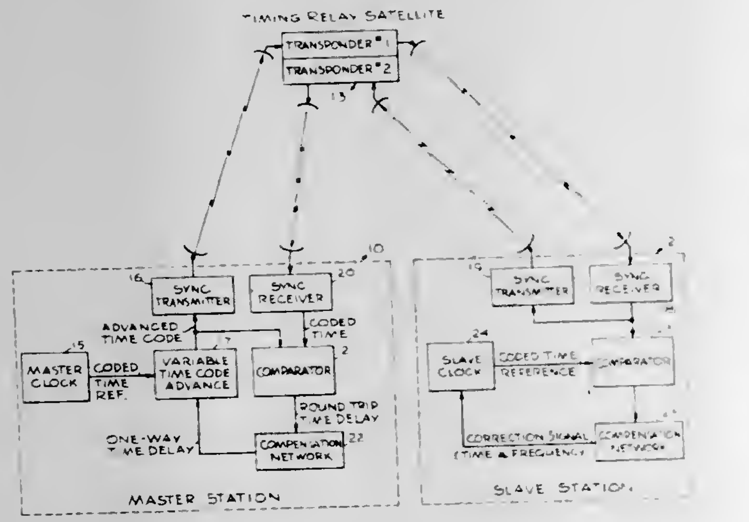
Ivan L. Joy, 1616 W. 29th St. 66611; Gary M. Hoffsommer, R.F.D. 4 66603; Merlin G. Reiter, 5408 W. 24th St. 66614; and Donald L. Muyskens, 245 E. 29th St. 66611, all of Topeka, Kans.
Filed Aug. 29, 1966, Ser. No. 575,595
3 Claims. (Cl. 343—6)



A system for measuring accumulated slack in a railway train which has Doppler radar for independently measuring the speeds of front and rear cars in a train, and comparing system for converting Doppler radar signals indicative of speed into a readout of accumulated slack in the train.

3,378,837
PRECISION TRACKING SYSTEM

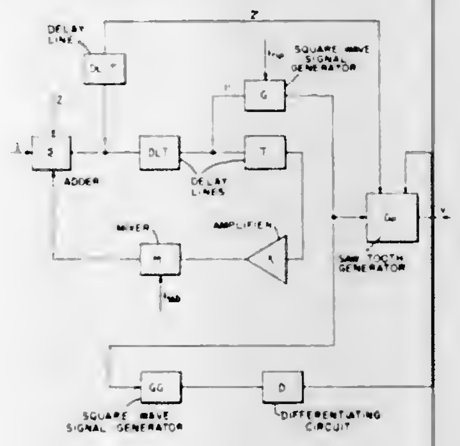
Ross E. Graves, Pacific Palisades, Los Angeles, Calif., assignor to TRW Inc., a corporation of Ohio
Filed Oct. 14, 1963, Ser. No. 315,748
6 Claims. (Cl. 343—7.5)



1. In combination,
- a plurality of stations remote from each other and having separate local clock means adapted to be synchronized with each other,
- a satellite having at least two transponders for two-way communications between at least two of said stations remote from each other but within line of sight to said satellite,
- means at a first station for transmitting a coded time reference signal to one of said satellite transponders for retransmission to said second station,
- means at said second station for retransmitting said coded time reference signal to the other of said satellite transponders for retransmission to said first station, and
- means at said first station for measuring the total transit time by comparing the time of transmission of the coded reference signal with the time of arrival of said coded reference signal,
- means at said first station for advancing the time of said coded time reference signal an amount equal to one half the total transit time,
- means at said second station for generating an error signal by comparing the time of said local clock means with the time received on said advanced reference signal, and
- means for controlling the time of said local clock means with said error signal.

3,378,838
SYSTEM FOR METERING THE NONAMBIGUOUS SPEEDS OF THE TARGETS BY MEANS OF RADAR EMPLOYING TWO OPERATIVE FREQUENCIES AND A COHERENT MEMORY FILTER

Vincenzo Romano, Rome, Italy, assignor to Selenia-Industrie Elettroniche Associate S.p.A., Rome, Italy
Filed Dec. 12, 1966, Ser. No. 601,192
3 Claims. (Cl. 343—7.7)



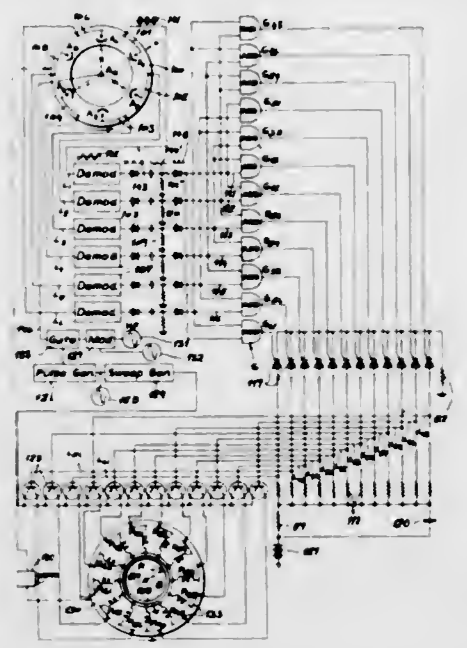
A method and apparatus for measuring the non ambiguous speed of targets by means of a pulsed radar system having a saw tooth generator operating with two different operative frequencies. A coherent memory filter allows the measure of the speed to be obtained by using the shift of the pips corresponding to the two measures of the ambiguous speed corresponding to said frequencies. The speed is measured by means of the determination of the distance between two pulses obtained from the two different operative frequencies by processing them in the coherent memory filter. The determination of the distance between the pulses is obtained by triggering and blocking the saw-tooth generator. Square wave signal generators are used for blocking.

3,378,839
RADIOLOCATION SYSTEM

Karl F. Ross, 5121 Post Road, Riverdale, N.Y. 10471
Filed Feb. 3, 1967, Ser. No. 613,887
10 Claims. (Cl. 343—11)

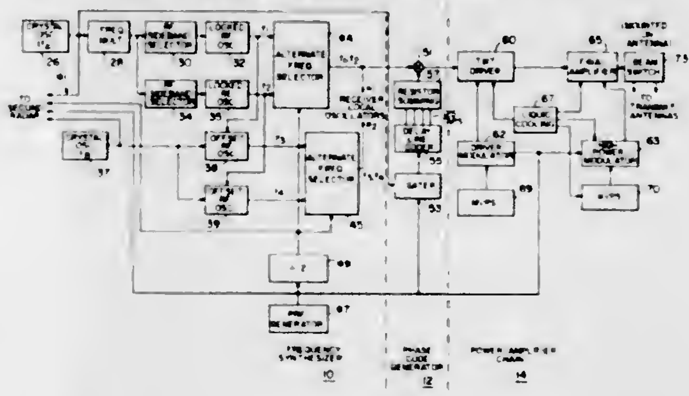
The invention relates to a radiolocation system wherein incoming high-frequency waves, externally generated or locally transmitted and externally reflected, impinge upon a polygonal array of parallel receiving antennas which are grouped in several pairs. Upon cophasal reception of incoming wave energy by the antennas of a given pair, as determined by a respective phase-comparison circuit connected thereto, the direction of the origin of this wave energy is established as lying substantially in a plane bisecting the imaginary line which interconnects the particular antenna pair. Advantageously, the array of receiving antennas is rotated, unidirectionally or oscillatingly, at a relatively slow rate to allow phase comparisons to be made also in intermediate positions separated by only a small fraction of the angular spacing of the connecting lines of successive antenna pairs. If the wavelength of the incoming radiation is smaller than the largest spacing of any paired receiving antennas, a modulation (in amplitude or frequency) of sufficiently larger

wavelength may be impressed upon the high-frequency carrier. A set of deflecting coils, arrayed about the axis of a cathode-ray tube in a pattern similar to that of the receiving antennas, may be used for panoramically indicating the location of the origin of radiation received. In a simplified version, a single pair of antennas may be rotated in synchronism with a single coil (or pair of coils) or other beam-deflecting means.



3,378,840
TRANSMITTER SYSTEM FOR APERTURE ADDED RADARS

David H. Mooney, Jr., Severna Park, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Aug. 26, 1966, Ser. No. 576,503
10 Claims. (Cl. 343—14)

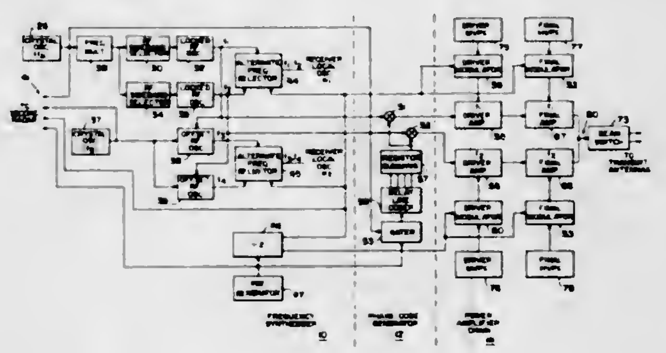


A transmitter system which will transmit alternate pulses of radio frequency energy at two different frequencies. A pair of frequency generators are utilized in conjunction with frequency selectors, multipliers, and offset oscillators to produce separate and distinct radio frequency levels for rapid, alternate transmission. A pulse generator controls the period of alternation between transmission of frequencies.

3,378,841
DUAL TRANSMITTER SYSTEM FOR RELIABILITY

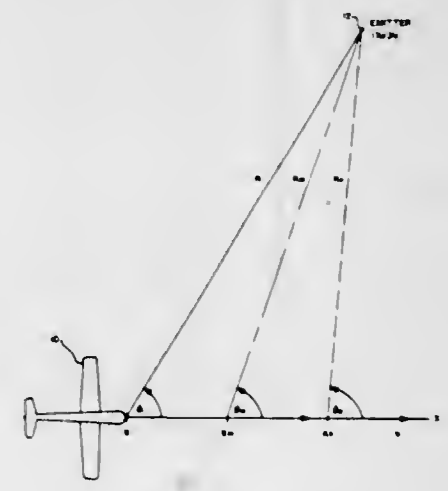
David H. Mooney, Jr., Severna Park, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Aug. 30, 1966, Ser. No. 576,524
2 Claims. (Cl. 343—14)

A radar transmitter including an improved power amplifier system for transmitting two radio frequencies on a time-shared basis. Two frequencies are alternately applied to two separate amplifiers, which are controlled by their respective modulator units. The signals are transmitted on a continuous alternate basis for scanning with no discontinuity. The power amplifier and modulator units operate at one-half the total required radiated power.



3,378,842
METHOD AND APPARATUS FOR EMITTER LOCATION DETECTION

Bernard E. Phillips, Bethesda, Md., assignor to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware
Filed Feb. 20, 1967, Ser. No. 617,397
20 Claims. (Cl. 343—112)

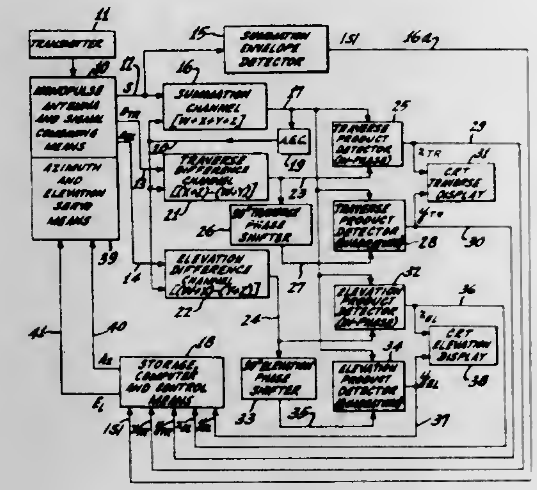


A method for determining the range of a stationary emitter of some form of radiation from a moving platform by continuously sampling the bearing of the emitter, and using the cotangent of the bearing angle, or some other function of the bearing angle which is a linear function of time, in conjunction with the velocity of the platform to complete the desired range. Apparatus for implementing the above method is also presented.

3,378,843
MONOPULSE TRACKING RADAR SYSTEM CAPABLE OF LOCATING A PLURALITY OF UNRESOLVED TARGETS

Samuel M. Sherman, Moorestown, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Nov. 29, 1966, Ser. No. 597,760
5 Claims. (Cl. 343—16)

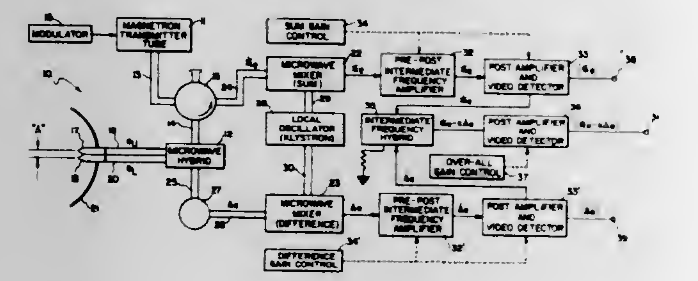
There is disclosed a monopulse tracking radar system which is capable of resolving two or more targets within its radar beam by utilizing both the relative phase and amplitude (complex) information at each of the four feeds of the antenna of the monopulse radar, for each of a plurality of successive received target echo pulse signals, as well as the absolute magnitude of the total signal from each of the successive pulses. By utilizing both the phase and amplitude information contained in the received signals, it is possible to obtain a sufficient number



of independent simultaneous equations whose solution will permit the resolution of each of the plurality of targets within the radar beam.

3,378,844
SIGNAL PROCESSING

Lester A. Zurcher, Columbus, Ohio, assignor to North American Rockwell Corporation, a corporation of Delaware
Filed May 5, 1966, Ser. No. 547,968
2 Claims. (Cl. 343—16)

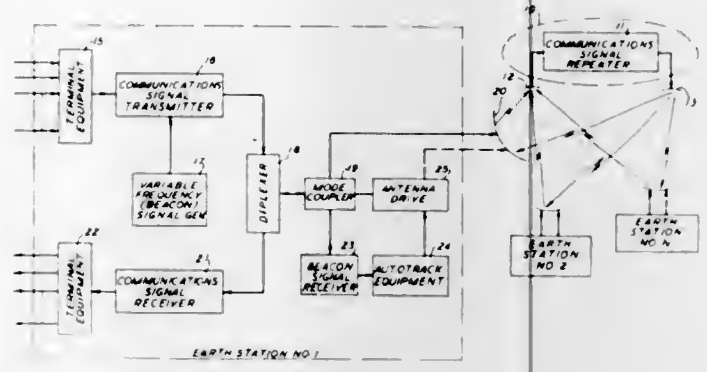


Unwanted clutter, multipath, and like reflection components are removed from a received electromagnetic energy signal also having direct transmission components by processing the received signal first simultaneously at elevationally-separated antenna means, then into respective phasor sum and phasor difference signals, and afterwards into an output which is the instantaneous phasor difference of said phasor sum and phasor difference signals and which is thereby substantially comprised only of the direct transmission components of the received signal. Signal processing into the instantaneous phasor difference output signal form is preferably accomplished by use of hybrid junction means.

3,378,845
GENERATION OF BEACON SIGNALS FOR COMMUNICATION SATELLITE

Irwin Welber, New Providence, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 13, 1965, Ser. No. 447,617
4 Claims. (Cl. 343—100)

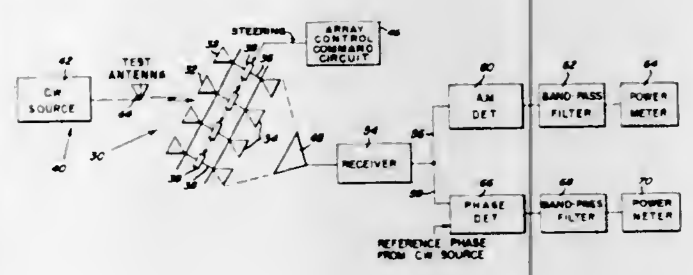
Autotrack apparatus for continuously direction an antenna toward a communication satellite generally relies on a beacon signal radiated by the satellite. Heretofore the beacon signal has been generated in the satellite. The necessity of generating this beacon signal in the satellite



may be eliminated by apparatus which generates the beacon at the earth station and then transmits the beacon in conjunction with the communication signal to the satellite.

3,378,846
METHOD AND APPARATUS FOR TESTING PHASED ARRAY ANTENNAS

Oscar Lowenschuss, Lexington, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware
Filed Oct. 3, 1966, Ser. No. 583,668
23 Claims. (Cl. 343—100)

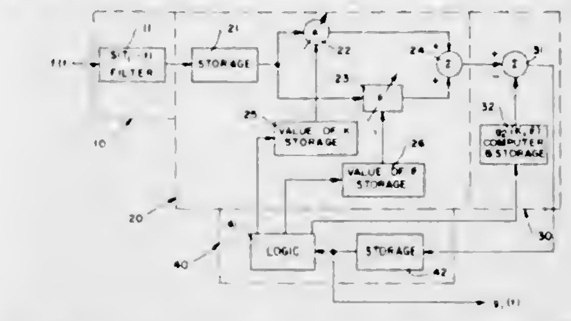


11. Apparatus for individually testing each element of a phased array antenna wherein each element of the array has a B control bit phase shifter associated therewith, said apparatus comprising:
transmission means for transmitting a reference signal to the elements of the array;
circuit means for varying the phase shifters for each element of the array one at a time;
receiver means for receiving the resultant signals; and
measuring means connected to said receiver for indicating the amplitude and phase modulation indices produced by the circuit means switching of the bits of the phase shifter associated with the element under test.

3,378,847
COMBINATION SKY WAVE AND DIRECT WAVE COMMUNICATIONS

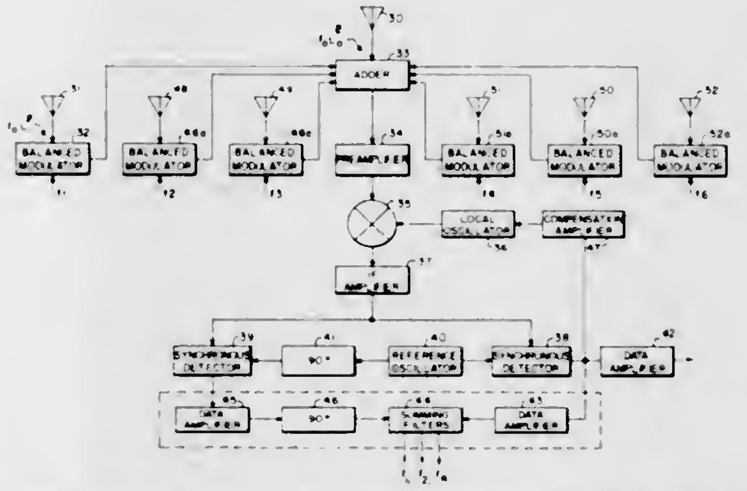
David N. Grover, Grand Rapids, and Robert B. Crane, Ann Arbor, Mich., assignors to Lear Siegler, Inc.
Filed June 13, 1966, Ser. No. 556,955
11 Claims. (Cl. 343—103)

This invention relates to circuit means for detecting and measuring signals which are corrupted or distorted by multipath reflection such as result when high frequency signals travel more than one route between a transmitter and a receiver. In this arrangement, an incoming signal is convolved, multiplied, delayed, and algebraically added in such a manner that all the received signal energy is utilized to measure the desired parameter.



3,378,848
ANGLE MEASURING EQUIPMENT

John Thomas Baylor, San Diego, Calif., assignor to Cubic Corporation, San Diego, Calif., a corporation of California
Filed Sept. 12, 1966, Ser. No. 578,796
7 Claims. (Cl. 343—113)

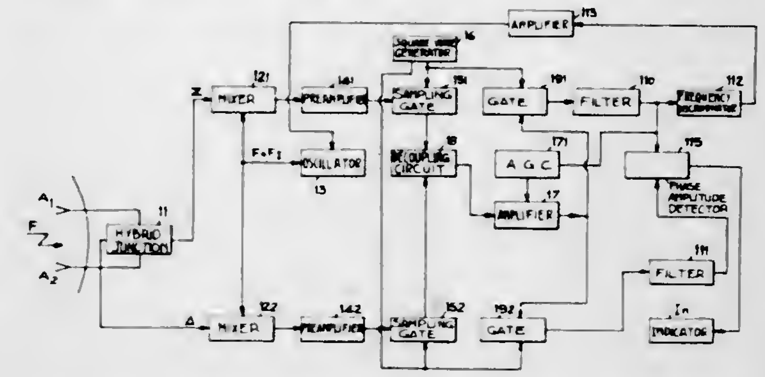


An improved angle measuring equipment that detects the difference in phase between at least two radio frequency signals developed by at least two separate antenna units positioned along a known base line by reception from a single signal source.

3,378,849
DIRECTION-FINDING ELECTROMAGNETIC WAVE RECEIVERS USING MULTIPLE BEAM ANTENNAS

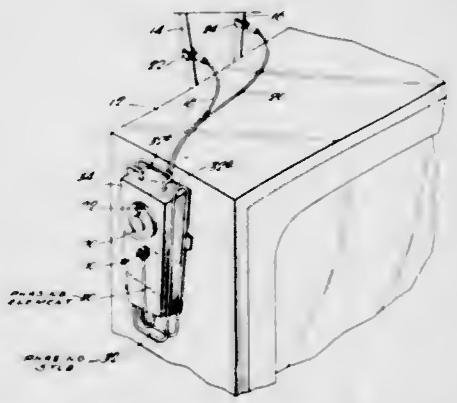
Bernard Letellier, Paris, France, assignor to CSF—Compagnie General de Telegraphie Sans Fil, a corporation of France
Filed Mar. 7, 1967, Ser. No. 621,340
Claims priority, application France, Mar. 10, 1966, 52,942, Patent 1,477,715
4 Claims. (Cl. 343—113)

Monopulse receiver (or radar) has sum and difference outputs sequentially switched through common amplifier. Sum channel is used for automatic gain and frequency control. Comparison of sum and difference channels yields angle data for indicator or tracking in azimuth and/or elevation. Receiver may be switched between search and track modes.



3,378,850
TWO-ELEMENT ANTENNA PHASING ATTACHMENT FOR TELEVISION RECEIVER

Matthew Mandl, Yardley, Pa., assignor to Snyder Manufacturing Company, a corporation of Pennsylvania
Filed Feb. 10, 1965, Ser. No. 431,588
10 Claims. (Cl. 343—702)

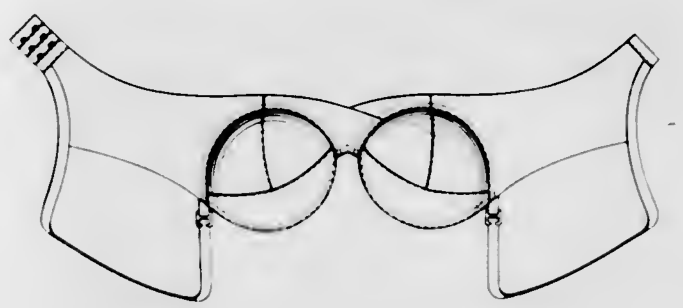


An antenna phasing attachment for a television receiver having at least one permanent antenna element mounted therefrom is provided and includes a support casing attachable to the television receiver. A conductive phasing stub and a conductive phasing element are supported by the casing. A selection switch is supported by the casing having a first terminal, a second terminal and a third terminal and having a pair of antenna coupling terminals selectively connectable to different combinations of the first terminal, the second terminal, and the third terminal. The first terminal is connected to the phasing element and the second and third terminals are connected to opposite ends of the phasing stub. Connector means is employed for electrically connecting at least one of the antenna coupling terminals to the at least one permanent antenna element to change the impedance match between the receiver and the permanent antenna.

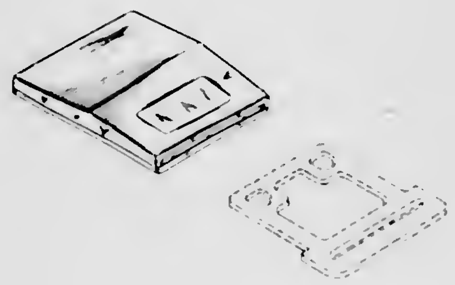
DESIGNS

APRIL 16, 1968

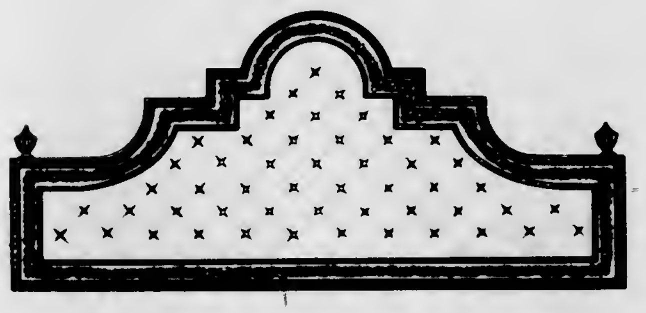
210,761
BRASSIERE
Moe Tuschman, Flushing, N.Y., assignor to Sarong, Inc., Dover, Del., a corporation of Delaware
Filed June 30, 1966, Ser. No. 2,890
Term of patent 14 years
(Cl. D2—24)



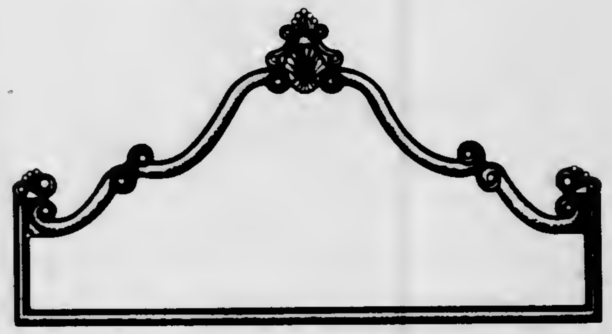
210,762
SAFETY BELT BUCKLE
George H. Jantzen, New York, N.Y., assignor to M. Steinthal & Co. Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 7, 1967, Ser. No. 6,097
Term of patent 14 years
(Cl. D2—408)



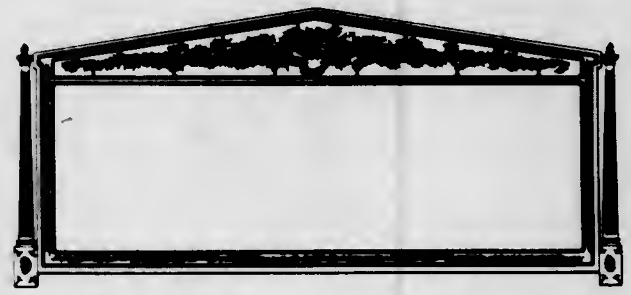
210,763
BED HEADBOARD, OR SIMILAR ARTICLE
Calvin K. Kessler, El Paso, Tex., assignor to Kessler Industries, Inc., El Paso, Tex., a corporation of Texas
Filed Mar. 21, 1967, Ser. No. 6,313
Term of patent 14 years
(Cl. D5—4)



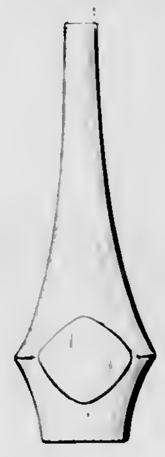
210,764
BED HEADBOARD, OR SIMILAR ARTICLE
Calvin K. Kessler, El Paso, Tex., assignor to Kessler Industries, Inc., El Paso, Tex., a corporation of Texas
Filed Mar. 21, 1967, Ser. No. 6,316
Term of patent 14 years
(Cl. D5—4)



210,765
BED HEADBOARD, OR SIMILAR ARTICLE
Calvin K. Kessler, El Paso, Tex., assignor to Kessler Industries, Inc., El Paso, Tex., a corporation of Texas
Filed Mar. 21, 1967, Ser. No. 6,317
Term of patent 14 years
(Cl. D5—4)

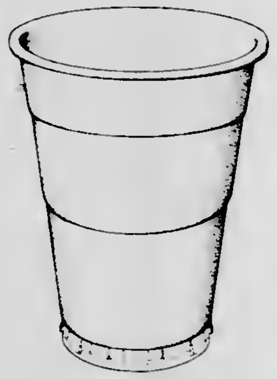


210,766
BOTTLE
James E. Plummer, Toledo, Ohio, assignor to Owens-Illinois, Inc., Toledo, Ohio, a corporation of Ohio
Filed Apr. 10, 1967, Ser. No. 6,592
Term of patent 14 years
(Cl. D9—53)



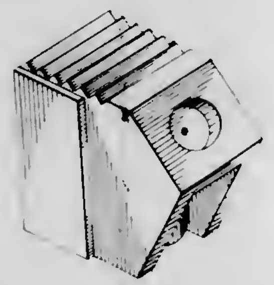
210,767
CUP

Leonard R. Anglada, Arlington Heights, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Feb. 23, 1967, Ser. No. 5,915
Term of patent 14 years
(Cl. D9—220)



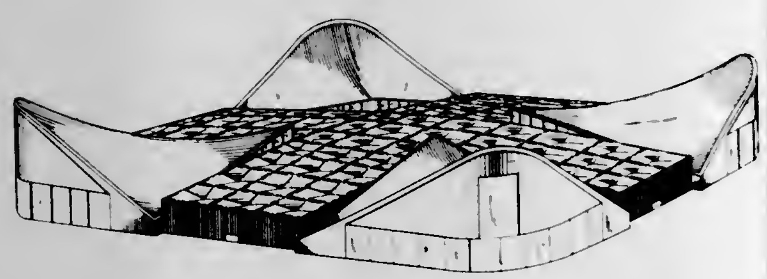
210,768
VALVE ACTUATOR FOR A PRESSURIZED CAN

Richard W. Ryan, 1006 E. 36th St., Brooklyn, N.Y. 11210
Filed Aug. 24, 1967, Ser. No. 8,370
Term of patent 14 years
(Cl. D9—258)



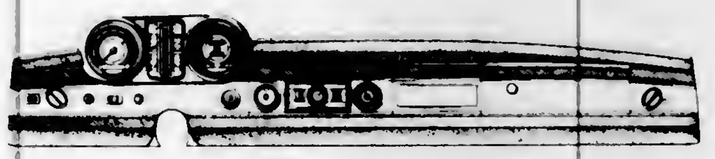
210,769
AIRPLANE SERVICE BUILDING

Dutton Biggs, 800 W. 47 St., Kansas City, Mo. 64110; Milo S. Ketchum, P.O. Box 28, Old Saybrook, Conn. 06475; and Wayne R. Carlson, 418 Commerce Trust Building, Kansas City, Mo. 64116
Filed Apr. 24, 1967, Ser. No. 6,813
Term of patent 14 years
(Cl. D13—1)



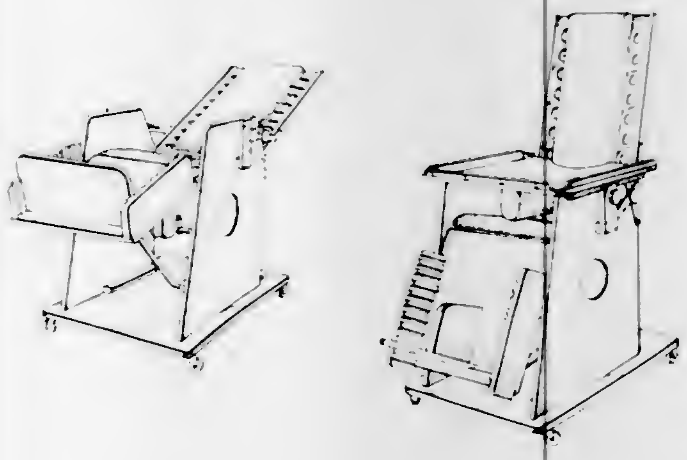
210,770
INSTRUMENT PANEL

Friedrich Geiger, Boblingen, and Karl Wilfert, Gerlinger-Waldstadt, Germany, assignors to Daimler-Benz Aktiengesellschaft of Stuttgart, Unterturkheim, Germany
Filed Mar. 2, 1964, Ser. No. 78,845
Claims priority, application Germany Sept. 4, 1963
Term of patent 14 years
(Cl. D14—3)



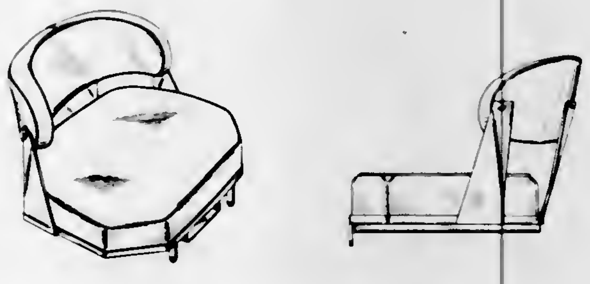
210,771
RECLINING AND ADJUSTABLE CHAIR FOR INVALIDS

Richard L. Vance, Franklin, N.C., assignor to Macon Program for Progress, Inc., Franklin, N.C., a corporation of North Carolina
Filed July 31, 1967, Ser. No. 8,071
Term of patent 14 years
(Cl. D15—1)



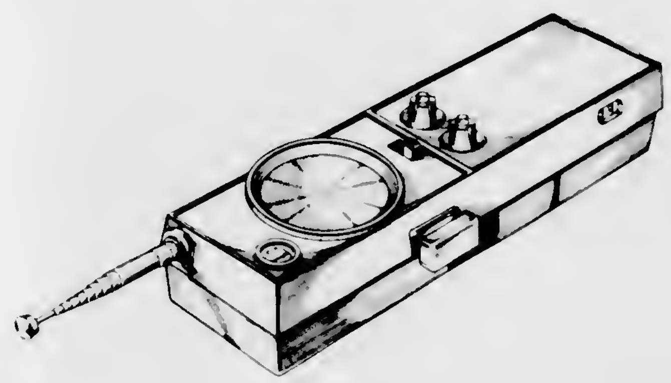
210,772
VEHICLE SEAT

Edgar J. Smith, Plankinton, S. Dak. 57308
Filed Oct. 3, 1966, Ser. No. 4,138
Term of patent 7 years
(Cl. D15—8)



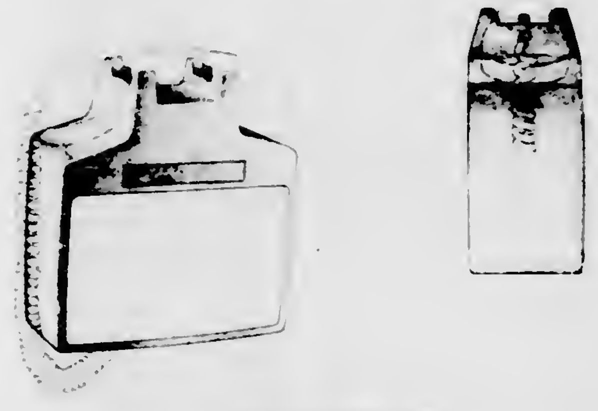
210,773
WALKIE-TALKIE

Eizo Komata and Hiroharu Shimazaki, Tokyo, Japan, assignors to Kanda Tsushin Kogyo Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan
Filed Aug. 8, 1966, Ser. No. 3,375
Term of patent 7 years
(Cl. D26—14)



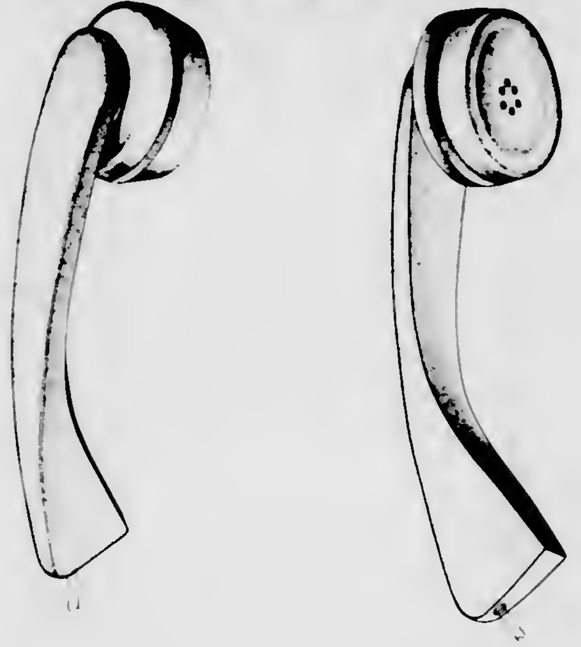
210,774
BASE FOR A TELEPHONE WALL SET

Daniel W. Tyler, Washington Township, Marion County, Ind., assignor to Bell Telephone Laboratories, Incorporated, Berkeley Heights, N.J., a corporation of New York
Filed May 1, 1967, Ser. No. 6,910
Term of patent 14 years
(Cl. D26—14)



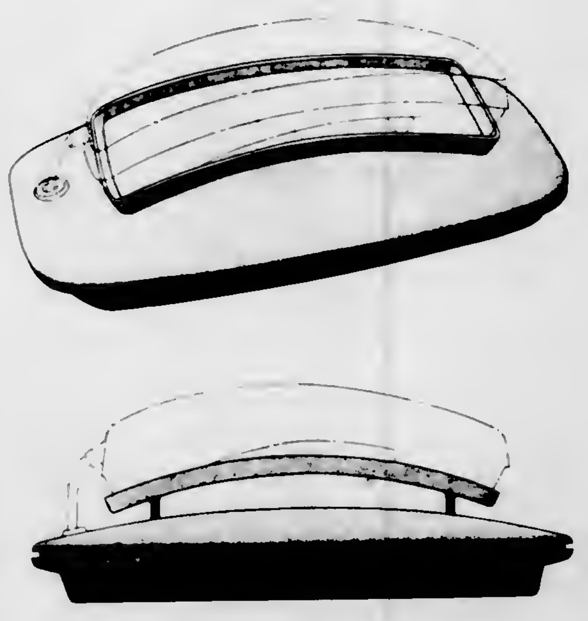
210,775
TELEPHONE HANDSET

Henry Dreyfuss, South Pasadena, Calif., assignor to Bell Telephone Laboratories, Incorporated, Berkeley Heights, N.J., a corporation of New York
Filed July 3, 1967, Ser. No. 7,680
Term of patent 14 years
(Cl. D26—14)



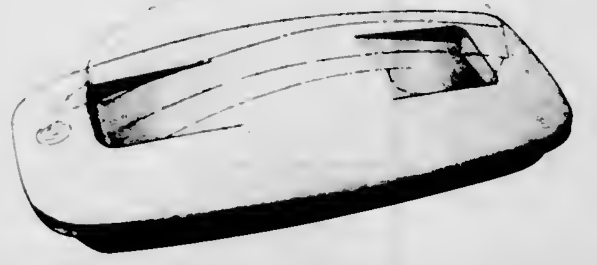
210,776
TELEPHONE STAND

Henry Dreyfuss, South Pasadena, Calif., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, Berkeley Heights, N.J., a corporation of New York
Filed July 3, 1967, Ser. No. 7,685
Term of patent 14 years
(Cl. D26—14)



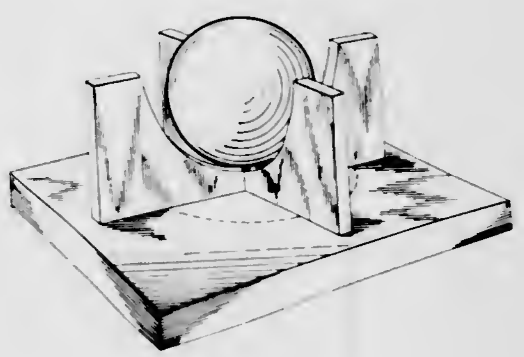
210,777
TELEPHONE STAND

Henry Dreyfuss, South Pasadena, Calif., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, Berkeley Heights, N.J., a corporation of New York
Filed July 3, 1967, Ser. No. 7,691
Term of patent 14 years
(Cl. D26—14)

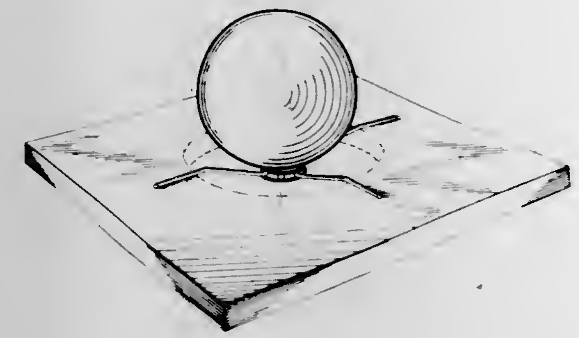


210,778
SPEAKER BAFFLE

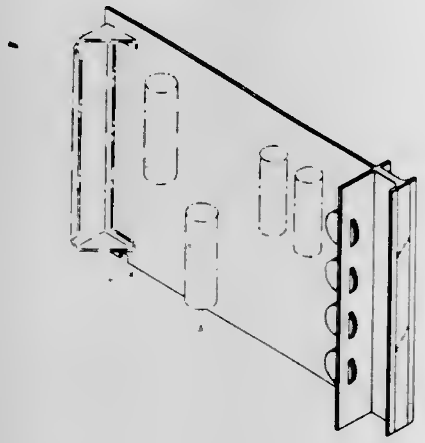
Aston L. Moore, 220 Hammond Place, South Bend, Ind. 46601
Filed Nov. 1, 1967, Ser. No. 9,237
Term of patent 14 years
(Cl. D26—14)



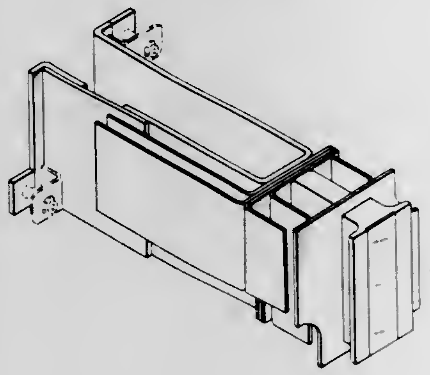
210,779
SPEAKER BAFFLE
Aston L. Moore, 220 Hammond Place,
South Bend, Ind. 46601
Filed Nov. 1, 1967, Ser. No. 9,239
Term of patent 14 years
(Cl. D26—14)



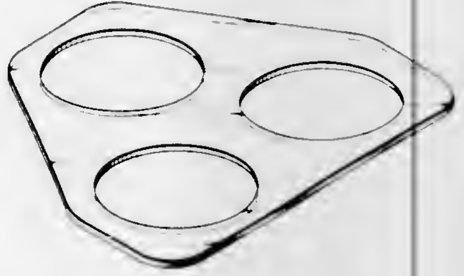
210,780
MODULAR ELEMENT FOR USE IN A POWER SUPPLY OR THE LIKE
James P. Ettinger and Christian S. Otteson, Ridgefield, Conn., assignors to Electric Regulator Corporation, Norwalk, Conn., a corporation of New York
Filed Apr. 25, 1967, Ser. No. 6,836
Term of patent 14 years
(Cl. D26—15)



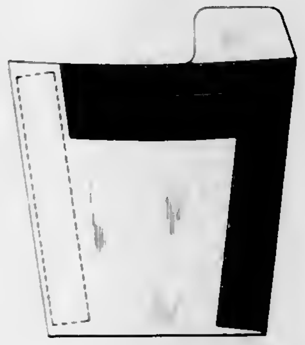
210,781
MODULAR ELEMENT FOR USE IN A POWER SUPPLY OR THE LIKE
James P. Ettinger and Christian S. Otteson, Ridgefield, Conn., assignors to Electric Regulator Corporation, Norwalk, Conn., a corporation of New York
Filed Apr. 25, 1967, Ser. No. 6,839
Term of patent 14 years
(Cl. D26—15)



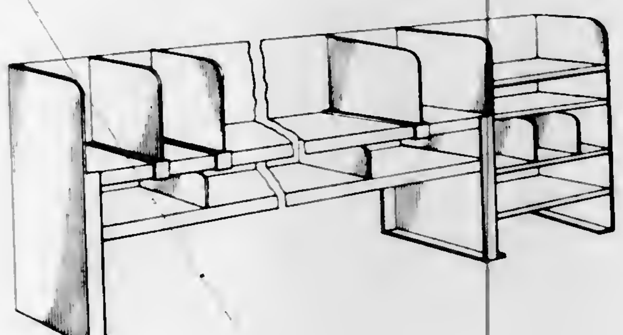
210,782
HOLDER FOR FOOD BOWLS FOR PETS
Tony Robert, 5701 Southwest Freeway,
Houston, Tex. 77027
Filed July 18, 1966, Ser. No. 3,118
Term of patent 14 years
(Cl. D30—13)



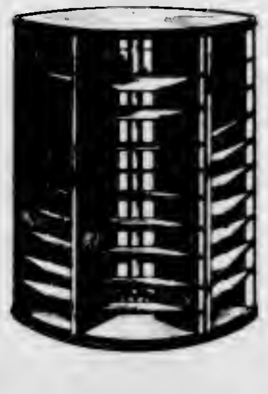
210,783
PROTECTIVE TAIL WRAP FOR HORSES
Le Roy J. Hyman, Del Jay Farm, Chagrin River Road,
Gates Mills Village, Ohio 44040
Filed Jan. 16, 1967, Ser. No. 5,445
Term of patent 14 years
(Cl. D30—37)



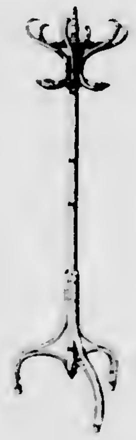
210,784
FILE RACK FOR A DESK TOP
Thomas G. Pond, Fresno, Calif., assignor to Lit-Ning Products Company, a corporation of California
Filed Sept. 22, 1966, Ser. No. 3,973
Term of patent 14 years
(Cl. D33—2)



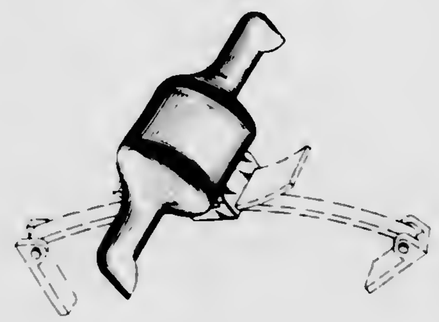
210,785
ROTATABLE RACK FOR STORING RECORD ALBUMS OR SIMILAR ARTICLES
Donald D. Treu, Box 299, Webster City, Iowa 50595
Filed Apr. 7, 1967, Ser. No. 6,574
Term of patent 14 years
(Cl. D33—3)



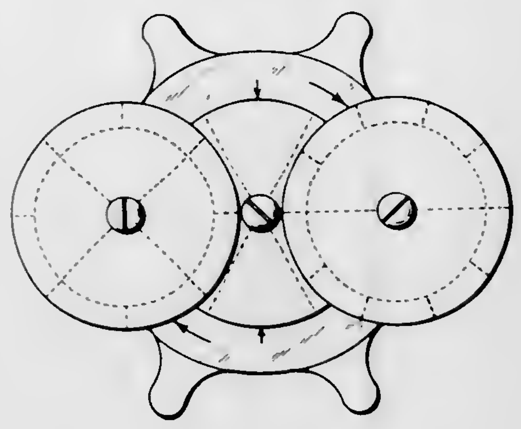
210,786
COAT RACK
Violet R. Rodin, 61—69 82nd St.,
Middle Village, N.Y. 11379
Filed Apr. 6, 1967, Ser. No. 6,557
Term of patent 14 years
(Cl. D33—8)



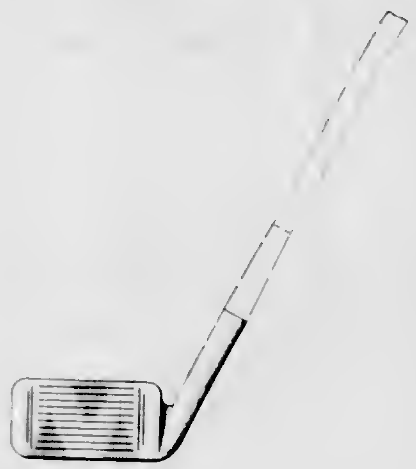
210,787
FOOTBALL BLOCKING DUMMY OR SIMILAR ARTICLE
Harold W. Kopp, Saxonville, Mass., assignor to Halko, Inc., Saxonville, Mass., a corporation of Massachusetts
Filed Oct. 12, 1965, Ser. No. 87,439
Term of patent 14 years
(Cl. D34—5)



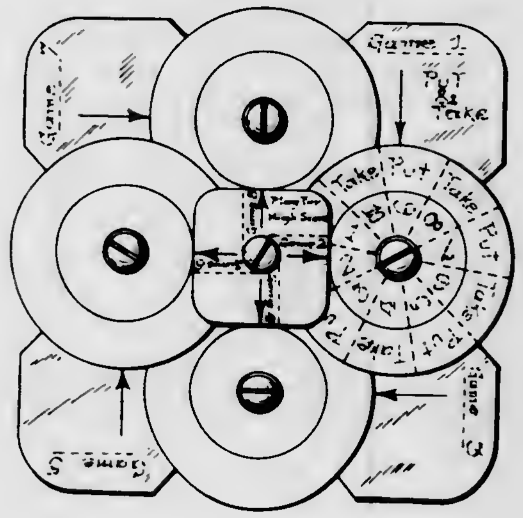
210,788
GAME DEVICE
Alfred E. Ischinger, 410 Kenhorst Blvd.,
Reading, Pa. 19602
Filed Sept. 15, 1966, Ser. No. 3,877
Term of patent 14 years
(Cl. D34—5)



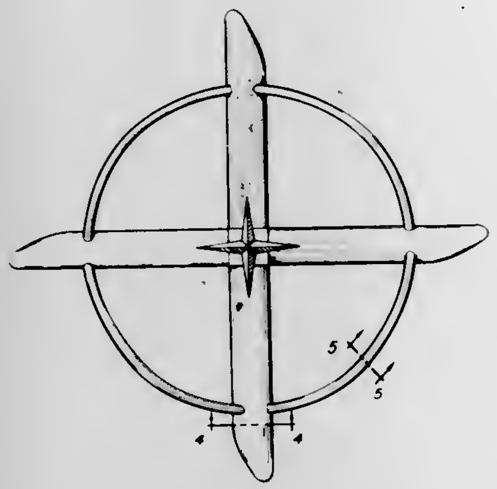
210,789
GOLF CLUB HEAD
Ernest Sprinkel, 938 W. Rosewood Court,
Ontario, Calif. 91762
Filed Nov. 15, 1966, Ser. No. 4,681
Term of patent 14 years
(Cl. D34—5)



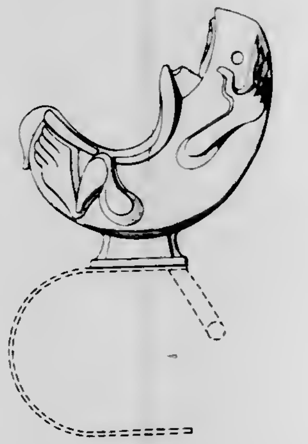
210,790
GAME DEVICE
Alfred E. Ischinger, 410 Kenhorst Blvd.,
Reading, Pa. 19602
Filed Feb. 6, 1967, Ser. No. 5,698
Term of patent 14 years
(Cl. D34—5)



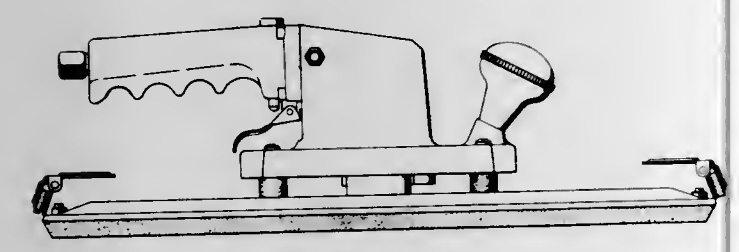
210,791
AERIAL TOY
Roy D. Tally, 933 University Ave., and Lars Edgar Oystol, 811 17th St., both of Boulder, Colo. 80302
Filed Apr. 1, 1966, Ser. No. 1,731
Term of patent 14 years
(Cl. D34—15)



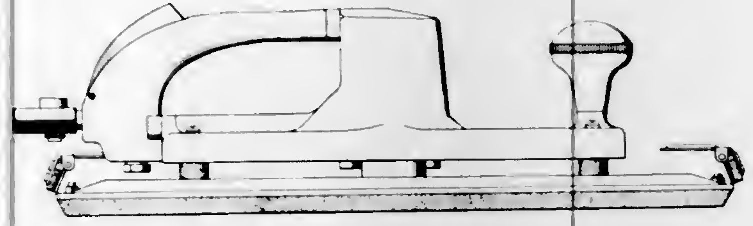
210,792
RIDER SEAT FOR PLAYGROUND APPARATUS
Ronald W. Zick, Torrance, Calif., assignor to Jamison, Inc., Los Angeles, Calif., a corporation of California
Filed Dec. 6, 1966, Ser. No. 4,931
Term of patent 14 years
(Cl. D34—15)



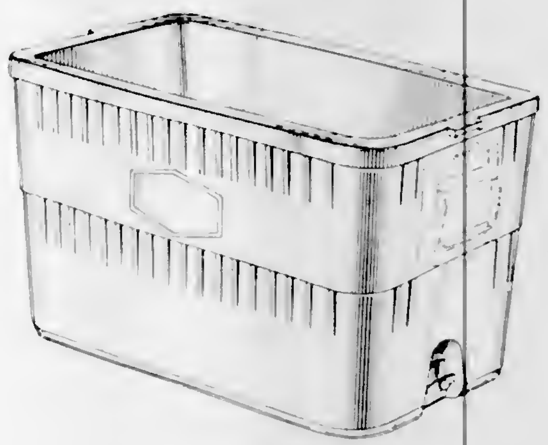
210,793
ORBITAL SANDER
Harvey B. Rodstein, 6419 Shenandoah, Los Angeles, Calif. 90056
Filed Sept. 20, 1967, Ser. No. 8,664
Term of patent 3½ years
(Cl. D37—1)



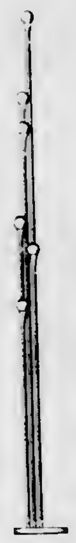
210,794
ORBITAL SANDER
Harvey B. Rodstein, 6419 Shenandoah, Los Angeles, Calif. 90056
Filed Sept. 20, 1967, Ser. No. 8,672
Term of patent 14 years
(Cl. D37—1)



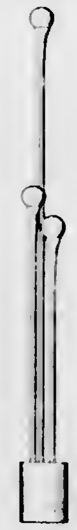
210,795
INSULATED ICE CHEST OR SIMILAR ARTICLE
Jordan Birger and Marvin Birger, Newton, and Michael J. Di Pierro, Shrewsbury, Mass., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed May 18, 1967, Ser. No. 7,171
Term of patent 14 years
(Cl. D44—1)



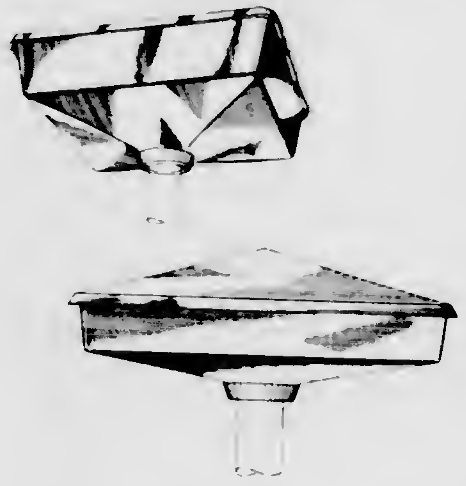
210,796
SELF-STANDING FLOOR LAMP
Dennis L. Jones, Coral Gables, Fla., assignor to Meyer Products, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Sept. 26, 1967, Ser. No. 8,745
Term of patent 14 years
(Cl. D48—20)



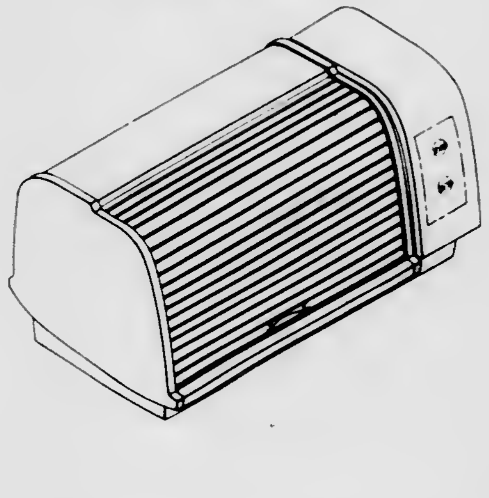
210,797
SELF-STANDING TABLE LAMP
Dennis L. Jones, Coral Gables, Fla., assignor to Meyers Products, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Sept. 26, 1967, Ser. No. 8,746
Term of patent 14 years
(Cl. D48—20)



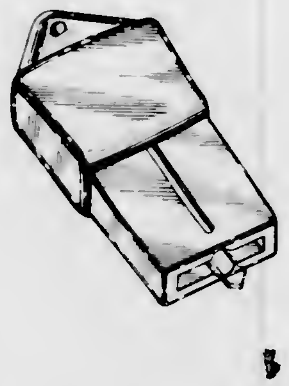
210,798
STREET LIGHT OR THE LIKE ARTICLE
Clifford Bruce Hewson, Brampton, Ontario, Canada, assignor to E. W. Bliss Company of Canada, Ltd., Georgetown, Ontario, Canada
Filed Apr. 4, 1967, Ser. No. 6,517
Term of patent 14 years
(Cl. D48—31)



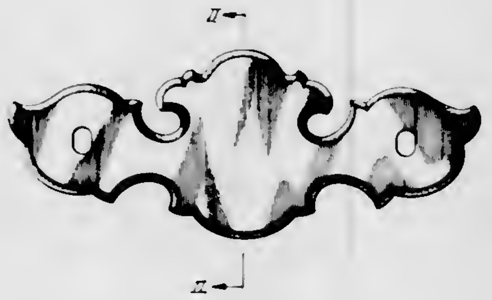
210,799
COUNTERTOP DISHWASHER
Carl A. Peterson, Columbus, Ohio, assignor to Westinghouse Electric Corporation, a corporation of Pennsylvania
Filed Sept. 8, 1967, Ser. No. 8,529
Term of patent 14 years
(Cl. D49—1)



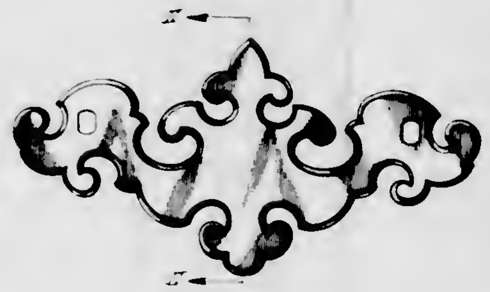
210,800
KEY HOLDER
Winford L. Brinkman, 20135 S. Greenway, Southfield, Mich. 48075
Filed Mar. 22, 1967, Ser. No. 6,339
Term of patent 14 years
(Cl. D50—4)



210,801
BACKPLATE FOR DRAWER PULLS OR THE LIKE
William Doyle Watt, Jr., Grand Rapids, Mich., assignor to Keeler Brass Company, Grand Rapids, Mich., a corporation of Michigan
Filed Sept. 1, 1967, Ser. No. 8,480
Term of patent 14 years
(Cl. D50—6)



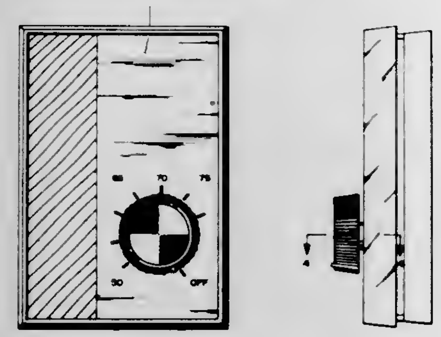
210,802
BACKPLATE FOR DRAWER PULLS OR THE LIKE
William Doyle Watt, Jr., Grand Rapids, Mich., assignor to Keeler Brass Company, Grand Rapids, Mich., a corporation of Michigan
Filed Sept. 1, 1967, Ser. No. 8,484
Term of patent 14 years
(Cl. D50—6)



210,803

WALL THERMOSTAT

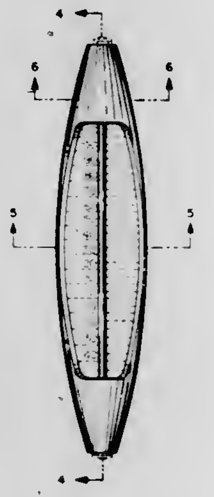
Frederick M. Hill, Columbus, Ohio, assignor to Ranco Incorporated, Columbus, Ohio
Filed May 6, 1966, Ser. No. 2,191
Term of patent 14 years
(Cl. D52—7)



210,804

WEATHER INDICATING INSTRUMENT

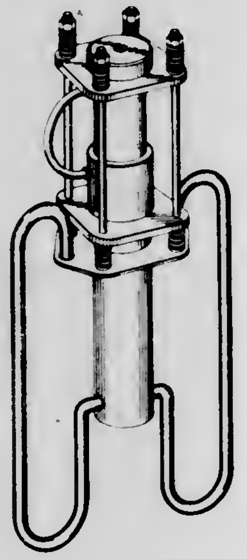
Walter I. Bieger, St. Anthony Village, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Aug. 23, 1967, Ser. No. 8,367
Term of patent 14 years
(Cl. D52—7)



210,805

PORTABLE POST DRIVER

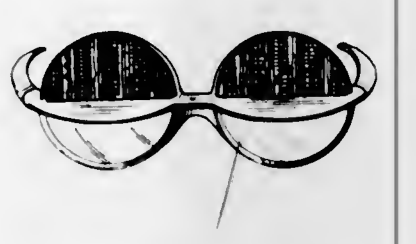
Ernest D. Hauk, 1315 E. 23rd St., Signal Hill, Calif. 90806
Filed Jan. 9, 1967, Ser. No. 5,356
Term of patent 14 years
(Cl. D54—14)



210,806

PAIR OF SUNGLASSES OR THE LIKE

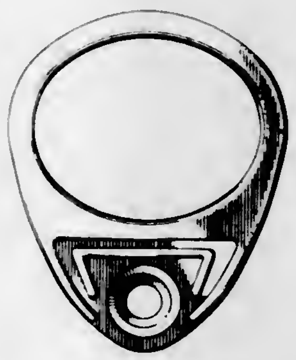
Atherton R. Mitchell, Dillon Beach, Calif., assignor to Renauld International, Ltd., Burlingame, Calif., a corporation of Delaware
Filed Jan. 31, 1967, Ser. No. 5,629
Term of patent 14 years
(Cl. D57—1)



210,807

RING TAB FOR A TEAR STRIP OPENER

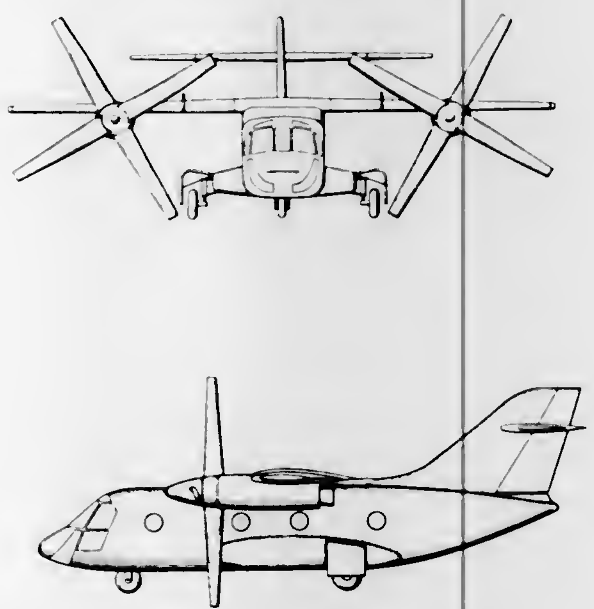
Francis M. Silver, Dayton, Ohio, assignor, by mesne assignments, to Ermal C. Fraze, Dayton, Ohio
Filed Mar. 23, 1967, Ser. No. 6,345
Term of patent 14 years
(Cl. D58—26)



210,808

CONVERTIPLANE

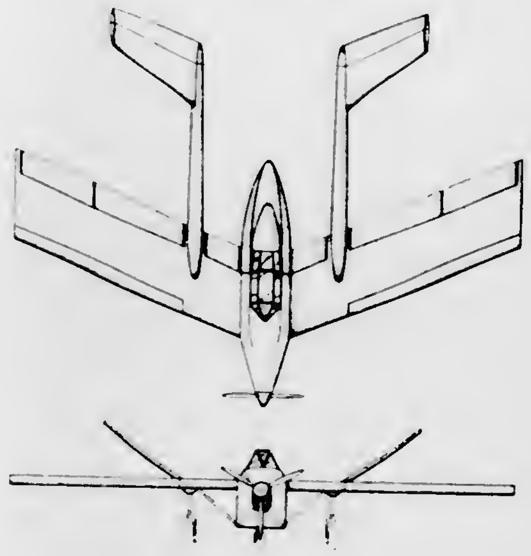
Paul Julius Dancik, Broomall, Pa., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed Oct. 24, 1966, Ser. No. 4,381
Term of patent 14 years
(Cl. D71—1)



210,809

AIRCRAFT

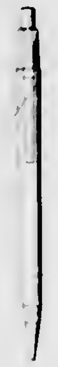
Lloyd C. Stearman, 18545 Sunburst St., Los Angeles, Calif. 91324
Filed Feb. 23, 1967, Ser. No. 5,929
Term of patent 14 years
(Cl. D71—1)



210,810

MECHANICAL PENCIL

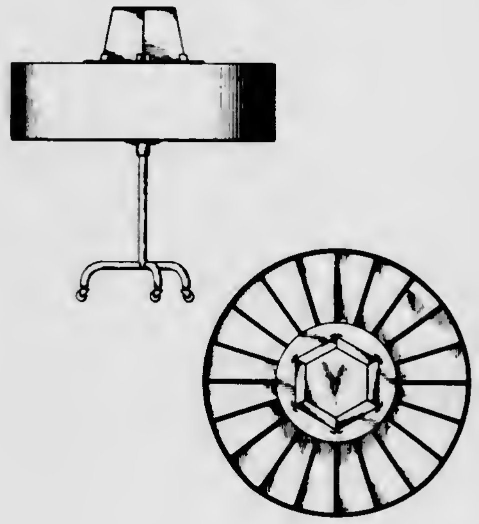
Noboru Wakai, Tokyo-to, Japan, assignor to Dainihon Bungu Kabushiki Kaisha, Tokyo-to, Japan
Filed Dec. 23, 1966, Ser. No. 5,164
Term of patent 7 years
(Cl. D74—17)



210,811

DISPLAY STAND FOR YARN OR THE LIKE

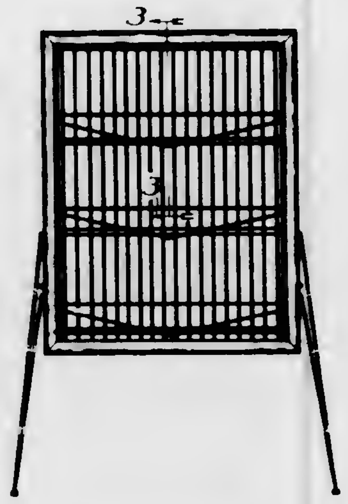
Hans T. Oien, 2030 Wilson Ave., St. Paul, Minn. 55119
Filed Nov. 28, 1966, Ser. No. 4,822
Term of patent 7 years
(Cl. D80—9)



210,812

DISPLAY RACK

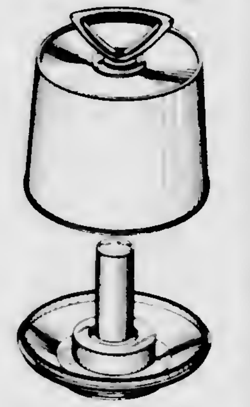
Nickolas J. Halip, 485 Shelbourne, Grosse Pointe Farms, Mich. 48236
Filed Sept. 14, 1967, Ser. No. 8,592
Term of patent 14 years
(Cl. D80—10)



210,813

PHONOGRAPH RECORD CARRIER

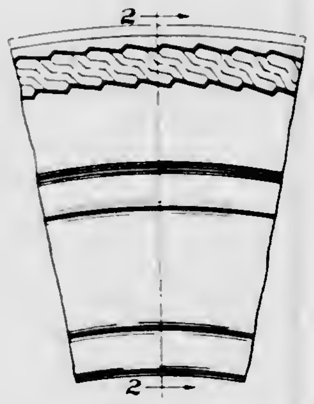
William V. Buchanan, 1175 York Ave., New York, N.Y. 10021
Filed June 20, 1966, Ser. No. 2,742
Term of patent 14 years
(Cl. D87—5)



210,814

TIRE

Aristides Makris, Plainfield, N.J., assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Sept. 20, 1967, Ser. No. 8,670
Term of patent 14 years
(Cl. D90—20)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 16TH DAY OF APRIL, 1968

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

- American Machinery Corp.: *See*—
  - McLearn, Herbert M. Re. 26,375.
- Beery, Virgil R., to Wiegand Co. Method of bonding insulated heating wire to spaced strands thermoplastic material. Re. 26,374, 4–16–68, Cl. 156—179.
- Caron, Philip E., and G. A. Grove, to Weyerhaeuser Co. Production of hot-pressed three-dimensional fiber articles. Re. 26,376, 4–16–68, Cl. 264—119.
- Continental Machines, Inc.: *See*—
  - Whitmore, Charles H. Re. 26,377.
- Grove, Gene A.: *See*—
  - Caron, Philip E., and Grove. Re. 26,376.
- Hopkes, Henry, Jr., to Lear Siegler, Inc. Sinuous spring strip. Re. 26,373, 4–16–68, Cl. 267—110.
- Lear Siegler, Inc.: *See*—
  - Hopkes, Henry, Jr. Re. 26,373.
- McLearn, Herbert M., to American Machinery Corp. Fruit counter with improved conveyor and cammed switch operator. Re. 26,375, 4–16–68, Cl. 235—98.
- Peterson, Soren E. Seed potato cutter. Re. 26,378, 4–16–68, Cl. 146—164.
- Weyerhaeuser Co.: *See*—
  - Caron, Philip E., and Grove. Re. 26,376.
- Whitmore, Charles H., to Continental Machines, Inc. Feed control for band saws. Re. 26,377, 4–16–68, Cl. 83—201.06.
- Wiegand Co.: *See*—
  - Beery, Virgil R. Re. 26,374.

LIST OF PLANT PATENTEES

- Conklin, Henry A.: *See*—
  - Perry, Anthony. 2,804.
- Gibson, Carl R., to Hill Top Orchards and Nurseries, Inc. Apple tree. 2,803, 4–16–68, Cl. 35.
- Hill Top Orchards and Nurseries, Inc.: *See*—
  - Gibson, Carl R. 2,803.
- Perry, Anthony, to H. A. Conklin. Rose plant. 2,804, 4–16–68, Cl. 20.
- Select Nurseries: *See*—
  - Silva, William E. 2,805.
- Silva, William E., to Select Nurseries. Pyracantha plant. 2,805, 4–16–68, Cl. 54.

LIST OF DESIGN PATENTEES

- Anglada, Leonard R., to Illinois Tool Works Inc. Cup. 210,767, 4–16–68, Cl. D9—220.
- Bell Telephone Laboratories, Inc.: *See*—
  - Dreyfuss, Henry. 210,775.
  - Dreyfuss, Henry. 210,776.
  - Dreyfuss, Henry. 210,777.
  - Tyler, Daniel W. 210,774.
- Bieger, Walter I., to Honeywell Inc. Weather indicating instrument. 210,804, 4–16–68, Cl. D52—7.
- Biggs, Dutton, M. S. Ketchum, and W. R. Carlson. Airplane service building. 210,769, 4–16–68, Cl. D13—1.
- Birger, Jordan and M., and M. J. Di Pierro, to Standard Oil Co. Insulated ice chest or similar article. 210,795, 4–16–68, Cl. D44—1.
- Birger, Marvin: *See*—
  - Birger, Jordan and M., and Di Pierro. 210,795.
- Bliss, E. W., Co. of Canada, Ltd.: *See*—
  - Hewson, Clifford B. 210,798.
- Boeing, Co., The: *See*—
  - Dancik, Paul J. 210,808.
- Brinkman, Winford L. Key holder. 210,800, 4–16–68, Cl. D50—4.
- Buchanan, William V. Phonograph record carrier. 210,813, 4–16–68, Cl. D87—5.
- Carlson, Wayne R.: *See*—
  - Biggs, Dutton, Ketchum, and Carlson. 210,769.
- Daimler-Benz Aktiengesellschaft: *See*—
  - Geiger, Friedrich, and Wilfert. 210,770.
- Dainihon Bungu Kabushiki Kaisha: *See*—
  - Wakai, Noboru. 210,810.
- Dancik, Paul J., to The Boeing Co. Convertiplane. 210,808, 4–16–68, Cl. D71—1.
- Di Pierro, Michael J.: *See*—
  - Birger, Jordan, and M., and Di Pierro. 210,795.
- Dreyfuss, Henry, to Bell Telephone Laboratories, Inc. Telephone handset. 210,775, 4–16–68, Cl. D26—14.
- Dreyfuss, Henry, to Bell Telephone Laboratories, Inc. Telephone stand. 210,777, 4–16–68, Cl. D26—14.
- Dreyfuss, Henry, to Bell Telephone Laboratories, Inc. Telephone stand. 210,776. 4–16–68, Cl. D26—14.
- Electric Regulator Corp.: *See*—
  - Ettinger, James P., and Otteson. 210,780.
  - Ettinger, James P., and Otteson. 210,781.
- Ettinger, James P., and C. S. Otteson, to Electric Regulator Corp. Modular element for use in a power supply or the like. 210,780, 4–16–68, Cl. D26—15.
- Ettinger, James P., and C. S. Otteson, to Electric Regulator Corp. Modular element for use in a power supply or the like. 210,781, 4–16–68, Cl. D26—15.
- Fraze, Ermal C.: *See*—
  - Silver, Francis M. 210,807.
- Geiger, Friedrich, and K. Wilfert, to Daimler-Benz Aktiengesellschaft. Instrument panel. 210,770, 4–16–68, Cl. D14—3.
- Goodrich, B. F., Co., The: *See*—
  - Makris, Aristides. 210,814.
- Halip, Nickolas J. Display rack. 210,812, 4–16–68, Cl. D80—10.
- Halko, Inc.: *See*—
  - Kopp, Harold W. 210,787.
- Hauk, Ernest D. Portable post driver. 210,805, 4–16–68, Cl. D54—14.
- Hewson, Clifford B., to E. W. Bliss, Co. of Canada, Ltd. Street light or the like article. 210,798, 4–16–68, Cl. D48—31.
- Hill, Frederick M., to Ranco Inc. Wall thermostat. 210,803, 4–16–68, Cl. D52—7.
- Honeywell Inc.: *See*—
  - Bieger, Walter I. 210,804.
- Hyman, Le Roy J. Protective tail wrap for horses. 210,783, 4–16–68, Cl. D30—37.
- Illinois Tool Works Inc.: *See*—
  - Anglada, Leonard R. 210,767.
- Ischinger, Alfred E. Game device. 210,788, 4–16–68, Cl. D34—5.
- Ischinger, Alfred E. Game device. 210,790, 4–16–68, Cl. D34—5.
- Jamison, Inc.: *See*—
  - Zick, Ronald W. 210,792.
- Jantzen, George H., to M. Steinthal & Co. Inc. Safety belt buckle. 210,762, 4–16–68, Cl. D2—408.
- Jones, Dennis L., to Meyer Products, Inc. Self-standing floor lamp. 210,796, 4–16–68, Cl. D48—20.
- Jones, Dennis L., to Meyers Products, Inc. Self-standing table lamp. 210,797, 4–16–68, Cl. D48—20.
- Kanda Tsushin Kogyo Kabushiki Kaisha: *See*—
  - Komata, Eizo, and Shimazaki. 210,773.
- Keeler Brass Co.: *See*—
  - Watt, William D., Jr. 210,801.
  - Watt, William D., Jr. 210,802.
- Kessler, Calvin K., to Kessler Industries, Inc. Bed headboard, or similar article. 210,763, 4–16–68, Cl. D5—4.
- Kessler, Calvin K., to Kessler Industries, Inc. Bed headboard, or similar article. 210,764, 4–16–68, Cl. D5—4.
- Kessler, Calvin K., to Kessler Industries, Inc. Bed headboard, or similar article. 210,765, 4–16–68, Cl. D5—4.
- Kessler Industries, Inc.: *See*—
  - Kessler, Calvin K. 210,763.
  - Kessler, Calvin K. 210,764.
  - Kessler, Calvin K. 210,765.
- Ketchum, Milo S.: *See*—
  - Biggs, Dutton, Ketchum, and Carlson. 210,769.
- Komata, Eizo, and H. Shimazaki, to Kanda Tsushin Kogyo Kabushiki Kaisha. Walkie-talkie. 210,773, 4–16–68, Cl. D26—14.
- Kopp, Harold W., to Halko, Inc. Football blocking dummy or similar article. 210,787, 4–16–68, Cl. D34—5.
- Lit-Ning Products Co.: *See*—
  - Pond, Thomas G. 210,784.
- Macon Program for Progress, Inc.: *See*—
  - Vance, Richard L. 210,771.

- Makris, Aristides, to The B. F. Goodrich Co. Tire. 210,814, 4–16–68, Cl. D90—20.
- Meyer Products, Inc. : *See*—
  - Jones, Dennis L. 210,796.
  - Jones, Dennis L. 210,797.
- Mitchell, Atherton R., to Renauld International, Ltd. Pair of sunglasses or the like. 210,806, 4–16–68, Cl. D57—1.
- Moore, Aston L. Speaker baffle. 210,778, 4–16–68, Cl. D26—14.
- Moore, Aston L. Speaker baffle. 210,779, 4–16–68, Cl. D26—14.
- Olen, Hans T. Display stand for yarn or the like. 210,811, 4–16–68, Cl. D80—9.
- Otteson, Christian S. : *See*—
  - Ettinger, James P., and Otteson. 210,780.
  - Ettinger, James P., and Otteson. 210,781.
- Owens-Illinois, Inc. : *See*—
  - Plummer, James E. 210,766.
- Oystol, Lars E. : *See*—
  - Tally, Roy D., and Oystol. 210,791.
- Peterson, Carl A., to Westinghouse Electric Corp. Countertop dishwasher. 210,799, 4–16–68, Cl. D49—1.
- Plummer, James E., to Owens-Illinois, Inc. Bottle. 210,766, 4–16–68, Cl. D9—53.
- Pond, Thomas G., to Lit-Ning Products Co. File rack for a desk top. 210,784, 4–16–68, Cl. 33—2.
- Ranco Inc. : *See*—
  - Hill, Frederick M. 210,803.
- Renauld International, Ltd. : *See*—
  - Mitchell, Atherton R. 210,806.
- Robert, Tony. Holder for food bowls for pets. 210,782, 4–16–68, Cl. D30—13.
- Rodin, Violet R. Coat rack. 210,786, 4–16–68, Cl. D33—8.
- Rodstein, Harvey B. Orbital sander. 210,793, 4–16–68, Cl. D37—1.
- Rodstein, Harvey B. Orbital sander. 210,794, 4–16–68, Cl. D37—1.
- Ryan, Richard W. Valve actuator for a pressurized can. 210,768, 4–16–68, Cl. D9—258.
- Sarong, Inc. : *See*—
  - Tuschman, Moe. 210,761.
- Shimazaki, Hiroharu : *See*—
  - Komata, Eizo, and Shimazaki. 210,773.
- Silver, Francis M., to Ermal C. Fraze. Ring tab for a tear strip opener. 210,807, 4–16–68, Cl. D58—26.
- Smith, Edgar J. Vehicle seat. 210,772, 4–16–68, Cl. D15—8.
- Sprinkel, Ernest. Golf club head. 210,789, 4–16–68, Cl. D34—5.
- Standard Oil Co. : *See*—
  - Birger, Jordan, and Marvin, and Di Pierro. 210,795.
- Stearman, Lloyd C. Aircraft. 210,809, 4–16–68, Cl. D71—1.
- Steinthal, M., & Co., Inc. : *See*—
  - Jantzen, George H. 210,762.
- Tally, Roy D., and L. E. Oystol. Aerial toy. 210,791, 4–16–68, Cl. D34—15.
- Treu, Donald D. Rotatable rack for storing record albums or similar articles. 210,785, 4–16–68, Cl. D33—3.
- Tuschman, Moe, to Sarong, Inc. Brassiere. 210,761, 4–16–68, Cl. D2—24.
- Tyler, Daniel W., to Bell Telephone Laboratories, Inc. Base for a telephone wall set. 210,774, 4–16–68, Cl. D26—14.
- Vance, Richard L., to Macon Program for Progress, Inc. Reclining and adjustable chair for invalids. 210,771, 4–16–68, Cl. D15—1.
- Wakai, Noboru, to Dainihon Bungu Kabushiki Kaisha. Mechanical pencil. 210,810, 4–16–68, Cl. D74—17.
- Watt, William D., Jr., to Keeler Brass Co. Backplate for drawer pulls or the like. 210,801, 4–16–68, Cl. D50—6.
- Watt, William D., Jr., to Keeler Brass Co. Backplate for drawer pulls or the like. 210,802, 4–16–68, Cl. D50—6.
- Westinghouse Electric Corp. : *See*—
  - Peterson, Carl A. 210,799.
- Wilfert, Karl : *See*—
  - Geiger, Friedrich, and Wilfert. 210,770.
- Zick, Ronald W., to Jamison, Inc. Rider seat for playground apparatus. 210,792, 4–16–68, Cl. D34—15.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 16TH DAY OF APRIL, 1968

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

- ACF Industries, Inc. : *See*—
  - Cordani, Eugene J. 3,378,150.
  - Kemp, Willard E. 3,378,422.
  - Powell, Richard G. 3,378,149.
- AMP Inc. : *See*—
  - Demler, Henry W., Sr. 3,378,282.
- A/S Haustrups Fabriker : *See*—
  - Poulsen, Erik D. 3,378,007.
- Abramowitz, Mark H., to Lee Electric, Inc. Pushbutton switch with improved guide means. 3,378,663, 4–16–68, Cl. 200—159.
- Acieries de Paris et d'Outreau, Societe Anonyme : *See*—
  - Perrot, Robert. 3,378,683.
- Acker, Donald S., and A. L. Barney, to E. I. du Pont de Nemours and Co. Vulcanizable composition containing a thiocarboxylic acid fluoride polymer and a polyunsaturated compound. 3,378,604, 4–16–68, Cl. 260—874.
- Adams, Derek S., and B. L. Phillips, to Joseph Lucas (Industries) Ltd. Spark ignition systems. 3,377,998, 4–16–68, Cl. 123—148.
- Addressograph-Multigraph Corp. : *See*—
  - Zawiski, Robert F. 3,377,988.
- Adelaar, Hans H., J. L. Masure, and P. T. Chu, to International Standard Electric Corp. Data processing system. 3,378,818, 4–16–68, Cl. 340—172.5.
- Agfa Aktiengesellschaft : *See*—
  - Kiper, Gerd. 3,377,937.
  - Puschel, Walter, Scheilenberger, Loffler, Wahl, and Peiz. 3,378,554.
  - Von Rintelen, Harald, Pfeiffenschneider, Fleiter, and Britz. 3,378,373.
- Air Filter Corp. : *See*—
  - Welty, William H. 3,378,100.
- Air Preheater Co., Inc., The : *See*—
  - Hammond, William E. 3,377,781.
- Air Products and Chemicals, Inc. : *See*—
  - Shirk, Robert M. 3,378,349.
  - Siegrist, George W., and Zeitz. 3,377,811.
- Aizawa, Tadashi. Laterally connecting apparatus for veneer. 3,378,430, 4–16–68, Cl. 156—556.
- Aker, Jimmie R. : *See*—
  - Cullen, Roy H., Zilliox, Elliott, and Aker. 3,378,811.
- Aktiebolaget Bofors : *See*—
  - Friis, Wilhelm L.-E., and Noren. 3,378,367.
- Aktiebolaget Svenska Flaktfabriken : *See*—
  - Seth, Einar. 3,377,745.
  - Wilhelmsson, Gunnar. 3,377,782.
- Akustische U. Kino-Gerate Gesellschaft m.b.H. : *See*—
  - Weingartner, Bernhard. 3,378,638.
- Alafi, Moshe, W. Birnbaum, F. C. Ford, and C. S. Godfrey, to Berkeley Scientific Laboratories. Fire warning device. 3,378,829, 4–16–68, Cl. 340—228.
- Alban, Clarence F., to W. M. Chace Co. Temperature compensated magnetic field responsive material. 3,378,357, 4–16–68, Cl. 29—183.5.
- Alberghini, Alfred C. : *See*—
  - Richardson, Henry M., Alberghini, Wiley, and Larson. 3,377,657.
- Albert, Marcel O. One-piece mold cavity element for producing expanded polystyrene drinking cup. 3,377,654, 4–16–68, Cl. 18—5.
- Alcock, Robert N. : *See*—
  - Robinson, Stephen J., Levy, and Alcock. 3,378,787.
- Aldighieri, Rudolph P., to Elastic Stop Nut Corp. of America. Adaptors for terminating devices in high voltage power cables. 3,378,627, 4–16–68, Cl. 174—73.
- Alfa-Laval AB : *See*—
  - Baum, Engelbert. 3,377,992.
- Allen Organ Co., Inc. : *See*—
  - Markowitz, Jerome. 3,378,624.
- Allen, Robert E., and L. Ambrus, to Cutter Laboratories, Inc. Urethanes of triarylacrylamides. 3,378,579, 4–16–68, Cl. 260—479.
- Allied Chemical Corp. : *See*—
  - Clark, Frank N. 3,377,773.
  - Clark, Frank N. 3,378,169.
  - Little, Edwin D. 3,378,530.
- Allis-Chalmers Mfg. Co. : *See*—
  - Bergen, Charles R. 3 378,411.
  - Davidson, John K., and Miller. 3,378,457.
  - Ramrath, Joseph M. 3,378,661.
- Alofs, Herman G., to Alofs Mfg. Co. Adjustable buckle for over-shoulder safety belts. 3,377,667, 4–16–68, Cl. 24—74.
- Alofs Mfg. Co. : *See*—
  - Alofs, Herman G. 3,377,667.
- Alt, Rolf V., and K. Viessmann, to Kreidler's Metall- und Drahtwerke G.m.b.H. Continuous casting arrangement. 3,378,061, 4–16–68, Cl. 164—156.
- Altman, David, to United Aircraft Corp. Liquid propulsion system and method with fuels and oxidizer in thermal contact. 3,377,801, 4–16–68, Cl. 60—206.
- Aluminium Laboratories Ltd. : *See*—
  - Edwards, Aubrey T. 3,378,631.
- Aluminum Co. of America : *See*—
  - Nelson, David G. 3,378,172.
- Alvarez, Luis W., to Bell & Howell Co. Gyroscopically controlled accidental motion compensator for optical instruments. 3,378,326, 4–16–68, Cl. 350—16.
- Amagasa, Masataka, and T. Yamaguchi, to Chiyoda Kakokensetsu Kabushiki Kaisha. Process for the preparation of polyalkylcyclohexenes. 3,378,599, 4–16–68, Cl. 260—667.
- Ambrus, Laszlo : *See*—
  - Allen, Robert E., and Ambrus. 3,378,579.
- American Can Co. : *See*—
  - Stevenson, John, Jr., and Taggart. 3,378,128.
  - Meyers, George L. 3,378,188.
- American Cyanamid Co. : *See*—
  - Cooper, Murray S., Danielson, and Kroll. 3,378,443.
  - Hoffman, Joseph A., and Oppelt. 3,378,535.
  - Newman, Howard, and Angier. 3,378,589.
  - Sandhage, Elsworth R., and Hammar. 3,377,989.
- American Maize-Products Co. : *See*—
  - Tsuzuki, Toshio. 3,378,546.
- American Mfg. Co., Inc. : *See*—
  - Sherman, Nathaniel H. 3 377,666.
- American Safety Equipment Corp. : *See*—
  - Romanzi, Louis, Jr., and Van Dorn. 3,378,301.
- American Screen Products Co. : *See*—
  - Donkin, Ralph F. 3 377,747.
- American Seating Co. : *See*—
  - Dufendach, William R., and Applegate. 3,378,639.
  - Way, Douglas E., and Berry. 3,378,223.
- American Standard, Inc. : *See*—
  - Robare, E. Peter. 3,377,630.
- Ampco Meal Inc. : *See*—
  - Ingerson, Quentin F. 3,378,413.
- Ampex Corp. : *See*—
  - Johnson, Delmar R. 3,378,212.
- Amphenol Corp. : *See*—
  - Dorrell, Robert F. 3,378,810.
- Anaconda Aluminum Co. : *See*—
  - Smith, Addison R., II. 3,378,801.
- Anaconda Wire and Cable Co. : *See*—
  - Eich, Edward D., Juhlin, and Berling. 3,378,419.
- Anderson, Bernard O. : *See*—
  - Beckman, Ernest C., and Anderson. 3,378,289.
- Anderson, Curtis A., and C. W. Syak, to Trumbull Development Corp. Sandwich-making machine. 3,377,963, 4–16–68, Cl. 107—1.
- Anderson, Donald L. : *See*—
  - Kotlin James J., Anderson, and Ristig. 3,377,996.
- Anderson, Robert F. License-plate fastening means. 3,377,729, 4–16–68, Cl. 40—209.
- Anderson, Rodney H., T. G. Campbell, E. R. Crabb, and Y. Hosoda, to Caterpillar Tractor Co. Chain and flight assembly for self-loading scrapers. 3,378,133, 4–16–68, Cl. 198—175.
- Anderson, Roy D., to Ramsey Corp. Piston ring assembly. 3,378,268, 4–16–68, Cl. 277—143.
- Anderson, Wilmer C., to General Time Corp. Analog-digital converter employing a ring demodulator. 3,378,833, 4–16–68, Cl. 340—347.
- Andrea, John J., to Collins Radio Co. Digitalized signal gain control circuit. 3,378,786, 4–16–68, Cl. 330—137.
- Andrews, Roy, to National Heating & Cooling Mfg., Corp. Single control mixing faucet. 3,378,034, 4–16–68, Cl. 137—625.4.
- Andrieu, Jean R. : *See*—
  - Martin, Jean, and Andrieu. 3,378,340.
- Angier, Robert B. : *See*—
  - Newman, Howard, and Angier. 3,378,589.
- Ansul Chemical Co. : *See*—
  - Neuville, Morris L., and Carroll. 3,378,364.
- Antran Corp. : *See*—
  - Savin, Cornelius, Vorwald, and Vagts. 3,377,718.
- Applegate, Merlin J. : *See*—
  - Dufendach, William R., and Applegate. 3,378,639.
- Arai, Takeji, M. Ariga, and S. Yoshiyama, to O-M Ltd. Method of producing slivers from synthetic fiber tows. 3,377,663, 4–16–68, Cl. 19—.39.
- Ariga, Masahiko : *See*—
  - Arai, Takeji, Ariga, and Yoshiyama. 3,377,663.
- Arlin, Edward S., and W. T. Watson to Norwalk Thermostat Co. Magnetically controlled resettable switch. 3,378,658, 4–16–68, Cl. 200—122.
- Armato, Albert : *See*—
  - Riolo, Carl R., and Moerke. 3,378,019.
- Armburst, Ferdinand J. Snow compressing apparatus. 3,377,725, 4–16–68, Cl. 37—10.
- Armco Steel Corp. : *See*—
  - Castor, Edward E. 3,378,269.
- Armour and Co. : *See*—
  - Sebring, Michael. 3,378,376.

- Armour Industrial Chemical Co.: *See*—
  - Shapiro, Sydney H. 3,378,588.
- Armstrong Cork Co.: *See*—
  - Heckles, John S. 3,378,573.
- Arndt, Horst, and W. Steinhausen, to Schering, A.G. Acaricidal agents. 3,378,437, 4–16–68, Cl. 167—30.
- Arnell, Alvin: *See*—
  - Lyon, Floyd A., Schatzki, Arnell, and Konazewski. 3,377,772.
- Artos Engineering Co.: *See*—
  - Gudmestad, Ragnar. 3,378,196.
- Arvidson, Bengt A., to Corley-Miller, Inc. Package handling equipment. 3,377,776, 4–16–68, Cl. 53—391.
- Asahi Kasai Kogyo Kabushiki Kaisha: *See*—
  - Yamashiki, Takashi. 3,378,339.
- Aske, Irving E. Testing machine. 3,377,847, 4–16–68, Cl. 73—97.
- Aspeek, Reginald J. Simplified high power swinging scraper tool. 3,377,702, 4–16–68, Cl. 30—169.
- Associated Electrical Industries Ltd.: *See*—
  - Freck, David V., Rouse, and Wakefield. 3,378,414.
  - Hobbs, Richard E. 3,377,697.
  - Todd, Keith W. 3,377,864.
- Athey Products Corp.: *See*—
  - Steiner, Larry T. 3,378,155.
- Atkinson, Guy F., Co.: *See*—
  - Atkinson, Ray N. 3,377,932.
  - Warner, Donald H. 3,378,152.
- Atkinson, Ray N., to Guy F. Atkinson Co. Pavement grooving apparatus. 3,377,932, 4–16–68, Cl. 94—39.
- Atlantic Richfield Co.: *See*—
  - Worrell, George R., Hicks, and Durney. 3,378,483.
- Atwood, Harold T. Rounding apparatus for dough. 3,377,905, 4–16–68, Cl. 107—9.
- Austen, Alan E. W., to C.A.V. Ltd. Internal combustion engines. 3,377,925, 4–16–68, Cl. 92—261.
- Austin, Clarence G., Jr., and H. R. Garrett, to Haskon, Inc. Carton forming mandrel. 3,377,928, 4–16–68, Cl. 93—59.
- Austin, Walter H., Jr., and D. Trudeau, to United States of America, Army. Split ring valve for bore evacuator. 3,377,918, 4–16–68, Cl. 89—1.
- Automated Golf Systems, Inc.: *See*—
  - Turnau, Robert R., and Poynter. 3,378,263.
- Automation & Product Development Corp.: *See*—
  - Eburn, William H., Jr., Miller, and Raymond. 3,378,165.
- Awater, Albert: *See*—
  - Knipper, Ulrich, Neuman, Awater, and Oertel. 3,378,517.
- Ayres, Waldemar A., to Becton Dickinson and Co. Thermometer manufacture. 3,377,837, 4–16–68, Cl. 73—1.
- B & B Engineering Co., Inc.: *See*—
  - Smith, Egmont S. 3,378,162.
- Babcock & Wilcox, Ltd.: *See*—
  - McKenzie, Edwin C. 3,378,202.
- Babington, Robert S., A. A. Yetman, and W. R. Slivka. Porous block humidification. 3,378,238, 4–16–68, Cl. 261—26.
- Bach, Ricardo O., to Lithium Corp. of America, Inc. Preparation of iodic acid and derivatives thereof. 3,378,337, 4–16–68, Cl. 23—85.
- Bacon, John P., to The Budd Co. Ultrasonic transducers and method of manufacture thereof. 3,378,705, 4–16–68, Cl. 310—9.5.
- Bacsanyi, Thomas J.: *See*—
  - Sheldon, Philip, and Bacsanyi. 3,377,742.
- Baer, Massimo, to Monsanto Co. Blend of N-tetro butylacrylamide terpolymer and graft copolymer thereof onto rubber substrate. 3,378,605, 4–16–68, Cl. 260—876.
- Bailey, Grant C.: *See*—
  - Walker, Darrell W., and Bailey. 3,378,536.
- Baker, Alfred D., to Joseph Lucas (Industries) Ltd. Alternators. 3,378,708, 4–16–68, Cl. 310—68.
- Baker, Benjamin P., deceased (by Mellon National Bank and Trust Co., executor), to Westinghouse Electric Corp. Electrical protective system. 3,378,729, 4–16–68, Cl. 317—58.
- Baker, Ellery L., to United Wire & Supply Corp. Flying saw. 3,377,900, 4–16–68, Cl. 83—311.
- Baldwin, D. H., Co.: *See*—
  - Hurvitz, Hyman. 3,378,625.
- Baltimore Aircoil Co., Inc.: *See*—
  - Engalitcheff, John, Jr., and Facius. 3,378,239.
- Bambach, Fritz J., to L. Heydenreich. Machine for cutting plastic chunks into granulate. 3,378,210, 4–16–68, Cl. 241—160.
- Banks, William P., and M. Hutchison, to Continental Oil Co. Anodic passivation using stainless steel reference electrode. 3,378,472, 4–16–68, Cl. 204—147.
- Baran, John S., to G. D. Searle & Co. 17-hydroxy-17α-oxa-D-homoandrost-4-en-3-one,Δ¹ and 19-nor derivatives corresponding ethers thereof and intermediates thereto. 3,378,570, 4–16–68, Cl. 260—345.2.
- Barber, Alfred W. Voltage responsive light source for controlling variable frequency R-C oscillators. 3,378,788, 4–16–68, Cl. 331—66.
- Barker, Arthur F., to E. I. du Pont de Nemours and Co. Aerosol valve for comestibles. 3,378,205, 4–16–68, Cl. 239—337.
- Barlett, Helen B., to General Motors Corp. Corrosion-resistant coating for magnesium die castings. 3,378,410, 4–16–68, Cl. 148—6.27.
- Barley, Leslie G.: *See*—
  - Cutting, Edward J., and Barley. 3,378,319.
- Barnes Engineering Co.: *See*—
  - Yates, Harold W. 3,377,912.
- Barnes, Kenyon C.: *See*—
  - Dempsey, Edward J., and Barnes. 3,378,307.
- Barney, Arthur L.: *See*—
  - Acker, Donald S., and Barney. 3,378,604.
- Basic Vegetable Products, Inc.: *See*—
  - Yamamoto, James S., and Stephenson. 3,378,380.
- Bassani, Ermanno. Assembly for mounting an electric device. 3,378,160, 4–16–68, Cl. 220—3.6.
- Bates, Donald L., and J. Neal, to Hamilton Cosco, Inc. Chair. 3,377,966, 4–16–68, Cl. 108—141.
- Battelle Development Corp.: *See*—
  - Gripshover, Paul J. 3,377,695.
  - Little, Lawrence L. 3,378,375.
- Batterson, Norman D.: *See*—
  - Robertson, James E., and Batterson. 3,378,218.
- Baum, Engelbert, to Alfa-Laval AB. Milking system. 3,377,992, 4–16–68, Cl. 119—14.08.
- Bauman, Robert H., to General Motors Corp. Disc brake assembly. 3,378,109, 4–16–68, Cl. 188—73.
- Baur, Alain, and A. Lecoco, to Commissariat a l'Energie Atomique. Process for the preparation of beryllium oxide. 3,378,343, 4–16–68, Cl. 23—183.
- Bax, Glenn R., and J. L. Dohanic, Jr., to Louis Marx & Co., Inc. Lane change for raceway toy. 3,377,958, 4–16–68, Cl. 104—60.
- Bayer, Otto: *See*—
  - Tarnow, Horst, Holtschmidt, and Bayer. 3,378,559.
- Baylor, John T., to Cubic Corp. Angle measuring equipment. 3,378,848, 4–16–68, Cl. 343—113.
- Bear, Loren. Windmill and pot holder. 3,378,082, 4–16–68, Cl. 170—77.
- Beasley, Weldon A., to Miracle Products, Inc. Shaving brush device. 3,378,331, 4–16–68, Cl. 401—286.
- Beavers, Joseph H., J. A. O'Callaghan, and E. F. Shoafstall. Pressure indicator device. 3,377,851, 4–16–68, Cl. 73—146.5.
- Bechberger, Paul F., J. A. Howe, and M. Brown, to United States of America, Atomic Energy Commission. Portable timing mechanisms. 3,377,871, 4–16–68, Cl. 74—3.54.
- Beckman, Ernest C., and B. O. Anderson, to Modern Metal Products Co. Hood and deck latch. 3,378,289, 4–16–68, Cl. 292—31.
- Beckman Instruments, Inc.: *See*—
  - Bochinski, Julius H., and Sternberg. 3,378,725.
  - Mishler, Ralph E., Peart, and Pettit. 3,378,802.
  - Yungblut, Charles W., and Peart. 3,378,803.
- Beckman, Melvin H., to National Lock Co. Shear clamp. 3,377,763, 4–16–68, Cl. 52—584.
- Becton Dickinson and Co.: *See*—
  - Ayres, Waldemar A. 3,377,837.
- Beeken, Basil B., to Pitney-Bowes, Inc. Fluid amplifier. 3,378,023, 4–16–68, Cl. 137—81.5.
- Bell Aerospace Corp.: *See*—
  - Lichten, Robert L., and Wernicke. 3,378,083.
- Bell, Alan: *See*—
  - Tholstrup, Clarence E., Bell, and Kibler. 3,378,516.
- Bell & Howell Co.: *See*— -
- Bell, Kenneth, J. J. Porada and F. J. Kott, to National Dairy
  - Alvarez, Luis W. 3,378,326.
- Products Corp. Apparatus for forming an edible product. 3,377,964, 4–16–68, Cl. 107—1.
- Bell Telephone Laboratories, Inc.: *See*—
  - Dinella, Donald, Kirschenbaum, and Schutz. 3,377,699.
  - Goeller, Leopold F., Jr. 3,378,643.
  - Goeller, Leopold F., Jr. 3,378,650.
  - Goodenow, Theodore C. 3,378,758.
  - Hilsinger, Harry A., Jr. 3,378,214.
  - Holton, Harold B. 3,378,792.
  - Welber, Irwin. 3,378,845.
- Belock Instrument Corp.: *See*—
  - Heller, Joseph I. 3,378,645.
- Bendix Corp., The: *See*—
  - Diani, Arthur C. 3,378,217.
  - James, Robert L. 3,378,745.
  - Potter, Frederick M. 3,378,756.
  - Potter, Frederick M. 3,378,757.
- Benkert, Irwin G., to Selas Corp. of America. Tube support. 3,378,064, 4–16–68, Cl. 165—67.
- Bennett, John E., and W. G. Montgomery, to Jeffrey Galion Mfg. Co. Mining machine cutting chain. 3,378,308, 4–16–68, Cl. 299—84.
- Bennett, Kathleen I.: *See*—
  - Reynolds, Robert J. 3,377,999.
- Bergen, Charles R., to Allis-Chalmers Mfg. Co. Stress corrosion crack inhibitors. 3,378,411, 4–16–68, Cl. 148—6.35.
- Berger, Isaac, to Carrier Corp. Compressor control arrangement. 3,377,816, 4–16–68, Cl. 62—157.
- Berger, Jerry E., to Shell Oil Co. Water-in-oil emulsion fluids. 3,378,494, 4–16–68, Cl. 252—77.
- Bergstrom, Clarence G., to G. D. Searle & Co. 16β-amino-3β,17α-dihydroxypregn-5-en-20-one 20 ketals and acyl derivatives thereof. 3,378,551, 4–16–68, Cl. 260—239.55.
- Berkeley Scientific Laboratories: *See*—
  - Alafi, Moshe, Birnbaum, Ford, and Godfrey. 3,378,829.
- Berling, Eckart: *See*—
  - Eich, Edward D., Jublin, and Berling. 3,378,419.
- Berry, Clyde A., to Pilot Research Corp. Ladies' stretch heelless stockings. 3,377,826, 4–16–68, Cl. 66—178.
- Berry, Hammond A.: *See*—
  - Way, Douglas E., and Berry. 3,378,223.
- Best, Harold E., to Best Quality Plastics, Inc. Method of forming thin walled plastic articles. 3,378,616, 4–16–68, Cl. 264—92.
- Best Quality Plastics, Inc.: *See*—
  - Best, Harold E. 3,378,616.
- Bestpak, Inc.: *See*—
  - Thompson, Paul. 3,378,186.

- Beteiligungs- und Patentverwaltungsgesellschaft mit Beschrankter Haftung: *See*—
  - Borowski, Kurt, Kluth, and Maatsch. 3,378,366.
  - Geldmacher, Ernst, Kenn, Popp, and Rusel. 3,378,305.
- Bethlehem Steel Corp.: *See*—
  - French, George L., and Seacrest. 3,378,249.
  - Pullen, Frederick R., and McLachlan. 3,378,247.
- Beumer, Karl W., to International Business Machines Corp. Capping apparatus. 3,377,688, 4–16–68, Cl. 29—203.
- Bielenberg, Waldemar: *See*—
  - Hartlapp, Gerhard, and Bielenberg. 3,378,341.
- Biesecker, Donald L., to Illinois Tool Works Inc. Plastic fastener. 3,378,219, 4–16–68, Cl. 248—220.5.
- Bilton, John, to Fluidrive Engineering Co. Ltd. Fusible plug assemblies for hydraulic turbo-couplings. 3,377,957, 4–16–68, Cl. 103—115.
- Birnbaum, Wallace: *See*—
  - Alafi, Moshe, Birnbaum, Ford, and Godfrey. 3,378,829.
- Bitners, Feliks: *See*—
  - Brandt, Hans-Walther, Schleppinghoff, Bitners, and Meier. 3,378,465.
- Bivens, Norman A. Loading magazine for revolver cylinder. 3,377,732, 4–16–68, Cl. 42—50.
- Blake, Edward S., to Monsanto Research Corp. Process of preparing aralkyl esters. 3,378,578, 4–16–68, Cl. 260—476.
- Blanchard, Clarence E., Jr., to Outboard Marine Corp. Universal coupling. 3,378,284, 4–16–68, Cl. 287—21.
- Bloch, Herman S., to Universal Oil Products Co. Oxidation of waste gases in the presence of mixed catalysts. 3,378,334, 4–16–68, Cl. 23—2.
- Blood, Raymond: *See*—
  - Start, Ernest, and Blood. 3,377,822.
- Bloom, Willard H., to Formetal, Inc. Self-engaging automatically-releasing sash balance locking device. 3,377,648, 4–16–68, Cl. 16—197.
- Blumenkranz, James J., to The Susquehanna Corp. Insulated, electrical resistance wire and welding sleeve made therefrom. 3,378,672, 4–16–68, Cl. 219—200.
- Bochinski, Julius H., and J. C. Sternberg, to Beckman Instruments, Inc. Electron capture detector having separate ionization and sensing regions. 3,378,725, 4–16–68, Cl. 315—111.
- Bode, Robert H.: *See*—
  - Boynton, Ira D., and Bode. 3,378,257.
- Bodenseher, Hermann, to Brown, Boveri & Cie, AG. Boring apparatus and method. 3,377,902, 4–16–68, Cl. 83—639.
- Bodine, Albert G. Sonic energization for oil field formations. 3,378,075, 4–16–68, Cl. 166—45.
- Boeing Co., The: *See*—
  - Jackson, Darrell R., and Orth. 3,378,760.
- Boggs, Le Roy R., to Koppers Co., Inc. Apparatus for making fiber reinforced resin articles with hollow channels therethrough. 3,378,428, 4–16–68, Cl. 156—462.
- Boggs, Roy H. Wear resistant shuttle spring. 3,378,044, 4–16–68, Cl. 139—207.
- Bolhofer, William A., to Merck & Co., Inc. (a-phenoxy)- and (a - phenylthio) - omega - phenyl - alkanoic acids. 3,378,582, 4–16–68, Cl. 260—520.
- Bollinger, Luther L., Sr.: *See*—
  - Fisher, Franklin G., and Bollinger. 3,378,317.
- Bolt Associates, Inc.: *See*—
  - Chelminski, Stephen V. 3,378,815.
- Bonanno, Joseph L., and D. L. Crosman, to De Luxe Reading Corp. Animated toy such as a doll. 3,377,740, 4–16–68, Cl. 46—119.
- Bonas Bros. Weavematic Looms (England) Ltd.: *See*—
  - Vaslet, Charles J. 3,378,039.
- Boocock, Peter M., and G. A. Milne, to United Kingdom Atomic Energy Authority. Tube joints. 3,378,283, 4–16–68, Cl. 285—187.
- Booth, Claude B. Sheet metal building structure. 3,377,759, 4–16–68, Cl. 52—276.
- Borasio, Leo, S. A. Ronlov, and C. C. Jancewicz, to The Stearns-Roger Corp. Spread-footed three-dimensional headframe and method of erecting same. 3,378,304, 4–16–68, Cl. 299—18.
- Border, William R., Jr. Self-angling adjusting crankshaft rest. 3,377,752, 4–16–68, Cl. 51—238.
- Borg-Warner Corp.: *See*—
  - Jaremus, Boubene M. 3,377,941.
  - Smirl, Richard L. 3,378,358.
- Borowski, Kurt, K.-H. Kluth, and J. Maatsch, to Beteiligungs- und Patentverwaltungsgesellschaft mit Beschrankter Haftung. Method of inspection and control of the reaction performance during the oxygen blowing process. 3,378,366, 4–16–68, Cl. 75—60.
- Bostick, Edgar E., to General Electric Co. Ordered organopolysiloxanes. 3,378,521, 4–16–68, Cl. 260—46.5.
- Boswell, George A., to E. I. du Pont de Nemours and Co. Selected derivatives of 17,17-difluoro-4-androstene-3-one. 3,378,550, 4–16–68, Cl. 260—239.55.
- Bourdeau, Romeo G., and F. E. Papalegis, to Union Carbide Corp. Process for producing pyrolytic graphite whiskers. 3,378,345, 4–16–68, Cl. 23—209.1.
- Bourns, Inc.: *See*—
  - Jones, Robert L. 3,378,805.
  - Miller, Kenneth F., and Smith. 3,378,704.
- Bowley, Thomas W., and L. H. Smith, to United-Carr Inc. Crimping tool. 3,377,836, 4–16–68, Cl. 72—452.
- Boyaval, Robert: *See*—
  - Nuissl, Carl W. 3,378,211.
- Boyle, William G., to Otis Engineering Corp. Well tools. 3,378,224, 4–16–68, Cl. 251—14.
- Boynton, Ira D., and R. H. Bode, to United States of America, Commerce. Apparatus for moving and orienting limp pieces of material. 3,378,257, 4–16–68, Cl. 271—84.
- Bradford, Ronald L.: *See*—
  - Simons, Charles C., and Bradford. 3,377,694.
- Bradley, G. & E., Ltd.: *See*—
  - Dodson, John A. 3,378,690.
- Braid, Milton, and D. A. Law, to Mobil Oil Corp. Stabilized organic compositions. 3,378,491, 4–16–68, Cl. 252—47.5.
- Brancato, Sebastian T., to Interchemical Corp. Recording elements for electrostatic printing. 3,378,370, 4–16–68, Cl. 96—1.8.
- Brandriff, Robert C., to The Singer Co. Fluonic binary counter using fluid logic units. 3,378,197, 4–16–68, Cl. 235—201.
- Brandt, Hans-Walther, B. Schleppinghoff, F. Bitners, and E. Meier, to Farbenfabriken Bayer Aktiengesellschaft, and Erdolchemie Gesellschaft mit beschrankter Haftung. Purification of solents containing C dimers by azeotropic distillation with water. 3,378,465, 4–16–68, Cl. 203—25.
- Branson Instruments, Inc.: *See*—
  - Obeda, Edward G. 3,378,429.
- Brassaw, Robert F., and C. G. Shipley. Apparatus for making tassels and pompons. 3,377,674, 4–16–68, Cl. 28—2.
- Braswell, Gary J., and P. L. Jolly, to General Electric Co. Discharge device. 3,378,716, 4–16–68, Cl. 313—252.
- Bray, Derek, to Fairchild Camera and Instrument Corp. Readily integrable color oscillator circuit. 3,378,790, 4–16–68, Cl. 331—116.
- Breese Instrument Co.: *See*—
  - Breese, James L. 3,377,707.
- Breese, James L., to Breese Instrument Co. Instrument for measuring rectangular areas. 3,377,707, 4–16–68, Cl. 33—121.
- Brette, Alfred J. M., to Compagnie des Compteurs. Liquid volumetric meter. 3,377,858, 4–16–68, Cl. 73—258.
- Brian, Michael, to General Motors Corp. Closure latch. 3,378,291, 4–16–68, Cl. 292—68.
- Bridge, Harry, and B. T. Kelly, to United Kingdom Atomic Energy Authority. Graphite structures in nuclear reactors. 3,378,459, 4–16–68, Cl. 176—84.
- Bridgeman, Cecil K., to Picker X-ray Mfg., Ltd. Vacuum sealing unit. 3,377,769, 4–16–68, Cl. 53—84.
- Bridger, Homer J., to S. B. Penick & Co. Tetraene antibiotic purification. 3,378,441, 4–16–68, Cl. 167—65.
- Bridgestone Tire Co., Ltd.: *See*—
  - Fukushima, Toshio. 3 377,662.
- Briggs & Stratton Corp.: *See*—
  - Gordon, Douglas. 3,378,099.
- Bristol-Myers Co.: *See*—
  - Montzka, Thomas A. 3,378,561.
- Brite, Alan D. Water activated vaporizer. 3,378,333, 4–16–68, Cl. 21—110.
- British Oxygen Co., The: *See*—
  - Garrett, Michael E., and Webber. 3,377,812.
- British Visqueen Ltd.: *See*—
  - Dickson, Robert W. 3,378,189.
- Britz, Karl-Heinz: *See*—
  - Von Rintelen, Harald, Pfeiffenschneider, Fleiter, and Britz. 3,378,373.
- Brixite Mfg. Co.: *See*—
  - Chalmers, Alexander A., Fried, and Mason. 3 377,762.
- Brockel, Gerhard, to Sulzer Bros. Ltd. Spinning frames. 3,377,790, 4–16–68, Cl. 57—58.59.
- Brockway Glass Co., Inc.: *See*—
  - Snyder, Herbert C. 3,378,176.
- Brodie, Sidney S., and A. de la Lastra. Apparatus for the removal of a cemented dental structure. 3,377,704, 4–16–68, Cl. 32—43.
- Brown, Boveri & Cie, AG.: *See*—
  - Bodenscher, Hermann. 3,377,902.
- Brown Citrus Machinery Corp.: *See*—
  - Rickard, Donn J. 3,377,947.
- Brown, Edward L., Jr.: *See*—
  - Garland, Thomas N. 3,377,946.
- Brown, Gaylord W., to Brown Machine Co. of Michigan, Inc. Automatic container checker and ejector apparatus. 3,378,138, 4–16–68, Cl. 209—72.
- Brown, John A., and J. R. Lovett, to Esso Research and Engineering Co. Stabilization of nitroform salts. 3,378,595, 4–16–68, Cl. 260—644.
- Brown, John F., Jr., to General Electric Co. Process for making cyclotetoasiloxanetetrol. 3,378,575, 4–16–68, Cl. 260—448.2.
- Brown Machine Co. of Michigan, Inc.: *See*—
  - Brown, Gaylord W. 3,378,138.
- Brown, Milton: *See*—
  - Bechberger, Paul F., Howe, and Brown. 3,377,871.
- Brown, Richard E., and R. I. Meltzer, to Warner-Lambert Pharmaceutical Co. Acyloxy and hydroxy substituted quinolizines. 3,378,560, 4–16–68, Cl. 260—286.
- Brown, Walter J. Electrical control systems. 3,378,747, 4–16–68, Cl. 318—345.
- Brownawell, Darrell W.: *See*—
  - Song, Won-Ryul, and Brownawell. 3,378,492.
- Browning Industries, Inc.: *See*—
  - Lawrence, John S. 3,377,731.
- Bruinsma, Anne H., and J. M. Cluwen, to North American Philips Co., Inc. Electrical control circuits. 3,378,699, 4–16–68, Cl. 307—241.
- Bruno, Enrico, to Maidenform, Inc. Brassiere with lower cup framing adjustment. 3,378,013, 4–16–68, Cl. 128—482.
- Bruns, Ludwig, and G. Schnuchel, to Erdolchemie Gesellschaft mit beschrankter Haftung. Process for the production of porous metals. 3,378,365, 4–16–68, Cl. 75—20.
- Brunswick Corp.: *See*—
  - Poppen, Sherman R. 3,378,274.
  - Rockwood, Albert M., Gautraud, McLeod, and Dragone. 3,378,275.
- Bryan, William N.: *See*—
  - Udy, Lex L., Clay, and Bryan. 3,378,235.

- Bryan, Wilson J., Jr., and W. S. Griffith, to Martin-Marietta Corp. Method for making sulfur-containing phthalocyanine dyestuffs. 3,378,568, 4–16–68, Cl. 260—314.5.
- Buck, Fred H., Jr. Deodorant and germicidal bodies for toilets and urinals. 3,378,495, 4–16–68, Cl. 252—107.
- Buck, Keith E., to United States of America, Atomic Energy Commission. Radioisotope heat source with overheat protection. 3,377,993, 4–16–68, Cl. 122—32.
- Buckett, James T., to Honeywell Inc. Assembly apparatus. 3,377,915, 4–16–68, Cl. 88—24.
- Budd Co., The: *See—*
  - Bacon, John P. 3,378,705.
  - Hastings, Joseph C. 3,378,750.
  - Hastings, Joseph C. 3,378,763.
  - Stacy, Robert G. 3,378,117.
  - Witzgall, Herbert J. 3,378,164.
- Budzinski, Daniel M., and J. E. Grenier, to Lodding Engineering Corp. Doctor blades having spring buttons. 3,377,644, 4–16–68, Cl. 15—236.
- Bull, Donald E., to Webcor, Inc. Speed regulating system including a rectifier bridge with a controlled rectifier connected from its poles. 3,378,748, 4–16–68, Cl. 318—345.
- Bunker-Ramo Corp., The: *See—*
  - Phillips, Bernard E. 3,378,842.
- Buonaiuto, Robert B. Apparatus for making foamed plastic articles. 3,377,653, 4–16–68, Cl. 18—5.
- Burel, Maurice G. J.: *See—*
  - Hannicq, Jacques G. L., and Burel. 3,378,819.
- Burgess, Roy P. Lining of passages with concrete. 3,377,669, 4–16–68, Cl. 25—131.5.
- Burk, Albercht: *See—*
  - Nottebohm, Carl L., Schabert, and Burk. 3,378,398.
- Burk, James C.: *See—*
  - Rudolph, Curtis C. 3,377,640.
- Burke, George K., to Burron Medical Products, Inc. Piercing device guard and connector assembly. 3,378,006, 4–16–68, Cl. 128—214.
- Burke, Nelson W., to Honeywell Inc. Pulse generator employing UJT relaxation oscillator with particular control circuitry. 3,378,702, 4–16–68, Cl. 307—265.
- Burkett, William E, to Pacific Vegetable Oil Corp. High-strength lightweight aggregate and method for its manufacture. 3,378,382, 4–16–68, Cl. 106—41.
- Burns, Sylvester F., and L. M. Goeman, to General Motors Corp. Closure latch. 3,378,295, 4–16–68, Cl. 292—280.
- Burron Medical Products, Inc.: *See—*
  - Burke, George K. 3,378,006.
- Burt, Donald E., to Keyes Fibre Co. Carton closing arrangement and method. 3,377,768, 4–16–68, Cl. 53—38.
- Butler, Gray L.: *See—*
  - Spender, Donald L., and Butler. 3,377,922.
- Butler, John L., to General Instrument Corp. Directional transducer. 3,378,814, 4–16–68, Cl. 340—8.
- Butuzov, Alexandr V.: *See—*
  - Ivanov, Konstantin P., Kirichinsky, and Butuzov. 3,377,829.
- Byron Jackson, Inc.: *See—*
  - Grant, John C., and Magill. 3,378,088.
- C.A.V. Ltd.: *See—*
  - Austen, Alan E. W. 3,377,925.
- CSF-Compagnie General de Telegraphie Sans Fil: *See—*
  - Letellier, Bernard. 3,378,849.
- CTS of Canada, Ltd.: *See—*
  - Naylor, Robert W. 3,378,752.
- Caldwell, John R., and W. J. Jackson, Jr., to Eastman Kodak Co. Bisphenol polyesters containing phosphorus. 3,378,523, 4–16–68, Cl. 260—47.
- California Institute Research Foundation: *See—*
  - Langmuir, Robert V. 3,378,686.
- Callery Chemical Co.: *See—*
  - Lee, Henry L., Jr. 3 378,504.
- Camenisch, Carl R. Method for accelerated curing of tobacco. 3.378.208, 4–16–68, Cl. 131—121.
- Cameron Iron Works, Inc.: *See—*
  - Oliver, John P. 3,378,026.
- Campbell, Emerson. Auxiliary apparatus for self-service autowash unit. 3,378,167, 4–16–68, Cl. 222—70.
- Campbell, Floyd R., 50% to V. J. Walter. Combination lure carrier and leader dispenser. 3,377,737, 4–16–68, Cl. 43—57.5.
- Campbell, John A., to United States Steel Corp. Method and apparatus for reducing strip. 3,377,830, 4–16–68, Cl. 72—205
- Campbell, Trevor G.: *See—*
  - Anderson, Rodney H., Campbell, Crabb, and Hosoda. 3,378,133.
- Canadian Breweries Ltd.: *See—*
  - Williamson, Alan G., and Parker. 3,378,374.
- Cannon, Donald R.: *See—*
  - Ware, Walter S., and Cannon. 3,377,929.
- Canon Camera Kabushiki Kaisha: *See—*
  - Goshima, Takeshi, Ohtaki, and Kinoshita. 3,377,936.
- Cantrel, Kenneth E.: *See—*
  - Reinert, Andrew J., and Cantrel. 3,378,439.
- Caputo, Dante A. Sliding-action, multiple-contact, multiple-initial-condition relay. 3,378,796, 4–16–68, Cl. 335—72.
- Caputo, Dante A. Sliding-action, multiple-contact, multiple-initial condition relay. 3,378,797, 4–16–68, Cl. 335—72.
- Carbon, Fred S. Waffle iron. 3,377,942, 4–16–68, Cl. 99—376.
- Carborundum Co., The: *See—*
  - Marin, Glenn R. 3,378,622.
- Carlile, Alfred E., and H. F. Manning, to Talon, Inc. Separating end connection. 3,377,868, 4–16–68, Cl. 24—205.11.
- Carling Electric, Inc.: *See—*
  - Sorenson, Wesley T. 3,378,662.
- Carlson, Victor G. Contour level. 3,377,714, 4–16–68, Cl. 33—206.
- Carlstedt, Rahnar L., to Kennametal, Inc. Guide arrangement for relatively moveable parts. 3,377,685, 4–16–68. Cl. 29—200.
- Caron, Eugene J.: *See—*
  - Harris, Samuel J., and Caron. 3,378,795.
- Carothers, Charles H.: *See—*
  - Osterhout, Joseph C., and Carothers. 3,378,722.
- Carpenter, Robert C. Means for aligning and revolving electrodes having screw-type connections. 3,377,686, 4–16–68, Cl. 29—203.
- Carpenter, Woodrow W., and E. Seibert, to Ceramic Coating Co. Fluxing pipe. 3,378,037, 4–16–68, Cl. 138—146.
- Caughley, David J., to Donald Presses Ltd. Four-tube hydraulic scale with zeroing feature. 3,378,091, 4–16–68, Cl. 177—209.
- Carrier Corp.: *See—*
  - Berger, Isaac. 3,377,816.
- Carroll, Anthony D.: *See—*
  - Preston, Brian, and Carroll. 3,378,697.
- Carroll, Robert B.: *See—*
  - Neuville, Morris L., and Carroll. 3,378,364.
- Carter, Belton, Jr. Retractable mirror for motor vehicles. 3,377,880, 4–16–68, Cl. 74—491.
- Carter, Harry J., to FMC Corp. Twist tester. 3,377,853. 4–16–68, Cl. 73—160.
- Cartwright, John A., to Painton & Co. Ltd. Resistive devices. 3,378,804, 4–16–68, Cl. 338—174.
- Cary, Francis H., to General Signal Corp. Valve. 3,378,030. 4–16–68, Cl. 137—516.29.
- Case, J. I., Co.: *See—*
  - Potzsch, Wolfgang R. 3,378,053.
- Case, Laura K.: *See—*
  - Case, Leslie C. and L. K. 3,378,527.
- Case, Leslie C. and L. K. Ester ether-acetal copolymers and process of preparing same. 3,378,527, 4–16–68, Cl. 260—67.
- Casey, Peter R.: *See—*
  - Denault, Leo J., and Casey. 3,378,462.
- Castor, Edward E., to Armco Steel Corp. Metal-to-metal seal devices. 3,378,269,4–16–68, Cl. 277—205.
- Caterpillar Tractor Co.: *See—*
  - Anderson, Rodney H., Campbell, Crabb, and Hosoda. 3,378,133.
  - Clark Richard B. 3,378,191.
  - Miller, Robert H. 3,377,870.
  - Sons, Charles C., Jr. 3,378,095.
- Cellophane Investment Co. Ltd.: *See—*
  - Habozit, Fortune. 3,378,213.
- Central Pharmacal Co., The: *See—*
  - Keiser, James D., and Midyett. 3,378,558.
- Ceramic Coating Co.: *See—*
  - Carpenter, Woodrow W., and Seibert. 3,378,037.
- Ceskoslovenska Akademie ved: *See—*
  - Farkas, Gabriel L., and Hajnis. 3,377,712.
- Chace, W. M., Co.: *See—*
  - Alban, Clarence F. 3,378,357.
- Chalmers, Alexander A., W. B. Fried, and R. A. Mason, to Brixite Mfg. Co. Composite shingle. 3,377,762, 4–16–68, Cl. 52—555.
- Chaney, Earl J. Method of treating waste water containing nickel. 3,378,487, 4–16–68, Cl. 210—11.
- Char-Lynn Co.: *See—*
  - Patterson, Earl, Jr. 3,377,873.
- Chase, John E.: *See—*
  - Claycomb, Richard S., Chase, and Umphenour. 3,378,004.
- Chase-Shawmut Co., The: *See—*
  - Hitchcock, Paul C. 3,378,659.
- Chase, Wayne R., and V. P. Hovnanian, to Thiokol Chemical Corp. Nozzle. 3,378,204, 4–16–68, Cl. 239—127.3.
- Cheldelin, Lyle O.: *See—*
  - McIntyre, Maurice J., Cheldelin, and Reynolds. 3,378,232.
- Chelminski, Stephen V., to Bolt Associates, Inc. Hydrophone eel structure for underwater seismic exploration. 3,378,815, 4–16–68, Cl. 340—7.
- Chemagro Corp.: *See—*
  - Gier, Delta W. 3,378,610.
- Chemetron Corp.: See—
  - Minard, Everett S. 3,378,173.
- Chemical Decoration Co.: *See—*
  - Jerabek, Robert D. 3,378,509.
- Chemische Fabrik Kalk G.m.b.H.: *See—*
  - Jenkner, Herbert, and Rabe. 3,378,593.
- Chernock, Stephen P. Smoking pipe. 3,378,016, 4–16–68, Cl. 131—225.
- Cherry, Jesse T., Jr., to Continental Oil Co. Method of seismic energy interference cancellation by detecting singularly oriented particle motion. 3,378,096, 4–16–68, Cl. 181—.5.
- Chevron Research Co.: *See—*
  - Hotten, Bruce W. 3,378,490.
- Chisholm-Ryder Co., Inc.: *See—*
  - Grosbety, Gaston D. J. 3,378,051.
- Chisso Corp.: *See—*
  - Kawasaki, Shigeo, and Nakamura. 3,378,501.
- Chiu, Herman S.: *See—*
  - Shiner, Edward A., Chiu, and Kambara. 3,378,379.
- Chiyoda Kakokensetsu Kabushiki Kaisha: *See—*
  - Amagasa, Masataka, and Yamagushi. 3,378,599.
- Chlopn, Robert J., to Ford Motor Co. Bearing free-play indicator. 3,377,710, 4–16–68, Cl. 33—172.
- Choppin, Arthur R.: *See—*
  - Dowling, Fred B., Choppin, and Lyles. 3,377,868.
- Christensen, E. A.: *See—*
  - Garland, Thomas N. 3,377,946.
- Christensen, Hans, to J. Morch & Sonner A/G. Grain conveyor. 3,378,310, 4–16–68, Cl. 302—17.

- Christie, John G. Ham pumping scale. 3,378,090, 4–16–68, Cl. 177—164.
- Chu, Pe T.: *See—*
  - Adelaar, Hans H., Masure, and Chu. 3,378,818.
- Ciotti, Jon A.: *See—*
  - Schwabe, William E., and Ciotti. 3,378,620.
- Cislak, Francis E., to Reilly Tar & Chemical Corp. Bis-phenylalkylpiperidides. 3,378,563, 4–16–68, Cl. 260—294.
- Clark, Burton P., to United States of America, Army. Ammunition link. 3,377,919, 4–16–68, Cl. 89—35.
- Clark Equipment Co.: *See—*
  - Trusock, George J. 3,378,159.
- Clark, Frank N., to Allied Chemical Corp. Thermoplastic film packaging apparatus. 3,377,773, 4–16–68, Cl. 53—178.
- Clark, Frank N., to Allied Chemical Corp. Aerosol container. 3,378,169, 4–16–68, Cl. 222—95.
- Clark, Richard B., to Caterpillar Tractor Co. Air compressor control system responsive to air flow. 3,378,191, 4–16–68, Cl. 230—10.
- Clary Corp.: *See—*
  - Clary, Hugh L. and J. G. 3,378,127.
- Clary, Hugh L. and J. G., to Clary Corp. Data printer with flexible print wheel. 3,378,127, 4–16–68, Cl. 197—55.
- Clary, John G.: *See—*
  - Clary, Hugh L. and J. G. 3,378,127.
- Clay, Robert B.: *See—*
  - Udy, Lex L., Clay, and Bryan. 3,378,235.
- Claycomb, Richard S., J. E. Chase, and N. W. Umphenour. Hydrotherapy and massage boot. 3,378,004, 4–16–68, Cl. 128—66.
- Clayton Mfg. Co.: *See—*
  - Clayton, William. 3,378,036.
- Clayton, William, to Clayton Mfg. Co. Snubber device. 3,378,036, 4–16–68, Cl. 138—30.
- Clement, John C., to Industrial Nucleonics Corp. System employing plural time-spaced average computations for measuring a second variable characteristic imparted to a material initilly having a first variable characteristic. 3,378,676, 4,16–68, Cl. 235—151.3.
- Cleveland Steel Products Corp.: *See—*
  - Smith, William J., Jr. 3,377,820.
- Cluwen Johannes M.: *See—*
  - Bruinsma, Anne H., and Cluwen. 3,378,699.
- Coach and Car Equipment Corp.: *See—*
  - Costin, Robert W. 3,378,300.
- Cochran, J. S., Jr.: *See—*
  - Leissler, Lee R. 3.378,087.
- Codling, John W., and J. W. Sweet; said Sweet, assor. to said Codling. Surgical clip with means for releasing the clamping pressure. 3,378,010, 4–16–68, Cl. 128—325.
- Cogsdill, Glen H. Deburring tool. 3,377,890, 4–16–68, Cl. 77—73.5.
- Cohen, Saul M., and E. Heuman. Label sewer. 3,377,972, 4–16–68, Cl. 112—104.
- Cola, Pasco A., and Q. C. Turtle, to General Signal Corp. Noise nulling network for magnetic flowmeter. 3,377,855, 4–16–68, Cl. 73—194.
- Coker, Delbert E.: *See—*
  - Powers, John M., and Coker. 3,378,486.
- Coker, Richard G., and C. K. Dunlap, Jr., to Sonoco Products Co. Sizing device for tubular articles. 3,377,985, 4–16–68, Cl. 118—101.
- Cole, Howard W., Jr. Apparatus for detecting density of fluids. 3 377.840, 4–16–68, Cl. 73—32.
- Coleman, Spencer D., Jr.: *See—*
  - Mooney, David H., Jr., and Coleman. 3,378,835.
- Collin, Robert E., and H. F. Klock, to Curtiss-Wright Corp. Vehicle speed governing with external command control. 3,378,102, 4–16–68, Cl. 180—98.
- Collins and Aikman Corp.: *See—*
  - Wilhoit, Paul J., and Miller. 3,377,658.
- Collins Radio Co.: *See—*
  - Andrea, John J. 3,378,786.
  - Telkamp, Donald L. 3,378,742.
- Collinson, Richard P. G.: *See—*
  - Hodson, Anthony E., and Collinson. 3,377,872.
- Coln, Aaron G.: *See—*
  - Ramsey, Willard A., and Coln. 3,377,897.
- Colquhoun, Joseph A., and E. T. Dewar, to Warner-Lambert Pharmaceutical Co. Method for depolymerizing carrageenans and products produced thereby. 3,378,541, 4–16–68, Cl. 260—209.
- Coltharp, Bruce R., R. L. Heinrich, I. G. Thompson, and C. L. Thorpe, to Esso Research and Engineering Co. Recovery of aromatic formaldehyde resins by steam sparging with an alkali and vacuum distillation. 3,378,466, 4–16–68, Cl. 203—33.
- Colton, John W., and J. E. Jewett, Jr., to Halcom International, Inc. Method of recovering unsaturated monomer by thin film evaporation with a gas and absorption with a solvent. 3,378,467, 4–16–68, Cl. 203—42.
- Columbia Broadcasting Systems, Inc.: *See—*
  - Goldmark, Peter C., and Hollywood. 3,378,635.
- Colvin, Donald, and V. A. Schultz, to Simplex Mfg. Co. Electrolytic cell and chlorinating system using same. 3,378,479, 4–16–68, Cl. 204—248.
- Combs, Van P., to Ka Tee Research Corp. Two stroke cycle engine. 3,377,997, 4–16–68, Cl. 123—74.
- Commercial Solvents Corp.: *See—*
  - Griffith, George L. 3,378,415.
  - Toops, Emory E., Jr., and Egly. 3,378,596.
- Commissariat a l'Energie Atomique: *See—*
  - Baur, Alain, and Lecoco. 3,378,343.
  - Costes, Didier. 3,378,452.
- Commonwealth Scientific and Industrial Research: *See—*
  - Walls, Gordon W., Knothe, and Labery. 3,377,792.
- Compagnie des Compteurs: *See—*
  - Brette, Alfred J. M. 3,377,858.
- Compagnie Francaise Thomson Houston-Hotchkiss Brandt: *See—*
  - Guyot, Lucien F., Driard, and Sirou. 3,378,714.
- Compagnie Industrielle Francaise des Tubes Electroniques Societe Anonyme: *See—*
  - Deblay, Jacqeus. 3,378,717.
- Comstock & Wescott, Inc.: *See—*
  - Holdsworth, Dennis W. 3,377,850.
- Concrete Cutting Equipment Co., Inc.: *See—*
  - Dempsey, Edward J., and Barnes. 3,378,307.
- Cone, Carroll, R. E. Pinney, and F. G. Rinker, to Midland-Ross Corp. Hearth dam. 3,378,242, 4–16–68, Cl. 263—7.
- Conn, Joseph H., to United States of America, National Aeronautics and Space Administration. Moment of inertia test fixure. 3,377,845, 4–16–68, Cl. 73—65.
- Consolidated Electronic Industries Corp.: *See—*
  - Ouellette, Chester V. 3,378,799.
- Container Corp. of America: *See—*
  - Krieps, Frank J. 3,378,175.
- Continental Copper & Steel Industries, Inc.: *See—*
  - Rask, Stanley. 3,378,629.
- Continental Oil Co.: *See—*
  - Banks, William P., and Hutchison. 3,378,472.
  - Cherry, Jesse T., Jr. 3,378,096.
  - Sparlin, Derry D. 3,378,071.
- Cook, Harry M., to E. I. du Pont de Nemours and Co. Apparatus for depositing tow. 3,377,675, 4–16–68, Cl. 28—21.
- Cooley, Claiborn, Jr., to FMC Corp. Balancing mechanism. 3,378,033, 4–16–68, Cl. 137—615.
- Cooley, John R., to General Electric Co. Method of making electrical contact member. 3,377,700, 4–16–68, Cl. 29—630.
- Cooper, Marvin: *See—*
  - Meyer, Elliott, and Cooper. 3,378,681.
- Cooper, Murray S., I. S. Danielson, and H. M. Kroll, to American Cynamid Co. Anhydrous liquid suspensions of biologics. 3,378,443, 4–16–68, Cl. 167—78.
- Copley, Russell D., and G. R. Sutherland, to Deere & Co. Cotton harvester. 3,378,309, 4–16–68, Cl. 302—17.
- Corbell, Paul I., to Johnson Service Co. Perimeter intrusion detection system. 3,378,834, 4–16–68, Cl. 343—5.
- Corbett, Harold, to D. Ratner. Precompression attachment. 3,377,661, 4–16–68, Cl. 18—30.
- Cordani, Eugene J., to ACF Industries, Inc. Coupler support structure. 3,378,150, 4–16–68, Cl. 213—61.
- Corley-Miller, Inc.: *See—*
  - Arvidson, Bengt A. 3,377,776.
- Costes, Didier, to Commissariat a l'Energie Atomique. Fuel assembly for fast nuclear reactors. 3,378,452, 4–16–68, Cl. 176—40.
- Costin, Robert W., to Coach and Car Equipment Corp. Vertically adjustable seat back assembly. 3,378,300, 4–16–68, Cl. 297—357.
- Cottrell Co., The: *See—*
  - Luehrs, Hans J. 3,378,258.
- Couper, Alistair S.: *See—*
  - Walston, Kenneth R., and Couper. 3,378,359.
- Crabb, Elmer R.: *See—*
  - Anderson, Rodney H., Campbell, Crabb, and Hosoda. 3,378,133.
- Crandall, William B.: *See—*
  - Smith, Carlyle F., Jr., and Crandall. 3,378,431.
- Crane, Robert B.: *See—*
  - Grover, David N., and Crane. 3,378,847.
- Crichton, Raymond K., and D. O. Sterrett, said Sterrett assor. to said Crichton. Borehole camera. 3,377,934, 4–16–68, Cl. 95—11.
- Crocheron, Volney D., to The Galigher Co. Corrosion-proof lining for metallurgical grinding mills. 3,378,209, 4–16–68, Cl. 241—102.
- Crocker, William P. Vehicle bumper cushion. 3,378,296, 4–16–68, Cl. 293—71.
- Crockett, Sydney R. Probe ejecting rocket motor. 3,377,952, 4–16–68, Cl. 102—49.4.
- Croke, Edward J.: *See—*
  - Roberts, John J., and Croke. 3,378,449.
- Cromley, William H., to Smith Kline & French Laboratories. Motor activity indicator. 3,378,675, 4–16–68, Cl. 235—92.
- Crosman, Dorland L.: *See—*
  - Bonanno, Joseph L., and Crosman. 3,377,740.
- Cruel, Rolf, to North American Philips Co., Inc. Direct-current motor control circuit employing a parallel damping member. 3,378,740, 4–16–68, Cl. 318—18.
- Crumley, Ernest W. Pumping apparatus for dry dock and caisson. 3,377,810, 4–16–68, Cl. 61—64.
- Cryogenic Engineering Co.: *See—*
  - Mordhorst, Gerald D. 3,377,813.
- Cubic Corp.: *See—*
  - Baylor, John T. 3,378,848.
- Cullen, Roy H., R. G. Zilliox, C. H. Elliott, and J. R. Aker, to The Youngstown Sheet and Tube Co. Downhole electrical connector apparatus and method of connecting same. 3,378,811, 4–16–68, Cl. 339—96.
- Cummings, Eugene M., to Zenith Radio Corp. Blanking system. 3,378,719, 4–16–68, Cl. 315—22.
- Cunningham, Clarence V., to General Electric Co. Dynamic braking excitation control system for dynamoelectric machines. 3,378,749, 4–16–68, Cl. 318—381.
- Current, James H., to Schlumberger Technology Corp. Well tools. 3,378,078, 4–16–68, Cl. 166—124.
- Curtiss-Wright Corp.: *See—*
  - Collin, Robert E., and Klock. 3,378,102.
- Custin, Thomas G. Method and means for exhibiting separate audio visual records in synchronism. 3,378,238, 4–16–68, Cl. 352—31.

- Cutter Laboratories, Inc.: *See—*
  - Allen, Robert E., and Ambrus. 3,378,579.
- Cutting, Edward J., and L. G. Barley, to The Glacier Metal Co. Ltd. Thrust bearing assemblies. 3,378,319, 4–16–68, Cl. 308—160.
- Cyril Bath Co., The: *See—*
  - Dolney, Stanley M. 3,377,835.
- DCA Food Industries, Inc.: *See—*
  - Goodman, Abraham H., Pettinato, Kroll, and Lipka. 3,378,378.
- D-S Industries, Inc.: *See—*
  - Good, Paul J. 3,378,132.
- Daguet, Jacques L., to Telecommunications Radioelectriques & Telephoniques. System for quadrature modulation of ternary signals with auxiliary oscillation for use in carrier regeneration at receiver. 3,378,770, 4–16–68, Cl. 325—38.
- Daimler-Benz Aktiengesellschaft: *See—*
  - Froitzheim, Hans, and Letzel. 3,378,278.
- Dale, Charles H., to Pav-Saver Corp. Road laying machine. 3,377,933, 4–16–68, Cl. 94—45.
- Dales, Franklin, Co., The: *See—*
  - Dales, George F. 3,378,660.
- Dales, George F., to The Franklin Dales Co. Thermostat. 3,378,660, 4–16–68, Cl. 200—138.
- Damm, Klaus: *See—*
  - Sattlegger, Hans, Noll, Damm, and Golitz. 3,378,520.
- Danfoss A/S: *See—*
  - Jensen, Arne. 3,378,733.
- Danhel, Antonin: *See—*
  - Vajda, Andrej, Danhel, and Tochacek. 3,377,821.
- Danielson, Irvin S.: *See—*
  - Cooper, Murray S., Danielson, and Kroll. 3,378,443.
- Dapsea, William P., to Lodding Engineering Corp. Doctor support. 3,377,645, 4–16–68, Cl. 15—256.51.
- Dare Products, Inc.: *See—*
  - Wilson, Robert M. 3,378,215.
- Darrow, Kenneth A., to General Electric Co. Bonding diamond to molybdenum. 3,377,696, 4–16–68, Cl. 29—472.9.
- Data Products Corp.: *See—*
  - David, Charles W. 3,378,394.
- Daughtry, Albert E. Device for removing embedded fishhook. 3,377,735, 4–16–68, Cl. 43—53.5.
- David, Charles W., to Data Products Corp. Method and apparatus for coating magnetic discs. 3,378,394, 4–16–68, Cl. 117—105.3.
- Davidson, John K., and R. S. Miller, to Allis-Chalmers Mfg. Co. Cermet and ceramic fuel element. 3,378,457, 4–16–68, Cl. 176—77.
- Davies, Glyn T., and W. J. Howard, to Rolls-Royce Ltd. Blades for mounting in fluid flow ducts. 3,378,228, 4–16–68, Cl. 253—39.1.
- Davis, Edward E., to Davis Fire Brick Co. Composite car top tile. 3,377,670, 4–16–68, Cl. 25—142.
- Davis Fire Brick Co.: *See—*
  - Davis, Edward E. 3,377,670.
- Davis, Paul L. A. Phonograph tone arm. 3,378,267, 4–16–68, Cl. 274—23.
- Davis, Walter M., to Monsanto Co. Apparatus for densifying powdered solids. 3,377,945, 4–16–68, Cl. 100—90.
- Dawbarn, Henry D.: *See—*
  - Whitesel, Joseph C., and Dawbarn. 3,377,973.
- Day, Flory M. Wheel dresser. 3,378,000, 4–16–68, Cl. 125—11.
- Day, Lawrence, to Spitfire Tool & Machine Co., Inc. Self-positioning combination workholder and dressing ring for flat lapping machines. 3,377,750, 4–16–68, Cl. 51—131.
- Dayco Corp.: *See—*
  - Rockoff, Joseph. 3,378,506.
- Dayton Steel Foundry Co., The: *See—*
  - Marti, Milford F. 3,378,250.
- Deblay, Jacques, to Compagnie Industrielle Francaise des Tubes Electroniques Societe Anonyme Indirectly heated tubular cathodes. 3,378,717, 4–16–68, Cl. 313—337.
- De Chellis, Richard C., to United Engineering and Foundry Co. Debanding device for rolled coils. 3,377,687, 4–16–68, Cl. 29—200.
- De Corta, Hubert, to F. Kocks. Device for trimming the edge of metal strip. 3,377,896, 4–16–68, Cl. 83—3.
- De Coye de Castelet, Gaetan, to Regie Nationale des Usines Renault. Method of and means for balancing rotary engines. 3,377,846, 4–16–68, Cl. 73—66.
- De Coye de Castelet, Gaetan, to Regie Nationale des Usines Renault. Combustion chamber for rotary piston engine. 3,377,995, 4–16–68, Cl. 123—8.
- Dederick, Clinton H.: *See—*
  - Royer, Neal B., Dederick, and Lewis. 3,378,709.
- Deere & Co.: *See—*
  - Copley, Russell D., and Sutherland. 3,378,309.
  - Gassman, Max P., and Singer. 3,377,708.
  - Kessler, Kenneth Q. 3,377,785.
- Deering Milliken Research Corp.: *See—*
  - Walker, Howard R. 3,377,794.
- De Groff, Kenneth C. Lighting system for photography. 3,378,678, 4–16–68, Cl. 240—1.3.
- De Guerin, Joseph D. S.: *See—*
  - Rafique, Syed O. Z. M., and De Guerin. 3,378,318.
- Dehn, Frederick C., and W. L. Deppe, to Pittsburgh Plate Glass Co. Method of recovering high purity ethylene dichloride from ethylene dichloride gas stream. 3,378,597, 4–16–68, Cl. 260—652.
- Dehne, Clarence A., to Jervis B. Webb Co. Side link and pusher for conveyor chains. 3,377,962, 4–16–68, Cl. 104—172.
- De Jager, Frank: *See—*
  - Van Gerwen, Petrus J., and de Jager. 3,378,771.
- Dekker, Launcelot, and Le Roy J. Ryan, Jr., to Maatschappij Van Berkel's Patent N. V. Weight controlled slicing machine. 3,378,052, 4–16–68, Cl. 146—102.
- De la Lastra, Albert: *See—*
  - Brodie, Sidney S., and De la Lastra. 3,377,704.
- Delgrosso, Eugene J.: *See—*
  - Harrison, Robert W., and Delgrosso. 3,378,671.
- Deltrol Corp.: *See—*
  - Franzene, Robert D. 3,378,706.
- De Luxe Reading Corp.: *See—*
  - Bonanno, Joseph L., and Crosman. 3,377,740.
- Demler, Henry W., Sr., to AMP Inc. Tube coupling. 3,378,282, 4–16–68, Cl. 285—174.
- Dempsey, Edward J., and K. C. Barnes, to Concrete Cutting Equipment Co., Inc. Circular saw for cutting concrete surfaces. 3,378,307, 4–16–68, Cl. 299—75.
- Denault, Leo J., and P. R. Casey, to Miles Laboratories, Inc. Process for starch liquefaction. 3,378,462, 4–16–68, Cl. 195—31.
- Deppe, William L.: *See—*
  - Dehn Frederick C., and Deppe. 3,378,597.
- Derham, Leslie J., and R. J. Kingdom, to Imperial Smelting Corp. (N.S.C.) Ltd. Production of high-purity aluminium chloride. 3,378,338, 4–16–68, Cl. 23—93.
- De Roeck, Arthur H.: *See—*
  - Vandeputte, Camille A., Wagemans, and De Roeck. 3,378 372.
- Dewar, Eric T.: *See—*
  - Colquhoun, Joseph A., and Dewar. 3,378,541.
- Dexco Corp.: *See—*
  - Harris, William H., Jr. 3,378,361.
- Di Addario, Alexander N. Bed covering. 3,377,636, 4–16–68, Cl. 5—334.
- Diani, Arthur C., to The Bendix Corp. Trim disconnect device for an aircraft control system. 3,378,217, 4–16–68, Cl. 244—77.
- Dickinson, Richard E. and R. W. Process for making well screen. 3,378,420. 4–16–68. Cl. 156—172.
- Dickinson, Roger W.: *See—*
  - Dickinson, Richard E. and R. W. 3,378,420.
- Dickson, Robert W., to British Visqueen Ltd. Plastic sack. 3,378,189, 4–16–68, Cl. 229—53.
- Dietz, Gerald E., and R. B. Matthews, to Penn Controls, Inc. Electromagnetic actuator. 3,378,732, 4–16–68, Cl. 317—123.
- Dietz, Thomas J., to FMC Corp. Method of making foamed articles. 3,378,612, 4–16–68, Cl. 264—45.
- Digital Equipment Corp.: *See—*
  - Smith, Donald L. 3,378,820.
- Dinan, John J.: *See—*
  - Isomura, Soichi L. 3,377,777.
- Dinella, Donald, B. Kirschenbaum, and E. F. Schutz; said Dinella, and said Schutz, assors., to Western Electric Co. Inc., and said Kirschenbaum, assor., to Bell Telephone Laboratories, Inc. Fluidized bed coating a core containing metal board, including circuit forming, core wiring and connecting steps. 3,377 699, 4–16–68, Cl. 29—626.
- Dinwoodie, Andrew H., and G. Fort, to Imperial Chemical Industries Ltd. Nitrate esters of tetrahydroxy-3,6-dinitrocyclohexane. 3,378,576, 4–16–68, Cl. 260—466.
- Diotalevi, Mario J., and R. W. Dixon, to Leesona Corp. Scabbard type fuel cell. 3,378 404, 4–16–68, Cl. 136—86.
- Di Pasquale, Georgia. Bidet attachments. 3,377,629, 4–16–68, Cl. 4—6.
- Distillers Co., Ltd., The: *See—*
  - Sparks, Anthony A. 3,378,538.
- Dixon, Robert W.: *See—*
  - Diotalevi, Mario J., and Dixon. 3,378,404.
- Doane, Elliott P., to Phillips Petroleum Co. Controlled hydrocracking. 3,378,482, 4–16–68, Cl. 208—108.
- Doeglas, Marcus H., and J. C. Heijdra, to Koninklijke Zwavelzuurfabrieken Voorheen Ketjen N.V. Vehicle for the transport of bulk material. 3,378,302, 4–16–68, Cl. 298—8.
- Dodson, John A., to G. & E. Bradley Ltd. Parametric devices incorporating varactor diodes. 3,378,690, 4–16–68. Cl. 307—88.3.
- Dohanic, John L., Jr.: *See—*
  - Bax, Glenn R., and Dohanic. 3 377,958.
- Dolney, Stanley M., to The Cyril Bath Co. Hydraulic push rod for stretch draw press. 3,377,835, 4–16–68, Cl. 72—305.
- Dolomont, Allan A., to Olin Mathieson Chemical Corp. Method of making non-porous weld beads. 3,378,668, 4–16–68 Cl. 219—74.
- Dolomont, Allan A., to Olin Mathieson Chemical Corp. Method of making non-porous weld beads. 3,378,669, 4–16–68, Cl. 219—74.
- Domenighetti, Domenico. Double skip lifting and transporting device. 3,378,153, 4–16–68, Cl. 214—103.
- Donabin, Claude J., to Societe Industrielle Bull-General Electric (Societe Anonyme). Card feeding device. 3,378,251, 4–16–68, Cl. 271—3.
- Donald Presses Ltd.: *See—*
  - Caughley, David J. 3,378,091.
- Donkin, Ralph F., to American Screen Products Co. Combination door insert kt. 3,377,747, 4–16–68, Cl. 49—414.
- Doring V.A., Arbeitsgemeinschaft fur Entwicklung von Papierverarbeitungsmaschinen: *See—*
  - Propper, Mathias. 3,377,927.
- Doring u.A., Arbeitsgemeinschaft fur Entwicklung von Papierverarbeitungsmaschinen: *See—*
  - Propper, Mathias. 3,377,926.
- Dorrell, Robert F., to Amphenol Corp. Self-cleaning electrical connector. 3,378,810, 4–16–68, Cl. 339—95.
- Dougherty, John J. Cap assembly for pile shell. 3,377,808, 4–16–68, Cl. 61—53.

- Douglas, William T., Jr.: *See—*
  - Varsos, Spyros G., and Douglas. 3,378,641.
- Dow Chemical Co., The: *See—*
  - Frost, John R. 3,377,709.
  - Glew, David N., and Watson. 3,378,201.
  - Grant, Charles H., and Slykhouse. 3,377,909.
  - Hansen, Robert D. 3,378,352.
  - Leddy, James J. 3,378,386.
  - Lynn, Scott, and Wilson. 3,378,653.
  - Newton, Harold G. 3,378,511.
  - Nimerick, Kenneth H. 3,378,488.
  - Peterli, Ernst J. 3,378,571.
  - Rigterink, Raymond H. 3,378,565.
  - Roberts, Carleton W., and Haigh. 3,378,580.
  - Trepanier, Donald L. 3,378,556.
- Dowling, Fred B., A. R. Choppin, and G. R. Lyles. Sampler-dispenser for fluids. 3,377,868, 4–16–68, Cl. 73—425.4.
- Downing, Billy N. Bouncing shoes. 3,377,722, 4–16–68. Cl. 36—7.8.
- Doyle, Marshall E., to Shell Oil Co. Polypropylene stabilizer with durylene bis-phenolo. 3,378,518, 4–16–68, Cl. 260—45.95.
- Draganov, Samuel M., to United States Borax & Chemical Corp. Emulsion for preservation and fireproofing of wood. 3,378,381, 4–16–68, Cl. 106—15.
- Dragone, John J.: *See—*
  - Rockwood, Albert M., Gautraud, McLeod, and Dragone. 3,378,275.
- Draugelis, Valdevutis C., and J. C. Jamison, to Xerox Corp. Paper handling apparatus. 3,378,255, 4–16–68, Cl. 271—62.
- Dresser Industries, Inc.: *See—*
  - Walther, Frank H., Jr. 3,378,244.
- Driard, Bertrand M.: *See—*
  - Guyot, Lucien F., Driard, and Sirou. 3,378,714.
- Drodofsky, Martin, to Carl Zeiss-Stiftung, dba Carl Zeiss. Stabilized optical instrument utilizing box level bubble as lens. 3,377,910, 4–16–68, Cl. 88—1.
- Drury, Harry F. Diaper wringer. 3,377,827, 4–16–68, Cl. 68—248.
- DuBois, Floyd J., to Pittsburgh Plate Glass Co. Method of preparing slurries of siliceous pigment. 3,378,387, 4–16–68, Cl. 106—309.
- Duerr, Melvin V., M. L. Granberg, and J. J. Stoffel, to Sperry Rand Corp. Electron beam deflection speed-up circuit. 3,378,720, 4–16–68, Cl. 315—27.
- Dufendach, William R., and M. J. Applegate, to American Seating Co. Instruction apparatus for classrooms. 3,378,639, 4–16–68, Cl. 179—1.
- Dunfee, Danny D.: *See—*
  - Oss, George K., Dunfee, and Webster. 3,378,216.
- Dunlap, Charles K., Jr.: *See—*
  - Coker, Richard G., and Dunlap. 3,377,985.
- Dunlop Rubber Co. Ltd.: *See—*
  - Hennig, Erico. 3,378,116.
- Du Pont de Nemours, E. I. and Co.: *See—*
  - Acker, Donald S., and Barney. 3,378,604.
  - Barker, Arthur F. 3,378,205.
  - Boswell, George A. 3,378,550.
  - Cook, Harry M. 3,377,675.
  - Eiseman, Bernhardt J., Jr. 3,378,098.
  - Fasick, Ross W., Johnson, and Raynolds. 3,378,609.
  - Norton, Lilburn L. 3,378,514.
  - Reinhardt, Heinz F. 3,378,587.
  - Seney, John S. 3,378,744.
  - Wilder, Richard S. 3,378,572.
- Dura Corp.: *See—*
  - Lawter, Raymond L. 3,378,018.
- Durney, Robert J.: *See—*
  - Worrell, George R., Hicks, and Durney. 3,378,483.
- Duval, Bruce: *See—*
  - Waddington, Rogor S., and Duval. 3,378,035.
- Dyess, Arnold R. Rack for stereo cartridges. 3,378,146, 4–16–68, Cl. 211—181.
- Dyle, Charles A., to Hammond Corp. Keyboard switch assembly with improved contact means. 3,378,652, 4–16–68, Cl. 200—5.
- Dynamic Classics Ltd.: *See—*
  - Meyer, Elliott, and Cooper. 3,378,681.
- Dynamics Corp. of America: *See—*
  - Swanke, Roy L. 3,378,711.
- Dynamit Nobel Aktiengesellschaft: *See—*
  - Vogt, Wilhelm, Janssen, and Richtzenhain. 3,378,526.
- Earle, Guyon L. C. Kitchen-utility units. 3,378,324, 4–16–68, Cl. 312—278.
- Eastman Kodak Co.: *See—*
  - Caldwell, John R., and Jackson. 3,378,523.
  - Jarvis, James C. 3,378,571.
  - Kucharski, Thaddeus W., Thomas, and Quarve. 3,377,655.
  - Newland, Gordon C., and Tamblyn. 3,378,519.
- Eaton, Jay S. Heated asphalt elevator. 3,378,171, 4–16–68, Cl. 222—146.
- Eaton, Richard H., to General Electric Co. Adjustable-index gear train. 3,377,877, 4–16–68, Cl. 74—395.
- Eaves, Charles A., R. L. Peckham, and R. A. Prunty, to Westinghouse Electric Corp. Transformer voltage regulating system. 3,378,759, 4–16–68, Cl. 323—43.5.
- Eburn, William H, Jr., J. H. Miller, and C. T. Raymond, to Automation & Product Development Corp. Automatic control for article releasing outlet closure dispensing apparatus. 3,378,165, 4–16–68, Cl. 221—12.
- Eckl, James J., and M. A. Guettel, to Square D Co. Solid state sequencing and timing and heat control circuit for a resistance welder. 3,378,696, 4–16–68, Cl. 307—221.
- Edgemond, John W., Jr., to FMC Corp. Shaking mechanism. 3,377,786, 4–16–68, Cl. 56—328.
- Edwards, Aubrey T., to Aluminum Laboratories Ltd. Conductor with self-damping characteristics. 3,378,631, 4–16–68, Cl. 174—130.
- Edwards, John A., J. H. Fried, and J. B. Siddall, to Syntex Corp. 2,3-acetonides of polyhydroxy bis norchol-7-enoic acid derivatives. 3,378,549, 4–16–68, Cl. 260—239.55.
- Edwards, Michael G.: *See—*
  - Minton, Clive D. T., and Edwards. 3,378,368.
- Egly, Richard S.: *See—*
  - Toops, Emory E., Jr., and Egly. 3,378,596.
- Eich, Edward D., E. O. Jublin, and E. Berling, to Anaconda Wire & Cable Co. Method of making synthetic-film insulated high-voltage cable. 3,378,419, 4–16–68, Cl. 156—53.
- Eichenberger, Ernst, and R. Ramel, to Motor-Columbus A.G. Electrically conductive coupling. 3,378,813, 4–16–68, Cl. 339—255.
- Eichorn, Roger H., to Xerox Corp. Pack advancer. 3,378,254, 4–16–68, Cl. 271—62.
- Eick, Albert R., M. J. Racine, and N. D. Lawless, to General Motors Corp. Method of making an electrical circuit. 3,377,698, 4–16–68, Cl. 29—625.
- Eiseman, Bernhardt J., Jr., to E. I. du Pont de Nemours and Co. System for improved reproduction of sound. 3,378,098, 4–16–68, Cl. 181—31.
- Elastic Stop Nut Corp. of America: *See—*
  - Aldighieri, Rudolph P. 3,378,627.
- Electric & Musical Industries Ltd.: *See—*
  - Lomer, Geoffrey J. 3,378,632.
- Electric Products Mfg. Co.: *See—*
  - Liberman, Arnold J. 3,378,800.
- Electro-Optical Systems, Inc.: *See—*
  - Jochim, Perry R. 3,378,469.
- Electro-Voice, Inc.: *See—*
  - Mawby, Harold S. 3,378,649.
- Elford, David, to FMC Corp. Apparatus for coordinating a fruit processing machine. 3,378,050, 4–16–68, Cl. 146—51.
- Elitex, Zabody Textilniho Strojirenstvi: *See—*
  - Hadinec, Frantisek. 3,378,038.
- Elitex Zavody textilniho strojirenstvi: *See—*
  - Vajda, Andrej, Danhel, and Techacek. 3,377,821.
- Elcon-National, Inc.: *See—*
  - Rosellus, Charles F., and Pelikan. 3,378,112.
- Elliott Brothers (London) Ltd.: *See—*
  - Hodson, Anthony E., and Collinson. 3,377,872.
- Elliott, Charles H.: *See—*
  - Cullen, Roy H., Zilliox, Elliott, and Aker. 3,378,811.
- Ellis, Jarrett R., and H. J. Seel, to Harris-Intertype Corp. Sheet delivery slowdown. 3,378,256, 4–16–68, Cl. 271—68.
- Ells, John D., and A. M. Nicholls, to the Government of Israel, Director-General, the Director of Finance Division and the Accountant of the Ministry of Development. Preparation of mixed metal oxides by thermal decomposition of metal salts. 3,378,335, 4–16–68, Cl. 23—51.
- Elliston, Thomas L., to Otis Engineering Corp. Sleeved well packer assembly. 3,378,077, 4–16–68, Cl. 166—114.
- Elmendorf, Armin. Method of facing building products with exposed mineral granules. 3,378,617, 4–16–68, Cl. 264—162.
- Elex Corp. of Michigan: *See—*
  - Webb, Robert S. 3,378,667.
- Emeis, Riemer, to Siemens Aktiengesellschaft. Semiconductor device housing with spring contact means and improved thermal characteristics. 3,378,735, 4–16–68, Cl. 317—234.
- Emerson Electric Co.: *See—*
  - Royer, Neal B., Dederick, and Lewis. 3,378,709.
- Emerson, Gerard Van Deene, to The Susquehanna Corp. Gas-generating grain. 3,377,956, 4–16–68, Cl. 102—102.
- Eminger, Robert J. Coil and wedge inserting apparatus. 3,377,690, 4–16–68, Cl. 29—205.
- Engalitcheff, John, Jr., and T. F. Facius, to Baltimore Aircoil Co., Inc. Counterflow cooling tower. 3,378,239, 4–16–68, Cl. 261—29.
- England, Robert C. Adjustable golf shoe heel. 3,377,723, 4–16–68, Cl. 36—39.
- English Electric Co. Ltd., The: *See—*
  - Humpage, William D., and Sabberwal. 3,378,728.
- Epler, Walter N.: *See—*
  - Wessler, Gerald A., and Epler. 3,378,070.
- Erdolchemie Gesellschaft mit beschrankter Haftung: *See—*
  - Bruns, Ludwig, and Schnuchel. 3,378,365.
- Erickson, Olav K. Coiled article holder. 3,378,222, 4–16–68, Cl. 248—359.
- Erwin, John R., to General Electric Co. Radial flow turbine. 3,378,229, 4–16–68, Cl. 253—74.
- Escher Wyss Aktiengesellschaft: *See—*
  - Spillmann, Werner. 3,377,800.
- Esso Production Research Co.: *See—*
  - Kiel, Othar M. 3,378,074.
- Esso Research and Engineering Co.: *See—*
  - Brown, John A., and Lovett. 3,378,595.
  - Coltharp, Bruce R., Heinrich, Thompson, and Thorpe. 3,378,466.
  - Jones, Alva M., Planchard, and Speed. 3,378,607.
  - Lovett, John R. 3,378,594.
  - Powers, John M., and Coker. 3,378,486.
  - Rhodes, Richard P. 3,378,619.
  - Song, Won-Ryul, and Brownawell. 3,378,492.
- Etablissements Kuhlmann: *See—*
  - Mangeney, Gerard L. A., and Pechmeze. 3,378,496.
- European Atomic Energy Community (Euratom): *See—*
  - Fiebelmann, Peter. 3,378,454.
  - Gandolfo, Jean-Marie. 3,377,844.
- Everett, George, to Gros-Ite Industries, Inc. Plastic dispensing and delivery apparatus. 3,377,986, 4–16–68, Cl. 118—317.
- Eversharp, Inc.: *See—*
  - More, Robert P. 3,377,701.

- FMC Corp.: *See*—
  - Carter, Harry J. 3,377,853.
  - Cooley, Claiborn, Jr. 3,378,033.
  - Dietz, Thomas J. 3,378,612.
  - Edgemond, John W., Jr. 3,377,786.
  - Elford, David. 3,378,050.
  - Felstehausen, Eugene. 3,377,650.
  - Stevenson, John, Jr., and Taggart. 3,378,128.
- Faber, Richard A., to Johns-Manville Corp. Method and apparatus for treating continuous filaments. 3,378,395, 4–16–68, Cl. 117—120.
- Facius, Thomas F.: *See*—
  - Engalitcheff, John, Jr., and Facius. 3,378,239.
- Failor, Charles W., to Westinghouse Air Brake Co. Railroad switch lock release circuits. 3,378,682, 4–16–68, Cl. 246—219.
- Fairchild Camera and Instrument Corp.: *See*—
  - Bray, Derek. 3,378,790.
  - Kabell, Louis J. 3,378,688.
- Farbenfabriken Bayer Aktiengesellschaft, and Erdolchemie Gesellschaft mit beschrankter Haftung: *See*—
  - Brandt, Hans-Walther, Schleppinghoff, Bitners, and Meier. 3,378,465.
- Farbenfabriken Bayer Aktiengesellschaft: *See*—
  - Fritz, Gerhard, Hermann, and Schnell. 3,378,532.
  - Horn, Elmar-Manfred, John, and Lang. 3,378,344.
  - Knipp, Ulrich, Neumann, Awater, and Oertel. 3,378,517.
  - Kocher, Ernst-Ulrich, Wagner, and von der Emden. 3,378,529.
  - Sattlegger, Hans, Noll, Damm, and Golitz. 3,378,520.
  - Schellhammer, Carl-Wolfgang, and Wagner. 3,378,389.
  - Schnell, Hermann, Mylenbusch, and Krimm. 3,378,533.
  - Tarnow, Horst, Holtschmidt, and Bayer. 3,378,559.
- Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning: *See*—
  - Fernholz, Hans, and Wunder. 3,378,502.
  - Fernholz, Hans, and Wunder. 3,378,528.
  - Reinshagen, Paul, Schmidt, Ziemer, and Henkel. 3,378,480.
- Farkas, Gabriel L., and K. Hajnis, to Ceskoslovenska Akademie ved. Facemeter. 3,377,712, 4–16–68, Cl. 33—174.
- Fasick, Ross W., R. E. Johnson, Jr., and S. Raynolds, to E. I. du Pont de Nemours and Co. Oil-and-water repellent compositions. 3,378,609, 4–16–68, Cl. 260—890.
- Fauser, Giacomo, to Montecatini Edison S.p.A. Process for the production of urea. 3,378,585, 4–16–68, Cl. 260—555.
- Fein, Marvin M.: *See*—
  - Perry, Donald D., Fein, and Schoenfelder. 3,378,416.
- Felstehausen, Eugene F., to FMC Corp. Food molding machine. 3,377,650, 4–16–68, Cl. 17—32.
- Fenner, Gunther E., to General Electric Co. Doped piezoresistive phonograph pickup. 3,378,648, 4–16–68, Cl. 179—100.41.
- Ferdig, Earl W., to G. F. McMurray. Roller assembly. 3,378,233, 4–16–68, Cl. 254—192.
- Ferguson, Harry, Research Ltd.: *See*—
  - Hill, Claude. 3.378.093.
- Ferguson, Norman T.: *See*—
  - Poe, Lee G., and Ferguson. 3,378,206.
- Fernholz, Hans, and F. Wunder, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Process for preparing polymers of cyclic acetals using completely esterified polyphosphoric acid catalyst. 3,378,502, 4–16–68, Cl. 260—2.
- Fernholz, Hans, and F. Wunder, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Chlorine-containing polvacetal polymers and process for preparing them. 3,378,528. 4–16–68. Cl. 260—67.
- Ferrara. John M., and J. E. Ryder. to Howe-Baker Engineers, Inc. Sweetening hydrocarbon liquids. 3,378,484, 4–16–68, Cl. 208—191.
- Ferrer, Ricardo C. Hand carrier for stacked articles. 3,378,183. 4–16–68, Cl. 224—45.
- Ferrigno, William L., Jr., to General Electric Co. Motor control circuit with phasing means for preventing erratic motor operation. 3,378,777, 4–16–68, Cl. 328—155.
- Fibresearch Corp.: *See*—
  - Keramas. James G., and Frishman. 3,377.664.
- Fiebelmann, Peter, to European Atomic Energy Community (Euratom). Nuclear fuel arrangement. 3,378,454, 4–16–68, Cl. 176—72.
- Field. Sheldon B., to John J. McMullen Associates, Inc. Passive fin ship stabilizer. 3,377,975, 4–16–68, Cl. 114—126.
- Fielding & Platt Ltd.: *See*—
  - Madeley, Robert. 3.377,833.
- Fields, Roger Q., to Schlumberger Technology Corp. Well maintenance and completion tools. 3,378,069, 4–16–68, Cl. 166—4.
- Finke, Ernst-Günter, and F. Helfer, to Voith Getriebe KG. Change gear transmission. 3,377,876, 4–16–68, Cl. 74—360.
- Firestein, Harry, K. Tyas, and E. Freeman, to Louis Hand Inc. Automatic embroidery machine. 3,377,971, 4–16–68, Cl. 112—102.
- Firestone Tire & Rubber Co., The: *See*—
  - Robertson, James J. 3,378,055.
  - Robertson, James J. 3,378,056.
  - Robertson, James J. 3,378,602.
- First National Bank of Morgantown, and Small: *See*—
  - Larrison, Millard S. 3,378,524.
- Fisher, Frank H.: *See*—
  - Hanley, William G., and Fisher. 3,378,113.
- Fisher, Franklin G., and L. L. Bollinger, Sr., to Reading Co. Journal stop. 3,378,317, 4–16–68, Cl. 308—40.
- Fisher, Thomas G.: *See*—
  - Wood, Leslie T., and Fisher. 3,378,048.
- FitzGerald, Robert E., to United-Carr Inc. Panel-mounted lamp socket. 3,378,812, 4–16–68, Cl. 339—127.
- Flavin, Daniel J., to Taber Instrument Corp. Pressure measuring instrument. 3,377,866, 4–16–68, Cl. 73—398.
- Fleiter, Paul: *See*—
  - Von Kintelen, Harald, Pfleiffenschneider, Fleiter, and Britz. 3,378,373.
- Fluidrive Engineering Co. Ltd.: *See*—
  - Bilton, John. 3,377,957.
- Fogg, Daniel A., to Rapistan Inc. Telescopic conveyor. 3,378,125, 4–16–68, Cl. 193—35.
- Ford, Franklin C.: *See*—
  - Alafi, Moshe, Birnbaum, Ford, and Godfrey. 3,378,829.
- Ford Motor Co.: *See*—
  - Chlopan, Robert J. 3,377,710.
  - Greer, John W., Pierce, and Schulz. 3,378,111.
- Ford, Ralph E.: *See*—
  - Ternes, Donald J., and Ford. 3,378,297.
- Foret, P. G., Inc.: *See*—
  - Foret, Pierre G. 3,378,121.
- Foret, Pierre G., to P. G. Foret Inc. Vacuum operated clutch and brake with magnetic valve. 3,378,121, 4–16–68, Cl. 192—18.
- Formetal, Inc.: *See*—
  - Bloom, Willard H. 3,377,648.
- Forse, Harry D. Inflatable bag for garment finisher. 3,378,179, 4–16–68, Cl. 223—67.
- Fort, Godfrey: *See*—
  - Dinwoodie, Andrew H., and Fort. 3,378,576.
- Foufounis. Jean. Automatic record player. 3,378,264, 4–16–68, Cl. 274—10.
- Francel, Josef, and A. D. Pinotti, to Owens-Illinois, Inc. Color indicia for glass and method of applying same. 3,378,390, 4–16–68, Cl. 117—43.
- Frank, Alan I. W., Corp., The: *See*—
  - Frank, Alan I. W. 3,378,245.
- Frank, Alan I. W., to The Alan I. W. Grank Corp. Apparatus for controllably expanding expandable material. 3,378,245, 4–16–68, Cl. 263—21.
- Frank, Richard W., to General Radio Co. Direct coupled pulse timing apparatus. 3,378,701, 4–16–68, Cl. 307—265.
- Fransen, Theodorus. Mechanism for simultaneously varying the speed of movement and dwell time of a reed. 3,378,042, 4–16–68, Cl. 139—190.
- Frantz, Charles E., and F. F. Vlacil, to United States of America, Atomic Energy Commission. Speed reducer. 3,377,886, 4–16–68, Cl. 74—805.
- Franz, Norman J., to The Procter & Gamble Co. Method of sealing seal end carton. 3,377,767, 4–16–68, Cl. 53—29.
- Franzene, Robert D., to Deltrol Corp. Vibratory motor, especially for hair clippers. 3,378,706, 4–16–68, Cl. 310—29.
- Freck, David V., R. L. Rouse, and J. Wakefield, to Associated Electrical Industries Ltd. Method for producing P-I-N semiconductors. 3,378,414, 4–16–68, Cl. 148—186.
- Fredd, John V., to Otis Engineering Corp. Fluid pressure operated actuated operator toll for well tools. 3,378,080, 4–16–68, Cl. 166—156.
- Frederick, Martin B., and D. Sobel, to Supreme Steel Equipment Corp. Filing cabinets. 3,378,321, 4–16–68, Cl. 312—215.
- Fredericks, Robert W., and T. L. Harbaugh, to Omco Chemical Corp. Chemical additive system. 3,378,027, 4–16–68, Cl. 137—268.
- Freeman, Edward: *See*—
  - Firestein, Harry, Tyas, and Freeman. 3,377,971.
- French, George L., and W. G. Seacrest, to Bethlehem Steel Corp. Furnace underhearth cooling apparatus. 3,378,249, 4–16–68, Cl. 266—32.
- French, Harry H., to United States of America, Army. Electrical connector for terminating flat wire cables. 3,378,808, 4–16–68, Cl. 339—59.
- Freudenberg, Carl. Kommanditgesellschaft auf Aktien: *See*—
  - Nottebohm, Carl L., Schabert, and Burk. 3,378,398.
- Freure, Benjamin T., to Union Carbide Corp. Production of 1-naphthol. 3,378,591, 4–16–68, Cl. 260—621.
- Fried, John H.: *See*—
  - Edwards, John A., Fried, and Siddall. 3,378,549.
- Fried, William B.: *See*—
  - Chalmers, Alexander A., Fried, and Mason. 3,377,762.
- Friese, Karl E., to IMC Magnetics Corp. Means for securing the impeller to the motor of an electrically driven fan. 3,378,192, 4–16–68, Cl. 230—117.
- Friis, Wilhelm L.-E., and T. M. I. Noren, to Aktiebolaget Bofors. Weldable, corrosion-resisting steel. 3,378,367, 4–16–68, Cl. 75—128.
- Frishman, Daniel: *See*—
  - Keramas, James G., and Frishman. 3,377,664.
- Fritz, Gerhard, K.-H. Hermann, and H. Schnell, to Farbenfabriken Bayer Aktiengesellschaft. Polymer compositions having an increased melt viscosity. 3,378,532, 4–16–68, Cl. 260—78.
- Fritzmeier, Georg, KG.: *See*—
  - Wingen, Wilhelm. 3,378,298.
- Froitzheim, Hans, and K. Letzel, to Daimler-Benz Aktiengesellschaft. Step unit for driver cab or motor vehicles. 3,378,278, 4–16–68, Cl. 280—163.
- Frost, John R., to The Dow Chemical Co. Winding apparatus. 3,377,709, 4–16–68, Cl. 33—132.
- Frost, Ronald: *See*—
  - Ross, Horace K., and Frost. 3,377,831.
- Fuji Electronics Industrial Co., Ltd.: *See*—
  - Kanazawa, Shogo, Konno, Shimizu, and Kosuge. 3,377,838.
- Fukushima, Toshio, to Bridgestone Tire Co., Ltd. Metal mold having vent plug means for shaping a plastic article and vulcanizing a rubber article. 3,377,662, 4–16–68, Cl. 18—38.
- Fulmer, George M., to Gichner Mobile Systems, Inc. Hydraulically operated demountable running gear with diagonal rams. 3,378,276, 4–16–68, Cl. 280—43.23.

- Funiciello, Orazio. Synchromesh gears. 3,378,122, 4–16–68, Cl. 192—53.
- Furst, Stefan, to W. Reiners. Creel assembly for textile machines. 3,377,676, 4–16–68, Cl. 28—34.
- Furst, Stefan, to W. Reiners. Device for increasing the speed of coil replacement in a creel assembly. 3,377,677, 4–16–68, Cl. 28—34.
- Furusawa, Motoyoshi. Self-loading camera. 3,377,935, 4–16–68, Cl. 95—31.
- G & H Mechanical Laboratory, Inc.: *See*—
  - Hoffman, Howard S. 3,378,166.
- Gadd, Francis O., to General Motors Corp. Tandem axle suspension. 3,378,277, 4–16–68, Cl. 280—104.5.
- Gaertner, Richard F., to General Electric Co. Method and apparatus for degassing liquids. 3,377,778, 4–16–68, Cl. 55—52.
- Gagnier, Real, R. Kenedi, and W. C. Klassen, to Northern Electric Co. Ltd. Line lockout circuit. 3,378,642, 4–16–68, Cl. 179—18.
- Galligher Co., The: *See*—
  - Crocheron, Volney D. 3,378,209.
- Gandolfo, Jean-Marie, to European Atomic Energy Community-(Euratom). Method and apparatus for determining the amount of leakage from chambers. 3,377,844, 4–16–68, Cl. 73—49.2.
- Garbor, Andrew, to Potter Instrument Co., Inc. Random access magnetic tape storage device. 3,378,826, 4–16–68, Cl. 340—174.1.
- Garland, Thomas N., 5% to M. Higgenbothom, 10% to E. A. Christensen, 1% each to R. E. Wallace and W. B. Siebert, and an undivided 20% to E. L. Spangler, M. L. Symore, and E. L. Brown, Jr. Scrap metal press. 3,377,946, 4–16–68, Cl. 100—98.
- Garner, Oscar G., to General Cable Corp. Dual insulated telephone wire. 3,378,628, 4–16–68, Cl. 174—112.
- Garrett, Howard R.: *See*—
  - Austin, Clarence G., Jr., and Garrett. 3,377,928.
- Garrett, Jim C., and R. H. Johnson. Gauge nest. 3,378,145, 4–16–68, Cl. 211—60.
- Garrett, Michael E., and D. A. Webber, to The British Oxygen Co. Rearrangement of flow thru serial adsorbers to remove gaseous constituents. 3,377,812, 4–16–68, Cl. 62—18.
- Gartner, Stanley J., to Sylvania Electric Products, Inc. Assembling machine and method. 3,377,679, 4–16–68, Cl. 29—25.16.
- Gassman, Max P., and J. P. Singer, to Deere & Co. Combined ullage rod and breather cap. 3,377,708, 4–16–68, Cl. 33—126.7.
- Gatzi, Karl, to J. R. Geigy, A.G. Compositions and methods for controlling fungi. 3,378,438, 4–16–68, Cl. 167—33.
- Gautraud, Michael G.: *See*—
  - Rockwood, Albert M., Gautraud, McLeod, and Dragone. 3,378,275.
- Gebr. Eickhoff Maschinenfabrik und Eisengiesserei m.m.H.: *See*—
  - Weber, Karl-Heinz. 3,378,303.
- Geigy, J. R., A.G.: *See*—
  - Gatzi, Karl. 3,378,438.
- Geldmacher, Ernst, K. H. Kenn, W. Popp, and J. Rusel, to Beteiligungs- und Patentverwaltungsgesellschaft mit beschrankter Haftung. Shield driving machine for driving tunnels and galleries. 3,378,305, 4–16–68, Cl. 299—33.
- General Aniline & Film Corp.: *See*—
  - Schultz, Herman S. 3,378,537.
- General Automated Machinery Corp.: *See*—
  - Miller, Roy E. and R. F. 3,378,120.
- General Cable Corp.: *See*—
  - Garner, Oscar G. 3,378,628.
- General Dynamics Corp.: *See*—
  - Hotine, William. 3,378,316.
  - Jeffers, Robert K. 3,378,773.
- General Electric Co.: *See*—
  - Bostick, Edgar E. 3,378,521.
  - Braswell, Gary J., and Jolly. 3,378,716.
  - Brown, John F., Jr. 3,378,575.
  - Cooley, John R. 3,377,700.
  - Cunningham, Clarence V. 3,378,749.
  - Darrow, Kenneth A. 3,377,696.
  - Eaton, Richard H. 3,377,877.
  - Erwin, John R. 3,378,229.
  - Fenner, Gunther E. 3,378,648.
  - Ferrigno, William L., Jr. 3,378,777.
  - Gaertner, Richard F. 3,377,778.
  - Geyer, Howard M. 3,377,799.
  - Guernsey, Lloyd B. 3,378,782.
  - Hamlen, Robert P., and King. 3,378,408.
  - Hay, Allan S. 3,378,505.
  - Hickok, Robert L. 3,378,354.
  - Hickok, Robert L. 3,378,499.
  - Kronk, Richard M., and Stonecipher. 3,377,779.
  - Lafferty, James M. 3,378,712.
  - MacKenzie, John D. 3,378,362.
  - Marvin, Ira E. 3,377,848.
  - Mentink Raymond C., and Shadd. 3,378,684.
  - Moore, William R., and Zeigler. 3,378,767.
  - Mosher, Ralph S. 3,378,028.
  - Roberts, John M. 3,378,456.
  - Roberts, Richard W. 3,378,393.
  - Rosenberry, George M., Jr. 3,378,754.
  - Ross, Wilfred T., and Venier. 3,378,458.
  - Sargent, Donald E., and Safford. 3,378,507.
  - Spencer, William R., and Thomas. 3,377,924.
  - Swartz, Paul S. 3,378,691.
  - Toomey, Myron D. 3,378,230.
  - Venable, Lawrence B. 3,378,104.
- General Electric Co.: *See*—Continued
  - Vermilyea, David A. 3,378,471.
  - Vitt, Hillert. 3,378,817.
  - Weiser, Earnest F. 3,378,743.
  - Weiser, Earnest F. 3,378,746.
  - Wright, Jack D., and Hampton. 3,377,804.
- General Instrument Corp.: *See*—
  - Butler, John L. 3,378,814.
- General Motors Corp.: *See*—
  - Barlett, Helen B. 3,378,410.
  - Bauman, Robert H. 3,878,109.
  - Brian, Michael. 3,378,291.
  - Burns, Sylvester F., and Goeman. 3,378,295.
  - Eick, Albert R., Racine, and Lawless. 3,377,698.
  - Gadd, Francis O. 3,378,277.
  - Kotlin, James J., Anderson, and Ristig. 3,377,996.
  - Prachar, Otakar P. 3,377,803.
  - Sand, Darrel R. 3,377,875.
  - Sawyer, Elbert M. 3,378,755.
  - Schaefer, Robert H. 3,378,119.
  - Stark, Marvin K. 3,378,828.
  - Stephens, John F., III. 3,378,115.
  - Trabold, William G. 3,378,689.
  - Tuck, Robert M., Mooney, and Smith. 3,377,885.
- General Precision Inc.: *See*—
  - Schindel, Arnold. 3,377,980.
- General Radio Co.: *See*—
  - Frank, Richard W. 3,378,701.
- General Refractories Co.: *See*—
  - Stein, Joseph L. 3,378,384.
- General Signal Corp.: *See*—
  - Cary, Francis H. 3,378.030.
  - Cola, Pasco A., and Turtle. 3,377,855.
- General Time Corp.: *See*—
  - Anderson, Wilmer C. 3,378,833.
- Gentles, James K., and J. B. Harrison, to Goodlass, Wall & Co., Ltd. Process for the deposition of resinous films on metal objects. 3,378,477, 4–16–68, Cl. 204—181.
- Geocon, Ltd.: *See*—
  - Kivisild, Hans R. 3,378,086.
- George, D'Arcy R., and J. M. Riley, to United States of America, Interior, Sulfate removal from brines. 3,378,336, 4–16–68, Cl. 23—64.
- Gerlach, Horst W. A., to United States of America, Army. Solid state oscillator having plural resonating cavities and tunnel diodes. 3,378,789, 4–16–68, Cl. 331—107.
- Germann, Hans. Chain pliers for tubes. 3,377,892, 4–16–68, Cl. 81—65.
- Gersbacher, Harry C., to United Aircraft Products, Inc. Method of making plate and fin heat exchangers. 3,377,684, 4–16–68, Cl. 29—157.3.
- Getty Oil Co.: *See*—
  - Rampino, Louis D. 3,378,485.
- Gevaert Photo-Producten N.V.: *See*—
  - Van Bogaert, Gustaaf E. 3,378,583.
  - Vandeputte, Camille A., Wagemans, and De Roeck. 3,378,372.
- Gewerkschaft Eisenhutte Westfalia: *See*—
  - Lobbe, Armin. 3,378,306.
- Geyer, Howard M., to General Electric Co. Mechanical integrators and control systems employing same. 3,377,799, 4–16–68, Cl. 60—39.29.
- Gheorghiu, Paul, to Hi-G, Inc. Electronic clinical thermometer. 3,377,862, 4–16–68, Cl. 73—362.
- Ghys, Lodewijk V. H. M., and F. J. C. Leyssens, to International Standard Electric Corp. Contact interrupter. 3,378,655, 4–16–68, Cl. 200—16.
- Giannini Scientific Corp.: *See*—
  - Winzeler, John W., and Tucker. 3,378,391.
- Gibson, John J., to Radio Corp. of America. Optimized digital amplifier utilizing insulated-gate field-effect transistors. 3,378,783. 4–16–68, Cl. 330—35.
- Gichner Mobile Systems, Inc.: *See*—
  - Fulmer, George M. 3,378,276.
- Gier, Delta W., to Chemagro Corp. Phenoxyacetyl phosphonates. 3,378,610, 4–16–68, Cl. 260—940.
- Giori, Gualtiero. Apparatus for checking numbering during printing of paper currency. 3,377,948, 4–16–68, Cl. 101—76.
- Girling Ltd.: *See*—
  - Hollins, Peter G. 3,378,114.
- Glacier Metal Co. Ltd., The: *See*—
  - Cutting, Edward J. ,and Barley. 3,378,319.
  - Rafique, Syed O. Z. M., and de Guerin. 3,378,318.
- Glassey, Eugene A. Closed circuit density control instrument. 3,377,869, 4–16–68, Cl. 73—453.
- Glew, David N., and A. E. P. Watson, to The Dow Chemical Co. Method for precipitating atmospheric water masses. 3,378,201, 4–16–68, Cl. 239—2.
- Globe Trotter Corp.: *See*—
  - Knowles, Jack V. 3,378,314.
- Globe-Union, Inc.: *See*—
  - Keys, Richard V. 3,378,407.
- Glover, George B., IV, to Lumidor Products Corp. Wire connector clip. 3,378,807, 4–16–68, Cl. 339—32.
- Godfrey, Charles S.: *See*—
  - Alafi, Moshe, Birnbaum, Ford, and Godfrey. 3,378,829.
- Godo, Einar. Machine for handling a halibut long line and the like. 3,377,733, 4–16–68, Cl. 43—4.
- Goeller, Leopold F., Jr., to Bell Telephone Laboratories, Inc. Immediate ringing equipment for communication systems. 3,378,643, 4–16–68, Cl. 179—18.
- Goeller, Leopold F., Jr., to Bell Telephone Laboratories, Inc. Communication system signaling and testing equipment. 3,378,650, 4–16–68, Cl. 179—175.2.
- Goeman, Lester M.: *See*—
  - Burns, Sylvester F., and Goeman. 3,378,295.

- Goldberg, Isidor. Garbage can closer. 3,378,323, 4–16–68, Cl. 312—270.
- Goldberg, Jacob, and R. A. Short, to Stanford Research Institute. Data shifting logic system with data and control signals advancing through the system in opposite directions. 3,378,776, 4–16–68, Cl. 328—37.
- Goldmark, Peter C., and J. M. Hollywood, to Columbia Broadcasting Systems, Inc. Television film scanner synchronization system. 3,378,635, 4–16–68, Cl. 178—7.2.
- Goldsmith, Herbert: *See*—
  - Saravis, Calvin A., and Goldsmith. 3,378,481.
- Goldstein, Herman B.: *See*—
  - Silvestri, Michael A., Goldstein, and Sprenger. 3,378,397.
- Goldzwig, David M.: *See*—
  - Hott, Ion V. K., and Goldzwig. 3,377,981.
- Golitz, Hans D.: *See*—
  - Sattlegger, Hans, Noll, Damm, and Golitz. 3,378,520.
- Good, Paul J., to D-S Industries, Inc. Feed mechanism for die cutter. 3,378,132, 4–16–68, Cl. 198—135.
- Goodenow, Theodore C., to Bell Telephone Laboratories, Inc. Switching voltage regulator. 3,378,758, 4–16–68, Cl. 323—18.
- Goodlass, Wall & Co., Ltd.: *See*—
  - Gentles, James K., and Harrison. 3,378,477.
- Goodman, Abraham H., E. F. Pettinato, A. Kroll, and D. H. Lipka, to DCA Food Industries, Inc. Frozen comestible. 3,378,378, 4–16–68, Cl. 99—136.
- Goodrich, B. F., Co., The: *See*—
  - Hamed, Parviz, and McDonel. 3,378,508.
  - Hamed, Parviz, and McDonel. 3,378,512.
- Goodrum, Leo A., Jr. Toy. 3,377,738, 4–16–68, Cl. 46—1.
- Goodyear Aerospace Corp.: *See*—
  - Hampshire, William J. 3,378,613.
- Goodyear Tire & Rubber Co., The: *See*—
  - Wiener, Maria V. 3,378,402.
- Gordon-Cooper, George H. Adjustable program and progress indicator. 3,377,983, 4–16–68, Cl. 116—135.
- Gordon, Douglas, to Briggs & Stratton Corp. Muffler ånd outlet tube for small internal combustion engines. 3,378,099, 4–16–68, Cl. 181—40.
- Gorker, George E., to United States of America, Atomic Energy Commission. High heat flux neutronic fuel element. 3,378,453, 4–16–68, Cl. 176—43.
- Goshima, Takeshi, S. Ohtaki, and N. Kinoshita, to Canon Camera Kabushiki Kaisha. Easy loading apparatus for film supply for photographic cameras. 3,377,936, 4–16–68, Cl. 95—31.
- Gosa, Arthur G.: *See*—
  - Wilkinson, Wilfred H., and Goss. 3,377,802.
- Gossen, P. & Co. G.m.b.H.: *See*—
  - Hautmann, Heinrich. 3,378,768.
- Gottschald, Rudolf, to Messrs. A. Ehrenreich & Cie. Ball joints. 3,378,286, 4–16–68, Cl. 287—87.
- Grabiel, Richard H. Container for contact lenses. 3,378,020, 4–16–68, Cl. 134—156.
- Grace, W. R. & Co.: *See*—
  - Hollowell, Eugene G. 3,378,584.
  - Prince, Roy W. 3,377,949.
  - Squitieri, Vincent, and Wollmar. 3,377,950.
  - Whitesel, Joseph C., and Dawbarn. 3,377,973.
- Gramer, Gottfried, and I. Kausz, to Siemens Aktiengesellschaft. Method and apparatus for recovering boric acid in nuclear reactor plants controlled with boric acid. 3,378,450, 4–16–68, Cl. 176—37.
- Gran, Carl A., to John R. Scherer Co., Inc. and J. & E. Leasing Co. Food container with plural openings. 3,378,177, 4–16–68, Cl. 222—482.
- Granberg, Mauritz L.: *See*—
  - Duerr, Melvin V., Granberg, and Stoffel. 3,378,720.
- Grant, Charles H., and T. E. Slykhouse, to The Dow Chemical Co. Explosive composition and method. 3,377,909, 4–16–68, Cl. 86—20.
- Grant, G. Peter, Jr. Photographic document copying device. 3,377,913, 4–16–68, Cl. 88—24.
- Grant, John C., and R. H. Magill, to Byron Jackson, Inc. Pipe sprayer. 3,378,088, 4–16–68, Cl. 175—84.
- Graves, Ross E., to TRW Inc. Precision tracking system. 3,378,837, 4–16–68, Cl. 343—7.5.
- Greeley, Charles E., to The Susquehanna Corp. Sectional pole antenna and parts therefor. 3,377,765, 4–16–68, Cl. 52—726.
- Green, Donald R., and H. L. Libby, to United States of America, Atomic Energy Commission. Infrared nondestructive testing technique independent of sample surface emissivity. 3,378,685, 4–16–68, Cl. 250—83.3.
- Green, William G. Process of removing alkyl benzene sulfonate. 3,378,474, 4–16–68, Cl. 204—149.
- Greene, John, Jr., to Gregory S. Prince. Air bleeder device. 3,378,312, 4–16–68, Cl. 303—70.
- Greer, John W., S. L. Pierce, Jr., and G. W. Schulz, to Ford Motor Co. Fluid operated friction coupling with air cushion and quick slack takeup. 3,378,111, 4–16–68, 188—152.
- Grenier, John E.: *See*—
  - Budzinski, Daniel M., and Grenier. 3,377,644.
- Griffeth, Thurman F. Voltage changing power supply for electric fences. 3,378,694, 4–16–68, Cl. 307—132.
- Griffith, Edwin D., to Owens-Illinois, Inc. Composite closure for fiber cans with easy-open and reclosable features. 3,378,163, 4–16–68, Cl. 220—47.
- Griffith, George L., to Commercial Solvents Corp. Explosive slurry containing an agglomerate of an inorganic nitrate oxidizer and a fuel and method of making. 3,378,415, 4–16–68, Cl. 149—2.
- Griffith, William S.: *See*—
  - Bryan, Wilson J., Jr., and Griffith. 3,378,568.
- Griffon, Henri, and G. Tixier. Yeast-starch dietetic tablets and their production. 3,378,377, 4–16–68, Cl. 99—96.
- Gripshover, Paul J., to Battelle Development Corp. Bonding process for fabricating and shaping structures. 3,377,695, 4–16–68, Cl. 29—472.3.
- Gronner, Alfred D.: *See*—
  - Thaler, Sherwood, and Gronner. 3,377,861.
- Gros-Ite Industries, Inc.: *See*—
  - Everett, George. 3,377,986.
- Grosbety, Gaston D. J., to Chisholm-Ryder Co., Inc. DBean snipper. 3,378,051, 4–16–68, Cl. 146—86.
- Grover, David N., and R. B. Crane, to Lear Siegler, Inc. Combination sky wave and direct wave communication. 3,378,847, 4–16–68, Cl. 343—103.
- Gudmestad, Ragnar, to Artos Engineering Co. Counting device. 3,378,196, 4–16–68, Cl. 235—132.
- Guernsey, Lloyd B., to General Electric Co. Regenerative amplifier for changing voltage levels. 3,378,782, 4–16–68, Cl. 330—26.
- Guettel, Marvin A.: *See*—
  - Eckl, James J., and Guettel. 3,378,696.
- Guilbault, George G., and D. N. Kramer, to United States of America, Army. Method of measuring enzyme activity. 3,378,463, 4–16–68, Cl. 195—103.5.
- Guild Metal Joining Equipment Co.: *See*—
  - Wheeler, Donald J., and Lohrenz. 3,378,185.
- Guinau, Oscar A.: *See*—
  - Unk, Jacob M., and Guinau. 3,378,674.
- Guleserian, John S.: *See*—
  - Kroll, Harry. 3,378,470.
- Gulf General Atomic Inc.: *See*—
  - Humphries, John R. 3,378,448.
- Gurski, Edward P., and J. C. Walz, to Western Electric Co., Inc. Apparatus for testing the individual conductors of cables. 3,377,901, 4–16–68, Cl. 83—368.
- Gustine, Kenneth L. Propelling attachment for a boat. 3,377,976, 4–16–68, Cl. 115—25.
- Guy, Anthony R., and M. E. Lloyd, to Wilmot-Breeden Ltd. Guarding of machine tools. 3,377,884, 4–16–68, Cl. 74—615.
- Guyot, Lucien F., B. M. Driard, and F. Sirou, to Compagnie Francaise Thomson Houston-Hotchkiss Brandt. Image converter tubes with improved dust screen and diaphragm means. 3,378,714, 4–16–68, Cl. 313—65.
- Haas, Hans, to Strabag Bau-A. G. Apparatus for the determination of bulk densities. 3,377,839, 4–16–68, Cl. 73—32.
- Haber, Joseph G.: *See*—
  - Michelman, Leonard S., and Haber. 3,377,739.
- Habozit, Fortune, to Cellophane Investment Co., Ltd. Winding device. 3,378,213, 4–16–68, Cl. 242—65.
- Hadinec, Frantisek, to Elitex, Zabody Textilniho Strojirenstvi. Control system for a dobby machine. 3,378,038, 4–16–68, Cl. 139—66.
- Haigh, Daniel H.: *See*—
  - Roberts, Carleton W., and Haigh. 3,378,580.
- Hajnis, Karel: *See*—
  - Farkas, Gabriel L., and Hajnis. 3,377,712.
- Halcom International, Inc.: *See*—
  - Colton, John W., and Jewett. 3,378,467.
- Haley, John W. Golf club putter and trainer. 3,378,262, 4–16–68, Cl. 273—162.
- Hall, William R.: *See*—
  - Mitchell, John D., and Hall. 3,378,065.
- Halliburton Co.: *See*—
  - Lasater, Reginald M. 3,378,489.
  - Wessler, Gerald A., and Epler. 3,378,070.
- Halm Instrument Co., Inc.: *See*—
  - Lyon, Floyd A., Schatzki, Arnell, and Konazewski. 3,377,772.
- Hamed, Parviz, and E. T. McDonel, to The B. F. Goodrich Co. Tackifying cements for EPM and EPDM rubber using cyclized natural rubber. 3,378,508, 4–16–68, Cl. 260—5.
- Hamed, Parviz, and E. T. McDonel, to The B. F. Goodrich Co. Tackifying cements for EPM and EPDM rubbers. 3,378,512, 4–16–68, Cl. 260—33.6.
- Hamilton Cosco, Inc.: *See*—
  - Bates, Donald L., and Neal. 3,377,966.
- Hamilton Watch Co.: *See*—
  - Rogers, Donald J. 3,377,795.
  - Rogers, Donald J. 3,377,796.
- Hamilton, Vern E., to McDonnell Douglas Corp. Method of producing ambient light trapping filter. 3,378,421, 4–16–68, Cl. 156—224.
- Hamilton, Vern E., to McDonnell Douglas Corp. Color television tube with ambient light filter. 3,378,636, 4–16–68, Cl. 178—7.82.
- Hamlen, Robert P., and R. N. King, to General Electric Co. Electrolytic cell employing aluminum as negative electrode and an alkaline electrolyte containing hypochlorite anions. 3,378,408, 4–16–68, Cl. 136—90.
- Hamling, Bernard H., to Union Carbide Corp. Neutron irradiation method of synthesizing ethylene glycol and formaldehyde. 3,378,451, 4–16–68, Cl. 176—39.
- Hamm, Douglas W., K. J. Nisper, and A. V. Hardick, to Muskegon Piston Ring Co. Method for stretching separated piston rings. 3,377,682, 4–16–68, Cl. 29—156.6.
- Hammar, Allan H.: *See*—
  - Sandhage, Elsworth R., and Hammar. 3,377,989.
- Hammond Corp.: *See*—
  - Dyle, Charles A. 3,378,652.
- Hammond, William E., to The Air Preheater Co., Inc. Cleaning arrangement for bag filters. 3,377,781, 4–16–68, Cl. 55—295.
- Hampshire, William J., to Goodyear Aerospace Corp. Method for making a fiber reinforced material. 3,378,613, 4–16–68, Cl. 264—45.
- Hampton, Thomas L.: *See*—
  - Wright, Jack D., and Hampton. 3,377,804.
- Hand, Louis, Inc.: *See*—
  - Firestein, Harry, Tyas, and Freeman. 3,377,971.

- Hands, Clifford H. G., to Hooker Chemical Corp. Separation of phosphonitrilic chloride mixtures. 3,378,353, 4–16–68, Cl. 23—357.
- Hanley, William G., and F. H. Fisher, to Rockwell-Standard Co. Brake mechanism support. 3,378,113, 4–16–68, Cl. 188—206.
- Hannicq, Jacques G. L., and M. G. J. Burel, to Societe Industrielle Bull-General Electric (Societe Anonyme). Data processing system with indirect addressing. 3,378,819, 4–16–68, Cl. 340—172.5.
- Hans Sickinger Co.: *See*—
  - Ostermeier, Claus. 3,378,046.
  - Thurman, Paul E. 3,378,045.
- Hansen, Robert D., to The Dow Chemical Co. Process for extracting thorium and rare earths. 3,378,352, 4–16–68, Cl. 23—341.
- Hanson, Raymond A. Canal trimmer. 3,377,726, 4–16–68, Cl. 37—82.
- Harbaugh, Theodore L.: *See*—
  - Fredericks, Robert W., and Harbaugh. 3,378,027.
- Harbison-Walker Refractories Co.: *See*—
  - McCreight, Donald O., Miller, and Pavlica. 3,378,385.
- Hardick, Alden V.: *See*—
  - Hamm, Douglas W., Nisper, and Hardick. 3,377,682.
- Harkrider, Charles E.: *See*—
  - Wilkinson, Harvey H., and Harkrider. 3,378,134.
- Harlan, Harold R., Jr.: *See*—
  - Hodges, William C., and Harlan. 3,378,600.
- Harmand, Roger J. V. Safety flow-limiting self-servoing pressure relief valve, more particularly for draining and filling tanks. 3,378,032, 4–16–68, Cl. 137—613.
- Harmon, Wilbur B.: *See*—
  - Werner, Robert B., and Harmon. 3,377,940.
- Harmon, William C., to Republic Steel Corp. Method of rolling metal strip to control surface roughness. 3,377,828, 4–16–68, Cl. 72—2.
- Harms, Jack E. Hitch assembly. 3,378,280, 4–16–68, Cl. 280—478.
- Harrington, John A., to Westinghouse Electric Corp. Fire-resistant paper-base epoxy resin laminates. 3,378,434, 4–16–68, Cl. 161—184.
- Harrington Mfg. Co.: *See*—
  - Mitchell, John D., and Hall. 3,378,065.
- Harris, Dwight E., to Rotron Mfg. Co., Inc. Fan mounting. 3,378,193, 4–16–68, Cl. 230—273.
- Harris-Intertype Corp.: *See*—
  - Ellis, Jarrett R., and Seel. 3,378,256.
- Harris, Samuel J., and E. J. Caron, to TRW Inc. Tuneable inductor having a fixed arcuate conductor turn in series with an inductively coupled variable arcuate conductor turn. 3,378,795, 4–16–68, Cl. 334—65.
- Harris, William H., Jr., to Dexco Corp. Method of making a tool for removing material from workpieces and product thereof. 3,378,361, 4–16–68, Cl. 51—293.
- Harrison, Jack B.: *See*—
  - Gentles, James K., and Harrison. 3,378,477.
- Harrison, Robert W., and E. J. Delgrosso, to United Aircraft Corp. Nonconsumable arc-melting and arc-welding electrodes. 3,378,671, 4–16–68, Cl. 219—145.
- Harte, Heinz: *See*—
  - Wochnowski, Waldemar, Harte, and Iwen. 3,378,140.
- Hartel, Eric E. Aerial dart game with suction cup dart and curvilinear receiver therefor. 3,378,260, 4–16–68, Cl. 273—95.
- Hartlapp, Gerhard, and W. Bielenberg, to Knapsack Aktiengesellschaft. Process for the manufacture of polyphosphates of low bulk density. 3,378,341, 4–16–68, Cl. 23—107.
- Hasegawa, Shigeji, to Yazaki Meter Co. Ltd. Flow meter for liquefied petroleum gas. 3,377,856, 4–16–68, Cl. 73—199.
- Hashman, Joseph S.: *See*—
  - Ruehrwein, Robert A., and Hashman. 3,378,351.
- Haskon, Inc.: *See*—
  - Austin, Clarence G., Jr., and Garrett. 3,377,928.
- Hassell, Howard L., to Shell Oil Co. Elastomeric alpha olefin block copolymers. 3,378,608, 4–16–68, Cl. 260—878.
- Hastings, Joseph C., to The Budd Co. Tunnel diode controlled battery charger circuit. 3,378,750, 4–16–68, Cl. 320—23.
- Hastings, Joseph C., to The Budd Co. Eddy current probe with temperature compensation. 3,378,763, 4–16–68, Cl. 324—40.
- Hatashita, Kimio, to Rocker Solenoid Co. Reversible solenoid-operated valve assembly. 3,378,031, 4–16–68, Cl. 137—596.17.
- Hauni-Werke Koerber & Co., K.G.: *See*—
  - Rudszinat, Willy. 3,377,843.
  - Wochnowski, Waldemar, Harte, and Iwen. 3,378,140.
- Hautmann, Heinrich, to P. Gossen & Co. G.m.b.H. Moving coil instrument with rotary permanent magnets. 3,378,768, 4–16–68, Cl. 324—150.
- Hawes, Alan B. Aerial cable roundabout. 3,377,959, 4–16–68, Cl. 104—117.
- Hawes, Alan B. Electrical connector and expansion joint. 3,377,960, 4–16–68, Cl. 104—118.
- Hawkins, A. Carl. Irrigator for floral containers. 3,377,744, 4–16–68, Cl. 47—38.1.
- Hay, Allan S., to General Electric Co. Substituted polyphenylene ethers. 3,378,505, 4–16–68, Cl. 260—2.1.
- Hazek, Borys: *See*—
  - Hoy, Leland C., and Hazek. 3,378,654.
- Head, Kenneth A. J. Lathe steadies. 3,377,895, 4–16–68, Cl. 82—35.
- Heath, Clarence W. to United-Carr Inc. Holder for an electric lamp or valve. 3,378,809, 4–16–68, Cl. 339—91.
- Heckles, John S., to Armstrong Cork Co. Aromatic nitrocyanomethyl compounds. 3,378,573, 4–16–68, Cl. 260—396.
- Heijdra, Johannes C.: *See*—
  - Doeglas, Marcus H., and Heijdra. 3,378,302.
- Heinrich, Raymond L.: *See*—
  - Coltharp, Bruce R., Heinrich, Thompson and Thorpe. 3,378,466.
- Heins, Arnold, W. Offermann, and H. Linden, to Henkle & Cie, G.m.b.H. Lacquer compositions hardenable to a polyurethane lacquer prepared from dimerized or trimerized fatty alcohols or the alkylene oxide adducts thereof. 3,378,531, 4–16–68, Cl. 260—77.5.
- Helpmann, Dankfried. Process and apparatus for applying a cover on cigars. 3,378,015, 4–16–68, Cl. 131—20.
- Helfer, Friedrich: *See*—
  - Finke, Ernst-Günter, and Helfer. 3,377,876.
- Heller, Joseph I., to Belock Instrument Corp. Recorded dielectric medium and recording and playback methods and apparatuses. 3,378,645, 4–16–68, Cl. 179—100.1.
- Henkel, Heinrich: *See*—
  - Reinshagen, Paul, Schmidt, Ziemer, and Henkel. 3,378,480.
- Henkle & Cie, G.m.b.H.: *See*—
  - Heins, Arnold, Offermann, and Linden. 3,378,531.
- Hennig, Erich, to Dunlop Rubber Co. Ltd. Friction pad for disc brakes. 3,378,116, 4–16–68, Cl. 188—250.
- Henry, David W., to Merck & Co., Inc. Imidazole compounds and methods of making the same. 3,378,552, 4–16–68, Cl. 260—240.
- Her Majesty Underwear Co.: *See*—
  - Ramsey, Willard A., and Coln. 3,377,897.
- Hermann, Karl-Heinz: *See*—
  - Fritz, Gerhard, Hermann, and Schnell. 3,378,532.
- Hertrich, Friedrich R., to International Business Machines Corporation. Direct access data storage. 3,378,827, 4–16–68, Cl. 340—174.1.
- Heuman, Ernest: *See*—
  - Cohen, Saul M., and Heuman. 3,377,972.
- Heyer Inc.: *See*—
  - Springer, Edward M. 3,378,252.
- Heynen, Walther F. G.: *See*—
  - Steinbach, Hermann F. W., and Heynen. 3,377,923.
- Hickok, Robert L., to General Electric Co. Synthesis of calcium chlorspodiosite. 3,378,354, 4–16–68, Cl. 23—368.
- Hickok, Robert L., to General Electric Co. Synthesis of halophosphate phosphors using calcium chlorspodiosite. 3,378,499, 4–16–68, Cl. 252—301.4.
- Hicks, Robert C.: *See*—
  - Worrell, George R., Hicks, and Durney. 3,378,483.
- Hi-G, Inc.: *See*—
  - Gheorghiu, Paul. 3,377,862.
- Higby, Leonard C., Jr.: *See*—
  - Waldecker, Donald E., and Higby. 3,378,677.
- Higgenbothom, Marion: *See*—
  - Garland, Thomas N. 3 377,946.
- Highway Products, Inc.: *See*—
  - Myers, Joseph T. 3,378,094.
- Hilde, Al, Jr. Mobile system for evacuating and recharging portable commodes. 3,378,025, 4–16–68, Cl. 137—205.
- Hildebrandt, Paul Gustav. Article for holding materials which are to be mixed together upon issuing from the article. 3,378,168, 4–16–68, Cl. 222—83.
- Hilden, Richard H., J. H. Martin, F. E. Mills, and R. A. Winje, to United States of America, Atomic Energy Commission. Apparatus for damping axial coherent beam instabilities in a synchrotron particle accelerator. 3,378,778, 4–16–68, Cl. 328—235.
- Hill, Charles E., to Honeywell Inc. Control apparatus. 3,378,781, 4–16–68, Cl. 330—24.
- Hill, Claude, to Harry Ferguson Research Ltd. Center differential gear units. 3,378,093, 4–16–68, Cl. 180—44.
- Hill, Robert D., and A. J. Hosmer. Crack-cleaning suction attachment for a vacuum cleaner of the upright type having an on-the-floor, downwardly directed, main suction and cleaning nozzle. 3,377,647, 4–16–68, Cl. 15—337.
- Hill, William J., to Morgan Construction Co. Coil handling apparatus. 3,377,944, 4–16–68, Cl. 100—7.
- Hilsenrath, Manfred, and T. J. McGurn, to International Business Machines Corp. Device for the direct measurement of capacitance. 3,378,765, 4–16–68, Cl. 324—60.
- Hilsinger, Harry A., Jr., to Bell Telephone Laboratories, Inc. Latching retractile cord reel. 3,378,214, 4–16–68, Cl. 242—107.7.
- Hilton, Ralph W. Plank for modular load bearing surfaces such as aircraft landing mats. 3,377,931, 4–16–68, Cl. 94—13.
- Hink, Lester L. Semi-portable fireplace and grill. 3,378,002, 4–16–68, Cl. 126—25.
- Hirota, Akira, to Victor Co. of Japan, Ltd. Magnetic head with removable head tip assembly. 3,378,647, 4–16–68, Cl. 179—100.2.
- Hirsch, Hans & Sohne, Leder- und Plastikwarenerzeugnisse oHG: *See*—
  - Hirsch, Hermann. 3,378,181.
- Hirsch, Hermann, to Hans Hirsch & Sohne, Leder- und Plastikwarenerzeugnisse oHG. Wrist watch strap of leather or like materials. 3,378,181, 4–16–68, Cl. 224—4.
- Hitachi Kasei Kogyo Kabushiki Kaisha: *See*—
  - Tanaka, Shigeyoshi, and Minami. 3,378,601.
- Hitchcock, Paul C., to The Chase-Shawmut Co. Cartridge fuses. 3,378,659, 4–16–68, Cl. 200—132.
- Hobbs, Richard E., to Associated Electrical Industries Ltd. Method of terminating thin film components. 3,377,697, 4–16–68, Cl. 29—621.
- Hodges, William C., and H. R. Harlan, Jr., to Ritter Pfaudler Corp. Non-toxic epoxy coating containing a polyketimine curing agent. 3,378,600, 4–16–68, Cl. 260—830.

Hodgson, James E., to The Solid Fuels Corp. Coated tablets and other fuel cores of exotic reactive fuels and method of making same. 3,377,955, 4–16–68, Cl. 102—102.
Hodson, Anthony E., and R. P. G. Collinson, to Elliott Brothers (London) Ltd. Monitored rate gyroscope system. 3,377,872, 4–16–68, Cl. 74—5.6.
Hoffman, Howard S., to G & H Mechanical Laboratory, Inc. Precision ball drop. 3,378,166, 4–16–68, Cl. 221—93.
Hoffman, Joseph A., and J. C. Oppelt, to American Cyanamid Co. Aziridinylmethyl-alkoxymethyl-melamines. 3,378,535, 4–16–68, Cl. 260—82.1.
Hoffsommer, Gary M.: *See*—
  Joy, Ivan L., Hoffsommer, Reiter, and Muyskens. 3,378,836.
Hoffsommer, Robert D., Jr.: *See*—
  Taub, David, Hoffsommer, and Wendler. 3,378,574.
Holdeman, Ross M.: *See*—
  Thompson, James T., and Holdeman. 3,377,743.
Holdsworth, Dennis W., to Comstock & Wescott, Inc. Power meter. 3,377,850, 4–16–68, Cl. 73—138.
Holiday, Allan D.: *See*—
  Hutson, Thomas, Jr., and Holiday. 3,378,476.
Holiday, Allan D., and T. Hutson, Jr., to Phillips Petroleum Co. Production and purification of cyclohexadiene. 3,378,598, 4–16–68, Cl. 260—666.
Holland, Gerald F., to Chas. Pfizer & Co., Inc. Certain pyridyl tetrazole derivatives. 3,378,564, 4–16–68, Cl. 260—294.8.
Hollins, Peter G., to Girling Ltd. Discs for disc brakes. 3,378,114, 4–16–68, Cl. 188—218.
Hollowell, Eugene G., to W. R. Grace & Co. Process for reducing the caking tendency of crystalline urea. 3,378,584, 4–16–68, Cl. 260—555.
Hollywood, John M.: *See*—
  Goldmark, Peter C., and Hollywood. 3,378,635.
Holton, Harold B., to Bell Telephone Laboratories, Inc. Temperature stable elastic wave delay device. 3,378,792, 4–16–68, Cl. 333—30.
Holtschmidt, Hans: *See*—
  Tarnow, Horst, Holtschmidt, and Bayer. 3,378,559.
Holzinger, Fritz: *See*—
  Mische, Friedrich, and Holzinger. 3,377,911.
Honeywell Inc.: *See*—
  Buckett, James T. 3,377,915.
  Burke, Nelson W. 3,378,702.
  Hill, Charles E. 3,378,781.
  Priddy, Lloyd W. 3,378,779.
Hoo, Jo C.: *See*—
  Mansfield, Herman, and Hoo. 3,378,412.
Hood, William C.: *See*—
  Palazzolo, Salvatore E., and Hood. 3,378,433.
Hooker Chemical Corp.: *See*—
  Hands, Clifford H. G. 3,378,353.
Hopper, Thomas O. Electrically heated hose assembly. 3,378,673, 4–16–68, Cl. 219—301.
Horbinski, Richard D.: *See*—
  Wilkerson, Alan W., and Horbinski. 3,378,806.
Horn, Elmar-Manfred, K. John, and K. Lang, to Farbenfabriken Bayer Aktiengesellschaft. Hydrogen compounds of elements of the third and fourth main group of the periodic system and organo-substituted derivatives thereof. 3,378,344, 4–16–68, Cl. 23—204.
Horne, Frederick H. Steam generating system. 3,377,994, 4–16–68, Cl. 122—382.
Horrocks, Raymond G., to The Scott & Fetzer Co. Cable insulation removing tool. 3,377,891, 4–16–68, Cl. 81—9.5.
Horton, Donelson B., to John Blue Co., Inc. Fertilizer agitator. 3,378,237, 4–16–68, Cl. 259—101.
Hosmer, Andrew J.: *See*—
  Hill, Robert D., and Hosmer. 3,377,647.
Hosoda, Yoshimi: *See*—
  Anderson, Rodney H., Campbell, Crabb, and Hosoda. 3,378,133.
Hotine, William, to General Dynamics Corp. Wear-compensating bearing. 3,378,316, 4–16–68, Cl. 308—26.
Hott, Ion V. K., and D. M. Goldzwig, to The Joyce-Cridland Co. Level indicator. 3,377,981, 4–16–68, Cl. 116—110.
Hotten, Bruce W., to Chevron Research Co. Lubricant compositions and antioxidants therefor. 3,378,490, 4–16–68, Cl. 252—42.1.
Houdaille Industries, Inc.: *See*—
  Nelson, Paul C., and Rutz. 3,377,887.
Hovnanian, Valie P: *See*—
  Chase, Wayne R., and Hovnanian. 3,378,204.
Howard, William J.: *See*—
  Davies, Glyn T., and Howard. 3,378,228.
Howe-Baker Engineers, Inc.: *See*—
  Ferrara, John M., and Ryder. 3,378,484.
Howe, James A.: *See*—
  Bechberger, Paul F., Howe, and Brown. 3,377,871.
Hoy, Leland C., and B. Hazek, to Indak Mfg. Corp. Electrical switch with multiple contact rails. 3,378,654, 4–16–68, Cl. 200—16.
Huang, Hsing T., and G. M. Shull, to Chas. Pfizer & Co., Inc. Process for making 5(4)-amino-4(5)-imidazolecarboxamide riboside-5′-phosphoric acid. 3,378,461, 4–16–68, Cl. 195—28.
Hubner, Otto. Portable hair dryer. 3,377,715, 4–16–68, Cl. 34—99.
Huck Mfg. Co.: *See*—
  Hurd, Ramon L. 3,377,907.
Hucks, Robert T., Jr., to Johns-Manville Corp. Apparatus for forming a bell end on plastic pipe. 3,377,659, 4–16–68, Cl. 18—19.
Hujber, Edward J. Drain tile jig. 3,377,809, 4–16–68, Cl. 61—68.
Humboldt Co., The: *See*—
  McIntyre, Maurice J., Cheldelin, and Reynolds. 3,378,232.
Hummel, Louis E., to Nalco Chemical Co. Diamine salts useful for inhibiting the corrosion in return steam condensate lines. 3,378,581, 4–16–68, Cl. 260—501.17.
Humpage, William D., and S. P. Sabberwal, to The English Electric Co. Ltd. Electrical protective relay employing phase angle comparators. 3,378,728, 4–16–68, Cl. 317—36.
Humphries, John R., to Gulf General Atomic Inc. Irradiation apparatus. 3,378,448, 4–16–68, Cl. 176—15.
Hunt, Cecil G., to The Nolan Co. Fluid-actuated car mover. 3,377,961, 4–16–68, Cl. 104—162.
Hunton, Eugene R. Convertible rack for vehicles. 3,378,156, 4–16–68, Cl. 214—450.
Hurd, Ramon L., to Huck Mfg. Co. Blind fastener. 3,377,907, 4–16–68, Cl. 85—78.
Hurle, Donald T. J., and J. B. Mullin, to Minister of Aviation, in Her Majesty's Government of the United Kingdom of Great Britain and Northern Ireland. Production of crystalline material. 3,378,409, 4–16–68, Cl. 148—1.6.
Hurvitz, Hyman, to D. H. Baldwin Co. Electronic percussion instrument having interposed rhythmic patterns each with its own tone color. 3,378,625, 4–16–68, Cl. 84—1.28.
Huston, Alexander E., to United Kingdom Atomic Energy Authority. Camera tube deflection system for providing beam shutter action. 3,378,721, 4–16–68, Cl. 315—30.
Hutchinson, Merle: *See*—
  Banks, William P., and Hutchinson. 3,378,472.
Huthsing, Charles K., Jr. Nozzle assembly for fire extinguishers. 3,378,207, 4–16–68, Cl. 239—583.
Hutson, Thomas, Jr., and A. D. Holliday, to Phillips Petroleum Co. Photohalogenation of hydrocarbons. 3,378,476, 4–16–68, Cl. 204—163.
Hutson, Thomas, Jr.: *See*—
  Holliday, Allan D., and Hutson. 3,378,598.
Huxster, Robert G., and W. S. Katz, to United States of America, Army. Temperature compensated digital timer for precisely controlling triggering of fuze. 3,378,703, 4–16–68, Cl. 307—293.
Hyland, Robert E.: *See*—
  Rom, Frank E., Lietzke, and Hyland. 3,378,455.
IMC Magnetics Corp.: *See*—
  Friese, Karl E. 3,378,192.
Ideal Industries, Inc.: *See*—
  Kincaid, Ronald D. 3,377,665.
Illinois Tool Works Inc.: *See*—
  Biesecker, Donald L. 3,378,219.
Ilon, Bengt E. Stepper-type vehicle with waist steering means. 3,378,092, 4–16–68, Cl. 180—8.
Imperial Chemical Industries Ltd.: *See*—
  Dimwoodie, Andrew H., and Fort. 3,378,576.
Imperial Metal Industries (Kynoch) Ltd.: *See*—
  Minton, Clive D. T., and Edwards. 3,378,368.
Imperial Smelting Corp. (N.S.C.) Ltd.: *See*—
  Derham, Leslie J., and Kingdom. 3,378,338.
Indak Mfg. Co.: *See*—
  Hoy, Leland C., and Hazek. 3,378,654.
Indiana University Foundation: *See*—
  Muhler, Joseph C. 3,378,445.
Industrial Nucleonics Corp.: *See*—
  Clement, John C. 3,378,676.
Industrial Timer Corp.: *See*—
  Papa, Frank J., Jr. 3,378,123.
Ingersoll-Rand Co.: *See*—
  Van Nederynen, Gerrit, and Taylor. 3,377,921.
Ingerson, Quentin F., to Ampco Metal, Inc. Method of heat treating an aluminum bronze alloy. 3,378,413, 4–16–68, Cl. 148—160.
Ingress Mfg. Co., Inc.: *See*—
  Waldon, Vernon L. 3,377,633.
Inland Steel Co.: *See*—
  McFarland, William H. 3,378,360.
Inoue, Kiyoshi. Method of electrochemically machining including controlling the flow of gas-containing electrolyte in response to gap voltage. 3,378,473, 4–16–68, Cl. 204—143.
Insul Co., Inc.: *See*—
  La Bate, Michael E. 3,377,920.
Interchemical Corp.: *See*—
  Brancato, Sebastian T. 3,378,370.
Inter-Lakes Engineering Co.: *See*—
  Kasper, Cass S., and Le Lacheur. 3,377,691.
Intermountain Research & Engineering Co., Inc.: *See*—
  Udy, Lex L., Clay, and Bryan. 3,378,235.
International Business Machines Corp.: *See*—
  Beumer, Karl W. 3,377,688.
  Hertrich, Friedrich R. 3,378,827.
  Hilsenrath, Manfred, and McGurn. 3,378,765.
  Leilich, Hans-Otto G. 3,378,821.
  Oguey, Henri J. 3,378,824.
  Sutton, John S. 3,378,741.
  Waldecker, Donald E., and Higby. 3,378,677.
International Machinery Corp.: *See*—
  Mencacci, Samuel A. 3,378,129.
International Salt Co.: *See*—
  Jacoby, Charles H., and Whelply. 3,378,493.
International Standard Electric Corp.: *See*—
  Adelaar, Hans H., Masure, and Chu. 3,378,818.
  Ghys, Lodewijk V. H. M., and Leyssens. 3,378,655.
  Wood, Leslie T., and Fisher. 3,378,048.
Ireland, James R. Apparatus for making magnetic material. 3,377,651, 4–16–68, Cl. 18—1.
Isomura, Soichi L., ½ to J. J. Dinan. Underwater gas exchange unit. 3,377,777, 4–16–68, Cl. 55—42.
Israel, The Government of, Director-General, the Director of Finance Division and the Accountant of the Ministry of Development: *See*—
  Ellis, John D., and Nicholls. 3,378,335.

Ivanhoe Research Corp.: *See*—
  Szentkuti, Charles, and Nolles. 3,377,967.
Ivanov, Konstantin P., I. I. Kirichinsky, and A. V. Butuzov, to Nauchno-Issledovatelsky Institute Tekhnolggii Avtomobilnoi Promyshlennosti. Device for producing bevel gear teeth by rolling. 3,377,829, 4–16–68, Cl. 72—86.
Ivy, Edward E., to Pennsalt Chemicals Corp. Process for controlling insects with phenylthiocrotonate. 3,378,436, 4–16–68, Cl. 167—30.
Iwamoto, Kenzo: *See*—
  Sando, Yoshikazu, Nasu, and Iwamoto. 3,377,825.
Iwen, Johannes: *See*—
  Wochnowski, Waldemar, Harte, and Iwen. 3,378,140.
J. & E. Leasing Co.: *See*—
  Gran, Carl A. 3,378,177.
Jackson, Darrell R., and R. W. Orth, to The Boeing Co. Reactance-compensated particle-resonant, frequency-selective limiter. 3,378,760, 4–16–68, Cl. 324—.5.
Jackson, Winston J., Jr.: *See*—
  Caldwell, John R., and Jackson. 3,378,523.
Jacobs, Carl M., to Tryco Mfg. Co., Inc. Hitch means for farm implement. 3,378,279, 4–16–68, Cl. 280—461.
Jacoby, Charles H., and F. V. Whelply, to International Salt Co. Anti-freezing additives. 3,378,493, 4–16–68, Cl. 252—70.
Jaeger, Mark A.: *See*—
  Patel, Chim P., Jaeger, and Pyle. 3,378,547.
James, Henry B. Apparatus for transporting vehicles. 3,378,157, 4–16–68, Cl. 214—620.
James, Robert L., to The Bendix Corp. Rate feedback loop network. 3,378,745, 4–16–68, Cl. 318—331.
Jamison, Jaol C.: *See*—
  Draugelis, Valdevutis C., and Jamison. 3,378,255.
Jancewicz, Chester C.: *See*—
  Borasio, Leo, Roniov, and Jancewicz. 3,378,304.
Janssen, Paul: *See*—
  Vogt, Wilhelm, Janssen, and Richtzenhain. 3,378,526.
Janssen, Peter J., to North American Philips Co., Inc. Amplifying circuit having means for reducing operating voltage source hum. 3,378,784, 4–16–68, Cl. 330—70.
Jaremus, Boubene M., to Borg-Warner Corp. Refrigerator with meat aging and tenderizing compartment. 3,377,941, 4–16–68, Cl. 99—271.
Jarvis, James G., to Eastman Kodak Co. Photoconductive material for electrophotography. 3,378,371, 4–16–68, Cl. 96—1.8.
Jaskowski, Michael C. Compartmented buoyant materials. 3,377,974, 4–16–68, Cl. 112—418.
Jeffee, Saul, to Movielab, Inc. Methods and apparatus for automatic optical reduction. 3,377,914, 4–16–68, Cl. 88—24.
Jeffers, Robert K., to General Dynamics Corp. Frequency and amplitude modulation transmitter and modulator. 3,378,773, 4–16–68, Cl. 325—139.
Jefferson Chemical Co., Inc.: *See*—
  Speranza, George P., and Yeakey. 3,378,503.
Jeffrey Galion Mfg. Co.: *See*—
  Bennett, John R., and Montgomery. 3,378,308.
Jenag Equipment Ltd.: *See*—
  Tipping, Geoffrey N. 3,378,143.
Jenkner, Herbert, and O. Rabe, to Chemische Fabrik Kalk G.m.b.H. Preparation of 2,3-dibromopropanol. 3,378,593, 4–16–68, Cl. 260—633.
Jensen, Arne, to Danfoss A/S. Supervisory switching arrangement. 3,378,733, 4–16–68, Cl. 317—130.
Jerabek, Robert D., to Chemical Decoration Co. Thermosetting hot melt compositions comprising hydroxyl group containing polymer, normally solid solvent and cross-linking agent. 3,378,509, 4–16–68, Cl. 260—21.
Jewett, Joseph E., Jr.: *See*—
  Colton, John W., and Jewett. 3,378,467.
Jochim, Perry R., to Electro-Optical Systems, Inc. Electroforming technique and structure for reflecting mirrors. 3,378,469, 4–16–68, Cl. 204—7.
John Blue Co., Inc.: *See*—
  Horton, Donelson B. 3,378,237.
John, Karl: *See*—
  Horn, Elmar-Manfred, John, and Lang. 3,378,344.
John-Nigrelli-Johns, Inc.: *See*—
  Nigrelli, Biagio J., Standley, and Wittmann. 3,377,774.
Johns-Manville Corp.: *See*—
  Faber, Richard A. 3,378,395.
  Hucks, Robert T., Jr. 3,377,659.
  Perry, Walter M. 3,378,139.
Johnson, Carl N., to Texas Instruments Inc. Adjustment means for electrical switch. 3,378,656, 4–16–68, Cl. 200—83.
Johnson, Delmar R., to Ampex Corp. Tape holder. 3,378,212, 4–16–68, Cl. 242—55.12.
Johnson, Glen M. Sink ring fastener tool. 3,377,894, 4–16–68, Cl. 81—125.
Johnson, Raymond R. Reinforced ski boot and method of making the same. 3,377,721, 4–16–68, Cl. 36—2.5.
Johnson, Richard V. Artist's kit and easel support. 3,378,322, 4–16–68, Cl. 312—231.
Johnson, Robert H.: *See*—
  Garrett, Jim C., and Johnson. 3,378,145.
Johnson, Rulon E., Jr.: *See*—
  Fasick, Ross W., Johnson, and Raynolds. 3,378,609.
Johnson Service Co.: *See*—
  Corbell, Paul I. 3,378,834.
  Sorenson, Paul H. 3,378,022.
Jolly, Preston L.: *See*—
  Braswell, Gary J., and Jolly. 3,378,716.
Jones, R. A., and Co., Inc.: *See*—
  Stone, Orison W. 3,378,135.
  Stone, Orison W. 3,378,137.
Jones, Alva M., J. A. Planchard, Jr., and R. A. Speed, to Esso Research and Engineering Co. Production of solid copolymers. 3,378,607, 4–16–68, Cl. 260—878.
Jones Robert L., to Bourns, Inc. Variable resistor element. 3,378,805, 4–16–68, Cl. 338—300.
Jones, William A., Jr. Tree pusher attachment for bulldozers. 3,377,724, 4–16–68, Cl. 37—2.
Joseph, William T. Method and apparatus for controlling a television receiver. 3,378,775, 4–16–68, Cl. 325—395.
Joy, Ivan L., G. M. Hoffsommer, M. G. Reiter, and D. L. Muyskens. Train slack measuring apparatus. 3,378,836, 4–16–68, Cl. 343—6.
Joy, Lester M., J. Nino, and H. S. Shapiro, to Les Bernard, Inc. Ornament having rotatably and universally adjustable appendages. 3,377,819, 4–16–68, Cl. 63—31.
Joyce-Cridland Co., The: *See*—
  Hott, Ion V. K., and Goldzwig. 3,377,981.
Juhlin, Eric O.: *See*—
  Eich, Edward D., Juhlin, and Berling. 3,378,419.
Justi, Eduard: *See*—
  Waubke, Nils V., Winsel, and Justi. 3,378,403.
Juvinall, James W., and C. A. Purdy, to Ransburg Electro-Coating Corp. Spray coating system. 3,377,987, 4–16–68, Cl. 118—626.
Ka Tee Research Corp.: *See*—
  Combs, Van P. 3,377,997.
Kabell, Louis J., to Fairchild Camera and Instrument Corp. Photosensitive diode array accessed by a metal oxide switch utilizing overlapping and traveling inversion regions. 3,378,688, 4–16–68, Cl. 250—211.
Kadah, Hassan B., to Minnesota Mining and Mfg. Co. Pulse responsive control unit. 3,378,698, 4–16–68, Cl. 307—225.
Kaiser Aluminum & Chemical Corp.: *See*—
  Van Dreser, Merton L. 3,378,383.
Kambara, Frank T.: *See*—
  Shiner, Edward A., Chiu, and Kambara. 3,378,379.
Kanas, Andreas. Blind bolt and method for its use. 3,378,288, 4–16–68, Cl. 287—189.36.
Kanayama, Ikuo: *See*—
  Kaneda, Isao, Kanayama, Kitagawa, and Kita. 3,378,724.
Kanazawa, Shogo, K. Konno, K. K. Shimizu, and S. Kosuge, to Fuji Electronics Industrial Co., Ltd. Apparatus for measuring various transformation characteristics of metallic materials. 3,377,838, 4–16–68, Cl. 73—16.
Kaneda, Isao, I. Kanayama, Y. Kitagawa, and H. Kita, to New Nippon Electric Co., Ltd. Two-filament arc discharge lamp having alternating discharge spots thereon. 3,378,724, 4–16–68, Cl. 315—97.
Kaplan, Sheldon R., to Ny-Linn Chicago Corp. Material for shoe constructions. 3,377,720, 4–16–68, Cl. 36—2.5.
Karecki, Marion R., to V-M Corp. Self-aligning pressure pad for tape recorders. 3,378,266, 4–16–68, Cl. 274—11.
Karpak Co.: *See*—
  McMiller, Urban C. 3,378,182.
Kasai, Tatusi, to Tsukishima Kikai Co., Ltd. Magma circulating type crystallizer with special impeller. 3,378,236, 4–16–68, Cl. 259—95.
Kaspaul, Alfred F. and E. E., to Minnesota Mining and Mfg. Co. Process for the formation of visible images on a substrate. 3,378,401, 4–16–68, Cl. 117—212.
Kaspaul, Erika E.: *See*—
  Kaspaul, Alfred F. and E. E. 3,378,401.
Kasper, Cass S., and R. A. Le Lacheur, to Inter-Lakes Engineering Co. Device for assembling valve parts. 3,377,691, 4–16–68, Cl. 29—208.
Katsuyama, Yoshihisa, to Nippon Kogaku K.K. Device for detecting the presence or absence of film in movie cameras. 3,377,982, 4–16–68, Cl. 116—114.
Katz, Walter S.: *See*—
  Huxster, Robert G., and Katz. 3,378,703.
Kaufman, Bruce A., and E. T. Ulzurrum, to The National Cash Register Co. Magnetic thin film memory having bipolar digit currents. 3,378,822, 4–16–68, Cl. 340—174.
Kaufman, Bruce A., and E. T. Ulzurrun, to The National Cash Register Co. Thin-film magnetic memory employing coincident A.C. and D.C. drive signals. 3,378,823, 4–16–68, Cl. 340—174.
Kawai, Kazuo, and H. Kurihara, to Kokusai Denshin Denwa Kabushiki Kaisha. System for generating single sideband phase modulated telegraphic signals. 3,378,637, 4–16–68, Cl. 178—67.
Kawasaki, Shigeo, and K. Nakamura, to Chisso Corp. Catalyst for the production of saturated aldehydes. 3,378,501, 4–16–68, Cl. 252—457.
Keene Packaging Associates: *See*—
  Polk, Edgwin R., and La Grassa. 3,378,423.
Keiser, James D., and D. G. Midyett, to The Central Pharmacal Co. Double alkali metal salt of theophylline and cyclohexanesulfamic acid. 3,378,558, 4–16–68, Cl. 260—253.
Kell, Furman D.: *See*—
  Shashoua, Fred E., and Kell. 3,378,646.
Kellerhals, Erwin, to Carl Sigerist & Cie. Swinging doors. 3,377,748, 4–16–68, Cl. 49—501.
Kelly, Brian T.: *See*—
  Bridge, Harry, and Kelly. 3,378,459.
Kemeny, George A., Westinghouse Electric Corp. Electrode tip failure detector. 3,378,621, 4–16–68, Cl. 13—18.
Kemp, Willard E., to ACF Industries, Inc. Method of forming a permeable structure. 3,378,422, 4–16–68, Cl. 156—247.
Kendall, William: *See*—
  Teng, James, and Kendall. 3,377,643.
Kenedi, Robert: *See*—
  Gagnier, Real, Kenedi, and Klassen. 3,378,642.
Kenn, Karl H.: *See*—
  Geldmacher, Ernst, Kenn, Popp, and Rusel. 3,378,305.

Kennametal, Inc.: *See*—
Carlstedt, Rahnar L. 3,377,685.

Keramas, James G., and D. Frishman, to Fibresearch Corp. Means and method of feeding fibers. 3,377,664, 4-16-68, Cl. 19—105.

Kersten, Paul J. Apparatus for slitting and pitting dates. 3,378,049, 4-16-68, Cl. 146—17.

Kesselring, Fritz, to Siemens Aktiengesellschaft. Circuit breaker for interrupting at zero current and automatically reclosing after unsuccessful interruption. 3,378,727, 4-16-68, Cl. 317—11.

Kessler, Kenneth Q., to Deere & Co. Forage harvester. 3,377,785, 4-16-68, Cl. 56—16.

Keyes Fibre Co.: *See*—
Burt, Donald E. 3,377,768.

Keys, Richard V., to Globe-Union, Inc. Solar cell module. 3,378,407, 4-16-68, Cl. 136—89.

Kibler, Charles J.: *See*—
Tholstrup, Clarence E., Bell, and Kibler. 3,378,516.

Kidde, Walter, & Co., Inc.: *See*—
Robertson, James E., and Batterson. 3,378,218.

Kiel, Othar M., to Esso Production Research Co. Method for fracturing subterranean formations. 3,378,074, 4-16-68, Cl. 166—42.

Kim, Jong-Dok, to Siemens Aktiengesellschaft. Compartment for a stack of sheet-like record carriers. 3,378,253, 4-16-68, Cl. 271—62.

Kimberly-Clark Corp.: *See*—
Loynd, James. 3,378,435.

Kimmett, James P. Apparatus for removing electrical components from a circuit board. 3,377,689, 4-16-68, Cl. 29—203.

Kincaid, John F., and H. M. Shuey, to United States of America, Navy. Process for production of nitrocellulose propellants. 3,378,611, 4-16-68, Cl. 264—3.

Kincaid, Ronald D., to Ideal Industries, Inc. Textile machine cleaning system and method. 3,377,665, 4-16-68, Cl. 19—263.

King, Randall N.: *See*—
Hamlen, Robert P., and King. 3,378,408.

Kingdom, Richard J.: *See*—
Derham, Leslie J., and Kingdom. 3,378,338.

Kingsley, Norman L.: *See*—
Morgan, Stanley E., and Kingsley. 3,378,320.

Kinney, S. P., Engineers, Inc.: *See*—
Kinney, Selwyne P. 3,378,240.

Kinney, Selwyne P., to S. P. Kinney Engineers, Inc. Furnace gas cleaning and cooling apparatus. 3,378,240, 4-16-68, Cl. 261—115.

Kinoshita, Natsuo: *See*—
Goshima, Takeshi, Ohtaki, and Kinoshita. 3,377,936.

Kiper, Gerd, to Agfa Aktiengesellschaft. Camera shutters. 3,377,937, 4-16-68, Cl. 95—60.

Kirichinsky, Igor I.: *See*—
Ivanov, Konstantin P., Kirichinsky, and Butuzov. 3,377,829.

Kirk & Blum Mfg. Co., The: *See*—
Werner, Robert B., and Harmon. 3,377,940.

Kirschenbaum, Bernard: *See*—
Dinella, Donald, Kirschenbaum, and Schutz. 3,377,699.

Kita, Hiroshi: *See*—
Kaneda, Isao, Kanayama, Kitagawa, and Kita. 3,378,724.

Kivisild, Hans R., to Geocon, Ltd. Stationary overwater platform 3,378,086, 4-16-68, Cl. 175—7.

Kitagawa, Yoshiro: *See*—
Kaneda, Isao, Kanayama, Kitagawa, and Kita. 3,378,724.

Klassen, William C.: *See*—
Gagnier, Real, Kenedi, and Klassen. 3,378,642.

Klock, Harold F.: *See*—
Collin, Robert E., and Klock. 3,378,102.

Klopman Mills, Inc.: *See*—
Perry, Atlas J. 3,378,332.

Kluth, Karl-Heinz: *See*—
Borowski, Kurt, Kluth, and Maatsch. 3,378,366.

Knapsack Aktiengesellschaft: *See*—
Hartlapp, Gerhard, and Bielenberg. 3,378,341.

Knipp, Ulrich, W. Neumann, A. Awater, and H. Oertel, to Farbenfabriken Bayer Aktiengesellschaft. Polyether polyurethanes. 3,378,517, 4-16-68, Cl. 260—45.9.

Knothe, Werner: *See*—
Walls, Gordon W., Knothe, and Lavery. 3,377,792.

Kocks, Friedrich: *See*—
De Corta, Hubert. 3,377,896.

Knowles, Jack V., to Globe Trotter Corp. Endless belt tread assembly. 3,378,314, 4-16-68, Cl. 305—13.

Kocher, Ernst-Ulrich, K. Wagner, and W. von der Emden, to Farbenfabriken Bayer Aktiengesellschaft. N,N′-sulphonyl nitrogenous monomers and copolymers thereof. 3,378,529, 4-16-68, Cl. 260—67.5.

Koga, Yuzo: *See*—
Usami, Seiji, Kondo, Nishimura, and Koga. 3,378,590.

Kokusai Denshin Denwa Kabushiki Kaisha: *See*—
Kawai, Kazuo, and Kurihara. 3,378,637.

Kollonitsch, Janos, to Merck & Co., Inc. C-chlorination of saturated amines. 3,378,562, 4-16-68, Cl. 260—293.

Kolodney, Morris, and H. Steinmetz, to United States of America, Atomic Energy Commission. Apparatus for continuous oxygen monitoring of liquid metals. 3,378,478, 4-16-68, Cl. 204—195.

Komeno, Taichiro, and N. Tokutake, to Shionogi & Co., Ltd. 16β-alkylthio-17β-hydroxy-steroids and 17-acylates thereof. 3,378,548, 4-16-68, Cl. 260—239.55.

Konazewski, Clement R.: *See*—
Lyon, Floyd A., Schatzki, Arnell, and Konazewski. 3,377,772.

Kondo, Takayoshi: *See*—
Usami, Seiji, Kondo, Nishimura, and Koga. 3,378,590.

Kone, Elliott H. Reflective road marker. 3,377,930, 4-16-68, Cl. 94—1.5.

Koninklijke Zwavelzuurfabrieken Voorheen Ketjen N.V.: *See*—
Doeglas, Marcus H., and Heijdra. 3,378,302.

Konno, Keiji: *See*—
Kanazawa, Shogo, Konno, Shimizu, and Kosuge. 3,377,838.

Kontos, Emanuel G., to Uniroyal, Inc. Semicrystalline stereoblock copolymers. 3,378,606, 4-16-68, Cl. 260—878.

Koppers Co., Inc.: *See*—
Boggs, Le Roy R. 3,378,428.
Medney, Jonas. 3,378,426.

Korte, Wilhelmus E. Method of fastening an article by means of a bolt to be shot into said article, and means for carrying out said method. 3,377,903, 4-16-68, Cl. 85—10.

Kosuge, Shingo: *See*—
Kanazawa, Shogo, Konno, Shimizu, and Kosuge. 3,377,838.

Kotlin, James J., D. L. Anderson, and B. A. Ristig, to General Motors Corp. Cylinder head for internal combustion engine. 3,377,996, 4-16-68, Cl. 123—41.31.

Kott, Fred J.: *See*—
Bell, Kenneth, Porada, and Kott. 3,377,964.

Krahe, Francis J., and S. J. Rybarczyk, to United States Steel Corp. Coil support apparatus. 3,378,248, 4-16-68, Cl. 263—49.

Kramer, David N.: *See*—
Guilbault, George G., and Kramer. 3,378,463.

Krapcho, John, to E. R. Squibb & Sons, Inc. Phenyl lower alkylthio-alkylamino acetanilide derivatives. 3,378,586, 4-16-68, Cl. 260—558.

Kreidler's Metall- und Drahtwerke G.m.b.H.: *See*—
Alt, Rolf V., and Viessmann. 3,378,061.

Krieps, Frank J., to Container Corp. of America. Piston for material dispensing gun cartridge. 3,378,175, 4-16-68, Cl. 222—327.

Krimm, Heinrich: *See*—
Schnell, Hermann, Mylenbusch, and Krimm. 3,378,533.

Krock, Richard H.: *See*—
Larsen, Earl I., Krock, and Jones. 3,378,355.
Larsen, Earl I., Krock, and Jones. 3,378,356.

Kroemer, Robert H., Jr. Food service system. 3,378,105, 4-16-68, Cl. 186—1.

Kroitor, Roman B. Globe navigation simulator. 3,377,719, 4-16-68, Cl. 35—46.

Kroll, Alfred: *See*—
Goodman, Abraham H., Pettinato, Kroll, and Lipka. 3,378,378.

Kroll, Harry, to J. S. Guleserian. Electrodeposition of nickel. 3,378,470, 4-16-68, Cl. 204—49.

Kroll, Henry M.: *See*—
Cooper, Murray S., Danielson, and Kroll. 3,378,443.

Kronk, Richard M., and H. C. Stonecipher, to General Electric Co. Air separation device and liquid delivery system incorporating same. 3,377,779, 4-16-68, Cl. 55—204.

Krueger, Harvey R.: *See*—
Reynolds, Donald S., and Krueger. 3,378,170.

Krueger Mfg. Co., Inc.: *See*—
Von Otto, Robert E. 3,378,198.

Kruik, Huibrecht, to Shell Oil Co. Blending control system. 3,378,024, 4-16-68, Cl. 137—98.

Kucharski, Thaddeus W., F. H. Thomas, and V. A. Quarve, to Eastman Kodak Co. Extrusion die. 3,377,655, 4-16-68, Cl. 18—12.

Kuckens, Alexander, and W. Niehaus, to National Rejectors Inc. Coin-actuated credit-storing-device. 3,378,126, 4-16-68, Cl. 194—100.

Kuhn, William A., to Lear Siegler, Inc. Method of making a bearing. 3,377,681, 4-16-68, Cl. 29—149.5.

Kular, Zenon A., to Northern Electric Co. Ltd. Telephone code ringing circuits. 3,378,644, 4-16-68, Cl. 179—84.

Kupchinski, Edward C. Exercising cot. 3,378,259, 4-16-68, Cl. 272—58.

Kurashiki Rayon Co., Ltd.: *See*—
Yamamoto, Makoto. 3,377,671.

Kurihara, Hiroshi: *See*—
Kawai, Kazuo, and Kurihara. 3,378,637.

LKB-Produkter Aktiebolag: *See*—
Persson, Karl G. A. 3,377,898.

La Bate, Michael E., to Insul Co., Inc. Well cutter. 3,377,920, 4-16-68, Cl. 90—12.

Lafferty, James M., to General Electric Co. Field emission ionization gauge with restricted line of sight between field emission anode and ion collector. 3,378,712, 4-16-68, Cl. 313—7.

La Grassa, Antonio: *See*—
Polk, Edgwin R., and La Grassa. 3,378,423.

Lang, Konrad: *See*—
Horn, Elmar-Manfred, John, and Lang. 3,378,344.

Langecker, Gerhard, to Josef Meissner Kommanditgesellschaft. Distillation and recovery of trioxane from aqueous formaldehyde-acidic catalyst solutions. 3,378,468, 4-16-68, Cl. 203—44.

Langmuir, Robert V., to California Institute Research Foundation. Method of operating a laser as a super-regenerative detector. 3,378,686, 4-16-68, Cl. 250—199.

Lanham, William M., to Union Carbide Corp. Stabilized polyols. 3,378,497, 4-16-68, Cl. 252—182.

Lankow, Norman L. Shockproof auto seat and seat cover. 3,378,726, 4-16-68, Cl. 317—2.

Larrison, Millard S., to First National Bank of Morgantown. Tetrachloro bisphenol and phosphite resins. 3,378,524, 4-16-68, Cl. 260—47.

Larsen, Earl I., R. H. Krock, and C. R. Jones, to P. R. Mallory & Co., Inc. Composites of beryllium-copper-zinc. 3,378,355, 4-16-68, Cl. 29—182.1.

Larsen, Earl I., R. H. Krock, and C. R. Jones, to P. R. Mallory & Co., Inc. Composites of beryllium-copper-magnesium. 3,378,356, 4-16-68, Cl. 29—182.1.

Larson, Wesley S.: *See*—
Richardson, Henry M., Alberghini, Wiley, and Larson. 3,377,657.

Larson, Wesley S., to Olin Mathieson Chemical Corp. Plastic cartridge case. 3,377,951, 4-16-68, Cl. 102—43.

Lasater, Reginald M., to Halliburton Co. Process for treating a sodium chloride brine to inhibit precipitation of sodium chloride from said brine. 3,378,489, 4-16-68, Cl. 252—8.55.

Latuff Bros., Inc.: *See*—
Latuff, Joseph J., and Friend. 3,377,834.

Latuff, Joseph J., and G. R. Friend, to Latuff Bros., Inc. Automotive vehicle frame straightening device. 3,377,834, 4-16-68, Cl. 72—293.

Lavery, Brian O.: *See*—
Walls, Gordon W., Knothe, and Lavery. 3,377,792.

Law, Derek A.: *See*—
Braid, Milton, and Law. 3,378,491.

Lawless, Norman D.: *See*—
Eick, Albert R., Racine, and Lawless. 3,377,698.

Lawrence, John S., to Browning Industries, Inc. Lever action trigger system. 3,377,731, 4-16-68, Cl. 42—20.

Lawter, Raymond L., to Dura Corp. Apparatus for the reclamation of liquids used in vehicle washing. 3,378,018, 4-16-68, Cl. 134—109.

Lazar, Nandor. Continuously supplied paint applicator. 3,378,329, 4-16-68, Cl. 401—218.

Lear Siegler, Inc.: *See*—
Grover, David N., and Crane. 3,378,847.
Kuhn, William A. 3,377,681.

Lebow Associates, Inc.: *See*—
Lebow, Milton J. 3,377,849.

Lebow, Milton J., to Lebow Associates, Inc. Torque sensing apparatus. 3,377,849, 4-16-68, Cl. 73—134.

Lecoco, Alfred: *See*—
Baur, Alain, and Lecoco. 3,378,343.

Leding, Francis R., to United States Gypsum Co. Calcining kettle discharge apparatus. 3,378,246, 4-16-68, Cl. 263—26.

Leddy, James J., to The Dow Chemical Co. Method of preparing composite pigments. 3,378,386, 4-16-68, Cl. 106—288.

Lee, Denis E., to Joseph Lucas (Industries) Ltd. Nested ring valve. 3,378,029, 4-16-68, Cl. 137—512.1.

Lee Electric, Inc.: *See*—
Abramowitz, Mark H. 3,378,663.

Lee, Henry L., Jr., to Callery Chemical Co. Foamed epoxy resin using trialkoxyboroxines as catalytic blowing agents. 3,378,504, 4-16-68, Cl. 260—2.

Lee Heydenreich: *See*—
Bambach, Fritz J. 3,378,210.

Lee, Shu, to United Aircraft Corp. Inertial platform trimming system. 3,377,854, 4-16-68, Cl. 73—178.

Leesona Corp.: *See*—
Diotalevi, Mario J., and Dixon. 3,378,404.
Rosansky, Martin G. 3,378,406.

Leilich, Hans-Otto G., to International Business Machines Corp. Magnetic thin film memory apparatus with elongated aperture. 3,378,821, 4-16-68. Cl. 340—174.

Leissler, Lee Ross, to J. S. Cochran, Jr. Circulating whipstock. 3,378,087, 4-16-68, Cl. 175—83.

Leistra, Johannes L., to North American Philips Co., Inc. Device for testing yarns. 3,377,852, 4-16-68, Cl. 73—160.

Leitz, Ernst G.m.b.H.: *See*—
Mulch, Hans. 3,377,917.

Le Lacheur, Robert A.: *See*—
Kasper, Cass S., and Le Lacheur. 3,377,691.

Lemaire, Roland, to Societe Etudes et Fabrications. Manufacture of telephone cables. 3,377,791, 4-16-68, Cl. 57—62.

Lenz, Charles E., to North American Rockwell Corp. Digital reference source. 3,378,692, 4-16-68, Cl. 307—106.

Leonard, John R., and J. W. Terry, to Mobil Oil Corp. Underwater wellhead. 3,378,067, 4-16-68, Cl. 166—.5

Le Sante, Jorge R. Hair piece. 3,377,628, 4-16-68, Cl. 2—207.

Les Bernard, Inc.: *See*—
Joy, Lester M., Nino, and Shapiro. 3,377,819.

Letellier, Bernard, to CSF-Compagnie Generale de Telegraphie Sans Fil. Direction-finding electromagnetic wave receivers using multiple beam antennas. 3,378,849, 4-16-68, Cl. 343—113.

Letzel, Karl: *See*—
Froitzheim, Hans, and Letzel. 3,378,278.

Levy, Ralph: *See*—
Robinson, Stephen J., Levy, and Alcock. 3,378,787.

Lewis, John G.: *See*—
Royer, Neal B., Dederick, and Lewis. 3,378,709.

Lewis, Karl R. Bolt mechanism for bolt action type firearm and mechanism used therein for converting rotary motion to reciprocating and rotary motion. 3,377,730, 4-16-68, Cl. 42—16.

Lewis, Robert E. Ski pole strap safety attachment means. 3,378,272, 4-16-68, Cl. 280—11.37.

Lewis, Robert E., and R. G. Mentag. Safety releasable ski pole strap means. 3,378,273, 4-16-68, Cl. 280—11.37.

Leypold, Dieter, to Siemens Aktiengesellschaft. Remotely controllable transmitter. 3,378,774, 4-16-68, Cl. 325—184.

Leyssens, Francois, J. C.: *See*—
Ghys, Lodewijk V. H. M., and Leyssens. 3,378,655.

Liberman, Arnold J., to Electric Products Mfg. Co. Electromagnetic winding having coil wrapper with window insulating flaps. 3,378,800, 4-16-68, Cl. 336—192.

Libby, Hugo L.: *See*—
Green, Donald R., and Libby. 3,378,685.

Lichten, Robert L., and K. G. Wernicke, to Bell Aerospace Corp. Hub restraint. 3,378,083, 4-16-68, Cl. 170—160.27.

Lietzke, Armin F.: *See*—
Rom, Frank E., Lietzke, and Hyland. 3,378,455.

Lin, Hung C., to Westinghouse Electric Corp. Transistor amplifier. 3,378,780, 4-16-68, Cl. 330—24.

Linden, Heinz: *See*—
Heins, Arnold, Offermann, and Linden. 3,378,531.

Ling-Temco-Vought, Inc.: *See*—
Livengood, Ray K., and Miller. 3,378,739.

Liou, Shu-Lien. Burglar alarm system. 3,378,832, 4-16-68, Cl. 340—274.

Lipka, David H.: *See*—
Goodman, Abraham H., Pettinato, Kroll, and Lipka. 3,378,378.

Liska, Manfred: *See*—
Poppinger, Herbert, Volkman, and Liska. 3,378,753.

Lissant, Kenneth J., to Petrolite Corp. Method of resolving thixotropic jet and rocket fuel emulsions. 3,378,418, 4-16-68, Cl. 149—109.

Lithium Corp. of America, Inc.: *See*—
Bach, Ricardo O. 3,378,337.

Little, Edwin D., to Allied Chemical Corp. Process of preparing copolymers of tris (2-hydroxyethyl) isocyanurate and formaldehyde. 3,378,530, 4-16-68, Cl. 260—67.6.

Little, Lawrence L., to The Battelle Development Corp. Method of preparing acidified dairy products. 3,378,375, 4-16-68, Cl. 99—59.

Littwin, Arthur K., to Arthur K., Robert L., and Donald F. Littwin, and Horace A. Young. Method of demagnetizing. 3,378,734, 4-16-68, Cl. 317—157.5.

Littwin, Arthur K., Robert L., and Donald F., and Horace A. Young: *See*—
Littwin, Arthur K. 3,378,734.

Livengood, Ray K., and R. N. Miller, to Ling-Temco-Vought, Inc. Servo amplifier including filter means for reducing response time. 3,378,739, 4-16-68, Cl. 318—18.

Lloyd, Maurice E.: *See*—
Guy, Anthony R., and Lloyd. 3,377,884.

Lobbe, Armin, to Gewerkschaft Eisenhutte Westfalia. Planer, conveyor and/or guide arrangement for extracting mineral. 3,378,306, 4-16-68, Cl. 299—34.

Lockheed Aircraft Corp.: *See*—
Smith, Bruce W. 3,378,369.

Lodding Engineering Corp.: *See*—
Budzinski, Daniel M., and Grenier. 3,377,644.
Dapses, William P. 3,377,645.

Loev, Bernard, and D. T. Walz, to Smith Kline & French Laboratories. Compositions for producing analgesia and antipyresis. 3,378,442, 4-16-68, Cl. 167—65.

Loewy Engineering Co. Ltd.: *See*—
Singleton, Peter. 3,377,832.

Loffler, Beate Elisabeth: *See*—
Puschel, Walter, Schellenberger, Loffler, Wahl, and Pelz. 3,378,554.

Loffler, Claudia M.: *See*—
Puschel, Walter, Schellenberger, Loffler, Wahl, and Pelz. 3,378,554.

Loffler, Karl: *See*—
Puschel, Walter, Schellenberger, Loffler, Wahl, and Pelz. 3,378,554.

Loffler, Klaus R.: *See*—
Puschel, Walter, Schellenberger, Loffler, Wahl, and Pelz. 3,378,554.

Loffler, Monika L.: *See*—
Puschel, Walter, Schellenberger, Loffler, Wahl, and Pelz. 3,378,554.

Lohrenz, Victor: *See*—
Wheeler, Donald J., and Lohrenz. 3,378,185.

Lomer, Geoffrey J., to Electric & Musical Industries Ltd. Distortion reducing modulator. 3,378,632, 4-16-68, Cl. 178—5.4.

Longo, Frank N., to Metco. Inc. High temperature flame spray powder and process. 3,378,392, 4-16-68, Cl. 117—93.1.

Longobardi, Felice. Razor blade holder. 3,377,703, 4-16-68, Cl. 30—330.

Lookabaugh, Clair E. Collapsible stacking receptacle. 3,378,161, 4-16-68, Cl. 220—6.

Lopez, Luis M., to McCaffrey-Ruddock Tagline Corp. Hydraulically operated tagline rewind mechanism. 3,378,158, 4-16-68, Cl. 214—657.

Lorenz, John W.: *See*—
Ringquist, Clarence L., and Lorenz. 3,378,062.

Lovett, John R., to Esso Research and Engineering Co. Hydrazine nitroform and method of preparation. 3,378,594, 4-16-68, Cl. 260—644.

Lovett, John R.: *See*—
Brown, John A., and Lovett. 3,378,595.

Lowenschuss, Oscar, to Raytheon Co. Method and apparatus for testing phased array antennas. 3,378,846, 4-16-68, Cl. 343—100.

Loynd, James, to Kimberly-Clark Corp. Felt and fabric press type papermaking machine. 3,378,435, 4-16-68, Cl. 162—273.

Lubin, Eunice E. Tassel-holding display device. 3,378,136, 4-16-68, Cl. 206—45.14.

Lucas, Joseph (Industries) Ltd.: *See*—
Adams, Derek S., and Phillips. 3,377,998.
Baker, Alfred D. 3,378,708.
Lee, Denis E. 3,378,029.
Pater, Edward H., and Matthews. 3,378,665.

Lucas, William R., to United Aircraft Corp. Foot control and adjustment linkage. 3,377,881, 4-16-68, Cl. 74—512.

- Ludwig, Howard C., to Westinghouse Electric Corp. High intensity radiation source comprising rotating arc. 3,378,713, 4–16–68, Cl. 313—32.
- Luehrs, Hans J., to The Cottrell Co. Stacker with horizontal packer box and vertically disposed signatures. 3,378,258, 5–16–68, Cl. 271—89.
- Lumidor Products Corp.: *See*—
  - Glover, George B., IV. 3,378,807.
- Lutz, Wilson B., to Warner-Lambert Pharmaceutical Co. Process for the production of 3,4-dihydroxybenzyloxy-aminehydrobromide. 3,378,592, 4–16–68, Cl. 260—621.
- Luzzatto, Giorgio, to Societa Italiana Telecommunicazioni Siemens S.p.A. Heterodyne generators in microwave radio system repeaters. 3,378,769, 4–16–68, Cl. 325—11.
- Lyles, George R.: *See*—
  - Dowling, Fred B., Choppin, and Lyles. 3,377,868.
- Lynn, Scott, and J. N. Wilson, to The Dow Chemical Co. Electrical slider switch. 3,378,653, 4–16–68, Cl. 200—16.
- Lyon, Floyd A., E. Schatzki, A. Arnell, and C. R. Konazewski, to Halm Instrument Co., Inc. Automatic wrapping means. 3,377,772, 4–16–68, Cl. 53—229.
- Lyons, Harold D.: *See*—
  - Nowlin, Gene, and Lyons. 3,378,539.
- Maatsch, Jurgen: *See*—
  - Borowski, Kurt, Kluth, and Maatsch. 3,378,366.
- Maatschappij Van Berkel's Patent N.V.: *See*—
  - Dekker, Launcelot, and Ryan. 3,378,052.
- MacKenzie, John D., to Gener[illegible]lectric Co. Method for making thin film glass elements. [illegible]78,362, 4–16–68, Cl. 65—21.
- Macovski, Albert, to Stanford Research Institute. Monochrome photography system for color television. 3,378,633, 4–16–68, Cl. 178—5.4.
- Macovski, Albert, to Stanford Research Institute. System for scanning color encoded film with a monochrome television camera. 3,378,634, 4–16–68, Cl. 178—5.4.
- Madeley, Robert, to Fielding & Platt Ltd. Metal extrusion presses. 3,377,833, 4–16–68, Cl. 72—263.
- Madison, Robert W., to Otis Elevator Co. Elevator control with predetermined number of zones, predetermined number of floors per zone, and predetermined number of cars assigned to each zone. 3,378,107, 4–16–68, Cl. 187—29.
- Madnick Herman, to United States of America, Army. Method of making a curved palm hand covering. 3,377,627, 4–16–68, Cl. 2—169.
- Magerl, Johann: *See*—
  - Traub, Karl, and Magerl. 3,378,794.
- Magers, Leroy, Jr., to The Preload Co. Prestressed structure. 3,377,757, 4–16–68, Cl. 52—224.
- Magill, Robert H.: *See*—
  - Grant, John C., and Magill. 3,378,088.
- Maidenform, Inc.: *See*—
  - Bruno, Enrico. 3,378,013.
- Mallory, P. R. & Co., Inc.: *See*—
  - Larsen, Earl I., Krock, and Jones. 3,378,355.
  - Larsen, Earl I., Krock, and Jones. 3,378,356.
  - Vale, John S., and Pomerantz. 3,378,736.
- Mallory, Russell W. Simplified roll tape dispensing knife. 3,378,184, 4–16–68, Cl. 225—66.
- Malm, Elof. Combination scullingand surfboard. 3,377,977, 4–16–68, Cl. 115—28.
- Mandl, Matthew, to Snyder Mfg. Co. Two-element antenna phasing attachment for television receiver. 3,378,850, 4–16–68, Cl. 343—702.
- Mangeney, Gerard L. A., and J. P. E. Pechmeze, to Etablissements Kuhlmann. Detergent compositions useful for dry cleaning. 3,378,496, 4–16–68, Cl. 252—161.
- Manning, Harry F.: *See*—
  - Carlile, Alfred E., and Manning. 3,377,668.
- Mansfield, Herman, and J. C. Hoo, to Norma-Hoffmann Bearings Co. Quench hardening method for ring-like articles. 3,378,412, 4–16–68, Cl. 148—130.
- Mantes, T. R., Co., Inc.: *See*—
  - Mattimoe, George E., Stehn, and Swan. 3,377,775.
- Marconi Co. Ltd., The: *See*—
  - Mortley, Wilfrid S. 3,378,793.
  - Preston, Brian, and Carroll. 3,378,697.
- Marek, Otto V. Locket having spring-closed doors and pull string for opening same. 3,377,818, 4–16–68, Cl. 63—19.
- Marette, George F., to Sperry Rand Corp. Integrated majority logic circuit utilizing base-connected parallel-transistor pairs and multiple-emitter transistor. 3,378,695, 4–16–68, Cl. 307—211.
- Marian, Josef E. Method and apparatus for manufacture of laminated objects comprised of wood and similar vegetable fibrous materials. 3,378,425, 4–16–68, Cl. 156—380.
- Marin, Glenn R., to The Carborundum Co. Method of joining electrode bodies of dissimilar thermal coefficients of expansion. 3,378,022, 4–16–68, Cl. 13—18.
- Marker, Hannes. Safety ski binding. 3,378,270, 4–16–68, Cl. 280—11.35.
- Markowitz, Jerome, to Allen Organ Co., Inc. Electrical musical instrument with tremolo. 3,378,624, 4–16–68, Cl. 84—1.25.
- Maroth, Arthur M. Mechanical drive. 3,377,878, 4–16–68, Cl. 74—424.8.
- Marrie, Paul, to Societe Nouvelle d'Exploitation des Etablissements Boilot-Petolat. Tower crane rotatable on its base. 3,378,147, 4–16–68, Cl. 212—46.
- Marsh, Kenneth R. Combined junk basket. 3,378,089, 4–16–68, Cl. 175—308.
- Marshall, Douglas W., and E. A. Pett, to Norton Co. Apparatus for making crystal abrasive. 3,377,660, 4–16–68, Cl. 18—26.
- Marti, Milford F., to The Dayton Steel Foundry Co. Axle and spring assembly. 3,378,250, 4–16–68, Cl. 267—52.
- Martin-Marietta Corp.: *See*—
  - Bryan, Wilson J., Jr., and Griffith. 3,378,568.
  - Morse, Jerome G. 3,378,475.
  - Varsos, Spyros G., and Douglas. 3,378,641.
- Martin, Frank A. Device for toasting the interior of buns. 3,377,943, 4–16–68, Cl. 99—419.
- Martin, Jean, and J. R. Andrieu, to Societe d'Etudes Chimiques Pour l'Industrie et l'Agriculture. Process for the preparation of potassium phosphate. 3,378,340, 4–16–68, Cl. 23—106.
- Martin, Johannes J. Chute. 3,378,124, 4–16–68, Cl. 193—2.
- Martin, John H.: *See*—
  - Hilden, Richard H., Martin, Mills, and Winje. 3,378,778.
- Martin, Robert W., to Shell Oil Co. Epithio compounds, their preparation and polymers. 3,378,522, 4–16–68, Cl. 260—47.
- Martin, Thomas B., Jr., to Micro Pump Corp. Magnetic transmission. 3,378,710, 4–16–68, Cl. 310—104.
- Marvin, Ira E., to General Electric Co. Temperature indicating means for gas turbine engines. 3,377,848, 4–16–68, Cl. 73—117.3.
- Marx, Louis, & Co., Inc.: *See*—
  - Bax, Glenn R., and Dohanic. 3,377,958.
- Mason, Richard A.: *See*—
  - Chalmers, Alexander A., Fried, and Mason. 3,377,762.
- Masters, Fredrick J. Combination watch depth meter. 3,377,860, 4–16–68, Cl. 73—291.
- Masure, Jean L.: *See*—
  - Adelaar, Hans H., Masure, and Chu. 3,378,818.
- Matsushita Electric Industrial Co., Ltd.: *See*—
  - Sasaki, Hiromu. 3,378,350.
- Mattel, Inc.: *See*—
  - Ryan, John W. 3,377,741.
- Matthews, Benjamin W.: *See*—
  - Pater, Edward H., and Matthews. 3,378,665.
- Matthews, Russell B.: *See*—
  - Dietz, Gerald E. and Matthews. 3,378,732.
- Matthey, Maurice L., to Tarex S.A. Automatic lathe. 3,377,680, 4–16–68, Cl. 29—65.
- Mattimoe, George E., E. L. Stehn, and D. G. Swan, to T. R. Mantes Co., Inc. Container filling and closing device. 3,377,775, 4–16–68, Cl. 53—381.
- Matyas, John. Folding door construction. 3,378,058, 4–16–68, Cl. 160—118.
- Maurice, Jean, to Societe Anonyme Francaise du Ferodo. Centrifugal fluid operated clutch for connecting fluid coupling to transmission. 3,378,118, 4–16–68, Cl. 192—3.33.
- Mawby, Harold S., to Electro-Voice, Inc. Pressure gradient directional microphone. 3,378,649, 4–16–68, Cl. 179—121.
- Mayer, Raymond E. Kitchen cabinet construction. 3,378,325, 4–16–68, Cl. 312—349.
- McAlpine, William R., to Sanford Industries, Inc. Connector plate. 3,377,905, 4–16–68, Cl. 85—13.
- McCabe-Powers Body Co.: *See*—
  - Zwight, Daniel H., and Mitchell. 3,378,103.
- McCaffrey-Ruddock Tagline Corp.: *See*—
  - Lopez, Luis M. 3,378,158.
- McCann, Gary D. Automatic fruit picker head. 3,377,787, 4–16–68, Cl. 56—328.
- McClean, William G., to A. O. Smith Corp. Apparatus for winding articles. 3,378,427, 4–16–68, Cl. 156—431.
- McClure, Glenn T., and W. K. Mong, to Westinghouse Air Brake Co. Fluid pressure operated brake apparatus for railway car trucks. 3,378,108, 4–16–68, Cl. 188—52.
- McConnaughey, Paul W., to Mine Safety Appliances Co. Indicator for the determination of sulfur dioxide and hydrogen sulfide. 3,378,348, 4–16–68, Cl. 23—254.
- McCormick, William C. Rail clip. 3,378,200, 4–16–68, Cl. 238—349.
- McCraney, Bruce L. Thermometer with improved visibility temperature reading scale means. 3,377,863, 4–16–68, Cl. 73—368.3.
- McCreight, Donald O., E. D. Miller, Jr., and S. R. Pavlica, to Harbison-Walker Refractories Co. High alumina brick. 3,378,385, 4–16–68, Cl. 106—65.
- McDonel, Everett T.: *See*—
  - Hamed, Parviz, and McDonel. 3,378,508.
  - Hamed, Parviz, and McDonel. 3,378,512.
- McDonnell Douglas Corp.: *See*—
  - Hamilton, Vern E. 3,378,421.
  - Hamilton, Vern E. 3,378,636.
- McDonough, John J., to Scott & Williams, Inc. Needle cylinder assembly for knitting machines. 3,377,823, 4–16–68, Cl. 66—115.
- McFarland, William H., to Inland Steel Co. Martensitic steel. 3,378,360, 4–16–68, Cl. 29—196.4.
- McFerrin, William D. Explosive composition containing inorganic nitrate salt of particular size distribution. 3,378,417, 4–16–68, Cl. 149—39.
- McGraw-Edison Co.: *See*—
  - Stewart, Jack De M. 3,378,178.
- McGregor, Robert J. Magnetic broom. 3,377,641, 4–16–68, Cl. 15—105.
- McGurn, Terence J.: *See*—
  - Hilsenrath, Manfred, and McGurn. 3,378,765.
- McIntyre, Maurice J., L. O. Cheldelin, and T. J. Reynolds, to The Humboldt Co. Regenerative interlocking yarder system. 3,378,232, 4–16–68, Cl. 254—185.
- McIver, George W., to TRW Inc. Traveling wave transistor. 3,378,738, 4–16–68, Cl. 317—235.
- McKenzie, Edwin C., to Babcock & Wilcox, Ltd. Control of vertical banks of oil burners. 3,378,202, 4–16–68, Cl. 239—76.
- McLachlan, Eugene K.: *See*—
  - Pullen, Frederick R., and McLachlan. 3,378,247.

- McLeod, David P. J.: *See*—
  - Rockwood, Albert M., Gautraud, McLeod, and Dragone. 3,378,275.
- McMiller, Urban C., to Karpak Co. Ski racks for carriers. 3,378,182, 4–16–68, Cl. 224—29.
- McMullen, John J., Associates, Inc.: *See*—
  - Field, Sheldon B. 3,377,975.
- McMurray, George F.: *See*—
  - Ferdig, Earl W. 3,378,233.
- McNeil Laboratories, Inc.: *See*—
  - Mohrbacher, Richard J., Poos, and Roszkowski. 3,378,566.
- Medney, Jonas, to Koppers Co., Inc. Apparatus for forming continuous helical coils of resin bonded glass fibers. 3,378,426, 4–16–68, Cl. 156—430.
- Mefferd, Richard L. Thermostat control valve. 3,378,063, 4–16–68, Cl. 165—40.
- Meier, Erich: *See*—
  - Brandt, Hans-Walther, Schleppinghoff, Bitners, and Meier. 3,378,465.
- Meissner, Josef, Kommanditgesellschaft: *See*—
  - Langecker, Gerhard. 3,378,468.
- Mellon National Bank and Trust Co.: *See*—
  - Baker, Benjamin P. 3,378,729.
- Meltzer, Robert I.: *See*—
  - Brown, Richard E., and Meltzer. 3,378,560.
- Mencacci, Samuel A., to International Machinery Corp. Container handling system. 3,378,129, 4–16–68, Cl. 198—22.
- Mendelsohn, Morris A., and D. A. Rogers, Jr., to Westinghouse Electric Corp. Pressure sensitive thermosetting resinous adhesives and tapes. 3,378,630, 4–16–68, Cl. 174—121.
- Mentag, Robert G.: *See*—
  - Lewis, Robert E., and Mentag. 3,378,273.
- Mentink, Raymond C., and Le R. F. Shadd, to General Electric Co. Fluid sample cell with means to keep constant pressure on the sample fluid. 3,378,684, 4–16–68, Cl. 250—51.5.
- Merck & Co., Inc.: *See*—
  - Bolhofer, William A. 3,378,582.
  - Henry, David W. 3,378,552.
  - Kollonitsch, Janos. 3,378,562.
  - Taub, David, Hoffsommer, and Wendler. 3,378,574.
- Mesmer, Robert E., G. D. Nelson, and J. H. Payne, to Monsanto Co. Process for preparing phosphites. 3,378,342, 4–16–68, Cl. 23—107.
- Messrs. A. Ehrenreich & Cie: *See*—
  - Gottschald, Rudolf. 3,378,286.
- Metallisation Ltd.: *See*—
  - Stanton, Wilfred E. 3,378,203.
- Metcalf, William. Machine usage accounting system. 3,378,831, 4–16–68, Cl. 340—274.
- Metco, Inc.: *See*—
  - Longo, Frank N. 3,378,392.
- Metler, Alvin V., to Mobil Oil Corp. Erosion protection in wells. 3,378,076, 4–16–68, Cl. 166—45.
- Meuli, Rudolf: *See*—
  - Stucky, Fritz C., and Meuli. 3,377,755.
- Meyer, Elliott, and M. Cooper, to Dynamic Classics Ltd. Traveling lamp construction. 3,378,681, 4–16–68, Cl. 240—8.18.
- Meyer, Franz-Josef, and L. Rensmann, to Scholven-Chemie Aktiengesellschaft. Process for the polymerization of unsaturated polyester resins. 3,378,603, 4–16–68, Cl. 260—861.
- Meyers, George L., to American Can Co. Carton. 3,378,188, 4–16–68, Cl. 229—51.
- Michelman, Leonard S., and J. G. Haber. Sparkling spinner. 3,377,739, 4–16–68, Cl. 46—48.
- Micro Pump Corp: *See*—
  - Martin, Thomas B., Jr. 3,378,710.
- Midland-Ross Corp.: *See*—
  - Cone, Carroll, Pinney, and Rinker. 3,378,242.
  - Poe, Lee G., and Ferguson. 3,378,206.
- Midyett, Donald G.: *See*—
  - Keiser, James D., and Midyett. 3,378,558.
- Mifalei Yam Hamelah. B.M.: *See*—
  - Zisner, Tuvia. 3,378,615.
- Miles Laboratories, Inc.: *See*—
  - Denault, Leo J., and Casey. 3,378,462.
- Miller, Eldon D., Jr.: *See*—
  - McCreight, Donald O., Miller, and Pavlica. 3,378,385.
- Miller, Gerald K.: *See*—
  - Wilhoit, Paul J., and Miller. 3,377,658.
- Miller, Herbert B., Jr. Method and apparatus for arranging alpha-numeric indicia. 3,377,728, 4–16–68, Cl. 40—125.
- Miller, Joseph H.: *See*—
  - Eburn, William H., Jr., Miller, and Raymond. 3,378,165.
- Miller, Kenneth F., and M. H. Smith, to Bourns, Inc. Piezoelectric multilayer device. 3,378,704, 4–16–68, Cl. 310—9.
- Miller, Richard S.: *See*—
  - Davidson, John K., and Miller. 3,378,457.
- Miller, Richard: *See*—
  - Smith, James F., and Miller. 3,378,670.
- Miller, Robert F.: *See*—
  - Miller, Roy E. and R. F. 3,378,120.
- Miller, Robert H., to Caterpillar Tractor Co. Governor with two-position low idle stop. 3,377,870, 4–16–68, Cl. 73—543.
- Miller, Robert N.: *See*—
  - Livengood, Ray K., and Miller. 3,378,739.
- Miller, Roy E. and R. F., to General Automated Machinery Corp. Clutch and brake with non-rotatable fluid operator. 3,378,120, 4–16–68, Cl. 192—14.
- Mills, Frederick E.: *See*—
  - Hilden, Richard H., Martin, Mills, and Winje. 3,378,778.
- Milne, George A.: *See*—
  - Boocock, Peter M., and Milne. 3,378,283.
- Milo, Joseph V. Safety shut-off valve. 3,378,021, 4–16–68, Cl. 137—68.
- Min-I-Jet Corp.: *See*—
  - Ogle, Robert W. 3,378,008.
- Minami, Toshiro: *See*—
  - Tanaka, Shigeyoshi, and Minami. 3,378,601.
- Minard, Everett S., to Chemetron Corp. Container filling machine. 3,378,173, 4–16–68, Cl. 222—168.5.
- Mine Safety Appliances Co.: *See*—
  - McConnaughey, Paul W. 3,378,348.
- Miner, W. H., Inc: *See*—
  - Olander, Roland J. 3,378,294.
- Minister of Aviation, in Her Majesty's Government of the United Kingdom of Great Britain and Northern Ireland: *See*—
  - Hurle, Donald T. J., and Mullin. 3,378,409.
- Minnesota Mining and Mfg. Co.: *See*—
  - Kadah, Hassan B. 3,378,698.
  - Kaspaul, Alfred F. and E. E. 3,378,401.
  - Ramboseк, George M. 3,378,399.
- Minton, Clive D. T., and M. G. Edwards, to Imperial Metal Industries (Kynoch) Ltd. Titanium-base alloys. 3,378,368, 4–16–68, Cl. 75—175.5.
- Miracle Products, Inc.: *See*—
  - Beasley, Weldon A. 3,378,331.
- Mische, Friedrich, and F. Holzinger, to Voigtlander A.G. Picture defining frame for albada viewfinders. 3,377,911, 4–16–68 Cl 88—1.5.
- Mishler, Ralph E., L. T. Peart, and D. D. Pettit, to Beckman Instruments, Inc. Variable resistance device. 3,378,802, 4–16–68, Cl. 338—174.
- Mitchell, Carleen B. Disposable package and sanitary station for animals. 3,377,990, 4–16–68, Cl. 119—1.
- Mitchell, John D., and W. R. Hall, to Harrington Mfg. Co. Blower arrangement for peanut dryer. 3,378,065, 4–16–68, Cl. 165—122.
- Mitchell, Robert B.: *See*—
  - Zwight, Daniel H., and Mitchell. 3,378,103.
- Mittelman, Phillip S., to United Nuclear Corp. Reactor system for gamma irradiation. 3,378,447, 4–16–68, Cl. 176—12.
- Mobil Oil Corp.: *See*—
  - Braid, Milton, and Law. 3,378,491.
  - Leonard, John R., and Terry. 3,378,067.
  - Metler, Alvin V. 3,378,076.
  - Savins, Joseph G. 3,378,073.
  - Straus, Andrew J. D., and Zemanek. 3,378,097.
- Model Products Corp.: *See*—
  - Sheldon, Philip, and Bacsanyi. 3,377,742.
- Modern Metal Products Co.: *See*—
  - Beckman, Ernest C., and Anderson. 3,378,289.
- Moerke, Edward C.: *See*—
  - Riolo, Carl R., and Moerke. 3,378,019.
- Moessinger, Albert. Weft control means in a gripper loom. 3,378,040, 4–16–68, Cl. 139—122.
- Moessinger, Albert. Shuttle drive. 3,378,041, 4–16–68, Cl. 139—125.
- Mohrbacher, Richard J., G. I. Poos, and A. P. Roszkowski, to McNeil Laboratories, Inc. Certain 5-(R-R_1-R_2-methyl)-7-(R_3-R_4-methylene)-(R_5)-5-norbornene-2,3-dicarboximides. 3,378,566, 4–16–68, Cl. 260—295.
- Mommsen, Gordon V., and M. J. Straub, to Possis Machine Corp. Airflow mandrel. 3,377,984, 4–16–68, Cl. 118—69.
- Mong, William K.: *See*—
  - McClure, Glenn T., and Mong. 3,378,108.
- Monsanto Co.: *See*—
  - Baer, Massimo. 3,378,605.
  - Davis, Walter M. 3,377,945.
  - Mesmer, Robert E., Nelson, and Payne. 3,378,342.
- Monsanto Research Corp.: *See*—
  - Blake, Edward S. 3,378,578.
- Montecatini Edison S.p.A.: *See*—
  - Fauser, Giacomo. 3,378,585.
- Montgomery, Warren G.: *See*—
  - Bennett, John E., and Montgomery. 3,378,308.
- Montzka, Thomas A., to Bristol-Myer Co. 1-β-arylthioethyl-tetrahydroisoquinolines. 3,378,561, 4–16–68, Cl. 260—286.
- Mooney, David H., Jr., to United States of America, Army. Transmitter system for aperture added radars. 3,378,840, 4–16–68, Cl. 343—14.
- Mooney, David H., Jr., to United States of America, Army. Dual transmitter system for reliability. 3,378,841, 4–16–68, Cl. 343—14.
- Mooney, David H., Jr., and S. D. Coleman, Jr., to United States of America, Army. Sectorization for aperture added radars. 3,378,835, 4–16–68, Cl. 343—5.
- Mooney, James J., Jr.: *See*—
  - Tuck, Robert M., Mooney, and Smith. 3,377,885.
- Moore, William R., and J. T. Zeigler, to General Electric Co. Marking incremental lengths of insulated foil strip electrodes in equal capacitances in response to integrated speed and capacitance signals. 3,378,767, 4–16–68, Cl. 324—71.
- Morch, J., & Sonner A/G: *See*—
  - Christensen, Hans. 3,378,310.
- Mordhorst, Gerald D., to Cryogenic Engineering Co. Storage container. 3,377,813, 4–16–68, Cl. 62—45.
- More, Robert P., to Eversharp, Inc. Safety razor with operating knob and stop arrangement. 3,377,701, 4–16–68, Cl. 30—60.5.
- Morgan Construction Co.: *See*—
  - Hill, William J. 3,377,944.
- Morgan, John P., to Unisearch Ltd. Nondestructive testing device for testing wire ropes and similarly shaped objects. 3,378,761, 4–16–68, Cl. 324—37.
- Morgan, Stanley E., and N. L. Kingsley, to Westinghouse Electric Corp. Modular constructed enclosure for mounting equipment therein. 3,378,320, 4–16–68, Cl. 312—108.

- Mori, Tsuneji. Shuttle box for embroidered lace machines. 3,377,970, 4–16–68, Cl. 112—95.
- Moriya, Toshihiko, to Nihon Vinylon Co., Ltd. Half-soluble special fabric and a method of manufacturing embroidery lace thereon. 3,377,678, 4–16–68, Cl. 28—76.
- Morrice, Anthony R. S. Construction in trench of pipelines and similar operations. 3,377,806, 4–16–68, Cl. 61—41.
- Morse, Jerome G., to Martin-Marietta Corp. Process for the fixation of nitrogen by means of high energy ionizing radiation. 3,378,475, 4–16–68, Cl. 204—157.1.
- Mortley, Wilfrid S., to The Marconi Co. Ltd. Dispersive delay cells. 3,378,793, 4–16–68, Cl. 333—30.
- Morton, William A., to Sunbeam Corp. Lehr with transverse temperature control. 3,378,243, 4–16–68, Cl. 263—8.
- Moscarini, Flaviano. Variable area rate-of-flow meter. 3,377,857, 4–16–68, Cl. 73—207.
- Mosher, Ralph S., to General Electric Co. Pressure control valve. 3,378,028, 4–16–68, Cl. 137—493.
- Motor-Columbus A.G.: *See*—
  - Eichenberger, Ernst, and Ramel. 3,378,813.
- Mousel, Canellen K. Wheel jack and carrier. 3,378,154, 4–16–68, Cl. 214—332.
- Movable Interior Products: *See*—
  - Polhamus, Harry M. 3,377,756.
- Movielab, Inc.: *See*—
  - Jeffee, Saul. 3,377,914.
- Movit Industrieanstalt: *See*—
  - Schweitzer, Eugen. 3,378,707.
- Moxley, Elmer D. Combined illuminated coaster and holder. 3,378,680, 4–16–68, Cl. 240—6.4.
- Moyer, James D., to Textile Machine Works. Positive yarn feeding means for circular knitting machines. 3,377,824, 4–16–68, Cl. 66—132.
- Muhler, Joseph C., to Indiana University Foundation. Prophylactic dental paste compositions comprising zirconium silicate and tin dioxide. 3,378,445, 4–16–68, Cl. 167—93.
- Mulch, Hans, to Ernst Leitz, G.m.b.H. Magazine slide projector. 3,377,917, 4–16–68, Cl. 88—28.
- Mullin, John B.: *See*—
  - Hurle, Donald T. J., and Mullin. 3,378,409.
- Muskegon Piston Ring Co.: *See*—
  - Hamm, Douglas W., Nisper, and Hardick. 3,377,682.
- Muyskens, Donald L.: *See*—
  - Joy, Ivan L., Hoffsommer, Reiter, and Muyskens. 3,378,836.
- Myers, Joseph T., to Highway Products, Inc. Motor vehicle. 3,378,094, 4–16–68, Cl. 180—64.
- Mylenbusch, Helmut: *See*—
  - Schnell, Hermann, Mylenbusch, and Krimm. 3,378,533.
- N.V. Optische Industrie de Oude Delft: *See*—
  - Nawijn, Arjen. 3,378,388.
- Nakamura, Katsumi: *See*—
  - Kawasaki, Shigeo, and Nakamura. 3,378,501.
- Nalco Chemical Co.: *See*—
  - Hummel, Louis E. 3,378,581.
- Napoli, Louis S., and G. A. Swartz, to Radio Corp. of America. Fast wave transmission line coupled to a plasma. 3,378,723, 4–16–68, Cl. 315—39.
- Nasu, Kuniharu: *See*—
  - Sando, Yoshikazu, and Nasu. 3,377,825.
- National Aeronautics and Space Administration: *See*—
  - Webb, James E. 3,378,315.
- National Cash Register Co., The: *See*—
  - Kaufman, Bruce A., and Ulzurrum. 3,378,822.
  - Kaufman, Bruce A., and Ulzurrum. 3,378,823.
- National Dairy Products Corp.: *See*—
  - Bell, Kenneth, Porada, and Kott. 3,377,964.
- National Heating & Cooling Mfg. Corp.: *See*—
  - Andrews, Roy. 3,378,034.
- National Lock Co.: *See*—
  - Beckman, Melvin H. 3,377,763.
  - Spon, Carroll V. 3,378,292.
- National Rejectors Inc.: *See*—
  - Kuckens, Alexander, and Niehaus. 3,378,126.
- Nauchno-Issledovatelsky Institute Tekhnolggii Avtomobilnoi Promyshlennosti: *See*—
  - Ivanov, Konstantin P., Kirichinsky, and Butuzov. 3,377,829.
- Naul, George M., and A. W. Roberts, to Westinghouse Electric Corp. Laminated shuttle blank. 3,378,043, 4–16–68, Cl. 139—196.
- Naundorf, Charles H., and J. T. Pavel. High pressure fluid flow measurement and/or control. 3,378,226, 4–16–68, Cl. 251—298.
- Nave, Vincent. Anchor bolt assembly. 3,377,807, 4–16–68, Cl. 61—45.
- Nawijn, Arjen, to N.V. Optische Industrie de Oude Delft. Method for manufacturing fluorescent X-ray screens. 3,378,388, 4–16–68, Cl. 117—7.
- Naylor, Robert W., to CTS of Canada, Ltd. Silicon controlled rectifier inverter. 3,378,752, 4–16–68, Cl. 321—18.
- Neal, Charles M., to Thiokol Chemical Corp. Hydrostatic and dynamic testing apparatus. 3,377,841, 4–16–68, Cl. 73—37.
- Neal, Jerry: *See*—
  - Bates, Donald L., and Neal. 3,377,966.
- Nelson, David G., to Aluminum Co. of America. Package. 3,378,172, 4–16–68, Cl. 222—153.
- Nelson, George D.: *See*—
  - Mesmer, Robert E., Nelson, and Payne. 3,378,342.
- Nelson, Laurence T., to Strecton Industries Inc. Lined containers. 3,377,766, 4–16–68, Cl. 53—27.
- Nelson, Paul C., and L. E. Rutz, to Houdaille Industries, Inc. Turret punch press. 3,377,887, 4–16–68, Cl. 74—822.
- Neumann, Wolfram: *See*—
  - Knipp, Ulrich, Neumann, Awater, and Oertel. 3,378,517.
- New Nippon Electric Co., Ltd.: *See*—
  - Kaneda, Isao, Kanayama, Kitagawa, and Kita. 3,378,724.
- New York Air Brake Co., The: *See*—
  - Cary, Francis H. 3,378,030.
  - Cola, Pasco A., and Turtle. 3,377,855.
  - Soscia, Bamby L. 3,378,816.
- Newell, George K., to Westinghouse Air Brake Co. Valve device. 3,378,227, 4–16–68, Cl. 251—304.
- Newland, Gordon C., and J. W. Tamblyn, to Eastman Kodak Co. Ultraviolet light stabilized polypropylene with hydroxyanthraquinones. 3,378,519, 4–16–68, Cl. 260—45.95.
- Newman, Howard, and R. B. Angier, to American Cyanamid Co. Process of preparing the ring B carbon analog of griseofulvin. 3,378,589, 4–16–68, Cl. 260—590.
- Newton, Harold G., to The Dow Chemical Co. Polymeric urethane compositions. 3,378,511, 4–16–68, Cl. 260—31.8.
- Neuville, Morris L., and R. B. Carroll, to Ansul Chemical Co Defoliation of plants. 3,378,364, 4–16–68, Cl. 71—70.
- Nicholls, Arthur M.: *See*—
  - Ellis, John D., and Nicholls. 3,378,335.
- Nieder, Pietro: *See*—
  - Oddicini, Renzo, and Nieder. 3,378,060.
- Niehaus, Wolfgang: *See*—
  - Kuckens, Alexander, and Niehaus. 3,378,126.
- Nigrelli, Biagio J., W. E. Standley, and J. I. Wittmann, to John-Nigrelli-Johns, Inc. Case loader for multiple articles. 3,377,774, 4–16–68, Cl. 53—250.
- Nihon Vinylon Co., Ltd.: *See*—
  - Moriya, Toshihiko. 3,377,678.
- Nimerick, Kenneth H., to The Dow Chemical Co. Corrosion inhibitor and method of inhibiting corrosion in oil wells. 3,378,488, 4–16–68, Cl. 252—8.55.
- Ninet, Leon, J. A. Renaut, and R. C. F. Tissier, to Rhone-Poulenc S.A. Process for the production of β-carotene. 3,378,460, 4–16–68, Cl. 195—28.
- Nino, Jesu: *See*—
  - Joy, Lester M., Nino, and Shapiro. 3,377,819.
- Nippon Kogaku K. K.: *See*—
  - Katsuyama, Yoshihisa. 3,377,982.
- Nishimura, Kotaro: *See*—
  - Usami, Seiji, Kondo, Nishimura, and Koga. 3,378,590.
- Nisper, Kenneth J.: *See*—
  - Hamm, Douglas W., Nisper, and Hardick. 3,377,682.
- Nitescu, Trajan. Automatic sampler. 3,377,867, 4–16–68, Cl. 73—422.
- Nolles, Douglas G.: *See*—
  - Szentkuti, Charles, and Nolles. 3,377,967.
- Nolan Co., The: *See*—
  - Hunt, Cecil G. 3,377,961.
- Noland, Richard D., to W. C. Wiedenmann & Son, Inc. Self-cleaning filter apparatus. 3,377,780, 4–16–68, Cl. 55—294.
- Noll, Marvin R. Clamp. 3,378,220, 4–16–68, Cl. 248—226.
- Noll, Walter: *See*—
  - Sattlegger, Hans, Noll, Damm, and Golitz. 3,378,520.
- Nordahl, John G., to Weston Instruments, Inc. Ninety-degree amplifier phase shift circuit. 3,378,785, 4–16–68, Cl. 330—107.
- Norén, Tore M. I.: *See*—
  - Friis, Wilhelm L.-E., and Norén. 3,378,367.
- Norma-Hoffmann Bearings Co.: *See*—
  - Mansfield, Herman, and Hoo. 3,378,412.
- Norse Development Corp.: *See*—
  - Wegner, Guido K. 3,378,106.
- North American Philips Co., Inc.: *See*—
  - Bruinsma, Anne H., and Cluwen. 3,378,699.
  - Cruel, Rolf. 3,378,740.
  - Janssen, Peter J. H. 3,378,784.
  - Leistra, Johannes L. 3,377,852.
  - Robinson, Stephen J., Levy, and Alcock. 3,378,787.
  - Unk, Jacob M., and Guinau. 3,378,674.
  - Van Gerwen, Petrus J., and de Jager. 3,378,771.
  - Van Kessel, Theodorus J., and Uijen. 3,378,772.
- North American Rockwell Corp.: *See*—
  - Zurcher Lester A. 3,278,844.
  - Lenz, Charles E. 3,378,692.
- North American Sugar Industries Inc.: *See*—
  - O'Boyle, Charles J. 3,378,542.
  - O'Boyle, Charles J. 3,378,543.
  - O'Boyle, Charles J. 3,378,544.
- Northern Electric Co. Ltd.: *See*—
  - Gagnier Real, Kenedi, and Klassen. 3,378,842.
  - Kular, Zenon A. 3,378,644.
- Norton Co.: *See*—
  - Marshall, Douglas W., and Pett. 3,377,660.
- Norton, Lilburn L., to E. I. du Pont de Nemours and Co. Process for making polycarbonamide yarns. 3,378,514, 4–16–68, Cl. 260—37.
- Nottebohm Carl L., R. Schabert, and A. Burk, to Freudenberg, Carl Kommanditgesellschaft auf Aktien. Self-sustaining highly porous regenerable thermoplastic fiber mat. 3,378,398, 4–16–68, Cl. 117—140.
- Norwalk Thermostat Co.: *See*—
  - Arlin, Edward S., and Watson. 3,378,658.
- Nowlin, Gene, and H. D. Lyons, to Phillips Petroleum Co. Process and catalyst for production of solid polymers. 3,378,539, 4–16–68, Cl. 260—93.7.
- Nuissl, Carl W., to R. Boyaval, and C. W. Nuissl. Automatic doffing and loading machine. 3,378,211, 4–16–68, Cl. 242—18.
- Ny-Linn Chicago Corp.: *See*—
  - Kaplan, Sheldon R. 3,377,720.
- Nylonge Corp.: *See*—
  - Politzer, Alfred, Teng Pekarek, and Shockley. 3,377,652.
  - Teng, James, and Kendall. 3,377,643.

- O-M Ltd.: *See*—
  - Arai, Takeji, Ariga, and Yoshiyama. 3,377,663.
- Obeda, Edward G., to Branson Instruments, Inc. Method and apparatus for treating material with sonic energy. 3,378,429, 4–16–68, Cl. 156—515.
- O'Boyle, Charles J., to North American Sugar Industries Inc. Purifying esters of polyhydric alcohols. 3,378,542, 4–16–68, Cl. 260—210.
- O'Boyle, Charles J., to North American Sugar Industries Inc. Purifying esters of polyhydric alcohols. 3,378,543, 4–16–68, Cl. 260—210.
- O'Boyle, Charles J., to North American Sugar Industries Inc. Purifying esters of polyhydric alcohols. 3,378,544, 4–16–68, Cl. 260—210.
- O'Callaghan, James A.: *See*—
  - Beavers, Joseph H., O'Callaghan, and Shoafstall. 3,377,851.
- Oddicini, Renzo, and P. Nieder. Multiple section shutting structure. 3,378,060, 4–16–68, Cl. 160—181.
- Oertel, Harald: *See*—
  - Knipp, Ulrich, Neumann, Awater, and Oertel. 3,378,517.
- Offermann, Wilhelm: *See*—
  - Heinz, Arnold, Offermann, and Linden. 3,378,531.
- Offner, Franklin F. Apparatus for summation of signals by pulse sampling. 3,378,825, 4–16–68, Cl. 340—174.1.
- Ogle, Robert W., to Min-I-Jet Corp. Hypodermic syringe with vial. 3,378,008, 4–16–68, Cl. 128—220.
- Oguey, Henri J., to International Business Machines Corp. Non-destructive readout memory employing biaxial anisotropy. 3,378,824, 4–16–68, Cl. 340—174.
- Ohio Brass Co., The: *See*—
  - Sawyer, Thomas H. 3,378,651.
- Ohtaki, Syohei: *See*—
  - Goshima, Takeshi, Ohtaki, and Kinoshita. 3,377,936.
- Olander, Roland J., to W. H. Miner Inc. Door locking means. 3,378,294, 4–16–68, Cl. 292—218.
- Old Pal, Inc.: *See*—
  - Woolworth, Richard G. 3,377,736.
- Oldberg Mfg. Co.: *See*—
  - Parrish, Allen S., Jr. 3,378,110.
- Olin Mathieson Chemical Corp.: *See*—
  - Dolomont, Allan A. 3,378,668.
  - Dolomont, Allan A. 3,378,669.
  - Larson, Wesley S. 3,377,951.
  - Riccardi, Samuel A. 3,378,545.
  - Tranel, Lester J. 3,377,683.
- Olinkraft, Inc.: *See*—
  - Ware, Walter S., and Cannon. 3,377,929.
- Oliver, John P., to Cameron Iron Works, Inc. Lubricated valve with means to relieve excessive sealant pressure. 3,378,026, 4–16–68, Cl. 137—246.22.
- Olson, Osborne O. Fastener for corner joints. 3,377,904, 4–16–68, Cl. 85—11.
- Olympic Screw & Rivet Corp.: *See*—
  - Stau, Elvert H., and Siebol. 3,377,908.
- Omco Chemical Corp.: *See*—
  - Fredericka, Robert W., and Harbaugh. 3,378,027.
- Oppelt, John C.: *See*—
  - Hoffman, Joseph A., and Oppelt. 3,378,535.
- O'Reilly, Richard C. Remote control apparatus suitable for actuating fire extinguishers. 3,378,081, 4–16–68, Cl. 169—19.
- Orth, Roger W.: *See*—
  - Jackson, Darrell R., and Orth. 3,378,760.
- Osepchuk, John M., to Raytheon Co. Crossed-field traveling wave electron reaction device employing cyclotron mode interaction. 3,378,718, 4–16–68, Cl. 315—3.5.
- Oss, George K., D. D. Dunfee, and R. C. Webster, to The Susquehanna Corp. Integral fin canister-nozzle exit cone. 3,378,216, 4–16–68, Cl. 244—3.24.
- Osterhout, Joseph C., and C. H. Carothers, to Westinghouse Electric Corp. Series spark gaps arranged to produce a magnetic field. 3,378,722, 4–16–68, Cl. 315—36.
- Ostermeier, Claus, to Hans Sickinger Co. Spiral binder applying machine. 3,378,046, 4–16–68, Cl. 140—92.94.
- Othmer, Donald F. Method for producing fresh water from slurry of ice in an aqueous liquid. 3,377,814, 4–16–68, Cl. 62—58.
- Otis Elevator Co.: *See*—
  - Madison, Robert W. 3,378,107.
- Otis Engineering Corp.: *See*—
  - Boyle, William G. 3,378,224.
  - Elliston, Thomas L. 3,378,077.
  - Fredd, John V. 3,378,080.
- Otteman, Lloyd G., and L. G. Rohloff, to Shell Oil Co. Underwater wellhead connection. 3,378,066, 4–16–68, Cl. 166—.5.
- Ouellette, Chester V., to Consolidated Electronic Industries Corp. Rotary solenoid. 3,378,799, 4–16–68, Cl. 335—272.
- Ourgaud, Janine, to Societe Nationale des Petroles d'Aquitaine Tour Aquitaine. Copolymers of olefines with dithia-dienes. 3,378,534, 4–16–68, Cl. 260—79.5.
- Outboard Marine Corp.: *See*—
  - Blanchard, Clarence E., Jr. 3,378,284.
- Owens-Illinois, Inc.: *See*—
  - Francel, Josef, and Pinotti. 3,378,390.
  - Griffith, Edwin D. 3,378,163.
  - White, Reid E. 3,378,190.
  - Wolford, Wallace W. 3,377,899.
- Overcashier, Robert H., to Shell Oil Co. Apparatus and method for extruding thermoplastic materials. 3,378,614, 4–16–68, Cl. 264—51.
- Pacific Vegetable Oil Corp.: *See*—
  - Burkett, William E. 3,378,382.
- Page, John S., Jr. Sleeve valve and operation thereof in a well. 3,378,068, 4–16–68, Cl. 166—1.
- Painton & Co., Ltd.: *See*—
  - Cartwright, John A. 3,378,804.
- Palazzolo, Salvatore E., and W. C. Hood, to Westinghouse Electric Corp. Postformable decorative laminates. 3,378,433, 4–16–68, Cl. 161—156.
- Papa, Frank J., Jr., to Industrial Timer Corp. Clutch for a timer device. 3,378,123, 4–16–68, Cl. 192—67.
- Papalegis, Frank E.: *See*—
  - Bourdeau, Romeo G., and Papalegis. 3,378,345.
- Parapetti, Nicolas. Diamond dressing device. 3,378,001, 4–16–68, Cl. 125—11.
- Park, Donald M., deceased, by M. S. Park, executrix, to The Seeburg Corp. Tremolo-vibrato circuitry for use with a simulated moving sound source or the like. 3,378,623, 4–16–68, Cl. 84—1.18.
- Park, Mary S.: *See*—
  - Park, Donald M. 3,378,623.
- Parker, William E.: *See*—
  - Williamson, Alan G., and Parker. 3,378,374.
- Parker, Phillip J. Magnetic particle inspection probe with adjustable probe legs and self contained circuitry. 3,378,762, 4–16–68, Cl. 324—38.
- Parrish, Allen S., Jr., to Oldberg Mfg. Co. Shock absorber. 3,378,110, 4–16–68, Cl. 188—88.
- Parts, Leo: *See*—
  - Pruett, Roy L., Wyman, Rink, and Parts. 3,378,569.
- Patel, Chim P., M. A. Jaeger, and R. E. Pyle, to Union Starch & Refining Co., Inc. Cationic starch. 3,378,547, 4–16–68, Cl. 260—233.3.
- Pater, Edward H., and B. W. Matthews, to Joseph Lucas (Industries) Ltd. Fuse holders. 3,378,665, 4–16–68, Cl. 200—166.
- Patrick, George D. Alarm device. 3,378,830, 4–16–68, Cl. 340—274.
- Patterson, Arnold L., to Western Electric Co., Inc. Apparatus for bending wire. 3,378,047, 4–16–68, Cl. 140—102.
- Patterson, Cranston. Drain basket. 3,377,634, 4–16–68, Cl. 4—290.
- Patterson, Earl, Jr., to Char-Lynn Co. Counterweight or the like for gerotor gear set. 3,377,873, 4–16–68, Cl. 74—86.
- Patterson, Jerome A. Short run film developer system. 3,377,938, 4–16–68, Cl. 95—89.
- Pav-Saver Corp.: *See*—
  - Dale, Charles H. 3,377,933.
- Pavel, John T.: *See*—
  - Naundorf, Charles H., and Pavel. 3,378,226.
- Pavlica, Stanley R.: *See*—
  - McCreight, Donald O., Miller, and Pavlica. 3,378,385.
- Payne, John H.: *See*—
  - Mesmer, Robert E., Nelson, and Payne. 3,378,342.
- Peart, Leslie T.: *See*—
  - Yungblut, Charles W., and Peart. 3,378,803.
- Peart, Leslie T.: *See*—
  - Mishler, Ralph E., Peart, and Pettit. 3,378,802.
- Pechmeze, Jacques P. E.: *See*—
  - Mangeney, Gerard L. A., and Pechmeze. 3,378,496.
- Peck, Curtis G. Polishing wheel. 3,377,753, 4–16–68, Cl. 51—337.
- Peckham, Rodney L.: *See*—
  - Eaves, Charles A., Peckham, and Prunty. 3,378,759.
- Pekarek, Frank: *See*—
  - Politzer, Alfred, Teng, Pekarek, and Shockley. 3,377,652.
- Pelikan, George A.: *See*—
  - Roselius, Charles F., and Pelikan. 3,378,112.
- Peltz, John R., and C. L. Stoldt, to Sylvania Electric Products. Electrical continuity and short circuit testing device employing illuminated indicators. 3,378,764, 4–16–68, Cl. 324—51.
- Pelz, Willibald: *See*—
  - Puschel, Walter, Schellenberger, Loffler, Wahl, and Pelz. 3,378,554.
- Penick, S. B., & Co.: *See*—
  - Bridger, Homer J. 3,378,441.
- Pennsalt Chemicals Corp.: *See*—
  - Ivy, Edward E. 3,378,436.
- Peplin, Stephen C. Foot conditioning apparatus. 3,378,009, 4–16–68, Cl. 128—266.
- Perrot, Robert, to Acieries de Paris et d'Outreau, Societe Anonyme. Cast-steel railway crossing pieces. 3,378,683, 4–16–68, Cl. 246—454.
- Perry, Atlas J., to Klopman Mills, Inc. Continuously passing a fabric through a scouring bath in a path adjacent to a series of pressure streams of scouring liquid. 3,378,332, 4–16–68, Cl. 8—139.
- Perry, Donald D., M. M. Fein, and C. W. Schoenfelder, to United States of America. Atomic Energy Commission. Novel high explosive compositions. 3,378,416, 4–16–68, Cl. 149—22.
- Perry, Walter M., to Johns-Manville Corp. Culler and feed mechanism for spherical objects. 3,378,139, 4–16–68, Cl. 209—73.
- Persson, Karl G. A., to LKB-Produkter Aktiebolag. Microtome provided with microscope and specimen catching grid operated thereby. 3,377,898, 4–16–68, Cl. 83—78.
- Peterli, Ernst J., to The Dow Chemical Co. High nitrogen polymers and process for preparation thereof. 3,378,571, 4–16–68, Cl. 260—349.
- Peterson, Elwin L. Water cover and cleaning system for swim pools. 3,377,632, 4–16–68, Cl. 4—172.
- Petranek, David J., to The Trane Co. Defrost control for heating and cooling refrigeration systems. 3,377,817, 4–16–68, Cl. 62—140.
- Petrolite Corp.: *See*—
  - Lissant, Kenneth J. 3,378,418.

- Pett, Edgar A.: *See*—
  - Marshall, Douglas W., and Pett. 3,377,660.
- Pettinato, Edward F.: *See*—
  - Goodman, Abraham H., Pettinato, Kroll, and Lipka. 3,378,378.
- Pettit, Donald D.: *See*—
  - Mishler, Ralph E., Peart, and Pettit. 3,378,802.
- Pfaudler Permutit Inc.: *See*—
  - Smith, Carlyle F., Jr., and Crandall. 3,378,431.
- Pfeiffenschneider, Raymund: *See*—
  - Von Rintelen, Harald, Pfeiffenschneider, Fleiter, and Britz. 3,378,373.
- Pfizer, Chas. & Co., Inc.: *See*—
  - Holland, Gerald F. 3,378,564.
  - Huang, Hsing T., and Shull. 3,378,461.
- Phillips, Bernard E., to The Bunker-Ramo Corp. Method and apparatus for emitter location detection. 3,378,842, 4–16–68, Cl. 343—112.
- Phillips, Brain L.: *See*—
  - Adams, Derek S., and Phillips. 3,377,998.
- Phillips Petroleum Co.: *See*—
  - Doane, Elliott P. 3,378,482.
  - Holiday, Allan D., and Hutson. 3,378,598.
  - Hutson, Thomas, Jr., and Holiday. 3,378,476.
  - Nowlin, Gene, and Lyons. 3,378,539.
  - Reinert, Andrew J., and Cantrel. 3,378,439.
  - Stoller, Frederick L. 3,377,673.
  - Walker, Darrell W., and Bailey. 3,378,536.
  - Wheat, Robert C. 3,378,510.
  - Witt, Donald R. 3,378,540.
- Phipard, Harvey F., Jr., to Research Engineering and Mfg., Inc. Thread-forming tool. 3,377,906, 4–16–68, Cl. 85—46.
- Picker X-ray Mfg., Ltd.: *See*—
  - Bridgeman, Cecil K. 3,377,769.
- Pickrell, John W. Hay rake. 3,377,788, 4–16–68, Cl. 56—377.
- Pierce, Stanley L., Jr.: *See*—
  - Greer, John W., Pierce, and Schulz. 3,378,111.
- Pilch, John S., to Ware Machine Works, Inc. Hitch for hydraulically operable excavating apparatus. 3,378,085, 4–16–68, Cl. 172—272.
- Pilot Research Corp.: *See*—
  - Berry, Clyde A. 3,377,826.
- Pinchev, Julius A. Automatic disassembling machine for riveted roller chain pin links. 3,377,797, 4–16–67, Cl. 59—7.
- Pinkham, Jesse R.: *See*—
  - Sherrill, Joseph H., and Pinkham. 3,378,187.
- Pinney, Robert E.: *See*—
  - Cone, Carroll, Pinney, and Rinker. 3,378,242.
- Pinotti, Alfred D.: *See*—
  - Francel, Josef, and Pinotti. 3,378,390.
- Pitney-Bowes, Inc.: *See*—
  - Beeken, Basil B. 3,378,023.
  - Pitney, Robert C. 3,377,842.
  - Schrempp, Ernst. 3,377,882.
- Pitney, Robert C., to Pitney-Bowes, Inc. Sensing device. 3,377,842, 4–16–68, Cl. 73—37.
- Pittsburgh Plate Glass Co.: *See*—
  - Dehn, Frederick C., and Deppe. 3,378,597.
  - DuBois, Floyd J. 3,378,387.
  - Shumaker, Lyle L. 3,377,749.
- Planchard, Jerome A., Jr.: *See*—
  - Jones, Alva M., Planchard, and Speed. 3,378,607.
- Poe, Lee G., and N. T. Ferguson, to Midland-Ross Corp. Adjustable flow controller. 3,378,206, 4–16–68, Cl. 239—402.5.
- Poehls, Vernon J., to United States of America, Army. Printed circuit board assembly with releasable securing and engaging means. 3,378,730, 4–16–68, Cl. 317—101.
- Polhamus, Harry M., to Movable Interior Products. Demountable building partition construction. 3,377,756, 4–16–68, Cl. 52—220.
- Politzer, Alfred, J. Teng, F. Pekarek, and A. B. Shockley, to Nylonge Corp. Apparatus for the production of artificial sponge. 3,377,652, 4–16–68, Cl. 18—4.
- Polk, Edgwin R., and A. La Grassa, to Keene Packaging Associates. Fused container structure and method and apparatus for producing it. 3,378,423, 4–16–68, Cl. 156—273.
- Polyvinyl Chemicals, Inc.: *See*—
  - Witwer, Daniel B. 3,378,513.
- Pomerantz, Daniel I.: *See*—
  - Vale, John S., and Pomerantz. 3,378,736.
- Poos, George I.: *See*—
  - Mohrbacher, Richard J., Poos, and Roszkowski. 3,378,566.
- Popp, Werner: *See*—
  - Geldmacher, Ernst, Kenn, Popp, and Rusel. 3,378,305.
- Poppen, Sherman R., to Brunswick Corp. Surf type snow ski. 3,378,274, 4–16–68, Cl. 280—18.
- Poppinger, Herbert, W. Volkman, and M. Liska, to Siemens Aktiengesellschaft. Circuit-initiating self-excitation of a three-phase alternator. 3,378,753, 4–16–68, Cl. 322—28.
- Porada, Joseph J.: *See*—
  - Bell, Kenneth, Porada, and Kott. 3,377,964.
- Portage Machine Co.: *See*—
  - Schiler, Frederick S. 3,377,713.
- Possis Machine Corp.: *See*—
  - Mommsen, Gordon V., and Straub. 3,377,984.
- Potter Instrument Co., Inc.: *See*—
  - Garbor, Andrew. 3,378,826.
- Potzsch, Wolfgang R., to J. I. Case Co. Cutter head for forage harvesters. 3,378,053, 4–16–68, Cl. 146—117.
- Potter, Frederick M., to The Bendix Corp. Variable speed constant frequency generating system. 3,378,756, 4–16–68, Cl. 322—32.
- Potter, Frederick M., to The Bendix Corp. Narrow frequency range, wide speed range, brushless A.C. generator. 3,378,757, 4–16–68, Cl. 322—32.
- Poulsen, Erik D., to A/S Haustrups Fabriker. Disposable hypodermic syringe. 3,378,007, 4–16–68, Cl. 128—220.
- Powell, Richard G., to ACF Industries, Inc. Railway car cushioning device. 3,378,149, 4–16–68, Cl. 213—43.
- Powers, John M., and D. E. Coker, to Esso Research and Engineering Co. Purification of normal paraffins. 3,378,486, 4–16–68, Cl. 208—310.
- Poynter, Donald B.: *See*—
  - Turnau, Robert R., and Poynter. 3,378,263.
- Prachar, Otakar P., to General Motors Corp. Jet engine cooling system. 3,377,803, 4–16–68, Cl. 60—261.
- Preload Co., The: *See*—
  - Magers, Leroy, Jr. 3,377,757.
- Preston, Brian, and A. D. Carroll, to The Marconi Co. Ltd. Frequency dividers adjustable over a wide range of division factors. 3,378,697, 4–16–68, Cl. 307—225.
- Priddy, Lloyd W., to Honeywell Inc. Demodulator circuit with control feedback means. 3,378,779, 4–16–68, Cl. 329—101.
- Prince, Gregory S.: *See*—
  - Greene, John, Jr. 3,378,312.
- Prince, Roy W., to W. R. Grace & Co. Printing plates. 3,377,949, 4–16–68, Cl. 101—379.
- Procter & Gamble Co., The: *See*—
  - Franz, Norman J. 3,377,767.
- Propper, Mathias, to Doring u.A., Arbeitsgemeinschaft fur Entwicklung von Papierverarbeitungsmaschinen. Method of and apparatus for making boxes on box-making machines. 3,877,926, 4–16–68, Cl. 93—49.
- Propper, Mathias, to Doring V.A., Arbeitsgemeinschaft fur Entwicklung von Papierverarbeitungsmaschinen. Folding device for use in connection with box making machines. 3,877,927, 4–16–68, Cl. 93—49.
- Pruett, Roy L., J. E. Wyman, D. R. Rink, and L. Parts, to Union Carbide Corp. Arene metal carbonyls. 3,378,569, 4–16–68, Cl 260—340.
- Prunty, Ralph A.: *See*—
  - Eaves, Charles A., Peckham, and Prunty. 3,878,759.
- Pullen, Frederick R., and E. K. McLachlan, to Bethlehem Steel Corp. Division wall for soaking pits. 3,378,247, 4–16–68, Cl. 263—44.
- Purdy, Chester A.: *See*—
  - Juvinall, James W., and Purdy. 3,377,987.
- Puschel, Walter, H. Schellenberger, K. Loffler, deceased (by M. L. N. Loffler, heir; K. R. and C. M. Loffler, minor heirs; B. E. Loffler, heir and legal representative of minor heirs); O. Wahl, and W. Pelz, to AGFA Aktiengesellschaft. Dicarbonyl-dihydrazones. 3,378,554, 4–16–68, Cl. 260—240.
- Pyle, Ronald E.: *See*—
  - Patel, Chim P., Jaeger, and Pyle. 3,378,547.
- Quarve, Vernon A.: *See*—
  - Kucharski, Thaddeus W., Thomas, and Quarve. 3,377,655.
- R. S. Engineering Co., Inc.: *See*—
  - Stokes, Rufus. 3,378,241.
- Rabe, Otto: *See*—
  - Jenkner, Herbert, and Rabe. 3,378,593.
- Rabinovitch, Gershon. Markers for the aerial spraying or dusting of fields. 3,377,979, 4–16–68, Cl. 116—63.
- Rabinow, Jacob, to United States of America, Army. Explosive-started generator. 3,377,954, 4–16–68, Cl. 102—70.2.
- Racine, Melvin J.: *See*—
  - Eick, Albert R., Racine, and Lawless. 3,377,698.
- Radio Corp. of America: *See*—
  - Gibson, John J. 3,378,783.
  - Napoli, Louis S., and Swartz. 3,378,723.
  - Shashoua, Fred E., and Kell. 3,378,646.
  - Sherman, Samuel M. 3,378,843.
- Rafique, Syed O. Z. M., and J. D. S. de Guerin, to The Glacier Metal Co. Ltd. Lubrication of plain oscillating bearings. 3,378,318, 4–16–68, Cl. 308—78.
- Rains, Richard W., to Schluderberg-Kurdle Co., Inc. Apparatus for electrically stunning animals prior to slaughtering. 3,377,649, 4–16–68, Cl. 17—1.
- Rambosek, George M., to Minnesota Mining and Mfg. Co. Organic materials, especially paper, treated with distally perfluoroalkyl aminqes. 3,378,399, 4–16–68, Cl. 117—154.
- Ramel, Rudolf: *See*—
  - Eichenberger, Ernst, and Ramel. 3,378,813.
- Rampino, Louis D., to Getty Oil Co. Clarification of caustic treated distillate fuels. 3,378,485, 4–16–68, Cl. 208—263.
- Ramrath, Joseph M., to Allis-Chalmers Mfg. Co. Auxiliary contact structure with arc suppressing means. 3,378,661, 4–16–68, Cl. 200—150.
- Ramsey Corp.: *See*—
  - Anderson, Roy D. 3,378,268.
- Ramsey, Willard A., and A. G. Coln, to Her Majesty Underwear Co. Automatic cutting apparatus and method of cutting. 3,377,897, 4–16–68, Cl. 83—18.
- Ransburg Electro-Coating Corp.: *See*—
  - Juvinall, James W., and Purdy. 3,377,987.
- Rapistan Inc.: *See*—
  - Fogg, Daniel A. 3,378,125.
- Rapp, Wallace A. High capacity fluid pressure jack. 3,378,231, 4–16–68, Cl. 254—93.
- Rask, Stanley, to Continental Copper & Steel Industries, Inc. Woven conductor and method of forming the same. 3,378,629, 4–16–68, Cl. 174—117.
- Ratner, David: *See*—
  - Corbett, Harold. 3,377,661.
- Rayette-Faberge, Inc.: *See*—
  - Swanson, Betty F. 3,378,444.
- Raymond, Charles T.: *See*—
  - Eburn, William H., Jr., Miller, and Raymond. 3,378,165.
- Raynolds, Stuart: *See*—
  - Fasick, Ross W., Johnson, and Raynolds. 3,378,609.

- Raytheon Co.: *See*—
  - Lowenschuss, Oscar. 3,878,846.
  - Osepchuk, John M. 3,378,718.
- Reading Co.: *See*—
  - Fisher, Franklin G., and Bollinger. 3,378,317.
- Reak, Bennett B., to Weasler Engineering & Mfg., Co., Inc. Tool for cleaning the splines of telescopically extensible shafts. 3,377,642, 4–16–68, Cl. 15—105.
- Regie Nationale des Usines Renault: *See*—
  - De Coye de Castelet, Gaetan. 3,377,846.
  - De Coye de Castelet, Gaetan. 3,377,995.
- Reich, Rudolf. Embroidery machine. 3,377,969, 4–16–68, Cl. 112—83.
- Reilly Tar & Chemical Corp.: *See*—
  - Cislak, Francis E. 3,378,563.
- Reiners, Walter: *See*—
  - Furst, Stefan. 3,377,676.
  - Furst, Stefan. 3,377,677.
- Reinert, Andrew J., and K. E. Cantrel, to Phillips Petroleum Co. Methods of repelling birds. 3,378,439, 4–16–68, Cl. 167—46.
- Reinhardt, Heinz F., to E. I. du Pont de Nemours, and Co. 3,3′-diaminomethyl-1,1′-biadamantane. 3,378,587, 4–16–68, Cl. 260—563.
- Reinshagen, Paul, H. Schmidt, W. Ziemer, and H. Henkel, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Process for clamping and tightening diaphragms in filter press type cells for the electrolysis of auqeous hydrochloric acid. 3,378,480, 4–16–68, Cl. 204—253.
- Reiter, Merlin G.: *See*—
  - Joy, Ivan L., Hoffsommer, Reiter, and Muyskens. 3,378,836.
- Renaut, Jacques A.: *See*—
  - Ninet, Leon, Renault, and Tissier. 3,378,460.
- Rensmann, Leo: *See*—
  - Meyer, Franz-Josef, and Rensmann. 3,378,603.
- Republic Steel Corp.: *See*—
  - Harmon, William C. 3,377,828.
- Research and Development Pty. Ltd.: *See*—
  - Warman, Charles H. 3,378,141.
- Research Engineering and Mfg., Inc.: *See*—
  - Phipard, Harvey F., Jr. 3,377,906.
- Reynolds, Donald S., and H. R. Krueger, to Reynolds Products, Inc. Mixed beverage refrigerating and dispensing machine. 3,378,170, 4–16–68, Cl. 222—129.4.
- Reynolds Precision Products Co., Inc.: *See*—
  - Reynolds, Robert J., Bennett, and Reynolds. 3,377,999.
- Reynolds Products, Inc.: *See*—
  - Reynolds, Donald S., and Krueger. 3,378,170.
- Reynolds, R. J., Tobacco Co.: *See*—
  - Sherrill, Joseph H., and Pinkham. 3,378,187.
- Reynolds, Robert J., deceased, by K. I. Bennett, executrix, to Reynolds Precision Products Co., Inc. Archery bow with adjustably mounted line support. 3,377,999, 4–16–68, Cl. 124—24.
- Reynolds, Thomas J.: *See*—
  - McIntyre, Maurice J., Cheldelin, and Reynolds. 3,378,232.
- Rheem Mfg. Co.: *See*—
  - Tipper, Maynard J. G. 3,377,692.
- Rhodes, Richard P., to Esso Research and Engineering Co. Seal design for electric furnace. 3,378,619, 4–16–68, Cl. 13—9.
- Rhone-Poulenc S.A.: *See*—
  - Ninet, Leon, Renaut, and Tissier. 3,378,460.
- Riccardi, Samuel A., to Olin Mathieson Chemical Corp. Recovery of nitrocellulose from surplus powders. 3,378,545, 4–16–68, Cl. 260—223.
- Richardson, Henry M., A. C. Alberghini, F. E. Wiley, and W. S. Larson, to The Youngstown Sheet and Tube Co. Apparatus for molding a reinforced hollow plastic article. 3,377,657, 4–16–68, Cl. 18—19.
- Richtzenhain, Hermann: *See*—
  - Vogt, Wilhelm, Janssen, and Richtzenhain. 3,378,526.
- Rickard, Donn J., to Brown Citrus Machinery Corp. Fruit juice extraction apparatus and disk therefor. 3,377,947, 4–16–68, Cl. 100—211.
- Rico Plastics, Inc.: *See*—
  - Russell, Gardner. 3,377,754.
- Rigterink, Raymond H., to The Dow Chemical Co. Sulfamoylpyridyl phosphorothioates and intermediates therefor. 3,378,565, 4–16–68, Cl. 260—294.8.
- Rijnsdorp, Johannes E., to Shell Oil Co. Method and apparatus for the control of a continuously operating distillation process by maintaining the ratio of vapor flow to internal reflux flow constant. 3,378,464, 4–16–68, Cl. 203—1.
- Riley, James M.: *See*—
  - George, D'Arcy R., and Riley. 3,378,336.
- Ringquist, Clarence L., and J. W. Lorenz, to The Trane Co. Four pipe heat pump apparatus. 3,378,062, 4–16–68, Cl. 165—22.
- Rink, Donald R.: *See*—
  - Pruett, Roy L., Wyman, Rink, and Parts. 3,378,569.
- Rinker, Franklin G.: *See*—
  - Cone, Carroll, Pinney, and Rinker. 3,378,242.
- Riolo, Carl R., and E. C. Moerke, to A. Armato. Parts washers. 3,378,019, 4–16–68, Cl. 134—111.
- Ristig, Bernard A.: *See*—
  - Kotlin, James J., Anderson, and Ristig. 3,377,996.
- Ritter Pfaudler Corp.: *See*—
  - Hodges, William C., and Harlan. 3,378,600.
- Robare, E. Peter, to American Standard, Inc. Perineal bath. 3,377,630, 4–16–68, Cl. 4—6.
- Roberts, Alfred W.: *See*—
  - Naul, George M., and Roberts. 3,378,043.
- Roberts, Carleton W., and D. H. Haigh, to The Dow Chemical Co. 2-aryl-polyhalo-bicyclohept-5-enes. 3,378,580, 4–16–68, Cl. 260—488.
- Roberts, John J., and E. J. Croke, to United States of America, Atomic Energy Commission. Nuclear reactor adapted for use in space. 3,378,449, 4–16–68, Cl. 176—33.
- Roberts, John M., to General Electric Co. Jet pumping means for a nuclear reactor. 3,378,456, 4–16–68, Cl. 176—61.
- Roberts, Richard W., to General Electric Co. Evaporative application of metal coatings to diamond. 3,378,393, 4–16–68, Cl. 117—100.
- Robertson, James E., and N. D. Batterson, to Walter Kidde & Co., Inc. Parachute deployment and disconnecting projectile. 3,378,218, 4–16–68, Cl. 244—148.
- Robertson, James J., to The Firestone Tire & Rubber Co. Spinnable composition of polyamides and polyesters prepared from a polyamide-polyester dispersion and a polyamide-polyester reaction product. 3,378,055, 4–16–68, Cl. 152—359.
- Robertson, James J., to The Firestone Tire & Rubber Co. Spinnable resinous composition of a polyester and a polyamide. 3,378,056, 4–16–68, Cl. 152—359.
- Robertson, James J., to The Firestone Tire & Rubber Co. Tire cord prepared from block copolymers of polyamides and polyesters. 3,378,602, 4–16–68, Cl. 260—857.
- Robinson, Stephen J., R. Levy, and R. N. Alcock, to North American Philips Co., Inc. System for synchronizing an oscillator with oscillations of unknown frequency. 3,378,787, 4–16–68, Cl. 331—14.
- Rocker Solenoid Co.: *See*—
  - Hatashita, Kimio. 3,378,031.
- Rockoff, Joseph, to Dayco Corp. Elastomeric porous material and method for manufacturing same. 3,378,506, 4–16–68, Cl. 260—2.5.
- Rockwell-Standard Co.: *See*—
  - Hanley, William G., and Fisher. 3,378,113.
- Rockwood, Albert M., M. G. Gautraud, D. P. J. McLeod, and J. J. Dragone, to Brunswick Corp. Ski board. 3,378,275, 4–16–68, Cl. 280—18.
- Rogers, Donald J., to Hamilton Watch Co. Calendar setting mechanism for an electric watch. 3,377,795, 4–16–68, Cl. 58—58.
- Rogers, Donald J., to Hamilton Watch Co. Electric watch calendar setting mechanism. 3,377,796, 4–16–68, Cl. 58—58.
- Rogers, Dow A., Jr.: *See*—
  - Mendelsohn, Morris A., and Rogers. 3,378,630.
- Rohloff, Larry G.: *See*—
  - Otteman, Lloyd G., and Rohloff. 3,378,066.
- Rolls-Royce Ltd.: *See*—
  - Davies, Glyn T., and Howard. 3,378,228.
  - Wilkinson, Wilfred H., and Goss. 3,377,802.
- Rom, Frank E., A. F. Lietzke, and R. E. Hyland, to United States of America, National Aeronautics and Space Administration. Reactor fuel element for a nuclear rocket motor. 3,378,455, 4–16–68, Cl. 176—75.
- Romano, Vincenzo, to Selenia-Industrie Elettroniche Associate S.p.A. System for metering the non ambiguous speeds of the targets by means of radar employing two operative frequencies and a coherent memory filter. 3,378,838, 4–16–68, Cl. 343—7.7.
- Romanzi, Louis, Jr., and J. Van Dorn, to American Safety Equipment Corp. Shoulder strap-lap belt buckle connector. 3,378,301, 4–16–68, Cl. 297—389.
- Ronlov, Svend A.: *See*—
  - Borasio, Leo, Ronlov, and Jancewicz. 3,378,304.
- Rorer, Donald R., to Stone Container Corp. Skin packaging apparatus. 3,377,770, 4–16–68, Cl. 53—112.
- Rorig, Kurt J., and H A. Wagner, to G. D. Searle & Co. 5-alkyl-2-amino-3-aminoalkyl-6-aryl-4(3H)-pyrimidinones and congeners. 3,378,557, 4–16–68, Cl. 260—247.2.
- Rosansky, Martin G., to Leesona Corp. Metal-oxygen-containing electrochemical battery. 3,378,406, 4–16–68, Cl. 136—86
- Rosellus, Charles F., and G. A. Pelikan, to Ellcon-National, Inc. Brake regulator installation. 3,378,112, 4–16–68, Cl. 188—197.
- Rosenberry, George M., Jr., to General Electric Co. Voltage regulator with inverting capability. 3,378,754, 4–16–68, Cl. 322—28.
- Ross, Horace K., and R. Frost, to T. I. Stainless Tubes Ltd. Breaker blocks. 3,377,831, 4–16–68, Cl. 72—248.
- Ross, Karl F. Radiolocation system. 3,378,839, 4–16–68, Cl. 343—11.
- Ross, Wilfred T., and D. A. Venier, to General Electric Co. Nuclear reactor fuel element. 3,378,458, 4–16–68, Cl. 176—79.
- Roszkowski, Adolph P.: *See*—
  - Mohbracher, Richard J., Poos, and Roszkowski. 3,378,566.
- Rotron Mfg. Co., Inc.: *See*—
  - Harris, Dwight E. 3,378,193.
- Rouse, Robert L.: *See*—
  - Freck, David V., Rouse, and Wakefield. 3,378,414.
- Rowan, Robert L. and Y. Method for treating urological disorder with a silicon composition. 3,378,440, 4–16–68, Cl. 167—55.
- Rowan, Yetta: *See*—
  - Rowan, Robert L. and Rowan. 3,378,440.
- Rowe, Thomas M. Device for teaching addition and subtraction. 3,377,717, 4–16–68, Cl. 35—31.
- Rover, Neal B., C. H. Dederick, and J. G. Lewis, to Emerson Electric Co. Electric motor construction including impeller cavity. 3,378,709, 4–16–68, Cl. 310—90.
- Rubert, George E. Fish tank. 3,377,991, 4–16–68, Cl. 119—5.

Rudolph, Curtis C., ½ to J. C. Burk. Crosslane buffing machine. 3,377,640, 4–16–68, Cl. 15—99.

Rudszinat, Willy, to Hauni-Werke Koerber & Co., K. G. Apparatus for testing cigarettes and the like. 3,377,843, 4–16–68, Cl. 73—45.2.

Ruehrwein, Robert A., and J. S. Hashman, to United States of America, Army. Method of storing oxygen. 3,378,351, 4–16–68, Cl. 23—315.

Rusel, Josef: *See*—
Geldmacher, Ernst, Kenn, Popp, and Rusel. 3,378,305.

Russell, Gardner, to Rico Plastics, Inc. Illuminated canopy structure. 3,377,754, 4–16–68, Cl. 52—16.

Russenberger, Victor. Momentary actuation pushbutton switch. 3,378,664, 4–16–68, Cl. 200—160.

Rutz, Leon E.: *See*—
Nelson, Paul C., and Rutz. 3,377,887.

Ryan, John W., to Mattel, Inc. Fluid pressure actuated track system and toy vehicle. 3,377,741, 4–16–68, Cl. 46—202.

Ryan, Le Roy J., Jr.: *See*—
Dekker, Launcelot, and Ryan. 3,378,052.

Rybarczyk, Stephen J.: *See*—
Krahe, Francis J., and Rybarczyk. 3,378,248.

Ryder, John E.: *See*—
Ferrara, John M., and Ryder. 3,378,484.

Rys, Tadeusz J., to Square D Co. Switch enclosure with multiple interlocks. 3,378,666, 4–16–68, Cl. 200—168.

S&S Industries Inc.: *See*—
Schwartz, Herbert L. 3,378,012.

Sabban, Klaus, and M. Schlichte, to Siemens Aktiengesellschaft. Transfer circuit including a parametric amplifier. 3,378,640, 4–16–68, Cl. 179—15.

Sabberwal, Sudesh P.: *See*—
Humpage, William D., and Sabberwal. 3,378,728.

Safford, Moyer M.: *See*—
Sargent, Donald E., and Safford. 3,378,507.

Sahlberg, Carol R. Process for breaking down foam. 3,378,500, 4–16–68, Cl. 252—321.

Sailors, Derward E. Pivotable chimney cap having interiorly operating means. 3,377,939, 4–16–68, Cl. 98—59.

St. John & Co.: *See*—
Svec, Jarslov L. 3,378,234.

Salloum, Charles R. Parking garage. 3,378,151, 4–16–68, Cl. 214—16.1.

Sand Darrel R., to General Motors Co. Chain drive power transmitting mechanism. 3,377,875, 4–16–68, Cl. 74—229.

Sanders, Walter J., to Westinghouse Air Brake Co. Means for measuring change in reservoir fluid level. 3,377,859, 4–16–68, Cl. 73—290.

Sandhage, Elsworth R., and A. H. Hammar, to American Cyanamid Co. Automatic egg inoculating unit. 3,377,989, 4–16–68, Cl. 119—1.

Sando, Yoshikazu, K. Nasu, and K. Iwamoto. Liquid treating apparatus for a cotton belt. 3,377,825, 4–16–68, Cl. 68—177.

Sandor, William C. Automobile seating construction. 3,378,299, 4–16–68, Cl. 297—284.

Sanford Industries, Inc.: *See*—
McAlpine, William R. 3,377,905.

Santa Rita Technology, Inc.: *See*—
Stewart, John L. 3,378,700.

Saravis, Calvin A. Apparatus for semiqualitative, semiquantitative immunodiffusion reactions. 3,378,347, 4–16–68, Cl. 23—253.

Saravis, Calvin A., and H. Goldsmith. Biochemical test plate. 3,378,481, 4–16–68, Cl. 204—299.

Sargent, Donald E., and M. M. Safford, to General Electric Co. Producing microporous polymers. 3,378,507, 4–16–68, Cl. 260—2.5.

Sasaki, Hiromu, to Matsushita Electric Industrial Co., Ltd. Method of growning single crystals of vanadium dioxide 3,378,350, 4–16–68, Cl. 23—301.

Sato, Yoshiro: *See*—
Takamizawa, Akira, and Sato. 3,378,555.

Sattlegger, Hans, W. Noll, K. Damm, and H. D. Golitz, to Farbenfabriken Bayer Aktiengesellschaft. Organopolysiloxane compositions convertible into elastomers. 3,378,520, 4–16–68, Cl. 260—46.5.

Sauer, Leonard S.: *See*—
Webb, James E. 3,378,315.

Savin, Cornelius, A. G. Vorwald, and C. R. Vagts, to Antram Corp. Device and method for demonstrating the measurement of angles. 3,377,718, 4–16–68, Cl. 35—34.

Savins, Joseph G., to Mobil Oil Corp. Method of fracturing a subterranean formation with a shear thickening liquid. 3,378,073, 4–16–68, Cl. 166—42.

Sawyer, Elbert M., to General Motors Corp. Alternator power supply system. 3,378,755, 4–16–68, Cl. 322—29.

Sawyer, Thomas H., to The Ohio Brass Co. Traveling electric power collector. 3,378,651, 4–16–68, Cl. 191—58.

Sawyer, Webster M., Jr., to Shell Oil Co. Lamination of fibrous substrates. 3,378,424, 4–16–68, Cl. 156—332.

Schabert, Robert: *See*—
Nottebohm, Carl L., Schabert, and Burk. 3,378,398.

Schaefer, Robert H., to General Motors Corp. Automatic transmission control and brake means. 3,378,119, 4–16–68, Cl. 192—4.

Schatzki, Erich: *See*—
Lyon, Floyd A., Schatzki, Arnell, and Konazewski. 3,377,772.

Schellenberger, Hans: *See*—
Puschel, Walter, Schellenberger, Loffler, Wahl, and Pelz. 3,378,554.

Schellhammer, Carl-Wolfgang, and A. Wagner, to Farbenfabriken Bayer Aktiengesellschaft. 1,3-diphenyl pyrazolines and method for brightening synthetic material therewith. 3,378,389, 4–16–68, Cl. 117—33.5.

Schepler, Herman C., to TRW Inc. Scanning system which optically locks on object and mechanically scans surrounding field. 3,378,687, 4–16–68, Cl. 250—203.

Scheret, John R., Co., Inc. and J. & E. Leasing Co.: *See*—
Gram, Carl A. 3,378,177.

Scherer, Wallace E. Fireplace screen. 3,378,008, 4–16–68, Cl. 126—202.

Schering, A.G.: *See*—
Arndt, Horst, and Steinhausen. 3,378,437.

Schering Corp.: *See*—
Villani, Frank J. 3,378,567.

Schiler, Frederick S., to Portage Machine Co. Three-dimensional layout device. 3,377,713, 4–16–68, Cl. 33—174.

Schindel Arnold, to General Precision Inc. Pressure indicator. 3,377,980, 4–16–68, Cl. 116—70.

Schindler, Alfred G. Combination foldable double bed and sofa. 3,377,635, 4–16–68, Cl. 5—45.

Schleppinghoff, Bernhard: *See*—
Brandt, Hans-Walther, Schleppinghoff, Bitners, and Meier. 3,378,465.

Schlichte, Max: *See*—
Sabban, Klaus, and Schlichte. 3,378,640.

Schluderberg-Kurdle Co., Inc.: *See*—
Rains, Richard W. 3,377,649.

Schlumberger Technology Corp.: *See*—
Current, James H. 3,378,078.
Fields, Roger Q. 3,378,069.

Schmidt, Gebruder, Metallwarenfabrik, Firma: *See*—
Schmidt, Karl W. 3,378,693.

Schmidt, Heinz: *See*—
Reinshagen, Paul Schmidt, Ziemer, and Henkel. 3,378,480.

Schmidt, Karl W., to Firma Gebruder Schmidt Metallwarenfabrik. Impulse sender for the drive of timing devices, preferably automatic permanent calendars. 3,378,693, 4–16–68, Cl. 307—132.

Schmidt, Walter J., Sr. Apparatus for loading cans into cartons. 3,377,771, 4–16–68, Cl. 53—153.

Schmoyer, Arthur R., to D. S. Wenger. Method of and apparatus for teaching the operation of a keyboard controlled machine or instrument. 3,377,716, 4–16–68, Cl. 35—6.

Schnell, Hermann: *See*—
Fritz, Gerhard, Hermann, and Schnell. 3,378,532.

Schnell, Hermann, H. Mylenbusch, and H. Krimm, to Farbenfabriken Bayer Aktiengesellschaft. Process for the production of stable prepolymerizates and shaped articles thereof. 3,378,533, 4–16–68, Cl. 260—78.5.

Schnuchel, Günther: *See*—
Bruns, Ludwig, and Schnuchel. 3,378,365.

Schnyder, Hans. Apparatus for grinding rails, especially frog noses and wing rails in switches and crossings. 3,377,751, 4–16–68, Cl. 51—178.

Schoenfelder, Carl W.: *See*—
Perry, Donald D., Fein, and Schoenfelder. 3,378,416.

Scholven-Chemie Aktiengesellschaft: *See*—
Meyer, Franz-Josef, and Rensmann. 3,378,603.

Schorb, John A. Wrench having pivoted jaws adjustable by a lockable exterior camming sleeve. 3,377,893, 4–16–68, Cl. 81—113.

Schrempp, Ernst, to Pitney-Bowes, Inc. Mechanical energy storage system. 3,377,882, 4–16–68, Cl. 74—567.

Schriber, Raymond L. Object matching game apparatus. 3,378,261, 4–16–68, Cl. 273—130.

Schuh, Charles H. Slide rule pen. 3,378,195, 4–16–68, Cl. 235—64.

Schultz, Herman S., to General Aniline & Film Corp. Homopolymers of methyl vinyl ether and processes for making same using borotrifluoride or etherates thereof, dioxane as catalyst and aromatic hydrocarbon as solvent. 3,378,537, 4–16–68, Cl. 260—91.1.

Schultz, Vernon A.: *See*—
Colvin, Donald, and Schultz. 3,378,479.

Schulz, George W.: *See*—
Greer, John W., Pierce, and Schulz. 3,378,111.

Schumacher, Erwin A., L. J. Uline, and H. A. Trull, to Union Carbide Corp. Anodic material amalgam-oxidant fuel cell. 3,378,405, 4–16–68, Cl. 136—86.

Schutz, Eckart F.: *See*—
Dinella, Donald, Kirschenbaum, and Schutz. 3,377,699.

Schwab, Bruce B. Automatic filing arrangement. 3,378,014, 4–16–68, Cl. 129—16.1.

Schwabe, William E., and J. A. Ciotti, to Union Carbide Corp. Electric furnace control. 3,378,620, 4–16–68, Cl. 13—9.

Schwartz, Benjamin S.: *See*—
Watson, Glenville R., and Schwartz. 3,378,346.

Schwartz, Herbert L., to S & S Industries Inc. Brassiere supporting frames. 3,378,012, 4–16–68, Cl. 128—476.

Schwartzman, Gilbert. Fluid dispenser. 3,378,330, 4–16–68, Cl. 401—260.

Schweitzer, Eugen, to Movit Industrieanstalt. Step motor including a U-shaped core with alternately energizable field windings thereon. 3,378,707, 4–16–68, Cl. 310—49.

Scott, Charles G. Motion converter. 3,377,874, 4–16–68, Cl. 74—143.

Scott & Fetzer Co., The: *See*—
Horrocks, Raymond G. 3,377,891.

Scott & Williams, Inc.: *See*—
McDonough, John J. 3,377,823.

Scovill Mfg. Co.: *See*—
Spender, Donald L., and Butler. 3,377,922.

Screen Gems, Inc.: *See*—
Wells, Ralph R. 3,378,194.

Seacrest, William G.: *See*—
French, George L., and Seacrest. 3,378,249.

Searle, G. D., & Co.: *See*—
Baran, John S. 3,378,570.
Bergstrom, Clarence G. 3,378,551.
Rorig, Kurt J., and Wagner. 3,378,557.

Sebring, Michael, to Armour and Co. Egg white composition, method of preparing and process utilizing same. 3,378,376, 4–16–68, Cl. 99—92.

Seeburg Corp., The: *See*—
Park, Donald M. 3,378,623.

Seel, Howard J.: *See*—
Ellis, Jarrett R., and Seel. 3,378,256.

Seibert, Elmer: *See*—
Carpenter, Woodrow W., and Seibert. 3,378,037.

Seipos, Andrew G., to Wollard Aircraft Service Equipment, Inc. Conveyance loader. 3,377,638, 4–16–68, Cl. 14—71.

Sekulich, Mark M. Door locking and latching device. 3,378,290, 4–16–68, Cl. 292—40.

Selas Corp. of America: *See*—
Benkert, Irwin G. 3,378,064.

Selenia-Industrie Elettroniche Associate S.p.A.: *See*—
Romano, Vincenzo. 3,378,838.

Sellers, Ralph F., to Union Carbide Corp. Epoxy resins from polyhydric phenol-terpene addition products. 3,378,525, 4–16–68, Cl. 260—47.

Seney, John S., to E. I. du Pont de Nemours and Co. Slip detection circuit. 3,378,744, 4–16–68, Cl. 318—167.

Seth, Einar, to Aktiebolaget Svenska Flaktfabriken. Louvered damper. 3,377,745, 4–16–68, Cl. 46—92.

Shadd, Le Roy F.: *See*—
Mentink, Raymond C., and Shadd. 3,378,684.

Shaffer Tool Works: *See*—
Smith, Warren W. 3,378,281.

Shapiro, Harold S.: *See*—
Joy, Lester M., Nino, and Shapiro. 3,377,819.

Shapiro, Sydney H., to Armour Industrial Chemical Co. Preparation of tertiary amines from alkyl sulfates. 3,378,588, 4–16–68, Cl. 260—583.

Shashoua, Fred E., and F. D. Kell, to Radio Corp. of America. Control system for helical scan recorder. 3,378,646, 4–16–68, Cl. 179—100.2.

Sheldon, Philip, and T. J. Bacsanyi, to Model Products Corp. Transmission for slot racers. 3,377,742, 4–16–68, Cl. 46—243.

Shell Oil Co.: *See*—
Berger, Jerry E. 3,378,494.
Doyle, Marshall E. 3,378,518.
Hassell, Howard L. 3,378,608.
Kruik, Hulbrecht. 3,378,024.
Martin, Robert W. 3,378,522.
Otteman, Lloyd G., and Rohloff. 3,378,066.
Overcashier, Robert H. 3,378,614.
Rijnsdorp, Johannes E. 3,378,464.
Sawyer, Webster M., Jr. 3,378,424.
Titus, Paul E. 3,378,363.

Sherman, Nathaniel H., to American Mfg. Co., Inc. Buckle for flexible strapping. 3,377,666, 4–16–68, Cl. 24—16.

Sherman, Samuel M., to Radio Corp. of America. Monopulse tracking radar system capable of locating a plurality of unresolved targets. 3,378,843, 4–16–68, Cl. 343—16.

Sherrill, Joseph H., and J. R. Pinkham, to R. J. Reynolds Tobacco Co. Package and blank for a package. 3,378,187, 4–16–68, Cl. 229—51.

Shimizu, Kiyoshige: *See*—
Kanazawa, Shogo, Konno, Shimizu, and Kosuge. 3,377,838.

Shiner, Edward A., H. S. Chiu, and F. T. Kambara, to Union Carbide Corp. Food casing and method of producing same. 3,378,379, 4–16–68, Cl. 99—176.

Shionogi & Co., Ltd.: *See*—
Komeno, Taichiro, and Tokutake. 3,378,548.
Takamizawa, Akira, and Sato. 3,378,555.

Shipley, Calvin G.: *See*—
Brassaw, Robert F., and Shipley. 3,377,674.

Shirk, Robert M., to Air Products and Chemicals, Inc. Apparatus for treating mixed-phase fluid reactants. 3,378,349, 4–16–68, Cl. 23—288.

Shiwaku, Kozo. Means for applying rolling contact torque transmission to worm gearing. 3,377,879, 4–16–68, Cl. 74—425.

Shoafstall, Earl F.: *See*—
Beavers, Joseph H., O'Callaghan, and Shoafstall. 3,377,851.

Shockley, Alvin B.: *See*—
Politzer, Alfred, Teng, Pekarek, and Shockley. 3,377,652.

Short, Robert A.: *See*—
Goldberg, Jacob, and Short. 3,378,776.

Shrader, Charles D. Combined computer and plotter for aeronautical, nautical and similar uses. 3,377,706, 4–16–68, Cl. 33—75.

Shuey, Henry M.: *See*—
Kincaid, John F., and Shuey. 3,378,611.

Shull, Gilbert M.: *See*—
Huang, Hsing T., and Shull. 3,378,461.

Shumaker, Lyle L., to Pittsburgh Plate Glass Co. Abrasive marking. 3,377,749, 4–16–68, Cl. 51—8.

Sickles, Ralph E. Autocatalytic deposition of nickel, cobalt and alloys thereof. 3,378,400, 4–16–68, Cl. 117—160.

Siddall, John B.: *See*—
Edwards, John A., Fried, and Siddall. 3,378,549.

Siebert, Whitney B.: *See*—
Garland, Thomas N. 3,377,946.

Siebol, George: *See*—
Stau, Elvert H., and Siebol. 3,377,908.

Siegrist, George W., and K. Zeitz, to Air Products and Chemicals, Inc. Liquefaction process employing expanded feed as refrigerant. 3,377,811, 4–16–68, Cl. 62—11.

Siemens Aktiengesellschaft: *See*—
Emeis, Reimer. 3,378,735.
Gramer, Gottfried, and Kausz. 3,378,450.
Kesselring, Fritz. 3,378,727.
Kim, Jong-Dok. 3,378,253.
Leypold, Dieter. 3,378,774.
Poppinger, Herbert, Volkman, and Liska. 3,378,753.
Sabban, Klaus, and Schlichte. 3,378,640.
Traub, Karl, and Magerl. 3,378,794.
Waubke, Nils V., Winsel, and Justi. 3,378,403.

Sigerist, Carl, & Cie: *See*—
Kellerhals, Erwin. 3,377,748.

Silk, Herbert L. Blacking element for sliding closure. 3,378,293, 4–16–68, Cl. 292—202.

Silvestri, Michael A., H. B. Goldstein, and G. E. Sprenger, to Sun Chemical Corp. Highly alkylolated textile finishing composition and process for treating textile fabric therewith. 3,378,397, 4–16–68, Cl. 117—139.4.

Simmonds Precision Products, Inc.: *See*—
Thaler, Sherwood, and Gronner. 3,377,861.

Simon, John. Device for making a winding staff. 3,377,889, 4–16–68, Cl. 77—62.

Simons, Charles C., and R. L. Bradford, to United States of America, Atomic Energy Commission. Explosion welding of incompatible metals. 3,377,694, 4–16–68, Cl. 29—470.1.

Simplex Mfg. Co.: *See*—
Colvin, Donald, and Schultz. 3,378,479.

Singer Co., The: *See*—
Brandriff, Robert C. 3,378,197.

Singer, Gerald. Valet hanger for ties and the like. 3,378,180, 4–16–68, Cl. 223—87.

Singer, John P.: *See*—
Gassman, Max P., and Singer. 3,377,708.

Singleton, Peter, to Loewy Engineering Co. Ltd. Metal tube extrusion press with mandrel cooling device. 3,377,832, 4–16–68 Cl. 72—263.

Sirou, Francis: *See*—
Guyot, Lucien F., Driard, and Sirou. 3,378,714.

Skelton, Arthur W., Jr. Roofing shingle. 3,377,761, 4–16–68, Cl. 52—530.

Slivka, William R.: *See*—
Babington, Robert S., Yetman, and Slivka. 3,378,238.

Slykhouse, Thomas E.: *See*—
Grant, Charles H., and Slykhouse. 3,377,909.

Smirl, Richard L., to Borg-Warner Corp. Blank for forming a cover plate. 3,378,358, 4–16–68, Cl. 29—190.

Smith, A. O., Corp.: *See*—
McClean, William G. 3,378,427.

Smith, Addison R., II, to Anaconda Aluminum Co. Strip electrical coils. 3,378,801, 4–16–68 Cl. 336—206.

Smith, Bruce W., to Lockheed Aircraft Corp. Method of molding powdered metal. 3 378,369, 4–16–68, Cl. 75—206.

Smith, Carlyle F., Jr., and W. B. Crandall, to Pfaudler Permutit Inc. Method of making carbon containing glass and product thereof. 3 378,431, 4–16–68, Cl. 161—1.

Smith, Donald L., to Digital Equipment Corp. Data communication system. 3,378,820, 4–16–68 Cl. 340—172.5.

Smith, Douglas W., to V-M Corp. Pivotally mounted adapter. 3,378,265, 4–16–68, Cl. 274—10.

Smith, Egmont S., to B & B Engineering Co., Inc. Insulated tanks. 3,378,162, 4–16–68, Cl. 220—9.

Smith, James F., and R. Miller, to Westinghouse Electric Corp. Method of craterless electron beam welding. 3,378,670, 4–16–68, Cl. 219—121.

Smith Kline & French Laboratories: *See*—
Cromley, William H. 3 378,675.
Loev, Bernard, and Walz. 3,378,442.

United-Carr Inc.: *See*—
Bowley, Thomas W., and Smith. 3,377,836.

Smith, Marion D.: *See*—
Tuck, Robert M., Mooney, and Smith. 3,377,885.

Smith, Melvin H.: *See*—
Miller, Kenneth F., and Smith. 3,378,704.

Smith, Norman J. Calibrating pressure switch. 3,378,657, 4–16–68 Cl. 200—83.

Smith Raymond M., Jr. Anesthetic apparatus. 3,378,005, 4–16–68, Cl. 128—188.

Smith, Robert E. Insulated goggles. 3,377,626, 4–16–68, Cl. 2—14.

Smith, Samuel H. Method and apparatus for severing well casing in a submarine environment. 3,378,072, 4–16–68, Cl. 166—35.

Smith, Warren W., to Shaffer Tool Works. Universal connecting joint. 3,378,281, 4–16–68, Cl. 285—27.

Smith, William J., Jr., to Cleveland Steel Products Corp. Universal joint seal. 3,377,820, 4–16–68, Cl. 64—17.

Snell, Ellwood L., to United States Register Co. Register for heating and air conditioning. 3,378 199, 4–16–68, Cl. 236—49.

Snow, Lawrence L. Artificial fishing lure. 3,377,734, 4–16–68, Cl. 43—42.24.

Snyder, Clifford H., Jr. Valved fluid-tight coupling 3,378,225, 4–16–68, Cl. 251—149.6.

Snyder, Herbert C., to Brockway Glass Co., Inc. Container dispenser. 3,378,176, 4–16–68, Cl. 222—389.

Snyder Mfg. Co.: *See*—
Mandl, Matthew. 3,378,850.

Sobel, David: *See*—
Frederick, Martin B., and Sobel. 3,378,321.

Societa Italiana Telecommunicazioni Siemens S.p.A.: *See*—
Luzzatto, Giorgio. 3 378,769.

Societe Anonyme Francaise du Ferodo: *See*—
Maurice, Jean. 3,378,118.

Societe d'Etudes Chimiques Pour l'Industrie et l'Agriculture: *See*—
Martin, Jean, and Andrieu. 3,378,340.

- Societe Etudes et Fabrications : *See*—
  - Lemaire, Roland. 3,377,791.
- Societe Industrielle Bull-General Electric (Societe Anonyme) : *See*—
  - Donabin, Claude J. 3,378,251.
  - Hannicq, Jacques G. L., and Burel. 3,378,819.
- Societe Nationale des Petroles d'Aquitaine Tour Aquitaine: *See*—
  - Ourgaud, Janine. 3,378,534.
- Societe Nouvelle d'Exploitation des Etablissements Boilot-Petolat : *See*—
  - Marrie, Paul. 3,378,147.
- Soderberg, Carl E. Automatic cleansing system for ice making machines. 3,377,815, 4–16–68, Cl. 62—137.
- Solid Fuels Corp., The : *See*—
  - Hodgson, James E. 3,377,955.
- Song, Won-Ryul, and D. W. Brownawell, to Esso Research and Engineering Co. Diene polymers grafted with dienophile monomers as oil additives. 3,378,492, 4–16–68, Cl. 252—51.
- Sonoco Products Co. : *See*—
  - Coker, Richard G., and Dunlap. 3,377,985.
- Sons, Charles C., Jr., to Caterpillar Tractor Co. Multi-wheeled oscillating carriage. 3,378,095, 4–16–68, Cl. 180—75.
- Sorenson, Paul H., to Johnson Service Co. Fluid flow sensing system. 3,378,022, 4–16–68, Cl. 137—81.5.
- Sorenson, Wesley T., to Carling Electric, Inc. Variable speed control trigger for electric switch. 3,378,662, 4–16–68, Cl. 200—157.
- Soscia, Bamby L., to The New York Air Brake Co. Telemeter system. 3,378 816, 4–16–68, Cl. 340—147.
- Spangler, Edward L. : *See*—
  - Garland, Thomas N. 3,377,946.
- Sparks, Anthony A., to The Distillers Co., Ltd. Process for preparing sulfur modified polychloroprene. 3,378,538, 4–16–68, Cl. 260—92.3.
- Sparlin, Derry D., to Continental Oil Co. Method for consolidating incompetent subterranean formations. 3,378,071, 4–16–68, Cl. 166—33.
- Speed, Raymond A. : *See*—
  - Jones, Alva M., Planchard, and Speed. 3,378,607.
- Spencer, Francis T., to West-Point-Pepperell, Inc. Limp and drapeable polyurethane foam sheeting and method of making it. 3 378,432, 4–16–68, Cl. 161—116.
- Spencer, William R., and D. E. Thomas, to General Electric Co. Synchronizing control circuit. 3,377,924, 4–16–68, Cl. 91—171.
- Spender Donald L., and G. L. Butler, to Scovill Mfg. Co. Ambient pressure compensated transmission throttle valve control. 3,377,922, 4–16–68, Cl. 92—36.
- Speranza, George P., and E. L. Yeakey, to Jefferson Chemical Co., Inc. Alkylene oxide adducts of N-alkylcyclohexyl-1,3-propanediamines. 3,378,503, 4–16–68, Cl. 260—2.
- Sperry Rand Corp. : *See*—
  - Duerr Melvin V., Granberg, and Stoffel. 3,378,720.
  - Marette, George F. 3,378,695.
- Spillmann, Werner, to Escher Wyss Aktiengesellschaft. Nuclear reactor gas-turbine plant with emergency cooling. 3,377,800, 4–16–68, Cl. 60—59.
- Spitfire Tool & Machine Co., Inc. : *See*—
  - Day, Lawrence. 3,377,750.
- Spon Carroll V., to National Lock Co. Locking means for a door lock. 3,378,292, 4–16–68, Cl. 292—169.
- Sponsler, John B. Extension device for hand drill. 3,377,888, 4–16–68, Cl. 77—7.
- Sprenger, Gerhard E. : *See*—
  - Silvestri, Michael A., Goldstein, and Sprenger. 3 378,397.
- Springer, Edward M., to Heyer Inc. Sheet guiding and restraining mechanism. 3,378,252, 4–16–68, Cl. 271—61.
- Spurgeon, Richard C. Method and apparatus for processing yarn. 3,377,672, 4–16–68, Cl. 28—1.
- Square D Co. : *See*—
  - Eckl, James J., and Guettel. 3,378,696.
  - Rys, Tadeusz J. 3,378,666.
- Squibb, E. R. & Sons, Inc. : *See*—
  - Krapcho, John. 3,378,586.
- Squitieri, Vincent, and D. J. Wollmar, to W. R. Grace & Co. Matrix material for molding duplicate printing plates. 3,377,950, 4–16–68, Cl. 101—401.2.
- Stacy, Robert G., to The Budd Co. Ventilated disc brake assembly. 3,378,117, 4–16–68, Cl. 188—264.
- Staley, William C. Keying device. 3,378,285, 4–16–68, Cl. 287—52.05.
- Standard Oil Co. : *See*—
  - Walston, Kenneth R., and Couper. 3,378,359.
- Standley, Wendell E. : *See*—
  - Nigrelli, Biagio J., Standley, and Wittmann. 3,377,774.
- Stanford Research Institute : *See*—
  - Goldberg, Jacob, and Short. 3,378,776.
  - Macovski, Albert. 3 378,633.
  - Macovski, Albert. 3,378,634.
- Stanley, Leroy H. Counterweight for side boom tractor. 3,378,148, 4–16–68, Cl. 212—49.
- Stanton, Wilfred E., to Metallisation Ltd. Metal spraying apparatus. 3,378,203, 4–16–68, Cl. 239—84.
- Stark, Marvin K., to General Motors Corp. Short range radio telemetry. 3,378,828, 4–16–68, Cl. 340—206.
- Start, Ernest, and R. Blood, to William Cotton Ltd. Straight bar knitting machines. 3,377,822, 4–16–68, Cl. 66—88.
- Statni Vyzkumny Ustav Sklarsky : *See*—
  - Vach, Josef, and Susser. 3,378,618.
- Stau, Elvert H., and G. Siebol, to Olympic Screw & Rivet Corp. Blind rivet assembly with locking means. 3,377,908, 4–16–68, Cl. 85—78.
- Stearns-Roger Corp., The : *See*—
  - Borasio, Leo, Ronlov, and Jancewicz. 3,378,304.
- Stehn, Everett L. : *See*—
  - Mattimoe, George E., Stehn, and Swan. 3,377,775.
- Stein, Joseph L., to General Refractories Co. Refractory brick and method of making. 3,378,384, 4–16–68, Cl. 106—65.
- Steinbach, Hermann F. W., and W. F. G. Heynen. Hydraulic high-pressure cylinder with rotary piston. 3,377,923, 4–16–68, Cl. 92—121.
- Steiner, Larry T., to Athey Products Corp. Hauling apparatus for slag and the like. 3,378,155, 4–16–68, Cl. 214—390.
- Steiner, Rudolf. Electromagnetic relay utilizing a single-leaf, magnetically conductive and resilient core structure. 3,378,798, 4–16–68, Cl. 335—93.
- Steinhausen, Walter : *See*—
  - Arndt, Horst, and Steinhausen. 3,378,437.
- Steinmetz, Hyman : *See*—
  - Kolodiney, Morris, and Steinmetz. 3,378,478.
- Stephens, John F., III, to General Motors Corporation. Disc damper. 3,378,115, 4–16–68, Cl. 188—218.
- Stephenson, Robert M. : *See*—
  - Yamamoto, James S., and Stephenson. 3,378,380.
- Sternberg, James C. : *See*—
  - Bochinski, Julius H., and Sternberg. 3,378,725.
- Sterrett, David O. : *See*—
  - Crichton, Raymond K., and Sterrett. 3,377,934.
- Stevenson, John, Jr., and R. E. Taggart, said J. Stevenson, Jr., assor. to FMC Corp., and said R. E. Taggart assor. to American Can Co. Carton transfer apparatus. 3,378,128, 4–16–68, Cl. 198—20.
- Stevenson, Ross S. Portable floor treatment machine. 3,377,639, 4–16–68, Cl. 15—98.
- Stewart, Jack D. M., to McGraw-Edison Co. Mechanism for moving pressing chest. 3,378,178, 4–16–68, Cl. 223—57.
- Stewart, John L., to Santa Rita Technology, Inc. High frequency switching system. 3,378,700, 4–16–68, Cl. 307—254.
- Stiles, Robert G. Dental floss applicator. 3,378,017, 4–16–68, Cl. 132—92.
- Stoffel, Jerome J. : *See*—
  - Duerr, Melvin V., Granberg, and Stoffel. 3,378,720.
- Stokes, Rufus, to R. S. Engineering Co., Inc. Exhaust purifier. 3,378,241, 4–16–68, Cl. 261—121.
- Stoldt, Clayton L. : *See*—
  - Peltz, John R., and Stoldt. 3,378,764.
- Stoller, Frederick L., to Phillips Petroleum Co. Method and apparatus for crimping filaments. 3,377,673, 4–16–68, Cl. 28—1.
- Stone Container Corp. : *See*—
  - Rorer, Donald R. 3,377,770.
- Stone, Orison W., to R. A. Jones and Co., Inc. Display carton. 3,378,137, 4–16–68, Cl. 206—45.14.
- Stone, Orison W., to R. A. Jones and Co., Inc. Shadow box having integral mitered corners. 3,378,135, 4–16–68, Cl. 206—45.14.
- Stonecipher, Harry C. : *See*—
  - Kronk, Richard M., and Stonecipher. 3,377,779.
- Storch, Bernard. Anchoring means for masonry walls. 3,377,764, 4–16–68, Cl. 52—713.
- Story, Wayne G. Material holding and guide attachment for sewing machines. 3,377,968, 4–16–68, Cl. 112—2.
- Strabag Bau-A.G. : *See*—
  - Haas, Hans. 3,377,839.
- Straub, Melvin J. : *See*—
  - Mommsen, Gordon V., and Straub. 3,377,984.
- Strauss, Andrew J. D., and J. Zemanek, Jr., to Mobil Oil Corp. Transducer rotating mechanism for borehole logging tools. 3,378,097, 4–16–68, Cl. 181—.5.
- Strecton Industries Inc. : *See*—
  - Nelson, Laurence T. 3,377,766.
- Stucky, Fritz C., and R. Menli. Prefabricated building units including prestressed floor panels with upstanding end members connected by tension means. 3,377,755, 4–16–68, Cl. 52—79.
- Sulzer Brothers Ltd. : *See*—
  - Brockel, Gerhard. 3,377,790.
- Sun Chemical Corp. : *See*—
  - Silvestri, Michael A., Goldstein, and Sprenger. 3,378,397.
- Sunbeam Corp. : *See*—
  - Morton, William A. 3,378,243.
- Supreme Steel Equipment Corp. : *See*—
  - Frederick, Martin B., and Sobel. 3,378,321.
- Susquehanna Corp., The : *See*—
  - Blumenkranz, James J. 3,378,672.
  - Emerson Gerard V. D. 3,377,956.
  - Greley, Charles E. 3,377,765.
  - Oss, George K., Dunfee, and Webster. 3,378,216.
- Susser, Vaclav : *See*—
  - Vach, Josef, and Susser. 3,378,618.
- Sutherland, Gail R. : *See*—
  - Copley, Russell D., and Sutherland. 3,378,309.
- Sutton, John S., to International Business Machines Corp. Digital coarse and fine stepping motor control using an encoder for coarse position. 3,378,741, 4–16–68, Cl. 318—18.
- Svec, Jarslov L., to St. John & Co. Homogenizer. 3,378,234, 4–16–68, Cl. 259—4.
- Swan, Donald G. : *See*—
  - Mattimoe, George E., Stehn, and Swan. 3,377,775.
- Swanke, Roy L., to Dynamics Corp. of America. Stator structure for dynamo-electric machines. 3,378,711, 4–16–68, Cl. 310—260.
- Swanson, Betty F., to Rayette-Faberge, Inc. Hair bleaching composition. 3,378,444, 4–16–68, Cl. 167—88.
- Swartz, George A. : *See*—
  - Napoli, Louis S., and Swartz. 3,378,723.
- Swartz, Paul S., to General Electric Co. Superconductive shield. 3,378,691, 4–16–68, Cl. 307—91.
- Sweet, John W. : *See*—
  - Codling, John W., and Sweet. 3,378,010.
- Syak, Charles W. : *See*—
  - Anderson, Curtis A., and Syak. 3,377,963.

- Sylvania Electric Products, Inc. : *See*—
  - Gartner, Stanley J. 3,377,679.
  - Peltz, John R., and Stoldt. 3,378,764.
- Symore, Max L. : *See*—
  - Garland, Thomas N.
- Synck, Adolph J. Cornice frame. 3,378,057, 4–16–68, Cl. 160—39.
- Syntex Corp. : *See*—
  - Edwards, John A., Fried, and Siddall. 3,378,549.
- Szentkuti, Charles, and D. G. Nolles, to Ivanhoe Research Corp. Method and apparatus for automatically sewing along the contoured edge of a fabric workpiece. 3,377,967, 4–16–68, Cl. 112—2.
- T.I. Stainless Tubes Ltd. : *See*—
  - Ross, Horace K., and Frost. 3,377,831.
- T.M.M. (Research) Ltd. : *See*—
  - Whittaker, Harold. 3,377,793.
- TRW Inc. : *See*—
  - Graves, Ross E. 3,378,837.
  - Harris, Samuel J., and Caron. 3,378,795.
  - McIver, George W. 3,378,738.
  - Schepler, Herman C. 3,378,687.
- Taber Instrument Corp. : *See*—
  - Flavin, Daniel J. 3,377,866.
- Taggart, Robert E. : *See*—
  - Stevenson, John, Jr., and Taggart. 3,378,128.
- Takamizawa, Akira, and Y. Sato, to Shionogi & Co., Ltd. Thiazine compounds and production thereof. 3,378,555, 4–16–68, Cl. 260—243.
- Talon, Inc. : *See*—
  - Carlile, Alfred E., and Manning. 3,377,668.
- Tamblyn, John W. : *See*—
  - Newland, Gordon C., and Tamblyn. 3,378,519.
- Tanaka, Shigeyoshi, and T. Minami, to Hitachi Kasei Kogyo Kabushiki Kaisha. Resinoids of carboxy containing copolymers containing unsaturated acids, amides, other vinyl monomers and epoxides. 3,378,601, 4–16–68, Cl. 260—831.
- Tarex S.A. : *See*—
  - Matthey, Maurice L. 3,377,680.
- Tarnow, Horst, H. Holtschmidt, and O. Bayer, to Farbenfabriken Bayer Aktiengesellschaft. Heptachloroquinoline. 3,378,559, 4–16–68, Cl. 260—283.
- Taub, David, R. D. Hoffsommer, Jr., and N. L. Wendler, to Merck & Co., Inc. Process of hydrolyzing 16β-alkyl-16α,17α-oxido 11,20-bis-oxygenated - 1,4 - pregnadiene - 3,20 - diones. 3,378,574, 4–16–68, Cl. 260—397.45.
- Taylor, Hugh B. : *See*—
  - Van Nederynen, Gerrit, and Taylor. 3,377,921.
- Telecommunications Radioelectriques & Telephoniques : *See*—
  - Daguet, Jacques L. 3,378,770.
- Teledyne, Inc. : *See*—
  - Welty, Joseph M. 3,378,737.
- Telkamp, Donald L., to Collins Radio Co. Seeking switch motor control system. 3,378,742, 4–16–68, Cl. 318—33.
- Temple, Fred, to Westinghouse Air Brake Co. Method and means of brake control during cycling operation employing portable brake cylinder pressure retaining devices. 3,378,313, 4–16–68, Cl. 303—75.
- Teng, James, and W. Kendall, to Nylonge Corp. Wiping device. 3,377,643, 4–16–68, Cl. 15—118.
- Teng, James : *See*—
  - Politzer, Alfred, Teng, Pekarek, and Shockley. 3,377,652.
- Ternes, Donald J., and R. E. Ford, to Ternes Steel Co. Safety visor hinge. 3,378,297, 4–16–68, Cl. 296—97.
- Ternes Steel Co. : *See*—
  - Ternes, Donald J., and Ford. 3,378,297.
- Terry, James W. : *See*—
  - Leonard, John R., and Terry. 3,378,067.
- Texas Industries, Inc. : *See*—
  - Van der Lely, Cornelis. 3,377,789.
- Texas Instruments Inc. : *See*—
  - Johnson, Carl N. 3,378,656.
- Textile Machine Works : *See*—
  - Moyer, James D. 3,377,824.
- Thaler, Sherwood, and A. D. Gronner, to Simmonds Precision Products, Inc. Electronic liquid measuring system. 3,377,861, 4–16–68, Cl. 73—304.
- Thiokol Chemical Corp. : *See*—
  - Chase, Wayne R., and Hovnanian. 3,378,204.
  - Neal, Charles M. 3,377,841.
- Tholstrup, Clarence E., A. Bell, and C. J. Kibler. Polyolefins and paraffin waxes stabilized with thiodialkanoate polyesters. 3,378,516, 4–16–68, Cl. 260—45.8.
- Thomas, David E. : *See*—
  - Spencer, William R., and Thomas. 3,377,924.
- Thomas, Frederick H. : *See*—
  - Kucharski, Thaddeus W., Thomas, and Quarve. 3,377,655.
- Thomas, Paul E. Reciprocating gate control. 3,377,746, 4–16–68, Cl. 49—242.
- Thomasnek, Franz R. Detonator. 3,377,953, 4–16–68, Cl. 102—70.
- Thompson, Ira G. : *See*—
  - Coltharp, Bruce R., Heinrich, and Thompson. 3,378,466.
- Thompson, James T., and R. M. Holdeman. Heat generator. 3,377,743, 4–16–68, Cl. 47—2.
- Thompson, Paul, to Bestpak, Inc. Box blank having integral frame for removable cover. 3,378,186, 4–16–68, Cl. 229—44.
- Thornton, William A., Jr., to Westinghouse Electric Corp. Electroluminescent device which incorporates barium oxide films as breakdown protection. 3,378,715, 4–16–68, Cl. 313—108.
- Thorpe, Charles L. : *See*—
  - Coltharp, Bruce R., Heinrich, and Thompson. 3,378,466.
- Thun, Alfred. Pedal. 3,377,883, 4–16–68, Cl. 74—594.2.
- Thurman, Paul E., to Hans Sickinger Co. Apparatus for producing helical coils. 3,378,045, 4–16–68, Cl. 140—92.94.
- Tilden, Carl V. Self-contained vacuum forming apparatus. 3,377,656, 4–16–68, Cl. 18—19.
- Tillman, Russell I. Power boat outdrive assemblies. 3,377,978, 4–16–68, Cl. 115—35.
- Tipper, Maynard J. G., to Rheem Mfg. Co. Clipping apparatus. 3,377,692, 4–16–68, Cl. 29—243.57.
- Tipping, Geoffrey N., to Jenag Equipment Ltd. Straining apparatus for paint and the like. 3,378,143, 4–16–68, Cl. 210—411.
- Tissier, Robert C. F. : *See*—
  - Ninet, Leon, Renaut, and Tissier. 3,378,460.
- Titus, Paul E., to Shell Oil Co. Method of imparting hardness on water-soluble particles. 3,378,363, 4–16–68, Cl. 71—64.
- Tixier, Georges : *See*—
  - Griffon, Henri, and Tixier. 3,378,377.
- Toa Nenryo Kogyo Kabushiki Kaisha : *See*—
  - Usami, Seiji, Kondo, Nishimura, and Koga. 3,378,590.
- Tobey, Richard. Time measuring circuit for determining projectile velocity. 3,378,766, 4–16–68, Cl. 324—68.
- Tochacek, Miroslav : *See*—
  - Vajda, Andrej, Danhel, and Tochacek. 3,377,821.
- Todd, Keith W., to Associated Electrical Industries Ltd. Instruments for ascertaining static-pressures. 3,377,864, 4–16–68, Cl. 73—392.
- Tofflemire, Benjamin F. Dental instrument with detachable matrix band clamping block. 3,377,705, 4–16–68, Cl. 32—63.
- Tokutake, Norio : *See*—
  - Komeno, Taichiro, and Tokutake. 3,378,548.
- Toomey, Myron D., to General Electric Co. Mounting of blades in turbomachine rotors. 3,378,230, 4–16–68, Cl. 253—77.
- Toops, Emory E., Jr., and R. S. Egly, to Commercial Solvents Corp. Process for producing nitrohydrocarbons. 3,378,596, 4–16–68, Cl. 260—644.
- Towne, Walter T., to Weston Instruments, Inc. Oscillator with low distortion feedback gain control. 3,378,791, 4–16–68, Cl. 331—183.
- Toyo Rayon Kabushiki Kaisha : *See*—
  - Tsutsumi, Tadao. 3,378,577.
- Trabold, William G., to General Motors Corp. Single transistor synchronous bistable magnetic device. 3,378,689, 4–16–68, Cl. 307—88.
- Trane Co., The : *See*—
  - Petranek, David J. 3,377,817.
  - Ringquist, Clarence L., and Lorenz. 3,378,062.
- Tranel, Lester J., to Olin Mathieson Chemical Corp. Method of making a heat exchanger. 3,377,683, 4–16–68, Cl. 29—157.3.
- Transco Inc. : *See*—
  - Waite, William. 3,377,760.
- Traub, Karl, and J. Magerl, to Siemens Aktiengesellschaft. Electromechanical transducer and filter. 3,378,794, 4–16–68, Cl. 333—71.
- Trepanier, Donald L., to The Dow Chemical Co. 3,4,5,6-tetrahydro - 2 - keto - 6 - phenyl-4,4,5-trimethyl-2H-1,3,4-oxadiazinium halides. 3,378,556, 4–16–68, Cl. 260—244.
- Trudeau, Aime. Combination lamp and mirror. 3,378,679, 4–16–68, Cl. 240—4.2.
- Trudeau, Donald : *See*—
  - Austin, Walter H., Jr., and Trudeau. 3,377,918.
- Trull, Helio A. : *See*—
  - Schumacher, Erwin A., Uline, and Trull. 3,378,405.
- Trumbull Development Corp. : *See*—
  - Anderson, Curtis A., and Syak. 3,377,963.
- Trusock, George J., to Clark Equipment Co. Upright mounting means for lift truck. 3,378,159, 4–16–68, Cl. 214—672.
- Tryco Mfg. Co., Inc. : *See*—
  - Jacobs, Carl M. 3,378,279.
- Tsukishima Kikai Co., Ltd. : *See*—
  - Kasai, Tatusi. 3,378,236.
- Tsutsumi, Tadao, to Toyo Rayon Kabushiki Kaisha. Method for manufacturing purified bis-(β-hydroxyethyl)terephthalate. 3,378,577, 4–16–68, Cl. 260—475.
- Tsuzuki, Toshio, to American Maize-Products Co. Hydroxypropyl starch ether. 3,378,546, 4–16–68, Cl. 260—233.3.
- Tuck, Robert M., J. J. Mooney, Jr., and M. D. Smith, to General Motors Corp Transmission. 3,377,885, 4–16–68, Cl. 74—720.5.
- Tucker, James F. : *See*—
  - Winzeler, John W., and Tucker. 3,378,391.
- Tucker, Noel C. Method and product for shielding windings. 3,378,626, 4–16–68, Cl. 174—35.
- Tunnell, Winfred L. Spreading apparatus for dry powdered material. 3,378,174, 4–16–68, Cl. 222—193.
- Turnau, Robert R., and D. B. Poynter, to Automated Golf Systems, Inc. Fully automatic golf ball teeing device. 3,378,263, 4–16–68, Cl. 273—201.
- Turtle, Quentin C. : *See*—
  - Cola, Pasco A., and Turtle. 3,377,855.
- Tyas, Karl : *See*—
  - Firestein, Harry, Tyas, and Freeman. 3,377,971.
- Udy, Lex L., R. B. Clay, and W. N. Bryan, to Intermountain Research & Engineering Co., Inc. System for producing a blended fluid explosive composition. 3,378,235, 4–16–68, Cl. 259—8.
- Uijen, Joannes M. A. : *See*—
  - Van Kessel, Theodorus J., and Uijen. 3,378,772.
- Ulderup, Jurgen. Universal joint construction. 3,378,287, 4–16–68, Cl. 287—88.
- Uline, Lawrence J. : *See*—
  - Schumacher, Erwin A., Uline, and Trull. 3,378,405.
- Ulrich Foundation, Inc. : *See*—
  - Ulrich, Raymond M. 3,378,084.
- Ulrich, Raymond M., to Ulrich Foundations, Inc. Earth materials handling apparatus. 3,378,084, 4–16–68, Cl. 172—247.
- Uizurrum, Eduardo T. : *See*—
  - Kaufman, Bruce A., and Uizurrum. 3,378,822.
  - Kaufman, Bruce A., and Uizurrum. 3,378,823.

- Umphenour, Norman W.: *See*—
  - Claycomb, Richard S., Chase, Umphenour. 3,378,004.
- Unger, Paul. Safety binding for mounting of ski. 3,378,271. 4–16–68, Cl. 280—11.35.
- Union Carbide Corp.: *See*—
  - Bourdeau, Romeo G., and Papalegis. 3,378,345.
  - Freure, Benjamin T. 3,378,591.
  - Hamling, Bernard H. 3,378,451.
  - Lanham, William M. 3,378,497.
  - Pruett, Roy L., Wyman, Rink, and Parts. 3,378,569.
  - Schumacher, Erwin A., Uline, and Trull. 3,378,405.
  - Schwabe, William E., and Ciotti. 3,378,620.
  - Sellers, Ralph F. 3,378,525.
  - Shiner, Edward A., Chiu, and Kambara. 3,378,379.
- Union Starch & Refining Co., Inc.: *See*—
  - Patel, Chim P., Jaeger, and Pyle. 3,378,547.
- Uniroyal, Inc.: *See*—
  - Kontos, Emanuel G. 3,378,606.
- Unisearch Ltd.: *See*—
  - Morgan, John P. 3,378,761.
- United Aircraft Corp.: *See*—
  - Altman, David. 3,377,801.
  - Harrison, Robert W., and Delgrosso. 3,378,671.
  - Lee, Shu. 3,377,854.
  - Lucas, William R. 3,377,881.
- United Aircraft Products, Inc.: *See*—
  - Gersbacher, Harry C. 3,377,684.
- United-Carr Inc.: *See*—
  - Bowley, Thomas W., and Smith. 3,377,836.
  - FitzGerald, Robert E. 3,378,812.
  - Heath, Clarence W. 3,378,809.
- United Engineering and Foundry Co.: *See*—
  - De Chellis, Richard C. 3,377,687.
- United Kingdom Atomic Energy Authority: *See*—
  - Boocock, Peter M., and Milne. 3,378,283.
  - Bridge, Harry, and Kelly. 3,378,459.
  - Huston, Alexander E. 3,378,721.
- United Nuclear Corp.: *See*—
  - Mittelman, Phillip S. 3,378,447.
- United Wire & Supply Corp.: *See*—
  - Baker, Ellery L. 3,377,900.
- United States of America
  - Army: *See*—
    - Austin, Walter H., Jr., and Trudeau. 3,377,918.
    - Clark, Burton P. 3,377,919.
    - French, Harry H. 3,378,808.
    - Gerlach, Horst W. A. 3,378,789.
    - Guilbault, George G., and Kramer. 3,378,463.
    - Huxster, Robert G., and Katz. 3,378,703.
    - Madnick, Herman. 3,377,627.
    - Mooney, David H., Jr., and Coleman. 3,378,835.
    - Mooney, David H., Jr. 3,378,840.
    - Mooney, David H., Jr. 3,378,841.
    - Poehls, Vernon J. 3,378,730.
    - Rabinow, Jacob. 3,377,954.
    - Ruehrwein, Robert A., and Hashman. 3,378,351.
  - Atomic Energy Commission: *See*—
    - Bechberger, Paul F., Howe, and Brown. 3,377,871.
    - Buck, Keith K. 3,377,993.
    - Frantz, Charles E., and Vlacil. 3,377,886.
    - Gorker, George E. 3,378,453.
    - Green, Donald R., and Libby. 3,378,685.
    - Hilden, Richard H., Martin, Mills, and Winje. 3,378,-778.
    - Kolodney, Morris, and Steinmetz. 3,378,478.
    - Perry, Donald D., Fein, and Schoenfelder. 3,378,416.
    - Roberts, John J., and Croke. 3,378,449.
    - Simons, Charles C., and Bradford. 3,377,694.
  - Commerce: *See*—
    - Boynton, Ira D., and Bode. 3,378,257.
  - Interior: *See*—
    - George, D'Arcy R., and Riley. 3,378,336.
  - National Aeronautics and Space Administration: *See*—
    - Conn, Joseph H. 3,377,845.
    - Rom, Frank, E., Lietzke, and Hyland. 3,378,455.
  - Navy: *See*—
    - Kincaid, John F., and Shuey. 3,378,611.
    - Walker, Loren H. 3,378,751.
- United States Borax & Chemical Corp.: *See*—
  - Draganov, Samuel M. 3,378,381.
- United States Gypsum Co.: *See*—
  - Leding, Francis R. 3,378,246.
- United States Register Co.: *See*—
  - Snell, Ellwood L. 3,378,199.
- United States Steel Corp.: *See*—
  - Campbell, John A. 3,377,830.
  - Krahe, Francis J., and Rybarczyk. 3,378,248.
- Universal Oil Products Co.: *See*—
  - Bloch, Herman S. 3,378,334.
- Unk, Jacob M., and O. A. Guinau, to North American Philips Co., Inc. Information storage system. 3,378,674, 4–16–68, Cl. 235—61.12.
- Usami, Seiji, T. Kondo, K. Nishimura, and Y. Koga, to Tea Nenryo Kogyo Kabushiki Kaisha. Production of aldehydes and/or alcohols from compound having olefinic double bonds. 3,378,590, 4–16–68, Cl. 260—598.
- V-M Corp.: *See*—
  - Karecki, Marion R. 3,378,266.
  - Smith, Douglas W. 3,378,265.
- Vach, Josef, and V. Susser, to Statni Vyzkumny Ustav Sklarsky. Electric glass furnace. 3,378,618, 4–16–68, Cl. 13—6.
- Vajda, Andrej, A. Danhel, and M. Tochacek, to Elitex Zavody textilniho strojirenstvi. Apparatus for reinforcing fibrous material. 3,377,821, 4–16–68, Cl. 66—85.
- Vagts, Christopher R.: *See*—
  - Savin, Cornelius, Vorwald, and Vagts. 3,377,718.
- Vale, John S., and D. I. Pomerantz, to P. R. Mallory & Co., Inc. Diode packaging with integral heat sink. 3,378,736, 4–16–68, Cl. 317—234.
- Van Bogaert, Gustaaf E., to Gevaert Photo-Producten N.V. Industrial manufacture of ketene and acetic anhydride. 3,378,583, 4–16–68, Cl. 260—547.
- Vandeputte, Camille A., A. P. Wagemans, and A. H. De Roeck, to Gevaert Photo-Producten N.V. Durability of offset printing plates. 3,378,372, 4–16–68, Cl. 96—29.
- Van der Lely, Cornelis, to Texas Industries, Inc. Lateral displacement of crop lying on the ground. 3,377,789, 4–16–68, Cl. 56—377.
- Van Dorn, Jeffery: *See*—
  - Romanzi, Louis, Jr., and Van Dorn. 3,378,301.
- Van Dreser, Merton L., to Kaiser Aluminum & Chemical Corp. High magnesia product and process of making the same. 3,378,383, 4–16–68, Cl. 106—58.
- Van Gerwen, Petrus J., and F. de Jager, to North American Philips Co., Inc. Quadrature modulation pulse transmission system with improved pulse regeneration at receiver. 3,378,771, 4–16–68, Cl. 325—42.
- Van Kessel, Theodorus J., and J. M. A. Uijen, to North American Philips Co., Inc. Apparatus for correcting the transmitted signal envelope of a compatible single sideband transmitter. 3,378,772, 4–16–68, Cl. 325—137.
- Van Nederynen, Gerrit, and H. B. Taylor, to Ingersoll-Rand Co. Air starter. 3,377,921, 4–16–68, Cl. 91—53.
- Vartsos, Spyros G., and W. T. Douglas, Jr., to Martin-Marietta Corp. Redundancy-elimination system for transmitting each sample only if it differs from previously transmitted sample by predetermined amount. 3,378,641, 4–16–68, Cl. 179—15.55.
- Varta Aktiengesellschaft: *See*—
  - Waubke, Nils V., Winsel, and Justi. 3,378,403.
- Vaslet, Charles J., to Bonas Bros. Weavematic Looms (England) Ltd. Attachment for needle loom. 3,378,039, 4–16–68, Cl. 139—118.
- Vaughn, Rudolph M. Rapid threading fastener assembly. 3,378,054, 4–16–68, Cl. 151—19.
- Venable, Lawrence B., to General Electric Co. Air-oil separators for use in gas turbine engines. 3,378,104, 4–16–68, Cl. 184—6.
- Venier, Dominic A.: *See*—
  - Ross, Wilfred T., and Venier. 3,378,458.
- Vermilyea, David A., to General Electric Co. Anodized tantalum and niobium and method of forming an oxide coating thereon. 3,378,471, 4–16–68, Cl. 204—56.
- Vertex, Inc.: *See*—
  - Young, John C. 3,378,059.
- Victor Co. of Japan, Ltd.: *See*—
  - Hirota, Akira. 3,378,647.
- Viessmann, Klaus: *See*—
  - Alt, Rolf V., and Viessmann. 3,378,061.
- Vigelius, Wolf-Dieter, to Warner-Lambert Pharmaceutical Co. Substituted 1,4-bis(β-phenyl-β-acyloxyethyl) piperazines and their pharmaceutically acceptable acid addition salts. 3,378,553, 4–16–68, Cl. 260—240.
- Villani, Frank J., to Schering Corp. 5-diloweralkylamino-alkoxy ethers of 4-aza-10,11-dihydro-5H-dibenzo[a,d]-cycloheptene derivatives. 3,378,567, 4–16–68, Cl. 260—296.
- Vitello, John P. Self-inflating catheter with means to prevent leakage of inflation fluid. 3,378,011, 4–16–68, Cl. 128—349.
- Vitt, Hillert, to General Electric Co. Signalling systems. 3,378,817, 4–16–68, Cl. 340—171.
- Vlacil, Frank F.: *See*—
  - Frantz, Charles E., and Vlacil. 3,377,886.
- Vogt, Wilhelm, P. Janssen, and H. Richtzenhain, to Dynamit Nobel Aktiengesellschaft. Process of producing flame-resistant molded articles from epoxy resins. 3,378,526, 4–16–68, Cl. 260—47.
- Voigtlander A.G.: *See*—
  - Mische, Friedrich, and Holzinger. 3,377,911.
  - Zillmer, Erich. 3,377,916.
- Voith Getriebe KG: *See*—
  - Finke, Ernst-Günter, and Helfer. 3,377,876.
- Volkman, Werner: *See*—
  - Poppinger, Herbert, Volkman, and Liska. 3,378,753.
- Von der Emden, Wolfgang: *See*—
  - Kocher, Ernst-Ulrich, Wagner, and Von der Emden. 3,378,529.
- Von Otto, Robert E., to Krueger Mfg. Co., Inc. Temperature controlled air mixer. 3,378,198, 4–16–68, Cl. 236—13.
- Von Rintelen, Harald, R. Pfeiffenschneider, P. Fleiter, and K.-H. Britz, to Agfa Aktiengesellschaft. Water insoluble nitrogenous photographic protein hardener. 3,378,373, 4–16–68, Cl. 96—111.
- Von Werder, Helen O.: *See*—
  - Von Werder, William. 3,377,646.
- Von Werder, William, to H. O. Von Werder. Cleaning device for hairbrushes, combs and the like. 3,377,646, 4–16–68, Cl. 15—311.
- Vorwald, Alan G.: *See*—
  - Savin, Cornelius, Vorwald, and Vagts. 3,377,718.
- Waddington & Duval (Holdings) Ltd.: *See*—
  - Waddington, Rogor S., and Duval. 3,378,035.
- Waddington, Rogor S., and B. Duval, to Waddington & Duval (Holdings) Ltd. Fluid handling devices. 3,378,035, 4–16–68, Cl. 137—625.19.
- Wagemans, Albert P.: *See*—
  - Vandeputte, Camille A., Wagemans, and De Roeck. 3,378,372.
- Wagner, Annemarie: *See*—
  - Schellhammer, Carl-Wolfgang, and Wagner. 3,378,389.
- Wagner, Hans A.: *See*—
  - Rorig, Kurt J., and Wagner. 3,378,557.

- Wagner, Kuno: *See*—
  - Kocher, Ernst-Ulrich, Wagner, and Von der Emden. 3,378,529.
- Wahl, Othmar: *See*—
  - Puschel, Walter, Schellenberger, Loffler, Wahl, and Pelz. 3,378,554.
- Waite, William, to Transco Inc. Insulated wall unit. 3,377,760, 4–16–68, Cl. 52—410.
- Wakefield, James: *See*—
  - Freck, David V., Rouse, and Wakefield. 3,378,414.
- Waldecker, Donald E., and L. C. Higby, Jr., to International Business Machines Corp. Serial divider. 3,378,677, 4–16–68, Cl. 235—164.
- Waldon, Vernon L., to Ingress Mfg. Co., Inc. Means for mounting toilet seat and lid hinge post. 3,377,633, 4–16–68, Cl. 4—236.
- Walker, Darrell. Portable manhole filter assembly. 3,377,784, 4–16–68, Cl. 55—385.
- Walker, Darrell W., and G. C. Bailey, to Phillips Petroleum Co. Polymerization process using a catalyst comprising a supported diarene metal and supported chromium oxide. 3,378,536, 4–16–68, Cl. 260—88.2.
- Walker, Howard R., to Deering Milliken Research Corp. Method of forming textured yarn. 3,377,794, 4–16–68, Cl. 57—157.
- Walker, Loren H., to United States of America, Navy. Current limit circuit for an inverter utilizing a master and a slave multivibrator. 3,378,751, 4–16–68, Cl. 321—14.
- Wallace, Robert E.: *See*—
  - Garland, Thomas N. 3,377,946.
- Wallace, W. J., Systems, Inc.: *See*—
  - Wallace, Walter J. 3,378,130.
- Wallace, Walter J., to W. J. Wallace Systems, Inc. Unloading machine for tankers or the like. 3,378,130, 4–16–68, Cl. 198—116.
- Walls, Gordon W., W. Knothe, and B. O. Lavery, to Commonwealth Scientific and Industrial Research. Twisting apparatus. 3,377,792, 4–16–68, Cl. 57—77.3.
- Walston, Kenneth R., and A. S. Couper, to Standard Oil Co. Method of protecting austenitic stainless steel subject to stress corrosion. 3,378,359, 4–16–68, Cl. 29—196.2.
- Walter, Vincent J.: *See*—
  - Campbell, Floyd R. 3,377,737.
- Walther, Frank H., Jr., to Dresser Industries, Inc. Pebble heat exchanger. 3,378,244, 4–16–68, Cl. 263—19.
- Walz, Donald T.: *See*—
  - Loev, Bernard, and Walz. 3,378,442.
- Walz, John C.: *See*—
  - Gurski, Edward P., and Walz. 3,377,901.
- Ware Machine Works, Inc.: *See*—
  - Pilch, John S. 3,378,085.
- Ware, Walter S., and D. R. Cannon, to Olinkraft, Inc. Bag grouper and method. 3,377,929, 4–16–68, Cl. 93—93.
- Warman, Charles H., to Research and Development Pty. Ltd. Froth flotation apparatus. 3,378,141, 4–16–68, Cl. 209—169.
- Warner, Donald H., to Guy F. Atkinson Co. Truck unloader. 3,378,152, 4–16–68, Cl. 214—46.
- Warner, Joseph W. Device to assist fish to travel past obstacles in waterways. 3,377,805, 4–16–68, Cl. 61—21.
- Warner-Lambert Pharmaceutical Co.: *See*—
  - Brown, Richard E., and Meltzer. 3,378,560.
  - Coluqhoun, Joseph A., and Dewar. 3,378,541.
  - Lutz, Wilson B. 3,378,592.
  - Vigelius, Wolf-Dieter. 3,378,553.
  - Watson, Glenville R., and Schwartz. 3,378,346.
- Watson, Andrew E. P.: *See*—
  - Glew, David N., and Watson. 3,378,201.
- Watson, Glenville R., and B. S. Schwartz, to Warner-Lambert Pharmaceutical Co. Diagnostic preparation for the detection of indole. 3,378,346, 4–16–68, Cl. 23—230.
- Watson, Wayne T.: *See*—
  - Arlin, Edward S., and Watson. 3,378,658.
- Waubke, Nils V., A. Winsel, and E. Justi, to Varta Aktiengesellschaft, and Sienens Aktiengesellschaft. Method and apparatus for regenerating a fuel cell electrolyte by electrodialysis and removing excess water. 3,378,403, 4–16–68, Cl. 136—86.
- Way, Douglas E., and H. A. Berry, to American Seating Co. Self-adjusting mid-pew support. 3,378,223, 4–16–68, Cl. 248—361.
- Weasler Engineering & Mfg., Co., Inc.: *See*—
  - Reak, Bennett B. 3,377,642.
- Weatherley, Eric G. Process for diffusing metal into a refractory or ceramic oxide using a nitrate promoter. 3,378,-498, 4–16–68, Cl. 252—301.1.
- Web Press Engineering, Inc.: *See*—
  - Wilkerson, Alan W., and Horbinski. 3,378,806.
- Webb, James E., Administrator of the National Aeronautics and Space Administration with respect to an invention of L. S. Sauer. Hybrid lubrication system and bearing. 3,378,-315, 4–16–68, Cl. 308—10.
- Webb, Jervis B., Co.: *See*—
  - Dehne, Clarence A. 3,377,962.
- Webb, Robert S., to Elox Corp. of Michigan. Per pulse cutoff electrical discharge machining apparatus. 3,378,667, 4–16–68, Cl. 219—69.
- Webber, David A.: *See*—
  - Garrett, Michael E., and Webber. 3,377,812.
- Webcor Inc.: *See*—
  - Bull, Donald E. 3,378,748.
- Weber, Erich. Drying devices. 3,378,131, 4–16–68, Cl. 198—134.
- Weber, Karl-Heinz, to Gebr. Eickhoff Maschinenfabrik und Eisengiesserei m.b.H. Method and apparatus for controlling loading machines in underground mining. 3,378,303, 4–16–68, Cl. 299—1.
- Webster, Noel E. Apparel hanging and locking means. 3,378,-144, 4–16–68, Cl. 211—4.
- Webster, Roland C.: *See*—
  - Oss, George K., Dunfee, and Webster. 3,378,216.
- Weggeland, John H. Picture viewer. 3,377,727, 4–16–68, Cl. 40—79.
- Wegner, Guido K., to Norse Development Corp. Lateral transfer systems for raise climber. 3,378,106, 4–16–68, Cl. 187—1.
- Webner, Albert. Vibratory screen. 3,378,142, 4–16–68, Cl. 209—325.
- Weingartner, Bernhard, to Akustische U. Kino-Gerate Gesellschaft m.b.H. High frequqency circuit arrangement for capacitive transducer. 3,378,638, 4–16–68, Cl. 179—1.
- Weiser, Earnest F., to General Electric Co. Current regulator for motor control systems including an open loop signal which is combined with a current feedback signal upon occurrence of an event. 3,378,743, 4–16–68, Cl. 318—52.
- Weiser, Earnest F., to General Electric Co. Motor control for controlling both armatures and field circuits. 3,378,746, 4–16–68, Cl. 318—332.
- Weiss, Franz. Eccentric adjustment for infinitely variable switch gear mechanisms. 3,377,865, 4–16–68, Cl. 74—393.
- Welber, Irwin, to Bell Telephone Laboratories, Inc. Generation of beacon signals for communication satellite. 3,378,-845, 4–16–68, Cl. 343—100.
- Wells, Ralph R., to Screen Gems, Inc. Apparatus and method for measuring the response of an audience. 3,378,194, 4–16–68, Cl. 235—52.
- Welty, Joseph M., to Teledyne, Inc. Buried channel field effect transistor and method of forming. 3,378,737, 4–16–68, Cl. 317—235.
- Welty, William H., to Air Filter Corp. Sound attenuator. 3,378,100, 4–16–68, Cl. 181—56.
- Wempe, Bernhard, to Wenczler and Heidenhain. Precision machine. 3,377,711, 4–16–68, Cl. 33—174.
- Wenczler and Heidenhain: *See*—
  - Wempe, Bernhard. 3,377,711.
- Wendler, Norman L.: *See*—
  - Taub, David, Hoffsommer, and Wendler. 3,378,574.
- Wenger, Don S.: *See*—
  - Schmoyer, Arthur R. 3,377,716.
- Werner, Robert B., and W. B. Harmon, to The Kirk & Blum Mfg. Co. Fume control apparatus for hot metal ladle carriers. 3,377,940, 4–16–68, Cl. 98—115.
- Wernicke, Kenneth G.: *See*—
  - Lichten, Robert L., and Wernicke. 3,378,083.
- Wessler, Gerald A., and W. N. Epler, to Halliburton Co. Hydroxyethyl cellulose complex and method of plugging underground formations therewith. 3,378,070, 4–16–68, Cl. 166—22.
- West-Point-Pepperell, Inc.: *See*—
  - Spencer, Francis T. 3,378,432.
- Western Electric Co. Inc.: *See*—
  - Dinella, Donald, Kirschenbaum, and Schutz. 3,377,699.
  - Gurski, Edward P., and Walz. 3,377,901.
  - Patterson, Arnold L. 3,378,047.
- Westinghouse Air Brake Co.: *See*—
  - Failor, Charles W. 3,378,682.
  - McClure, Glenn T., and Mong. 3,378,108.
  - Newell, George K. 3,378,227.
  - Sanders, Walter J. 3,377,859.
  - Temple, Fred. 3,378,313.
  - Wright, Carl D., Jr. 3,378,311.
- Westinghouse Electric Corp.: *See*—
  - Baker, Benjamin P. 3,378,729.
  - Eaves, Charles A., Peckham, and Prunty. 3,378,759.
  - Harrington, John A. 3,378,434.
  - Kemeny, George A. 3,378,621.
  - Lin, Hung C. 3,378,780.
  - Ludwig, Howard C. 3,378,713.
  - Mendelsohn, Morris A., and Rogers. 3,378,630.
  - Morgan, Stanley E., and Kingsley. 3,378,320.
  - Naul, George M., and Roberts. 3,378,043.
  - Osterhout, Joseph C., and Carothers. 3,378,722.
  - Palazzolo, Salvatore E., and Hood. 3,378,433.
  - Smith, James F., and Miller. 3,378,670.
  - Thornton, William A., Jr. 3,378,715.
  - Whitehead, Daniel L. 3,378,731.
- Weston Instruments, Inc.: *See*—
  - Nordahl, John G. 3,378,785.
  - Towner, Walter T. 3,378,791.
- Wheat, Robert C., to Phillips Petroleum Co. Scorch retarders for ethylene-copolymer rubber. 3,378,510, 4–16–68, Cl. 260—237.
- Wheeler, Donald J., and V. Lohrenz, to Guild Metal Joining Equipment Co. Method and apparatus for joining strip and sheet material. 3,378,185, 4–16–68, Cl. 228—5.
- Whelply, Frank V.: *See*—
  - Jacoby, Charles H., and Whelply. 3,378,493.
- White, Reid E., to Owens-Illinois, Inc. Plastic bag with rectangularly shaped end construction. 3,378,190, 4–16–68, Cl. 229—62.5.
- Whitehead, Daniel L., to Westinghouse Electric Corp. High voltage substation for metropolitan areas. 3,378,731, 4–16–68, Cl. 317—103.
- Whitesel, Joseph C., and H. D. Dawbarn, to W. R. Grace & Co. Tufting method and article. 3,377,973, 4–16–68, Cl. 112—266.
- Whitney, W. G., Corp.: *See*—
  - Whitney, William G. 3,377,631.

Whitney, William G., to W. G. Whitney Corp. Disposable bedpan liner. 3,377,631, 4–16–68, Cl. 4—112.

Whittaker, Harold, to T.M.M. (Research) Ltd. Ring spinning and twisting machine and process. 3,377,793, 4–16–68, Cl. 57—93.

Whittlesey, John R. B. Apparatus using lasers to trigger thermonuclear reactions. 3,378,446, 4–16–68, Cl. 176—1.

Wiedenmann, W. C., & Son, Inc.: *See*—
Noland, Richard D. 3,377,780.

Wiener, Maria V., to The Goodyear Tire & Rubber Co. Process of producing a copolyester-coated object. 3,378,402, 4–16–68, Cl. 117—232.

Wilder, Richard S., to E. I. du Pont de Nemours and Co. Chlorination of anthraquinone-sulfonic acids using nascent chlorine and an inorganic ammonium salt (added slowly) in dilute sulfuric acid. 3,378,572, 4–16–68, Cl. 260—384.

Wiley, Fred E.: *See*—
Richardson, Henry M., Alberghini, Wiley, and Larson. 3,377,657.

Wilhelmsson, Gunnar, to Aktiebolaget Svenska Flaktfabriken. Cyclone and cleaner. 3,377,782, 4–16–68, Cl. 55—295.

Wilhoit, Paul J., and G. K. Miller, to Collins and Aikman Corp. Carpet molding and trimming. 3,377,658, 4–16–68, Cl. 18—19.

Wilkerson, Alan W., and R. D. Horbinski, to Web Press Engineering, Inc. Electrical connector. 3,378,806, 4–16–68, Cl. 339—17.

Wilkinson, Harvey H., and C. E. Harkrider. Compartmentalized container. 3,378,134, 4–16–68, Cl. 206—16.

Wilkinson, Wilfred H., and A. G. Goss, to Rolls-Royce Ltd. Bearing lubricating system for an aircraft gas turbine engine. 3,377,802, 4–16–68, Cl. 60—224.

William Cotton Ltd.: *See*—
Start, Ernest, and Blood. 3,377,822.

Williams Research Corp.: *See*—
Williams, Sam B. 3,377,798.

Williams, Sam B., to Williams Research Corp. Bearing and drive construction for gas turbine engines. 3,377,798, 4–16–68, Cl. 60—39.08.

Williamson, Alan G., and W. E. Parker, to Canadian Breweries Ltd. Method for concentrating brewers' wort. 3,378,374, 4–16–68, Cl. 99—52.

Wilmot-Breeden Ltd.: *See*—
Guy, Anthony R., and Lloyd. 3,377,884.

Wilson, Jack N.: *See*—
Lynn, Scott, and Wilson. 3,378,653.

Wilson, Robert M., to Dare Products, Inc. Handling and dispensing device for wire and the like. 3,378,215, 4–16–68, Cl. 242—171.

Wingen, Wilhelm, to Georg Fritzmeier KG. Tail portion of a motor vehicle. 3,378,298, 4–16–68, Cl. 296—99.

Winje, Russell A.: *See*—
Hilden, Richard H., Martin, Mills, and Winje. 3,378,778.

Winsel, August: *See*—
Waubke, Nils V., Winsel, and Justi. 3,378,403.

Winzeler, John W., and J. F. Tucker, to Giannini Scientific Corp. Method for coating plastics onto a substrate employing a plasma. 3,378,391, 4–16–68, Cl. 117—93.1.

Witschnig, Walter. Log-type construction element. 3,377,758, 4–16–68, Cl. 52—233.

Witt, Donald R., to Phillips Petroleum Co. Polymerization of 1-olefins and catalyst. 3,378,540, 4–16–68, Cl. 260—94.9.

Wittmann, James I.: *See*—
Nigrelli, Biagio J., Standley, and Wittmann. 3,377,774.

Witwer, Daniel B., to Polyvinyl Chemicals, Inc. Copolymers of vinyl toluene, isomeric butyl methacrylates and long chain alkyl methacrylates. 3,378,513, 4–16–68, Cl. 260—33.6.

Witzgall, Herbert J., to The Budd Co. Reinforced container rim. 3,378,164, 4–16–68, Cl. 220—73.

Wochnowski, Waldemar, H. Harte, and J. Iwen, to Hauni Werke, Koerber & Co., KG. Method and apparatus for pneumatically separating solid particles. 3,378,140, 4–16–68, Cl. 209—137.

Wolar, Stanley: *See*—
Wolar, William and S. 3,378,221.

Wolar, William and S. Hanger for light fixtures and the like. 3,378,221, 4–16–68, Cl. 248—343.

Wolford, Wallace W., to Owens-Illinois, Inc. Plastic bottle trimming machine. 3,377,899, 4–16–68, Cl. 83—213.

Wollard Aircraft Service Equipment, Inc.: *See*—
Seipos, Andrew G. 3,377,638.

Wollmar, Dick J.: *See*—
Squitieri, Vincent, and Wollmar. 3,377,950.

Wood, Leslie T., and T. G. Fisher, to International Standard Electric Corp. Wire wrapping tools. 3,378,048, 4–16–68, Cl. 140—124.

Woolworth, Richard G., to Old Pal, Inc. Box constructions. 3,377,736, 4–16–68, Cl. 43—57.5.

Worrell, George R., R. C. Hicks, and R. J. Durney, to Atlantic Richfield Co. Control of catalyst recirculation rate. 3,378,483, 4–16–68, Cl. 208—164.

Wright, Carl D., Jr., to Westinghouse Air Brake Co. Brake cylinder release valve. 3,378,311, 4–16–68, Cl. 303—69.

Wright, Jack D., and T. L. Hampton, to General Electric Co. Flow mixers particularly for gas turbine engines. 3,377,804, 4–16–68, Cl. 60—262.

Wunder, Friedrich: *See*—
Fernholz, Hans, and Wunder. 3,378,502.
Fernholz, Hans, and Wunder. 3,378,528.

Wyman, John E.: *See*—
Pruett, Roy L., Wyman, Rink, and Parts. 3,378,569.

Xerox Corp.: *See*—
Draugelis, Valdevuds C., and Jamison. 3,378,255.
Eichorn, Roger N. 3,378,254.

Yamaguchi, Tadashi: *See*—
Amagasa, Masataka, and Yamaguchi. 3,378,599.

Yamamoto, James S., and R. M. Stephenson, to Basic Vegetable Products, Inc. Process for producing dehydrated free flowing particles of onion, garlic or horseradish. 3,378,380, 4–16–68, Cl. 99—204.

Yamamoto, Makoto, to Kurashiki Rayon Co., Ltd. Apparatus and process for yarn treatment. 3,377,671, 4–16–68, Cl. 28—1.

Yamashiki, Takashi, to Asahi Kasei Kogyo Kabushiki Kaisha. Method of removing the accompanying liquid of a continuously transferred ion exchange resin. 3,378,339, 4–16–68, Cl. 23—100.

Yates, Harold W., to Barnes Engineering Co. Spectral photometric scanner using a fabry-perot etalon rotated about an axis inclined to the optic axis of the scanner. 3,377,912, 4–16–68, Cl. 88—14.

Yazaki Meter Co. Ltd.: *See*—
Hasegawa, Shigeji. 3,377,856.

Yeakey, Ernest L.: *See*—
Speranza, George P., and Yeakey. 3,378,503.

Yetman, Albert A.: *See*—
Babington, Robert S., Yetman, and Slivka. 3,378,238.

Yoshiyama, Sukehiro: *See*—
Arai, Takeji, Ariga, and Yoshiyama. 3,377,663.

Young, Henry T. Filter collector. 3,377,783, 4–16–68, Cl. 55—302.

Young, John C., to Vertex, Inc. Actuating linkage for folding doors. 3,378,059, 4–16–68, Cl. 160—165.

Youngstown Sheet and Tube Co., The: *See*—
Cullen, Roy H., Zilliox, Elliott, and Aker. 3,378,811.
Richardson, Henry M., Alberghini, Wiley, and Larson. 3,377,657.

Yungblut, Charles W., and L. T. Peart, to Beckman Instruments, Inc. Variable resistance device. 3,378,803, 4–16–68, Cl. 338—174.

Zamorano, Luis R. Pre-stressed truss. 3,377,637, 4–16–68, Cl. 14—24.

Zaromb, Solomon. Electrically conductive optical element. 3,378,327, 4–16–68, Cl. 350—319.

Zaromb, Solomon. Conductive oxide-coated articles. 3,378,396, 4–16–68, Cl. 117—123.

Zawiski, Robert F., to Addressograph-Multigraph Corp. Liquid developer for photoelectrostatic copier. 3,377,988, 4–16–68, Cl. 118—637.

Zeigler, Jacob T.: *See*—
Moore, William R., and Zeigler. 3,378,767.

Ziemer, Waldemar: *See*—
Reinshagen, Paul, Schmidt, Ziemer, and Henkel. 3,378,480.

Zeiss-Stiftung, Carl: *See*—
Drodofsky, Martin. 3,377,910.

Zeitler, Franklin D. Scaffold. 3,378,101, 4–16–68, Cl. 182—16.

Zeitz, Kenneth: *See*—
Siegrist, George W., and Zeitz. 3,377,811.

Zemanek, Joseph, Jr.: *See*—
Straus, Andrew J. D., and Zemanek. 3,378,097.

Zenith Radio Corp.: *See*—
Cummings, Eugene M. 3,378,719.

Zilliox, Ronald G.: *See*—
Cullen, Roy H., Zilliox, Elliott, and Aker. 3,378,811.

Zillmer, Erich, to Voigtlander A.G. Photographic projector with automatic light-blocking and slide-changing controls. 3,377,916, 4–16–68, Cl. 88—28.

Zisner, Tuvia, to Mifalei Yan Hamelah, B.M. Process for the manufacture of low-porosity burnt magnesia. 3,378,615, 4–16–68, Cl. 264—66.

Zurcher, Lester A., to North American Rockwell Corp. Signal processing. 3,378,844, 4–16–68, Cl. 343—16.

Zwight, Daniel H., and R. B. Mitchell, to McCabe-Powers Body Co. Aerial platforms. 3,378,103, 4–16–68, Cl. 182—141.

CLASSIFICATION OF PATENTS

ISSUED APRIL 16, 1968

NOTE.—First number, class; second number, subclass; third number, patent number

2–14	3,377,626
169	3,377,627
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140–92.94	3,378,045
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156–556 : 3,378,430
160– 39 : 3,378,057
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165 : 3,378,059
181 : 3,378,060
161– 1 : 3,378,431
116 : 3,378,432
156 : 3,378,433
184 : 3,378,434
162–273 : 3,378,435
164–156 : 3,378,061
165– 22 : 3,378,062
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122 : 3,378,065
166– .5 : 3,378,066
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45 : 3,378,075
3,378,076
114 : 3,378,077
124 : 3,378,078
129 : 3,378,079
156 : 3,378,080
167– 30 : 3,378,436
3,378,437
33 : 3,378,438
46 : 3,378,439
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3,378,442
78 : 3,378,443
88 : 3,378,444
93 : 3,378,445
169– 19 : 3,378,081
170– 77 : 3,378,082
160.27: 3,378,083
172–247 : 3,378,084
272 : 3,378,085
174– 35 : 3,378,626
73 : 3,378,627
112 : 3,378,628
117 : 3,378,629
121 : 3,378,630
130 : 3,378,631
175– 7 : 3,378,086
83 : 3,378,087
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308 : 3,378,089
176– 1 : 3,378,446
12 : 3,378,447
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84 : 3,378,459
177–164 : 3,378,090
209 : 3,378,091
178– 5.4 : 3,378,632
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3,378,634
7.2 : 3,378,635
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179– 1 : 3,378,638
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175.2 : 3,378,650
180– 8 : 3,378,092
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56 : 3,378,100
182– 16 : 3,378,101
141 : 3,378,103
184– 6 : 3,378,104
186– 1 : 3,378,105
187– 1 : 3,378,106
29 : 3,378,107

188– 52. : 3,378,108
73 : 3,378,109
88 : 3,378,110
152 : 3,378,111
197 : 3,378,112
206 : 3,378,113
218 : 3,378,114
3,378,115
250 : 3,378,116
264 : 3,378,117
191– 58 : 3,378,651
192– 3.33: 3,378,118
4 : 3,378,119
14 : 3,378,120
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193– 2 : 3,378,124
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194–100 : 3,378,126
195– 28 : 3,378,460
3,378,461
31 : 3,378,462
103.5 : 3,378,463
197– 55 : 3,378,127
198– 20 : 3,378,128
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116 : 3,378,130
134 : 3,378,131
135 : 3,378,132
175 : 3,378,133
200– 5 : 3,378,652
16 : 3,378,653
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168 : 3,378,666
203– 1 : 3,378,464
25 : 3,378,465
33 : 3,378,466
42 : 3,378,467
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204– 7 : 3,378,469
49 : 3,378,470
56 : 3,378,471
143 : 3,378,473
147 : 3,378,472
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157.1 : 3,378,475
163 : 3,378,476
181 : 3,378,477
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248 : 3,378,479
253 : 3,378,480
299 : 3,378,481
206– 16 : 3,378,134
45.14: 3,378,135
3,378,136
3,378,137
208–108 : 3,378,482
164 : 3,378,483
191 : 3,378,484
263 : 3,378,485
310 : 3,378,486
209– 72 : 3,378,138
73 : 3,378,139
137 : 3,378,140
169 : 3,378,141
325 : 3,378,142
210– 11 : 3,378,487
411 : 3,378,143
211– 4 : 3,378,144
60 : 3,378,145
181 : 3,378,146
212– 46 : 3,378,147
49 : 3,378,148
213– 43 : 3,378,149
61 : 3,378,150
214– 16.1 : 3,378,151
46 : 3,378,152
103 : 3,378,153
332 : 3,378,154
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450 : 3,378,156
620 : 3,378,157
657 : 3,378,158
672 : 3,378,159
219– 69 : 3,378,667
74 : 3,378,668
3,378,669
121 : 3,378,670
145 : 3,378,671
200 : 3,378,672
301 : 3,378,673
220– 3.6 : 3,378,160
6 : 3,378,161
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220– 47 : 3,378,163
73 : 3,378,164
221– 12 : 3,378,165
93 : 3,378,166
222– 70 : 3,378,167
83 : 3,378,168
95 : 3,378,169
129.4 : 3,378,170
146 : 3,378,171
153 : 3,378,172
168.5 : 3,378,173
193 : 3,378,174
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389 : 3,378,176
482 : 3,378,177
223– 57 : 3,378,178
67 : 3,378,179
87 : 3,378,180
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45 : 3,378,183
225– 66 : 3,378,184
228– 5 : 3,378,185
229– 44 : 3,378,186
51 : 3,378,187
3,378,188
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230– 10 : 3,378,191
117 : 3,378,192
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235– 52 : 3,378,194
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583 : 3,378,207
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8.18: 3,378,681
241– 23 : 3,378,208
102 : 3,378,209
160 : 3,378,210
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65 : 3,378,213
107.7 : 3,378,214
171 : 3,378,215
244– 3.24: 3,378,216
77 : 3,378,217
148 : 3,378,218
246–219 : 3,378,682
454 : 3,378,683
248–220.5 : 3,378,219
226 : 3,378,220
343 : 3,378,221
359 : 3,378,222
361 : 3,378,223
250– 51.5 : 3,378,684
83.3 : 3,378,685
199 : 3,378,686
203 : 3,378,687
211 : 3,378,688
251– 14 : 3,378,224
149.6 : 3,378,225
298 : 3,378,226
304 : 3,378,227
252– 8.55: 3,378,488
3,378,489
42.1 : 3,378,490
47.5 : 3,378,491
51 : 3,378,492
70 : 3,378,493
77 : 3,378,494
107 : 3,378,495
161 : 3,378,496
182 : 3,378,497
301.1 : 3,378,498
.4 : 3,378,499
321 : 3,378,500
457 : 3,378,501
253– 39.1 : 3,378,228
74 : 3,378,229
77 : 3,378,230
254– 93 : 3,378,231
185 : 3,378,232
192 : 3,378,233
259– 4 : 3,378,234
8 : 3,378,235
95 : 3,378,236
101 : 3,378,237
260– 2 : 3,378,502

260– 2 : 3,378,503
3,378,504
.1 : 3,378,505
.5 : 3,378,506
3,378,507
5 : 3,378,508
21 : 3,378,509
23.7 : 3,378,510
31.8 : 3,378,511
33.6 : 3,378,512
3,378,513
37 : 3,378,514
41 : 3,378,515
45.8 : 3,378,516
.9 : 3,378,517
.95: 3,378,518
3,378,519
46.5 : 3,378,520
3,378,521
47 : 3,378,522
3,378,523
3,378,524
3,378,525
3,378,526
67 : 3,378,527
3,378,528
.5 : 3,378,529
.6 : 3,378,530
77.5 : 3,378,531
78 : 3,378,532
.5 : 3,378,533
79.5 : 3,378,534
82.1 : 3,378,535
88.2 : 3,378,536
91.1 : 3,378,537
92.3 : 3,378,538
93.7 : 3,378,539
94.9 : 3,378,540
209 : 3,378,541
210 : 3,378,542
3,378,543
3,378,544
223 : 3,378,545
233.3 : 3,378,546
3,378,547
239.55: 3,378,548
3,378,549
3,378,550
3,378,551
240 : 3,378,552
3,378,553
3,378,554
243 : 3,378,555
244 : 3,378,556
247.2 : 3,378,557
253 : 3,378,558
283 : 3,378,559
286 : 3,378,560
3,378,561
293 : 3,378,562
294 : 3,378,563
.8 : 3,378,564
3,378,565
295 : 3,378,566
296 : 3,378,567
314.5 : 3,378,568
340.9 : 3,378,569
345.2 : 3,378,570
349 : 3,378,571
384 : 3,378,572
396 : 3,378,573
397.45: 3,378,574
448.2 : 3,378,575
466 : 3,378,576
475 : 3,378,577
476 : 3,378,578
479 : 3,378,579
488 : 3,378,580
501.17: 3,378,581
520 : 3,378,582
547 : 3,378,583
555 : 3,378,584
3,378,585
558 : 3,378,586
563 : 3,378,587
583 : 3,378,588
590 : 3,378,589
598 : 3,378,590
621 : 3,378,591
3,378,592
633 : 3,378,593
644 : 3,378,594
3,378,595
3,378,596
652 : 3,378,597
666 : 3,378,598
667 : 3,378,599
830 : 3,378,600
831 : 3,378,601
857 : 3,378,602
861 : 3,378,603
874 : 3,378,604
876 : 3,378,605
878 : 3,378,606
3,378,607
3,378,608

260–890 : 3,378,609
940 : 3,378,610
261– 26 : 3,378,238
29 : 3,378,239
115 : 3,378,240
121 : 3,378,241
263– 7 : 3,378,242
8 : 3,378,243
19 : 3,378,244
21 : 3,378,245
26 : 3,378,246
44 : 3,378,247
49 : 3,378,248
264– 3 : 3,378,611
45 : 3,378,612
3,378,613
51 : 3,378,614
66 : 3,378,615
92 : 3,378,616
119 : Re.26,376
162 : 3,378,617
266– 32 : 3,378,249
267– 52 : 3,378,250
110 : Re.26,373
271– 3 : 3,378,251
61 : 3,378,252
62 : 3,378,253
3,378,254
3,378,255
68 : 3,378,256
84 : 3,378,257
89 : 3,378,258
272– 58 : 3,378,259
273– 95 : 3,378,260
130 : 3,378,261
162 : 3,378,262
201 : 3,378,263
274– 10 : 3,378,264
3,378,265
11 : 3,378,266
23 : 3,378,267
277–143 : 3,378,268
205 : 3,378,269
280– 11.35: 3,378,270
3,378,271
.37: 3,378,272
3,378,273
18 : 3,378,274
3,378,275
43.23: 3,378,276
104.5 : 3,378,277
163 : 3,378,278
461 : 3,378,279
478 : 3,378,280
285– 27 : 3,378,281
174 : 3,378,282
187 : 3,378,283
287– 21 : 3,378,284
52.05: 3,378,285
87 : 3,378,286
88 : 3,378,287
189.36: 3,378,288
292– 31 : 3,378,289
40 : 3,378,290
68 : 3,378,291
169 : 3,378,292
202 : 3,378,293
218 : 3,378,294
280 : 3,378,295
293– 71 : 3,378,296
296– 97 : 3,378,297
99 : 3,378,298
297–284 : 3,378,299
357 : 3,378,300
389 : 3,378,301
298– 8 : 3,378,302
299– 1 : 3,378,303
18 : 3,378,304
33 : 3,378,305
34 : 3,378,306
75 : 3,378,307
84 : 3,378,308
302– 17 : 3,378,309
3,378,310
303– 69 : 3,378,311
70 : 3,378,312
75 : 3,378,313
305– 13 : 3,378,314
307– 88 : 3,378,689
.3 : 3,378,690
91 : 3,378,691
106 : 3,378,692
132 : 3,378,693
3,378,694
211 : 3,378,695
221 : 3,378,696
225 : 3,378,697
3,378,698
241 : 3,378,699
254 : 3,378,700
265 : 3,378,701
3,378,702
293 : 3,378,703
308– 10 : 3,378,315
26 : 3,378,316
40 : 3,378,317

308– 78 : 3,378,318
160 : 3,378,319
310– 9 : 3,378,704
.5 : 3,378,705
29 : 3,378,706
49 : 3,378,707
68 : 3,378,708
90 : 3,378,709
104 : 3,378,710
260 : 3,378,711
312–108 : 3,378,320
215 : 3,378,321
231 : 3,378,322
270 : 3,378,323
278 : 3,378,324
349 : 3,378,325
313– 7 : 3,378,712
32 : 3,378,713
65 : 3,378,714
108 : 3,378,715
252 : 3,378,716
337 : 3,378,717
315– 3.5 : 3,378,718
22 : 3,378,719
27 : 3,378,720
30 : 3,378,721
36 : 3,378,722
39 : 3,378,723
97 : 3,378,724
111 : 3,378,725
317– 2 : 3,378,726
11 : 3,378,727
36 : 3,378,728
58 : 3,378,729
101 : 3,378,730
103 : 3,378,731
123 : 3,378,732
130 : 3,378,733
157.5 : 3,378,734
234 : 3,378,735
3,378,736
235 : 3,378,737
3,378,738
318– 18 : 3,378,739
3,378,740
3,378,741
33 : 3,378,742
52 : 3,378,743
167 : 3,378,744
331 : 3,378,745
332 : 3,378,746
345 : 3,378,747
3,378,748
381 : 3,378,749
320– 23 : 3,378,750
321– 14 : 3,378,751
18 : 3,378,752
322– 28 : 3,378,753
3,378,754
29 : 3,378,755
32 : 3,378,756
3,378,757
323– 18 : 3,378,758
43.5 : 3,378,759
324– .5 : 3,378,760
37 : 3,378,761
38 : 3,378,762
40 : 3,378,763
51 : 3,378,764
60 : 3,378,765
68 : 3,378,766
71 : 3,378,767
150 : 3,378,768
325– 11 : 3,378,769
38 : 3,378,770
42 : 3,378,771
137 : 3,378,772
139 : 3,378,773
184 : 3,378,774
395 : 3,378,775
328– 37 : 3,378,776
155 : 3,378,777
233 : 3,378,778
329–101 : 3,378,779
330– 24 : 3,378,780
3,378,781
26 : 3,378,782
35 : 3,378,783
70 : 3,378,784
107 : 3,378,785
137 : 3,378,786
331– 14 : 3,378,787
66 : 3,378,788
107 : 3,378,789
116 : 3,378,790
183 : 3,378,791
333– 30 : 3,378,792
3,378,793
71 : 3,378,794
334– 65 : 3,378,795
335– 72 : 3,378,796
3,378,797
93 : 3,378,798
272 : 3,378,799
336–192 : 3,378,800
206 : 3,378,801

338–174 : 3,378,802
3,378,803
3,378,804
300 : 3,378,805
339– 17 : 3,378,806
32 : 3,378,807
59 : 3,378,808
91 : 3,378,809
95 : 3,378,810
96 : 3,378,811

339–127 : 3,378,812
255 : 3,378,813
340– 7 : 3,378,815
8 : 3,378,814
147 : 3,378,816
171 : 3,378,817
172.5 : 3,378,818
3,378,819
3,378,820

340–174 : 3,378,821
3,378,822
3,378,823
3,378,824
.1 : 3,378,825
3,378,826
3,378,827
206 : 3,378,828
228 : 3,378,829

340–274 : 3,378,830
3,378,831
3,378,832
347 : 3,378,833
343– 5 : 3,378,834
3,378,835
6 : 3,378,836
7.5 : 3,378,837
.7 : 3,378,838

343– 11 : 3,378,839
14 : 3,378,840
3,378,841
16 : 3,378,843
3,378,844
100 : 3,378,845
3,378,846
103 : 3,378,847
112 : 3,378,842

343–113 : 3,378,848
3,378,849
702 : 3,378,850
350– 16 : 3,378,326
319 : 3,378,327
352– 31 : 3,378,328
401–218 : 3,378,329
260 : 3,378,330
286 : 3,378,331

Classification of Designs

D 2– 24 : 210,761
408 : 210,762
D 5– 4 : 210,763
210,764
210,765
D 9– 53 : 210,766
220 : 210,767
256 : 210,807
258 : 210,768

D13– 1 : 210,769
D14– 3 : 210,770
D15– 1 : 210,771
8 : 210,772
D26– 14 : 210,773
210,774
210,775
210,776
210,777

D26– 14 : 210,778
210,779
15 : 210,780
210,781
D30– 13 : 210,782
37 : 210,783
D33– 2 : 210,784
3 : 210,785
8 : 210,786

D34– 5 : 210,787
210,788
210,789
210,790
15 : 210,791
210,792
D37– 1 : 210,793
210,794
D44– 1 : 210,795

D48– 20 : 210,796
210,797
31 : 210,798
D49– 1 : 210,799
D50– 4 : 210,800
6 : 210,801
210,802
D52– 7 : 210,803
210,804

D54– 14 : 210,805
D57– 1 : 210,806
D71– 1 : 210,808
210,809
D74– 17 : 210,810
D80– 9 : 210,811
10 : 210,812
D87– 5 : 210,813
D90– 20 : 210,814

Classification of Plants

P. – 20 : 2,804
P. – 35 : 2,803
P. – 54 : 2,805

GEOGRAPHICAL INDEX OF RESIDENCE OF INVENTORS

(U.S. States, Territories and Armed Forces, the Commonwealth of Puerto Rico, and the Canal Zone)

(NOTE.—CODES ARE CHANGED AS OF JANUARY 1, 1967)

Alabama	1	Kentucky	21	Oregon	41
Alaska	2	Louisiana	22	Pennsylvania	42
American Samoa	3	Maine	23	Puerto Rico	43
Arizona	4	Maryland	24	Rhode Island	44
Arkansas	5	Massachusetts	25	South Carolina	45
California	6	Michigan	26	South Dakota	46
Canal Zone	7	Minnesota	27	Tennessee	47
Colorado	8	Mississippi	28	Texas	48
Connecticut	9	Missouri	29	Utah	49
Delaware	10	Montana	30	Vermont	50
District of Columbia	11	Nebraska	31	Virginia	51
Florida	12	Nevada	32	Virgin Islands	52
Georgia	13	New Hampshire	33	Washington	53
Guam	14	New Jersey	34	West Virginia	54
Hawaii	15	New Mexico	35	Wisconsin	55
Idaho	16	New York	36	Wyoming	56
Illinois	17	North Carolina	37	U.S. Air Force	57
Indiana	18	North Dakota	38	U.S. Army	58
Iowa	19	Ohio	39	U.S. Navy	59
Kansas	20	Oklahoma	40		

(First number in listing denotes location according to above key. Refer to patent number in body of the Official Gazette to obtain details as to inventor name, location, etc.)

PATENTS

1 : 3,377,841
3,378,237
3,378,312
3,378,420
4 : 3,377,788
3,377,934
3,378,008
3,378,782
6 : 3,377,626
3,377,632
3,377,635
3,377,639
3,377,641
3,377,647
3,377,656
3,377,674
3,377,681
3,377,692
3,377,705
3,377,706
3,377,707
3,377,722
3,377,727
3,377,732
3,377,741
3,377,756
3,377,766
3,377,771
3,377,775
3,377,786
3,377,787
3,377,797
3,377,801
3,377,863
3,377,869
3,377,908
3,377,931
3,377,932
3,377,947
3,377,952
3,377,955
3,377,963
3,377,966
3,377,993
3,378,014
3,378,017
3,378,027
3,378,031
3,378,036
3,378,049

6 : 3,378,054
3,378,063
3,378,068
3,378,075
3,378,079
3,378,088
3,378,096
3,378,106
3,378,127
3,378,128
3,378,136
3,378,144
3,378,145
3,378,146
3,378,151
3,378,152
3,378,157
3,378,158
3,378,161
3,378,173
3,378,194
3,378,218
3,378,231
3,378,233
3,378,259
3,378,281
3,378,290
3,378,307
3,378,316
3,378,322
3,378,326
3,378,333
3,378,369
3,378,380
3,378,381
3,378,382
3,378,383
3,378,391
3,378,394
3,378,407
3,378,421
3,378,424
3,378,425
3,378,446
3,378,448
3,378,456
3,378,458
3,378,469
3,378,479
3,378,485

6 : 3,378,490
3,378,504
3,378,518
3,378,522
3,378,549
3,378,571
3,378,579
3,378,581
3,378,600
3,378,608
3,378,614
3,378,617
3,378,626
3,378,633
3,378,634
3,378,636
3,378,653
3,378,672
3,378,680
3,378,686
3,378,687
3,378,688
3,378,692
3,378,700
3,378,704
3,378,710
3,378,725
3,378,730
3,378,737
3,378,738
3,378,739
3,378,741
3,378,765
3,378,766
3,378,776
3,378,790
3,378,796
3,378,797
3,378,798
3,378,802
3,378,803
3,378,805
3,378,822
3,378,823
3,378,827
3,378,829
3,378,830
3,378,831
3,378,837
3,378,848

7 : 3,378,833
8 : 3,377,813
3,377,946
3,378,139
3,378,165
3,378,304
3,378,616
9 : 3,377,657
3,377,701
3,377,730
3,377,842
3,377,862
3,377,878
3,377,881
3,377,882
3,377,912
3,377,922
3,377,930
3,377,951
3,377,967
3,377,986
3,378,016
3,378,023
3,378,260
3,378,404
3,378,429
3,378,461
3,378,564
3,378,606
3,378,635
3,378,662
3,378,668
3,378,669
3,378,711
3,378,747
3,378,799
3,378,815
10 : 3,377,853
3,378,098
3,378,205
3,378,349
3,378,514
3,378,550
3,378,587
3,378,609
3,378,744
11 : 3,378,198
3,378,315
3,378,625
12 : Re.26,375

12 : 3,377,628
3,377,638
3,377,734
3,377,743
3,377,847
3,377,877
3,377,905
3,377,976
3,377,977
3,378,171
3,378,195
3,378,200
3,378,262
3,378,474
3,378,641
3,378,679
3,378,762
3,378,807
13 : 3,377,794
16 : 3,377,686
3,378,331
3,378,694
17 : 3,377,631
3,377,650
3,377,651
3,377,700
3,377,703
3,377,720
3,377,750
3,377,760
3,377,763
3,377,770
3,377,774
3,377,776
3,377,870
3,377,904
3,377,928
3,377,933
3,377,941
3,377,943
3,377,964
3,377,965
3,377,968
3,377,988
3,377,994
3,377,996
3,378,001
3,378,019
3,378,052
3,378,084

17 : 3,378,095
3,378,130
3,378,133
3,378,170
3,378,175
3,378,177
3,378,191
3,378,207
3,378,212
3,378,234
3,378,241
3,378,246
3,378,252
3,378,279
3,378,289
3,378,292
3,378,294
3,378,334
3,378,376
3,378,379
3,378,449
3,378,484
3,378,494
3,378,545
3,378,546
3,378,547
3,378,551
3,378,557
3,378,570
3,378,588
3,378,652
3,378,654
3,378,706
3,378,719
3,378,726
3,378,734
3,378,748
3,378,800
3,378,810
3,378,825
18 : 3,377,633
3,377,690
3,377,744
3,377,885
3,377,939
3,377,987
3,377,990
3,378,119
3,378,172
3,378,179

18 : 3,378,355
3,378,356
3,378,358
3,378,360
3,378,445
3,378,462
3,378,556
3,378,558
3,378,563
3,378,592
3,378,596
3,378,722
3,378,755
3,378,775
19 : Re.26,374
3,377,708
3,377,714
3,377,785
3,377,851
3,378,082
3,378,280
3,378,309
3,378,786
20 : 3,377,737
3,377,759
3,377,780
3,377,815
3,378,673
3,378,836
21 : 3,377,630
3,378,666
3,378,716
3,378,801
22 : 3,377,868
3,377,929
3,378,542
3,378,543
3,378,544
3,378,657
23 : 3,378,432
24 : 3,377,646
3,377,649
3,377,654
3,377,845
3,377,954
3,378,115
3,378,239
3,378,276
3,378,285
3,378,463
3,378,475
3,378,780
3,378,789
3,378,835
3,378,840
3,378,841
3,378,842
25 : 3,377,627
3,377,644
3,377,653
3,377,661
3,377,664
3,377,739
3,377,768
3,377,850
3,377,906
3,377,944
3,377,949
3,377,950
3,378,085
3,378,121
3,378,186
3,378,211
3,378,257
3,378,291
3,378,345
3,378,347
3,378,481
3,378,513
3,378,527
3,378,605
3,378,656
3,378,659
3,378,661
3,378,701
3,378,702
3,378,718
3,378,736
3,378,785
3,378,791
3,378,812
3,378,814
3,378,820
3,378,846
26 : Re.26,373
3,377,667
3,377,682
3,377,691
3,377,698
3,377,702
3,377,710
3,377,742
3,377,761
3,377,798
3,377,803
3,377,849

26 : 3,377,875
3,377,890
3,377,907
3,377,909
3,377,942
3,377,962
3,378,002
3,378,045
3,378,058
3,378,090
3,378,111
3,378,125
3,378,138
3,378,159
3,378,199
3,378,204
3,378,215
3,378,265
3,378,266
3,378,272
3,378,273
3,378,274
3,378,275
3,378,277
3,378,295
3,378,297
3,378,300
3,378,301
3,378,314
3,378,352
3,378,357
3,378,361
3,378,386
3,378,410
3,378,493
3,378,565
3,378,580
3,378,639
3,378,649
3,378,667
3,378,689
3,378,828
3,378,847
27 : Re.26,377
3,377,728
3,377,834
3,377,873
3,377,887
3,377,888
3,377,915
3,377,984
3,378,025
3,378,182
3,378,261
3,378,399
3,378,444
3,378,678
3,378,695
3,378,720
3,378,778
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Design Patents

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U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

April 16, 1968 Volume 849 Number 3

TRADEMARKS

NOTICES

Notice of Daylight Saving Time

The Patent Office will operate on Daylight Saving Time from April 29, 1968 through October 27, 1968.

Service by Publication

A petition to cancel each of the registrations identified below having been filed, and the notice of such proceedings sent by registered mail to each registrant at the last known address having been returned by the Post Office as undeliverable, notice is hereby given that unless the registrants listed herein, their assigns or legal representatives, shall enter an appearance within thirty days from the date of this publication, the cancelation will be proceeded with as in the case of default.

Sports-Man-Grip, Inc., Buffalo, N.Y., Reg. No. 747,554, Canc. No. 9071.

Fa Enterprises, Inc., Hollywood, Calif., Reg. No. 765,115, Canc. No. 9073.

Ernst Rose, San Francisco, Calif., Reg. No. 443,281, Canc. No. 9080.

Men's Hats, Incorporated, by change of name and mesne assignment from M. S. Levy & Sons Incorporated, Baltimore, Md., Reg. No. 286,156, Canc. No. 9098.

EDWIN L. REYNOLDS,
First Assistant Commissioner of Patents.

Trademark Suits

Notices under 15 U.S.C. 1116 ; Trademark Act of July 5, 1946

Reg. No. 246,665 (ROYAL), American Hide and Leather Company, Calfskin ; **Reg. No. 247,941** (REPRESENTATION OF STAR IN CIRCLE), Bright Star Battery Co., Electric batteries, viz, flashlight batteries, radio and wireless batteries, dry cells ; **Reg. No. 362,599** (BRIGHT STAR AND DESIGN), same, Dry cell batteries and flashlight casings ; **Reg. No. 575,640**, same, Photoflash battery and bulb tester ; **Reg. No. 707,501**, same, Photoflash batteries and bulb testers ; **Reg. No. 714,670**, same, Bright Star Industries, Dry cell batteries, radio batteries, ignition batteries, lantern batteries, flashlights, flashlight casings and lanterns, **filed** Jan. 16, 1968, D.C., S.D.N.Y., Doc. 68–C–193, *Bright Star Industries Incorporated* v. *Marlin Enterprises, Inc.*

Reg. No. 247,941. (See Reg. No. 246,665.)

Reg. No. 362,599. (See Reg. No. 246,665.)

Reg. No. 421,759 (SCRAM), Acme Chemical Company, Surface cleaner in paste form, also usable as soap ; **Reg. No. 803,667** (THE SCHOLASTIC LIFE PLAN), Life Assurance Company of Pennsylvania, Underwriting of life insurance for university and college students, **filed** Oct. 17, 1966, D.C. Mass. (Boston), Doc. No. CA66–758–C, *U.S. Cleaner Corporation* v.

CONDITION OF TRADEMARK APPLICATIONS AS OF FEBRUARY 29, 1968

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	17, 790
Date of oldest new application	Apr. 4, 1967
Date of oldest amended application (filing date)	Oct. 11, 1963

C. M. WENDT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	4–10–67	10–20–65
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	4–25–67	10–11–63
(III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 36	4–4–67	6–30–65
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	4–5–67	1–5–65
Renewals (All Classes)	1–29–68	....
Sec. 12(c) Publications (All Classes)	2–5–68	....

Applications filed during the month of February 1968—2,340

Registrations Issued	277—No. 847,516 to No. 847,792
Renewals Issued	80

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $12.00 per annum, foreign mailing $4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

Duo Chem Corporation and Elmer C. Loveland. Infringement by defendants, they are to desist from further infringement, Dec. 6, 1967.

Reg. No. 575,640. (See Reg. No. 246,665.)

Reg. No. 707,501. (See Reg. No. 246,665.)

Reg. No. 714,670. (See Reg. No. 246,665.)

Reg. No. 716,172 (SPORTWHIRL), Sportwhirl, Inc., Women's blouses, skirts, dresses, shorts, coats and suits, **filed** Mar. 14, 1966, D.C., S.D.N.Y., Doc. 66–C–742, *Sportwhirl, Inc.* v. *Oxford Manufacturing Co., Inc.*

Reg. No. 737,924 (DUO-TANG), Ellingsworth Mfg. Co., Looseleaf covers and looseleaf index dividers; **Reg. No. 742,531,** same, portfolios, **filed** Aug. 7, 1967, D.C.N.J, (Newark), Doc. 828–67, *Ellingsworth Manufacturing Co.* v. *Tangbinder Corporation.* Order of dismissal of complaint and counterclaims, Dec. 7, 1967.

Reg. No. 740,389 (RED CARPET SERVICE), The Maytag Company, Appliance installation, maintenance and repair services, **filed** July 19, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c1247, *The Maytag Company* v. *Borg-Warner Corporation,* Voluntary dismissal under Rule 41(a), July 28, 1967.

Reg. No. 742,531. (See Reg. No. 737,924.)

Reg. No. 759,958 (REPRESENTATION OF A KNOT), B. H. Bunn Company, Package tying machines; **Reg. No. 821,114** (KNOT DESIGN), same, Replacement parts for package tying machines, **filed** Dec. 19, 1967, D.C., S.D.N.Y., Doc. 67–C–4966, *B. H. Bunn Company* v. *International Office Appliances, Inc.*

Reg. No. 801,497 (ARBY'S ROAST BEEF SANDWICH ETC. AND DESIGN), Arby's, Inc., Restaurant services, **filed** Mar. 13, 1967, D.C., N.D. Ill. (Chicago), Doc. No. 67c397, *Arby's, Inc., doing business as Arby's Roast Beef Sandwich* v. *Arby's Roast Beef Sandwich, Inc.* Defendant permanently enjoined; defendant's counterclaim is dismissed with prejudice, Nov. 24, 1967.

Reg. No. 803,667. (See Reg. No. 421,759.)

Reg. No. 819,163 (HYGIENT), Venetianaire Corporation of America, Mattress covers, **filed** Dec. 7, 1967, D.C., S.D.N.Y., Doc. 67–C–4802, *Venetianaire Corporation of America* v. *A. & P. Import Co.*

Reg. No. 821,114. (See Reg. No. 759,958.)

Reg. No. 831,747 (MATCHBOX),Lesney Products & Co., Ltd. Toys—namely, model vehicles, model machines, plastic fire stations, ambulance stations, service stations, and cardboard road layouts, **filed Dec.** 13, 1967, D.C., E.D.N.Y. (Brooklyn), Doc. 67C–1167, *Lesney Products & Co., Ltd. et ano* v. *Aurora Plastics Corporation.*

Reg. No. 837,848 (PEE WEE), Uneeda Doll Co., Inc., Dolls, and doll accessories; **filed** Dec. 19, 1967, D.C., S.D.N.Y., Doc. 67–C–4961, *Uneeda Doll Co., Inc.* v. *Durham Industries, Inc.*

Reg. No. 839,613 (INTERNATIONAL EDITION), Slack Fashions Incorporated, Men's slacks and sport jackets, **filed** Dec. 19, 1967, D.C., S.D.N.Y., Doc. 67–C–4960, *Slack Fashions, Inc.* v. *Eagle Clothes, Inc.*

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[**NOTE:** For publication of marks presented in applications for registration in one class, see section 2.]

SN 183,670. Donut Supplies, Inc., Little Rock, Ark. Filed Dec. 27, 1963.

HOL'N ONE

Class 32—Furniture and Upholstery

For Display Cases for Donuts (Int. Cl. 20).
First use Jan. 31, 1961.

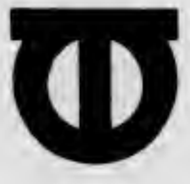
Class 34—Heating, Lighting, and Ventilating Apparatus

For Equipment for Forming and Cooking Donuts (Int. Cl. 11).
First use May 1951.

Class 46—Foods and Ingredients of Foods

For Donut Mix and Other Mixes—Namely, Pancake and Waffle Mixes, Cookie Mix, Coffee Cake Mix, Breading Mix, Bread and Roll Mixes; and Donut Toppings—Namely, Icing Mix, Candies, Nuts, and Fruits (Int. Cl. 30).
First use August 1951.

SN 230,185. Optics Technology, Inc., Palo Alto, Calif. Filed Oct. 14, 1965.



Class 26—Measuring and Scientific Appliances

For Optical Devices in Both Visible and Invisible Ranges for Industrial Applications Employing Laser and Conventional Light Sources—Namely, Lasers, Laser Power Supplies, Devices for Measuring Laser Outputs, Laser Microscopes; and Conventional and Fiber Optical Arrays, Namely, Fiber Optic Light Pipes, Image Transfer Arrays; Filters and Coated Optical Elements, Namely, Neutral Density Filters, Monopass Interference Filter Sets, Monopass Ultraviolet Interference Filters, Monopass Visible Spectrum Interference Filters, Monopass Metavisible Spectrum Interference Filters, Infrared Spectrum Interference Filters, Ruby Laser Interference Filters, Variable Bandpass Interference Filters, Fused and Flexible Fiber Optics, Laboratory Lasers, High Peak Power Lasers, Continuous Gas Lasers, Microscope Lasers, Optical Power Meters, Ultra Fast Detectors, Monitor/Photometers and Modulation Transfer Function Analyzers (Int. Cl. 9).

Class 44—Dental, Medical, and Surgical Appliances

For Laser Photocoagulators, and Fiber Optical Viewing Instruments for Examining the Human Body (Int. Cl. 10).

First use Apr. 30, 1965.

SN 244,848. Panduit Corp. (Delaware corporation), Tinley Park, Ill., by merger from Panduit Corp. (Illinois corporation), Tinley Park, Ill. Filed May 3, 1966.

PANDUIT

Owner of Reg. Nos. 652,333 and 711,773.

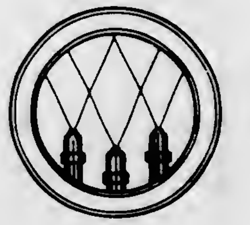
Class 21—Electrical Apparatus, Machines, and Supplies

For Wiring Duct, Cable Ties and Clamps, Cable Tie Guides and Cable Retainers for Use in the Assembly of Wire Harnesses, Mounting Supports for Wire Harnesses, Cable Sheaths, and Cable Identification Markers (Int. Cl. 9).
First use Sept. 26, 1958.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Special Tools for Applying Cable Ties and Clamps About Bundles of Wires (Int. Cl. 8).
First use March 1962.

SN 251,476. Spraying Systems Co., Bellwood, Ill. Filed Aug. 1, 1966.



The representation of the nozzles individually is disclaimed apart from the mark as shown.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

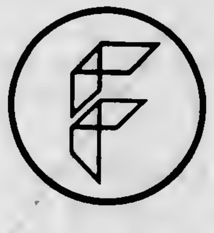
For Spraying Equipment for Agricultural and Industrial Applications—Namely, Spray Nozzles, Spray Tips, Adjustable Spray Tips, Hand Trigger Valves, Conduit Extensions for Sprayers, Strainers for Sprayers, and Pressure Relief Valves for Spraying Equipment (Int. Cl. 6).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Spraying Equipment for Agricultural and Industrial Applications—Namely, Spray Guns, Fog Sprayers, and Bottle Sprayers (Int. Cl. 7).

First use 1961.

SN 252,446. Fedders Corporation, Edison, N.J. Filed Aug. 16, 1966.



The mark consists of a stylized letter "F."

Class 24—Laundry Appliances and Machines

For Clothes Washers and Dryers (Int. Cl. 7).

Class 31—Filters and Refrigerators

For Refrigerators and Freezers (Int. Cl. 11).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Air Conditioning Apparatus (Int. Cl. 11).

First use in or about October 1964.

SN 253,313. Indian Head Inc., New York, N.Y. Filed Aug. 29, 1966.

DURACOT

Class 7—Cordage

For Twine (Int. Cl. 22).

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Fish Netting, in the Piece, for Use in Manufacturing Fish Nets (Int. Cl. 22).

First use May 19, 1959.

SN 255,916. Packing Materials Corporation, Chicago, Ill. Filed Oct. 6, 1966.

PACK-KING

Applicant disclaims exclusive rights to the term "Pack" apart from the mark as shown.

Class 2—Receptacles

For Containers—Namely, Set-Up and Folding Boxes and Bags Made of Paper, Polyethylene, Foil Vapor Barrier, Cushioned Mailing, Grocery and Cushioned Bags (Int. Cls. 16 and 21).

Class 37—Paper and Stationery

For Packing Paper Products and Materials—Namely, Kraft Papers in Rolls and Sheets, Waterproof Vapor, Waxed Paper, Vapor Phase Inhibitor Paper, Corrugated Paper and Sheets in Rolls, Shock Absorbent Paper in Sheets, Rolls and Pads, and Chip-Board (Int. Cl. 16).

First use August 1948.

SN 259,198. R. M. Hollingshead Corporation, Camden, N.J. Filed Nov. 21, 1966.

HOLLINGSHEAD

Class 4—Abrasives and Polishing Materials

For Floor Waxes, Floor Polishing Preparation Containing Wax and Acrylic Resins, Metal Polish and Floor Finishing Preparation in the Nature of Wax (Int. Cl. 3).
First use Apr. 6, 1965.

Class 6—Chemicals and Chemical Compositions

For Disinfectant Solution, Charcoal Lighter Fluid, Lighter Fluid for Wick-Type Lighters and Hand Warmers, and Hermetically Sealed Portable Refrigerants (Int. Cls. 1, 4, and 5).
First use September 1954.

Class 15—Oils and Greases

For Lubricating Oil (Int. Cl. 4).
First use July 12, 1965.

Class 52—Detergents and Soaps

For Drain De-Clogging Solution for Drain Pipe Opening, Toilet Bowl Cleaner, Liquid Hand Soap, Germicidal Cleaning Preparation, Disinfectant Cleaning Preparation, and General Purpose Cleaning Preparation (Int. Cl. 3).
First use Apr. 29, 1965.

SN 261,846. Illinois Water Treatment Co., Rockford, Ill Filed Jan. 3, 1967.

t•FIX

Class 16—Protective and Decorative Coatings

For Silicone-Type Coating for Repairing Scratches in Cooking Utensil Coatings (Int. Cl. 2).

Class 52—Detergents and Soaps

For Alkaline Phosphate Silicate Cleaner for Cooking Utensils With Silicone-Type Coatings (Int. Cl. 3).

First use Feb. 8, 1966; Aug. 26, 1965, in another form.

SN 266,478. Kistler Instrument Corporatión, Clarence, N.Y. Filed Mar. 13, 1967.

KISTLER

Class 21—Electrical Apparatus, Machines, and Supplies

For Amplifiers (Int. Cl. 9).

Class 26—Measuring and Scientific Appliances

For Crystal Transducers for Pressure, Force, Acceleration, and Vibration Measurements, Impedance Matching Circuitry and Calibration Equipment for Use With Crystal Transducers (Int. Cl. 9).

First use Feb. 14, 1963.

SN 267,481. Brook Hill Farms, Inc., Chicago, Ill. Filed Mar. 24, 1967.

BROOK HILL

Class 18—Medicines and Pharmaceutical Preparations

For Vitamins and Minerals, and Infants' Vitamin Drops (Int. Cl. 5).
First use June 1962.

Class 46—Foods and Ingredients of Foods

For Raw Certified Milk, Enzyme Treated Milk of Low Curd Tension, Whipping Cream, Goat Milk, Eggnog, Half and Half (18% Cream), Non-Dairy Cream Substitute, and Vegetable Derived Product in a Pressurized Container To Be Used as a Topping for Desserts (Int. Cls. 29 and 30).
First use 1914.

SN 270,309. Aerpat A.G., Zug, Switzerland. Filed May 1, 1967.

NUTSERT

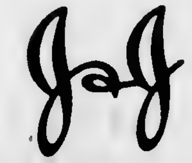
Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Blind Anchor Nuts and Threaded Anchor Bushes Made of Common Metal (Int. Cl. 6).
First use December 1964; in commerce Jan. 14, 1965.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Tools Comprising Insert Fasteners for Placing Such Anchor Nuts and Bushes (Int. Cl. 8).
First use December 1964; in commerce Jan. 19, 1966.

SN 271,260. Johnson & Johnson, New Brunswick, N.J. Filed May 11, 1967.



Owner of Reg. No. 554,342 and others.

Class 18—Medicines and Pharmaceutical Preparations

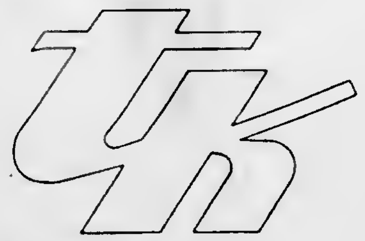
For Oral Antiseptics (Int. Cl. 5).

Class 51—Cosmetics and Toilet Preparations

For Mouthwashes (Int. Cl. 3).

First use Dec. 11, 1959.

SN 271,401. Templeton, Kenly & Co., Broadview, Ill. Filed May 15, 1967.



Owner of Reg. No. 132,560.

Class 15—Oils and Greases

For Lubricants, Such as Hydraulic Jack Oil and Lubricants for Use in Joining Cast-Iron Soil Pipes and Fittings With Compression Gaskets (Int. Cl. 4).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Hydraulic, Geared, and Ratchet Jacks and Pullers for Cable and Wire Tensioning, Lifting, Pole Pulling, Rail Pulling and Expanding, Tie Spacing, Mine and Scaffold Supports, Trench and Timber Bracing, Machine Leveling and Spreading; Manual and Power Operated Hydraulic Pumps; and Accessories for Jacks and Pullers (Int. Cl. 7).

First use on or about Sept. 1, 1966.

SN 278,977. McDonald Products Corporation, Buffalo, N.Y. Filed Aug. 24, 1967.

SCISSOR-ACTION

Class 8—Smokers' Articles, Not Including Tobacco Products

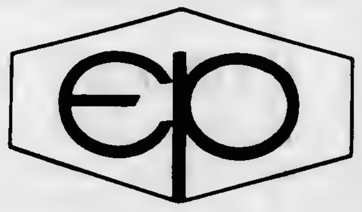
For Ash Trays (Int. Cl. 34).

Class 32—Furniture and Upholstery

For Ash Receptacles—Namely, Floor Smokers (Int. Cl. 34).

First use at least 1949.

SN 282,947. El Paso Products Company, Odessa, Tex. Filed Oct. 20, 1967.



Class 1—Raw or Partly Prepared Materials

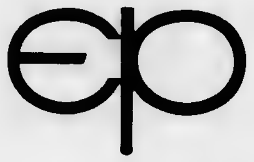
For Polyethylene and Polypropylene (Int. Cl. 1).

Class 6—Chemicals and Chemical Compositions

For Ammonia, Hexamethylenediamine, and Adipic Acid (Int. Cl. 1).

First use Dec. 27, 1966.

SN 282,948. El Paso Products Company, Odessa, Tex. Filed



Oct. 20, 1967.

Class 1—Raw or Partly Prepared Materials

For Polyethylene and Polypropylene (Int. Cl. 1).

Class 6—Chemicals and Chemical Compositions

For Ammonia, Hexamethylenediamine, and Adipic Acid (Int. Cl. 1).
First use Dec. 27, 1966.

SECTION 2

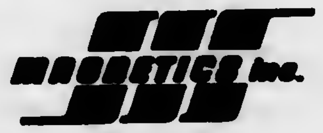
The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

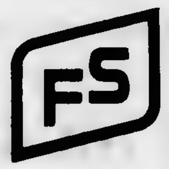
Class 1—Raw or Partly Prepared Materials

SN 246,220. Magnetics, Inc., East Butler, Pa. Filed May 9, 1966.



Owner of Reg. No. 710,186.
For Ceramics for General Use in the Industrial Arts (Int. Cl. 21).
First use August 1964.

SN 258,372. FS Services, Inc., Bloomington, Ill. Filed Nov. 10, 1966.



For Field Seed, Seed Corn, and Seed Grains (Int. Cl. 31).
First use October 1962.

SN 269,534. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Apr. 19, 1967.

G-114

For Shoe Soling Material Made of Synthetic or Natural Rubber or Plastic (Int. Cl. 17).
First use Apr. 27, 1966.

SN 271,589. Borg-Warner Corporation, Chicago, Ill. Filed May 16, 1967.

CYCOPAC

Owner of Reg. Nos. 578,640, 746,784, and others.
For Synthetic Resinous Compositions for Use in the Industrial Arts (Int. Cl. 1).
First use on or prior to Apr. 3, 1967.

SN 273,287. Industrial Brush Company, Arcadia, Calif. Filed June 7, 1967.

TUF-FIL

For Filaments of Synthetic Plastic Composition for Use in Brushes (Int. Cl. 21).
First use May 25, 1967.

SN 273,457. American Can Company, New York, N.Y. Filed June 9, 1967.

BR-8

For Wood Pulp Material Used as Soil Medium for Plants (Int. Cl. 1).
First use Jan. 21, 1966.

SN 273,684. Rexall Drug and Chemical Company, d.b.a. Fiberfil, Los Angeles, Calif. Filed June 12, 1967.

VYNACON

For Resin Coated Glass Fibers in Granular or Pellet Form (Int. Cl. 21).
First use May 15, 1967.

SN 273,685. Rexall Drug and Chemical Company, d.b.a. Fiberfil, Los Angeles, Calif. Filed June 12, 1967.

ABSACON

Owner of Reg. Nos. 794,246 and 838,984.
For Resin Coated Glass Fibers in Granular or Pellet Form (Int. Cl. 21).
First use Apr. 19, 1967.

SN 288,991. Beaunit Corporation, New York, N.Y. Filed Jan. 17, 1968.

VYCRON TOUGH STUFF

Owner of Reg. Nos. 711,387, 834,185, and others.
For High Tenacity Polyester Fiber for Use in Home Furnishing Fabrics and Carpets (Int. Cl. 22).
First use on or about Sept. 1, 1966.

Class 2 — Receptacles

SN 255,835. United States Rubber Company, New York, N.Y. Filed Oct. 5, 1966.

SEALDCONTAINER SYSTEMS

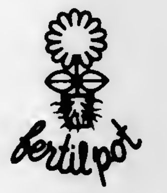
Owner of Reg. Nos. 626,410, 821,458, and others.
For Flexible Shipping and Storage Containers of Rubber Coated Fabric in Various Sizes (Int. Cl. 22).
First use Aug. 8, 1966.

SN 255,836. Universal American Corporation, Garrett, Ind. Filed Oct. 5, 1966.

H
TUB
B

Applicant disclaims the right to the exclusive use of the word "Tub" except in combination with the word "Hub."
For Plastic Containers for Shipping Wire (Int. Cl. 20).
First use Sept. 15, 1966.

SN 261,454. Henry Boucher Fils & Cie, Gerardmer, Vosges, France. Filed Dec. 27, 1966.



Owner of French Reg. No. 1,275, dated Mar. 20, 1965 (Epinal); Natl. Inst. No. 247,279.
For Plant Pots (Int. Cl. 21).
First use Mar. 20, 1965; in commerce September 1965.

SN 262,500. Owens-Illinois, Inc., Toledo, Ohio. Filed Jan. 13, 1967.

ECON-O-PAK

Owner of Reg. No. 756,417.
For Plastic Vials (Int. Cl. 20).
First use Apr. 29, 1965.

SN 266,374. Thermoformed Plastics Corporation, Flushing, N.Y. Filed Mar. 9, 1967.

THERMO-GARD

For Disposable Food Containers Made of Plastic and Plastic Containers Which Open Into Dishes (Int. Cl. 21).
First use Sept. 1, 1966.

SN 272,689. Best Plastics, Inc., Providence, R.I. Filed May 31, 1967.

TRUPAC

For Multiple Plastic Containers (Int. Cl. 20).
First use on or about Apr. 13, 1967.

SN 274,268. Union Camp Corporation, New York, N.Y. Filed June 19, 1967.

DISCREET

For Paper Bags (Int. Cl. 16).
First use May 24, 1967.

SN 287,994. Olin Mathieson Chemical Corporation, New York, N.Y. Filed Jan. 3, 1968.

OLINKRAFT

Owner of Reg. Nos. 769,182, 814,515, and others.
For Corrugated Containers, Folding Cartons, Grocery Bags and Sacks, and Multiwall Shipping Sacks (Int. Cl. 16).
First use June 10, 1967.

SN 288,261. Kleer-Vu Industries, Inc., New York, N.Y. Filed Jan. 8, 1968.

BURST PAK

Applicant disclaims the word "Pak."
For Fabricated Tubes and Fabricated Packages Made of Plastic, Which Can Be Ultrasonically Sealed (Int. Cl. 17).
First use Sept. 12, 1966.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

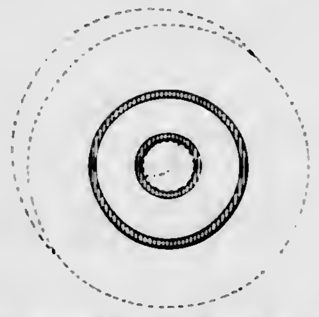
SN 274,422. Ever-Wear, Inc., d.b.a. Londonaire Limited, Chicago, Ill. Filed June 21, 1967.

PORTABLE PUB

For Fitted Lugage (Int. Cl. 18).
First use Apr. 18, 1967.

Class 4 — Abrasives and Polishing Materials

SN 260,374. Wallace-Murray Corporation, d.b.a. Simonds Abrasive Company, Philadelphia, Pa. Filed Dec. 8, 1966.



No claim is made to the exclusive use of the representation of a grinding wheel apart from the mark shown in the drawing. The drawing is lined for the color red. The mark consists of a pair of spaced concentric red rings, one red ring being at each edge of a label-blotter which is placed around the center hole on the grinding wheel, the inner ring encircling the peripheral edge of said center hole and the outer ring being spaced between the said peripheral edge and the outer peripheral edge of the grinding wheel. Owner of Reg. Nos. 230,373 and 339,427.
For Abrasive Grinding, Cutting, and Polishing Wheels (Int. Cl. 7).
First use at least June 1934.

SN 263,050. Geoscience Instruments Corporation, Mount Vernon, N.Y. Filed Jan. 23, 1967.

GEONITE

For Paste Composition Including a Diamond Compound Abrasive for Cleaning and/or Polishing Applications (Int. Cl. 3).
First use at least as early as October 1962.

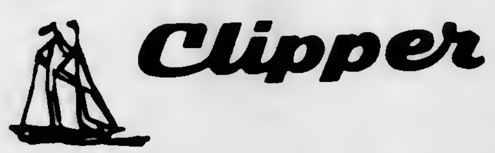
SN 264,149. Felker Manufacturing Company, Torrance, Calif. Filed Feb. 7, 1967.

LAMINEX

For Abrasive Wheels (Int. Cl. 7).
First use on or about Feb. 14, 1966.

Class 5 — Adhesives

SN 243,633. Canadian Technical Tape, Ltd., Montreal, Canada. Filed Apr. 18, 1966.



Owner of Reg. Nos. 794,984 and 804,073.
For Adhesive Tapes for Industrial Use—Namely, Plastic Adhesive Tapes, Rubber Adhesive Tapes, and Pressure Sensitive Tapes (Int. Cl. 17).
First use February 1962; in commerce February 1962.

SN 264,507. Birma Products Corporation, Sayreville, N.J. Filed Feb. 13, 1967.

JELL-STIK

For Adhesive for Application to Insulation Materials, as Well as Other Surfaces for Adhering the Surface Coated to Other Surfaces (Int. Cl. 1).
First use Dec. 27, 1966.

SN 268,110. U.S. Plywood-Champion Papers Inc., New York, N.Y., by merger and change of name from United States Plywood Corporation, New York, N.Y. Filed Mar. 31, 1967.

Touch
-n-
Glue

For Water Resistant Adhesives and Cements for Bonding Metals, Ceramics, Plaster, Wood, Concrete, Leather, Fabric, and Almost All Surfaces (Int. Cl. 1).
First use on or about Jan. 30, 1967.

SN 269,002. United Shoe Machinery Corporation, Boston, Mass. Filed Apr. 12, 1967.

THERMOWEB

For Heat Activatable Adhesive in Sheet, Web, or Net Form (Int. Cl. 1).
First use Mar. 22, 1967.

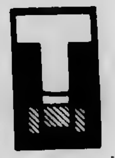
Class 6—Chemicals and Chemical Compositions

SN 263,667. Raymond Hepner, d.b.a. Raybo Chemical Company, Huntington, W. Va. Filed Jan. 31, 1967.

Nilflo

For Chemical Preparations, Being Paint and Ink Additives in Liquid or Paste Form for the Purpose of Decreasing the Sagging, Silking, Flooding or Floating Tendency, Improving the Gloss, Hardness, Color, Toughness, Dryness, Brilliance, and/or Water Resistance (Int. Cl. 1).
First use May 14, 1965.

SN 264,347. The Tanatex Chemical Corporation, Lyndhurst, N.J. Filed Feb. 9, 1967.



The drawing is lined for the color green.
For Industrial Chemical Preparations Used in the Manufacture of Textiles, Leather, Paper, Cosmetics, Detergents, and Soaps (Int. Cl. 1).
First use on or about May 14, 1948.

SN 264,517. Ciba Corporation, d.b.a. Ciba Agrochemical Company, New York, N.Y. Filed Feb. 13, 1967.

ADJUVAN

For Herbicide Surfactant (Int. Cl. 5).
First use Jan. 30, 1967.

SN 264,921. Elox Inc., Troy, Mich., assignee of Elox Corporation, Troy, Mich. Filed Feb. 17, 1967.

ELOSAL

For Electrolyte for Use With Electrochemical Discharge Machines (Int. Cl. 1).
First use on or about Jan. 24, 1967.

SN 266,481. Cyclo Chemicals Limited, London, England. Filed Mar. 13, 1967.

CYCLOFOR

Priority claimed under Sec. 44(d) on British Reg. No. 900,166, dated Oct. 6, 1966.
For Surface Active Agents for Use as Additives for Paint as Anti-Settling Agents and Anti-Skinning Agents (Int. Cl. 1).

SN 266,565. National Lead Company, New York, N.Y. Filed Mar. 13, 1967.

ENEL CHEM

For Chemical Compositions Being Derivatives of Titanium (Int. Cl. 1).
First use Jan. 31, 1967.

SN 269,396. Buckman Laboratories, Inc., Memphis, Tenn. Filed Apr. 18, 1967.

BUBOND

For Chemical Composition Used To Improve the Wet- and Dry-Strength of Paper and Paperboard as Well as the Formation of the Same and the Drainage of Water Therefrom During Manufacture (Int. Cl. 1).
First use Apr. 12, 1967.

SN 273,429. Transene Company, Incorporated, Rowley, Mass. Filed June 8, 1967.

POLY-CLEAR

For Liquid Chemical Polymer for Mounting and Imbedding Metallurgic, Biological, Mechanical Specimens (Int. Cl. 1).
First use Apr. 7, 1967.

SN 274,792. United Co-Operatives, Inc., Alliance, Ohio. Filed June 26, 1967.

LICE-X

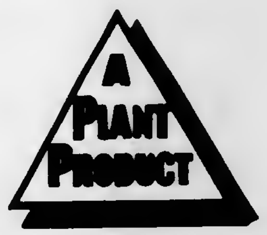
For Insecticide for Use on Livestock (Int. Cl. 5).
First use at least as early as January 1964.

SN 274,905. United Co-Operatives, Inc., Alliance, Ohio. Filed June 27, 1967.

THOROBRED "H-P"

For Insecticide (Int. Cl. 5).
First use at least as early as Apr. 8, 1965.

SN 277,966. Plant Products Corporation, Blue Point, N.Y. Filed Aug. 10, 1967.



Applicant disclaims any rights in the words "A Plant Product" separate and apart from the mark as shown. Owner of Reg. No. 432,720.
For Insecticides Used for Spraying Plants (Int. Cl. 5).
First use Dec. 20, 1944.

SN 278,203. Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany. Filed Aug. 14, 1967.

NEMACUR

Owner of German Reg. No. 678,360, dated Nov. 4, 1954.
For Nematocides (Int. Cl. 5).

SN 282,949. El Paso Products Company, Odessa, Tex. Filed Oct. 20, 1967.

PROCESSING THE PAST INTO YOUR FUTURE

For Hexamethylenediamine and adipic acid (Int. Cl. 1).
First use Dec. 29, 1966.

SN 286,067. L.C.F., Inc., Los Angeles, Calif. Filed Dec. 4, 1967.

sani-clor

Owner of Reg. Nos. 254,269 and 708,607.
For Chemical Composition for Use as a Bleach, a Germicide, and a Disinfectant Having Deodorizing Properties; Spray and Liquid Starch; Fabric Softening Laundry Rinse; Household Ammonia; Air Freshener Deodorant in a Spray Container; and Spray Fabric Finish (Int. Cls. 3 and 5).
First use Aug. 1, 1928, on chemical composition for use as a bleach.

Class 12—Construction Materials

SN 233,992. The Carborundum Company, Niagara Falls, N.Y. Filed Dec. 6, 1965.

KT

For Dense Silicon Carbide Refractory Shapes Such as Blocks, Plates, Tubes, Cylinders, Rods, Discs, and the Like, for Use Where Resistance to High Temperature and Wear Resistance Are Desired (Int. Cl. 19).
First use Oct. 8, 1956.

SN 243,471. Paddock of California, Inc., Albany, N.Y. Filed Apr. 14, 1966.

IFRS

For Prefabricated Perimeter Gutter Sections for Swimming Pools With Filtered Water and Gutter Drain Piping (Int. Cl. 6).
First use April 1963.

SN 255,510. Armstrong Cork Company, Lancaster, Pa. Filed Sept. 30, 1966.

CERAMAGUARD

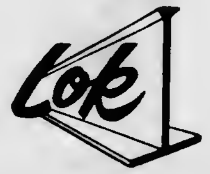
For Acoustical Ceiling Tile and Panels (Int. Cl. 19).
First use June 26, 1965.

SN 255,975. General Dynamics Corporation, Chicago, Ill. Filed Oct. 7, 1966.

PUFF-CRETE

For Insulating Fill Concrete (Int. Cl. 19).
First use June 22, 1966.

SN 256,108. Lok Products Co., Fullerton, Calif. Filed Oct. 10, 1966.



For Suspended Grid Ceiling Systems and Components Thereof (Int. Cl. 19).
First use Aug. 16, 1966.

SN 257,961. Johns-Manville Corporation, New York, N.Y. Filed Nov. 4, 1966.

MIN-KLAD

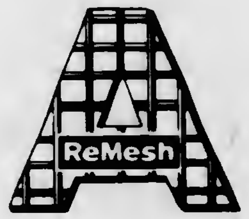
Owner of Reg. Nos. 707,694 and 712,372.
For Molded Combination of Fibrous Thermal Insulation and Fiber-Reinforced Plastic Faces (Int. Cl. 17).
First use at least about November 1958.

SN 257,962. Johns-Manville Corporation, New York, N.Y. Filed Nov. 4, 1966.

spanAcoustic

Owner of Reg. No. 247,114.
For Acoustical Panels (Int. Cl. 19).
First use Oct. 20, 1965.

SN 258,207. American Remesh, Inc., Baltimore, Md. Filed Nov. 8, 1966.



For Masonry and Concrete Reinforcement—Namely, Shaped Welded Wire Masonry Reinforcement, Rebar Tie Wire for Tying Concrete Reinforcing Bars Together, and Welded Wire Mesh for Concrete Reinforcement (Int. Cl. 6).
First use Jan. 31, 1966.

SN 258,276. American Remesh, Inc., Baltimore, Md. Filed Nov. 9, 1966.

AMERICAN REMESH

For Masonry and Concrete Reinforcement—Namely, Shaped Welded Wire Masonry Reinforcement, Rebar Tie Wire for Tying Concrete Reinforcing Bars Together, and Welded Wire Mesh for Concrete Reinforcement (Int. Cl. 6).
First use Jan. 31, 1966.

SN 260,100. Trus-Joist Corporation, Boise, Idaho. Filed Dec. 5, 1966.

trus Joist

Owner of Reg. No. 748,964.
For Structural Trusses (Int. Cl. 19).
First use September 1965.

SN 263,300. The Tapecoat Company, Inc., Evanston, Ill. Filed Jan. 25, 1967.

CT

For Coal Tar Tape for Use in Covering and Protecting Pipe, Ducts, Tanks, and the Like Against Corrosion (Int. Cl. 17).
First use Aug. 20, 1963.

SN 263,592. Mar-Vel Marble, Inc., Edmonds, Wash. Filed Jan. 30, 1967.

MAR-VEL

For Synthetic, Cast Cultured Marble in Slab Form, Such as Used for Vanity Tops, Fireplace Facings, Hearths, Desk Tops, Wainscoat Around Bathtubs, Kitchen Counters, Window Sills, and the Like (Int. Cl. 19).
First use on or about Dec. 15, 1964.

SN 264,578. Lone Star Cement Corporation, San Francisco, Calif. Filed Feb. 13, 1967.

Exclusive use of the word "Cement" is disclaimed apart from the mark as a whole.
For Portland Cement (Int. Cl. 19).
First use 1909.

SN 266,744. Eastern States Steel Corporation, Ridgewood, N.J. Filed Mar. 15, 1967.

SNAP SPACERS

No claim is made to the word "Spacers" apart from the mark as a whole.
For Reinforced Concrete Spacers (Int. Cl. 19).
First use Aug. 8, 1966.

SN 266,850. Astro-Science Corporation (Texas corporation), South El Monte, Calif., assignee of Astro-Science Corporation (California corporation), South El Monte, Calif. Filed Mar. 16, 1967.

ALPHA

For Panel Structures for Use in Buildings, Vehicles, or Other Construction (Int. Cl. 19).
First use Nov. 28, 1966.

SN 267,430. International Paper Company, New York, N.Y. Filed Mar. 23, 1967.

I-P BLACKFORM

Applicant disclaims "Blackform" apart from the mark.
For Plywood Coated for Use in Making Concrete Forms (Int. Cl. 19).
First use Jan. 12, 1966.

SN 267,439. Mortite Corporation, Passaic, N.J. Filed Mar. 23, 1967.

MORTITE

For Precast Interior and Exterior Wall Modules, Building Sections, and Panels, Either as a Total Wall System or Facia (Int. Cl. 19).
First use Feb. 10, 1967.

SN 267,526. International Paint Company, Inc., New York, N.Y. Filed Mar. 24, 1967.

POLYCAULK

For Caulking Compound (Int. Cl. 17).
First use Mar. 16, 1964.

SN 272,480. Fessenden Hall Plywood, Inc., Pennsauken, N.J. Filed May 26, 1967.

GOLD CUP

For Marine Plywood (Int. Cl. 19).
First use May 1, 1967.

SN 274,439. Masonite Corporation, Chicago, Ill. Filed June 21, 1967.

Owner of Reg. Nos. 248,040 and 532,660.
For Construction Board—Namely, Fibre Board, Insulating Board, Composite Board, Hardboard, and Synthetic Lumber or Artificial Lumber for Various Construction Purposes. (Int. Cl. 19).
First use June 19, 1967.

SN 274,454. North American Aluminum Corporation, Kalamazoo, Mich. Filed June 21, 1967.

NAARCO

For Aluminum Architectural Products—Namely, Windows, Vents, Fascia, Louvers, Sheet Panels, Panel Frames, and Curtainwalls (Int. Cl. 6).
First use Jan. 1, 1965.

SN 275,557. Season-All Industries, Inc., Indiana, Pa. Filed July 7, 1967.

NUPRIME

For Aluminum Replacement Windows (Int. Cl. 6).
First use Apr. 3, 1967.

SN 276,001. Butler Manufacturing Company, Kansas City, Mo. Filed July 14, 1967.

LANDMARK

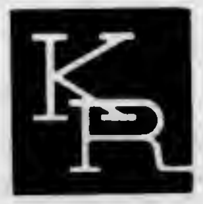
For Fascia Panels for Buildings (Int. Cl. 19).
First use June 22, 1967.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 239,839. Universal Towel Company Limited, London, England. Filed Feb. 28, 1966.

The drawing is lined for shading only. The letter "S" is disclaimed apart from the mark as shown. Owner of British Reg. No. 857,152, dated Nov. 28, 1963.
For Metal Wall Cabinets for Dispensing Toweling (Int. Cl. 21).

SN 260,334. Ken-Ray Brass Products, Inc., Vermont, Ill. Filed Dec. 8, 1966.



For Hydrants, Wall Faucets, Plumbing Fixtures, and Valves (Int. Cls. 6 and 11).
First use Jan. 27, 1964.

SN 262,427. Kansas City Bolt, Nut and Screw Company, Kansas City, Mo. Filed Jan. 12, 1967.

RED STREAK

For Nuts, Bolts, and Screws (Int. Cl. 6).
First use Nov. 25, 1966.

SN 262,781. Flexible Coupling Corporation, Chicago, Ill. Filed Jan. 18, 1967.

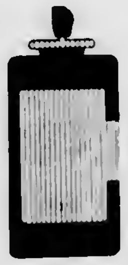
For Flexible Couplings (Int. Cl. 7).
First use Oct. 22, 1965.

SN 266,465. A. O. Smith Corporation, Milwaukee, Wis. Filed Mar. 10, 1967.

GREEN THREAD

Owner of Reg. Nos. 692,016, 789,534, and others.
For Glass Fiber Products—Namely, Glass Fiber Reinforced Pipe and Accessories Therefor (Int. Cl. 17).
First use Feb. 9, 1965.

SN 266,507. The Clayton Corporation of Delaware, St. Louis, Mo. Filed Mar. 13, 1967.



For Dispensing Valves, Heads, and Covers for Aerosols and the Like (Int. Cl. 6).
First use Feb. 23, 1967.

SN 269,462. Sharon Steel Corporation, Sharon, Pa. Filed Apr. 18, 1967.

AUTOFLEX

For Tensional Steel Strapping and Seals for Strip Metal Strapping (Int. Cl. 6).
First use May 16, 1966.

SN 270,075. Oneida, Ltd., Oneida, N.Y. Filed Apr. 26, 1967.

ONEIDA

Owner of Reg. Nos. 316,341, 631,695, and others.
For Stainless Steel Holloware (Int. Cl. 21).
First use Apr. 13, 1967.

SN 270,875. Atlantic Research Corporation, Alexandria, Va. Filed May 8, 1967.

FUSEAL

For Plastic Pipe and Fittings (Int. Cl. 17).
First use March 1967.

SN 271,916. Cabot Corporation, Boston, Mass. Filed May 19, 1967.

Owner of Reg. Nos. 615,516, 810,004, and 810,007.
For Plastic Pipes, Valves, and Fittings (Int. Cl. 17).
First use Mar. 9, 1964.

SN 272,770. West Chemical Products, Inc., Long Island City, N.Y. Filed May 31, 1967.

WESLEAF

Owner of Reg. No. 827,313.
For Skin Cleansing Leaf Dispenser Adapted To Be Affixed to a Wall or Other Similar Structure (Int. Cl. 21).
First use May 2, 1966.

SN 274,526. The Kellems Company, Inc., Stonington, Conn. Filed June 22, 1967.

ROCON

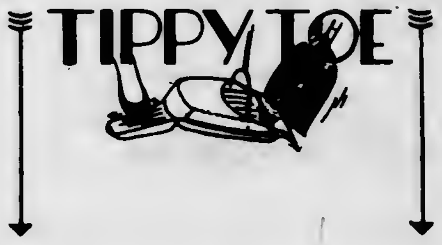
For Conduit Coupling Device (Int. Cl. 6).
First use on or about May 26, 1967.

SN 274,923. A.P.M. Corporation, Englewood, N.J. Filed June 28, 1967.

SPIROSKREW

For Screws Having a Non-Rectilinear Axis (Int. Cl. 6).
First use Sept. 20, 1966.

SN 276,235. Dante Guido, d.b.a. "Tippy Toe" Dust Pans, San Diego, Calif. Filed July 18, 1967.



The representation of the dustpan is disclaimed apart from the mark as shown.
For Dust Pan-Litter Caddy (Int. Cl. 21).
First use June 16, 1967.

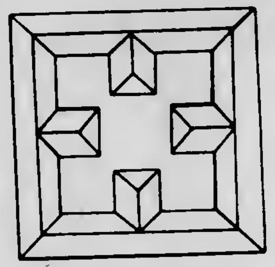
SN 277,634. Crossbow, Inc., Cincinnati, Ohio. Filed Aug. 7, 1967.

BAR BELLES

For Pair of Metal Jiggers (Int. Cl. 21).
First use July 25, 1967.

Class 14—Metals and Metal Castings and Forgings

SN 245,068. Erie Malleable Iron Company, Erie, Pa. Filed May 6, 1966.



The mark is a symbol consisting of four capital letter "E's" arranged to define a square with bars of the letter "E" facing the center of the square. Owner of Reg. No. 213,384.
For Malleable Iron Castings (Int. Cl. 6).
First use 1895.

SN 257,257. Crucible Steel Company of America, Pittsburgh, Pa. Filed Oct. 26, 1966.

SANDERSON

For Tool Steel (Int. Cl. 6).
First use in or about 1889.

SN 257,258. Crucible Steel Company of America, Pittsburgh, Pa. Filed Oct. 26, 1966.

HALCOMB

For Tool Steel (Int. Cl. 6).
First use in or about 1906.

SN 272,278. Independent Grocers' Alliance Distributing Co., Chicago, Ill. Filed May 24, 1967.

IGA

For Aluminum Foil Wrapping Material (Int. Cl. 6).
First use Apr. 20, 1965.

SN 274,484. Aluminum Company of America, Pittsburgh, Pa. Filed June 22, 1967.

VSQ

For Aluminum Foil (Int. Cl. 6).
First use May 15, 1967.

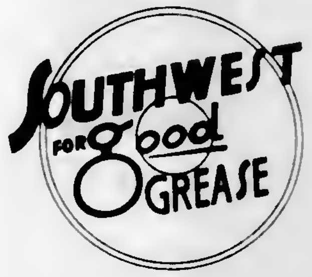
Class 15—Oils and Greases

SN 255,622. Hudson Oil Co., Inc., Kansas City, Kans. Filed Oct. 3, 1966.

HUD

For Motor Oil (Int. Cl. 4).
First use Mar. 11, 1965.

SN 256,318. Southwest Grease & Oil Co., Inc., Wichita, Kans. Filed Oct. 12, 1966.



The phrase "For Good Grease" is disclaimed apart from use in the mark as shown.
For Lubricating Oils and Greases (Int. Cl. 4).
First use in or before 1947.

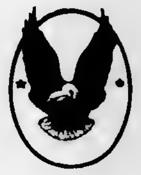
SN 262,764. Cato Oil and Grease Company, Oklahoma City, Okla. Filed Jan. 18, 1967.

SST

For Smoke Suppression Additives for Diesel Fuels (Int. Cl. 1).
First use Aug. 3, 1965.

Class 16—Protective and Decorative Coatings

SN 257,212. United States Rust Control Corporation, Miami, Fla. Filed Oct. 25, 1966.



For Rust and Corrosion Protective Coatings (Int. Cl. 2).
First use July 24, 1963.

SN 262,754. Ball Brothers Company Incorporated, Muncie, Ind. Filed Jan. 18, 1967.

KONTROL

For Plate Preserver for Use as a Protective Coating in Graphic Arts (Int. Cl. 2).
First use on or about Mar. 24, 1966.

SN 269,166. Geo. Brothers, Great Barrington, Mass. Filed Apr. 14, 1967.

"GB"

For Wood Finishing Oil, Especially for Gunstocks (Int. Cl. 2).
First use Sept. 1, 1949.

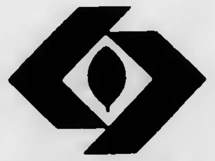
SN 271,620. Arthur N. Hults, d.b.a. The Hultscrete Company, Charlotte, N.C. Filed May 16, 1967.

EPOXY TILE

For Resinous Epoxy Liquid Used Like Paint for Coating Swimming Pool Surfaces and Other Surfaces on Which an Enamel-Like Finish Is Desired (Int. Cl. 2).
First use on or about Oct. 7, 1959.

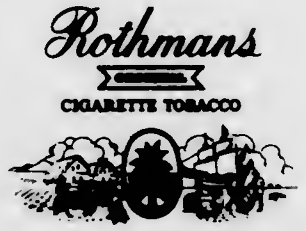
Class 17—Tobacco Products

SN 261,584. Helme Products, Inc., New York, N.Y. Filed Dec. 28, 1966.



Applicant disclaims the representation of the tobacco leaf apart from its use in the mark as a whole. Owner of Reg. No. 821,040.
For Snuff (Int. Cl. 34).
First use Oct. 22, 1964.

SN 266,590. Rothmans of Pall Mall Limited, Zurich, Switzerland. Filed Mar. 13, 1967.



The applicant disclaims the words "Original," "Cigarette Tobacco," and "Selected Virginia," apart from the mark as shown. Owner of Swiss Reg. No. 212,852, dated Sept. 16, 1965; and U.S. Reg. Nos. 578,697 and 763,783.
For Loose Tobacco From Which Cigarettes Are Made (Int. Cl. 34).

SN 269,933. Skandinavisk Tobakskompagni A/S, Herlev, near Copenhagen, Denmark. Filed Apr. 24, 1967.

ABSALON

Priority claimed under Sec. 44(d) on Danish application filed Oct. 26, 1966; Reg. No. 854–1967, dated Mar. 17, 1967.
For Cigars, Cigarettes, and Pipe Tobacco (Int. Cl. 34).

SN 272,268. General Cigar Co., Inc., New York, N.Y. Filed May 24, 1967.

VIVA

For Cigars (Int. Cl. 34).
First use May 1, 1967.

SN 275,370. General Cigar Co., Inc., New York, N.Y. Filed July 5, 1967.

GLAMORETTE

For Cigars (Int. Cl. 34).
First use June 23, 1967.

SN 275,371. General Cigar Co., Inc., New York, N.Y. Filed July 5, 1967.

GLAMORILLO

For Cigars (Int. Cl. 34).
First use June 23, 1967.

SN 277,127. Bayuk Cigars Incorporated, Philadelphia, Pa. Filed July 31, 1967.

CRUSADER

For Cigars (Int. Cl. 34).
First use Feb. 28, 1967.

SN 277,128. Bayuk Cigars Incorporated, Philadelphia, Pa. Filed July 31, 1967.

SILVER WEDDING

Owner of Reg. Nos. 328,352 and 610,930.
For Cigars (Int. Cl. 34).
First use May 10, 1967.

SN 277,130. Bayuk Cigars Incorporated, Philadelphia, Pa. Filed July 31, 1967.

FORMAL

For Cigars (Int. Cl. 34).
First use May 10, 1967.

SN 277,131. Bayuk Cigars Incorporated, Philadelphia, Pa. Filed July 31, 1967.

FOURTH NETWORK

For Cigars (Int. Cl. 34).
First use June 1, 1967.

SN 277,132. Bayuk Cigars Incorporated, Philadelphia, Pa. Filed July 31, 1967.

IMPERATOR

For Cigars (Int. Cl. 34).
First use May 12, 1967.

SN 289,198. Lane Limited, New York, N.Y. Filed Jan. 19, 1968.

SAVELLO

For Smoking Tobacco (Int. Cl. 34).
First use September 1967.

SN 289,199. Lane Limited, New York, N.Y. Filed Jan. 19, 1968.

GOLDMASTER

For Smoking Tobacco (Int. Cl. 34).
First use September 1967.

Class 18—Medicines and Pharmaceutical Preparations

SN 253,327. Marion Laboratories, Inc., Kansas City, Mo. Filed Aug. 29, 1966.

POST Rx

The letters "Rx" are disclaimed apart from the mark as shown. Owner of Reg. No. 782,885.
For Supplies of Medicine Packaged Together With a Prescription Blank for Further Supply of the Medicine (Int. Cl. 5).
First use July 25, 1966.

SN 260,625. Mead Johnson & Company (Delaware corporation), Evansville, Ind., assignee of Mead Johnson & Company (Indiana corporation), Evansville, Ind. Filed Dec. 13, 1966.

PAC-ETTE

Owner of Reg. Nos. 685,784, 784,892, and 796,037.
For Tablet Dispenser Containing Medicine for Sequential Administration (Int. Cl. 5).
First use on or prior to Dec. 8, 1966.

SN 260,631. Mead Johnson & Company (Delaware corporation), Evansville, Ind., assignee of Mead Johnson & Company (Indiana corporation), Evansville, Ind. Filed Dec. 13, 1966.

PAKETTE

Owner of Reg. Nos. 685,784, 784,892, and 796,037.
For Tablet Dispenser Containing Medicine for Sequential Administration (Int. Cl. 5).
First use on or prior to Dec. 8, 1966.

SN 260,632. Mead Johnson & Company (Delaware corporation), Evansville, Ind., assignee of Mead Johnson & Company (Indiana corporation), Evansville, Ind. Filed Dec. 13, 1966.

PAK-ETTE

Owner of Reg. Nos. 685,784, 784,892, and 796,037.
For Tablet Dispenser Containing Medicine for Sequential Administration (Int. Cl. 5).
First use on or prior to Dec. 8, 1966.

SN 263,044. Flint River Mills, Inc., Tallahassee, Fla. Filed Jan. 23, 1967.

Vitaminde

For Vitamin and Mineral Supplement for Livestock, Poultry, Domestic Animals, Pets, Such as Dogs, Cats, Parakeets, and Canaries, Game Birds, and Deer (Int. Cl. 5).
First use Nov. 22, 1966.

SN 264,499. B. F. Ascher & Company, Inc., Kansas City, Mo. Filed Feb. 13, 1967.

DRIZE

For Antihistamine (Int. Cl. 5).
First use Dec. 16, 1966.

SN 264,572. The Norwich Pharmacal Company, Norwich, N.Y. Filed Feb. 13, 1967.

MC

For Chemotherapeutic Nitrofuran Macrocrystals (Int. Cl. 5).
First use Jan. 12, 1967.

SN 265,161. Ciba Corporation, d.b.a. The Gland-O-Lac Company, New York, N.Y. Filed Feb. 21, 1967.

NEO-ADE

For Veterinary Bactericidal Preparation for the Prevention and Treatment of Enteritis in Livestock (Int. Cl. 5).
First use February 1964.

SN 265,162. Ciba Corporation, d.b.a. The Gland-O-Lac Company, New York, N.Y. Filed Feb. 21, 1967.

TOP ADE

For Livestock Vitamin Supplement (Int. Cl. 5).
First use May 1962.

SN 265,166. Ciba Corporation, d.b.a. The Gland-O-Lac Company, New York, N.Y. Filed Feb. 21, 1967.

CLOTIN

For Preparation for Treatment of Vitamin K Deficiency, Hemorrhagic Disease and the Reduction in Bleeding in Livestock (Int. Cl. 5).
First use April 1954.

SN 265,168. Ciba Corporation, d.b.a. The Gland-O-Lac Company, New York, N.Y. Filed Feb. 21, 1967.

THIODIDE

For Bacteriostatic Preparation for Livestock (Int. Cl. 5).
First use March 1962.

SN 265,171. Ciba Corporation, d.b.a. The Gland-O-Lac Company, New York, N.Y. Filed Feb. 21, 1967.

TEE-17

Owner of Reg. Nos. 628,974, 636,368, and others.
For Wormer Preparation for Chickens, Turkeys, and Swine (Int. Cl. 5).
First use May 1965.

SN 265,174. Ciba Corporation, d.b.a. The Gland-O-Lac Company, New York, N.Y. Filed Feb. 21, 1967.

NEO-MY-SOL

For Antibacterial Preparation for Livestock (Int. Cl. 5).
First use August 1960.

SN 265,432. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Feb. 24, 1967.

IRAMYCIN

Owner of Reg. Nos. 415,940, 577,504, and 665,651.
For Antibiotic Preparation for Human Use (Int. Cl. 5).
First use Jan. 6, 1967.

SN 267,122. Brunswick Corporation, Chicago, Ill. Filed Mar. 20, 1967.

DEX-ADE

For Orally Administered Diagnostic Fluid To Be Used in the Diagnosis of Diabetes (Int. Cl. 5).
First use June 5, 1965.

SN 267,732. William V. Deane, d.b.a. Medictube Research Laboratory, Los Angeles, Calif. Filed Mar. 28, 1967.

MEDIC+RUB

For Externally Applied Rubbing Medication—Namely, for Relief of Minor Chest Cold Pains, Minor Muscular Aches and Pains Resulting From Overexertion and Fatigue (Int. Cl. 5).
First use on or about Feb. 15, 1964.

SN 269,598. Richardson-Merrell Inc., New York, N.Y. Filed Apr. 20, 1967.

Farmhand

The drawing is lined for the color red.
For Medicated All-Purpose Skin Cream for Human and Animal Use (Int. Cl. 5).
First use Nov. 17, 1966.

SN 271,139. Eli Lilly and Company, Indianapolis, Ind. Filed May 10, 1967.

EL-BEX

For Injectable Preparation for Aiding in the Supportive Treatment of Weakened Animals (Int. Cl. 5).
First use December 1964.

SN 271,338. Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, N.Y. Filed May 12, 1967.

NEOBASE

Owner of Reg. No. 519,515.
For Greaseless Base for Medicaments Used for Application to the Skin (Int. Cl. 5).
First use Dec. 19, 1946.

SN 271,378. Merck & Co., Inc., Rahway, N.J. Filed May 12, 1967.

HYDROSURIC

For Medicinal Preparation for Use as a Diuretic and/or a Hypotensive Agent and Also Effective in the Reduction or Prevention of Hyperuricemia, Particularly Hyperuricemia Which May Be Associated With Such Therapy (Int. Cl. 5).
First use Apr. 24, 1967.

SN 271,422. American Pharmaceutical Company, New York, N.Y. Filed May 15, 1967.

APHCO

Owner of Reg. No. 717,442.
For Hemorrhoidal Ointment (Int. Cl. 5).
First use in or about July 1952.

SN 271,636. Neisler Laboratories, Inc., Decatur, Ill. Filed May 16, 1967.

NEISLER

For Pharmaceutical Preparations (Int. Cl. 5).
First use Jan. 22, 1959.

SN 271,747. American Home Products Corporation, New York, N.Y. Filed May 18, 1967.

DRY-AID

For Antiseptic First-Aid Powder and Preparation for the Symptomatic Relief of Respiratory Disorders (Int. Cl. 5).
First use July 27, 1945.

SN 271,762. Armour Pharmaceutical Company, Chicago, Ill. Filed May 18, 1967.

BO-VIBRIO

For Vibrio Fetus Bacteria for Veterinary Use (Int. Cl. 5).
First use May 3, 1967.

SN 271,960. Rachelle Laboratories, Inc., Long Beach, Calif. Filed May 19, 1967.

SERACAINE

For Lidocaine Hydrochloride Anesthetics (Int. Cl. 5).
First use June 1, 1966.

SN 273,037. Ciba Corporation, New York, N.Y. Filed June 5, 1967.

ESIKAL

For Diuretic Hypotensive Preparation (Int. Cl. 5).
First use May 22, 1967.

SN 273,086. Mallinckrodt Chemical Works, St. Louis, Mo. Filed June 5, 1967.

RHEASTAT

For Antidiarrheal Preparation (Int. Cl. 5).
First use June 17, 1957.

SN 273,137. USV Pharmaceutical Corporation, New York, N.Y. Filed June 5, 1967.

CERESPAN

For Vasorelaxant—Cerebral, Peripheral and Coronary Blood Vessels; for Treatment of Cerebral, Peripheral and Myocardial Ischemia (Int. Cl. 5).
First use May 16, 1967.

SN 273,454. Allergan Pharmaceuticals, Santa Ana, Calif. Filed June 9, 1967.

SOAKARE

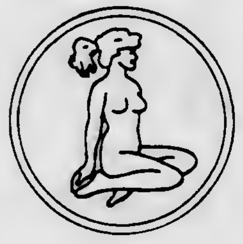
For Contact Lens Soaking Solution (Int. Cl. 5).
First use Apr. 19, 1967.

SN 273,459. American Cyanamid Company, Wayne, N.J. Filed June 9, 1967.

AUROVET

For Antibiotic-Vitamin Preparation for Veterinary Use (Int. Cl. 5).
First use May 6, 1967.

SN 278,054. The Andrew Jergens Company, Cincinnati, Ohio. Filed Aug. 11, 1967.



Owner of Reg. No. 780,713.
For Medicated Preparation With Bacteria Inhibiting Ingredients for the Treatment of Dry Skin Conditions and for Promoting Healthy Tissues of the Skin (Int. Cl. 5).
First use Oct. 10, 1962.

SN 278,161. The Andrew Jergens Company, Cincinnati, Ohio. Filed Aug. 14, 1967.

JERGENS

Owner of Reg. Nos. 85,132, 822,547, and others.

For Medicated Preparation With Bacteria Inhibiting Ingredients for the Treatment of Dry Skin Conditions and for Promoting Healthy Tissues of the Skin (Int. Cl. 5).

First use Oct. 10, 1962; 1890 as to "Jergens" on related goods.

SN 283,058. B. F. Ascher & Company, Inc., Kansas City, Mo. Filed Oct. 23, 1967.

AYR, ASCHER

For Preparation for Use as a Bronchodilator (Int. Cl. 5).

First use Oct. 9, 1967.

SN 289,245. Mead Johnson & Company, Evansville, Ind. Filed Jan. 22, 1968.

TYRITE

For Special Dietary Product of Specific Amino Acid Composition for the Treatment of Metabolic Disorders (Int. Cl. 5).

First use on or prior to Dec. 28, 1967.

Class 19—Vehicles

SN 271,390. Schoonmaker Sales, Inc., Laverne, Calif. Filed May 12, 1967.

PENGUIN

For Bicycles (Int. Cl. 12).

First use Nov. 17, 1966.

SN 273,499. Harte & Company, Inc., New York, N.Y. Filed June 9, 1967.

Lido

For Vinyl Car Mats (Int. Cl. 27).

First use May 8, 1967.

SN 287,617. Hudson Foam Plastics Corporation, Edgewater, N.J. Filed Dec. 27, 1967.

CUSH-N-FOAM

Owner of Reg. Nos. 580,636, 750,924, and others.

For Rubber and Plastic Foam, Formed or Cut to Size, for Vehicular Cushioning Headliners and Padding (Int. Cl. 17).

First use May 12, 1952.

SN 289,563. SI Handling Systems, Inc., Easton, Pa. Filed Jan. 25, 1968.

SI

For Driverless Tow Line Vehicles for Use in Warehouses, Loading Docks, and the Like (Int. Cl. 12).

First use in 1958.

Class 20—Linoleum and Oiled Cloth

SN 263,352. Congoleum-Nairn Inc., Kearny, N.J. Filed Jan. 26, 1967.

TORINO

For Plastic Coverings of the Smooth Surface, Resilient Type for Surfaces Such as Floors, Walls, Countertops, and the Like in the Form of Rolls, Rugs, and Tiles (Int. Cl. 27).

First use Dec. 22, 1966.

SN 275,823. Armstrong Cork Company, Lancaster, Pa. Filed July 12, 1967.

BRIGADE

For Resilient, Hard Surface Type Cushioned Vinyl Covering for Floors, Walls, and Other Surfaces (Int. Cl. 27).

First use Apr. 20, 1967.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 251,710. Cummings & Co., Inc., Nashville, Tenn. Filed Aug. 4, 1966.

OUTDOOR
ADVERTISING
CUMMINGS & CO.

No claim is made to the words "Outdoor Advertising" and "Electric Signs" apart from the mark as shown. The drawing is lined for the colors red and blue.

For Electric Signs (Int. Cl. 9).

First use Dec. 30, 1955.

SN 251,776. Electro Scientific Industries, Inc., Portland, Oreg. Filed Aug. 5, 1966.

AKROS

For Hardware for Electrical and Electronic Instruments—Namely, Binding Posts, Metal Boxes, Cabinets, Dials, Instrument Frames, and Knobs (Int. Cl. 9).

First use Apr. 11, 1966.

SN 251,950. Racal Communications Limited, Bracknell, England. Filed Aug. 8, 1966.

SQUADCAL

Owner of British Reg. No. B880,483, dated June 8, 1965.

For Telecommunication Instruments—Namely, Radios, Telegraph and Telephone, Aerials, Amplifiers, and Parts Therefor (Int. Cl. 9).

SN 252,206. Racal Communications Limited, Bracknell, England. Filed Aug. 11, 1966.

Speedrace

Owner of British Reg. No. B880,482, dated June 8, 1965.

For Telecommunication Instruments—Namely, Radios, Telegraph and Telephone, Aerials, Amplifiers, and Parts Therefor (Int. Cl. 9).

SN 254,477. Square D Company, Park Ridge, Ill. Filed Sept. 14, 1966.

EZ STACK

For Electrical Devices, Each Comprising a Plurality of Watthour Meter Sockets Mounted in an Enclosure With Associated Bussing and With or Without Protective Equipment (Int. Cl. 9).

First use Oct. 6, 1960.

SN 255,337. Monsanto Company, St. Louis, Mo. Filed Sept. 28, 1966.

MONOTHIN

For Silicon Slices for Use in the Manufacture of Semiconductor Devices and Circuits (Int. Cl. 1).

First use Sept. 14, 1966.

SN 255,422. The Deutsch Company Electronic Components Division, Banning, Calif. Filed Sept. 29, 1966.

JIFFY JUNCTION

For Electrical Connectors (Int. Cl. 9).

First use on or about Aug. 29, 1966.

Subj. to Intf. with SN 257,108.

SN 257,108. Truck-Lite Co., Inc., Jamestown, N.Y. Filed Oct. 24, 1966.

JIFFY JUNCTION BOX

No claim is made to the words "Junction Box" apart from the mark.

For Electrical Connector for Joining Wires and Making Splices (Int. Cl. 9).

First use on or about Mar. 17, 1966.

Subj. to Intf. with SN 255,422.

SN 259,454. Motorola, Inc., Franklin Park, Ill. Filed Nov. 25, 1966.

LUMALERT

For Automobile Headlamp Warning System Used With an Auto Radio Speaker for Advising That the Headlights Are on When the Ignition Switch Is Off (Int. Cl. 9).

First use December 1964.

SN 259,460. The Okonite Company, Passaic, N.J. Filed Nov. 25, 1966.

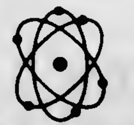
WATERTITE

Owner of Reg. No. 713,681.

For Insulated Wires and Cables (Int. Cl. 9).

First use June 22, 1938.

SN 262,525. Unimetrics, Inc., Syosset, N.Y. Filed Jan. 13, 1967.



unimetrics

For Closed Circuit Television Cameras (Int. Cl. 9).

First use Dec. 20, 1966.

SN 262,751. Atkins & Merrill, Inc., Sudbury, Mass. Filed Jan. 18, 1967.

CAPSUL

For Lighting Devices—Namely, Electroluminescent Lamps; Power Supplies for Electroluminescent Lamps; Lighting Control Rheostats and Variable Oscillators; and Fixtures for Electroluminescent Lamps (Int. Cls. 9 and 11).

First use Dec. 29, 1966, on electroluminescent lamps.

SN 264,305. Cutler-Hammer, Inc., Milwaukee, Wis. Filed Feb. 9, 1967.

BI-RISTOR

For Variable Power Control Apparatus—Namely, Electric Circuit Control Units of the Solid State Type for Continuously Variable Adjustment of Electric Power to Load Devices, for Use in Connection With Electric Lighting, Heating and Air Conditioning Equipment, Electric Appliances, Power Tools and Floor Service Equipment; Parts of Such Control Apparatus, and Accessories Used Therewith (Int. Cl. 9).

First use Oct. 17, 1966.

SN 270,876. Atlantic Research Corporation, Alexandria, Va. Filed May 8, 1967.

FUSEAL

For Electrical Fusion Coils for Joining Thermoplastic Articles, and Power Units for Supplying Current to Such Coils (Int. Cl. 9).

First use March 1967.

SN 272,191. Kurt Versen Company, Westwood, N.J. Filed May 23, 1967.

TINI TRIM

For Electrical Lighting Fixtures (Int. Cl. 11).

First use Apr. 26, 1967.

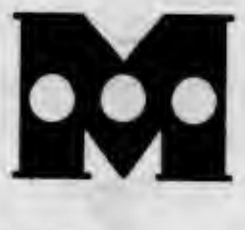
SN 273,661. Murphy Products Company, Inc., Burlington, Wis. Filed June 12, 1967.

MURPAC

For Electric Generating Plants (Int. Cl. 7).

First use July 11, 1966.

SN 273,662. Murphy Products Company, Inc., Burlington, Wis. Filed June 12, 1967.



Owner of Reg. No. 820,395.

For Electric Generating Plants (Int. Cl. 7).

First use July 11, 1966.

SN 274,770. Powercube Corporation, Waltham, Mass. Filed June 26, 1967.

POWERCUBE

For Modular Electrical Circuit Packages (Int. Cl. 9).

First use Feb. 14, 1967.

SN 283,961. Marathon Electric Manufacturing Corporation, Wausau, Wis. Filed Nov. 2, 1967.

ME CAN DO!

Owner of Reg. Nos. 412,830, 744,332, and 797,728.
For Electric Motors and Generators, Terminal Blocks, Fuse Blocks; and Electrical Control Apparatus—Namely, Voltage Regulators (Int. Cls. 7 and 9).
First use April 1960.

SN 287,470. Vetaphone Elektronik A/S, Kolding, Denmark. Filed Dec. 22, 1967.

VETAPHONE

For Electronic High Frequency Impulse Machine for Treating Plastic Materials To Produce a Change in the Material Which Makes the Surface Receptive to Decorating or To Produce a Plurality of Penetrating Openings (Int. Cl. 9).
First use February 1951; in commerce April 1961.

SN 289,901. Otto Kadmon, Inc., New York, N.Y. Filed Jan. 30, 1968.

SPIN-A-LITE

For Electric Bulbs and Electric Light Sets (Int. Cl. 11).
First use March 1967.

Class 22—Games, Toys, and Sporting Goods

SN 259,945. Lima S.p.A., Vicenza, Italy. Filed Dec. 2, 1966.

MICROMODEL

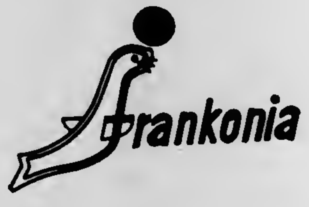
Owner of Italian Reg. No. 179,326, dated Feb. 28, 1966.
For Toy Railways (Int. Cl. 28).

SN 262,364. Wilson Sporting Goods Co., River Grove, Ill., assignee of Wilson Sporting Goods Co., River Grove, Ill. Filed Jan. 11, 1967.

PAYOFF

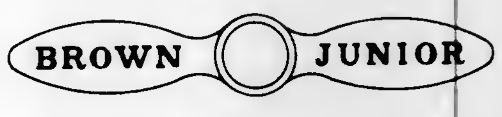
Owner of Reg. No. 751,602.
For Golf Balls (Int. Cl. 28).
First use November 1961.

SN 262,699. Frankonia Products, Inc., New York, N.Y. Filed Jan. 17, 1967.



Owner of Reg. No. 708,700.
For Mechanical Toys, Electrical Toys, Toys Made of Metal, Toys Made of Wood, Toys Made of Plastic, Toy Home Appliances Including Flat Ware and China Ware, Musical Toys and Equipment Sold as Units for Playing Board, Card or Whatever Type Games Are Involved (Int. Cl. 28).
First use Dec. 6, 1963.

SN 263,530. William L. Brown, State College, Pa. Filed Jan. 30, 1967.



Applicant disclaims the representation of the propeller apart from the mark as shown.
For Miniaturized Engines, Model Airplane Engines and Accessories, and Attachments for Model Airplanes (Int. Cl. 28).
First use Dec. 16, 1966.

SN 264,912. Arthur C. Clokey, d.b.a. Art Clokey Enterprises, Monterey Park, Calif. Filed Feb. 17, 1967.

Prickle and Goooooo

For Dolls, Puppets, Toy Cartoons, and Toy Cartoon Characters (Int. Cl. 28).
First use on or about Nov. 25, 1966.

SN 264,998. Woodstream Corporation, Lititz, Pa. Filed Feb. 17, 1967.

PUMA

For Fishing Tackle and Equipment—Namely, Tackle Boxes, Fishing Reels, and Parts Thereof (Int. Cl. 28).
First use Feb. 9, 1967.

SN 264,999. Woodstream Corporation, Lititz, Pa. Filed Feb. 17, 1967.

OCELOT

For Fishing Tackle and Equipment—Namely, Tackle Boxes, Fishing Reels, and Parts Thereof (Int. Cl. 28).
First use Feb. 9, 1967.

SN 265,000. Woodstream Corporation, Lititz, Pa. Filed Feb. 17, 1967.

LYNX

For Fishing Tackle and Equipment—Namely, Tackle Boxes, Fishing Reels, and Parts Thereof (Int. Cl. 28).
First use Feb. 9, 1967.

SN 265,001. Woodstream Corporation, Lititz, Pa. Filed Feb. 17, 1967.

LEOPARD

For Fishing Tackle and Equipment—Namely, Tackle Boxes, Fishing Reels, and Parts Thereof (Int. Cl. 28).
First use Feb. 9, 1967.

SN 265,816. Fa. Josef Neuhierl, Furth, Bavaria, Germany. Filed Mar. 2, 1967.

CARRERA

The Spanish word "Carrera" means "ride" in the English language. Owner of German Reg. No. 778,366, dated Sept. 25, 1962.
For Toy Racing Sets and Parts Therefor (Int. Cl. 28).
First use February 1963; in commerce March 1964.

SN 273,202. Mattel, Inc., Hawthorne, Calif. Filed June 6, 1967.

KIDDLE KOLOGNES

No claim of exclusive right is made to "Kolognes," for the goods recited.
For Toy Kit Having a Doll or a Plurality of Dolls in a Package Formed in the Shape of a Perfume Container (Int. Cl. 28).
First use May 18, 1967.

SN 274,746. Items, Incorporated, St. Louis, Mo. Filed June 26, 1967.

WOOFLE

For Animal Toy, Particularly a Dog Rawhide Chew Toy (Int. Cl. 28).
First use June 5, 1967.

SN 276,702. Shooting Equipment, Inc., Chicago, Ill. Filed July 24, 1967.

RAMPART

For Shooting Ranges and Parts Thereof, Targets, Bullet Deflectors, Bullet Backstops, and Shooting Stalls (Int. Cl. 28).
First use October 1963.

SN 276,704. Shooting Equipment, Inc., Chicago, Ill. Filed July 24, 1967.

TARGIMATIC

For Shooting Ranges and Parts Thereof, Targets and Devices and Systems for Controlling, Positioning, and Movement of Targets, or for Driving Target-Carrying Mechanisms to Positions at Varying Distances (Int. Cl. 28).
First use November 1962.

SN 278,119. Louis Marx & Co., Inc., New York, N.Y. Filed Aug. 11, 1967.

SOUND-O-POWER

For Toy Rifles, Guns, and Pistols, and Accessories Therefor (Int. Cl. 28).
First use Apr. 20, 1967.

SN 280,009. Milton Bradley Company, Springfield, Mass. Filed Sept. 11, 1967.

ARITHME-STICKS

For Sticks in Game Form Useful as a Training Aid for Teaching Arithmetic (Int. Cl. 28).
First use May 1, 1958.

SN 281,658. Eldon Industries, Inc., Hawthorne, Calif. Filed Oct. 3, 1967.

MATCH KIT

Applicant disclaims the word "Kit" apart from the mark as shown.
For Model Kits of Toy Vehicles (Int. Cl. 28).
First use Sept. 27, 1967.

SN 281,760. Peter Arthur Adolph, Tunbridge Wells, Kent, England. Filed Oct. 4, 1967.

SUBBUTEO

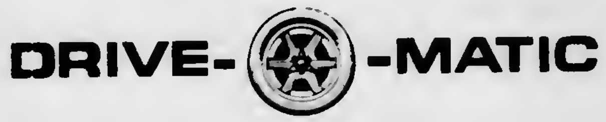
Owner of British Reg. No. 657,563, dated Mar. 24, 1947.
For Equipment Sold as a Unit for Playing a Table-Type Soccer Game (Int. Cl. 28).

SN 281,879. Flick-Reedy Corporation, Bensenville, Ill. Filed Oct. 5, 1967.

EXER-COR

For Cross-Pattern, Creeping-Motion Device for Improving Human Physical Coordination (Int. Cl. 28).
First use August 1967.

SN 282,197. Loral Corporation, Bronx, N.Y. Filed Oct. 10, 1967.



For Remote Controlled Toy Automobile Operated on a Board Surface (Int. Cl. 28).
First use Sept. 14, 1967.

SN 283,602. The John Gale Company, Minneapolis, Minn. Filed Oct. 30, 1967.

step'n slide

For Child's Slide (Int. Cl. 28).
First use April 1966.

SN 286,854. Totem Manufacturing Company, d.b.a. Totem Mfg., Kent, Wash. Filed Dec. 13, 1967.

triple TEAZER

For Fishing Lures (Int. Cl. 28).
First use on or about Sept. 2, 1960.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 233,063. Bernardi Bros., Inc., Harrisburg, Pa. Filed Nov. 22, 1965.

HYDRO-SPRAY

For Coin-Operated, Self-Service Car Wash Installation (Int. Cl. 9).
First use October 1964.

SN 239,645. National Automotive Parts Association, Chicago, Ill. Filed Feb. 25, 1966.

CHEROKEE

Owner of Reg. Nos. 567,789, 807,220, and others.
For Rocker Arm Assemblies, Torque Converters, Fluid Drive Units, and Torus Covers (Int. Cl. 12).
First use Apr. 23, 1963.

SN 251,517. Chromalloy American Corporation, West Nyack, N.Y. Filed Aug. 2, 1966.

CHROMALLIZED

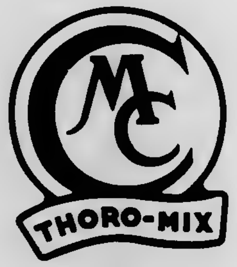
For Metal-Plated Engine Parts—Namely, Jet Engine Turbine Stator Vanes and Blades, Compressor Vanes and Blades, Fuel Nozzles, Valve Bodies, Swirl Guides, Burner Cans, Transition Ducts and Liners, Combustion Fuel Tubes, Compressor Shroud Assemblies, Tail Pipes, and Sound Suppressors (Int. Cl. 7).
First use 1958.

SN 256,385. Sturdy Broaching Service, Inc., Southfield, Mich. Filed Oct. 13, 1966.

Sturdy

For Square Hole Sleeves for Boring Bars, Tool-Holders, Milling Cutters, and the Like (Int. Cl. 7).
First use 1946.

SN 256,526. Construction Machinery Company, Waterloo, Iowa. Filed Oct. 17, 1966.



Owner of Reg. Nos. 590,622 and 600,319.
For Concrete Mixers (Int. Cl. 7).
First use Jan. 1, 1934; on or about Aug. 19, 1932, as to "CMC."

SN 257,290. Metro Wholesale Corporation, New York, N.Y. Filed Oct. 26, 1966.

DURACREST

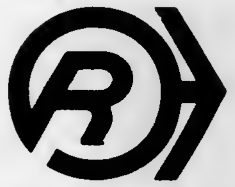
Owner of Reg. No. 811,624, and others.
For Lawn Sweepers, Lawn Spreaders, Grass Catcher Bags for Lawn Mowers, Garden Hand Tools, Spatulas, Potato Mashers, Ladles, Large Forks, Turners, Basting Spoons, Slotted Spoons, Slotted Turners, Electric Slicing Knives, Electric Hair Clippers, Kitchen Cutlery, and Block Sets (Int. Cls. 7, 8, and 21).
First use November 1960.

SN 258,767. Allis-Chalmers Manufacturing Company, Milwaukee, Wis. Filed Nov. 16, 1966.

CENTRI-STAK

For Air, Gas, and Vapor Compressors (Int. Cl. 7).
First use Oct. 14, 1966.

SN 260,191. Rader Pneumatics, Inc., Portland, Oreg. Filed Dec. 6, 1966.



For Material Handling Equipment—Namely, Pneumatic Conveying Equipment for Comminuted Materials Including Conduits, Blowers, Feeding Apparatus, Discharge Devices, Car Loading Apparatus, and Centrifugal Separators, Apparatus for Fractionating Wood Chips, Apparatus Comprising a Tilting Platform for Dumping Truck Trailers, Apparatus Comprising Chip Engaging Elements for Removing Material From the Bottom of Stock Piles, and Parts Therefor (Int. Cl. 7).
First use July 1964.

SN 261,733. Kershaw Manufacturing Company, Inc., Montgomery, Ala. Filed Dec. 30, 1966.

KERSHAW

For Railway Maintenance Equipment—Namely, Brush Cutters; Cranes; Ballast Handling Machines, Namely, Regulators, Tampers, Scarifiers, Brooms, Cribbers, Undercutters and Cleaners; Tie Removers and Inserters; Tie Saws and Adzers; Track Raising Apparatus; Spike Handling Apparatus, Namely, Drivers, Setters and Pullers; Track Liners; Track Cleaners; Snow Switch Cleaners; and Snow Plows (Int. Cl. 7).
First use Feb. 8, 1946.

SN 263,244. American Tool & Machine Co., Hyde Park, Mass. Filed Jan. 25, 1967.

TACTORC

For Control Apparatus for Maintaining Speed of Centrifuging Machines (Int. Cl. 9).
First use Sept. 21, 1966.

SN 263,718. Westates Space-Era Products, Inc., Santa Maria, Calif. Filed Jan. 31, 1967.

THE BEST DAMP STAMP ON EARTH!

Applicant disclaims the words "Damp Stamp" apart from the mark as shown.
For Elastomeric Devices for Transferring Ink Impressions (Int. Cl. 16).
First use December 1966.

SN 264,622. Valley Die Cast Corporation, Detroit, Mich. Filed Feb. 13, 1967.

THRIFT-I-MATIC

For Automatic Car Wash Installation (Int. Cl. 7).
First use Mar. 26, 1966.

SN 264,952. New Plastic Corporation, Los Angeles, Calif. Filed Feb. 17, 1967.

NUPLAGLAS

Owner of Reg. Nos. 442,273, 835,464, and others.
For Solid and Tubular Fiberglass Tool Handles and Replacement Handle Kits (Int. Cl. 8).
First use 1954.

SN 265,148. Aktiebolaget Fixfabriken, Goteborg V. Sweden. Filed Feb. 21, 1967.

FIXOR

Owner of Swedish Reg. No. 113,615, dated July 30, 1965.
For Squeezers for Citrus Fruits (Int. Cl. 21).

SN 266,120. Walker Manufacturing Company, Racine, Wis. Filed Mar. 6, 1967.

CLEAN-PIPE

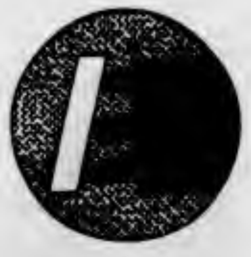
For Conduits for Internal Combustion Engine Exhaust Systems, Including Exhaust Pipes and Tail Pipes (Int. Cl. 7).
First use on or about Sept. 14, 1966.

SN 266,592. The Scott & Fetzer Company, Cleveland, Ohio. Filed Mar. 13, 1967.

QUIKUT

Owner of Reg. Nos. 154,251 and 569,670.
For Hand Tools—Namely, Knives, Blades, Scrapers, Saws, Slicers, Cleavers, Choppers, Slitters and Hones; Kitchen Utensils—Namely, Knives, Forks, Spoons, Juicers, and Spatulas, and Handles for the Foregoing (Int. Cls. 8 and 21).
First use at least as early as June 1, 1921, on knives.

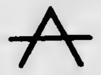
SN 266,702. Sundstrand Corporation, Rockford, Ill. Filed Mar. 14, 1967.



The drawing is lined for orange.
For Hydraulic Pumps, Hydraulic Motors, Hydraulic Transmissions, and Hydraulic Reservoirs (Int. Cl. 7).
First use Nov. 11, 1966.

SN 267,265. Porta-Shop, Inc., New York, N.Y. Filed Mar. 21, 1967.

PORTA - CRAFT



For Collapsible and Movable Workbench Units Comprising Work Tables, Vises, Tool Panels, and Racks for Holding Nails, Screws, and Supplies (Int. Cl. 20).
First use Jan. 31, 1967.

SN 268,330. S & S Machinery Co., Brooklyn, N.Y. Filed Apr. 4, 1967.

SANDSCO

For Machinery for Foundry Use—Namely, Mullers, Slingers, Molders, Blasters, and Shell Blowers (Int. Cl. 7).
First use Dec. 1, 1966.

SN 268,948. El-Tronics, Inc., Warren, Pa. Filed Apr. 12, 1967.

Aceclean CARWASH

Applicant makes no claim to the right to the exclusive use of the word "Carwash" apart from the mark as shown.
For Automatic Coin-Operated Carwash (Int. Cl. 9).
First use Dec. 10, 1966.

SN 269,935. Southeastern Elevator Co., Inc., Atlanta, Ga. Filed Apr. 24, 1967.

LIFT MOBILE

For Residence-Type Elevator (Int. Cl. 7).
First use Mar. 6, 1964.

SN 269,936. Southeastern Elevator Co., Inc., Atlanta, Ga. Filed Apr. 24, 1967.

STAIR MOBILE

For Residence-Type Elevator (Int. Cl. 7).
First use May 18, 1964.

SN 269,945. Vesuvius Crucible Company, Swissvale, Pittsburgh, Pa. Filed Apr. 24, 1967.

ROTO-FLO

For Refractory Nozzles for Teeming Molten Metal From Ladles (Int. Cl. 7).
First use Mar. 10, 1967.

SN 270,444. Walworth Industries, Inc., Elkhorn, Wis. Filed May 1, 1967.

GUIDELET

For Wire Guides for Electrical Coil Winding Machines (Int. Cl. 7).
First use Dec. 12, 1966.

SN 270,563. Fluid Energy Processing & Equipment Co., Hatfield, Pa. Filed May 3, 1967.

MICRO-DRIER

For Fluid Energy Drying Apparatus, Used for Drying Granular Particles While Simultaneously Grinding Them, by Subjecting the Particles to Pulverization in a Circulating Vortex of High Velocity, Heated Gases or Vapors (Int. Cl. 11).
First use July 3, 1963.

SN 271,705. Hastings Dynamold Corporation, Hastings, Nebr. Filed May 17, 1967.

DYNASPAN

For Machines Incorporating Vibrators To Form or Cast Concrete Slabs and Other Pre-Stressed Concrete Products (Int. Cl. 7).
First use on or about Feb. 12, 1967.

SN 272,154. American Monorail Company, Cleveland, Ohio. Filed May 23, 1967.

MONOTRACTOR

For Self-Propelled Devices Suspended From an Overhead Rail or Crane (Int. Cl. 7).
First use at least before 1940.

SN 272,715. El-Tronics, Inc., Warren, Pa. Filed May 31, 1967.

Autopride

For Automatic Car Washing Device (Int. Cl. 7).
First use Apr. 1, 1967.

SN 273,062. The Gleason Works, Rochester, N.Y. Filed June 5, 1967.

TOROID

For Gears, Gear Cutters, and Blades or Blade Segments for Such Cutters (Int. Cl. 7).
First use on or about July 15, 1966, on gears.

SN 273,093. G. W. Murphy Industries, Inc., Houston, Tex. Filed June 5, 1967.

KELCO

Owner of Reg. No. 432,301.
For Catheads, Safety Blocks, Rotary Slip Supports, and Pipe Aligning Devices (Int. Cl. 7).
First use Mar. 11, 1943.

SN 273,854. Champ Corporation, El Monte, Calif. Filed June 14, 1967.

TOW-A-LIFT

Owner of Reg. No. 780,275.
For Fork Lift Trucks (Int. Cl. 12).
First use at least as early as 1955.

SN 273,855. Champ Corporation, El Monte, Calif. Filed June 14, 1967.

CHALLENGER

Owner of Reg. No. 780,277.
For Fork Lift Trucks (Int. Cl. 12).
First use July 11, 1957.

SN 273,856. Champ Corporation, El Monte, Calif. Filed June 14, 1967.

CHAMP

Owner of Reg. No. 780,276.
For Fork Lift Trucks (Int. Cl. 12).
First use at least as early as December 1952.

SN 274,002. Swiss Industrial Company, Neuhausen-Rhinefalls, Schaffhouse, Switzerland. Filed June 15, 1967.

SIGRESS

Priority claimed under Sec. 44(d) on Swiss Reg. No. 223,556, dated Feb. 1, 1967.
For Packaging Machines (Int. Cl. 7).

Class 24 — Laundry Appliances and Machines

SN 257,291. Metro Wholesale Corporation, New York, N.Y. Filed Oct. 26, 1966.

DURACREST

Owner of Reg. No. 811,624 and others.
For Cotton Clothesline, Laundry Carts, and Indoor Dryers (Int. Cls. 7, 12, and 22).
First use March 1961 on laundry carts.

Class 26 — Measuring and Scientific Appliances

SN 239,888. Fisher Scientific Company, Pittsburgh, Pa. Filed Mar. 1, 1966.

VU/SLANTS

Applicant disclaims the term "Slants" separate and apart from the mark as a whole.
For Culture Bottles Containing Sterile Culture Solution for Laboratory Applications (Int. Cl. 5).
First use May 1964.

SN 254,111. Bar-Boy, Inc., Minneapolis, Minn. Filed Sept. 9, 1966.

Bar Boy

The word "Bar" is disclaimed apart from the mark as a whole. The drawing is lined for silver, but the color is disclaimed as an integral feature of the mark.
For Electrically Operated Liquor Dispensers Which Electrically Dispense and Count Metered Amounts of Beverage (Int. Cl. 9).
First use 1960.

SN 255,137. Trak Microwave Corporation, Tampa, Fla. Filed Sept. 26, 1966.

TRAK Microwave

Applicant disclaims the word "Microwave" apart from its appearance in the mark as shown. Owner of Reg. Nos. 350,660, 824,372, and others.
For Communications Equipment and Parts Thereof—Namely, Microwave Oscillators, Harmonic Generators, Microwave Amplifiers, Telemetry Transmitters and Receivers, Pulse Modulators, Band Pass Filters, and Associated Parts Therefor (Int. Cl. 9).
First use on or before Oct. 31, 1960, on microwave oscillators.

SN 258,678. Electronic Control Systems, Inc., Fairmont, W. Va. Filed Nov. 15, 1966.

ECS

No claim is made to the delta sign and the transfer curve symbol apart from the mark as shown.
For Magnetic Amplifiers, Temperature Controllers, and Velocity Compensators (Int. Cl. 9).
First use May 1, 1961.

SN 261,780. Imperial-Eastman Corporation, Chicago, Ill. Filed Jan. 3, 1967.

SENSICON

For Fluid Operated Sensors for Sensing Parameters, Such as Pressure, Temperature, Flow, Linear Mechanical Motion, Rotary Mechanical Motion, Vibration, the Presence of an Object, Electrical Value, Liquid Level, etc. (Int. Cl. 9).
First use Nov. 15, 1966.

SN 264,456. Vaughan Contact Lens Lab., Inc., Raleigh, N.C. Filed Feb. 10, 1967.

ACCRALENS

For Optical Lenses—Namely, Contact Lenses (Int. Cl. 9).
First use Sept. 1, 1966.

SN 266,190. The Alliance Manufacturing Company, Inc., Alliance, Ohio. Filed Mar. 8, 1967.

GENIE

Owner of Reg. Nos. 612,979 and 612,987.
For Meter for Checking the Character of Radio Transmissions (Int. Cl. 9).
First use at least as early as July 29, 1966.

SN 269,132. Victor Tool and Manufacturing Corporation, Chester, Conn. Filed Apr. 13, 1967.

RV66

For Electrostatic Copying Machines and Reproducing Machines (Int. Cl. 16).
First use Mar. 21, 1967.

SN 274,762. Omni Plotter, Inc., Wharton, Tex. Filed June 26, 1967.

OMNI PLOTTER

Applicant disclaims any rights with respect to the word "Plotter," separate and apart from the mark as shown.
For Plotting Instrument for Navigation Purposes (Int. Cl. 9).
First use at least as early as May 3, 1967.

SN 274,975. Loenco, Inc., Altadena, Calif. Filed June 28, 1967.

PREP-MATIC

For Gas Chromatographs and Parts Thereof (Int. Cl. 9).
First use Apr. 1, 1964.

SN 275,492. Rinn Corporation, Elgin, Ill. Filed July 5, 1967.

Pluslite

For Sensitized Photographic Film, Specifically, Dental X-Ray Film Packs (Int. Cl. 1).
First use Jan. 27, 1966.

SN 275,753. Freeland Gauge Company, Detroit, Mich. Filed July 11, 1967.

DUPLEXAIRE

Owner of Reg. No. 820,287.
For Pneumatic Operated Dimension-Gauging Apparatus for Machined Parts (Int. Cl. 9).
First use Mar. 16, 1967.

SN 278,143. Winslow Tele-Tronics, Inc., Asbury Park, N.J. Filed Aug. 11, 1967.

LASARM

For Electronic Equipment in the Nature of Laser Actuated Measuring Systems (Int. Cl. 9).
First use May 5, 1967.

SN 278,908. Quindar Electronics, Inc., Springfield, N.J. Filed Aug. 23, 1967.

QUINDETTE

For Telemetering Systems and Components—Namely, Supervisory Control Systems and Components (Int. Cl. 9).
First use on or before June 28, 1967.

SN 279,710. Andar Corporation, Mountain View, Calif. Filed Sept. 6, 1967.

TORRGETT

For Getter Ion Vacuum Pumps and Gauges (Int. Cl. 9).
First use Oct. 5, 1966.

SN 287,547. Hanimex Pty. Limited, Brookvale, New South Wales, Australia. Filed Dec. 26, 1967.

HANORAMA

Owner of Australian Reg. No. A178,849, dated Feb. 22, 1963.
For Photographic Equipment, Accessories, Parts, Film, Movie and Still Cameras and Projectors, Lenses and Converters, Light Meters, Flash Units and Guns, Projector Lamps, Tripods, Splicers, Editors, and Binoculars (Int. Cl. 9).

Class 27 — Horological Instruments

SN 257,037. D & B Company, South Burlington, Vt. Filed Oct. 24, 1966.

US Skitimer

No claim is made to the notation "Skitimer" apart from the mark and without waiving applicant's common law rights therein.
For Electrical Timer for Ski Races (Int. Cl. 14).
First use on or about Apr. 1, 1965.

SN 280,875. Marcus Purchasing Co., Inc., New York, N.Y. Filed Sept. 21, 1967.

CLIMATRON

For Watches (Int. Cl. 14).
First use Feb. 19, 1965.

Class 28 — Jewelry and Precious-Metal Ware

SN 280,881. Oneida Ltd., Oneida, N.Y. Filed Sept. 21, 1967.

REVERENCE

For Silverplated Flatware (Int. Cl. 8).
First use Sept. 8, 1967.

SN 282,717. Oneida Ltd., Oneida, N.Y. Filed Oct. 17, 1967.

MANSION

Owner of Reg. No. 506,560.
For Sterling Silver and Silver-Plate Flatware and Hollowware (Int. Cls. 8 and 14).
First use Sept. 8, 1967.

Class 29 — Brooms, Brushes, and Dusters

SN 268,634. Vistron Corporation, Cleveland, Ohio. Filed Apr. 7, 1967.

PRO PERIO

Owner of Reg. Nos. 349,120, 834,712, and others.
For Toothbrushes (Int. Cl. 21).
First use Feb. 25, 1967.

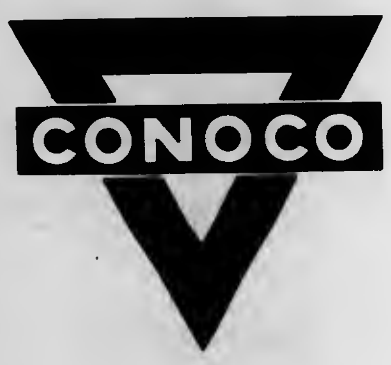
Class 31 — Filters and Refrigerators

SN 260,724. Chemap AG, Mannedorf, Zurich, Switzerland. Filed Dec. 14, 1966.

VISCO-FUNDA

Owner of Swiss Reg. No. 203,329, dated Mar. 5, 1964.
For Viscose Filters (Int. Cl. 11).

SN 265,278. Continental Oil Company, Ponca City, Okla. Filed Feb. 23, 1967.



Owner of Reg. Nos. 813,877 and 838,596.
For Filters—Namely, Oil Filters, Air Filters, and Fuel Filters (Int. Cl. 11).
First use December 1966.

Class 32 — Furniture and Upholstery

SN 276,103. Clarin Mfg. Co., Chicago, Ill. Filed July 17, 1967.

CLARIN

Owner of Reg. No. 501,181.
For Chairs and Rows of Connected Chairs for Auditoriums and Classrooms, and Chairs for General Utility Purposes (Int. Cl. 20).
First use Nov. 17, 1925.

SN 276,706. Source, Inc., Minneapolis, Minn. Filed July 24, 1967.

WIKI-RACK

For Rack for Holding Artists' Felt Tipped Pens or the Like (Int. Cl. 16).
First use June 16, 1967.

SN 281,924. Selig Manufacturing Company, Inc., Leominster, Mass. Filed Oct. 5, 1967.

SELIG

Owner of Reg. Nos. 739,830 and 739,831.
For Furniture—Namely, Chairs, Sofas, Tables, Case Goods, Bureaus, Beds, Dressers, Chests, and Vanities (Int. Cl. 20).
First use Dec. 31, 1931.

SN, 282,652. Diamond Shamrock Corporation, Cleveland Ohio, by change of name from Diamond Alkali Company, Cleveland, Ohio. Filed Oct. 17, 1967.

DELTALON

For Mattresses and Mattress Cores Made of Polyurethane Foam (Int. Cl. 20).
First use May 24, 1966.

Class 33 — Glassware

SN 266,690. Riekes Crisa Corporation, Laredo, Tex. Filed Mar. 14, 1967.

DESIGNED BY ROGÉ IVY

The words "Designed by" are disclaimed apart from the mark as shown. The name "Roge Ivy" is fictitious.
For Crystal Glassware—Namely, Beer and Ale Glasses With Wall and Table Racks Therefor, Sold in Sets; Serving Dishes and Covers, Sold in Sets With Racks or Trays Therefor; Ashtrays and Coasters, Sold in Sets With Racks Therefor; Cocktail and Brandy Sets, Namely, Pitchers With Stir Rods and Glasses, With and Without Coasters or Ashtrays, Sold in Sets With Trays Therefor, These Glasses Not of Crystal; Candy and Nut Dishes, Sold in Sets With Trays Therefor; Sugar and Cream Dishes, Sold in Sets With Trays Therefor; Large and Small Salad Bowls, Sold in Sets With Trays Therefor (Int. Cl. 21).
First use Mar. 14, 1966, on beer and ale glasses with wall or table racks.

SN 277,924. Mallinckrodt Chemical Works, St. Louis, Mo. Filed Aug. 9, 1967.

SAFEMOR

Owner of Reg. No. 606,716.
For Glass Bottles (Int. Cl. 21).
First use Feb. 28, 1967.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 259,197. The Edwin L. Wiegand Company, Pittsburgh, Pa. Filed S.R. Nov. 21, 1966; Am. P.R. Jan. 12, 1967.

For Air Conditioning Apparatus—Namely, Permanently Installed Institutional and Industrial Air Conditioners for Circulating, Filtering, Dehumidifying, Cooling, and Heating Air (Int. Cl. 11).
First use on or about June 1, 1962.

SN 262,882. Pennsalt Chemicals Corporation, Philadelphia, Pa. Filed Jan. 19, 1967.

FLUIDRI

For Drying Cabinet of the Fluid Bed Type (Int. Cl. 11).
First use June 24, 1966.

SN 264,599. Shelley Furnaces Limited, Stoke-on-Trent, England. Filed Feb. 13, 1967.

HOVERKILN

Owner of British Reg. No. 840,840, dated Oct. 25, 1962.
For Kilns for the Heat Treatment of Workpieces (Int. Cl. 11).

SN 264,980. South Bend Range Corporation, South Bend, Ind. Filed Feb. 17, 1967.

MAGIC AIRE

For Gas Fired Convection Ovens for Commercial and Institutional Use (Int. Cl. 11).
First use May 19, 1966.

SN 266,531. Gilbert Steambath Co., Inc., St. Louis, Mo. Filed Mar. 16, 1967.

HUMID-DEO

For Humidifier Unit for Use With Domestic or Industrial Heating Systems (Int. Cl. 11).
First use Nov. 9, 1966.

SN 267,441. Pet Incorporated, St. Louis, Mo. Filed Mar. 23, 1967.

HUSSMANN

Owner of Reg. Nos. 514,992 and 647,473.
For Heat Pumps, Particularly for Supermarkets, and Including Heating and Defrosting, Ventilating, and Air Conditioning Apparatus, and Parts for Heat Pumps (Int. Cl. 11).
First use about September 1937 on ventilating and air conditioning apparatus.

SN 268,986. Pacific Scientific Company, City of Commerce, Calif. Filed Apr. 12, 1967.

KARBO-MATIC

For Automatic Heat Treating Furnaces (Int. Cl. 11).
First use May 31, 1956.

SN 269,978. Dean Products, Inc., Brooklyn, N.Y. Filed Apr. 25, 1967.

CRYODEAN

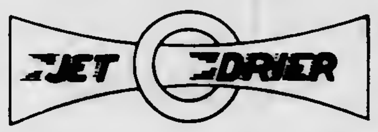
Owner of Reg. No. 553,674.
For Heating Platens and Plates, Immersion Heaters, Heating Ovens, Heat Exchangers, Melting Tanks, Drum Warmers, Heat Treating Furnaces, Heating Tanks, Heated Filter Presses, Heated Dip Pans, Utensils for Heating Food, Chemicals, Gases and Liquids, Heated Counter Tops, and Heaters for Sterilizing Laboratory Equipment (Int. Cl. 11).
First use Mar. 20, 1967.

SN 270,150. Paco Corporation, Montreal, Quebec, Canada. Filed Apr. 27, 1967.

ROTOCLAVE

For Rotary Kiln for Heat Curing Concrete Blocks (Int. Cl. 11).
First use 1957; in commerce May 3, 1966.

SN 270,562. Fluid Energy Processing & Equipment Co., Philadelphia, Pa. Filed May 3, 1967.



The words "Jet Drier" are disclaimed apart from the mark as shown.
For Fluid Energy Drying Apparatus Used for Drying Granular Particles by Subjecting Them to the Vortex Action of Heated Gases or Vapors Under High Acceleration (Int. Cl. 11).
First use Nov. 30, 1961.

SN 282,650. Cogmatic Machines, Milwaukee, Wis. Filed Oct. 16, 1967.

For Flame Cutting Machines for Cutting Gears and Other Toothed Objects (Int. Cl. 7).
First use July 31, 1962.

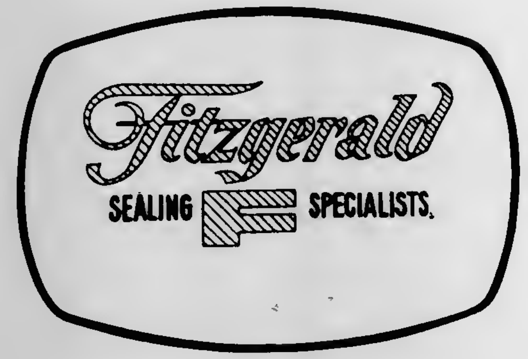
Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 259,666. Midas-International Corporation, Chicago, Ill. Filed Nov. 29, 1966.

FROLIC

For Gaskets and Fan Belts (Int. Cls. 7 and 17).
First use Aug. 22, 1966.

SN 264,048. The Fitzgerald Manufacturing Company, Torrington, Conn. Filed Feb. 6, 1967.



The trademark is lined for the color green. The term "Sealing Specialists" is disclaimed apart from the mark as shown, without waiver of common law rights. Owner of Reg. Nos. 520,880 and 818,283.

For Automotive and Other Gaskets and Seals—Namely, Carburetor to Manifold Gaskets, Cylinder Cover Gaskets, Distributor Gaskets, Exhaust Pipe Gaskets, Fuel Pump Gaskets, Oil Pump Gaskets, Oil Pan Gaskets, Timing Cover Gaskets, Transmission Gaskets, Valve Push Rod Gaskets, Valve Rocker Arm Cover Gaskets, Valve Stem Oil Seal Gaskets, Water Outlet Gaskets, Water Pump Gaskets, Special Gaskets and Seals (Int. Cl. 17).

First use on or about Dec. 2, 1966.

Class 36 — Musical Instruments and Supplies

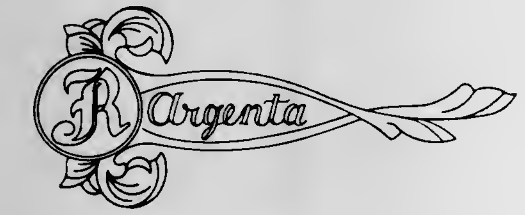
SN 267,200. Synthetic Plastics Company, Newark, N.J. Filed Mar. 20, 1967.

CURRENT

For Phonograph Records of the Circular Disc Type (Int. Cl. 9).

First use Mar. 6, 1967.

SN 268,291. Chicago Musical Instrument Co., Chicago, Ill. Filed Apr. 4, 1967.



The Spanish word "Argenta" means "silver."

For Band Instruments—Namely, Trumpets, Cornets, Trombones, Tenor Trombones, Bass Trombones, Valve Trombones, Clarinets, Oboes, and Flutes (Int. Cl. 15).

First use June 15, 1959.

SN 271,438. British Industries Corporation, Westbury, N.Y. Filed May 15, 1967.

SYNCHRO-LAB SERIES

Applicant disclaims the word "Series" when used apart from the mark as shown. Owner of Reg. No. 740,643.

For Automatic Turntables and Record Changers (Int. Cl. 9).

First use Apr. 13, 1967.

SN 289,154. Hammond International Pianos de Mexico, S.A., Juarez, Mexico. Filed Jan. 19, 1968.

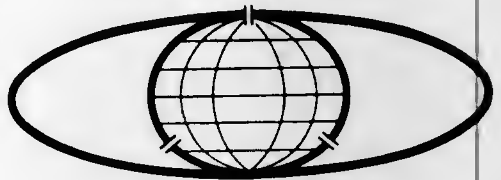
Stein-Weiss
INTERNATIONAL

For Pianos (Int. Cl. 15).

First use Dec. 14, 1967; in commerce Dec. 14, 1967.

Class 37—Paper and Stationery

SN 252,827. Cory Corporation, Chicago, Ill. Filed Aug. 22, 1966.



For Hand Held Writing Instruments, Both Lead and Ink Types (Int. Cl. 16).

First use January 1963.

SN 259,848. The Presto Adhesive Paper Company, Incorporated, Miamisburg, Ohio. Filed Dec. 1, 1966.

PRESTO

For Pressure Sensitive Adhesive Coated Papers Supplied in Roll or Sheet Form (Int. Cl. 16).

First use July 1948.

SN 262,258. Etablissements Nicollet & Cie, Echirolles, Isere, France. Filed Jan. 10, 1967.

Priority claimed under Sec. 44(d) on French Reg. No. 711,194, dated July 25, 1966.

For Articles of Paper and Cardboard—Namely, Index Files, Jackets, Memo Pads, and Document Protectors (Int. Cl. 16).

SN 265,220. Swanee Paper Corporation, New York, N.Y. Filed Feb. 21, 1967.

SWANTEX

Owner of Reg. No. 765,912.

For Cellulose Wadding Paper and Pads of Multi-Ply Tissues (Int. Cl. 16).

First use Feb. 16, 1967.

SN 271,421. American Can Company, New York, N.Y. Filed May 15, 1967.

MARAWIPE

Owner of Reg. Nos. 679,632 and 708,746.

For Paper Towels and Absorbent Paper Wiping Materials (Int. Cl. 16).

First use Dec. 9, 1965.

SN 289,562. Packaging Corporation of America, Evanston, Ill. Filed Jan. 25, 1968.

DURA-COVER

For Paperboard (Int. Cl. 16).

First use on or about Oct. 22, 1967.

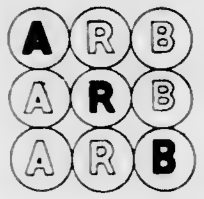
Class 38 — Prints and Publications

SN 229,678. Publicaciones Latino Americanas, Ltd., Nassau, Bahamas. Filed Oct. 8, 1965.

For Magazine (Int. Cl. 16).

First use 1936; in commerce 1940.

SN 243,752. ARB (American Research Bureau) Inc., Beltsville, Md. Filed Apr. 19, 1966.

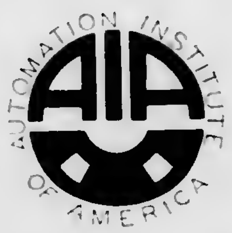


The lining on the drawing is for shading purposes only.

For Periodical Television and Radio Audience Measurement Reports, and Related Studies (Int. Cl. 16).

First use September 1965.

SN 243,773. C-E-I-R, Inc., Washington, D.C. Filed Apr. 19, 1966.



The words "Automation Institute of America" are disclaimed apart from the mark as shown. Owner of Reg. No. 676,136.

For Newsletter Issued From Time to Time (Int. Cl. 16).

First use Feb. 2, 1966.

SN 253,675. Orbit Publishing, S.A., Geneva, Switzerland. Filed Sept. 1, 1966.

ORBIT

For Magazine for Disseminating Information Regarding Electronic and Similar Products (Int. Cl. 16).

First use Aug. 25, 1965; in commerce Feb. 3, 1966.

SN 254,745. UTA, Inc., Wichita, Kans. Filed Sept. 19, 1966.

UTA, INC

The word portion "Inc." is disclaimed separate from the mark as shown.

For Instruction Materials—Namely, Manuals and Filmstrips Used by Flying Instructors and Students (Int. Cl. 16).

First use on or about July 5, 1966.

SN 256,402. Horizon House-Solid State, Inc., Dedham, Mass. Filed Sept. 30, 1966.

SOLID STATE DESIGN

For Magazine Published From Time to Time (Int. Cl. 16).

First use January 1962.

SN 259,702. The American Oil Company, Chicago, Ill. Filed Nov. 30, 1966.

AMERICAN OIL

Owner of Reg. Nos. 579,567, 580,683, and others.

For Travel Information Publications—Namely, Magazines, Road Maps, Printed Information Request Cards, Printed Trip Expense Books, Road and Highway Condition Bulletins, Personalized Travel Information Guidebooks, Motor Club Membership Handbooks, and Directories (Int. Cl. 16).

First use July 13, 1965.

SN 260,843. Hallmark Cards, Incorporated, Kansas City, Mo. Filed Dec. 15, 1966.

NEW PUSSYCATS

For Memorandum Calendars (Int. Cl. 16).

First use June 1, 1966.

SN 260,854. Hallmark Cards, Incorporated, Kansas City, Mo. Filed Dec. 15, 1966.

SCRIBBLES

Owner of Reg. No. 414,676.

For Calendar Engagement Books (Int. Cl. 16).

First use June 1, 1966.

SN 268,482. Fansteel Metallurgical Corporation, North Chicago, Ill. Filed Apr. 6, 1967.

THE MANY FACES OF FANSTEEL

For Company News Magazine (Int. Cl. 16).

First use Aug. 26, 1966.

SN 280,574. Editorial America, S.A., Panama, Republic of Panama. Filed Sept. 18, 1967.

CORIN TELLADO

For Magazine in the Spanish Language Containing Illustrated and Non-Illustrated Stories (Int. Cl. 16).

First use August 1967; in commerce August 1967.

SN 282,654. General Numismatics Corporation, Yeadon, Pa. Filed Oct. 17, 1967.

PRESIDENTIAL BINGO

No claim of exclusive right is made to "Bingo," apart from the mark as shown, for the goods recited.

For Bingo-Type Contest Card Forms for Use by Others in Promoting the Sale of Their Merchandise (Int. Cl. 16).

First use Oct. 4, 1967.

SN 283,305. General Numismatics Corporation, Yeadon, Pa. Filed Oct. 25, 1967.

GAME OF THE PRESIDENTS

No claim of exclusive right is made to "Game" apart from the mark shown, for the goods recited.
For Bingo-Type Contest Card Forms for Use by Others in Promoting the Sale of Their Merchandise (Int. Cl. 16).
First use Oct. 4, 1967.

SN 290,054. Parke, Davis & Company, Detroit, Mich. Filed Feb. 1, 1968.

PARCODE

For Catalogues and Lists of Drug Products (Int. Cl. 16).
First use on or before Jan. 15, 1968.

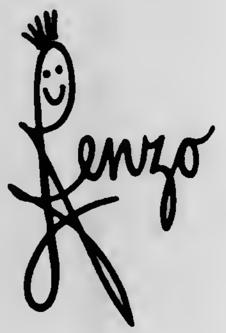
Class 39 — Clothing

SN 263,654. Beebe Rubber Company, Nashua, N.H. Filed Jan. 31, 1967.

PRE-FIT

For Soles of Natural and Synthetic Rubber and Rubberous Compositions (Int. Cl. 25).
First use Apr. 12, 1963.

SN 267,018. Crown Handkerchief, Inc., New York, N.Y. Filed Mar. 17, 1967.



For Handkerchiefs, Ties, Mufflers, Ascots, Scarfs, Neckerchiefs, and Robes (Int. Cl. 25).
First use March 1964.

SN 269,654. Fownes Brothers & Co., Incorporated, New York, N.Y. Filed Apr. 20, 1967.

foldables
BY
fownes

Applicant disclaims the exclusive right to the use of the words "Foldables by" apart from the mark as shown. Owner of Reg. No. 734,209 and others.
For Shoes and Slippers (Int. Cl. 25).
First use Dec. 1, 1966.

SN 270,223. Burma-Bibas, Inc., New York, N.Y. Filed Apr. 28, 1967.

SIGNORCELLI D'ITALIA

Applicant disclaims the term "d'Italia."
For Neckties (Int. Cl. 25).
First use Dec. 20, 1966.

SN 272,031. Dyer's Shoe Stores, Inc., Madison, Wis. Filed May 22, 1967.

DR. DENNISTON'S FOUNDATION SHOE CORRECTION-COMFORT-STYLE

Applicant disclaims the words "Shoe" and "Correction-Comfort-Style."
For Shoes (Int. Cl. 25).
First use on or about June 18, 1957.

SN 273,742. Byer-Rolnick Corporation, Garland, Tex. Filed June 13, 1967.

737

For Men's Hats (Int. Cl. 25).
First use on or about Apr. 5, 1967.

SN 282,005. The Richman Brothers Company, Cleveland, Ohio. Filed Oct. 6, 1967.

DURA-PRESS-SR

For Men's and Boys' Trousers (Int. Cl. 25).
First use Aug. 10, 1967.

SN 282,011. Sportswear Corporation of America, St. Louis, Mo. Filed Oct. 6, 1967.

PEER LTD.

For Slacks (Int. Cl. 25).
First use Sept. 11, 1967.

SN 285,131. Hamilton Shoe Company, St. Louis, Mo. Filed Nov. 17, 1967.

FLAP JACKS

For Women's, Misses', and Girls' Shoes of Fabric, Leather, and Combinations Thereof (Int. Cl. 25).
First use Oct. 8, 1967.

SN 285,248. Monsanto Company, St. Louis, Mo. Filed Nov. 20, 1967.

Owner of Reg. No. 828,247.
For Hosiery (Int. Cl. 25).
First use at least as early as Mar. 29, 1967.

SN 287,116. Aleph Manufacturing Corporation, Freeport, N.Y. Field Dec. 18, 1967.

GLENCOLE

For Men's Knitted Sport Shirts (Int. Cl. 25).
First use 1962.

Class 40 — Fancy Goods, Furnishings, and Notions

SN 275,598. Alcan Aluminum Corporation, Cleveland, Ohio. Filed July 10, 1967.

Flexalum T-N

Owner of Reg. Nos. 427,704, 617,082, and others.
For Venetian Blind Tape (Int. Cl. 26).
First use July 25, 1960.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 261,043. Cannon Mills Company, Kannapolis, N.C. Filed Dec. 19, 1966.

LOCKWOVEN

For Blankets (Int. Cl. 24).
First use Dec. 6, 1966.

SN 267,858. The Duplan Corporation, Winston-Salem, N.C., assignee of Shawmut, Incorporated, Stoughton, Mass. Filed Mar. 29, 1967.

TWIN-SET

For Laminated Fabric Adapted for Use Principally for Garments (Int. Cl. 24).
First use Feb. 17, 1967.

SN 268,724. Glen Raven Knitting Mills, Inc., Glen Raven, N.C. Filed Apr. 10, 1967.

CLOUD WALKER

Owner of Reg. No. 534,076.
For Fabrics of Natural and Synthetic Fibers, and Combinations Thereof, for Making Into Women's and Children's Dresses and Men's Dress Shirts and Sportswear (Int. Cl. 24).
First use Oct. 31, 1966.

SN 274,417. Dan River Mills, Incorporated, Danville, Va. Filed June 21, 1967.

DREAMLAND

Owner of Reg. No. 518,332.
For Bedspreads, Sheets and Pillowcases, and Textile Fabrics of Cotton or Synthetic Fibers, or Any Combinations Thereof, Made Up Into Bedspreads, Sheets and Pillowcases (Int. Cl. 24).
First use Nov. 1, 1944.

SN 279,575. J. P. Stevens & Co., Inc., New York, N.Y. Filed Sept. 1, 1967.

GLASTEX

For Fabrics of Glass Fibers for Industrial Purposes (Int. Cl. 24).
First use Aug. 24, 1967.

SN 279,783. Deering Milliken, Inc., New York, N.Y. Filed Sept. 7, 1967.

JOB CLOTH

The word "Cloth" is disclaimed apart from the mark as shown.
For Textile Fabrics Made of Wool, Cotton, and Synthetic Fibers, and Combinations Thereof (Int. Cl. 24).
First use Aug. 24, 1967.

Class 44 — Dental, Medical, and Surgical Appliances

SN 263,954. Rocky Mountain Dental Products Company, Denver, Colo. Filed Feb. 3, 1967.

BROUSSARD

For Dental Supplies and Orthodontic Equipment—Namely, Orthodontic Auxiliary Springs, Model Formers, Buccal Tubes, Ligature Tuckers and Tyers, and Orthodontic Brackets (Int. Cl. 10).
First use on or about Dec. 15, 1961.

SN 264,291. Acme Quilting Co., Inc., New York, N.Y. Filed Feb. 9, 1967.

NODEKx

For Bed Pans for Medical Purposes (Int. Cl. 10).
First use Dec. 6, 1966.

SN 272,854. Prak-T-Kal Corporation, Elizabeth, N.J. Filed June 1, 1967.

AMERICANA

For Vaporizers and Humidifiers for Medical Purposes (Int. Cl. 10).
First use May 18, 1967.

SN 276,013. Guardian Products Company, Inc., North Hollywood, Calif. Filed July 14, 1967.

UNI-POISE

For Crutches, Crutch Parts and Accessories, Canes, and Invalid Walking Aids (Int. Cl. 10).

First use June 23, 1967.

SN 284,450. Chesebrough-Pond's Inc., New York, N.Y. Filed Nov. 9, 1967.

"PUSSY WILLOWS"

For Nonmedicated Cotton Swabs (Int. Cl. 5).

First use Oct. 24, 1967.

SN 285,795. Johnson & Johnson, New Brunswick, N.J. Filed Nov. 29, 1967.

MINI-KIT

The word "Kit" is disclaimed apart from the mark as shown. Owner of Reg. No. 439,871.

For First Aid Kits Containing Aid Cream, Adhesive Tape, Gauze Pads, Aspirin, Bandages, and First Aid Instructions (Int. Cl. 5).

First use July 21, 1967.

SN 286,791. Cooper's Incorporated, Kenosha, Wis. Filed Dec. 13, 1967.

Jockey

Owner of Reg. Nos. 391,692, 816,662, and others.

For Scultetus Bandage (Int. Cl. 10).

First use at least as early as Aug. 8, 1967.

Class 45 — Soft Drinks and Carbonated Waters

SN 243,801. Party Tyme Products, Inc., New York, N.Y. Filed Apr. 19, 1966.

QUINE N' LIME

The word "Lime" is disclaimed apart from the mark as shown.

For Carbonated Lime and Quinine Flavored Beverage Used as a Mixer for Alcoholic Liquors (Int. Cl. 32).

First use at least as early as Apr. 19,1966.

SN 276,031. Ocean Spray Cranberries, Inc., Hanson, Mass. Filed July 14, 1967.

RED ROUSER

The word "Red" is disclaimed apart from the mark as shown.

For Fruit Drink Consisting of Cranberry Juice, Orange Juice Concentrate, and Lesser Ingredients, Including Water (Int. Cl. 32).

First use May 19, 1967.

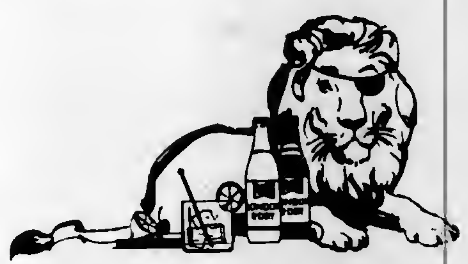
SN 276,032. Ocean Spray Cranberries, Inc., Hanson, Mass. Filed July 14, 1967.

MORNING EDITION

For Fruit Drink Consisting of Cranberry Juice, Concentrated Orange Juice, and Lesser Ingredients, Including Water (Int. Cl. 32).

First use May 19, 1967.

SN 286,604. London Dry Ltd., Spartanburg, S.C. Filed Dec. 11, 1967.



Applicant disclaims the representations of the containers apart from the mark as shown. Owner of Reg. No. 691,779.

For Soft Drinks and Non-Alcoholic Mixers for Use in Preparing Alcoholic Mixed Drinks (Int. Cl. 32).

First use at least as early as Oct. 31, 1967.

Class 46 — Foods and Ingredients of Foods

SN 239,547. Frank Lewis Schultz, Alamo, Tex. Filed Feb. 24, 1966.

Royal Ruby Reds

The words "Ruby Reds" are disclaimed apart from the mark as shown. Owner of Reg. No. 431,510.

For Fresh Grapefruit (Int. Cl. 31).

First use Dec. 27, 1965.

SN 240,897. General Mills, Inc., Minneapolis, Minn. Filed Mar. 14, 1966.

TOASTBURGER

For Sandwich Meat Patties (Int. Cl. 29).

First use Feb. 9, 1966.

SN 242,112. Ceskoslovenske Cokoladovny, Oborovy Podnik, Modrany, Modrany, Czechoslovakia. Filed Mar. 29, 1966.

Maryša

Owner of Czechoslovakian Reg. No. 151,946, dated Oct. 22, 1954.

For Eating, Baking and Cooking Chocolate; Candies; Chocolate Products—Namely, Chocolate Figurines, Chocolate Pastry, and Chocolate Cookies; and Wafers (Int. Cl. 30).

SN 243,137. Interstate Bakeries Corporation, Kansas City, Mo. Filed Apr. 11, 1966.

DANISH VILLAGE

For Bakery Products, Specifically Bread (Int. Cl. 30).

First use May 1965.

SN 243,270. Textron, Inc. (Delaware corporation), Providence R.I., assignee of Textron, Inc. (Rhode Island corporation), Providence, R.I. Filed Apr. 12, 1966.

PELBOND

For Product Made From Processed or Gelatinized Corn for Use as a Bonding Agent in Animal Feed (Int. Cl. 31).

First use July 26, 1965.

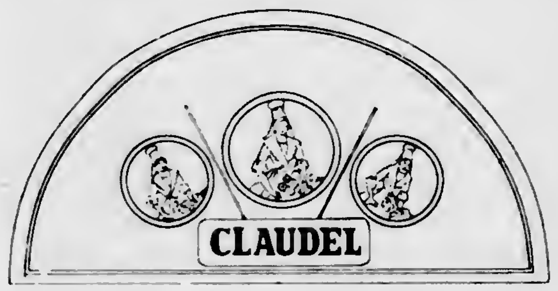
SN 244,902. Good Foods, Inc., Piqua, Ohio. Filed May 4, 1966.

CHEF'S PANTRY

For Frozen Foods—Namely, Uncooked, Ready To Cook and Cooked Meats, Uncooked, Breaded, Pre-Cooked, and Cooked Poultry; Breaded and Unbreaded Fish and Shell Fish, and Animal Fat Shortening (Int. Cl. 29).

First use on or about Jan. 7, 1963.

SN 254,673. Claudel, Paris, France. Filed Sept. 19, 1966.



The female figure shown in the drawing does not represent any particular living individual. Owner of French Reg. No. 530,145, dated Apr. 9, 1965 (Paris); Natl. Inst. No. 245,529.

For Cheese, Butter, Condensed Milk, Bottled Milk, Milk in Containers, Powdered Milk, Flavored Milk, Cake and Cookies (Int. Cls. 29 and 30).

SN 255,587. Arby's Inc., Youngstown, Ohio. Filed Oct. 3, 1966.

HORSEY SAUCE

No claim is made to the word "Sauce" apart from the mark as shown. Owner of Reg. No. 801,497.

For Meat Sauce, Sold Only in Applicant's Carry-Out Restaurants (Int. Cl. 30).

First use July 23, 1964.

SN 263,269. SCM Corporation, New York, N.Y., assignee of The Glidden Company, d.b.a. Durkee Famous Foods, Cleveland, Ohio. Filed Jan. 25, 1967.

MAITRE D'

For Spices (Int. Cl. 30).

First use in or about January 1956.

SN 264,449. The Ryvita Company Limited, London, England. Filed Feb. 10, 1967.

RYVITA

Owner of U.S. Reg. No. 226,060.

For Bread, Crisp-Bread, and Biscuits (Int. Cl. 30).

First use on or about Jan. 1, 1920; in commerce July 31, 1962.

SN 264,516. Chinese Maid, Inc., d.b.a. Min-Sun Trading Co., Chicago, Ill. Filed Feb. 13, 1967.

CHINESE MAID

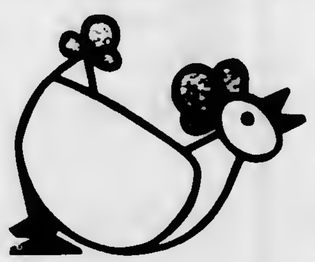
Owner of Reg. Nos. 318,508 and 551,415.

For Canned Meatless Chop Suey, Canned Chop Suey Vegetables, Canned Chinese Mixed Vegetables, Canned Chicken Chop Suey, Canned Chow Mein Noodles, Canned Mushroom Chop Suey Vegetables, and Canned Bean Sprouts (Int. Cl. 29).

First use Jan. 15, 1921.

SN 266,146. Corn Products Company, New York, N.Y. Filed Mar. 7, 1967.

So plump they can't stand up!



No claim of exclusive right is made to the representation of a chicken per se.

For Frozen Dressed Poultry, Frozen Cooked Poultry, Frozen Dressed Poultry Parts, Frozen Cooked Poultry Parts, Preparations of Frozen Poultry, Including Diced, Breaded and Stuffed Preparations, and Preparations With Added Sauces, Vegetables, Noodles, Macaroni and Rice (Int. Cls. 29 and 30).

First use at least as early as Mar. 13, 1966.

SN 267,385. American Beauty Macaroni Company, Kansas City, Kans. Filed Mar. 23, 1967.

American Beauty

Owner of Reg. Nos. 88,250 and 575,642.

For Ready Cut Macaroni of Various Shapes and Sizes, Ready Cut Spaghetti of Various Shapes and Sizes, Spaghetti, Macaroni, Macaroni Shells, Vermicelli, Dumplings, Egg Noodles, Chinese Noodles, Dehydrated Potatoes, Spaghetti Sauce, Chili and Macaroni Dinners, Macaroni and Cheese Dinners, Spaghetti Dinners, Egg Noodle Dinners, and Canned Spaghetti in Tomato Sauce With Cheese (Int. Cls. 29 and 30).

First use June 1, 1910.

SN 267,901. Armour and Company, Chicago, Ill. Filed Mar. 30, 1967.

PAMPERED

For Fresh Pork (Int. Cl. 29).

First use Feb. 3, 1967.

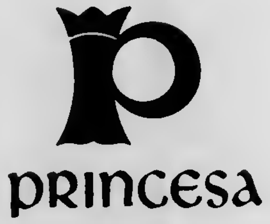
SN 268,757. North Pacific Canners & Packers, Inc., Portland, Oreg. Filed Apr. 10, 1967.

MISTER DIXIE

For Frozen Vegetables, and Particularly French Fried Potatoes (Int. Cl. 29).

First use Jan. 12, 1967.

SN 270,415. Red Owl Stores, Inc., Hopkins, Minn. Filed May 1, 1967.

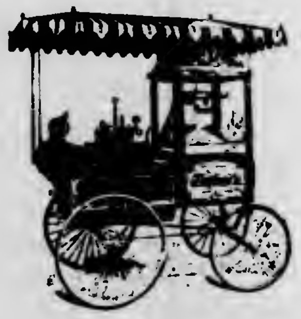


The mark is a Spanish word equivalent to the English word "princess." Owner of Reg. No. 751,389.

For Candy and Nuts, Both Shelled and Unshelled (Int. Cls. 29, 30, and 31).

First use Apr. 5, 1967.

SN 270,823. Topsy's International, Inc., Kansas City, Mo. Filed May 5, 1967.



The words "Fresh Roasted" are disclaimed apart from the mark as shown. Owner of Reg. No. 830,696.

For Popcorn (Int. Cl. 30).

First use July 1966.

SN 273,376. Creative Bakery Specialists, Inc., Youngstown, Ohio. Filed June 8, 1967.

GOLDEN RICH

For Bread Base Including Flours, Sugar, Whey, Salt, Non-Fat Dry Milk, Egg Yolk, Dry Yeast, Yeast Food and Calcium Propionate and Bread Made From Said Bread Base (Int. Cl. 30).

First use Apr. 7, 1967.

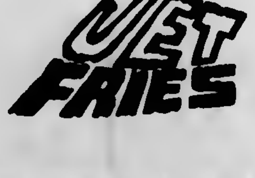
SN 273,522. North Pacific Canners & Packers, Inc., Portland, Oreg. Filed June 9, 1967.

NORPAC

For Canned Fruits and Canned and Frozen Vegetables (Int. Cl. 29).

First use at least as early as June 15, 1934.

SN 273,633. Gold Medal Products Co., Cincinnati, Ohio. Filed June 12, 1967.

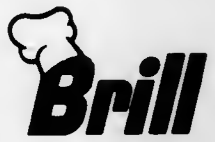


Applicant disclaims the word "Fries" apart from the mark as shown.

For Dehydrated Potato Mixture for Making French Fried Potatoes (Int. Cl. 29).

First use on or about May 15, 1967.

SN 274,305. H. C. Brill Company, Inc., Cedar Grove, N.J. Filed June 20, 1967.



Owner of Reg. Nos. 528,448, 810,494, and others.

For Products and Ingredients for Use in the Making of Bread, Rolls, Coffee Cakes, Cakes, Cookies, Pies, Pastries, and the Like—Namely, Baking Powder; Imitation Whipped Cream Powder; Prepared Cake Mixtures; Emulsifiers; Stabilizers; Fruit, Custard Cream, Butter Cream, Nut, Starch, and Chocolate and Other Flavored Fillings, Frostings and Icings and Bases for Making the Same; Fudge for Making Fillings, Frosting or Icings; Whipping Agents of the Emulsifier, Vegetable Gum, and Mineral Salt Types and Combinations Thereof; Spice and Apple Sauce Cake Base Compound; Flavors in Liquid, Paste or Powder Form for Use in Flavoring of Icings, Fillings, Cake, Sweet Dough and Bread; Pan Grease; and Powder for Making Meringue and Marshmallow Toppings (Int. Cls. 29 and 30).

First use Feb. 18, 1966.

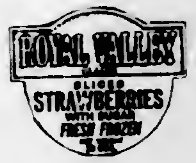
SN 275,163. Ocean Spray Cranberries, Inc., Hanson, Mass. Filed June 30, 1967.

ZING

For Meat Sauce Comprising Cranberry Puree and Condiments (Int. Cl. 30).

First use Apr. 27, 1967.

SN 275,253. Frostie Foods, Inc., Lebanon, Pa. Filed July 3, 1967.



All the words except "Royal Valley" are disclaimed apart from the mark as shown.

For Frozen Strawberries (Int. Cl. 29).

First use May 22, 1967.

SN 276,122. General Foods Corporation, White Plains, N.Y. Filed July 17, 1967.

POTATO MATES

The word "Potato" is disclaimed apart from the mark as shown.

For Frozen Shredded Potatoes (Int. Cl. 29).

First use June 23, 1967.

SN 277,651. Frank H. Fleer Corporation, Philadelphia, Pa. Filed Aug. 7, 1967.

HEADS 'N TAILS

For Chewing Gum (Int. Cl. 30).

First use Apr. 18, 1967.

SN 277,742. Waconia Sorghum Company, Cedar Rapids, Iowa. Filed Aug. 7, 1967.

BEE PLUS

For Table Spread Comprising a Mixture of Honey and Sorghum (Int. Cl. 30).

First use Jan. 10, 1967.

SN 278,048. United States Baking Company, Inc., Terre Haute, Ind. Filed Aug. 10, 1967.

JACK FROST

For Bakery Products—Namely, Cookies (Int. Cl. 30).

First use July 19, 1967.

SN 278,252. Morris Swerdloff, d.b.a. Swerdloff & Company, Boston, Mass. Filed Aug. 14, 1967.

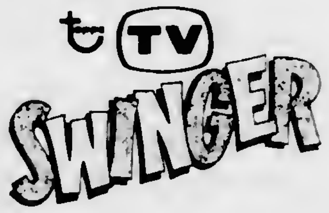
PARTI-PAK

Owner of Reg. No. 720,433.

For Mayonnaise, Sauerkraut, Mustard, and Relishes (Int. Cls. 29 and 30).

First use Mar. 8, 1960.

SN 278,325. Topps Chewing Gum, Incorporated, Brooklyn, N.Y. Filed Aug. 15, 1967.



Owner of Reg. Nos. 506,803 and 829,203.

For Chewing Gum (Int. Cl. 30).

First use May 8, 1967.

SN 278,373. Carter-Wallace, Inc., New York, N.Y. Filed Aug. 16, 1967.

"TS"

For Salad Dressings and Sauces—Namely, French Dressing and Steak Baste (Int. Cls. 29 and 30).

First use Aug. 4, 1967.

SN 278,604. National Dairy Products Corporation, New York, N.Y. Filed Aug. 18, 1967.

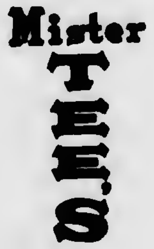
LIGHT N' LIVELY

Owner of Reg. No. 824,530.

For Ice Milk and Fluid Milk From Which a Portion of the Fat Has Been Removed (Int. Cls. 29 and 30).

First use Aug. 9, 1965.

SN 279,289. Empire Pretzel & Potato Chip Corp., Buffalo, N.Y. Filed Aug. 29, 1967.



Owner of Reg. No. 824,993.

For Potato Chips and Corn-Type Snack Products Including Corn Chips, Cheese Corn, Popcorn, and Caramel Corn (Int. Cls. 29 and 30).

First use in or about January 1964.

SN 284,542. General Mills, Inc., Minneapolis, Minn. Filed Nov. 13, 1967.

LOCKS & KEYS

For Cereal Derived Snack Product (Int. Cl. 30).

First use on or prior to Jan. 9, 1967.

SN 288,672. Beatrice Foods Co., Chicago, Ill. Filed Jan. 12, 1968.

FRUITBURSTS

For Fruit Candy (Int. Cl. 30).

First use Sept. 10, 1967.

Class 47 — Wines

SN 262,865. Gonzalez Byass & Co. Limited, d.b.a. Gozalez, Byass, Cadiz, Spain. Filed Jan. 19, 1967.

TULITA

Owner of U.S. Reg. No. 314,812.

For Wines (Int. Cl. 33).

First use Sept. 16, 1966; in commerce Sept. 16, 1966.

SN 262,866. Gonzalez Byass & Co. Limited, d.b.a. Gonzalez, Byass, Cadiz, Spain. Filed Jan. 19, 1967.

TIO PEPE

"Tio Pepe" may be translated from the Spanish as "Uncle Joe." Owner of U.S. Reg. No. 314,811.

For Wines (Int. Cl. 33).

First use 1905; in commerce 1905.

SN 268,959. John Harvey & Sons Limited, Bristol, England. Filed Apr. 12, 1967.

HARVEYS

Owner of British Reg. No. 862,939, dated Apr. 5, 1964; and U.S. Reg. Nos. 281,798, 792,677, and others.

For Wines (Int. Cl. 33).

SN 290,215. Bear Mountain Winery, Di Giorgio, Calif. Filed Feb. 5, 1968.

BEAR MOUNTAIN

For Wines (Int. Cl. 33).

First use Jan. 10, 1968.

Class 49 — Distilled Alcoholic Liquors

SN 262,864. Gonzalez Byass & Co. Limited, d.b.a. Gonzalez, Byass, Cadiz, Spain. Filed Jan. 19, 1967.

LEPANTO

For Brandy (Int. Cl. 33).

First use Aug. 22, 1966; in commerce Aug. 22, 1966.

SN 271,908. Barton Distilling Company, Chicago, Ill. Filed May 19, 1967.

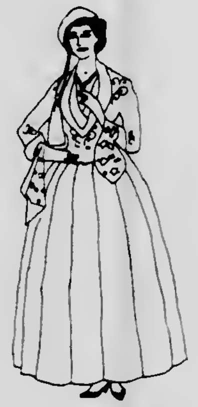
KENTUCKY HERITAGE

Applicant disclaims the word "Kentucky" apart from the mark as shown.

For Bourbon Whiskey (Int. Cl. 33).

First use Aug. 15, 1963.

Achaia-Clauss Co. Ltd., Patras, Greece. Filed July 6, 1967. SN 275,421. Achaia Clauss Wine Company Limited, d.b.a.



The portrait shown on the drawing is fanciful and represents no particular living individual.
For Liqueur (Int. Cl. 33).
First use November 1966; in commerce November 1966.

SN 275,620. J. T. S. Brown's Son Company, d.b.a. Lexington Distilling Co., Cincinnati, Ohio. Filed July 10, 1967.

KENTUCKY REGISTER

No claim is made to the word "Kentucky" apart from the mark as shown. Owner of Reg. No. 757,019.
For Straight Bourbon Whiskey (Int. Cl. 33).
First use June 28, 1967.

SN 289,752. Joseph E. Seagram & Sons, Inc., New York, N.Y. Filed Jan. 29, 1968.

BENCHMARK

For Bourbon Whiskey (Int. Cl. 33).
First use Jan. 25, 1968.

Class 50—Merchandise Not Otherwise Classified

SN 245,781. Josef Voss, Neheim-Huesten, Germany. Filed Aug. 25, 1967.

Duett

Owner of German Reg. No. 717,832, dated Feb. 15, 1958.
For Bird Cages (Int. Cl. 21).
First use Aug. 17, 1957; in commerce Oct. 25, 1966.

SN 262,925. Coverite, Inc., Greeley, Colo. Filed Jan. 20, 1967.

COVERITE

For Preformed Sheet Coverings of Synthetic Resin Plastic Materials for Protectively Enclosing and Sealing Pipe and Conduit and Especially Insulated Pipe Against Moisture and Contamination in Areas Such as Meat Packing and Other Industrial Plants (Int. Cl. 17).
First use June 10, 1966.

SN 271,396. White Metal Rolling & Stamping Corp., Brooklyn, N.Y. Filed May 12, 1967.

WONDERLIGHT

For Ladders (Int. Cl. 6).
First use Apr. 4, 1967.

SN 271,642. Rugby Fabrics Corporation, New York, N.Y. Filed May 16, 1967.

LOADSTAR

For Nylon Netting Used as a Load Divider in Trucks and the Like (Int. Cl. 22).
First use Nov. 21, 1966.

SN 274,601. Ethicon, Inc., Somerville, N.J. Filed June 23, 1967.

S-ENTRY

For Mats for Contamination Control, Mat Frames, and Refills Therefor (Int. Cl. 27).
First use Apr. 12, 1967.

SN 280,481. Sure Pour, Inc., Clyde, Ohio. Filed Sept. 15, 1967.

SURE POUR

For Combined Handle and Holder Means for Fluid Cartons (Int. Cl. 21).
First use Aug. 3, 1967.

SN 280,543. Big Dutchman, Inc., Zeeland, Mich. Filed Sept. 18, 1967.

GROW-LAY

For Cages for Poultry (Int. Cl. 21).
First use on or before Jan. 20, 1967.

SN 288,402. Century Industries, Inc., Chicago, Ill. Filed Dec. 13, 1967.

CENTURY

For Glass Advertising Signs (Int. Cl. 21).
First use Jan. 10, 1951.

Class 51—Cosmetics and Toilet Preparations

SN 243,297. Amway Corporation, Ada, Mich. Filed Apr. 13, 1966.

Amway

Owner of Reg. Nos. 707,656, 777,704, and others.
For Hand and Body Lotions, Bubble Baths, Bath and Body Powders, Beautifying Ointments and Oils, Colognes, Personal Deodorants, Hair Sprays, Dressings, Rinses, Colorings and Restoratives, Facial Cleaners, Toners and Creams, Toothpastes and Dental Cleansers, and Shaving Preparations (Int. Cls. 3 and 5).
First use on or about Aug. 31, 1964.

SN 263,720. Wren's Beautair Manufacturers, Detroit, Mich. Filed Jan. 31, 1967.

BEAUTAIR

For Hair Conditioner (Int. Cl. 3).
First use Nov. 13, 1963.

SN 265,405. Comptoir de la Parfumerie S.A., Ancienne Maison Tschanz, Geneva, Switzerland. Filed Feb. 24, 1967.

CERENA

Owner of Swiss Reg. No. 190,257, dated Feb. 2, 1962.
For Products for the Care of the Nails—Namely, Hardeners, Softeners and Conditioners; Cuticle Remover Creams, Nail Enamels, Base Coats, Double Coats, Enamel Set; Nail Enamel Removers; and Lipsticks (Int. Cl. 3).

SN 266,099. Rexall Drug and Chemical Company, d.b.a. Vanda Cosmetics Company, Los Angeles, Calif. Filed Mar. 6, 1967.

DRAGOON

For Cologne, Sold and Distributed Directly to Consumers Through a Field Sales Organization (Int. Cl. 3).
First use Feb. 3, 1967.

SN 266,455. Rexall Drug and Chemical Company, d.b.a. Vanda Cosmetics Company, Los Angeles, Calif. Filed Mar. 10, 1967.

FUSILIER

For Cologne, Sold and Distributed Directly to Consumers Through a Field Sales Organization (Int. Cl. 3).
First use Feb. 3, 1967.

SN 269,531. Genie Wigs, Inc., New York, N.Y. Filed Apr. 19, 1967.

PERMATIZING

For Hair Spray or Liquid for Setting and Conditioning Wigs and Hairpieces (Int. Cl. 3).
First use Apr. 10, 1967.

SN 269,631. Clairol Incorporated, New York, N.Y. Filed Apr. 20, 1967.

CLEAN GRAY

Applicant disclaims the word "Gray" apart from the mark as shown.
For Hair Tinting, Dyeing, and Coloring Preparation (Int. Cl. 3).
First use Dec. 19, 1966.

SN 269,813. Yardley of London, Inc., Totowa, N.J. Filed Apr. 21, 1967.

UNDERGLOW

For Face Powder and Fluid Foundation (Int. Cl. 3).
First use Apr. 11, 1967.
Subj. to Intf. with SN 277,820.

SN 270,552. Clairol Incorporated, New York, N.Y. Filed May 3, 1967.

PLUCK

For Eyebrow Cream, Eye Shadow, Mascara, and Eye Liner (Int. Cl. 3).
First use Nov. 14, 1966.

SN 270,608. Howard O. Cyrus, Sr., d.b.a. Cyrus Company, Hammond, Ind. Filed May 4, 1967.

PERSIAN GULF

For Bubble Bath (Int. Cl. 3).
First use Jan. 13, 1967.

SN 271,346. Clairol Incorporated, New York, N.Y. Filed May 12, 1967.

STOKE

For Cologne, Perfume, and Toilet Water (Int. Cl. 3).
First use Feb. 8, 1967.

SN 277,820. The Borden Company, New York, N.Y. Filed Aug. 8, 1967.

CREME UNDERGLOW

The word "Creme" is disclaimed apart from the mark as shown.
For Make-Up Base (Int. Cl. 3).
First use Nov. 29, 1966.
Subj. to Intf. with SN 269,813.

SN 278,504. Les Parfums de Dana, Inc., New York, N.Y. Filed Aug. 17, 1967.

SIMPATICO

For Perfume, Cologne, Dusting Powder, and Personal Deodorants (Int. Cls. 3 and 5).
First use Dec. 14, 1966.
Subj. to Intf. with SN 273,225.

SN 287,271. Bristol-Myers Company, New York, N.Y. Filed Dec. 20, 1967.

SCORE

Owner of Reg. Nos. 426,365, 830,307, and others.
For Shaving Cream (Int. Cl. 3).
First use Dec. 23, 1965.

SN 290,143. Helena Rubinstein, Inc., New York, N.Y. Filed Feb. 2, 1968.

NUDE

Owner of Reg. Nos. 551,523, 835,623, and others.
For Leg and Body Make-Up (Int. Cl. 3).
First use Apr. 10, 1967.

Class 52—Detergents and Soaps

SN 241,032. Chemtronics Inc., Brooklyn, N.Y. Filed Mar. 15, 1966.

CHEMTRONICS

For Dirt and Grime Remover, Electronical Contact Cleaner, and Tape Recorder Cleaner (Int. Cl. 3).
First use on or about Jan. 30, 1965.

SN 260,008. Armour and Company, Chicago, Ill. Filed Dec. 5, 1966.

HUSTLE

Owner of Reg. No. 796,541.
For Toilet Bowl Cleaner (Int. Cl. 3).
First use Jan. 3, 1966.

SN 271,170. Philip Morris Incorporated, New York, N.Y. Filed May 10, 1967.

MARLBORO

Owner of Reg. Nos. 68,502, 632,881, and 834,419.
For Toilet, Bath, and Hair Soap (Int. Cl. 3).
First use Jan. 16, 1967.

SN 271,171. Philip Morris Incorporated, New York, N.Y. Filed May 10, 1967.

EVER-READY

Owner of Reg. Nos. 130,008, 759,357, and others.
For Toilet, Bath, and Hair Soap (Int. Cl. 3).
First use Jan. 16, 1967.

SN 271,172. Philip Morris Incorporated, New York, N.Y. Filed May 10, 1967.

PERSONNA

Owner of Reg. Nos. 337,664, 436,340, and 760,132.
For Toilet, Bath, and Hair Soap (Int. Cl. 3).
First use Jan. 16, 1967.

SN 271,513. Premax Laboratories, Inc., Oakland, Calif. Filed May 15, 1967.

MAGIC MIRROR MAINTAINER

Applicant disclaims any exclusive rights in the individual words "Mirror" and "Maintainer" except as used in the mark as shown. Owner of Reg. No. 823,510.
For Cleaner for Produce Display Mirrors (Int. Cl. 3).
First use as early as Oct. 15, 1966.

SN 277,792. Avon Products, Inc., New York, N.Y. Filed Aug. 8, 1967.

WISH UPON A STAR

For Toilet Soap (Int. Cl. 3).
First use July 24, 1967.

SN 278,255. The Theobald Industries, Harrison, N.J. Filed Aug. 14, 1967.

TRIO

Owner of Reg. Nos. 751,426 and 751,427.
For Controlled Suds Laundry Detergent (Int. Cl. 3).
First use Jan. 18, 1967.

SN 278,503. Les Parfums de Dana, Inc., New York, N.Y. Filed Aug. 17, 1967.

SIMPATICO

For Toilet Soaps (Int. Cl. 3).
First use Dec. 14, 1966.
Subj. to Intf. with SN 273,225.

SN 279,101. Nettie Rosenstein, Inc., New York, N.Y. Filed Aug. 25, 1967.

MR. GHE

For Toilet Soap (Int. Cl. 3).
First use May 1964.

SN 287,884. Bristol-Myers Company, New York, N.Y. Filed Jan. 2, 1968.

SCORE

Owner of Reg. Nos. 426,365, 830,307, and others.
For Hair Shampoo (Int. Cl. 3).
First use Dec. 23, 1965.

SN 289,932. Sterling Drug Inc., New York, N.Y. Filed Jan. 30, 1968.

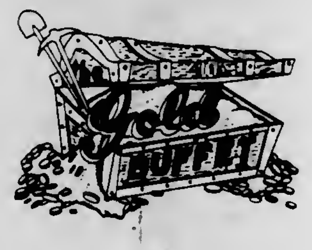
SARENE

Owner of Reg. No. 413,266.
For Medicated Hand Soap and Surgical Scrub (Int. Cl. 3).
First use June 26, 1967; May 19, 1944, on related goods.

SERVICE MARKS

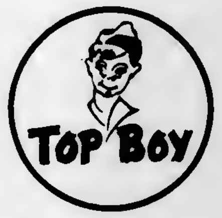
Class 100 — Miscellaneous

SN 251,418. The Gold Buffet Franchise, Inc., North Kansas City, Mo. Filed Aug. 1, 1966.



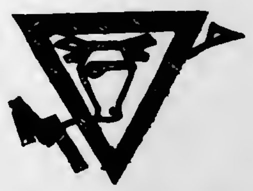
The word "Buffet" is disclaimed apart from the mark as shown. Owner of Reg. No. 757,506.
For Restaurant Services (Int. Cl. 42).
First use May 8, 1966; Mar. 13, 1966, in a different form.

SN 263,131. Top Boy International, Inc., Urbana, Ill. Filed Jan. 23, 1967.



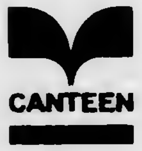
For Drive-In Restaurant Services (Int. Cl. 42).
First use Dec. 13, 1966.

SN 264,703. Maverick Steaks, Inc., Seattle, Wash. Filed Dec. 23, 1966.



The drawing is lined for the colors orange and brown.
For Restaurant Services (Int. Cl. 42).
First use Feb. 1, 1966.

SN 265,690. Canteen Corporation, Chicago, Ill. Filed Mar. 1, 1967.



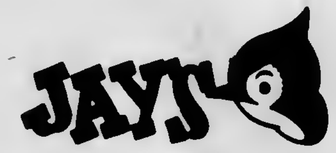
Owner of Reg. Nos. 579,200, 769,298, and others.
For Operating and Managing Restaurants, Cafeterias and Concessions; and for Providing Vending, Food and Beverage Services (Int. Cl. 42).
First use Mar. 1, 1966.

SN 268,798. Taco Hut, Inc., Bartlesville, Okla. Filed Apr. 10, 1967.

TACO HUT

Applicant disclaims the word "Taco" apart from the mark as shown.
For Restaurant Services for Mexican-Type Foods (Int. Cl. 42).
First use Dec. 21, 1965.

SN 270,811. John E. Reimann, Jr., d.b.a. Jay's Drive-In Restaurants, Minneapolis, Minn. Filed May 5, 1967.



For Drive-In Resturant Services (Int. Cl. 42).
First use on or about Jan. 2, 1964.

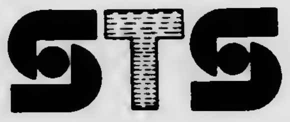
SN 271,086. Walther League, Chicago, Ill. Filed May 9, 1967.

WHEAT RIDGE SEALS

For Charitable Fund Raising Activities (Int. Cl. 42).
First use May 1, 1967.

Class 101 — Advertising and Business

SN 250,890. Special Telephone Service, Inc., Harlingen, Tex. Filed July 5, 1966.



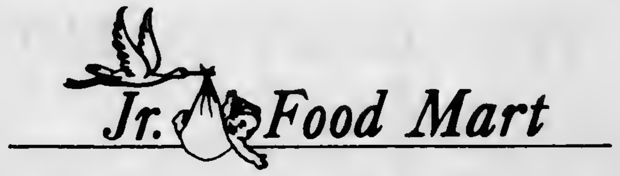
The drawing is lined for grey.
For Telephone Answering Services (Int. Cl. 35).
First use May 15, 1966.

SN 255,050. Agway, Inc., Syracuse, N.Y. Filed Sept. 26, 1966.

PROFILE

For Assisting Farmers in the Operation of Farms, by Providing Consultation, Maintaining Farmers' Financial Records, Advising Periodically of Progress, and Giving Suggestions Conducive to More Profitable Farming (Int. Cl. 35).
First use Feb. 18, 1966.

SN 258,910. Jitney-Jungle, Inc., Jackson, Miss. Filed Nov. 17, 1966.



For Assisting Retail Grocery Store Owners in the Conduct of Their Business by Providing Advice and Material Relative to Accounting, Advertising, Store Planning, Merchandising, Sales Training, Store Displays, and Management (Int. Cl. 35).
First use Sept. 1, 1966.

SN 261,317. National Electrical Manufacturers Association, New York, N.Y. Filed Dec. 22, 1966.

GOLD MEDALLION HOME PROGRAM

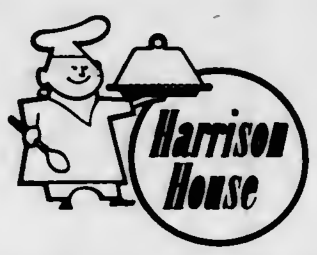
Applicant disclaims the words "Home Program" apart from the mark as shown. Owner of Reg. Nos. 674,342, 803,232, and others.
For Association Services—Namely, Planning, Designing and Distribution of Advertising for Use by Authorized Utilities (Int. Cl. 35).
First use in or about October 1966.

SN 274,254. Super Valu Stores, Inc., Hopkins, Minn. Filed June 19, 1967.

HARRISON HOUSE

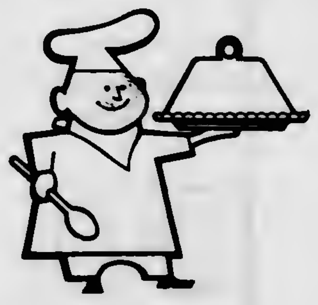
Owner of Reg. No. 722,904.
For Grocery Wholesaling Services, Menu Planning and Recipe Preparation Services, Advertising Services and Cost Analysis Services (Int. Cl. 35).
First use Dec. 15, 1965.

SN 274,255. Super Valu Stores, Inc., Hopkins, Minn. Filed June 19, 1967.



Owner of Reg. No. 722,904.
For Grocery Wholesaling Services, Menu Planning and Recipe Preparation Services, Advertising Services and Cost Analysis Services (Int. Cl. 35).
First use Dec. 15, 1965.

SN 274,258. Super Valu Stores, Inc., Hopkins, Minn. Filed June 19, 1967.



For Grocery Wholesaling Services, Menu Planning and Recipe Preparation Services, Advertising Services and Cost Analysis Services (Int. Cl. 35).
First use Dec. 15, 1965.

SN 275,181. Temporary Talent, Inc., Atlanta, Ga. Filed June 30, 1967.

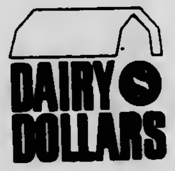
TEMPORARY TALENT

Owner of Reg. No. 733,947.

For Providing Temporary Bookkeeping, Stenographic and Clerical Assistance for Irregular and Usually Short Periods of Time (Int. Cl. 35).

First use May 6, 1952.

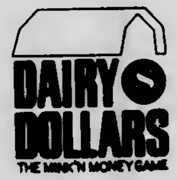
SN 283,722. Goodway, Inc., Philadelphia, Pa., assignee of Screen Star Products, Inc., Philadelphia, Pa. Filed Oct. 30, 1967.



For Promoting the Sale of Dairy Products of Various Producers, by Means of a Contest Involving Prizes Based Upon Distribution of Promotional Packets of Coupons (Int. Cl. 35).

First use Sept. 8, 1967.

SN 284,742. Goodway, Inc., Philadelphia, Pa., assignee of Screen Star Products, Inc., Philadelphia, Pa. Filed Nov. 13, 1967.



Applicant disclaims the word "Game" apart from the mark as shown.

For Promoting the Sale of Dairy Products of Various Producers, by means of a Contest Involving Prizes Based Upon Distribution of Promotional Packets of Coupons (Int. Cl. 35).

First use Sept. 8, 1967.

Class 102 — Insurance and Financial

SN 262,158. The Fund American Companies, San Francisco, Calif. Filed Jan. 9, 1967.

FAMILY MONEY PLAN

For Underwriting of Insurance (Int. Cl. 36).

First use Aug. 10, 1966.

SN 272,701. City National Bank of Detroit, Detroit, Mich. Filed May 31, 1967.

CNB

For Banking Services (Int. Cl. 36).

First use Jan. 17, 1967.

SN 281,182. Executive Fund Life Insurance Company, Omaha, Nebr. Filed Sept. 26, 1967.

EXECUTIVE FUND
Life Insurance Company

"Life Insurance Company" is disclaimed apart from the mark as shown.

For Underwriting Life, Accident, Health, Endowment, and Annuity, Pension and Group Insurance, and the Handling of Loans Issued to Policy Holders (Int. Cl. 36).

First use July 19, 1966.

Class 103 — Construction and Repair

SN 270,744. American District Telegraph Company, New York, N.Y. Filed May 5, 1967.

ADT

Owner of Reg. Nos. 700,676, 826,555, and others.

For Installation, Inspection, Maintenance and Trouble Call Service for Electrical Communication Systems and Equipment—Namely, Amplified Sound Systems and Equipment, Speaker Intercom Systems and Equipment, Telephone Intercom Systems and Equipment, Nurses' Call Systems and Equipment, Message Programming Systems and Equipment, Background Music Systems and Equipment, Paging Systems and Equipment, and Public Address Systems and Equipment (Int. Cl. 37).

First use on or about July 1, 1964.

Class 105 — Transportation and Storage

SN 255,205. Hallmark Cards, Incorporated, d.b.a. Halls, Kansas City, Mo. Filed Sept. 27, 1966.

Halls

For Travel Agency Services (Int. Cl. 39).

First use during December 1965.

SN 283,599. Carey Cadillac Renting Co., Inc., New York, N.Y. Filed Oct. 30, 1967.

CAREY

Owner of Reg. No. 653,597.

For Transportation Services—Namely, Transporting Passengers in Chauffeur Driven Automobiles (Int. Cl. 39).

First use Feb. 1, 1939.

Class 106 — Material Treatment

SN 261,786. Altra Plastics Corporation, Elk Grove Village, Ill. Filed Jan. 3, 1967.

ALTRA

For Machining and Injection Molding of Plastic Parts for Others (Int. Cl. 40).

First use Dec. 9, 1966.

Class 107 — Education and Entertainment

SN 217,103. Fabrica de Discos Fuentes S.A., Medellin, Colombia. Filed Apr. 22, 1965.

CUERDAS QUE LLORAN

The English translation of the mark is "strings that weep."

For Entertainment Services Performed by a Band or Orchestra (Int. Cl. 41).

First use July 1, 1963; in commerce on or about Sept. 1, 1963.

SN 257,602. Mike Finnigan and the Serfs, Wichita, Kans. Filed Oct. 31, 1966.

THE SERFS

For Entertainment Services in the Field of Popular Music Performed by a Group (Int. Cl. 41).

First use in or about March 1964.

SN 266,348. National Association of Junior Executives, Inc., Baltimore, Md. Filed Mar. 9, 1967.

J-E

For Organizing, Promoting and Conducting Social Gatherings and Entertainment for Members of the Applicant Association (Int. Cl. 41).

First use Feb. 11, 1967.

COLLECTIVE MEMBERSHIP MARKS

Class 200

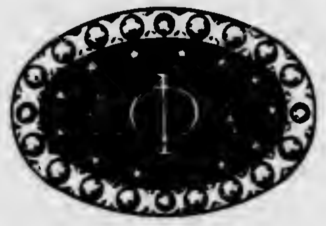
SN 258,407. Phi Sigma Alpha, Kansas City, Mo. Filed Nov. 10, 1966.

PHI SIGMA ALPHA

For Indicating Membership in a Fraternal Organization.

First use Sept. 22, 1960.

SN 258,408. Phi Sigma Alpha, Kansas City, Mo. Filed Nov. 10, 1966.



For Indicating Membership in a Fraternal Organization.

First use Sept. 22, 1960.

SN 260,950. National Soft Drink Association, Washington, D.C. Filed Dec. 16, 1966.

NATIONAL SOFT DRINK ASSOCIATION

For Indicating Membership in Applicant.

First use Nov. 16, 1966.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

847,516. SI-O-FLEX. Stauffer Chemical Company. SN 254,948. Pub. 1–30–68. Filed 9–22–66.

847,517. QUICK GREEN. Seaboard Seed Company. SN 258,155. Pub. 1–30–68. Filed 11–7–66.

847,518. RING AROUND PROTECTION AND DESIGN. Stegall-Sylvest Seed Company, Incorporated. SN 260,451. Pub. 1–30–68. Filed 12–9–66.

847,519. SURREY. H. E. & C. D. Williams, Inc. SN 267,087. Pub. 1–30–68. Filed 3–17–67.

847,520. NU-FLUF. G. Mathes Co., assignee of Cerro Corporation. SN 267,814. Pub. 1–30–68. Filed 3–29–67.

847,521. BEAU. Armour and Company. SN 267,902. Pub. 1–30–68. Filed 3–30–67.

847,522. SHIEK. Armour and Company. SN 267,904. Pub. 1–30–68. Filed 3–30–67.

847,523. BF AND DESIGN. Mitchell Farms. SN 279,988. Pub. 1–30–68. Filed 9–11–67.

847,524. BIN FILLER. Mitchell Farms. SN 279,989. Pub. 1–30–68. Filed 9–11–67.

Class 2 — Receptacles

847,525. PLASTI-BONDED. Diamond National Corporation. SN 244,888. Pub. 1–30–68. Filed 5–4–66.

847,526. IDENTI-DOSE. Eli Lilly and Company. SN 263,456. Pub. 1–30–68. Filed 1–27–67.

847,527. KING TOY TOTER. Loral Corporation. SN 270,939. Pub. 1–30–68. Filed 5–8–67.

847,528. CUP POWER. Scott Paper Company. SN 272,861. Pub. 1–30–68. Filed 6–1–67.

847,529. FLAVOR SERV. Illinois Tool Works Inc. SN 273,198. Pub. 1–30–68. Filed 6–6–67.

847,530. GALAXEE. Bennett Industries, Inc. SN 273,737. Pub. 1–30–68. Filed 6–13–67.

847,531. BALL-IN-THE-BOX. Allied Chemical Corporation. SN 276,622. Pub. 1–30–68. Filed 7–24–67.

847,532. POWELL ETC. AND DESIGN. The Powell Pressed Steel Company. SN 279,516. Pub. 1–30–68. Filed 9–1–67.

Class 4 — Abrasives and Polishing Materials

847,533. PRO-GRIP. Manufacturer's Specialty Co., Inc. MULTIPLE CLASS (Classes 4, 6, 22, 39, 42, 44, and 52). SN 167,562. Pub. 1–30–68. Filed 4–25–63.

847,534. ESQUIRE FLOW PASTE. Knomark, Inc. SN 247,233. Pub. 1–30–68. Filed 6–3–66.

847,535. SILIHONE. South Shore Tool & Development Corporation. SN 250,694. Pub. 1–30–68. Filed 7–20–66.

847,536. SHETLAND. Shetland, Inc., assignee of The Shetland Company, Inc. MULTIPLE CLASS (Classes 4, 21, 23, and 52). SN 255,163. Pub. 1–30–68. Filed 9–27–66.

847,537. KEEN KUT. Ralph Arnold, d.b.a. Northwest Diamond Tool Co. SN 260,812. Pub. 1–30–68. Filed 12–15–66.

847,538. PUREX AND DESIGN. Purex Corporation, Ltd. SN 284,553. Pub. 1–30–68. Filed 11–13–67.

Class 6 — Chemicals and Chemical Compositions

847,533. (See Class 4 for this trademark.)

847,539. ASHLAND AND DESIGN. Ashland Oil & Refining Company. MULTIPLE CLASS (Classes 6 and 15). SN 262,240. Pub. 1–30–68. Filed 1–10–67.

847,540. U.S. BORAX. United States Borax & Chemical Corporation. MULTIPLE CLASS (Classes 6 and 10). SN 265,944. Pub. 1–30–68. Filed 3–6–67.

847,541. RAID. S. C. Johnson & Son, Inc. SN 266,276. Pub. 1–30–68. Filed 3–9–67.

847,542. GALAXY. Colgate-Palmolive Company. SN 267,475. Pub. 1–30–68. Filed 3–22–67.

847,543. GCC. Hysan Products Company. SN 272,189. Pub. 1–30–68. Filed 5–23–67.

847,544. S–G. The Burns & Russell Company of Baltimore City. SN 272,804. Pub. 1–30–68. Filed 6–1–67.

847,545. TRUTEST AND DESIGN. Trutest Laboratories, Inc. SN 272,870. Pub. 1–30–68. Filed 6–1–67.

847,546. CERBALATE. The Dow Chemical Company. SN 275,840. Pub. 1–30–68. Filed 7–12–67.

847,547. BLACKOUT. General Aniline & Film Corporation. SN 275,926. Pub. 1–30–68. Filed 7–13–67.

847,548. QUIX. General Aniline & Film Corporation. SN 275,927. Pub. 1–30–68. Filed 7–13–67.

847,549. BURKEM. General Aniline & Film Corporation. SN 275,928. Pub. 1–30–68. Filed 7–13–67.

847,550. BURFIX. General Aniline & Film Corporation. SN 275,930. Pub. 1–30–68. Filed 7–13–67.

847,551. ACRYLOFT. General Aniline & Film Corporation. SN 275,932. Pub. 1–30–68. Filed 7–13–67.

847,552. KEMPLEX. General Aniline & Film Corporation. SN 275,933. Pub. 1–30–68. Filed 7–13–67.

847,553. PEEM. General Aniline & Film Corporation. SN 275,934. Pub. 1–30–68. Filed 7–13–67.

847,554. BURKESTER. General Aniline & Film Corporation. SN 275,936. Pub. 1–30–68. Filed 7–13–67.

847,555. HY-PEL. General Aniline & Film Corporation. SN 275,937. Pub. 1–30–68. Filed 7–13–67.

847,556. AROMOL. General Aniline & Film Corporation. SN 275,938. Pub. 1–30–68. Filed 7–13–67.

847,557. FIBACON. General Aniline & Film Corporation. SN 275,939. Pub. 1–30–68. Filed 7–13–67.

847,558. PURR. General Aniline & Film Corporation. SN 275,940. Pub. 1–30–68. Filed 7–13–67.

847,559. GUEST. Geigy Chemical Corporation. SN 276,119. Pub. 1–30–68. Filed 7–17–67.

847,560. REACTOFIL. Geigy Chemical Corporation. SN 276,120. Pub. 1–30–68. Filed 7–17–67.

847,561. PRO-TOX. Geigy Chemical Corporation. SN 276,121. Pub. 1–30–68. Filed 7–17–67.

847,562. WET-IT. Stauffer Chemical Company. SN 278,855. Pub. 1–30–68. Filed 8–23–67.

847,563. R RINGWOOD CHEMICALS AND DESIGN. Morton International, Inc. SN 283,395. Pub. 1–30–68. Filed 10–26–67.

847,564. YOU'LL FIND THE WOMAN'S TOUCH IN EVERY PUREX PRODUCT. Purex Corporation, Ltd. SN 285,096. Pub. 1–30–68. Filed 11–17–67.

Class 7 — Cordage

847,565. TONETTE. CPS Industries, Inc. SN 261,456. Pub. 1–30–68. Filed 12–27–66.

847,566. CERTIFIED AND DESIGN. National Cooperatives, Inc. SN 267,540. Pub. 1–30–68. Filed 8–24–67.

Class 8 — Smokers' Articles, Not Including Tobacco Products

847,567. CASTELLO AND DESIGN. Carlo Scotti. SN 227,776. Pub. 5–10–66. Filed 9–14–65.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

847,568. TITAN. Elg Cutlery, Inc. SN 263,902. Pub. 1–30–68. Filed 2–3–67.

Class 10 — Fertilizers

847,540. (See Class 6 for this trademark.)

847,569. QUIK-KIK. F. S. Royster Guano Co. SN 266,929. Pub. 9–5–67. Filed 3–16–67.

Class 11 — Inks and Inking Materials

847,570. DIAGRAPH AND DESIGN. Diagraph-Bradley Industries, Inc. MULTIPLE CLASS (Classes 11, 23, and 37). SN 240,045. Pub. 1–30–68. Filed 3–3–66.

847,571. WEBVAR. Lawter Chemicals, Inc. SN 257,715. Pub. 1–30–68. Filed 11–1–66.

Class 12 — Construction Materials

847,572. MONTEGO. Doughboy Industries, Inc. MULTIPLE CLASS (Classes 12 and 22). SN 250,422. Pub. 1–30–68. Filed 7–18–66.

847,573. SANIGLAS. Owens-Corning Fiberglas Corporation. SN 256,588. Pub. 8–1–67. Filed 10–17–66.

847,574. THE VACATIONER. Sylvan Pools, Inc. SN 259,589. Pub. 1–30–68. Filed 11–28–66.

847,575. MAASGLAS. Machinale Glasfabriek de Maas N.V. SN 260,258. Pub. 1–30–68. Filed 12–7–66.

847,576. EDJOINT. L & M-Surco Mfg., Inc. SN 267,953. Pub. 1–30–68. Filed 3–30–67.

847,577. SHADOW GROOVE. Simpson Timber Company. SN 267,988. Pub. 1–30–68. Filed 3–30–67.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

847,578. TAPER-TIGHT. Briles Manufacturing, assignee of Taper Bolt & Fastener Co. SN 224,566. Pub. 3–8–66. Filed 7–29–65.

847,579. NOCORR 26 AND DESIGN. Aktiebolaget Nordiska Armaturfabrikerna. SN 252,062. Pub. 1–30–68. Filed 8–10–66.

Class 15 — Oils and Greases

847,539. (See Class 6 for this trademark.)

847,580. DRUM MAJOR (DESIGN). Major Petroleum Company. SN 253,664. Pub. 7–25–67. Filed 9–1–66.

Class 16 — Protective and Decorative Coatings

847,581. PARCOLITE. Hooker Chemical Corporation. SN 249,768. Pub. 1–30–68. Filed 7–7–66.

Class 18 — Medicines and Pharmaceutical Preparations

847,582. NEUTRALIZE AND DESIGN. E. D. Bullard Company. SN 227,118. Pub. 1–30–68. Filed 9–3–65.

Class 19 — Vehicles

847,583. REDHEAD. Molded Fiber Glass Body Company. SN 244,235. Pub. 3–7–67. Filed 4–25–66.

Class 20 — Linoleum and Oiled Cloth

847,584. WIZARD. Western Auto Supply Company. SN 250,068. Pub. 1–30–68. Filed 7–11–66.

847,585. SOMMER AND DESIGN. Francois Sommer and Pierre Sommer (joint owners). MULTIPLE CLASS (Classes 20 and 42). SN 264,467. Pub. 1–30–68. Filed 2–13–67.

Class 21 — Electrical Apparatus, Machines, and Supplies

847,536. (See Class 4 for this trademark.)

847,586. LINK-BOY. York Lighting, Inc. SN 244,946. Pub. 2–21–67. Filed 5–4–66.

847,587. THUNDERBOLT. Kiekhaefer Corporation. SN 248,815. Pub. 5–23–67. Filed 6–23–66.

847,588. WIZARD. Western Auto Supply Company. SN 248,869. Pub. 10–17–67. Filed 6–23–66.

Class 22 — Games, Toys, and Sporting Goods

847,533. (See Class 4 for this trademark.)

847,572. (See Class 12 for this trademark.)

847,589. THE MAN FROM M.U.S.C.L.E. Gabriel Industries, Inc. SN 230,814. Pub. 1–30–68. Filed 10–21–65.

847,590. MUSTANG. Plymouth Golf Ball Sales Company. SN 233,428. Pub. 6–28–66. Filed 11–23–65.

847,591. KADET KARBINE. Kadets of America, Inc., assignee of Kadets of America. SN 236,610. Pub. 1–30–68. Filed 1–17–66.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

847,536. (See Class 4 for this trademark.)

847,570. (See Class 11 for this trademark.)

847,592. CO-WE-MAT. Zinser-Textilmaschinen Gesellschaft mit beschränkter Haftung. SN 246,419. Pub. 1–30–68. Filed 5–23–66.

847,593. TAPER-TINES. Rockwell-Standard Corporation. SN 250,692. Pub. 1–30–68. Filed 7–20–66.

Class 25 — Locks and Safes

847,594. MOBUS AND DESIGN. Zeichnungs-Ordner "Mobus" DRP, Karl Mobus. MULTIPLE CLASS (Classes 25 and 32). SN 253,584. Pub. 1–30–68. Filed 9–1–66.

847,595. LOCKMATE. Kenneth H. Briggs, d.b.a. Shaw Products Company. SN 280,546. Pub. 1–30–68. Filed 9–18–67.

Class 26 — Measuring and Scientific Appliances

847,596. PLIMPTON'S. Litton Business Systems, Inc., by change of name from Monroe International, Inc. SN 236,622. Pub. 1–30–68. Filed 1–17–66.

847,597. CASHCON. A. O. Smith Corporation. SN 242,059. Pub. 1–30–68. Filed 3–28–66.

847,598. PIN-IT AND DESIGN. Orco Products, Inc. SN 245,222. Pub. 7–11–67. Filed 5–9–66.

847,599. MIRADEX. General Aniline & Film Corporation. SN 253,967. Pub. 8–8–67. Filed 9–7–66.

847,600. NORTH STAR. Rand Manufacturing Company. SN 264,584. Pub. 11–14–67. Filed 2–13–67.

Class 28 — Jewelry and Precious-Metal Ware

847,601. E & CO AND DESIGN. British Silverware Limited. SN 268,863. Pub. 1–30–68. Filed 4–11–67.

847,602. SILVER ARTISTRY. Oneida Ltd. SN 271,272. Pub. 1–30–68. Filed 5–11–67.

Class 29 — Brooms, Brushes, and Dusters

847,603. LONDON GIRL. Studio Wig Designers, Inc. MULTIPLE CLASS (Classes 29 and 40). SN 280,646. Pub. 1–30–68. Filed 9–18–67.

Class 32 — Furniture and Upholstery

847,594. (See Class 25 for this trademark.)

847,604. SERENDARA. Tomlinson of High Point. SN 195,467. Pub. 11–2–65. Filed 6–10–64.

847,605. PLIMPTON'S. Litton Business Systems, Inc., by change of name from Monroe International, Inc. SN 236,623. Pub. 1–30–68. Filed 1–17–66.

847,606. YEARS AGO. Geo. Brothers. SN 273,474. Pub. 1–30–68. Filed 6–9–67.

Class 33 — Glassware

847,607. GEM STONE. Anchor Hocking Glass Corporation. SN 269,616. Pub. 1–30–68. Filed 4–20–67.

847,608. PPG INDUSTRIES. Pittsburgh Plate Glass Company. SN 276,390. Pub. 1–30–68. Filed 7–20–67.

Class 34 — Heating, Lighting, and Ventilating Apparatus

847,609. TRAC-ROD. Air Reduction Company, Incorporated. SN 252,936. Pub. 1–30–68. Filed 8–23–66.

847,610. THE MONTICELLO AND DESIGN. Vernois, Inc. SN 274,794. Pub. 1–30–68. Filed 6–26–67.

Class 36 — Musical Instruments and Supplies

847,611. CADET. Chess Producing Corporation. SN 235,387. Pub. 1–30–68. Filed 12–28–65.

847,612. AUDEV. Audio Devices, Inc. SN 246,744. Pub. 1–30–68. Filed 5–27–66.

847,613. CIRCULAR DESIGN. Audio Devices, Inc. SN 246,853. Pub. 1–30–68. Filed 5–31–66.

847,614. DALE LECTRONIC AND DESIGN. Dale Electronics, Inc. SN 251,122. Pub. 1–30–68. Filed 7–27–66.

847,615. FENDER RHODES AND DESIGN. Columbia Broadcasting System, Inc. SN 270,195. Pub. 1–30–68. Filed 4–28–67.

Class 37 — Paper and Stationery

847,570. (See Class 11 for this trademark.)

847,616. PLIMPTON'S. Litton Business Systems, Inc. by change of name from Monroe International, Inc. SN 236,624. Pub. 1–30–68. Filed 1–17–66.

847,617. THE TIME OF YOUR LIFE. Louis Van Wieren, d.b.a. The Time of Your Life. SN 255,489. Pub. 1–30–68. Filed 9–29–66.

847,618. JOBIT (JOB ITEMIZATION). James M. Herman. SN 260,429. Pub. 1–30–68. Filed 12–9–66.

847,619. PUMPENCIL AND DESIGN. Dur-O-Lite Pencil Company. SN 266,312. Pub. 1–30–68. Filed 3–9–67.

847,620. RECORDINE. Esleeck Manufacturing Company. SN 267,620. Pub. 1–30–68. Filed 3–27–67.

847,621. CUT-RITE. Scott Paper Company. SN 276,478. Pub. 1–30–68. Filed 7–20–67.

Class 38 — Prints and Publications

847,622. PLIMPTON'S. Litton Business Systems, Inc., by change of name from Monroe International, Inc. SN 236,625. Pub. 1–30–68. Filed 1–17–66.

847,623. FUN 'N EASY. Pointer System, Inc. SN 248,735. Pub. 1–30–68. Filed 6–22–66.

847,624. AMERICAN MODELER. Potomac Aviation Publications, Inc. SN 252,748. Pub. 1–30–68. Filed 8–19–66.

847,625. DANIELS SPECIALTY COMPANY ETC. AND DESIGN. Daniels Specialty Co. SN 254,865. Pub. 1–30–68. Filed 9–21–66.

847,626. TEEN-AGE LEADER. Clairol Incorporated. SN 254,989. Pub. 1–30–68. Filed 9–23–66.

847,627. MISCELLANEOUS DESIGN. Horizon House-Microwave, Inc. SN 256,403. Pub. 1–30–68. Filed 9–30–66.

847,628. FLICKER. Visual Impact, Inc. SN 256,784. Pub. 1–30–68. Filed 10–19–66.

847,629. GUIDE FOR OFFICERS OF BAPTIST MEN AND BAPTIST YOUNG MEN. Brotherhood Commission of the Southern Baptist Convention. SN 257,160. Pub. 1–30–68. Filed 10–25–66.

847,630. TELEGRAPHIC WARNING SERVICE AND DESIGN. James Dines & Co., Inc. SN 260,534. Pub. 1–30–68. Filed 12–12–66.

847,631. MISCELLANEOUS DESIGN. James Dines & Co., Inc. SN 260,535. Pub. 1–30–68. Filed 12–12–66.

847,632. PAFLIBE AND DESIGN. Dines Chart Corporation. SN 260,831. Pub. 1–30–68. Filed 12–15–66.

847,633. PAFLIBE. Dines Chart Corporation. SN 260,832. Pub. 1–30–68. Filed 12–15–66.

847,634. BOOK AND DESIGN. Dines Chart Corporation. SN 260,833. Pub. 1–30–68. Filed 12–15–66.

847,635. MISCELLANEOUS DESIGN. Dines Chart Corporation. SN 262,409. Pub. 1–30–68. Filed 1–12–67.

847,636. CAPITALIST BOOKCLUB AND DESIGN. Dines Chart Corporation. SN 262,410. Pub. 1–30–68. Filed 1–12–67.

847,637. CAPITALIST BOOK CLUB. Dines Chart Corporation. SN 262,411. Pub. 1–30–68. Filed 1–12–67.

847,638. ANALOGY. Allstate Insurance Company. SN 262,554. Pub. 1–30–68. Filed 1–16–67.

847,639. THE SURVEYOR. The Surveyor, Inc. SN 263,625. Pub. 1–30–68. Filed 1–30–67.

847,640. PROTECT. Advance Industrial Security, Inc. SN 265,257. Pub. 1–30–68. Filed 2–23–67.

847,641. THE EAST VILLAGE OTHER AND DESIGN. The East Village Other, Inc. SN 265,502. Pub. 1–30–68. Filed 2–27–67.

847,642. THE GOVERNMENT CONTRACTOR'S COMMUNIQUE. Federal Publications, Inc. SN 266,318. Pub. 1–30–68. Filed 3–9–67.

847,643. SOUTHERN LIVING. The Progressive Farmer Company. SN 266,451. Pub. 1–30–68. Filed 3–10–67.

847,644. U.S. NEWS & WORLD REPORT. U.S. News & World Report, Inc. SN 267,998. Pub. 1–30–68. Filed 3–30–67.

847,645. DISCUS BOOKS AND DESIGN. The Hearst Corporation. SN 285,091. Pub. 1–30–68. Filed 11–17–67.

847,646. PANTONE. Pantone Incorporated, d.b.a. Pantone Inc. SN 285,173. Pub. 1–30–68. Filed 11–20–67.

Class 39 — Clothing

847,533. (See Class 4 for this trademark.)

847,647. PONDEROSA AND DESIGN. Endicott Johnson Corporation, assignee of Capital-Mercury Shirt Corp. SN 225,005. Pub. 10–4–66. Filed 8–5–65.

847,648. "WONDER-PRESS." New Era Shirt Company. SN 232,083. Pub. 10–18–66. Filed 11–3–65.

847,649. HANES. Hanes Corporation. SN 236,889. Pub. 1–30–68. Filed 1–20–66.

847,650. WHO AND DESIGN. Who, Inc. SN 247,988. Pub. 1–30–68. Filed 6–13–66.

847,651. ODLO. Doro Ltd., d.b.a. M. & M. Imports. SN 252,832. Pub. 1–30–68. Filed 8–22–66.

847,652. ENVIR-ASEPTIC. Angelica Corporation, by change of name from Angelica Uniform Company. SN 255,054. Pub. 1–30–68. Filed 9–26–66.

847,653. STYLE CLAD. Aldens, Inc. SN 259,068. Pub. 1–30–68. Filed 11–21–66.

847,654. CALF-CARRIER. Burlington Industries, Inc. SN 268,865. Pub. 1–30–68. Filed 4–11–67.

847,655. YOUNG-MATE. Spartans Industries, Inc. SN 269,119. Pub. 1–30–68. Filed 4–13–67.

847,656. PUMP ROOM. The Pump Room Shoes, Inc. SN 269,686. Pub. 1–30–68. Filed 4–20–67.

847,657. ESKIPADES. Dunham Brothers Company. SN 269,980. Pub. 1–30–68. Filed 4–25–67.

847,658. HAGGAR SLACKS "THE JUST FIT BETTER NATURALLY" AND DESIGN. Haggar Company. SN 270,678. Pub. 1–30–68. Filed 5–4–67.

847,659. GREGG DRADDY. Gregg Draddy, Inc. SN 285,088. Pub. 1–30–68. Filed 11–17–67.

Class 40 — Fancy Goods, Furnishings, and Notions

847,603. (See Class 29 for this trademark.)

847,660. MINIGRIP. Silbro Products Corporation. SN 233,750. Pub. 5–9–67. Filed 12–1–65.

847,661. MARJORY. Luis Pinon Quintana. SN 269,958. Pub. 1–30–68. Filed 4–25–67.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

847,533. (See Class 4 for this trademark.)

847,585. (See Class 20 for this trademark.)

847,662. SPANDEROSA. Canton Textile Mills, Inc. SN 272,162. Pub. 1–30–68. Filed 5–23–67.

847,663. CULPEPPER. Dan River Mills, Incorporated. SN 272,712. Pub. 1–30–68. Filed 5–31–67.

Class 43 — Thread and Yarn

847,664. SUZANNAH. Summers & Oppenheim, Inc. SN 270,012. Pub. 1–30–68. Filed 4–25–67.

Class 44 — Dental, Medical, and Surgical Appliances

847,533. (See Class 4 for this trademark.)

847,665. SAF·T·COIL. Julius Schmid, Inc., assignee of Deseret Pharmaceutical Company. SN 227,266. Pub. 1–30–66. Filed 9–7–65.

847,666. MEDICUT. Brunswick Corporation. SN 254,860. Pub. 1–30–68. Filed 9–21–66.

847,667. UROTHAIDS. Professional Disposable Products, Inc. SN 261,397. Pub. 1–30–68. Filed 12–23–66.

847,668. HANDI-GRIP. Popper & Sons, Inc. SN 264,236. Pub. 1–30–68. Filed 2–8–67.

847,669. DISPOS-A-WAY. The Foregger Company, Inc. SN 264,401. Pub. 1–30–68. Filed 2–10–67.

847,670. BULLARD. E. D. Bullard Company. SN 264,908. Pub. 1–30–68. Filed 2–17–67.

847,671. LITE SET. Welch Allyn, Inc. SN 267,365. Pub. 1–30–68. Filed 3–22–67.

847,672. WILL-GOLD. Williams Gold Refining Company Incorporated. SN 270,094. Pub. 1–30–68. Filed 4–26–67.

847,673. KOTEX-ULTRA. Kimberly-Clark Corporation. SN 270,141. Pub. 1–30–68. Filed 4–27–67.

Class 45 — Soft Drinks and Carbonated Waters

847,674. MAUNA KEA. Orrell's Food Products, Inc. SN 269,204. Pub. 1–30–68. Filed 4–14–67.

Class 46 — Foods and Ingredients of Foods

847,675. CINNAMINT. Philip Morris Incorporated, d.b.a. Clark Gum Co. SN 191,702. Pub. 6–29–65. Filed 4–21–64.

847,676. KREY PORKY JOES. Krey Packing Company. SN 218,781. Pub. 1–3–67. Filed 5–13–65.

847,677. WILLIAMSBURG FARMS. Lewis J. Ort. SN 229,996. Pub. 1–30–68. Filed 10–12–65.

847,678. TRIO. Carnation Company. SN 237,304. Pub. 1–30–68. Filed 1–26–66.

847,679. BLU-ZING. National Dairy Products Corporation. SN 244,723. Pub. 5–23–67. Filed 5–2–66.

847,680. DURKEE FAMOUS FOODS D AND DESIGN. SCM Corporation, assignee of The Glidden Company. SN 249,976. Pub. 1–30–68. Filed 7–11–66.

847,681. HIGHLAND. HCA Food Corporation. SN 251,722. Pub. 1–30–68. Filed 8–4–66.

847,682. ALSATIAN BRAND. John Krauss, Incorporated. SN 252,107. Pub. 1–30–68. Filed 8–10–66.

847,683. GROTESQUE FISH (DESIGN). Strohmeyer & Arpe Company. SN 253,356. Pub. 1–30–68. Filed 8–29–66.

847,684. YULE LOG. Fine Products Company, Inc., d.b.a. Betty Benson Fine Candles. SN 258,683. Pub. 1–30–68. Filed 11–15–66.

847,685. ANITA LEWIS QUALITY AND DESIGN. Neisner Brothers, Inc. SN 260,760. Pub. 1–30–68. Filed 12–14–66.

847,686. X–M. Riviana Foods Inc. SN 261,104. Pub. 1–30–68. Filed 12–19–66.

847,687. COLONY HOUSE. Prestige Foods, Inc. SN 262,440. Pub. 1–30–68. Filed 1–12–67.

847,688. HASTY HEARTH. Armour and Company. SN 263,006. Pub. 1–30–68. Filed 1–23–67.

847,689. BELLEZZA. Anthony Castello, d.b.a. Castello Packing Company. SN 263,532. Pub. 1–30–68. Filed 1–30–67.

847,690. CASPRO. Castle Products Company. SN 265,270. Pub. 1–30–68. Filed 2–23–67.

847,691. VITA-SLIM. David Freedman & Co., Inc. SN 265,462. Pub. 5–9–67. Filed 2–27–67.

847,692. BROWN'S AND DESIGN. Brown's Fried Chicken, Inc. SN 267,722. Pub. 1–30–68. Filed 3–28–67.

847,693. FELCOFRESH. Felton Chemical Company, Inc. SN 268,719. Pub. 1–30–68. Filed 4–10–67.

847,694. FAVORITE. A. Bertolla & Sons. SN 271,433. Pub. 1–30–68. Filed 5–15–67.

847,695. WIZARD. Seaboard Allied Milling Corporation, d.b.a. Rodney Milling Company. SN 271,533. Pub. 1–30–68. Filed 5–15–67.

847,696. HATFIELD AND DESIGN. Hatfield Packing Company, Inc. SN 271,706. Pub. 1–30–68. Filed 5–17–67.

847,697. SHRIMP ROYALE. Chicken Delight, Inc. SN 272,258. Pub. 1–30–68. Filed 5–24–67.

847,698. MIRA-QUIK. A. E. Staley Manufacturing Company. SN 275,796. Pub. 1–30–68. Filed 7–11–67.

Class 47 — Wines

847,699. FATHER RHINE. Gustav Adolf Schmitt'scnes Weingut. SN 251,299. Pub. 1–30–68. Filed 7–29–66.

847,700. LORENZO DE'MEDICI "IL MAGNIFICO" AND DESIGN. Societa per Azioni Chianti Ruffino Esportazione Vinicola Toscana. SN 267,990. Pub. 1–30–68. Filed 3–30–67.

847,701. DRY WIT. Llords & Elwood Winery. SN 268,204. Pub. 1–30–68. Filed 4–3–67.

847,702. MISCELLANEOUS DESIGN. H. Sichel Son, Inc., assignee of Sichel & Fils Freres. SN 270,714. Pub. 1–30–68. Filed 5–4–67.

Class 49 — Distilled Alcoholic Liquors

847,703. CHARRETTE. Kobrand Corporation. SN 282,958. Pub. 1–30–68. Filed 10–20–67.

847,704. BOND HALL. Charles Jacquin et Cie., Inc. SN 285,485. Pub. 1–30–68. Filed 11–24–67.

Class 50 — Merchandise Not Otherwise Classified

847,705. CHESTNUT HILL STUDIO. Arthur B. Cowles. SN 260,799. Pub. 1–30–68. Filed 12–15–66.

847,706. REST OF TIME. Jack Brown, d.b.a. Rest of Time Enterprises. SN 270,350. Pub. 1–30–68. Filed 5–1–67.

847,707. TOWN 'N COUNTRY. Armour and Company. SN 284,793. Pub. 1–30–68. Filed 11–14–67.

847,708. STAKE CHASER. Smicarr, Inc. SN 284,944. Pub. 1–30–68. Filed 11–15–67.

Class 51 — Cosmetics and Toilet Preparations

847,709. AMWAY. Amway Corporation. SN 243,296. Pub. 1–30–68. Filed 4–13–66.

847,710. ON THE ROCKS. Lawrence Palmer, Inc. SN 254,713. Pub. 1–30–68. Filed 9–19–66.

847,711. MAN TO MAN. Helene Curtis Industries, Inc. SN 254,935. Pub. 1–30–68. Filed 9–22–66.

847,712. NEW CONCEPT AND DESIGN. Shaklee Products. SN 255,826. Pub. 1–30–68. Filed 10–5–66.

847,713. GLORIOUS. Viviane Woodard Corporation. SN 256,250. Pub. 1–30–68. Filed 10–11–66.

847,714. REFLECTA. Texas Pharmacal Company. SN 260,199. Pub. 1–30–68. Filed 12–6–66.

847,715. MISCELLANEOUS DESIGN. Sales Affiliates, Inc. SN 269,110. Pub. 1–30–68. Filed 4–13–67.

847,716. POLY-PRO. Helene Curtis Industries, Inc. SN 269,186. Pub. 1–30–68. Filed 4–14–67.

847,717. BRECK. John H. Breck, Inc. SN 269,286. Pub. 1–30–68. Filed 4–17–67.

847,718. SLICKERINGO. Yardley of London, Inc. SN 269,371. Pub. 1–30–68. Filed 4–17–67.

847,719. SUNNY. Clairol Incorporated. SN 269,516. Pub. 1–30–68. Filed 4–19–67.

847,720. PRESCRIPTION IV. Clairol Incorporated. MULTIPLE CLASS (Classes 51 and 52). SN 270,527. Pub. 1–30–68. Filed 5–3–67.

847,721. CHAMPAGNE CURL. Samuel Bonat & Bro., Inc. SN 270,658. Pub. 1–30–68. Filed 5–4–67.

847,722. FLOWER POWER. Helena Rubinstein, Inc. SN 279,292. Pub. 1–30–68. Filed 8–29–67.

847,723. BRIFFA. Robert Miles Sherman, d.b.a. Madeleine de Martel Cosmetics. SN 279,991. Pub. 1–30–68. Filed 9–11–67.

847,724. MATADOR. Eversharp, Inc. SN 280,673. Pub. 1–30–68. Filed 9–19–67.

847,725. MOOD MAKER. Shulton, Inc. SN 284,971. Pub. 1–30–68. Filed 11–16–67.

Class 52 — Detergents and Soaps

847,533. (See Class 4 for this trademark.)

847,536. (See Class 4 for this trademark.)

847,720. (See Class 51 for this trademark.)

847,726. FUNNY SUDS AND DESIGN. Rexall Drug and Chemical Company, d.b.a. Carnegie Laboratories. SN 223,721. Pub. 8–16–66. Filed 7–19–65.

847,727. FASHION FRESH. Amole, Incorporated, assignee of Cowles Chemical Company. SN 254,134. Pub. 1–30–68. Filed 9–9–66.

847,728. AT-EASE. Shaklee Products. SN 255,824. Pub. 1–30–68. Filed 10–5–66.

847,729. PERMA-GEL. Helene Curtis Industries, Inc., d.b.a. Helene Curtis. SN 258,898. Pub. 1–30–68. Filed 11–17–66.

847,730. VATRON PCA. Baron Blakeslee Incorporated. SN 260,716. Pub. 1–30–68. Filed 12–14–66.

847,731. VATRON TF. Baron Blakeslee Incorporated. SN 260,717. Pub. 1–30–68. Filed 12–14–66.

847,732. SPRED. SCM Corporation, assignee of The Glidden Company. SN 262,420. Pub. 1–30–68. Filed 1–12–67.

847,733. AQUILAUN. Stanley Home Products, Inc. SN 266,368. Pub. 1–30–68. Filed 3–9–67.

847,734. ELEVATE. Wyandotte Chemicals Corporation. SN 266,819. Pub. 1–30–68. Filed 3–15–67.

847,735. MELMOR. Wyandotte Chemicals Corporation. SN 266,820. Pub. 1–30–68. Filed 3–15–67.

847,736. LIFT-OFF. Kurfees Paint Co. SN 267,160. Pub. 1–30–68. Filed 3–20–67.

847,737. BURST. Colgate-Palmolive Company. SN 267,474. Pub. 1–30–68. Filed 3–22–67.

847,738. GALAXY. Colgate-Palmolive Company. SN 267,476. Pub. 1–30–68. Filed 3–22–67.

847,739. COUNTRY FAIR ETC. AND DESIGN. Wolff Products Co. SN 279,157. Pub. 1–30–68. Filed 8–28–67.

847,740. PUREX AND DESIGN. Purex Corporation, Ltd. SN 284,556. Pub. 1–30–68. Filed 11–13–67.

Service Marks

Class 100 — Miscellaneous

847,741. SCANDIA HOUSE SMORGASBORD AND DESIGN. Sveden House Developers, International, Inc., assignee of Northwest Systems Corporation. SN 243,888. Pub. 3–7–67. Filed 4–20–66.

847 742. ZUIDER ZEE. Zuider Zee Oyster Bar, Inc. SN 247,283. Pub. 1–30–68. Filed 6–3–66.

847,743. QUANTUM. Quantum, Incorporated. SN 249,877. Pub. 1–30–68. Filed 7–8–66.

847,744. G-E L AND DESIGN. Geo-Engineering Laboratories, Inc. SN 250,661. Pub. 1–30–68. Filed 7–20–66.

847,745. SYSTEMETRICS. Real Estate Research Corporation. SN 258,404. Pub. 1–30–68. Filed 11–10–66.

847,746. STOP GO DRIVE-IN AND DESIGN. Holmes & Holmes. SN 260,155. Pub. 1–30–68. Filed 12–6–66.

847,747. RAY-SAFE ASSOCIATES AND DESIGN. Ray-Safe Associates. SN 260,768. Pub. 1–30–68. Filed 12–14–66.

847,748. SOMEBODY'S HOUSE AND DESIGN. Somebody's House, Inc. SN 266,937. Pub. 1–30–68. Filed 3–16–67.

847,749. SOMEBODY'S HOUSE. Somebody's House, Inc. SN 266,938. Pub. 1–30–68. Filed 3–16–67.

847,750. DIAL-A-HEARING. Sertoma International. SN 267,857. Pub. 1–30–68. Filed 3–29–67.

847,751. THE BLUE FOX AND DESIGN. Blue Fox, Inc. SN 280,668. Pub. 1–30–68. Filed 9–19–67.

847,752. MISCELLANEOUS DESIGN. DCA Food Industries, Inc. SN 284,330. Pub. 1–30–68. Filed 11–8–67.

847,753. KRISTYS. Tekton Builders & Suppliers, Inc. SN 285,297. Pub. 1–30–68. Filed 11–21–67.

847,754. KRISTYS AND DESIGN. Tekton Builders & Suppliers, Inc. SN 285,298. Pub. 1–30–68. Filed 11–21–67.

Class 101 — Advertising and Business

847,755. MR. LUCKY. Dale E. Liken. SN 236,833. Pub. 1–30–68. Filed 1–19–66.

847,756. SYNTHESE DIMENSIONNELLE. Jean-Francois Canguilhem. SN 249,839. Pub. 1–30–68. Filed 7–8–66.

847,757. OUR GIFT GALLERY AND DESIGN. Enesco Imports, Inc. SN 261,576. Pub. 1–30–68. Filed 12–28–66.

847,758. AMERI-COM AND DESIGN. Geo-Com. SN 263,826. Pub. 1–30–68. Filed 2–2–67.

847,759. SSK AND DESIGN. S. S. Kresge Company. SN 267,637. Pub. 1–30–68. Filed 3–27–67.

847,760. PRINTERLINK AND DESIGN. Bowne & Co., Incorporated. SN 282,510. Pub. 1–30–68. Filed 10–16–67.

Class 102 — Insurance and Financial

847,761. B OF A. Bank of America National Trust and Savings Association. SN 261,449. Pub. 1–30–68. Filed 12–27–66.

847,762. ·R·F·C·U· AND DESIGN. Redstone Federal Credit Union. SN 262,617. Pub. 1–30–68. Filed 1–16–67.

847,763. EXECUTIVE CREDIT. American Express Company. SN 263,519. Pub. 1–30–68. Filed 1–30–67.

847,764. SECURITY PLUS. Old American Insurance Company. SN 267,176. Pub. 1–30–68. Filed 3–20–67.

847,765. CC AND DESIGN. Georgia International Life Insurance Company. SN 268,400. Pub. 1–30–68. Filed 4–5–67.

847,766. SECURITY FIRST NATIONAL BANK ETC. AND DESIGN. Security First National Bank. SN 275,353. Pub. 1–30–68. Filed 7–5–67.

847,767. TRANSACTION. Transamerica Insurance Company. SN 280,379. Pub. 1–30–68. Filed 9–15–67.

Class 103 — Construction and Repair

847,768. JEFFBOAT AND DESIGN. Jeffboat, Incorporated. SN 265,423. Pub. 1–30–68. Filed 2–24–67.

847,769. MISCELLANEOUS DESIGN. Air Treads Inc. SN 267,898. Pub. 1–30–68. Filed 3–30–67.

847,770. MISCELLANEOUS DESIGN. Motorola, Inc. SN 267,966. Pub. 1–30–68. Filed 3–30–67.

847,771. MIDAS. Midas, Inc. SN 268,056. Pub. 1–30–68. Filed 3–31–67.

847,772. TERMINAL AND DESIGN. Terminal Cleaning Contractors Inc. SN 284,558. Pub. 1–30–68. Filed 11–13–67.

Class 104 — Communication

847,773. GROUP W. Westinghouse Broadcasting Company Inc. SN 247,654. Pub. 1–30–68. Filed 6–8–66.

847,774. DICTAFAX. Dictaphone Corporation. SN 265,282. Pub. 1–30–68. Filed 2–23–67.

Class 105 — Transportation and Storage

847,775. ROYAL TRAVEL SERVICE. Harold's Tours, Inc., d.b.a. Royal Travel Service. SN 249,006. Pub. 8–22–67. Filed 6–27–66.

847,776. ROYAL VIKING TOUR. Sandberg Travel Bureau, Inc., d.b.a. Sandberg Travel Tours. SN 261,523. Pub. 10–24–67. Filed 12–27–66.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 1 — Raw or Partly Prepared Materials

847,777. American Poly-Plastics Laboratories, Inc., d.b.a. General Laboratories Division, Arlington, Mass. SN 286,459. Filed P.R. 12–8–67; Am. S.R. 2–12–68.

MOCK-UP-HARD-COAT

For Resins for Hardening the Exterior of Plastic Modeling Material in Block Form (Int. Cl. 1).

First use May 26, 1964.

Class 2 — Receptacles

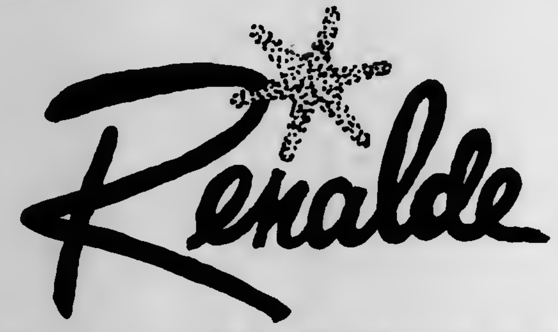
847,778. Florence E. Sloat, d.b.a. Safe-T-Mailer Co., Westport, Conn. SN 264,253. Filed P.R. 2–8–67; Am. S.R. 12–20–67.

Safe-T-Mailer

For Protective Mailer Comprising Two Overlapping Panel Sections Having Corrugated Sheets for Their Inner Faces for Mailing Coins and the Like (Int. Cl. 16).
First use Dec. 1, 1966.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

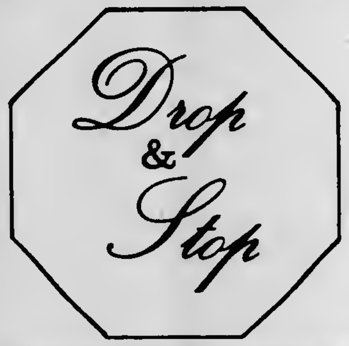
847,779. Renalde, Crockett & Kelly Inc., Denver, Colo., by change of name from Crockett and Renalde Bit and Spur Co., Denver, Colo. SN 253,633. Filed P.R. 9-1-66; Am. S.R. 2-5-68.



For Bits, Spurs, and Saddle Hardware (Int. Cl. 18).
First use on or about Feb. 28, 1966.

Class 6 — Chemicals and Chemical Compositions

847,780. Com-Pak Chemical Corporation, Shakopee, Minn. SN 269,713. Filed P.R. 4-14-67; Am. S.R. 2-1-68.



For Chemical Deodorant for Household and Industrial Use (Int. Cl. 5).
First use Jan. 19, 1967.

Class 11 — Inks and Inking Materials

847,781. Deco Coatings Corp., Pittsburgh, Pa. SN 254,921. Filed P.R. 9-22-66; Am. S.R. 2-7-68.

INS-TINT-DRI

For Solventless Resin-Base Ink (Int. Cl. 16).
First use May 2, 1966.

Class 12 — Construction Materials

847,782. Royston Laboratories, Inc., Blawnox, Pittsburgh, Pa. SN 242,289. Filed P.R. 3-30-66; Am. S.R. 11-21-67.

POOL PATCH

For Two Component Epoxy Cement for Pool Resurfacing and Sealing (Int. Cl. 17).
First use October 1963.

Class 19 — Vehicles

847,783. Rennert International Corp., New York, N.Y. SN 235,717. Filed P.R. 1-3-66; Am. S.R. 12-7-67.

SHURLOCK

For Belt Locks, Safety Belts, Buckles, and Other Fasteners for Securing Cargo on Vehicles (Int. Cls. 6 and 12).
First use June 19, 1963.

Class 22 — Games, Toys, and Sporting Goods

847,784. N. Davis Products Co., Inc., Rockaway, N.J. SN 241,585. Filed P.R. 3-22-66; Am. S.R. 2-13-68.

CADDY-RAK

For Rack for Holding Golf Clubs During Play (Int. Cl. 28).
First use Dec. 29, 1965.

847,785. Woodstream Corporation, Lititz, Pa., assignee of The Setwell Company, Traverse City, Mich. SN 270,291. Filed P.R. 4-28-67; Am. S.R. 1-30-68.

TACKLE SATCHEL

For Fishing Tackle (Int. Cl. 28).
First use Aug. 8, 1966.

Class 38 — Prints and Publications

847,786. The Penton Publishing Company, Cleveland, Ohio. SN 265,098. Filed P.R. 2-20-67; Am. S.R. 2-13-68.

BOOK PRODUCTION

For Trade Publication (Int. Cl. 16).
First use on or about Jan. 31, 1967.

847,787. Graphic Arts Publishing Co., Chicago, Ill. SN 277,494. Filed P.R. 8-4-67; Am. S.R. 2-19-68.

BUSINESS GRAPHICS

For Magazine (Int. Cl. 16).
First use Jan. 9, 1967.

Class 39 — Clothing

847,788. Facelle Company Limited, Toronto, Ontario, Canada. SN 255,699. Filed P.R. 10-4-66; Am. S.R. 2-20-68.

TAKE-ALONG PACK

For Packages of Disposable Diapers (Int. Cl. 25).
First use on or about Apr. 11, 1966.

Class 46 — Foods and Ingredients of Foods

847,789. Armour and Company, d.b.a. Armour Grocery Products Company, Chicago, Ill. SN 272,340. Filed 5-25-67.

WHIP DIP

For Mix for Making Onion or Cheese Food Dips (Int.
First use on or prior to Jan. 3, 1966.
Cl. 29).

Class 51 — Cosmetics and Toilet Preparations

847,790. Bristol-Myers Company, New York, N.Y. SN 253,007. Filed P.R. 8-24-66; Am. S.R. 2-6-68.

THE "LIME COOLER" SHAVE

For Shaving Foam (Int. Cl. 3).
First use July 6, 1966.

Service Marks

Class 101 — Advertising and Business

847,791. Marketing-Research Associates, Hopkins, Minn. SN 242,263. Filed P.R. 3-30-66; Am. S.R. 1-26-68.

NEWSPAPER BINGO

For Promoting the Sale of Advertising Lineage in the Newspapers of Others by Assisting the Newspapers in Organizing and Selling to the Newspapers' Advertisers a Sales Promotion Wherein the Advertising in the Newspapers Includes a Game Which Is Played by the Readers of the Newspapers (Int. Cl. 35).
First use Oct. 19, 1964.

Class 107 — Education and Entertainment

847,792. Monterey Jazz Festival, Inc., Monterey, Calif. SN 260,562. Filed 12-12-66.

MONTEREY JAZZ FESTIVAL

For Periodically Organizing and Producing Public Concerts, Music Festivals and Jam Sessions in Which Artists and Subscribers Participate (Int. Cl. 41).
First use May 1958.

TRADEMARK REGISTRATIONS RENEWED

29,876. HUDSON BRAND AND DESIGN. Cl. 46 (Int. Cl. 29). 4-20-1897.
66,874. "FABRIC FIRE HOSE CO." ETC. AND DESIGN. Cl. 35 (Int. Cl. 17). 12-31-07.
67,462. "GOODYEAR'S I.G." ETC. AND DESIGN. Cl. 39 (Int. Cl. 25). 2-4-08.
67,612. BUFFALO. Cl. 46 (Int. Cl. 31). 2-11-08.
67,860. SX. Cl. 43 (Int. Cl. 23). 2-25-08.
68,005. ARMSTRONG. Cl. 23 (Int. Cl. 7). 3-3-08.
69,530. VOGUE. Cl. 38 (Int. Cl. 16). 6-16-08.
69 573. O.K. Cl. 52 (Int. Cl. 3). 6-23-08.
69,946. KOLYNOS. Cl. 51 (Int. Cl. 3). 7-21-08.
234,589. CORONET AND DESIGN. Cl. 49 (Int. Cl. 33). 11-1-27.
236,983. "WEDGE-LOCK" AND DESIGN. Cl. 32 (Int. Cl. 20). 12-27-27.
238,086. SUNGLOW. Cl. 29 (Int. Cl. 21). 1-24-28.
238,277. VERS LE JOUR. Cl. 51 (Int. Cl. 3). 1-31-28.
238,512. "UNION METAL" AND DESIGN. Cl. 21 (Int. Cls. 6 and 11). 2-7-28.
238,636. "COMPASS" AND REPRESENTATION OF COMPASS. Cl. 39 (Int. Cl. 25). 2-14-28.
238,643. PAPIER POUDRE. Cl. 51 (Int. Cl. 3). 2-14-28.
238,728. KARNEAN MARBLED INLAID. Cl. 20 (Int. Cl. 27). 2-14-28.
238,846. "UNION METAL" AND DESIGN. Cl. 12 (Int. Cl. 6) 2-14-28.
238,889. OX SPUN. Cl. 39 (Int. Cl. 25). 2-14-28.
238,896. "GOODY." Cl. 40 (Int. Cls. 8, 21, and 26). 2-14-28.
239,861. MALTEX. Cl. 46 (Int. Cl. 30). 3-13-28.
240,017. JA. Cl. 28 (Int. Cl. 14). 3-20-28.
240,134. GLYPTAL. Cl. 6 (Int. Cl. 1). 3-20-28.
241,328. SNOW FLAKE. Cl. 46 (Int. Cl. 30). 4-24-28.
241,990. RUG-STA. Cl. 5 (Int. Cl. 1). 5-8-28.
242,168. SUNFLAME. Cl. 51 (Int. Cl. 3). 5-15-28.
242 169. SUNBIRD. Cl. 51 (Int. Cl. 3). 5-15-28.
242,170. SUNDOWN. Cl. 51 (Int. Cl. 3). 5-15-28.
242,171. SUNRISE. Cl. 51 (Int. Cl. 3). 5-15-28.
242,231. BUTTER BRICKLE. Cl. 46 (Int. Cl. 30). 5-15-28.
242,315. "PERMUTIT." Cl. 31 (Int. Cls. 1 and 11). 5-22-28.
243,033. "BON AMI" ETC. AND DESIGN. Cl. 52 (Int. Cl. 3). 6-12-28.
243,231. LION. Cl. 46 (Int. Cl. 31). 6-12-28.
243,746. TALON. Cl. 13 (Int. Cl. 26). 6-26-28.
244,196. LITTLE NAP. Cl. 46 (Int. Cl. 29). 7-17-28.
244,307. RANAREX. Cl. 26 (Int. Cl. 9). 7-17-28.
244,381. CHEVALIER D'ORSAY. Cl. 51 (Int. Cl. 3). 7-17-28.
244,810. EK. Cl. 28 (Int. Cl. 14). 7-31-28.
245,193. LAS POSAS. Cl. 46 (Int. Cl. 31). 8-7-28.
434,033. WYNENE. Cl. 40 (Int. Cl. 26). 11-4-47.
434,107. SUE PREE. Cl. 51 (Int. Cls. 3 and 5). 11-11-47.
434,801. FLEXI-FOLDER. Cl. 37 (Int. Cl. 16). 12-9-47.
435,619. LIBERTY. Cl. 32 (Int. Cl. 16). 1-6-48.
436,447. CANTEEN. Cl. 46 (Int. Cl. 29). 2-10-48.
436,689. WISP-AIR. Cl. 6 (Int. Cl. 5). 2-17-48.
436,741. BALCOTE. Cl. 26 (Int. Cl. 9). 2-17-48.
436,759. MISCELLANEOUS DESIGN. Cl. 12 (Int. Cl. 19). 2-17-48.
436,792. DUO-ARCH. Cl. 2 (Int. Cl. 16). 2-24-48.
436,896. AMCO. Cl. 34 (Int. Cls. 1 and 6). 3-2-48.
436,944. CENTER OF ATTRACTION. Cl. 51 (Int. Cl. 3). 3-2-48.
437,082. ELSCO. Cl. 23 (Int. Cl. 7). 3-9-48.
437,083. RP. Cl. 12 (Int. Cl. 6). 3-9-48.
437,084. RP AND DESIGN. Cl. 12 (Int. Cl. 6). 3-9-48.
437,109. OCCASION. Cl. 51 (Int. Cl. 3). 3-9-48.
437,123. DEGAS. Cl. 51 (Int. Cl. 3). 3-9-48.
437,170. RESIDEX. Cl. 6 (Int. Cl. 5). 3-9-48.
437,337. D/H. Cl. 21 (Int. Cl. 9). 3-16-48.
437,343. CENTENNIAL. Cl. 37 (Int. Cl. 16). 3-16-48.
437,498. FLECO. Cl. 23 (Int. Cl. 7). 3-23-48.
437,673. ALLURON. Cl. 42 (Int. Cl. 20). 3-30-48.
437,691. BA & CO. (MONOGRAM). Cl. 39 (Int. Cl. 25). 3-30-48.
437,696. BA & CO. (MONOGRAM). Cl. 42 (Int. Cls. 24, 26, and 27). 3-30-48.
438,424. ALOS AND DESIGN. Cl. 26 (Int. Cl. 9). 4-20-58.
438,806. EMICO. Cl. 26 (Int. Cl. 9). 5-11-48.
439,044. SUNCLOUD. Cl. 51 (Int. Cl. 5). 6-1-48.
439,431. MARTHA WASHINGTON. Cl. 47 (Int. Cl. 33). 6-29-48.
439,687. DESIGN OF GIRL'S HEAD. Cl. 46 (Int. Cl. 29). 7-13-48.
439,890. DEXOLENE. Cl. 6 (Int. Cls. 1 and 4). 7-27-48.
439,917. GRADIATION. Cl. 34 (Int. Cl. 11). 7-27-48.
440,146. CELOBRIC. Cl. 12 (Int. Cl. 19). 8-17-48.
500,145. B. T. BABBITT'S. Cl. 6 (Int. Cl. 1). 4-27-48.
500,279. VIRGINIA ROUNDS. Cl. 17 (Int. Cl. 34). 5-11-48.
500,343. SANMETTO. Cl. 18 (Int. Cl. 5). 5-11-48.
500,776. STABOND. Cl. 5 (Int. Cl. 1). 6-29-48.
500,780. STURDY-LINE. Cl. 22 (Int. Cl. 28). 6-29-48.
500,804. SYNCHRON. Cl. 21 (Int. Cl. 7). 7-6-48.
500,832. HOLD-BOB. Cl. 40 (Int. Cl. 26). 7-6-48.
500,910. NILEEN. Cl. 42 (Int. Cl. 24). 7-6-48.
501,191. MICROPOSITIONER. Cl. 21 (Int. Cl. 9). 7-27-48.
501,402. CRESCENT. Cl. 16 (Int. Cl. 2). 8-3-48.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

276,769. FAITH. Cl. 28. 10–28–30.
369,391. FAITH. Cl. 27. 7–25–39.

Section 8

The following registrations issued Feb. 27, 1962

727,841. HR. Cl. 1.
727,842. TRI-LID TWIN ORGANIZER. Cl. 2.
727,844. FIRE-GLO. Cl. 2.
727,848. HAV-A-CUP. Cl. 2.
727,851. REDI-SPARE AND DESIGN. Cl. 5.
727,852. DESIGN OF TWO TRIANGLES AND VERTICAL BAR. Cl. 5.
727,857. MOHAWK AND TEPEE DESIGN. Cl. 6.
727,868. STOP-N-SHOOT. Cl. 9.
727,870. FERTILIZER FOR A GROWING AMERICA ETC. AND DESIGN. Cl. 10.
727,877. PV AND DESIGN. Cl. 12.
727,884. DECORAX LETTER D AND DESIGN. Cl. 13.
727,892. OXFORD. Cl. 15.
727,893. SOS SAVE-O-SAW GREASOLENE. Cl. 15.
727,896. THE SEAL OF QUALITY ETC. AND DESIGN. Cl. 16.
727,909. TRYPTIZOL. Cl. 18.
727,911. PRINCE SKYWAY. Cl. 19.
727,913. MOTOM AND DESIGN. Cl. 19.
727,915. ICEBIRD. Cl. 19.
727,920. MICROBLOC. Cl. 21.
727,926. HANNA-POWR. Cl. 21.
727,930. METALLOY. Cl. 21.
727,933. CORR-O-FOAM AND DESIGN. Cl. 21.
727,934. FOAM-O-LENE AND DESIGN. Cl. 21.
727,935. INVERTRON. Cl. 21.
727,936. WHEATLANDUCT. Cl. 21.
727,941. POLYTEC. Cl. 21.
727,943. DEKOWIT. Cl. 22.
727,944. TRANSITE. Cl. 22.
727,945. CRUCERO. Cl. 22.
727,946. GRUMETE. Cl. 22.
727,947. CARABELLA. Cl. 22.
727,948. FRAGATA. Cl. 22.
727,949. GOLETA. Cl. 22.
727,950. AXALIVOR. Cl. 22.
727,951. SQUIRM. Cl. 22.
727,956. FISHIN' FIVE. Cl. 23.
727,957. MOTOM AND DESIGN. Cl. 23.
727,959. FANCIFUL REPRESENTATION OF TWO MEN WITH ANVIL. Cl. 23.
727,960. MINISORBER. Cl. 23.
727,969. SUPERLITE. Cl. 23.
727,970. SPIN-O-MATIC. Cl. 23.
727,971. VIBRAHONE. Cl. 23.
727,972. EASE-O-MAT. Cl. 24.
727,975. COFFEE MINDER. Cl. 26.
727,977. IRALITE. Cl. 26.
727,978. CHEK LITE. Cl. 26.
727,980. MICRODUE. Cl. 26.
727,986. JET BILT. Cl. 27.
727,987. DIAMONENE. Cl. 28.
727,988. OX-KING. Cl. 29.
727,992. SCREEN-TOT. Cl. 32.
727,995. CRYSTAL HEAT. Cl. 34.
728,004. MAN & GONG DESIGN. Cl. 36.
728,008. SLIDE-A-MASK. Cl. 37.
728,014. RING-O-MATIC. Cl. 37.
728,015. SKY DIVER AND DESIGN. Cl. 38.
728,020. COLCORACOLOR AND DESIGN. Cl. 38.
728,021. CHRONO-CHART. Cl. 38.
728,023. AIRBORNE. Cl. 39.
728,024. THE HOUSE OF DIOR MAISON DIOR Cl. 39.
728,027. BLACKSTONE. Cl. 39.
728,029. VANCROSS. Cl. 39.
728 030. LE CHEVAL. Cl. 39.
728,031. EMILIO SESTRI. Cl. 39.
728,040. CORIVELA. Cl. 42.
728,041. VISILLOS. Cl. 42.
728,047. HAIRDRI VALET WITHIN AN OVAL. Cl. 44.
728,052. SWISS PLASTO-ICE. Cl. 46.
728,056. REPRESENTATION OF A GOBLET AND DESIGN. Cl. 46.
728,057. WHIP-EE BRAND AND DESIGN. Cl. 46.
728,063. MUTT'S. Cl. 46.
728 064. KAY-O-CAL. Cl. 46.
728,073. MOLSON'S CANADIAN LAGER BEER. Cl. 48.
728,079. SPORTAG. Cl. 50.
728,081. VELTENE. Cl. 52.
728,087. DESIGN OF THREE SYMBOLS. Cl. 100.
728,089. REPRESENTATION OF AN ALUMINUM CAN, AUMINUM STRIP AND A GEAR. Cl. 100.
728,090. II AND DESIGN. Cl. 101.
728,092. GROTESQUE FIGURE. Cl. 103.
728,095. MOHUN AND CREST OF ARMS DESIGN. Cl. 105.
728,097. WEATHER IN THE WEATHER. Cl. 107.
728.098. PUNKY AND HIS PALS. Cl. 107.
728,099. THE SOUTHERN AIRES. Cl. 107.
728,100. CLIFF DWELLERS DEVILTRY AND DIVERSION SOCIETY AND DESIGN. Cl. 200.
728,101. FABULIZED FINISH. Cl. A.
728,105. GRAETZ. Cl. 21.
728,107. TRIO-KNIFE. Cl. 23.
728,108. MARINE AUTOTRAVERSE POSITIONER AND DESIGN. Cl. 26.
728,109. LENSETTES AND DESIGN. Cl. 26.
728,113. BEAUTY BEGINS WITH YOUR HAIR. Cl. 29.
728,114. HOT LPG MIX AND DESIGN. Cl. 34.

Section 18

761,106. SHOCK CONTROL. Cl. 19. 12–3–63.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

434,570. UNOLYN. Cl. 42. 11–25–47. All American Aviation, Inc. All American Engineering Company, Wilmington, Del. Amended: In the statement, column 1, line 10, "undrawn" is deleted.

840,210. THIS MONTH DO THIS. Cl. 38. 12–5–67. The Shivell-Hall Company, Inc., New York, N.Y. Corrected: In the statement, column 1, line 1, "New Jersey" should be deleted and *New York* should be inserted.

843,513. TIGER-TIES. Cl. 7. 2–6–68. Germain's, Inc., Los Angeles, Calif. Corrected: In the statement, column 1, line 2, "15th" should be deleted and *50th* should be inserted.

843,704. LYON. Cl. 32. 2–6–68. Lyon Metal Products, Incorporated, Aurora, Ill. Corrected: In the statement, column 2, lines 2 and 3, "modulators" should be deleted and *modulars* should be inserted.

843,948. DURAMIR BK. Cl. 6. 2–13–68. Diamond Alkali Company, Cleveland, Ohio. Corrected: In the statement, column 2, line 2, "chronium" should be deleted and *chromium* should be inserted.

TRADEMARK REGISTRATIONS—NEW CERTIFICATES

New Certificates issued under sections 7(c), 7(f), 7(g) of the Trademark Act of 1946 for the unexpired term of the original registrations.

231,880. VESS DRY. Cl. 45. Vess Jones, doing business as The Whistle Company of America, Inc. 8–30–27. New Cert. Sec. 7(c) to Vess Beverage Company, St. Louis, Mo.

333,973. SILVER SKILLET. Cl. 46. Chicago Food Products Co. Silver Skillet Brands, Inc. 4–14–36. New Cert. Sec. 7(c) to Silver Skillet Food Products Company, Skokie, Ill.

504,025. HILTON. Cl. 27. Hilton Watch Co., Inc. 11–16–48. New Cert. Sec. 7(c) to Warren D. Winkler, Chicago, Ill.

617,220. HILTON AND DESIGN. Cl. 27. Hilton Watch Co., Inc. 12–6–55. New Cert. Sec. 7(c) to Warren D. Winkler, Chicago, Ill.

651,349. FLY AWAY. Cl. 6. The Fly-Away Company. 9–10–57. New Cert. Sec. 7(c) to Doris E. Donahue, Arlington, Mass.

788,110. ZULU BLOW GUN. Cl. 22. C & C Toys, Inc. 4–13–65. New Cert. Sec. 7(c) to Frank H. Fleer Corporation, Philadelphia, Pa.

INDEX OF REGISTRANTS

APRIL 16, 1968

(Registered ; Renewed ; Canceled ; Amended, Disclaimed, Corrected, etc. ; New Certificates ; 12c Publications.)

Advance Industrial Security, Inc., Atlanta, Ga. 847,640, pub. 1–30–68. Cl. 38.
Aei-Birlec Ltd., London, England. 727,960, canc. Cl. 23.
Air Reduction Co., Inc., New York, N.Y. 847,609, pub. 1–30–68. Cl. 34.
Air Treads Inc., Atlanta, Ga. 847,769, pub. 1–30–68. Cl. 103.
Aktiebolaget Nordiska Armaturfabrikerna Gelbgjutaregatan, Linkoping, Sweden. 847,579, pub. 1–30–68. Cl. 13.
Aldens, Inc., Chicago, Ill. 847,653, pub. 1–30–68. Cl. 39.
All American Aviation, Inc. All American Engineering Co., Wilmington, Del. 434,570. Am. 7(d). Cl. 42.
Allied Chemical Corp., New York, N.Y. 847,531, pub. 1–30–68. Cl. 2.
Allstate Insurance Co., Skokie, Ill. 847,638, pub. 1–30–68. Cl. 38.
Allyn, Welch, Inc., Skaneateles Falls, N.Y. 847,671, pub. 1–30–68. Cl. 44.
Alos A.G., Zurich, Switzerland. 438,424, ren. 4–16–68. Cl. 26.
Altman, B., & Co., New York, N.Y. 437,691, ren. 4–16–68. Cl. 39.
Altman, B., & Co., New York, N.Y. 437,696, ren. 4–16–68. Cl. 42.
American Agricultural Chemical Co., The, New York, N.Y. 727,870, canc. Cl. 10.
American Biscuit Co., San Francisco, Calif., to National Biscuit Co., New York, N.Y. 241,328, ren. 4–16–68. Cl. 46.
American Express Co., New York, N.Y. 847,763, pub. 1–30–68. Cl. 102.
American Home Products Corp. : *See*—
  Cambridge Rubber Co.
  Klewe & Co. Inc.
  Philippe, Louis, Inc.
American Oil Co., The : *See*—
  Standard Oil Co.
American Poly-Plastics Laboratories, Inc., d.b.a. General Laboratories Division, Arlington, Mass. 847,777. Cl. 1.
American Solder & Flux Co., Inc. : *See*—
  McBride, Frank D.
American Thread Co., The, New York, N.Y. 67,860, ren. 4–16–68. Cl. 43.
Amole, Inc., Dayton, from Cowles Chemical Co., Cleveland, Ohio. 847,727, pub. 1–30–68. Cl. 52.
Amway Corp., Ada, Mich. 847,709, pub. 1–30–68. Cl. 51.
Anchor Hocking Glass Corp., Lancaster, Ohio. 847,607, pub. 1–30–68. Cl. 33.
Angelica Corp., from Angelica Uniform Co., St. Louis, Mo. 847,652, pub. 1–30–68. Cl. 39.
Angelica Uniform Co. : *See*—
  Angelica Corp.
Armour Alliance Industries : *See*—
  Armour and Co.
Armour and Co., d.b.a. Armour Alliance Industries, Chicago, Ill. 727,852, canc. Cl. 5.
Armour and Co., Chicago, Ill. 847,521–2, pub. 1–30–68. Cl. 1.
Armour and Co., Chicago, Ill. 847,688, pub. 1–30–68. Cl. 46.
Armour and Co., Chicago, Ill. 847,707, pub. 1–30–68. Cl. 50.
Armour and Co., d.b.a. Armour Grocery Products Co., Chicago, Ill. 847,789. Cl. 46.
Armour Grocery Products Co. : *See*—
  Armour and Co.
Armstrong Bros. Tool Co. : *See*—
  Armstrong Mfg. Co., The.
Armstrong Mfg. Co., The, Bridgeport, Conn., to Armstrong Bros. Tool Co., Chicago, Ill. 68,005, ren. 4–16–68. Cl. 23.
Arnold, Ralph, d.b.a. Northwest Diamond Tool Co., South San Francisco, Calif. 847,537, pub. 1–30–68. Cl. 4.
Ashland Oil & Refining Co., Ashland, Ky. 847,539, pub. 1–30–68. Multiple Class (Classes 6 and 15).
Audio Devices, Inc., New York, N.Y. 847,612–13, pub. 1–30–68. Cl. 36.
Automatic Canteen Co. of America, to Canteen Corp., Chicago, Ill. 436,447, ren. 4–16–68. Cl. 46.
Babbitt, B. T., Inc., New York, N.Y., to Pennsalt Chemicals Corp., Philadelphia, Pa. 500,145, ren. 4–16–68. Cl. 6.
Baden & Foss Co., New York, N.Y. 727,987, canc. Cl. 28.
Bank of America National Trust & Savings Association, San Francisco, Calif. 847,761, pub. 1–30–68. Cl. 102.
Barber-Colman Co., Rockford, Ill. 501,191, ren. 4–16–68. Cl. 21.
Barberton Plastics Products, Inc., Barberton, Ohio. 728,079, canc. Cl. 50.
Baron Blakeslee Inc., Chicago, Ill. 847,730–1, pub. 1–30–68. Cl. 52.
Bash, John M., d.b.a. Phillips Chemical Co., to Simoniz Co., Chicago, Ill. 436,689, ren. 4–16–68. Cl. 6.
Bausch & Lomb Inc. : *See*—
  Bausch & Lomb Optical Co.
Bausch & Lomb Optical Co., to Bausch & Lomb Inc., Rochester, N.Y. 436,741, ren. 4–16–68. Cl. 26.
Behlman Engineering Co., Burbank, Calif. 727,935, canc. Cl. 21.
Benecke, J. H., Hannover, Vinnhorst, Germany. 728,040–1, canc. Cl. 42.
Bennett Industries, Inc., Peotone, Ill. 847,530, pub. 1–30–68. Cl. 2.
Benson, Betty, Fine Candles : *See*—
  Fine Products Co., Inc.
Benson & Hedges, to Philip Morris Inc., New York, N.Y. 500,279, ren. 4–16–68. Cl. 17.
Berger Mfg. Co., The, Canton, to Republic Steel Corp., Cleveland, Ohio. 236,983, ren. 4–16–68. Cl. 32.
Bertolla, A., & Sons, Loxley, Ala. 847,694, pub. 1–30–68. Cl. 46.
Blue Fox, Inc., San Francisco, Calif. 847,751, pub. 1–30–68. Cl. 100.
Bon Ami Co., The, New York, N.Y., to Standard International Corp., Holyoke, Mass. 243,033, ren. 4–16–68. Cl. 52.
Bonat, Samuel, & Bro., Inc., West Paterson, N.J. 847,721, pub. 1–30–68. Cl. 51.
Borden Co., The : *See*—
  Hudson & Co.
Bowne & Co., Inc., New York, N.Y. 847,760, pub. 1–30–68. Cl. 101.
Bragno & Co., Chicago, Ill. 439,431, ren. 4–16–68. Cl. 47.
Breck, John H., Inc., Springfield, Mass. 847,717, pub. 1–30–68. Cl. 51.
Brewster, E. L., Inc., Los Angeles, Calif. 727,943, canc. Cl. 22.
Briggs, Kenneth H., d.b.a. Shaw Products Co., Berkeley, Calif. 847,595, pub. 1–30–68. Cl. 25.
Briles Mfg., El Segundo, from Taper Bolt & Fastener Co., Berkeley, Calif. 847,578, pub. 3–8–66. Cl. 13.
Brinkman, Adolph, New York, N.Y. 727,893, canc. Cl. 15.
Bristol-Myers Co., New York, N.Y. 847,790. Cl. 51.
British Silverware Ltd., London, England. 847,601, pub. 1–30–68. Cl. 28.
Brotherhood Commission of The Southern Baptist Convention, Memphis, Tenn. 847,629, pub. 1–30–68. Cl. 38.
Brown, Jack, d.b.a. Rest of Time Enterprises, Pensacola, Fla. 847,706, pub. 1–30–68. Cl. 50.
Brown's Fried Chicken, Inc., Bridgeview, Ill. 847,692, pub. 1–30–68. Cl. 46.
Brunswick Corp., Chicago, Ill. 847,666, pub. 1–30–68. Cl. 44.
Bullard, E. D., Co., Sausalito, Calif. 847,582, pub. 1–30–68. Cl. 18.
Bullard, E. D., Co., Sausalito, Calif. 847,670, pub. 1–30–68. Cl. 44.
Burlington Industries, Inc., New York, N.Y. 847,654, pub. 1–30–68. Cl. 39.
Burns & Russell Co. of Baltimore City, The, Baltimore, Md. 847,544, pub. 1–30–68. Cl. 6.
C & C Toys, Inc., to Frank H. Fleer Corp., Philadelphia, Pa. 788,110, new cert. Cl. 22.
CPS Industries, Inc., Chicago, Ill. 847,565, pub. 1–30–68. Cl. 7.
Cambridge Rubber Co., Cambridge, Mass., to American Home Products Corp., New York, N.Y. 241,990, ren. 4–16–68. Cl. 5.
Canadian Forest Products Ltd., Vancouver, British Columbia, Canada. 727,877, canc. Cl. 12.
Canguilhem, Jean-Francois, Garches (Hauts-De-Seine), France. 847,756, pub. 1–30–68. Cl. 101.
Canteen Corp. : *See*—
  Automatic Canteen Co. of America.
Canton Textile Mills, Inc., Canton, Ga. 847,662, pub. 1–30–68. Cl. 42.
Capital-Mercury Shirt Corp. : *See*—
  Endicott Johnson Corp.
Carnation Co., Los Angeles, Calif. 847,678, pub. 1–30–68. Cl. 46.
Carnegie Laboratories : *See*—
  Rexall Drug & Chemical Co.
Castello, Anthony, d.b.a. Castello Packing Co., Brooklyn, N.Y. 847,689, pub. 1–30–68. Cl. 46.
Castello Packing Co. : *See*—
  Castello, Anthony.
Castle Products Co., Irvington, N.J. 847,690, pub. 1–30–68. Cl. 46.
Celotex Corp., The, Tampa, Fla. 440,146, ren. 4–16–68. Cl. 12.
Central Butane, Inc., d.b.a. Hot-Mix Equipment Co., Stillwater, Okla. 728,114, canc. Cl. 34.
Cerro Corp. : *See*—
  Mathes, G., Co.
Chess Producing Corp., Chicago, Ill. 847,611, pub. 1–30–68. Cl. 36.
Chicago Food Products Co., Silver Skillet Brands, Inc., to Silver Skillet Food Products Co., Skokie, Ill. 333,973, new cert. Cl. 46.
Chicken Delight, Inc., Rock Island, Ill. 847,697, pub. 1–30–68. Cl. 46.
Chocolate Products Co., Chicago, Ill. 728,064, canc. Cl. 46.
Christie, Clowes M., d.b.a. Latex Co., Los Angeles, to P. C. Parfitt, Gardena, Calif. 500,776, ren. 4–16–68. Cl. 5.
Clairol Inc., New York, N.Y. 847,626, pub. 1–30–68. Cl. 38.
Clairol Inc., New York, N.Y. 847,719–20, pub. 1–30–68. Cl. 51.
Clark Gum Co. : *See*—
  Morris, Philip.
Cliff Dwellers' Deviltry and Diversion Society, Georgetown Station, Washington, D.C. 728,100, canc. Cl. 200.
Colgate-Palmolive Co., New York, N.Y. 847,542, pub. 1–30–68. Cl. 6.
Colgate-Palmolive Co., New York, N.Y. 847,737–8, pub. 1–30–68. Cl. 52.
Color Corp. of America, Tampa, Fla. 728,020, canc. Cl. 38.

Columbia Broadcasting System, Inc., New York, N.Y. 847,615, pub. 1–30–68. Cl. 36.
Communication Products Co., Inc., Marlboro, N.J. 727,933–4, canc. Cl. 21.
Compagnie Francaise des Parfums d'Orsay, Societe Anonyme: *See—*
    D'Orsay Perfumeries Corp.
Com-Pak Chemical Corp., Shakopee, Minn. 847,780. Cl. 6.
Comptoir de l'Industries Cotonniere, Etablissements Boussac, S.A.R.L., Paris, France. 728,024, canc. Cl. 39.
Conde Nast Publications Inc., The: *See—*
    Vogue Co., The.
Congoleum-Nairn Inc., New York, N.Y. 238,728, ren. 4–16–68. Cl. 20.
Container Corp. of America, Chicago, Ill. 436,792, ren. 4–16–68. Cl. 2.
Corn Products Co.: *See—*
    Corn Products Mfg. Co.
Corn Products Co., New York, N.Y. 727,857, canc. Cl. 6.
Corn Products Mfg. Co., Chicago, Ill., to Corn Products Co., New York, N.Y. 67,612, ren. 4–16–68. Cl. 46.
Corning Distilling Co., Peoria, Ill., to Schenley Industries, Inc., New York, N.Y. 234,589, ren. 4–16–68. Cl. 49.
Cowles, Arthur B., Churchville, N.Y. 847,705, pub. 1–30–68. Cl. 50.
Cowles Chemical Co.: *See—*
    Amole, Inc.
Crockett & Renalde Bit & Spur Co.: *See—*
    Renalde, Crockett & Kelly Inc.
Crosman Arms Co., Inc., Fairport, N.Y. 727,868, canc. Cl. 9.
Curtis, Helene: *See—*
    Curtis, Helene, Industries, Inc.
Curtis, Helene, Industries, Inc.: *See—*
    Lentheric, Inc.
Curtis, Helene, Industries, Inc., Chicago, Ill. 847,711, pub. 1–30–68. Cl. 51.
Curtis, Helene, Industries, Inc., Chicago, Ill. 847,716, pub. 1–30–68. Cl. 51.
Curtis, Helene, Industries, Inc., d.b.a. Helene Curtis, Chicago, Ill. 847,729, pub. 1–30–68. Cl. 52.
Curtiss-Wright Corp., Princeton, N.J. 727,995, canc. Cl. 34.
DCA Food Industries, Inc., New York, N.Y. 847,752, pub. 1–30–68. Cl. 100.
Daggett & Ramsdell International Corp.: *See—*
    Quinlan, Kathleen Mary, Inc.
Dale Electronics, Inc., Columbus, Nebr. 847,614, pub. 1–30–68. Cl. 36.
Dan River Mills, Inc., Danville, Va. 847,663, pub. 1–30–68. Cl. 42.
Daniels Specialty Co., Munhall, Homestead, Pa. 847,625, pub. 1–30–68. Cl. 38.
Davis, N., Products Co., Inc., Rockaway, N.J. 847,784. Cl. 22.
Deco Coatings Corp., Pittsburgh, Pa. 847,781. Cl. 11.
Degas, Guy, Paris, France. 437,123, ren. 4–16–68. Cl. 51.
De Long, David A., d.b.a. De Long Lures, Cleveland, Ohio. 727,950–1, canc. Cl. 22.
De Long Lures: *See—*
    De Long, David A.
De Martel, Madeleine, Cosmetics: *See—*
    Sherman, Robert M.
Deseret Pharmaceutical Co.: *See—*
    Schmid, Julius, Inc.
Dexter Chemical Corp., New York, N.Y. 439,890, ren. 4–16–68. Cl. 6.
Diagraph-Bradley Industries, Inc., Herrin, Ill. 847,570, pub. 1–30–68. Multiple Class (Classes 11, 23, and 37).
Diamond Alkali Co., Cleveland, Ohio. 843,948, cor. Cl. 6.
Diamond National Corp., New York, N.Y. 847,525, pub. 1–30–68. Cl. 2.
Dictaphone Corp., Bridgeport, Conn. 847,774, pub. 1–30–68. Cl. 104.
Dines Chart Corp., New York, N.Y. 847,632–7, pub. 1–30–68. Cl. 38.
Dines, James & Co., Inc., New York, N.Y. 847,630–1, pub. 1–30–68. Cl. 38.
Doloff, Bertram, and Selma Doloff, Scranton, Pa. 728,109, canc. Cl. 26.
Doro Ltd., d.b.a. M. & M. Imports, St. Louis, Mo. 847,651, pub. 1–30–68. Cl. 39.
D'Orsay Perfumeries Corp., New York, N.Y., to Compagnie Francaise des Parfums D'Orsay, Societe Anonyme, Puteaux (Hauts-de-Seine), France. 244,381, ren. 4–16–68. Cl. 51.
Doughboy Industries, Inc., New Richmond, Wis. 847,572, pub. 1–30–68. Multiple Class (Classes 12 and 22).
Dow Chemical Co., The, Midland, Mich. 847,546, pub. 1–30–68. Cl. 6.
Draddy, Gregg, Inc., New York, N.Y. 847,659, pub. 1–30–68. Cl. 39.
Driver-Harris Co., Harrison, N.J. 437,337, ren. 4–16–68. Cl. 21.
Dunham Bros. Co., Brattleboro, Vt. 847,657, pub. 1–30–68. Cl. 39.
Dur-O-Lite Pencil Co., Melrose Park, Ill. 847,619, pub. 1–30–68. Cl. 37.
Dyna-Slide: *See—*
    Hedberg, Donald D.
Ease-O-Mat Co., Pittsburgh, Calif. 727,972, canc. Cl. 24.
East Village Other, Inc., The, New York, N.Y. 847,641, pub. 1–30–68. Cl. 38.
Elg Cutlery, Inc., Miami, Fla. 847,568, pub. 1–30–68. Cl. 9.
Ekco Products Co., Chicago, Ill. 727,959, canc. Cl. 23.
Electric Sprayit Co., The, to Thomas Industries Inc., Sheboygan, Wis. 437,082, ren. 4–16–68. Cl. 23.
Electro-Mechanical Instrument Co., The, to Electro-Mechanical Instrument Co., Inc., Perkasie, Pa. 438,806, ren. 4–16–68. Cl. 26.
Electro-Mechanical Instrument Co., Inc.: *See—*
    Electro-Mechanical Instrument Co., The.
Ellam, Patrick, Mamaroneck, N.Y. 727,915, canc. Cl. 19.

Endicott Johnson Corp., Endicott, from Capital-Mercury Shirt Corp., New York, N.Y. 847,647, pub. 10–4–66. Cl. 39.
Enesco Imports, Inc., Chicago, Ill. 847,757, pub. 1–30–68. Cl. 101.
Enjay Chemical Co.: *See—*
    National Plastic Products Co., The.
Esleeck Mfg. Co., Turners Falls, Mass. 847,620, pub. 1–30–68. Cl. 37.
Eversharp, Inc., Milford, Conn. 847,724, pub. 1–30–68. Cl. 51.
Fabric Fire Hose Co., Sandy Hook, Conn. 66,874, ren. 4–16–68. Cl. 35.
Fabulized, Inc.: *See—*
    Fancourt, W. F., Co.
Facelie Co. Ltd., Toronto, Ontario, Canada. 847,788. Cl. 39.
Fancourt, W. F., Co., from Fabulized, Inc., Philadelphia, Pa. 728,101, canc. Cl. A.
Federal Publications, Inc., Washington, D.C. 847,642, pub. 1–30–68. Cl. 38.
Feldco, Inc., Chicago, Ill. 728,014, canc. Cl. 37.
Felton Chemical Co., Inc., Brooklyn, N.Y. 847,693, pub. 1–30–68. Cl. 46.
Fenn Bros., Inc.: *See—*
    Woodward, John G., & Co. Inc.
Fine Products Co., Inc., d.b.a. Betty Benson Fine Candies, Augusta, Ga. 847,684, pub. 1–30–68. Cl. 46.
Fleco Corp.: *See—*
    Florida Land Clearing Equipment Co.
Florida Land Clearing Equipment Co., to Fleco Corp., Jacksonville, Fla. 437,498, ren. 4–16–68. Cl. 23.
Fly-Away Co., The, to D. Donahue, Arlington, Mass. 651,349, new cert. Cl. 6.
Foregger Co., Inc., The, Roslyn Heights, N.Y. 847,669, pub. 1–30–68. Cl. 44.
Freedman, David, & Co., Inc., Thermal, Calif. 847,691, pub. 5–9–67. Cl. 46.
Fuji Precision Machinery Co., Ltd.: *See—*
    Fuji Seimitsu Kogyo Kabushiki Kaisha.
Fuji Seimitsu Kogyo Kabushiki Kaisha, d.b.a. Fuji Precision Machinery Co., Ltd., Tokyo-To, Japan. 727,911, canc. Cl. 19.
Gabriel Industries, Inc., New York, N.Y. 847,589, pub. 1–30–68. Cl. 22.
Gaylord Products, Inc., Chicago, Ill. 500,832, ren. 4–16–68. Cl. 40.
Geigy Chemical Corp., Ardsley, N.Y. 847,559–61, pub. 1–30–68. Cl. 6.
General Aniline & Film Corp., New York, N.Y. 847,547–58, pub. 1–30–68. Cl. 6.
General Aniline & Film Corp., New York, N.Y. 847,599, pub. 8–8–67. Cl. 26.
General Appliance Mfg. Co., Omaha, Nebr. 727,970, canc. Cl. 23.
General Electric Co., Schenectady, N.Y. 240,134, ren. 4–16–68. Cl. 6.
General Laboratories Division: *See—*
    American Poly-Plastics Laboratories, Inc.
Geo. Brothers, Great Barrington, Mass. 847,606, pub. 1–30–68. Cl. 32.
Geo-Com, Phoenix, Ariz. 847,758, pub. 1–30–68. Cl. 101.
Geo-Engineering Laboratories, Inc., Mount Vernon, Ill. 847,744, pub. 1–30–68. Cl. 100.
Georgia International Life Insurance Co., Atlanta, Ga. 847,765, pub. 1–30–68. Cl. 102.
Germain's, Inc., Los Angeles, Calif. 843,513, cor. Cl. 7.
Gibson-Thomsen Co., Inc., New York, N.Y. 728,113, canc. Cl. 29.
Glidden Co., The: *See—*
    SCM Corp.
Goldberger, Ralph, Linden, N.J. 728,092, canc. Cl. 103.
Goodman, H., & Sons, Inc., New York, N.Y., to H. Goodman & Sons, Inc., Kearny, N.J. 238,896, ren. 4–16–68. Cl. 40.
Goodyear's India Rubber Glove Mfg. Co., Naugatuck, Conn., to Uniroyal, Inc., New York, N.Y. 67,462, ren. 4–16–68. Cl. 39.
Graetz Kommandit-Gesellschaft, Altena, Westphalia, Germany. 728,105, canc. Cl. 21.
Graphic Arts Publishing Co., Chicago, Ill. 847,787. Cl. 38.
HCA Food Corp., Baltimore, Md. 847,681, pub. 1–30–68. Cl. 46.
Haggar Co., Dallas, Tex. 847,658, pub. 1–30–68. Cl. 39.
Hairdri Valet, Inc., Rockford, Ill. 728,047, canc. Cl. 44.
Hanes Corp., Winston Salem, N.C. 847,649, pub. 1–30–68. Cl. 39.
Hanna Engineering Works, Chicago, Ill. 727,926, canc. Cl. 21.
Hansen Mfg. Co., Inc., Princeton, Ind. 500,804, ren. 4–16–68. Cl. 21.
Harold's Tours, d.b.a. Royal Travel Service, Cincinnati, Ohio. 847,775, pub. 8–22–67. Cl. 105.
Hartford Sugar Co., The, d.b.a. Mutt's Dog Food Co., Hartford, Conn. 728,063, canc. Cl. 46.
Hatfield Packing Co., Inc., Hatfield Township, Pa. 847,696, pub. 1–30–68. Cl. 46.
Haveg Industries, Inc., Wilmington, Del. 727,848, canc. Cl. 2.
Hearst Corp., The, Milwaukee, Wis. 728,097–8, canc. Cl. 107.
Hearst Corp., The, New York, N.Y. 847,645, pub. 1–30–68. Cl. 38.
Hedberg, Donald D., d.b.a. The Dyna-Slide Co., Chicago, Ill. 728,008, canc. Cl. 37.
Henry & Henry, Inc., Buffalo, N.Y. 728,052, canc. Cl. 46.
Herman, James M., New York, N.Y. 847,618, pub. 1–30–68. Cl. 37.
Hilton Watch Co., Inc., to W. D. Winkler, Chicago, Ill. 504,025, new cert. Cl. 27.
Hilton Watch Co., Inc., to W. D. Winkler, Chicago, Ill. 617,220, new cert. Cl. 27.
Holmes & Holmes, Allentown, Pa. 847,746, pub. 1–30–68. Cl. 100.

Hooker Chemical Corp., Niagara Falls, N.Y. 847,581, pub. 1–30–68. Cl. 16.
Hookless Fastener Co., to Talon, Inc., Meadville, Pa. 243,746, ren. 4–16–68. Cl. 13.
Horizon House-Microwave, Inc., Dedham, Mass. 847,627, pub. 1–30–68. Cl. 38.
Hot-Mix Equipment Co.: *See—*
    Central Butane, Inc.
Huber, Mary A., William J. Huber, and Harold L. Huber, co-executors of the estate of William C. Huber, deceased, Schneider, Ind. 727,841, canc. Cl. 1.
Hudson & Co., Mattituck, to The Borden Co., New York, N.Y. 29,876, ren. 4–16–68. Cl. 46.
Hygienol Co., Inc.: *See—*
    Levy, Maurice.
Hysan Products Co., Chicago, Ill. 847,543, pub. 1–30–68. Cl. 6.
I-T-E Circuit Breaker Co., Philadelphia, Pa. 727,978, canc. Cl. 26.
Illinois Tool Works Inc., Chicago, Ill. 847,529, pub. 1–30–68. Cl. 2.
International Inspection Corp., Summit, N.J. 728,090, canc. Cl. 101.
Jacquin, Charles, et Cie., Inc., Philadelphia, Pa. 847,704, pub. 1–30–68. Cl. 49.
Jeffboat, Inc., Jeffersonville, Ind. 847,768, pub. 1–30–68. Cl. 103.
Johnson, S. C., & Son, Inc., Racine, Wis. 847,541, pub. 1–30–68. Cl. 6.
Jones, Vess, d.b.a. Whistle Co. of America, Inc., The, to Vess Beverage Co., St. Louis, Mo. 231,880, new cert. Cl. 45.
Juergens & Andersen Co., Chicago, Ill. 240,017, ren. 4–16–68. Cl. 28.
Kadets of America: *See—*
    Kadets of America, Inc.
Kadets of America, Inc., Houston, Tex., from Kadets of America, Savannah, Tenn. 847,591, pub. 1–30–68. Cl. 22.
Kalich, M. L., & Co.: *See—*
    Kalich, Mitchel L.
Kalich, Mitchel L., d.b.a. M. L. Kalich & Co., to N. A. Kalich, d.b.a. M. L. Kalich & Co., Watsonville, Calif. 243,231, ren. 4–16–68. Cl. 46.
Kalich, N. A.: *See—*
    Kalich, Mitchel L.
Keystone Railway Equipment Co., Chicago, Ill. 761,106, canc. Cl. 19.
Kiekhaefer Corp., Fond du Lac, Wis. 847,587, pub. 5–23–67. Cl. 21.
Kimberly-Clark Corp., Neenah, Wis. 847,673, pub. 1–30–68. Cl. 44.
Kleinert, I. B., Rubber Co., New York, N.Y. 437,673, ren. 4–16–68. Cl. 42.
Klewe & Co. Inc., New Haven, Conn., to American Home Products Corp., New York, N.Y. 69,946, ren. 4–16–68. Cl. 51.
Knomark, Inc., Jamaica, N.Y. 847,534, pub. 1–30–68. Cl. 4.
Kobrand Corp., New York, N.Y. 847,703, pub. 1–30–68. Cl. 49.
Krauss, John, Inc., Jamaica, N.Y. 847,682, pub. 1–30–68. Cl. 46.
Kresge, S. S., Co., Detroit, Mich. 847,759, pub. 1–30–68. Cl. 101.
Krey Packing Co., St. Louis, Mo. 847,676, pub. 1–3–67. Cl. 46.
Kurfees, J. F., Paint Co., to Kurfees Paint Co., Louisville, Ky. 501,402, ren. 4–16–68. Cl. 16.
Kurfees Paint Co.: *See—*
    Kurfees, J. F., Paint Co.
Kurfees Paint Co., Louisville, Ky. 847,736, pub. 1–30–68. Cl. 52.
L & M-Surco Mfg., Inc., Dallas, Tex. 847,576, pub. 1–30–68. Cl. 12.
Lafrentz, Robert J., d.b.a. The Robbie Co., Phoenix, Ariz. 727,992, canc. Cl. 32.
Landers, Frary & Clark, New Britain, Conn. 727,975, canc. Cl. 26.
Latex Co.: *See—*
    Christie, Clowes M.
Lawter Chemicals, Inc., Chicago, Ill. 847,571, pub. 1–30–68. Cl. 11.
Lentheric, Inc., New York, N.Y., to Helene Curtis Industries, Inc., Chicago, Ill. 436,944, ren. 4–16–68. Cl. 51.
Lentheric, Inc., New York, N.Y., to Helene Curtis Industries, Inc., Chicago, Ill. 437,109, ren. 4–16–68. Cl. 51.
Les Parfums Worth de Paris, Inc.: *See—*
    Worth, Societe Anonyme.
Levy, Maurice, New York, to Hygienol Co., Inc., New Rochelle, N.Y. 238,086, ren. 4–16–68. Cl. 29.
Liken, Dale E., Pittsburgh, Pa. 847,755, pub. 1–30–68. Cl. 101.
Lilly, Eli, and Co., Indianapolis, Ind. 847,526, pub. 1–30–68. Cl. 2.
Litton Business Systems, Inc., from Monroe International, Inc., Orange, N.J. 847,596, pub. 1–30–68. Cl. 26.
Litton Business Systems, Inc., from Monroe International, Inc., Orange, N.J. 847,605, pub. 1–30–68. Cl. 32.
Litton Business Systems, Inc., from Monroe International, Inc., Orange, N.J. 847,616, pub. 1–30–68. Cl. 37.
Litton Business Systems, Inc., from Monroe International, Inc., Orange, N.J. 847,622, pub. 1–30–68. Cl. 38.
Llords & Elwood Winery, Los Angeles, Calif. 847,701, pub. 1–30–68. Cl. 47.
Loral Corp., Bronx, N.Y. 847,527, pub. 1–30–68. Cl. 2.
Lyon Metal Products, Inc., Aurora, Ill. 843,704, cor. Cl. 32.
Lytton, Henry C., & Co., Chicago, Ill. 728,027, canc. Cl. 39.
M. & M. Imports: *See—*
    Doro Ltd.
Machinale Glasfabriek de Maas N.V., Panovenweg, Tiel, Netherlands. 847,575, pub. 1–30–68. Cl. 12.
Major Petroleum Co., Philadelphia, Pa. 847,580, pub. 7–25–67. Cl. 15.
Malted Cereals Co., The, Burlington, Vt., to Standard Milling Co., Kansas City, Mo. 239,861, ren. 4–16–68. Cl. 46.

Manhattan Shirt Co., The, New York, N.Y. 728,030, canc. Cl. 39.
Manufacturer's Specialty Co., Inc., St. Louis, Mo. 847,533, pub. 1–30–68. Multiple Class (Classes 4, 6, 22, 39, 42, 44, and 52).
Marketing-Research Associates, Hopkins, Minn. 847,791. Cl. 101.
Mathes, G., Co., St. Louis, Mo., from Cerro Corp., New York, N.Y. 847,520, pub. 1–30–68. Cl. 1.
Mazzetti, Guido, Rome, Italy. 728,081, canc. Cl. 52.
McBride, Frank D., d.b.a. American Solder & Flux Co., to American Solder & Flux Co., Inc., Philadelphia, Pa. 436,896, ren. 4–16–68. Cl. 34.
McBurnie, Wm. T.: *See—*
    McBurnie, William T.
McBurnie, William T., d.b.a. Wm. T. McBurnie, Los Angeles, Calif. 728,021, canc. Cl. 38.
Mead Johnson & Co., Evansville, Ind. 728,056, canc. Cl. 46.
Merck & Co., Inc., Rahway, N.J. 727,909, canc. Cl. 18.
Midas, Inc., Chicago, Ill. 847,771, pub. 1–30–68. Cl. 103.
Miller, Dall, Dayton, Ohio. 728,099, canc. Cl. 107.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 727,971, canc. Cl. 23.
Mitchell Farms, Windfall, Ind. 847,523–4, pub. 1–30–68. Cl. 1.
Mohun International Travels, San Carlos, Calif. 728,095, canc. Cl. 105.
Molded Fiber Glass Body Co., Union City, Pa. 847,583, pub. 3–7–67. Cl. 19.
Molson's Brewery, Ltd., Montreal, Quebec, Canada. 728,073, canc. Cl. 48.
Monroe International, Inc.: *See—*
    Litton Business Systems, Inc.
Monterey Jazz Festival, Inc., Monterey, Calif. 847,792. Cl. 107.
Morris, Philip, Inc.: *See—*
    Benson & Hedges.
Morris, Philip, Inc., d.b.a. Clark Gum Co., New York, N.Y. 847,675, pub. 6–29–65. Cl. 46.
Morton International, Inc., Chicago, Ill. 847,563, pub. 1–30–68. Cl. 6.
"Motom" Aktiengesellschaft, Zurich, Switzerland. 727,913, canc. Cl. 19.
"Motom" Aktiengesellschaft, Zurich, Switzerland. 727,957, canc. Cl. 23.
Motorola, Inc., Franklin Park, Ill. 847,770, pub. 1–30–68. Cl. 103.
Muter Co., The, Chicago, Ill. 727,941, canc. Cl. 21.
Mutt's Dog Food Co.: *See—*
    Hartford Sugar Co., The.
Natcon Chemical Co. Inc.: *See—*
    Od Peacock Sultan Co.
National Biscuit Co.: *See—*
    American Biscuit Co.
National Cooperatives, Inc., Albert Lea, Minn. 847,566, pub. 1–30–68. Cl. 7.
National Dairy Products Corp., Chicago, Ill. 847,679, pub. 5–23–67. Cl. 46.
National Dynamics Corp., New York, N.Y. 727,851, canc. Cl. 5.
National Plastic Products Co., The, Odenton, Md., to Enjay Chemical Co., New York, N.Y. 434,033, ren. 4–16–68. Cl. 40.
National & Transcontinental Trading Corp., from Trio-Knife, Inc., New York, N.Y. 728,107, canc. Cl. 23.
Neisner Brothers, Inc., Rochester, N.Y. 847,685, pub. 1–30–68. Cl. 46.
New Era Shirt Co., St. Louis, Mo. 847,648, pub. 10–18–66. Cl. 39.
New Jersey Chemical Co., Inc., Lyndhurst, N.J. 727,892, canc. Cl. 15.
Northwest Diamond Tool Co.: *See—*
    Arnold, Ralph.
Northwest Systems Corp.: *See—*
    Sveden House Developers, International, Inc.
Oconomowoc Canning Co., Oconomowoc, Wis. 244,196, ren. 4–16–68. Cl. 46.
Od Peacock Sultan Co., St. Louis, Mo., to Natcon Chemical Co. Inc., Plainview, N.Y. 500,343, ren. 4–16–68. Cl. 18.
Old American Insurance Co., Kansas City, Mo. 847,764, pub. 1–30–68. Cl. 102.
Oneida Ltd., Oneida, N.Y. 847,602, pub. 1–30–68. Cl. 28.
Orco Products, Inc., Dayton, Ohio. 847,598, pub. 7–11–67. Cl. 26.
Orrell's Food Products, Inc., Oakland, Calif. 847,674, pub. 1–30–68. Cl. 45.
Ort, Lewis J., La Vale, Md. 847,677, pub. 1–30–68. Cl. 46.
Outboard Marine Corp., Waukegan, Ill. 727,956, canc. Cl. 23.
Owens-Corning Fiberglas Corp., Toledo, Ohio. 847,573, pub. 8–1–67. Cl. 12.
Oxnard Citrus Assn., Port Hueneme, Calif. 245,193, ren. 4–16–68. Cl. 46.
Palmer, Lawrence, Inc., New York, N.Y. 847,710, pub. 1–30–68. Cl. 51.
Papier Poudré, Ltd., London, England. 238,643, ren. 4–16–68. Cl. 51.
Parachute Enterprises, La Mirada, from Sky Diver Magazine, Santa Ana, Calif. 728,015, canc. Cl. 38.
Parfitt, P. C.: *See—*
    Christie, Clowes M.
Penney, J. C., Co., New York, N.Y. 238,636, ren. 4–16–68. Cl. 39.
Pennsalt Chemicals Corp.: *See—*
    Babbitt, B. T., Inc.
Penton Publishing Co., The, Cleveland, Ohio. 847,786. Cl. 38.
Perfect Brassiere Co., Inc., Jersey City, N.J. 728,023, canc. Cl. 39.
Permutit Co., The, New York, to Ritter Pfaudler Corp., Rochester, N.Y. 242,315, ren. 4–16–68. Cl. 31.

- Permutit Co., The, New York, to Ritter Pfaudler Corp., Rochester, N.Y. 244,307, ren. 4–16–68. Cl. 26.
- Philippe, Louis, Inc., to American Home Products Corp., New York, N.Y. 242,168–71, ren. 4–16–68. Cl. 51.
- Phillips Chemical Co.: *See*—
  - Bash, John M.
- Phylrich Sales Co., Los Angeles, Calif. 727,884, canc. Cl. 13.
- Pittsburgh Plate Glass Co., Pittsburgh, Pa. 847,608, pub. 1–30–68. Cl. 33.
- Plymouth Golf Ball Sales Co., Plymouth Meeting, Pa. 847,590, pub. 6–28–66. Cl. 22.
- Pointer System, Inc., Winona, Minn. 847,623, pub. 1–30–68. Cl. 38.
- Popper & Sons, Inc., New York, N.Y. 847,668, pub. 1–30–68. Cl. 44.
- Potomac Aviation Publications, Inc., Washington, D.C. 847,624, pub. 1–30–68. Cl. 38.
- Powell Pressed Steel Co., The, Hubbard, Ohio. 847,532, pub. 1–30–68. Cl. 2.
- Pre-Development Corp., Denver, Colo. 728,089, canc. Cl. 100.
- Prestige Foods, Inc., Dallas, Tex. 847,687, pub. 1–30–68. Cl. 46.
- Procter & Gamble Co., The: *See*—
  - Pyle, James, & Sons.
- Professional Disposable Products, Inc., Mount Vernon, N.Y. 847,667, pub. 1–30–68. Cl. 44.
- Progressive Farmer Co., The, Birmingham, Ala. 847,643, pub. 1–30–68. Cl. 38.
- Pump Room Shoes, Inc., The, St. Louis, Mo. 847,656, pub. 1–30–68. Cl. 39.
- Purex Corp., Ltd., Lakewood, Calif. 847,538, pub. 1–30–68. Cl. 4.
- Purex Corp., Ltd., Lakewood, Calif. 847,564, pub. 1–30–68. Cl. 6.
- Purex Corp., Ltd., Lakewood, Calif. 847,740, pub. 1–30–68. Cl. 52.
- Pyle, James, & Sons, Edgewater, N.J., to The Procter & Gamble Co., Cincinnati, Ohio. 69,573, ren. 4–16–68. Cl. 52.
- Quantum, Inc., Wallingford, Conn. 847,743, pub. 1–30–68. Cl. 100.
- Quinlan, Kathleen Mary, Inc., to Daggett & Ramsdell International Corp., New York, N.Y. 439,044, ren. 4–16–68. Cl. 51.
- Quintana, Luis P., Miami, Fla. 847,661, pub. 1–30–68. Cl. 40.
- Rand Mfg. Co., Flint, Mich. 847,600, pub. 11–14–67. Cl. 26.
- Rank Organisation Ltd., The, London, England. 728,004, canc. Cl. 36.
- Ray-Safe Associates, South Lansing, N.Y. 847,747, pub. 1–30–68. Cl. 100.
- Raytheon Co., Lexington, Mass., from Rheem Mfg. Co., Richmond, Calif. 727,920, canc. Cl. 21.
- Real Estate Research Corp., Chicago, Ill. 847,745, pub. 1–30–68. Cl. 100.
- Redstone Federal Credit Union, Redstone Arsenal, Ala. 847,762, pub. 1–30–68. Cl. 102.
- Renalde, Crockett & Kelly Inc., from Crocket & Renalde Bit & Spur Co., Denver, Colo. 847,779. Cl. 3.
- Rennert International Corp., New York, N.Y. 847,783. Cl. 19.
- Republic Steel Corp.: *See*—
  - Berger Mfg. Co., The.
- Residex Corp.: *See*—
  - Western Exterminating Co., Inc.
- Rest of Time Enterprises: *See*—
  - Brown, Jack.
- Rexall Drug & Chemical Co., d.b.a. Carnegie Laboratories, Los Angeles, Calif. 847,726, pub. 8–16–66. Cl. 52.
- Rheem Mfg. Co.: *See*—
  - Raytheon Co.
- Ritter Pfaudler Corp.: *See*—
  - Permutit Co., The.
- Riviana Foods Inc., Houston, Tex. 847,686, pub. 1–30–68. Cl. 46.
- Robbie Co., The: *See*—
  - Lafrentz, Robert J.
- Robertson, H. H., Co., Pittsburgh, Pa. 437,083–4, ren. 4–16–68. Cl. 12.
- Rockwell-Standard Corp., Pittsburgh, Pa. 847,593, pub. 1–30–68. Cl. 23.
- Rodney Milling Co.: *See*—.
  - Seaboard Allied Milling Corp.
- Royal Travel Service: *See*—
  - Harold's Tours.
- Royster, F. S., Guano Co., Norfolk, Va. 847,569, pub. 9–5–67. Cl. 10.
- Royston Laboratories, Inc., Pittsburgh, Pa. 847,782 Cl. 12.
- Rubinstein, Helena, Inc., New York, N.Y. 847,722, pub. 1–30–68. Cl. 51.
- SCM Corp., New York, N.Y., from The Glidden Co., Cleveland, Ohio. 847,680, pub. 1–30–68. Cl. 46.
- SCM Corp., New York, N.Y., from The Glidden Co., Cleveland, Ohio. 847,732, pub. 1–30–68. Cl. 52.
- Safe-T-Mailer Co.: *See*—
  - Sloat, Florence E.
- Sales Affiliates, Inc., New York, N.Y. 847,715, pub. 1–30–68. Cl. 51.
- Sandberg Travel Bureau, Inc., d.b.a. Sandberg Travel Tours, Los Angeles, Calif. 847,776, pub. 10–24–67. Cl. 105.
- Sandberg Travel Tours: *See*—
  - Sandberg Travel Bureau, Inc.
- Schenley Industries, Inc.: *See*—
  - Corning Distilling Co.
- Schmid, Julius, Inc., New York, N.Y., from Deseret Pharmaceutical Co., Salt Lake City, Utah. 847,665, pub. 1–30–68. Cl. 44.
- Schmitt'sches, Gustav Adolf. Weingut, Nierstein am Rhein, Germany. 847,699, pub. 1–30–68. Cl. 47.
- Schwab, A. G., & Sons, from A. G. Schwab & Sons, Inc., Cincinnati, Ohio. 276,769, canc. Cl. 28.
- Schwab, A. G., & Sons, Inc., Cincinnati, Ohio. 369,391, canc. Cl. 27.
- Scientific Service Laboratories, Inc., Dallas, Tex. 728,108, canc. Cl. 26.
- Scott Paper Co., Delaware County, Pa. 847,528, pub. 1–30–68. Cl. 2.
- Scott Paper Co., Delaware County, Pa. 847,621, pub. 1–30–68. Cl. 37.
- Scotti, Carlo, Cantu (Como), Italy. 847,567, pub. 5–10–66. Cl. 8.
- Seaboard Allied Milling Corp., d.b.a. Rodney Milling Co., Kansas City, Mo. 847,695, pub. 1–30–68. Cl. 46.
- Seaboard Seed Co., Bristol, Ill. 847,517, pub. 1–30–68. Cl. 1.
- Seamless Rubber Co., The, New Haven, Conn. 727,945–9, canc. Cl. 22.
- Security First National Bank, Los Angeles, Calif. 847,766, pub. 1–30–68. Cl. 102.
- Selas Corp. of America, Dresher, Pa. 439,917, ren. 4–16–68. Cl. 34.
- Sertoma International, Kansas City, Mo. 847,750, pub. 1–30–68. Cl. 100.
- Setwell Co., The: *See*—
  - Woodstream Corp.
- Seymour of Sycamore, Inc., Sycamore, Ill. 727,896, canc. Cl. 16.
- Shaklee Products, Hayward, Calif. 847,712, pub. 1–30–68. Cl. 51.
- Shaklee Products, Hayward, Calif. 847,728, pub. 1–30–68. Cl. 52.
- Shaw Products Co.: *See*—
  - Briggs, Kenneth H.
- Sherman, Robert M., d.b.a. Madeleine De Martel Cosmetics, New York, N.Y. 847,723, pub. 1–30–68. Cl. 51.
- Shetland Co., Inc., The: *See*—
  - Shetland, Inc.
- Shetland, Inc., from The Shetland Co., Inc., Salem, Mass. 847,536, pub. 1–30–68. Multiple Class (Classes 4, 21, 23, and 52).
- Shivell-Hall Co., Inc., New York, N.Y. 840,210, cor. Cl. 38.
- Shulton, Inc., Clifton, N.J. 847,725, pub. 1–30–68. Cl. 51.
- Sichel & Fils Freres: *See*—
  - Sichel, H., Son, Inc.
- Sichel, H., Son, Inc., New York, N.Y., from Sichel & Fils Freres, Bordeaux, France. 847,702, pub. 1–30–68. Cl. 47.
- Sigma Kappa Sorority, Indianapolis, Ind. 244,810, ren. 4–16–68. Cl. 28.
- Silbro Products Corp., Long Island City, N.Y. 847,660, pub. 5–9–67. Cl. 40.
- Simoniz Co.: *See*—
  - Bash, John M.
- Simpson Timber Co., Seattle, Wash. 847,577, pub. 1–30–68. Cl. 12.
- Simtex Mills, Division of Simmons Co., to J. P. Stevens & Co., Inc., New York, N.Y. 500,910, ren. 4–16–68. Cl. 42.
- Sky Diver Magazine: *See*—
  - Parachute Enterprises.
- Sloat, Florence E., d.b.a. Safe-T-Mailer Co., Westport, Conn. 847,778. Cl. 2.
- Smicarr, Inc., Odessa, Tex. 847,708, pub. 1–30–68. Cl. 50.
- Smith, A. O., Corp., Milwaukee, Wis. 847,597, pub. 1–30–68. Cl. 26.
- Societa Per Azioni Chianti Ruffino Esportazione Vinicola Toscana, Brescia, Italy. 847,700, pub. 1–30–68. Cl. 47.
- Societa Per Azioni Ferrania, Milan, Italy. 727,980, canc. Cl. 26.
- Somebody's House, Inc., Duluth, Minn. 847,748–9, pub. 1–30–68. Cl. 100.
- Sommer, Francois, and Pierre Sommer, Paris, France. 847,585, pub. 1–30–67. Multiple Class (Classes 20 and 42).
- South Shore Tool & Development Corp., Mentor, Ohio. 847,535, pub. 1–30–68. Cl. 4.
- Space Electronics Corp.: *See*—
  - Space-General Corp.
- Space-General Corp., from Space Electronics Corp., Glendale, Calif. 728 087, canc. Cl. 100.
- Spartans Industries, Inc., New York, N.Y. 847,655, pub. 1–30–68. Cl. 39.
- Staley, A. E., Mfg. Co., Decatur, Ill. 847,698, pub. 1–30–68. Cl. 46.
- Standard International Corp.: *See*—
  - Bon Ami Co., The.
- Standard Milling Co.: *See*—
  - Malted Cereals Co., The.
- Standard Oil Co., Whiting, Ind., and Chicago, to The American Oil Co., Chicago, Ill. 436,759, ren. 4–16–68. Cl. 12.
- Stanley Home Products, Inc., Hampden, Mass. 847,733, pub. 1–30–68. Cl. 52.
- Stauffer Chemical Co., New York, N.Y. 847,516, pub. 1–30–68. Cl. 1.
- Stauffer Chemical Co., New York, N.Y. 847,562, pub. 1–30–68. Cl. 6.
- Stegall-Sylvest Seed Co., Inc., Montgomery, Ala. 847,518, pub. 1–30–68. Cl. 1.
- Sterngart, Evelyn T., Staten Island, N.Y. 727,842, canc. Cl. 2.
- Stevens, J. P., & Co., Inc.: *See*—
  - Simtex Mills, Division of Simmons Co.
- Strohmeyer & Arpe Co., New York, N.Y. 847,683, pub. 1–30–68. Cl. 46.
- Studio Wig Designers, Inc., North Hollywood, Calif. 847,603, pub. 1–30–68. Multiple Class (Classes 29 and 40).
- Summers & Oppenheim, Inc., New York, N.Y. 847,664, pub. 1–30–68. Cl. 43.
- Super Mold Corp. of Calif., Lodi, Calif. 727,969, canc. Cl. 23.
- Superior Farms Creamery, Inc., Brooklyn, N.Y. 728,057, canc. Cl. 46.
- Superior Products Co., Dallas, Tex. 434,107, ren. 4–16–68. Cl. 51.

- Surveyor, Inc., The, Waltham, Mass. 847,639, pub. 1–30–68. Cl. 38.
- Sveden House Developers, International, Inc., from Northwest Systems Corp., Minneapolis, Minn. 847,741, pub. 3–7–67. Cl. 100.
- Sylvan Pools, Inc., Doylestown, Pa. 847,574, pub. 1–30–68. Cl. 12.
- Talbott, Inc., New York, N.Y. 728,031, canc. Cl. 39.
- Talon, Inc.: *See*—
  - Hookless Fastener Co.
- Taper Bolt & Fastener Co.: *See*—
  - Briles Mfg.
- Tekton Builders & Suppliers, Inc., Neenah, Wis. 847,753–4, pub. 1–30–68. Cl. 100.
- Terminal Cleaning Contractors Inc., New York, N.Y. 847,772, pub. 1–30–68. Cl. 103.
- Texas Pharmacal Co., San Antonio, Tex. 847,714, pub. 1–30–68. Cl. 51.
- Thomas Industries Inc.: *See*—
  - Electric Sprayit Co., The.
- Time of Your Life, The: *See*—
  - Van Wieren, Louis.
- Tomlinson of High Point, High Point, N.C. 847,604, pub. 11–2–65. Cl. 32.
- Transamerica Insurance Co., Los Angeles, Calif. 847,767, pub. 1–30–68. Cl. 102.
- Trio-Knife, Inc.: *See*—
  - National & Transcontinental Trading Corp.
- Trutest Laboratories, Inc., Philadelphia, Pa. 847,545, pub. 1–30–68. Cl. 6.
- Tucker Mfg. Corp., from Tucker Products Corp., Leominster, Mass. 727,844, canc. Cl. 2.
- Tucker Products Corp.: *See*—
  - Tucker Mfg. Corp.
- Turco Mfg. Co., St. Louis, Mo. 500,780, ren. 4–16–68. Cl. 22.
- Tyson Shirt Co., Norristown, Pa. 238,889, ren. 4–16–68. Cl. 39.
- Union Metal Mfg. Co., The, Canton, Ohio. 238,512, ren. 4–16–68. Cl. 21.
- Union Metal Mfg. Co., The, Canton, Ohio. 238,846, ren. 4–16–68. Cl. 12.
- Uniroyal, Inc.: *See*—
  - Goodyear's India Rubber Glove Mfg. Co.
- United States Borax & Chemical Corp., Los Angeles, Calif. 847,540, pub. 1–30–68. Multiple Class (Classes 6 and 10).
- U.S. News & World Report, Inc., Washington, D.C. 847,644, pub. 1–30–68. Cl. 38.
- United States Stoneware Co., The, Tallmadge, Ohio. 727,977, canc. Cl. 26.
- Vancross Clothes, Inc., New York, N.Y. 728,029, canc. Cl. 39.
- Van Wieren, Louis, d.b.a. Time of Your Life, The, Redlands, Calif. 847,617, pub. 1–30–68. Cl. 37.
- Vernois, Inc., Mount Vernon, Ill. 847,610, pub. 1–30–68. Cl. 34.
- Visual Impact, Inc., Gardner, Kans. 847,628, pub. 1–30–68. Cl. 38.
- Vogue Co., The, to The Conde Nast Publications Inc., New York, N.Y. 69,530, ren. 4–16–68. Cl. 38.
- West Coast Growers & Packers, Inc., Selma, Calif. 439,687, ren. 4–16–68. Cl. 46.
- Western Auto Supply Co., Kansas City, Mo. 847,584, pub. 1–30–68. Cl. 20.
- Western Auto Supply Co., Kansas City, Mo. 847,588, pub. 10–17–67. Cl. 21.
- Western Exterminating Co., Inc., to Residex Corp., Newark, to Residex Corp., Clark, N.J. 437,170, ren. 4–16–68. Cl. 6.
- Western Fishing Line Co.: *See*—
  - Western Lace & Line Co.
- Western Lace & Line Co., d.b.a. Western Fishing Line Co., Glendale, Calif. 727,944, canc. Cl. 22.
- Westinghouse Broadcasting Co. Inc., Pittsburgh, Pa. 847,773, pub. 1–30–68. Cl. 104.
- Weston, Byron, Co., Dalton, Mass. 437,343, ren. 4–16–68. Cl. 37.
- Wheatland Electric Products Co., Carnegie, Pa. 727,936, canc. Cl. 21.
- Whiting-Adams Co., Inc., Boston, Mass. 727,988, canc. Cl. 29.
- Who, Inc., Richmond, Va. 847,650, pub. 1–30–68. Cl. 39.
- Williams Gold Refining Co., Inc., Buffalo, N.Y. 847,672, pub. 1–30–68. Cl. 44.
- Williams, H. E. & C. D., Inc., Newark, N.J. 847,519, pub. 1–30–68. Cl. 1.
- Wilrite Products, Inc., Cleveland, Ohio. 727,930, canc. Cl. 21.
- Wilson Jones Co., to Wilson Jones Co., Chicago, Ill. 434,801, ren. 4–16–68. Cl. 37.
- Wilson Jones Co., to Wilson Jones Co., Chicago, Ill. 435,619, ren. 4–16–68. Cl. 32.
- Wolff Products Co., New York, N.Y. 847,739, pub. 1–30–68. Cl. 52.
- Woodard, Viviane, Corp., Panorama City, Calif. 847,713, pub. 1–30–68. Cl. 51.
- Woodstream Corp., from The Setwell Co., Lititz, Pa. 847,785. Cl. 22.
- Woodard, John G., & Co. Inc., d.b.a. Woodward's, Council Bluffs, Iowa, to Fenn Bros., Inc., Sioux Falls, S. Dak. 242,231, ren. 4–16–68. Cl. 46.
- Woodward's: *See*—
  - Woodward, John G., & Co. Inc.
- Worth, Societe Anonyme, Paris, France, to Les Parfums Worth de Paris, Inc., New York, N.Y. 238,277, ren. 4–16–68. Cl. 51.
- Wyandotte Chemicals Corp., Wyandotte, Mich. 847,734–5, pub. 1–30–68. Cl. 52.
- Wyler Watch Corp., New York, N.Y. 727,986, canc. Cl. 27.
- Yardley of London, Inc., Totowa, N.J. 847,718, pub. 1–30–68. Cl. 51.
- York Lighting, Inc., York, Pa. 847,586, pub. 2–21–67. Cl. 21.
- Zeichnungs-Ordner "Mobus" DRP, Karl Mobus, Schwarmstedt, Germany. 847,594, pub. 1–30–68. Multiple Class (Classes 25 and 32).
- Zinser-Textilmaschinen Gesellschaft mit beschrankter Haftung, Ebersbach (Fils), Germany. 847,592, pub. 1–30–68. Cl. 23.
- Zuider Zee Oyster Bar, Inc., Fort Worth, Tex. 847,742, pub. 1–30–68. Cl. 100.

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U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

April 23, 1968 Volume 849 Number 4

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of March 1968

Examiner affirmed	162
Examiner affirmed in part	32
Examiner reversed	58
Total	252

Notice of Daylight Saving Time

The Patent Office will operate on Daylight Saving Time from April 29, 1968 through October 27, 1968.

Dedications

2,801,765.—*Walter E. Butler*, Los Gatos, Calif. BREAKAWAY CAN OPENER. Patent dated Aug. 6, 1957. Dedication filed Jan. 2, 1968, by the inventor.

Hereby dedicates to the Public the entire term of said patent.

2,923,935.—*Bert H. Sinclair*, Westwood, and *Roland R. Gordon*, Holliston, Mass. PROTECTIVE SYSTEM FOR RADIO BEACONS. Patent dated Feb. 2, 1960. Dedication filed Jan. 5, 1968, by the assignee, *General Communications Corporation*.

Hereby dedicates to the Public the remaining term of said patent.

United States Adopted Names

List No. 19

November 1, 1967 to February 29, 1968

The following nonproprietary names for the drugs described have been adopted by the USAN Council (the nomenclature committee sponsored by the American Medical Association, the American Pharmaceutical Association, and the United States Pharmacopeial Convention) in cooperation with the interested manufacturers. The designation "United States Adopted Names" (USAN) has been coined to distinguish these formally adopted nonproprietary names from other nonproprietary names. Adoption of such names does not imply endorsement of the products involved by the A.M.A. Council on Drugs, the United States Pharmacopeia, or the National Formulary.

Any comments or suggestions should be addressed to Doctor Joseph B. Jerome, Secretary, United States Adopted Names Council, American Medical Association, 535 N. Dearborn St., Chicago, Ill., 60610.

alphasone acetophenide: progestogen
alprenolol hydrochloride: β-adrenergic receptor antagonist
amquinolate: poultry coccidiostat
azaribine: oral antipsoriatic
betamethasone valerate: corticosteroid
butaperazine maleate: tranquilizer
carbenicillin calcium: antibacterial
carbenicillin disodium: antibacterial
carbenicillin potassium: antibiotic
cingestol: progestogen
clinimycin: antiparasitic; antibacterial
cosyntropin: synthetic corticotropin
cromolyn sodium: treatment of allergic airway obstruction
dantrolene sodium: skeletal muscle relaxant
diphenidol hydrochloride: antiemetic; antivertigo
dipenidol pamoate: antiemetic; antivertigo
filipin: antifungal; antibiotic
flavoxate hydrochloride: urinary antispasmodic
flurazepam hydrochloride: hypnotic
furazolium tartrate: antibacterial
gloxazone: treatment of anaplasmosis in cattle
guanacline sulfate: antihypertensive
halofenate: hypocholesteremic
indriline hydrochloride: central nervous system agent
kalafungin: antifungal; antibacterial
ketipramine fumarate: antidepressant
lydimycin: antibacterial; antifungal
medazepam hydrochloride: tranquilizer
milipertine: tranquilizer
nebramycin: antibiotic
nifursol: histomonocide; veterinary growth stimulant
nimazone: anti-inflammatory
parbendazole: anthelmintic
piprozolin: choleretic
povidone: pharmaceutic aid
profadol hydrochloride: analgesic
puromycin hydrochloride: antibiotic
quazodine: cardiopulmonary
racephenicol: veterinary antibacterial
riboprine: antineoplastic
rifampin: antibacterial
soterenol hydrochloride: adrenergic bronchodilator, β-receptor stimulant
tetrydamine: analgesic; anti-inflammatory
thiamphenicol: veterinary antibacterial
tigestol: progestogen
tilidine hydrochloride: analgesic
tofenacin hydrochloride: antiparkinson; psychotonic
verapamil: coronary vasodilator

Disclaimers

Reissue No. 25,609.—*Kenneth G. Lytton, Charles W. Barnes*, and *Cecil S. Wise*, Gastonia, N.C. FIBER-BLENDING APPARATUS. Reissue patent dated June 30, 1964. Disclaimer filed Jan. 3, 1968, by the assignee, *Fiber Controls Corporation*.

Hereby enters this disclaimer to claims 3, 6 and 34 of said patent.

New Applications Received During February 1968

Patents	7342
Designs	406
Plant Patents	10
Reissues	20
Total	7778

Issue—April 23, 1968

Patents	1222—No. 3,378,851	to No.	3,380,072, incl.
Designs	48—No. 210,815	to No.	210,862, incl.
Plant Patents	3—No. 2,806	to No.	2,808, incl.
Reissues	6—No. 26,379	to No.	26,384, incl.
Total	1279		

Reissue No. 26,328.—*Joseph R. Monks, Jr.*, Toledo, Ohio. GLASS MELTING METHOD. Reissue patent dated Jan. 2, 1968. Disclaimer filed Jan. 25, 1968, by the assignee, *Owens-Illinois, Inc.*

Hereby enters this disclaimer to claim 1 of said patent.

2,733,145.—*William V. Karr* and *Michael B. Karr*, Columbus, Ohio. CORN COB ABSORBENT AND METHOD OF PRODUCING THE SAME. Patent dated Jan. 31, 1956. Disclaimer filed Jan. 17, 1968, by the inventors.

Hereby enter this disclaimer to claims 1, 2, 3, 5 and 6 of said patent.

3,017,786.—*George F. Karow*, Saginaw, Mich. VARIABLE SPEED PLANETARY GEAR TRANSMISSION AND VEHICLE DRIVE ARRANGEMENT. Patent dated Jan. 23, 1962. Disclaimer filed Jan. 23, 1968, by the inventor.

Hereby enters this disclaimer to the terminal portion of the term of the patent subsequent to Mar. 17, 1976.

3,159,329.—*Walter L. Hiersteiner*, Mission, Kans. NOVELTY PAGE HAVING MAILER PORTION. Patent dated Dec. 1, 1964. Disclaimer filed Jan. 10, 1968, by the assignee, *Tension Envelope Corporation.*

Hereby enters this disclaimer to claims 1, 3, 4 and 5 of said patent.

3,201,038.—*Joseph P. Harris*, Berkeley, Calif. DATA REGISTERING DEVICE. Patent dated Aug. 17, 1965. Disclaimer filed Jan. 26, 1968, by the inventor; the assignee, *International Business Machines Corporation*, assenting.

Hereby enters this disclaimer to claims 1, 2, 4, 5, 9 and 10 of said patent.

3,311,620.—*Stanley C. Bell* and *Scott J. Childress*, Philadelphia, Pa. FUSED RING BENZOTHIADIAZINES. Patent dated Mar. 28, 1967. Disclaimer filed Jan. 11, 1968, by the inventors and the assignee, *American Home Products Corporation.*

Hereby enter this disclaimer to claim 2 of said patent.

Adjudicated Patents

(C.A.N.J.) Schmidinger Patent No. 24,023 (177—219), for SNAP ACTION DEVICE. Claims 12, 17, 18, and 23 *Held* valid and not infringed. *Schmidinger* v. *Welch*, 383 F.2d 455; 155 USPQ 289.

(C.A. Ohio) Andrews Patent No. 2,569,274 (239—78), for SPRAYING AND DUSTING MACHINE. Claims 1 to 4, 6, 10, and 12 to 14 *Held* not infringed. *FMC Corp.* v. *F. E. Myers & Bro. Co.*, 384 F.2d 4; 155 USPQ 299.

(C.A.D.C.) Wolowitz Patent No. 2,582,187 (101—90), for PRINTING MACHINE FOR DUPLICATING INDICIA. *Held* valid and not infringed. *Gulf Oil Corp.* v. *Wolowitz*, 379 F.2d 452; — USPQ —.

(C.A. Tex.) Larsen Patent No. 2,919,506 (37—142), for EXCAVATING TOOTH AND BASE SUPPORT THEREFOR, *Held* valid and infringed. *Hensly Equipment Co.* v. *Esso Corp.*, 383 F.2d 252; 155 USPQ 184.

(C.A. Calif.) Thomas Patent No. 2,932,728 (240—9), for FLUORESCENT LIGHTING FIXTURE SYSTEMS. *Held* valid and infringed. *Western Lighting, Inc.* v. *Smoot-Holman Co.* 381 F.2d 355; — USPQ —.

(C.A. Calif.) Dodds Patent No. 3,003,730 (248—220.5), for CANTILEVER COUNTER STOOL. Claim 5 *Held* invalid. *Paul L. Dodds Co.* v. *Harry Liss and Associates, Inc.*, 383 F.2d 196; 155 USPQ 308.

(C.A. Mo.) Gerner Patent No. 3,044,798 (280—95), for REPLACEMENT UNIT FOR IDLER ARM BRACKET, *Held* invalid. *Gerner* v. *Moog Industries, Inc.*, 383 F.2d 56; 155 USPQ 232.

(C.A. Ill.) Lofgren Patent No. 3,089,182 (401—199), for MARKING DEVICE, *Held* invalid. *Sanford Research Co.* v. *Eberhard Faber Pen & Pencil Co.*, 279 F.2d 512; 155 USPQ 199.

(C.A. Mich.) Nelsson Patent No. 3,090,164 (52—346), for WALL CONSTRUCTION AND RESILIENT RUNNER THEREFOR, *Held* valid. *U.S. Gypsum Co.* v. *Dale Industries, Inc.*, 383 F.2d 497; 155 USPQ 226.

(C.A. Tex.) Hasha Patent No. 3,144,085 (173—164), for POWER SPINNER UNIT FOR WELL SWIVELS. Claims 1 to 4, 12, 13, and 15 to 17 *Held* valid but not infringed. *Foster Cathead Co.* v. *Hasha*, 389 F.2d 761; 155 USPQ 177.

Appeal Brief Extensions

In view of the substantially current condition of the work of the Board of Appeals, it is important that appeal briefs be filed whenever possible within the sixty day period allowed by Rule 192, and that extensions of that time be requested only when clearly necessary for reasons which could not reasonably have been foreseen and guarded against. Accordingly, beginning immediately, a stricter standard will be employed in considering requests for extension of the time for filing appeal briefs than that previously applied. This will be particularly true in the case of any requested extension beyond the first thirty days and no such extension should be expected except upon a convincing showing of extraordinary circumstances.

EDWIN L. REYNOLDS,
First Assistant Commissioner.

Mar. 27, 1968.

Patents Available for Licensing or Sale

D. 210,049. WASTE CONTAINER OR SIMILAR ARTICLE. John T. Osborne, 1431 Amsterdam Road, Covington, Ky., 41011.

3,223,439. PIPE JOINT. William E. Stevens, 2617 Taft St., Hollywood, Fla., 33020.

3,277,274. ELECTRIC SAUNA BATH HEATING UNIT. Ulo Raabe, 459 Goulet St., St. Boniface 6, Manitoba, Canada.

3,338,402. RECEPTACLE FOR BOTTLES OR THE LIKE. H. Heye Glasfabrik, Obernkirchen, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,352,132. DIAPER DUNKER. Richard F. Jones, 130th Station Hospital, APO, New York, N.Y., 09102.

3,357,892. GAS COOLED NUCLEAR REACTOR. Gesellschaft fuer Kernforschung mbH, 75 Karlsruhe, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,367,058. ANIMATED FISHING LURE WITH BUOYANCY CHANGING MEANS THEREIN. Anthony C. Dominique, 4749 De Montluzin St., New Orleans, La., 70122.

3,372,721. PORTABLE SMOKER'S REFUSE RECEIVER. William R. Rouse, P.O. Box 41128, Sacramento, Calif., 95841.

The following 2 patents are offered by: Arthur MacArthin, R.D. #2, Malvern, Pa., 19355.

3,014,116. MAGNETIC HEATER.
3,121,812. STEP MOTOR.

The following 2 patents are offered by: Th. Kieserling & Albrecht, 565 Solingen, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,363,493. APPARATUS FOR SHAVING PIPES AND THE LIKE.
3,363,743. METHOD AND APPARATUS FOR TRANSPORTING TUBULAR ARTICLES.

The Radio Corporation of America offers to grant non-exclusive licenses on reasonable terms and conditions under the following 15 patents.

Inquiries respecting licenses under these patents should be addressed to: Radio Corporation of America, Staff Vice President, Domestic Licensing, 30 Rockefeller Plaza, New York, N.Y., 10020.

3,361,976. FREQUENCY CORRECTION SYSTEM.
3,363,555. ELECTROSTATIC METHOD OF MAKING MULTIPLE COPIES OF AN IMAGE.
3,363,961. CATHODE ARRANGEMENT OF AN ELECTRON MICROSCOPE FOR REDUCING THE OCCURRENCE OF VIRTUAL CATHODES.
3,364,054. METHOD OF SALVAGING PHOSPHOR SLURRY IN A SPIN COATING PROCESS FOR MAKING PHOSPHOR SCREENS FOR CATHODE RAY TUBES.

3,364,364. CRYOTRON CIRCUITS.
3,364,370. TUBULAR CELL ANODE FOR SPUTTER ION PUMPS.
3,364,388. LIGHT EMITTER CONTROLLED BY BISTABLE SEMICONDUCTOR SWITCH.
3,364,765. MAGNETIC RECORDING AND REPRODUCING APPARATUS.
3,365,568. POSITION INDICATING APPARATUS.
3,365,608. ELECTRON BEAM DEFLECTION CIRCUIT.
3,365,707. LSI ARRAY AND STANDARD CELLS.
3,365,962. UHF TUNER MECHANISM.
3,366,871. OVERLOAD AND SHORT-CIRCUIT PROTECTION FOR VOLTAGE REGULATED POWER SUPPLY.
3,366,887. NON SINGLE CRYSTAL MASER WITH ARBITRARY MAGNETIC FIELD DIRECTION.
3,366,889. INTEGRATED ELECTRICAL CIRCUIT.

General Electric Company is prepared to grant non-exclusive licenses under the following 12 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following 5 patents should be addressed to: Patent Counsel, Electronic Components Division, General Electric Company, 316 E. 9th St., Owensboro, Ky., 42301.

3,341,366. SULFONATED POLYMERS OF ALPHA, BETA, BETA-TRIFLUOROSTYRENE, WITH APPLICATIONS TO STRUCTURES AND CELLS.
3,341,479. TRIAMINOTRIPHENYLMETHANE MODIFIED PHENOSULFONIC ACID - DORMALDEHYDE ION EXCHANGE RESIN MEMBRANES.
3,350,327. CATION EXCHANGE RESINS.
3,351,541. ELECTRODEPOSITION OF THE PLATINUM METALS.
3,369,868. METHOD FOR HYDROGEN GENERATION FROM WHITE PHOSPHORUS.

Applications for license under the following 7 patents may be addressed to: Patent Counsel, Appliance and Television, General Electric Company, Appliance Park, Louisville, Ky., 40225.

3,331,943. VAPORIZING APPARATUS FOR CLEANING DOMESTIC OVEN.
3,334,621. RANGE FORCED VENTING DISCHARGE SYSTEM.
3,343,904. PANTOGRAPH-TYPE DOOR MOUNTING ARRANGEMENT.
3,348,009. CALIFRATION MEANS FOR TEMPERATURE RESPONSIVE DEVICE.
3,354,281. TEMPERATURE CONTROL DEVICE.
3,358,121. INTEGRATED OVEN CONTROLS.
3,367,566. FAN ARRANGEMENT.

General Signal Corporation is prepared to grant non-exclusive licenses under the following 25 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following patents may be addressed to: General Railway Signal Company, a Unit of General Signal Corporation, Attention, Manager, Patent Department, P.O. Box 600, Rochester, N.Y., 14602.

3,307,146. OFFSET SELECTOR.
3,313,933. INTEGRITY CHECK FOR HOT BOX DETECTOR.
3,315,065. APPARATUS FOR MEASURING AND RECORDING VEHICULAR TRAFFIC PARAMETERS.
3,315,239. MULTIAPERTURE CORE INCREMENTAL PULSE COUNTER.
3,315,246. SIGNAL ABSENCE DETECTION CIRCUIT.
3,317,892. CASHIERING CONTROL SYSTEMS FOR COLLECTING FEES FOR VEHICLES.
3,329,932. ULTRASONIC VEHICLE DETECTION SYSTEM.
3,331,965. CONSTANT CURRENT SIGNAL GENERATOR HAVING TRANSISTOR BURNOUT PROTECTION DEVICE.
3,336,577. TELEMETERING SYSTEM.
3,337,727. VEHICLE CONTROL SYSTEMS.
3,339,061. TRAFFIC ZONE SURVEILLANCE COMPUTER.
3,339,067. HIGH FREQUENCY TRACK CIRCUITS FOR RAILROADS.
3,340,403. MAGNETIC CORE ENCODING CIRCUIT.
3,340,502. OFFSET SELECTOR.
3,340,508. NORMALLY INACTIVE SUPERVISORY CONTROL SYSTEM WITH DESIGNATED ORDER OF STATION SELECTION.
3,345,503. TRAFFIC PARAMETER COMPUTER WHICH MEASURES THE RATIO OF TRAFFIC VOLUME MEASURED AT DIFFERENT LOCATIONS.
3,358,126. TRAFFIC SIGNAL CONTROLLER CYCLE COMPUTER.
3,358,139. CAR RETARDER CONTROL SYSTEM.
3,358,613. VEHICLE CONTROL SYSTEM.
3,359,416. CONTINUOUS RAIL TRACK CIRCUITS.
3,360,776. CODE COMMUNICATION SYSTEM.
3,363,096. CONTROL SYSTEM FOR VEHICLES.
3,372,267. JOURNAL TEMPERATURE INFORMATION RECORDING SYSTEM FOR TRAINS.
3,374,035. BRAKE CONTROL SYSTEMS FOR MULTIPLE UNIT TRAINS.
3,374,340. COMPUTATION OF PARAMETERS FOR TRAFFIC CONTROL SYSTEMS.

The Weatherhead Company is prepared to grant non-exclusive licenses under the following 62 patents upon reasonable terms to domestic manufacturers. Applications for license under these patents may be addressed to: Director, Patents and Licensing, The Weatherhead Company, 300 E. 131st St., Cleveland, Ohio, 44108.

3,354,831. PISTON DIAPHRAGM PUMP.
3,347,041. HYDRAULIC STEERING SYSTEM.
3,340,816. VANE PUMP OR MOTOR.
3,333,416. HYDRAULIC STEERING SYSTEM.
3,320,745. HYDRAULIC STEERING CONTROL.
3,287,971. FLOWMETER.
3,279,497. QUICK DISCONNECT COUPLING.
3,275,029. DASH CONTROL UNIT.
3,190,311. QUICK DISCONNECT COUPLING.
3,159,180. QUICK DISCONNECT VALVED COUPLING.
3,158,239. THROTTLE CONTROL.
3,153,424. BALANCED PRESSURE REGULATOR VALVE.
3,149,641. SLIDE VALVE.
3,147,015. SEAL RING.
3,145,035. PIPE COUPLING HAVING A FLEXIBLE SEALING LIP.
3,112,758. BALL VALVE.
3,099,461. SUSPENSION CONTROL VALVE.
3,098,662. METAL JOINT OR SEAL.
3,097,866. PRESSURIZED HOSE END.
3,091,258. HOSE ACCUMULATOR.
3,087,705. ADJUSTABLE VALVE HEAD.
3,082,791. ROTARY SELECTOR VALVE.
3,073,629. HOSE END FITTING FOR A HOSE MADE FROM ANNULAR LAYERS OF FLEXIBLE FILM.
3,071,394. CONTROL VALVE FOR VEHICLE SUSPENSION.
3,060,973. FABRIC REINFORCED RUBBER TUBE.
3,054,261. PRESSURE INTENSIFIER.
3,032,051. EXPULSION VALVE MECHANISM.
3,028,179. SELF-SEALING LOCKING COUPLING WITH MANIPULATOR AND PIVOTED LATCH MEANS.
3,026,129. SWIVEL JOINT WITH HELICALLY WOUND FLEXIBLE HOSE ATTACHED TO HOUSING MEMBERS.
3,022,797. DRAIN VALVE.
3,013,534. PLURAL POSITION ACTUATOR.
2,998,024. VACUUM CONTROL VALVE.
2,991,763. ACTUATOR.
2,973,182. VALVE STRUCTURE.
2,964,311. AIR SPRING CONTROL VALVE.
2,940,363. ROCKET RELEASE MECHANISM.
2,931,273. ROCKET LAUNCHER.
2,910,305. PNEUMATIC SUSPENSION FOR VEHICLES AND CONTROL VALVE THEREFOR.
2,900,999. VALVE SEAL.
2,813,945. PRESSURE SENSITIVE SWITCH.

2,813,730.	HOSE COUPLING WITH CONTRACTABLE METALLIC WIRE SLEEVE.
2,798,507.	THERMOSTAT BELLOWS.
2,762,602.	QUICK SHUT-OFF VALVE.
2,749,788.	PRE-GROOVING TOOL.
2,749,152.	SHORT TUBE COUPLING WITH DEFORMABLE EDGES.
2,737,067.	APPARATUS FOR SPINNING TUBES.
2,687,315.	SHORT COUPLING CONVERTER.
2,678,836.	SOLDERING HOSE END FITTING.
2,678,834.	QUICK-DISCONNECT COUPLING.
2,675,250.	QUICK-DISCONNECT VALVED COUPLING.
2,675,021.	CHECK VALVE.
2,674,786.	METHOD OF MAKING FITTINGS.
2,674,785.	METHOD OF MAKING FITTINGS.
2,659,128.	METHOD OF MAKING DEHYDRATORS.
2,653,680.	TRACTOR-TRAILER BRAKE PROPORTIONING COMBINATION.
2,648,550.	RESILIENT INTERCHANGEABLE TUBE COUPLING.
2,648,123.	METHOD OF MAKING A HOSE END COUPLING.
2,643,132.	INDEXING CHUCK.
2,642,255.	PACKLESS VALVE.
2,637,374.	AUTOMATIC FUEL CONTROL FOR GAS TURBINE ENGINES.
2,632,996.	MANUALLY ADJUSTABLE SPEED AND TEMPERATURE REGULATING APPARATUS FOR COMBUSTION ENGINES.
2,630,887.	HYDRAULIC LOCK FOR ADJUSTABLE CHAIR BACKS.

CONVENTION ESTABLISHING THE WORLD INTELLECTUAL PROPERTY ORGANIZATION

At the conclusion of the Stockholm Intellectual Property Conference on July 14, 1967 a convention was signed which (a) created new organs for coordinating administrative matters of common concern to the Convention of Paris for the Protection of Industrial Property and the Berne Copyright Convention, and (b) established a new intergovernmental agency called the World Intellectual Property Organization (W.I.P.O.).

In view of the fact that a number of organizations active in the industrial-intellectual property field are currently studying the W.I.P.O. Convention, we have reproduced below for the assistance of these groups the text of this Convention and the Report of the Rapporteur of Main Committee V on the World Intellectual Property Organization, Joseph Voyame. (Mr. Voyame was a member of the Swiss Delegation and is Director of the Swiss Patent Office.)

EDWARD J. BRENNER,
Commissioner of Patents.

INTELLECTUAL PROPERTY CONFERENCE OF STOCKHOLM, 1967

Report on the Work of Main Committee V (World Intellectual Property Organization) of the Intellectual Property Conference of Stockholm, 1967

by

JOSEPH VOYAME, *Rapporteur*
(Member of the Delegation of Switzerland)

CONTENTS

I. Introduction (paragraphs 1 to 4)
II. Terms of Reference and Work of Main Committee V (paragraphs 5 and 6)
III. Establishment of the New Organization (paragraphs 7 to 11)
IV. The Name of the Organziation (paragraph 12)
V. Objectives of the Organization (paragraphs 13 to 17)
VI. Functions of the Organization (paragraphs 18 to 22)
VII. Membership of the Organization (paragraphs 23 to 26)
VIII. The Organs in General (paragraphs 27 to 30)
IX. The General Assembly (paragraphs 31 to 47)
  (a) Functions (paragraphs 31 to 37)
  (b) Composition (paragraphs 38 to 40)
  (c) Sessions, Quorum and Majority (paragraphs 41 to 46)
  (d) Rules of Procedure (paragraph 47)
X. The Conference (paragraphs 48 to 63)
  (a) Functions (paragraphs 48 to 53)
  (b) Composition (paragraphs 54 to 57)
  (c) Sessions, Quorum and Majority (paragraphs 58 to 62)
  (d) Rules of Procedure (paragraph 63)
XI. The Coordination Committee (paragraphs 64 to 77)
  (a) Functions (paragraphs 64 to 68)
  (b) Composition (paragraphs 69 to 72)
  (c) Sessions, Quorum and Majority (paragraphs 73 to 76)
  (d) Rules of Procedure (paragraph 77)
XII. The International Bureau of Intellectual Property (paragraphs 78 to 83)
XIII. The Headquarters of the Organization (paragraph 84)
XIV. Finances (paragraphs 85 to 97)
  (a) Budgets (paragraphs 85 to 88)
  (b) Contributions (paragraphs 89 to 91)
  (c) Other Provisions (paragraphs 92 to 97)
XV. Legal Capacity; Privileges and Immunities (paragraphs 98 to 101)
XVI. Relations With Other Organizations (paragraphs 102 to 104)
XVII. Becoming Party to the Convention (paragraphs 105 to 107)
XVIII. Entry Into Force of the Convention (paragraphs 108 and 109)
XIX. Reservations (paragraph 110)
XX. Amendments to the Convention (paragraphs 111 to 114)
XXI. Denunciation of the Convention (paragraphs 115 to 117)
XXII. Notifications (paragraph 118)
XXIII. Settlement of Disputes (paragraphs 119 and 120)
XXIV. Final Provisions (paragraphs 121 and 122)
XXV. Transitional Provisions (paragraphs 123 to 126)
XXVI. Conclusion (paragraph 127)

I. INTRODUCTION

1. When the Unions of Paris and Berne were set up in 1883 and 1886, they were provided with Secretariats whose functions, however, were limited: all that was involved was gathering information, carrying out studies in the field of intellectual property, making the results of this work available to the members of the Unions, and preparing revision conferences. In accordance with the practice of that time, a Government, in this case the Government of the Swiss Confederation, assumed the duties of administering the Conventions. Further, the Secretariats were placed under its authority, and it was entrusted with regulating their organization and supervising their operations. The Swiss Government, wishing to make the administrative services of the Unions function as efficiently and economically as possible, later combined the two Secretariats, which thereafter became the "United International Bureaux for the Protection of Industrial, Literary and Artistic Property" (BIRPI), under the responsibility of one Director. That situation has continued until the present.

2. After the second World War, the member States of the Unions felt the legitimate desire to exercise a greater degree of influence on the development of the Unions and on the functioning of BIRPI. They, therefore, established advisory bodies, in particular the Permanent Bureau of the Paris Union and the Permanent Committee of the Berne Union, which have met jointly since 1967 as the "Interunion Coordination Committee."

3. It was this Coordination Committee that recommended in 1962 that a study be carried out with a view to reforming the Unions and BIRPI and adapting them to the system of present-day intergovernmental organizations. The plans drawn up by BIRPI were submitted in 1964 to a Working Party, and then to a Committee of Governmental Experts, which met in 1965 and 1966. It was the texts drafted by this Committee of Experts which, after having been amended on some points by BIRPI (whom the Swedish Government had entrusted with that task), were proposed to

the Diplomatic Conference of Stockholm (Documents S/3 to S/10).

4. The general features of the proposed reform are as follows:

(i) The Unions retain their complete independence and their own tasks: between revision conferences each Union is placed under the exclusive authority of the Assembly of the member States of that Union.

(ii) A new Organization, the World Intellectual Property Organization (WIPO) is set up alongside the Unions; all States members of a Union, and States that satisfy certain conditions indicated in the Convention, may become Members of the Organization. The Organization is entrusted essentially with the coordination of the administrative activities of the Unions and the promotion of the protection of intellectual property throughout the world.

(iii) The Secretariat of the Unions and of the Organization is provided by a joint body, the International Bureau of Intellectual Property, which is a continuation of BIRPI. The Director General of the International Bureau is invested with new rights enabling him to represent the Organization and the Unions at the international level.

(iv) Depending on its various activities, the International Bureau is placed under the authority of the organs of the Unions or of the Organization. However, it is the General Assembly of the member States of the Unions that exercises the main supervision.

II. TERMS OF REFERENCE AND WORK OF MAIN COMMITTEE V

5. Carrying out the reform necessitated the establishment of a new Convention to lay down rules for the new Organization (WIPO Convention). This task was entrusted to Main Committee V. Furthermore, it was necessary to amend the administrative provisions and final clauses of all the Conventions and Agreements in force. This task was entrusted to Main Committee IV.

6. Main Committee V met under the chairmanship of Mr. Eugene M. Braderman (Head of the Delegation of the United States of America) on June 19, 20, 21, 23, and 28, and on July 4, 1967. It held a joint meeting with Main Committee IV on July 5, 1967, under the chairmanship of Mr. Braderman to settle a number of matters common to the two Committees. Main Committee V also set up a Working Group to study the conditions of admission to WIPO; this Working Group met on June 21, 22, and 27, 1967, under the chairmanship of Dr. Arpad Bogsch (Deputy Director of BIRPI). Lastly, the Drafting Committee of Main Committee V, under the chairmanship of Mr. Love Kellberg (member of the Delegation of Sweden), finalized the texts at its meetings of June 27, 28, 29, and July 3, 1967.

III. ESTABLISHMENT OF THE NEW ORGANIZATION

7. Main Committee V started its work by a general discussion of the question of the establishment of the Organization.

8. A number of Delegations, namely those of Bulgaria, Cuba, Czechoslovakia, Germany (Federal Republic), Hungary, Ireland, Israel, Japan, the Netherlands, the Union of Soviet Socialist Republics, and the United States of America, said that their Governments welcomed the establishment of the new Organization, which would, in particular, make possible a better coordination of the activity of the Unions and a more efficient contribution to the economic prosperity of developing countries by assisting them in the creation of a system for the protection of intellectual property.

9. The Delegations of France and Italy said, however, that, in the view of their Governments, the modernization that was needed could be achieved within the framework of the Unions without the need of creating a complicated and costly new Organization; nevertheless, they would not oppose such a creation, which was justified by the fact that the great majority of the member States of the Unions desired it.

10. The representatives of several intergovernmental organizations also spoke in favor of the creation of the new Organization. The representative of UNESCO, however, noted that, within the framework of its duty of promoting education, science, and culture, UNESCO had to deal with copyright at a universal level and therefore had responsibilities that it could not decline.

11. As it was therefore apparent that there was no opposition or objection in principle to the establishment of the new Organization, Main Committee V was able to proceed to the examination of the various points of the draft Convention, submitted to the Conference of Stockholm.

IV. THE NAME OF THE ORGANIZATION

12. The Committee was called upon to decide whether the Organization should be called "International" or "World." It preferred the latter term. An international organization can, in fact, have a restricted geographical area. But the new Organization has a universal calling, and the Unions already comprise the majority of the countries of the world and extend over all five continents. It did not therefore seem pretentious to choose as its name "World Intellectual Property Organization" (WIPO).

V. OBJECTIVES OF THE ORGANIZATION

13. The Preamble and Article 3 of the Convention set out the objectives of WIPO and thereby determine the scope of its activities at the international level. They distinguish clearly between the two essential objectives of the Organization.

14. The first of these objectives, the definition of which is based on a proposal of the Italian Delegation, is to promote the protection of intellectual property throughout the world in order to encourage creative activity in all countries. The expression "intellectual property" is to be understood in its widest sense. As defined in Article 2(viii), it includes all the rights relating to intellectual activity in the industrial, scientific, literary, and artistic fields, to which the commercial field may be added. The same provision contains a non-exhaustive list of the most important items to which these rights may relate: it is worth noting that one item is included which is not yet protected as intellectual property in the majority of countries: scientific discoveries, which obviously include medical discoveries.

15. Under the terms of Article 3(i), WIPO may cooperate, where appropriate, with other international organizations in order to achieve its first objective.

16. The second objective of the Organization is to ensure administrative cooperation among the Unions, without in any way prejudicing their independence.

17. Finally, on the proposal of the Delegation of Rumania, the Committee sought to express the idea that, in pursuing these objectives, the Contracting Parties were also inspired by a loftier purpose, namely by the desire to contribute to better understanding and cooperation among States. The Preamble of the Convention opens with the expression of that noble purpose.

VI. FUNCTIONS OF THE ORGANIZATION

18. In general, the Organization is to take all appropriate action to achieve its objectives. Its main functions are, however, listed in Article 4.

19. The first task of WIPO is to improve the protection of intellectual property throughout the world,

particularly by encouraging the conclusion of international agreements for that purpose (Article 4(iv)) and by contributing to the harmonization of national legislations (Article 4(i)).

20. Furthermore, the Organization is to carry out various administrative tasks. It performs the administrative tasks of the existing Unions (Article 4(ii)) and, if so requested by competent bodies, it may agree to assume, either alone or in cooperation with other international organizations, the administration required for the implemenation of any other treaty, convention or agreement in the field of intellectual property (Article 4(iii)). It maintains services facilitating the international protection of intellectual property at the administrative level, in particular international registration services (Article 4(vii)).

21. As BIRPI has done hitherto, the Organization is to serve as a center of documentation for intellectual property, and to carry out and promote legal and economic studies in this field (Article 4(vi)).

22. Last, but not least, it is to offer its cooperation to States requesting legal-technical assistance (Article 4(v)). This latter term gave rise to some discussion in Main Committee V. This term was intended, on the one hand, to call to mind the expression "technical assistance" which is normally used to describe the aid granted to developing countries, and, on the other, to specify that what is involved is legal assistance—either legislative or administrative—since WIPO is clearly not in a position to provide any other kind of aid to these countries. Such legal-technical assistance may consist, for example, in the organization of seminars and training courses, the supply of experts, the drafting of model laws for developing countries, etc.

VII. MEMBERSHIP OF THE ORGANIZATION

23. The BIRPI Draft distinguished between "Full Members" and "Associate Members," depending upon whether the States in question were members of a Union or not. In order to avoid even the appearance of any discrimination, Main Committee V abandoned this terminology, on the proposal of the Delegations of Czechoslovakia, Hungary, the Netherlands, Poland, and the Soviet Union.

24. In regard to the conditions for admission, BIRPI had submitted a proposal to the Conference, while also mentioning other proposals originating from the 1965 Committee of Experts and the Italian Delegation to that Committee. Committee V also had before it a proposal by the United Kingdom Delegation, and the Delegation of Czechoslovakia took up, in a proposal, one of the alternatives referred to by BIRPI.

25. The question gave rise to a lengthy debate, in which two main opposing theories were put forward. Some delegations held that it was essential to avoid all discrimination, keep entirely to the principle of universality, and hence admit into the Organization any State applying for admission and prepared to accept the provisions of the Convention. Other delegations, while accepting the principle of universality, nevertheless thought it necessary to know whether the applicant was a State and considered that the question was essentially a political one, which a technical organization should not decide; they therefore thought that one should only admit States recognized as such by other international organizations such as the United Nations and its specialized agencies.

26. Finally, the Committee accepted the compromise suggested to it by the Working Group that had been set up to consider the matter; the Working Group, in essence, took over the proposal of BIRPI. Under the terms of this text, which constitutes Article 5 of the Convention, any State which is a member of a Union may become a party to the Organization, and the same applies to any other State if it is invited by the General Assembly of WIPO to become a party or if it is a member of any of the international organizations indicated in Article 5(2)(i).

VIII. THE ORGANS IN GENERAL

27. The BIRPI Draft made provision for four different organs: the General Assembly of the Member States of the Organization and of a Union; the Conference, composed of all the Member States of WIPO; the Coordination Committee; the International Bureau of Intellectual Property. Certain objections were raised only as regards the establishment of the Conference.

28. The Delegations of Czechoslovakia, Hungary, the Netherlands, Poland, and the Soviet Union, proposed in fact that the organ called the "Conference" should not be established. The Delegation of Israel made a similar proposal. In their opinion, it would be simpler and more equitable if States outside any Union were admitted to the General Assembly, albeit solely in an advisory capacity as regards matters which concerned only the States members of a Union.

29. Other delegations opposed the proposal. They pointed out, in particular, that the two purposes of the Organization should be kept quite distinct from each other, and that each should be within the competence of a special organ: the General Assembly for administrative cooperation among the Unions and the supervision of the International Bureau of Intellectual Property, and the Conference for the promotion of intellectual property in the world and, in particular, for legal-technical assistance.

30. Finally, the Committee decided in favor of the establishment of the Conference, considering that that measure constituted an important element of a general compromise.

IX. THE GENERAL ASSEMBLY

(a) *Functions*

31. Without prejudice to the powers and functions of the Conference, the General Assembly is the supreme organ of the Organization.

32. In particular, it appoints the Director General upon nomination by the Coordination Committee (Article 6(2)(i)). If it does not appoint the nominee of the Coordination Committee, the latter has to submit a new nomination, and so forth until an appointment is made (Article 8(3)(v)).

33. The General Assembly reviews and approves the reports and activities of the Coordination Committee as well as the reports of the Director General concerning the Organization; it gives all necessary instructions to both of them (Article 6(2)(ii) and (iii)). This provision, added on the proposal of the Delegation of the Federal Republic of Germany, is intended to indicate more specifically the capacity of the General Assembly as the supreme organ.

34. As regards financial matters, Main Committee V supplemented, with two new provisions, the statement of the functions of the General Assembly. Upon the joint proposal of the Delegations of France, the Federal Republic of Germany, Hungary, Italy, the United Kingdom, the United States of America, and the Soviet Union, a provision was included, under the terms of which the General Assembly adopts the triennial budget of expenses common to the Unions (Article 6(2)(iv)). Further, the Committee adopted a proposal of the Delegation of Austria expressly stating that the General Assembly is competent to adopt the financial regulations of the Organization (Article 6(2)(vi)).

35. It is also the task of the General Assembly to agree to assume the administration of international agreements and to approve the measures taken to that end by the Director General (Article 6(2)(v)).

36. The General Assembly must admit to its meetings, as observers, States Members of the Organization which are not members of any of the Unions (Article 6(5)). It has, however, the right to admit to those meetings also other States and organizations in such a capacity (Article 6(2)(ix)).

37. Finally, Article 6(2)(vii)) confers on the General Assembly the authority to determine the working languages of the Secretariat. This point gave rise to discussion. Under the terms of the BIRPI Draft, the General Assembly should decide what "in addition to English and French, the working languages of the Secretariat" should be. The Delegations of Argentina, Brazil, Spain, and Uruguay, proposed the alternative wording: "determine the working languages of the Secretariat, taking into consideration the practice of the United Nations." This was the text adopted by the Committee. It is obvious, however, that the omission of any specific mention of French and English does not mean that it is intended to abandon either of those languages as working languages. On the other hand, the reference to the practice of the United Nations must not be understood as involving the automatic adoption of the working languages of that Organization. The General Assembly will determine the needs of WIPO and its financial possibilities. Only in cases where the use of a third or fourth working language is necessary, and the expenses thereby incurred are covered, will the General Assembly make them working languages of the Secretariat. These new languages may be introduced gradually as required. Meanwhile, as has been the case hitherto, the Secretariat may, in certain cases, prepare documents in, and arrange for interpretation into, languages other than French and English.

(b) *Composition*

38. The General Assembly consists of the States, members of any Union, which belong to the Organization (Article 6(1)(a)). Each State has one vote, irrespective of the number of Unions to which it belongs (Article 6(3)(a)).

39. Each State which is a member of the General Assembly is represented by one delegation consisting of one delegate, who may be assisted by alternate delegates, advisors, and experts (Article 6(1)(b)). On the proposal of the United Kingdom Delegation, it was provided that the expenses of all such representatives would be borne by the Governments which have appointed them (Article 6(1)(c)). This means that such expenses are not borne by WIPO. The question whether they are effectively borne by the Government concerned is an internal matter which is irrelevant to the Organization.

40. The Delegation of Madagascar proposed, as it had done with reference to the Assemblies of the Unions, that, if a number of countries had a single industrial property office, they should be able to be represented by a single delegation which would then have as many votes as the number of States taking part in that office. A compromise solution was found in respect of the Assembly of the Paris Union. Main Committee V, however, thought that the existence of a common industrial property office had a much more distant bearing on WIPO and that a special provision was not justified in this connection. It accordingly decided that, in the General Assembly, a delegate could represent only one State and vote only in its name (Article 6(3)(i)).

(c) *Sessions, Quorum and Majority*

41. The General Assembly meets every third calendar year in ordinary session: it is convened by the Director General (Article 6(4)(a)).

42. It meets in extraordinary session at the request of one-fourth of its members or at the request of the Coordination Committee, made to the Director General, who then convenes the General Assembly (Article 6(4)(b)). It may not be convened in extraordinary session by the Director General on his own initiative.

43. The BIRPI Draft provided for a quorum of one-third of the members. On the proposal of the Delegation of Czechoslovakia, Main Committee V raised the quorum to one-half (Article 6(3)(b)), as Main Committee IV had done for the Assemblies of the Unions. The quorum is attained when the delegations recorded at the session represent at least one-half of the Member States, whether present at each vote or not.

44. In addition, for cases where the required quorum is not attained, but at least one-third of the Member States are represented, the Committee adopted a solution which is identical with the one adopted by Main Committee IV in respect of the Assemblies of the Unions: the General Assembly may, validly, discuss and, by the required majority, make provisional decisions; these decisions are then submitted in writing to the Member States not represented, which have a period of three months in which to express their vote or abstention; if the new votes cast within this period make up the required quorum, and provided that the necessary majority is not lost as a result of this supplementary vote, the decision becomes final (Article 6(3)(c)). This provision will be completed by the rules of procedure of the General Assembly, which will specify, for example, the form in which provisional decisions are to be submitted to the Member States not represented, the procedure for voting by correspondence, and the end of the three months' period.

45. As regards the required majority, the BIRPI Draft provided in principle for a simple majority, and for majorities of two-thirds, three-fourths, or nine-tenths, for certain decisions. Adopting a proposal made by the Delegation of Czechoslovakia, Main Committee V raised the majority normally required to two-thirds of the votes cast (Article 6(3)(d)), as Main Committee IV had done for the Assemblies of the Unions. In making this amendment, it took account of the great importance of the decisions devolving on the General Assembly. Accordingly, the draft proposals providing for a majority of two-thirds in certain cases could be deleted. On the other hand, those instituting even higher majorities were maintained: agreement to assume, or participate in, the administration of any international agreement, in accordance with Article 4(iii), requires a majority of three-fourths of the votes cast (Article 6(3)(e)), and the required majority is nine-tenths of the votes cast if it is a question of approving an agreement with the United Nations under Articles 57 and 63 of the Charter of the United Nations (Article 6(3)(f)).

46. Lastly, there are some decisions which, although within the competence of the General Assembly, are highly important for the Unions themselves: they concern the transfer of the headquarters of the Organization, the appointment of the Director General, and the administration of new international agreements. In these cases the required majority must be attained not only in the General Assembly but also in the Assembly of the Paris Union and the Assembly of the Berne Union (Article 6(3)(g)). In order to be valid, such decisions must accordingly be taken with the quorum and majority required under Article 6(3)(d) and (e) in each of the three Assemblies.

(d) *Rules of Procedure*

47. The Convention contains provisions only on the most important points. Details, in particular the procedure for discussions in the General Assembly, will be the subject of the rules of procedure to be adopted by that Assembly (Article 6(6)).

X. THE CONFERENCE

(a) *Functions*

48. In general, the Conference, which consists of all States Members of the Organization, exercises the functions allocated to it by the Convention (Article 7(2)(vi)). The main functions are listed in Article 7(2)(i) to (v) and may be divided into five groups.

49. In the first place, the Conference constitutes a forum for exchanges of views in the field of intellectual property between all States Members of the Organization, whether or not they are members of any Union. In this context, the Conference can in particular make recommendations (Article 7(2)(i)). The BIRPI Draft provided that it could also adopt resolutions; but, on the proposal of the Delegation of the United States of America, this provision was deleted, in the belief that the role of the Conference would be better indicated by the single word "recommendations." On the other hand, a text submitted by the Delegation of South Africa to the effect that discussions should relate to "legal-technical questions of general interest in the field of intellectual property" was considered too restrictive by the Committee.

50. Secondly, the Conference is the supreme organ for all matters concerning legal-technical assistance. It accordingly establishes the triennial program of assistance to developing countries (Article 7(2)(iii)).

51. In order to exercise its functions, the Conference has a budget which it establishes every three years (Article 7(2)(ii)). The budget allocations are used to finance the program of legal-technical assistance and to cover the other expenses of the Conference.

52. The Conference is also competent to adopt amendments to the Convention as provided in Article 17 (Article 7(2)(iv)).

53. Lastly, like the General Assembly, it can determine which States and organizations will be admitted to its meetings as observers (Article 7(2)(v)).

(b) *Composition*

54. The Conference consists of all States Members of the Organization, whether they are members of a Union or not (Article 7(1)(a)), and each has one vote (Article 7(3)(a)).

55. There is, however, one case in which, on the joint proposal of France, the Federal Republic of Germany, Hungary, Italy, the Soviet Union, the United Kingdom, and the United States of America, only States not members of any of the Unions are entitled to vote, namely when fixing the amounts of their contributions (Article 7(3)(d)). The quorum and the qualified majority required for the Conference must in this case be attained in this restricted assembly.

56. As in the case of the General Assembly, each Member State is represented in the Conference by a delegation, the expenses of which are normally borne by that State and are in no case borne by WIPO (Article 7(1)(b) and (c)).

57. The Delegation of Madagascar submitted the same proposal in respect of the Conference as it had submitted in respect of the General Assembly. But this proposal was again rejected and the rule that one delegate can represent only one State (Article 7(3)(f)) was thus left unchanged.

(c) *Sessions, Quorum and Majority*

58. The Conference meets every third year in ordinary session, upon convocation by the Director General. For reasons of economy, these meetings are to be held at the same time and place as the General Assembly (Article 7(4)(a)).

59. The Conference also meets in extraordinary session. But its convocation by the Director General is subject to stricter conditions than the convocation of the General Assembly: it must be requested by the majority of Member States (Article 7(4)(b)).

60. The BIRPI Draft provided that, if the agenda included questions exclusively concerning industrial property or copyright, the Conference would meet as the "Industrial Property Conference" or "Copyright Conference." In this way, it was desired to mark the distinction between the two main fields of intellectual property. The Committee considered, however, that this distinction was of little practical interest and that it might give rise to confusion. Consequently, on the proposal of the United Kingdom Delegation, the provision was deleted; it was, however, remarked that the question might be reconsidered in connection with the rules of procedure of the Conference.

61. According to the BIRPI Draft, it was necessary, in order to attain a quorum, for one-third of the Union countries and one-third of the non-Union countries to be represented. The Committee rejected this distinction: it will accordingly be sufficient for one-third of all States Members of the Organization to be represented (Article 7(3)(b)). Moreover, as the quorum had thus been kept at a relatively low level, it was not necessary to provide, should it not be attained, for subsequent written consultation, as had been done for the General Assembly.

62. As in the case of the General Assembly, the required majority was raised to two-thirds of the votes cast (Article 7(3)(c)). It was therefore possible to delete the special provisions which, in the BIRPI Draft, required a qualified majority of two-thirds for certain decisions. The adoption of amendments to the Convention is, however, subject to the triple vote required by Article 17(2).

(d) *Rules of Procedure*

63. Like the General Assembly, the Conference will adopt rules of procedure to determine points of detail, in particular procedural points not regulated by the Convention (Article 7(5)).

XI. THE COORDINATION COMMITTEE

(a) *Functions*

64. The Coordination Committee is both an advisory organ on questions of general interest and the executive organ of the General Assembly and the Conference. In addition, it has some functions of its own. Its most important tasks are listed in Article 8(3) which, like the provisions relating to the General Assembly and the Conference, contains a general clause under which the Coordination Committee performs such other functions as are allocated to it under the Convention (see, for example, Article 11(6), (7) and (8)(c)).

65. The first of the functions listed in Article 8(3) is an advisory one: the Coordination Committee gives advice to the various organs of the Unions and the Organization on matters of common interest to two or more of the unions or to one or more of the Unions and

the Organization itself, in particular regarding the budget of expenses common to the Unions. To the list of organs receiving such advice, the Committee added the Director General, on the proposal of the Delegation of the Federal Republic of Germany.

66. The Coordination Committee also prepares the draft agenda of the General Assembly and of the Conference, as well as the draft program and budget of the Conference (Article 8(3)(ii) and (iii)).

67. Like the Executive Committees of the Unions, the Coordination Committee is responsible for approving the annual budget and program, on the basis of the triennial programs and budgets drawn up by the General Assembly and the Conference (Article 8(3)(iv)). Details will be established in the financial regulations of the Organization.

68. Lastly, under Article 8(3)(v) and (vi), the Coordination Committee has certain functions in the event of a vacancy in the post of Director General or if the term of office of the Director General expires.

(b) *Composition*

69. The Coordination Committee consists of the States party to the WIPO Convention which are members of the Executive Committee of the Paris Union or the Executive Committee of the Berne Union or both Executive Committees. However, in order to ensure the maintenance of the desired equilibrium between the two Unions, this rule applies as such only as long as neither of the two Executive Committees consists of more than one-fourth of the number of the countries members of the Union which elected them (Article 8(1)(a)). In addition, the country on the territory of which the Organization has its headquarters is an *ex officio* member of the Coordination Committee as long as it is under the obligation to grant advances to the Organization in accordance with Article 11(9)(a).

70. In order not to complicate the composition of the Coordination Committee excessively, the other Unions could not be given direct representation on that Committee. The interests of these Unions can, however, be safeguarded by their members on the Executive Committees of the Paris Union or the Berne Union (Article 8(2)). The Paris Convention (Article 14(4)) and the Berne Convention (Article 23(4)) prescribe that, in electing the members of the Executive Committees, the Assemblies should have due regard to the need for countries party to the Special Agreements to be among the countries constituting the Executive Committees. On the other hand, if the Organization subsequently agrees to administer international agreements unconnected with the Paris and Berne Unions, it will be necessary, where appropriate, to make special provision for the representation on the Coordination Committee of the countries party to those agreements.

71. When the Coordination Committee examines questions within the competence of the Conference, it is joined by one-fourth of the States not members of any of the Unions, who are elected by the Conference at each ordinary session (Article 8(1)(c)). According to the BIRPI Draft, this was to occur when the Coordination Committee examined questions "of direct interest to the Conference." The Committee considered that this wording was too vague and made it more specific by saying that the Coordination Committee would be joined by the representatives of non-Union countries when it considers either matters of direct interest to the program or budget of the Conference and its agenda, or proposals for the amendment of the Convention which would affect the rights or obligations of non-Union members of the Organization.

72. The representation of States members of the Coordination Committee is governed in the same way as for the General Assembly and the Conference (Article 8(1)(b) and (d), and (5)(a)). In particular, each member State has only one vote, even if it belongs to the two Executive Committees which constitute the Coordination Committee.

(c) *Sessions, Quorum and Majority*

73. The Coordination Committee meets once every year in ordinary session upon convocation by the Director General (Article 8(4)(a)). As in the case of the General Assembly and the Conference, the Committee added to this rule a provision that the Coordination Committee could meet in extraordinary session. The Director General can convene such sessions on his own initiative, and is obliged to do so at the request of the Chairman of the Coordination Committee or at least one-fourth of its members (Article 8(4)(b)).

74. A quorum is constituted when at least one-half of all member States of the Committee are validly represented at a session (Article 8(5)(b)).

75. The Coordination Committee is to express its opinions and make its decisions by a simple majority of the votes cast (Article 8(6)(a)). However, so that the independence of the Unions will be fully safeguarded, the members present of the Executive Committee of the Paris Union and those of the Executive Committee of the Berne Union will have something in the nature of a right of veto, the procedure for which is established in Article 8(6)(b).

76. Any State Member of the Organization, which is not a member of the Coordination Committee, may be represented at the meetings of the Committee by observers. In accordance with custom, such observers may take part in the debates but have no right to vote (Article 8(7)).

(d) *Rules of Procedure*

77. Like the General Assembly and the Conference, the Coordination Committee is to settle various points of detail, especially concerning procedure, in rules of procedure which it will establish itself (Article 8(8)).

XII. THE INTERNATIONAL BUREAU OF INTELLECTUAL PROPERTY

78. The International Bureau of Intellectual Property is to be the Secretariat of WIPO (Article 9(1)).

79. It is directed by a Director General, who is the chief executive of the Organization (Article 9(2) and (4)(a)). The Director General is appointed by the General Assembly under the conditions laid down by Article 6(2)(i) and (3)(g) and by Article 8(3)(v). The Delegation of France recalled that its Government would have liked to see acceptance of the principle that the Director General should be a national of a State member of the principal Unions of Paris and Berne. However, this principle was not accepted by the Committee so that it will not be necessary for the Director General to be a national of a State member of one or more of the Unions or Member of the Organization.

80. The Director General is empowered to represent the Organization in its relations with third parties (Article 9(4)(b)). He is to conform to the instructions of the General Assembly, to which he will report; he prepares the draft budgets and programs and periodical reports on activities and participates in all meetings of the organs of the Organization or of any other committee or working group; he or a staff member designated by him will be the secretary of all such organs, committees and working groups (Article 9(4)(c), (5), and (6)). It is obvious that all these functions need not necessarily be carried out by the Director General in person; if, for example, he is unable to attend, he will be replaced by the deputy designated by him.

81. The Director General is assisted by two or more Deputy Directors General, whom he appoints himself after his choice has been approved by the Coordination Committee (Article 9(2) and (7)).

82. Furthermore, the Director General appoints the necessary staff. The conditions of employment are to be fixed by the staff regulations to be approved by the Coordination Committee (Article 9(7)).

83. In relation to the recruitment and the rights and duties of the staff of the Organization, the Convention contains provisions similar to those to be found in Articles 100 and 101(3) of the United Nations Charter (Article 9(7) and (8)).

XIII. THE HEADQUARTERS OF THE ORGANIZATION

84. Under Article 10 of the Convention, the headquarters of the Organization will be at Geneva. The General Assembly can decide to transfer it to another place. However, the two-thirds majority needed for this decision to be valid must be attained not only in the General Assembly but also in the Assembly of the Paris Union and in the Assembly of the Berne Union (Article 6(3)(d) and (g)). These provisions did not give rise to any discussion and were unanimously adopted.

XIV. FINANCES

(a) *Budgets*

85. Each Union has its own budget. With regard to the Organization, the BIRPI Draft provided that it should also have a separate budget. Nevertheless, on a proposal of the Delegations of France, the Federal Republic of Germany, Hungary, Italy, the Soviet Union, the United Kingdom, and the United States of America, Main Committee V decided that the Organization would have two separate budgets: the budget of expenses common to the Unions, and the budget of the Conference (Article 11(1)).

86. The budget of expenses common to the Unions, which is to be adopted by the General Assembly (Article 6(2)(iv)), will include provision for expenses affecting more than one Union. It will be financed from the contributions of the Unions, charges due for certain services performed by the International Bureau (Article 11(2)(b)(i) and (ii)), and other less important sources indicated in Article 11(2)(b)(iii) to (v).

87. The budget of the Conference will include provision only for the expenses occasioned by the sessions of the Conference and by legal-technical assistance (Article 11(3)(a)). The expenses appearing in the budget of the Conference will be covered by the contributions of members outside the Unions fixed in accordance with Article 11(4)(a) of the Convention, by the voluntary contributions of the Unions, by sums received by the International Bureau for services rendered in the field of legal-technical assistance, and also by possible gifts, bequests, and subventions (Article 11(3)(b)(i) to (iv)).

88. It may happen that a budget cannot be approved before the beginning of a new financial period. In such a case, the budget will be at the same level as that of the previous year, in accordance with the procedure which will be laid down in the financial regulations (Article 11(4)(e)).

(b) *Contributions*

89. In order to fix the contributions of Members outside the Unions, recourse is to be had to the traditional system of classes, which has been retained by the Unions. It does not, however, seem necessary for contributions to the budget of the Conference to be as differentiated as contributions to the budgets of the Unions; consequently, only three classes were provided for (Article 11(4)(a)).

90. In other respects, contributions to the budget of the Conference are to be calculated in the same way as contributions to the budgets of the Unions. Contrary to what has been the case to date, contributions will be due from the first of January of the financial period for which they are payable and not only in the course of the following year (Article 11(4)(d)). It is thought that in this way the Organization will have appreciably more liquid assets than BIRPI has had hitherto.

91. Arrears in the payment of financial contributions due to the Conference or to one of the Unions can involve loss of the right to vote, in accordance with the provisions of Article 11(5).

(c) *Other Provisions*

92. Like the Unions, the Organization is to have a working capital fund which will be formed of payments by the Unions and by Member States outside the Unions. The payments of the latter will be proportional to their annual contributions. If the fund becomes insufficient, it should be increased (Article 11(8)).

93. As the Organization has two budgets, one of which is within the scope of the General Assembly while the other is the responsibility of the Conference, the question arises which of these two organs will be competent for matters relating to the working capital fund, and in particular for deciding to increase it if it is considered insufficient. The point will have to be settled by the financial regulations.

94. As contributions are payable at the beginning of the financial period and the Organization has a working capital fund, it may be assumed that in normal conditions it should have sufficient liquid funds. But it might run short in extraordinary circumstances. For this reason it was provided that, under the headquarters agreement, the State on whose territory the Organization has its headquarters would have to undertake to make advances to the Organization if the working capital fund were insufficient. On this point, the WIPO Convention contains provisions similar to those of the other Conventions (Article 11(9)).

95. The auditing of the accounts is provided for in the same manner as for the Unions (Article 11(10)).

96. The Paris and Berne Conventions provide that the Assembly of each Union will approve the final accounts. There is no similar provision in the WIPO Convention. This point will therefore have to be dealt with in the financial regulations.

97. In addition to the few points mentioned above, the financial regulations to be drawn up by the General Assembly in accordance with Article 6(2)(vi) will settle the details of all administrative questions relating to the finances of the Organization.

XV. LEGAL CAPACITY; PRIVILEGES AND IMMUNITIES

98. To attain its objectives and exercise its functions, the Organization must naturally enjoy, on the territory of each Member State, such legal capacity as may be necessary in accordance with the provisions of the laws of that State (Article 12(1)). On this point, the Delegations of the United Kingdom, the Netherlands, and Australia, stated that in their view the expression "territory of each Member State" referred, in those States in which such a distinction was made, to the metropolitan territory and any dependent territory to which any of the Conventions may have been declared to apply.

99. The Organization will have to conclude a headquarters agreement with the Swiss Confereration and, should the headquarters be transferred elsewhere, with the new headquarters country (Article 12(2)). These agreements will contain the usual clauses concerning the privileges and immunities guaranteed to the Organization, its officials, and the representatives of Member States. In addition, they will have to include the financial clauses provided for in Article 11(9) and in the parallel provisions of the Conventions of the Unions.

100. Various international agreements contain a general provision to ensure that the organization they create enjoys, on the territory of each Member State, such privileges and immunities as may be necessary for the fulfilment of its purposes and that the same will apply to representatives of Member States and to the officials of the organization to the extent that may be necessary to enable them to exercise their functions in complete independence (see, in particular, Article 105(1) and (2) of the United Nations Charter). The Delegation of Czechoslovakia proposed that a provision of this nature should be inserted in the WIPO Convention. Nevertheless, the Committee considered that the Organization did not require such general clause in the immediate future and that it would be sufficient if it could, if necessary, secure the required privileges and immunities by means of bilateral or multilateral agreements. This is provided for in Article 12(3).

101. Headquarters agreements and bilateral and multilateral agreements concerning privileges and immunities are to be negotiated by the Director General, who will be able to take the initiative freely in such negotiations. On the other hand, it was specified, on the proposal of the Delegations of France and Switzerland, that he will only be able to conclude them, that is to say sign them, after they have been approved by the Coordination Committee (Article 12(4)).

XVI. RELATIONS WITH OTHER ORGANIZATIONS

102. In order to attain its objectives and exercise its functions, WIPO will no doubt have to cooperate with other international organizations. When general working agreements have to be concluded with such organizations, the Director General may take the initiative in negotiating them, but he will not be able to conclude them until he has secured the approval of the Coordination Committee (Article 13(1)). On the other hand, in the case of agreements concerning cooperation in particular cases (for example, to provide specific assistance to a given State), special approval by the Coordination Committee will not be required. But such actions will generally be mentioned in the Organization's program and, if they have financial implications, budget, so that the General Assembly, the Conference, or in any case the Coordination Committee, will have an opportunity to take a position on them.

103. Article 13(1) does not, of course, apply to any agreement which might be concluded with the United Nations under the provisions of Articles 57 and 63 of the United Nations and the Organization seems perfectly adapted to requirements. Of course, it may be that practical problems which cannot be foreseen at present will arise. There is reason to hope, however, that the spirit of international cooperation which was so manifest in the Stockholm Conference will continue to prevail in the new Organization and will allow any difficulties to be resolved. It is in this way that WIPO will be able to achieve the noble purpose which has been assigned to it and give effective encouragement to creative activity, thereby contributing to the spiritual enrichment and the material well-being of mankind as a whole.

[*This report was unanimously adopted by Main Committee V in its eleventh meeting on July 10, 1967.*]

CONVENTION ESTABLISHING THE WORLD INTELLECTUAL PROPERTY ORGANIZATION

Signed at Stockholm on July 14, 1967

THE CONTRACTING PARTIES,

Desiring to contribute to better understanding and cooperation among States for their mutual benefit on the basis of respect for thier sovereignty and equality,

Desiring, in order to encourage creative activity, to promote the protection of intellectual property throughout the world,

Desiring to modernize and render more efficient the administration of the Unions established in the fields of the protection of industrial property and the protection of literary and artistic works, while fully respecting the independence of each of the Unions,

AGREE AS FOLLOWS:

ARTICLE 1.—ESTABLISHMENT OF THE ORGANIZATION

The World Intellectual Property Organization is hereby established.

ARTICLE 2.—DEFINITIONS

For the purposes of this Convention:

(i) "Organization" shall mean the World Intellectual Property Organization (WIPO);

(ii) "International Bureau" shall mean the International Bureau of Intellectual Property;

(iii) "Paris Convention" shall mean the Convention for the Protection of Industrial Property signed on March 20, 1883, including any of its revisions;

(iv) "Berne Convention" shall mean the Convention for the Protection of Literary and Artistic Works signed on September 9, 1886, including any of its revisions;

(v) "Paris Union" shall mean the International Union established by the Paris Convention;

(vi) "Berne Union" shall mean the International Union established by the Berne Convention;

(vii) "Unions" shall mean the Paris Union, the Special Unions and Agreements established in relation with that Union, the Berne Union, and any other international agreement designed to promote the protection of intellectual property whose administration is assumed by the Organization according to Article 4(iii);

(viii) "intellectual property" shall include the rights relating to:

literary, artistic and scientific works,
performances of performing artists, phonograms, and broadcasts.
inventions in all fields of human endeavor,
scientific discoveries,
industrial designs,

trademarks, service marks, and commercial names and designations,
protection against unfair competition,

and all other rights resulting from intellectual activity in the industrial, scientific, literary or artistic fields.

ARTICLE 3.—OBJECTIVES OF THE ORGANIZATION

The objectives of the Organization are:

(i) to promote the protection of intellectual property throughout the world through cooperation among States and, where appropriate, in collaboration with any other international organization,

(ii) to ensure administrative cooperation among the Unions.

ARTICLE 4.—FUNCTIONS

In order to attain the objectives described in Article 3, the Organization, through its appropriate organs, and subject to the competence of each of the Unions:

(i) shall promote the development of measures designed to facilitate the efficient protection of intellectual property throughout the world and to harmonize national legislations in this field;

(ii) shall perform the administrative tasks of the Paris Union, the Special Unions established in relation with that Union, and the Berne Union;

(iii) may agree to assume, or participate in, the administration of any other international agreement designed to promote the protection of intellectual property;

(iv) shall encourage the conclusion of international agreements designed to promote the protection of intellectual property;

(v) shall offer its cooperation to States requesting legal-technical assistance in the field of intellectual property;

(vi) shall assemble and disseminate information concerning the protection of intellectual property, carry out and promote studies in this field, and publish the results of such studies;

(vii) shall maintain services facilitating the international protection of intellectual property and, where appropriate, provide for registration in this field and the publication of the data concerning the registrations;

(viii) shall take all other appropriate action.

ARTICLE 5.—MEMBERSHIP

(1) Membership in the Organization shall be open to any state which is a member of any of the Unions as defined in Article 2(vii).

(2) Membership in the Organization shall be equally open to any State not a member of any of the Unions, provided that:

(i) it is a member of the United Nations, any of the Specialized Agencies brought into relationship with the United Nations, or the International Atomic Energy Agency, or is a party to the Statute of the International Court of Justice, or

(ii) it is invited by the General Assembly to become a party to this Convention.

ARTICLE 6.—GENERAL ASSEMBLY

(1)(a) There shall be a General Assembly consisting of the States party to this Convention which are members of any of the unions.

(b) The Government of each State shall be represented by one delegate, who may be assisted by alternate delegates, advisors, and experts.

(c) The expenses of each delegation shall be borne by the Government which has appointed it.

(2) The General Assembly shall:

(i) appoint the Director General upon nomination by the Coordination Committee;

(ii) review and approve reports of the Director General concerning the Organization and give him all necessary instructions;

(iii) review and approve the reports and activities of the Coordination Committee and give instructions to such Committee;

(iv) adopt the triennial budget of expenses common to the Unions;

(v) approve the measures proposed by the Director General concerning the administration of the international agreements referred to in Article 4(iii);

(vi) adopt the financial regulations of the Organization;

(vii) determine the working languages of the Secretariat, taking into consideration the practice of the United Nations;

(viii) invite States referred to under Article 5(2)(ii) to become party to this Convention;

(ix) determine which States not Members of the Organization and which intergovernmental and international non-governmental organizations shall be admitted to its meetings as observers;

(x) exercise such other functions as are appropriate under this Convention.

(3)(a) Each State, whether member of one or more Unions, shall have one vote in the General Assembly.

(b) One-half of the States members of the General Assembly shall constitute a quorum.

(c) Notwithstanding the provisions of subparagraph (b), if, in any session, the number of States represented is less than one-half but equal to or more than one-third of the States members of the General Assembly, the General Assembly may make decisions but, with the exception of decisions concerning its own procedure, all such decisions shall take effect only if the following conditions are fulfilled. The International Bureau shall communicate the said decisions to the States members of the General Assembly which were not represented and shall invite them to express in writing their vote or abstention within a period of three months from the date of the communication. If, at the expiration of this period, the number of States having thus expressed their vote or abstention attains the number of States which was lacking for attaining the quorum in the session itself, such decisions shall take effect provided that at the same time the required majority still obtains.

(d) Subject to the provisions of subparagraphs (e) and (f), the General Assembly shall make its decisions by a majority of two-thirds of the votes cast.

(e) The approval of measures concerning the administration of international agreements referred to in Article 4(iii) shall require a majority of three-fourths of the votes cast.

(f) The approval of an agreement with the United Nations under Articles 57 and 63 of the Charter of the United Nations shall require a majority of nine-tenths of the votes cast.

(g) For the appointment of the Director General (paragraph (2)(i)), the approval of measures proposed by the Director General concerning the administration of international agreements (paragraph (2)(v)), and the transfer of headquarters (Article 10), the required majority must be attained not only in the General Assembly but also in the Assembly of the Paris Union and the Assembly of the Berne Union.

(h) Abstentions shall not be considered as votes.

(i) A delegate may represent, and vote in the name of, one State only.

(4)(a) The General Assembly shall meet once in every third calendar year in ordinary session, upon convocation by the Director General.

(b) The General Assembly shall meet in extraordinary session upon convocation by the Director General either at the request of the Coordination Committee or at the request of one-fourth of the States members of the General Assembly.

(c) Meetings shall be held at the headquarters of the Organization.

(5) States party to this Convention which are not members of any of the Unions shall be admitted to the meetings of the General Assembly as observers.

(6) The General Assembly shall adopt its own rules of procedure.

ARTICLE 7.—CONFERENCE

(1)(a) There shall be a Conference consisting of the States party to this Convention whether or not they are members of any of the Unions.

(b) The Government of each State shall be represented by one delegate, who may be assisted by alternate delegates, advisors, and experts.

(c) The expenses of each delegation shall be borne by the Government which has appointed it.

(2) The Conference shall:

(i) discuss matters of general interest in the field of intellectual property and may adopt recommendations relating to such matters, having regard for the competence and autonomy of the Unions;
(ii) adopt the triennial budget of the Conference:
(iii) within the limits of the budget of the Conference, establish the triennial program of legal-technical assistance;
(iv) adopt amendments to this Convention as provided in Article 17;
(v) determine which States not Members of the Organization and which intergovernmental and international non-governmental organizations shall be admitted to its meetings as observers:
(vi) exercise such other functions as are appropriate under this Convention.

(3)(a) Each Member State shall have one vote in the Conference.

(b) One-third of the Member States shall constitute a quorum.

(c) Subject to the provisions of Article 17, the Conference shall make its decisions by a majority of two-thirds of the votes cast.

(d) The amounts of the contributions of States party to this Convention not members of any of the Unions shall be fixed by a vote in which only the delegates of such States shall have the right to vote.

(e) Abstentions shall not be considered as votes.

(f) A delegate may represent, and vote in the name of, one State only.

(4)(a) The Conference shall meet in ordinary session, upon convocation by the Director General, during the same period and at the same place as the General Assembly.

(b) The Conference shall meet in extraordinary session, upon convocation by the Director General, at the request of the majority of the Member States.

(5) The Conference shall adopt its own rules of procedure.

ARTICLE 8.—COORDINATION COMMITTEE

(1)(a) There shall be a Coordination Committee consisting of the States party to this Convention which are members of the Executive Committee of the Paris Union, or the Executive Committee of the Berne Union, or both. However, if either of these Executive Committees is composed of more than one-fourth of the number of the countries members of the Assembly which elected it, then such Executive Committee shall designate from among its members the States which will be members of the Coordination Committee, in such a way that their number shall not exceed the one-fourth referred to above, it being understood that the country on the territory of which the Organization has its headquarters shall not be included in the computation of the said one-fourth.

(b) The Government of each State member of the Coordination Committee shall be represented by one delegate, who may be assisted by alternate delegates, advisors, and experts.

(c) Whenever the Coordination Committee considers either matters of direct interest to the program or budget of the Conference and its agenda, or proposals for the amendment of this Convention which would affect the rights or obligations of States party to this Convention not members of any of the Unions, one-fourth of such States shall participate in the meetings of the Coordination Committee with the same rights as members of that Committee. The Conference shall, at each of its ordinary sessions, designate these States.

(d) The expenses of each delegation shall be borne by the Government which has appointed it.

(2) If the other Unions administered by the Organization wish to be represented as such in the Coordination Committee, their representatives must be appointed from among the States members of the Coordination Committee.

(3) The Coordination Committee shall:

(i) give advice to the organs of the Unions, the General Assembly, the Conference, and the Director General, on all administrative, financial and other matters of common interest either to two or more of the Unions, or to one or more of the Unions and the Organization, and in particular on the budget of expenses common to the Unions;
(ii) prepare the draft agenda of the General Assembly;
(iii) prepare the draft agenda and the draft program and budget of the Conference;
(iv) on the basis of the triennial budget of expenses common to the Unions and the triennial budget of the Conference, as well as on the basis of the triennial program of legal-technical assistance, establish the corresponding annual budgets and programs;
(v) when the term of office of the Director General is about to expire, or when there is a vacancy in the post of the Director General, nominate a candidate for appointment to such position by the General Assembly; if the General Assembly does not appoint its nominee, the Coordination Committee shall nominate another candidate; this procedure shall be repeated until the latest nominee is appointed by the General Assembly;
(vi) if the post of the Director General becomes vacant between two sessions of the General Assembly, appoint an Acting Director General for the term preceding the assuming of office by the new Director General;
(vii) perform such other functions as are allocated to it under this Convention.

(4)(a) The Coordination Committee shall meet once every year in ordinary session, upon convocation by the Director General. It shall normally meet at the headquarters of the Organization.

(b) The Coordination Committee shall meet in extraordinary session, upon convocation by the Director

General, either on his own initiative, or at the request of its Chairman or one-fourth of its members.

(5)(a) Each State, whether a member of one or both of the Executive Committees referred to in paragraph (1)(a), shall have one vote in the Coordination Committee.

(b) One-half of the members of the Coordination Committee shall constitute a quorum.

(c) A delegate may represent, and vote in the name of, one State only.

(6)(a) The Coordination Committee shall express its opinions and make its decisions by a simple majority of the votes cast. Abstentions shall not be considered as votes.

(b) Even if a simple majority is obtained, any member of the Coordination Committee may, immediately after the vote, request that the votes be the subject of a special recount in the following manner: two separate lists shall be prepared, one containing the names of the Sattes members of the Executive Committee of the Paris Union and the other the names of the States members of the Executive Committee of the Berne Union; the vote of each State shall be inscribed opposite its name in each list in which it appears. Should this special recount indicate that a simple majority has not been obtained in each of those lists, the proposal shall not be considered as carried.

(7) Any State Member of the Organization which is not a member of the Coordination Committee may be represented at the meetings of the Committee by observers having the right to take part in the debates but without the right to vote.

(8) The Coordination Committee shall establish its own rules of procedure.

ARTICLE 9.—INTERNATIONAL BUREAU

(1) The International Bureau shall be the Secretariat of the Organization.

(2) The International Bureau shall be directed by the Director General, assisted by two or more Deputy Directors General.

(3) The Director General shall be appointed for a fixed term, which shall be not less than six years. He shall be eligible for reappointment for fixed terms. The periods of the initial appointment and possible subsequent appointments, as well as all other conditions of the appointment, shall be fixed by the General Assembly.

(4)(a) The Director General shall be the chief executive of the Organization.

(b) He shall represent the Organization.

(c) He shall report to, and conform to the instructions of, the General Assembly as to the internal and external affairs of the Organization.

(5) The Director General shall prepare the draft programs and budgets and periodical reports on activities. He shall transmit them to the Governments of the interested States and to the competent organs of the Unions and the Organization.

(6) The Director General and any staff member designated by him shall participate, without the right to vote, in all meetings of the General Assembly, the Conference, the Coordination Committee, and any other committee or working group. The Director General or a staff member designated by him shall be *ex officio* secretary of these bodies.

(7) The Director General shall appoint the staff necessary for the efficient performance of the tasks of the International Bureau. He shall appoint the Deputy Directors General after approval by the Coordination Committee. The conditions of employment shall be fixed by the staff regulations to be approved by the Coordination Committee on the proposal of the Director General. The paramount consideration in the employment of the staff and in the determination of the conditions of service shall be the necessity of securing the highest standards of efficiency, competence, and integrity. Due regard shall be paid to the importance of recruiting the staff on as wide a geographical basis as possible.

(8) The nature of the responsibilities of the Director General and of the staff shall be exclusively international. In the discharge of their duties they shall not seek or receive instructions from any Government or from any authority external to the Organization. They shall refrain from any action which might prejudice their position as international officials. Each Member State undertakes to respect the exclusively international character of the responsibilities of the Director General and the staff, and not to seek to influence them in the discharge of their duties.

ARTICLE 10.—HEADQUARTERS

(1) The headquarters of the Organization shall be at Geneva.

(2) Its transfer may be decided as provided for in Article 6(3)(d) and (g).

ARTICLE 11.—FINANCES

(1) The Organization shall have two separate budgets: the budget of expenses common to the Unions, and the budget of the Conference.

(2)(a) The budget of expenses common to the Unions shall include provision for expenses of interest to several Unions.

(b) This budget shall be financed from the following sources:

(i) contributions of the Unions, provided that the amount of the contribution of each Union shall be fixed by the Assembly of that Union, having regard to the interest the Union has in the common expenses;
(ii) charges due for services performed by the International Bureau not in direct relation with any of the Unions or not received for services rendered by the International Bureau in the field of legal-technical assistance;
(iii) sale of, or royalties on, the publications of the International Bureau not directly concerning any of the Unions;
(iv) gifts, bequests, and subventions, given to the Organization, except those referred to in paragraph (3)(b)(iv);
(v) rents, interests, and other miscellaneous income, of the Organization.

(3)(a) The budget of the Conference shall include provision for the expenses of holding sessions of the Conference and for the cost of the legal-technical assistance program.

(b) This budget shall be financed from the following sources:

(i) contributions of States party to this Convention not members of any of the Unions;
(ii) any sums made available to this budget by the Unions, provided that the amount of the sum made available by each Union shall be fixed by the Assembly of that Union and that each Union shall be free to abstain from contributing to the said budget;
(iii) sums received for services rendered by the International Bureau in the field of legal-technical assistance;
(iv) gifts, bequests, and subventions, given to the Organization for the purposes referred to in subparagraph (a).

(4) (a) For the purpose of establishing its contribution towards the budget of the Conference, each State party to this Convention not member of any of the Unions shall belong to a class, and shall pay its annual contributions on the basis of a number of units fixed as follows:

Class A	10
Class B	3
Class C	1

(b) Each such State shall, concurrently with taking action as provided in Article 14(1), indicate the class to which it wishes to belong. Any such State may change class. If it chooses a lower class, the State must announce it to the Conference at one of its ordinary sessions. Any such change shall take effect at the beginning of the calendar year following the session.

(c) The annual contribution of each such State shall be an amount in the same proportion to the total sum to be contributed to the budget of the Conference by all such States as the number of its units is to the total of the units of all the said States.

(d) Contributions shall become due on the first of January of each year.

(e) If the budget is not adopted before the beginning of a new financial period, the budget shall be at the same level as the budget of the previous year, in accordance with the financial regulations.

(5) Any State party to this Convention not member of any of the Unions which is in arrears in the payment of its financial contributions under the present Article, and any State party to this Convention member of any of the Unions which is in arrears in the payment of its contributions to any of the Unions, shall have no vote in any of the bodies of the Organization of which it is a member, if the amount of its arrears equals or exceeds the amount of the contributions due from it for the preceding two full years. However, any of these bodies may allow such a State to continue to exercise its vote in that body if, and as long as, it is satisfied that the delay in payment arises from exceptional and unavoidable circumstances.

(6) The amount of the fees and charges due for services rendered by the International Bureau in the field of legal-technical assistance shall be established, and shall be reported to the Coordination Committee, by the Director General.

(7) The Organization, with the approval of the Coordination Committee, may receive gifts, bequests, and subventions, directly from Governments, public or private institutions, associations or private persons.

(8) (a) The Organization shall have a working capital fund which shall be constituted by a single payment made by the Unions and by each State party to this Convention not member of any Union. If the fund becomes insufficient, it shall be increased.

(b) The amount of the single payment of each Union and its possible participation in any increase shall be decided by its Assembly.

(c) The amount of the single payment of each State party to this Convention not member of any Union and its part in any increase shall be a proportion of the contribution of that State for the year in which the fund is established or the increase decided. The proportion and the terms of payment shall be fixed by the Conference on the proposal of the Director General and after it has heard the advice of the Coordination Committee.

(9) (a) In the headquarters agreement concluded with the State on the territory of which the Organization has its headquarters, it shall be provided that, whenever the working capital fund is insufficient, such State shall grant advances. The amount of these advances and the conditions on which they are granted shall be the subject of separate agreements, in each case, between such State and the Organization. As long as it remains under the obligation to grant advances, such State shall have an *ex officio* seat on the Coordination Committee.

(b) The State referred to in subparagraph (a) and the Organization shall each have the right to denounce the obligation to grant advances, by written notification. Denunciation shall take effect three years after the end of the year in which it has been notified.

(10) The auditing of the accounts shall be effected by one or more Member States, or by external auditors, as provided in the financial regulations. They shall be designated, with their agreement, by the General Assembly.

Article 12.—Legal Capacity; Privileges and Immunities

(1) The Organization shall enjoy on the territory of each Member State, in conformity with the laws of that State, such legal capacity as may be necessary for the fulfilment of the Organization's objectives and for the exercise of its functions.

(2) The Organization shall conclude a headquarters agreement with the Swiss Confederation and with any other State in which the headquarters may subsequently be located.

(3) The Organization may conclude bilateral or multilateral agreements with the other Member States with a view to the enjoyment by the Organization, its officials, and representatives of all Member States, of such privileges and immunities as may be necessary for the fulfilment of its objectives and for the exercise of its functions.

(4) The Director General may negotiate and, after approval by the Coordination Committee, shall conclude and sign on behalf of the Organization the agreements referred to in paragraphs (2) and (3).

Article 13.—Relations With Other Organizations

(1) The Organization shall, where appropriate, establish working relations and cooperate with other intergovernmental organizations. Any general agreement to such effect entered into with such organizations shall be concluded by the Director General after approval by the Coordination Committee.

(2) The Organization may, on matters within its competence make suitable arrangements for consultation and cooperation with international non-governmental organizations and, with the consent of the Governments concerned, with national organizations, governmental or non-governmental. Such arrangements shall be made by the Director General after approval by the Coordination Committee.

Article 14.—Becoming Party to the Convention

(1) States referred to in Article 5 may become party to this Convention and Member of the Organization by:

(i) signature without reservation as to ratification, or
(ii) signature subject to ratification followed by the deposit of an instrument of ratification, or
(iii) deposit of an instrument of accession.

(2) Notwithstanding any other provision of this Convention, a State party to the Paris Convention, the Berne Convention, or both Conventions, may become party to this Convention only if it concurrently ratifies or accedes to, or only after it has ratified or acceded to:

either the Stockholm Act of the Paris Convention in its entirety or with only the limitation set forth in Article 20(1)(b)(i) thereof,

or the Stockholm Act of the Berne Convention in its entirety or with only the limitation set forth in Article 28(1)(b)(i) thereof.

(3) Instruments of ratification or accession shall be deposited with the Director General.

Article 15.—Entry Into Force of the Convention

(1) This Convention shall enter into force three months after ten States members of the Paris Union and seven States members of the Berne Union have taken action as provided in Article 14(1), it being understood that, if a State is a member of both Unions, it will be counted in both groups. On that date, this Convention shall enter into force also in respect of States which, not being members of either of the two Unions, have taken action as provided in Article 14(1) three months or more prior to that date.

(2) In respect to any other State, this Convention shall enter into force three months after the date on which such State takes action as provided in Article 14(1).

Article 16.—Reservations

No reservations to this Convention are permitted.

Article 17.—Amendments

(1) Proposals for the amendment of this Convention may be initiated by any Member State, by the Coordination Committee, or by the Director General. Such proposals shall be communicated by the Director General to the Member States at least six months in advance of their consideration by the Conference.

(2) Amendments shall be adopted by the Conference. Whenever amendments would affect the rights and obligations of States party to this Convention not members of any of the Unions, such States shall also vote. On all other amendments proposed, only States party to this Convention members of any Union shall vote. Amendments shall be adopted by a simple majority of the votes cast, provided that the Conference shall vote only on such proposals for amendments as have previously been adopted by the Assembly of the Paris Union and the Assembly of the Berne Union according to the rules applicable in each of them regarding the adoption of amendments to the administrative provisions of their respective Conventions.

(3) Any amendment shall enter into force one month after written notifications of acceptance, effected in accordance with their respective constitutional processes, have been received by the Director General from three-fourths of the States members of the Organization, entitled to vote on the proposal for amendment pursuant to paragraph (2), at the time the Conference adopted the amendment. Any amendments thus accepted shall bind all the States which are Members of the Organization at the time the amendment enters into force or which become Members at a subsequent date, provided that any amendment increasing the financial obligations of Member States shall bind only those States which have notified their acceptance of such amendment.

Article 18.—Denunciation

(1) Any Member State may denounce this Convention by notification addressed to the Director General.

(2) Denunciation shall take effect six months after the day on which the Director General has received the notification.

Article 19.—Notifications

The Director General shall notify the Governments of all Member States of:

(i) the date of entry into force of the Convention,
(ii) signatures and deposits of instruments of ratification or accession,
(iii) acceptances of an amendment to this Convention, and the date upon which the amendment enters into force,
(iv) denunciations of this Convention.

Article 20.—Final Provisions

(1) (a) This Convention shall be signed in a single copy in English, French, Russian and Spanish, all texts being equally authentic, and shall be deposited with the Government of Sweden.

(b) This Convention shall remain open for signature at Stockholm until January 13, 1968.

(2) Official texts shall be established by the Director General, after consultation with the interested Governments, in German, Italian and Portuguese, and such other languages as the Conference may designate.

(3) The Director General shall transmit two duly certified copies of this Convention and of each amendment adopted by the Conference to the Governments of the States members of the Paris or Berne Unions, to the Government of any other State when it accedes to this Convention, and, on request, to the Government of any other State. The copies of the signed text of the Convention transmitted to the Governments shall be certified by the Government of Sweden.

(4) The Director General shall register this Convention with the Secretariat of the United Nations.

Article 21.—Transitional Provisions

(1) Until the first Director General assumes office, references in this Convention to the International Bureau or to the Director General shall be deemed to be references to the United International Bureaux for the Protection of Industrial, Literary and Artistic Property (also called the United International Bureaux for the Protection of Intellectual Property (BIRPI)), or its Director, respectively.

(2) (a) States which are members of any of the Unions but which have not become party to this Convention may, for five years from the date of entry into force of this Convention, exercise, if they so desire, the same rights as if they had become party to this Convention. Any State desiring to exercise such rights shall give written notification to this effect to the Director General; this notification shall be effective on the date of its receipt. Such States shall be deemed to be members of the General Assembly and the Conference until the expiration of the said period.

(b) Upon expiration of this five-year period, such States shall have no right to vote in the General Assembly, the Conference, and the Coordination Committee.

(c) Upon becoming party to this Convention, such States shall regain such right to vote.

(3) (a) As long as there are States members of the Paris or Berne Unions which have not become party to this Convention, the International Bureau and the Director General shall also function as the United International Bureaux for the Protection of Industrial, Literary and Artistic Property, and its Director, respectively.

(b) The staff in the employment of the said Bureaux on the date of entry into force of this Convention shall, during the transitional period referred to in subparagraph (a), be considered as also employed by the International Bureau.

(4) (a) Once all the States members of the Paris Union have become Members of the Organization, the rights, obligations, and property, of the Bureau of

that Union shall devolve on the International Bureau of the Organization.

(b) Once all the States members of the Berne Union have become Members of the Organization, the rights, obligations, and property, of the Bureau of that Union shall devolve on the International Bureau of the Organization.

IN WITNESS WHEREOF, the undersigned, being duly authorized thereto, have signed this Convention.

DONE at Stockholm, on July 14, 1967.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF MARCH 11, 1968

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
CHEMICAL EXAMINING OPERATION—I. MARCUS, Director.		
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—R. L. CAMPBELL, Manager Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	2-12-65	8-10-62
GENERAL ORGANIC CHEMISTRY, GROUP 120—M. STERMAN, Manager Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	5- 7-65	12-28-62
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Manager Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping and Treating Processes.	4-27-65	3-22-63
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—J. R. LIBERMAN, Manager Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	2-10-65	8-10-62
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Manager Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	1- 8-65	1-29-64
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—J. F. COUCH, Acting Manager Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	6-24-65	12-31-63
SECURITY, GROUP 220—S. BOYD, Manager Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	5-26-65	8-20-64
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—M. L. LEVY, Manager Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	10-20-64	6-18-62
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Manager Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	9-21-64	3-14-62
PHYSICS, GROUP 280—R. L. EVANS, Manager Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	10- 1-65	6-24-63
DESIGNS, GROUP 290—S. BOYD, Manager Industrial Arts; Household, Personal and Fine Arts.	4-12-67	4-20-66

Total number of pending applications (excluding Designs)	174, 257
Total number of Design applications pending	3, 692
Total number of applications awaiting action (excluding Designs)	124, 960
Total number of Design applications awaiting action	1, 718
Date of oldest new application awaiting action	Sept. 21, 1964
Date of oldest amended application awaiting action	March 14, 1962

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during May 1968, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1963*.

Patents	Numbers 2,550,660 to 2,555,299, inclusive
Plant Patents	Number 1,012

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
MECHANICAL EXAMINING OPERATION—F. H. BRONAUGH, Director.		
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Manager	10-20-66	1- 4-65
Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.		
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Manager	4-11-66	7- 2-63
Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders; Woodworking; Tools; Cutlery; Jacks.		
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Manager	10-11-65	5-14-64
Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.		
HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Manager	10- 6-66	8- 4-65
Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.		
FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager	9- 2-66	3- 5-64
Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures.		
TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—W. S. COLE, Manager	3-21-66	5-20-63
Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.		

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

In re Julius Green

No. 7767. Decided June 2, 1967.

[54 CCPA—; 378 F.2d 946; 153 USPQ 808]

1. Patentability—Combining References—Obviousness—35 U.S.C. 103.

"* * * the claims were rejected for obviousness, under 35 U.S.C. 103, in view of Nelson and Eckstein. There is nothing in the Examiner's actions or the decisions of the Board to indicate that any 'anticipatory weight' was given to the Nelson reference. Appellant's allegation that Nelson does not teach the use of turbulent conditions within his device is incredible. The presence of large amounts of popped and unpopped solid kernels of corn in a gas stream would, in our opinion, be sufficient to render the flow turbulent. * * * The reason Nelson does not explicity state that there is turbulence in his flow resides in the fact that the effectiveness of his heating operation is not changed by the presence or absence of turbulence. Be that as it may, the agitation of the unpopped corn to thoroughly and uniformly heat the same, the stated purpose for having turbulence in appellant's application, is clearly disclosed by the above quoted portion of Eckstein."

2. Same—Affidavit—Opinion as to Operation of Reference Device.

"We also agree with the Board that the Woodruff affidavit is purely an opinion affidavit with respect to the operation of Nelson's device and thus not entitled to controlling weight."

3. Same—Particular Subject Matter—"Method of Popping Kernels."

The refusal of certain claims in an application entitled "Method of Popping Kernels," as unpatentable over the prior art, is affirmed.

AFFIRMED.

C. Garman Hubbard (*Ralph H. Hudson, Cameron, Kerkam & Sutton*, of counsel) for appellant.

Joseph Schimmel (*Joseph F. Nakamura*, of counsel) for the Commissioner of Patents.

Before Worley, *Chief Judge*, Rich, Smith, and Almond, *Associate Judges*, and Judge William H. Kirkpatrick *

Kirkpatrick, *J.*, delivered the opinion of the court.

This is an appeal from the decision of the Board of Appeals affirming the Examiner's rejection of claims 2–3 and 5–10 in appellant's application Serial No. 53,722, filed September 2, 1960, for "Method of Popping Kernels." No claim has been allowed.

The invention relates to a method for popping kernels of corn. Claim 2, regarded by the Board as illustrative of the subject matter, reads:

> 2. A method of popping kernels of a material which expands and whose specific gravity decreases with an increase in temperature, comprising passing upwardly into an elongated, relatively narrow transportation zone having a substantially uniform cross-section throughout its length a gas heated to a temperature at which kernels of said material pop when maintained in contact with said gas, introducing unpopped kernels of said material into said transportation zone and into the path of said heated gas, maintaining a gas velocity in said transportation zone substantially greater than the flotation velocity for said unpopped kernels, passing said heated gas and said unpopped kernels from said transportation zone upwardly and in a turbulent condition into an elongated, relatively wide *popping zone having a substantially uniform cross-section throughout its length*, maintaining a gas velocity in at least the upper part of said popping zone less than the flotation velocity for said unpopped kernels but substantially greater than the flotation velocity for said kernels when popped so that said unpopped

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* Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

> kernels are retained in said popping zone in contact with said heated gas, and discharging said heated gas and said popped kernels from said popping zone. [Emphasis added.]

The method calls for feeding kernels of raw corn into an upwardly moving stream of heated gas having a sufficient velocity to carry the kernels upward into a popping zone. At the popping zone, which has a uniform cross-section, the velocity of the gas stream is reduced to retain and suspend the kernels in the zone until they are popped by the heat of the gas. After the kernels are popped, their density is greatly reduced and they are then carried out of the popping zone by the gas stream. The application states:

> It is desirable that the suspended bed or mass of kernels in the popping zone be maintained in a turbulent condition. This condition is secured by using the relatively small diameter, high velocity, inlet air stream somewhat like a jet, blowing it into or near the bottom of the popping zone and allowing it to lose velocity as it expands in eddies and whorls, thus maintaining the mass of suspended kernels in a state of turbulent agitation. This condition insures uniform heating and popping.

The references relied on are:

Nelson, 2,602,134, July 1, 1952.
Eckstein, 904,186, Nov. 17, 1908.

The Nelson patent discloses a high-frequency dielectric heater for popping kernels of corn. Nelson provides a quartz tube through which compressed air flows upwardly to carry unpopped kernels of corn into a popping zone. The popping zone is formed by a portion of the quartz tube which is *funnel-shaped*. The air velocity is adjusted so that it "is just sufficient to support or suspend the grains * * * and the grains remain in that position while they are being heated." The heating element of Nelson is a high frequency dielectric heating means located. outside of the quartz tube. The electromagnetic field generated by the heating means freely penetrates the quartz tube to heat the corn therein. The popped kernels are immediately blown out of the quartz tube because of the reduction in density.

The Eckstein patent discloses a method and apparatus for popping corn wherein the raw kernels of corn are supported by a screen within a popping chamber and heated by a blast of hot air. The reference states:

> The hot blast thus delivered to the popping chamber beneath the screen 11, *agitates* the unpopped corn thereon so that it is *thoroughly and uniformly heated*, and as soon as the corn is popped it is carried out of the popping chamber by the blast. Other forms of heaters could be employed and steam or other gaseous medium could be used in place of the air blast. [Emphasis added.]

The Board affirmed the Examiner's rejection of the claims as being "unpatentable over" Nelson in view of Eckstein. It was the position of the Examiner, as well as that of the Board, that all the limitations recited in the claims except the use of a blast of heated air to pop the corn, are shown in Nelson and that it would be obvious to substitute the heated air of Eckstein for the dielectric heating of Nelson to pop the corn. In answer to appellant's contention that in the Nelson device there is no turbulence whereas in appellant's device there is such turbulence, the Board stated:

> We are not convinced by appellant's arguments, presented in the brief and at the hearing, that no turbulence will exist in the popping zone of Nelson. We do not believe that the statements in [Nelson] * * * can reasonably mean that the grains or kernels reach a plane in the popping zone and remain there motionless until they pop. In our opinion, such operation is not practically possible and turbulence is unavoidable.

Before this court, appellant contends that the Nelson reference was given "improper anticipatory weight" and that the lack of express mention of turbulence in Nelson is "a clear indication that Nelson did not intend there to be any turbulence within his device." Appellant also relies on an affidavit of one George M. Woodruff, a mechanical engineer in the employ of appellant's assignee. The most pertinent portion of the Woodruff affidavit is:

> It is my opinion that in a popping chamber conically shaped in the configuration disclosed in the Nelson reference, the stream of gas would not proceed in the same manner, but would gradually expand with consequent gradual decreasing velocity as it proceeds upwardly through the popping chamber. It would not proceed in a turbulent state or condition as that term is utilized herein and in the specification and claims of the above identified Green application.

After a careful review of the record in the case, we find no reversible error in the decision below.

[1] As indicated above, the claims were rejected for obviousness, under 35 U.S.C. 103, in view of Nelson and Eckstein. There is nothing in the Examiner's actions or the decisions of the Board to indicate that any "anticipatory weight" was given to the Nelson reference. Appellant's allegation that Nelson does not teach the use of turbulent conditions within his device is incredible. The presence of large amounts of popped and unpopped solid kernels of corn in a gas stream would, in our opinion, be sufficient to render the flow turbulent. This also appears to be the Board's view as indicated by the last sentence in the above quoted portion of its opinion. The reason Nelson does not explicity state that there is turbulence in his flow resides in the fact that the effectiveness of his heating operation is not changed by the presence or absence of turbulence. Be that as it may, the agitation of the unpopped corn to thoroughly and uniformly heat the same, the stated purpose for having turbulence in appellant's application, is clearly disclosed by the above quoted portion of Eckstein.

[2] We also agree with the Board that the Woodruff affidavit is purely an opinion affidavit with respect to the operation of Nelson's device and thus not entitled to controlling weight.

[3] The decision of the Board is affirmed.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE HERMAN HOEKSEMA

No. 7778. Decided June 29, 1967

[54 CCPA—; 379 F.2d 1007; 154 USPQ 169]

1. PATENTABILITY — REFERENCE — COMPOUND — ENABLING DISCLOSURE — *In re Brown* DISTINGUISHED.

"Appellant's reliance on the *Brown* case is unwarranted. In *Brown*, the invention related to a composition containing a homopolymer of a perfluoroalkyl siloxane and the reference relied on disclosed a composition containing copolymers of a perfluoroalkyl siloxane. We reversed the Board's decision in that case because the reference itself stated that 'Attempts to prepare fluorine-containing silicone homopolymers have been unsuccessful' thus showing Brown's homopolymers to be not in the possession of the public. There is no comparable showing in the present case. At most, appellant has only demonstrated that *one* method, not here claimed, for making his compound *may* be unobvious and patentable."

2. Same—Compound—Obviousness—Closely Related Compounds.

"A chemical formula is more than just a picture. It conveys to the skilled chemist a great deal about the nature of the compound and how it will react. Given the picture (formula) for one compound, a chemist looking at the formula for another compound which differs so slightly that it is called a homolog generally expects the second compound to have properties similar to the first one. It is settled that if the second closely related compound possesses unexpected advantageous properties, it may well be regarded as unobvious and patentable. *In re Papesch*, 50 CCPA 1084, 315 F.2d 381, 137 USPQ 43."

3. Same—Same—Same—Same—Enabling Disclosure.

"In the present case, the Patent Office proceeds upon the proposition that, given a formula and method for producing one compound, a skilled chemist would know how to produce its homolog unless there is something in the record to demonstrate that he would expect some difficulty in doing so. We cannot say that this assessment of the capability of a person skilled in the art is erroneous."

4. Same—Affidavit—Compound—Reference—Enabling Disclosure.

"There is nothing, other than the affidavit, in the record to indicate that a chemist woud experience difficulty in this regard. In effect, the affidavit selects two methods for making the modification, denies that they will work, and avers that any method that will work will be complex. The affiant does not say that he knows of no other method nor that he believes the ordinary man skilled in the art would not know of any method. Such a pregnant denial is insufficient to place on the record any indication that the required modification of the prior art compound would not be, to one skilled in the art, as obvious as the compound."

5. Same—Compound—Obviousness.

"* * * patentability of the claimed compounds is not determined by the complexity of the method for making them, although complexity may be a factor in determining the obviousness of the method."

6. Same—Evidence—Statements in Brief.

"* * * whether other methods for making the claimed compounds are or are not obvious should be shown by evidence, and statements by counsel in the brief as to unobviousness are given relatively little weight. See. *In re Cole*, 51 CCPA 919, 326 F.2d 769, 140 USPQ 230."

7. Same—Same—Compound—Obviousness—Enabling Disclosure.

"Finally, appellant's contention that it would be more appropriate to charge the Patent Office with the burden of providing evidence relating to the obviousness of processes for making the claimed compounds is without basis. In the present case, the Examiner has cited a reference showing a compound which admittedly makes the claimed compounds prima facie obvious and it is now up to the appellant to rebut that prima facie case by showing the unobviousness of his compounds. This he has failed to do."

8. Same—Particular Subject Matter—"9-D-Psicofuranosylpurine and 6-Substituted Derivatives."

The refusal of a claim to an N-psicofuranoside, as unpatentable over the prior art, is affirmed.

AFFIRMED.

Earl C. Spaeth (*Eugene O. Retter*, *George T. Johannesen*, of counsel) for appellant.

Joseph Schimmel (*Jack E. Armore*, of counsel) for the Commissioner of Patents.

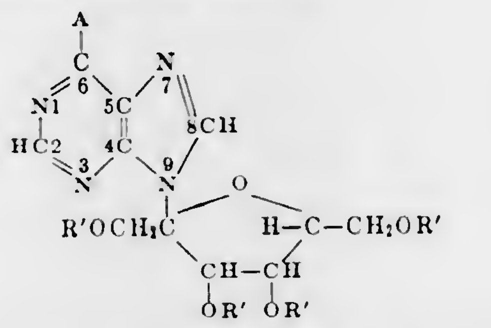
Before **Worley**, *Chief Judge*, **Rich**, **Smith**, and **Almond**, *Associate Judges*, and Judge **William H. Kirkpatrick**.[1]

Kirkpatrick, *J.*, delivered the opinion of the court.

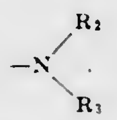
This appeal is from a decision of the Board of Appeals affirming the Examiner's rejection of claim 1 in appellant's application Serial No. 30,770, filed May 23, 1960, for "9-D-Psicofuranosylpurine and 6-Substituted Derivatives." Claims 2 and 11–25 were allowed.

The subject matter is best illustrated by the appealed claim which reads:[2]

1. An N-psicofuranoside having the formula:



wherein A is selected from the class consisting of hydrogen, the group —XR wherein R is selected from the class consisting of hydrogen, lower-alkyl, and lower-aralkyl, and X is selected from the class consisting of oxygen and sulfur, and the group



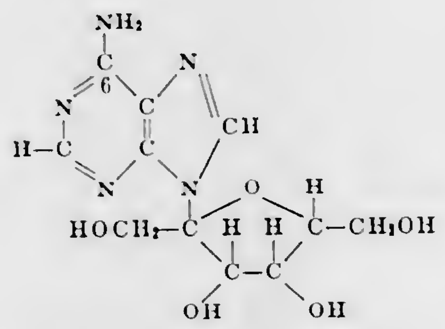
wherein R_2 is selected from the class consisting of hydrogen, lower-alkyl, lower-aralkyl, and lower-aryl, and R_3 is selected from the class consisting of lower-alkyl, lower-aralkyl, and lower-aryl, and R′ is selected from the class consisting of hydrogen, a hydrocarbon carboxylic acid acyl radical containing from two to twelve carbon atoms, inclusive, and a halo-, hydroxy-, lower-alkoxy-, amino-, cyano-, thiocyano-, and nitro-substituted hydrocarbon carboxylic acid acyl radical containing from two to twelve carbon atoms, inclusive.

The compounds embraced in the appealed claim are derivatives of a purine having a D-psicofuranosyl group attached to the 9-position of the purine. The controversy here is limited to the substituent A at the 6-position of the purine ring system. As the appealed claim states, A may represent the group $—NR_2R_3$ wherein R_2 may be a hydrogen, lower alkyl, lower aralkyl or lower aryl, and R_3 may be lower alkyl, lower aralkyl and lower aryl. Thus, the substituent A may be a secondary or tertiary amino group but it may not be a primary or unsubstituted amino group. The allowed claims all relate to products and processes where A is not an amino group.

The reference relied on is:[3]

De Boer et al., 3,094,460, June 18, 1963, (filed January 20, 1959).

In the disclosure of De Boer et al., there is disclosed a new antibiotic material called psicofuranine which has the following structural formula:



It is clear that the appealed claim is readable on psicofuranine except for the substituent on the number 6-carbon in the purine ring system:

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[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

[2] The numbering of the 9H-purine ring system is added to the structural formula in the claim to facilitate subsequent discussions. In this regard, we have been aided by appellant's excellent brief and oral argument.

[3] The Examiner cited a Baker et al. article to show the state of the art. However, the Board states that neither it nor the Examiner relied on the Baker et al. reference to support the rejection. Therefore, we need not consider the Baker et al. article as a reference.

Psicofuranine has a primary amino group whereas the claimed N-psicofuranoside has a substituted amino group at that position.

Recognizing the close resemblance of the reference compound to a compound within the scope of the appealed claim, appellant argued that his 6-lower-alkylamino-9-D-psicofuranosylpurine and 6-di-lower-alkylamino-9-D-psicofuranosylpurine encompassed by the appealed claim are not obvious to one of ordinary skill in the art because De Boer et al. do not teach a method for producing appellant's compounds and because there is no known or obvious method for producing them. Appellant contended that one of ordinary skill in the art would not know how to produce the claimed compounds with the disclosure of the De Boer et al. patent and, therefore, that that patent does not place appellant's compounds in the possession of the public. *In re Brown*, 51 CCPA 1254, 329 F.2d 1006, 141 USPQ 245. In addition, appellant submitted an affidavit by one Dr. Paul F. Wiley who stated: that he does not believe the fermentation process disclosed in De Boer et al. could be adapted to the production of the instant claimed compounds; that the 6-amino-9-D-psicofuranosylpurine of De Boer et al. could not be transformed by direct chemical substitution of the 6-amino group to the presently claimed compounds; and that such transformations could be carried out only by a complex multi-step procedure such as that described in the application on appeal.

The Examiner rejected the appealed claim as being obvious in view of the disclosure of De Boer et al. under 35 U.S.C. 103. It was the Examiner's position that the psicofuranine of De Boer et al. is the next lower homolog of a specific compound within the scope of the appealed claim: namely, where A is —NH-lower alkyl. The Examiner further was of the opinion that appellant's claimed 6-lower-alkylamino compound is so closely related to the 6-amino homolog of De Boer et al. as to be obvious to a chemist of ordinary skill and thus prima facie unpatentable thereover. With respect to the Wiley affidavit, the Examiner commented that it is directed to the *processes* for preparing various compounds and it shows nothing unobvious for the claimed *compounds.* The Examiner also gave little weight to the affidavit since it is not supported by experimental data.

The Board affirmed the decision of the Examiner. Noting that the appellant's position is that the reference is not an enabling disclosure and recognizing this court's comment in *In re Riden*, 50 CCPA 1411, 318 F.2d 761, 138 USPQ 112 that "the method of making the compounds is a relevant fact to be considered in the question of obviousness of the compounds," the Board stated that in its opinion the method of making the compound should never be the overriding factor in determining the question of obviousness of the compound. The Board further pointed to the fact that although appellant stated that his complex multi-step process is necessary to introduce the alkylamino substituent, he has not asserted it is the *only* method. Continuing, the Board stated:

> We believe any chemist of average competence would recognize that in a compound having several reactive groups, such as here involved, the direct approach is seldom feasible but that blocking of the various reactive groups ultimately to be retained is first necessary. This was also pointed out to appellant's counsel at the oral hearing with specific reference to the practice in the synthesis of steroids. Therefore here, as in Riden et al. supra, there is no basis for definitely concluding that a chemist could not, within his skill, produce the compound in controversy.
>
> Under the circumstances and on the basis of the record before us, we do not believe appellant should prevail solely on the asserted difficulty of making the claimed compounds or the fact that he has been allowed process claims for *one* method to that end.[4] [Emphasis and footnote ours.]

Before this court, appellant admits that his 6-lower-alkylamino compounds would not be patentable if an operable method for making them would have been obvious at the time the invention was made to one of ordinary skill in this art. Appellant has not submitted any showing of unexpected properties possessed by his compounds but he predicates patentability solely on the alleged unobviousness of the process for making the claimed compounds. As to this process, appellant notes that his "complex multi-step procedure," for transforming the 6-amino-9-D-psicofuranosylpurine of De Boer et al., differs from allowed process claim 23 only in that claim 23 does not recite the last step in said procedure. By implication, appellant argues, the procedure for preparing the alkylamino compounds, reciting an additional reaction step or a further limitation, is also patentable. Appellant's position is then:

> Appellant does not insist his multi-step processes are unique for the production of his 6-lower-alkylamino compounds. Rather, his position is that any method useful to make his compounds is likely to be of equal complexity, unobvious, and not within the ordinary skill of a chemist.
>
> * * * * * * *
>
> The Patent Office would have appellant show that *all* possible methods are unobvious or that *no* method is obvious. It would seem far more appropriate, and in accord with 35 U.S.C. 132, that the Patent Office be charged in this and similar cases with the burden of providing evidence relating to processes when, as here, an applicant has shown by uncontroverted evidence that the only reference cited by the Patent Office does not teach one of ordinary skill in this art how to make the compounds in question.

The facts in this case are closely analogous to those of *In re Riden*, supra. In the *Riden* case, the applicants also predicated patentability on a contention that the reference method could not produce the sulfones there claimed. This court there stated:

> As to the method of making the compounds claimed being different from Boehme et al., we agree with appellants that this fact is relevant. Chemical cases should not be decided solely on the basis of homology or analogy in structural formulae. The determination of obviousness is not the mechanistic overlaying of chemical formulae to observe whether a difference greater than a methylene group or a chlorine atom exists. * * * *The record does not show whether there are other methods, besides appellants', for making the compounds. It has never been asserted that the method used by appellants is the only method possible for producing the compounds.* Accordingly, we are of the opinion that the difference in making the analogous compounds, though relevant, is entitled to little weight in the consideration of the obviousness of the compounds in question. [Emphasis added.]

We find the above language applicable to the present case.

[1] Appellant's reliance on the *Brown* case is unwarranted. In *Brown*, the invention related to a composition containing a homopolymer of a perfluoroalkyl siloxane and the reference relied on disclosed a composition containing copolymers of a perfluoroalkyl siloxane. We reversed the Board's decision in that case because the reference itself stated that "Attempts to prepare fluorine-containing silicone

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[4] The Solicitor's brief stated this point in another way:

> It is evident that a particular process for making an unpatentable product may be patentable but that other obvious procedures may also be available and apparent to those skilled in the art.

homopolymers have been unsuccessful" thus showing Brown's homopolymers to be not in the possession of the public. There is no comparable showing in the present case. At most, appellant has only demonstrated that *one* method, not here claimed, for making his compound *may* be unobvious and patentable.

[2] A chemical formula is more than just a picture. It conveys to the skilled chemist a great deal about the nature of the compound and how it will react. Given the picture (formula) for one compound, a chemist looking at the formula for another compound which differs so slightly that it is called a homolog generally expects the second compound to have properties similar to the first one. It is settled that if the second closely related compound possesses unexpected advantageous properties, it may well be regarded as unobvious and patentable. *In re Papesch*, 50 CCPA 1084, 315 F.2d 381, 137 USPQ 43.

[3] In the present case, the Patent Office proceeds upon the proposition that, given a formula and method for producing one compound, a skilled chemist would know how to produce its homolog unless there is something in the record to demonstrate that he would expect some difficulty in doing so. We cannot say that this assessment of the capability of a person skilled in the art is erroneous.

[4] There is nothing, other than the affidavit, in the record to indicate that a chemist would experience difficulty in this regard. In effect, the affidavit selects two methods for making the modification, denies that they will work, and avers that any method that will work will be complex. The affiant does not say that he knows of no other method nor that he believes the ordinary man skilled in the art would not know of any method. Such a pregnant denial is insufficient to place on the record any indication that the required modification of the prior art compound would not be, to one skilled in the art, as obvious as the compound.

Appellant's allegation that "any method useful to make his compounds is likely to be of equal complexity, unobvious, and not within the ordinary skill of a chemist" is unpersuasive of error in the decision below. [5] In the first place, patentability of the claimed compounds is not determined by the complexity of the method for making them, although complexity may be a factor in determining the obviousness of the method. [6] Secondly, whether other methods for making the claimed compounds are or are not obvious should be shown by evidence, and statements by counsel in the brief as to unobviousness are given relatively little weight. See, *In re Cole*, 51 CCPA 919, 326 F.2d 769, 140 USPQ 230.

[7] Finally, appellant's contention that it would be more appropriate to charge the Patent Office with the burden of providing evidence relating to the obviousness of processes for making the claimed compounds is without basis. In the present case, the Examiner has cited a reference showing a compound which admittedly makes the claimed compounds prima facie obvious and it is now up to the appellant to rebut that prima facie case by showing the unobviousness of his compounds. This he has failed to do.

[8] The decision is affirmed.

AFFIRMED.

WORLEY, *Chief Judge*, and SMITH, *J.*, concur in the result.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,806,331, E. J. Hoye, GRINDING WHEELS, **filed** Nov. 16, 1967, D.C., E.D. Wis. (Milwaukee), Doc. 67–C–388, *Emmet J. Hoye* v. *Service Products Corp.*

2,916,851, C. M. Groschen, TOY VEHICLE CAB CONSTRUCTION, **filed** May 1, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c719, *Tonka Corp.* v. *King Seeley Thermos Co.* Order of dismissal by stipulation, Nov. 22, 1967.

2,919,042, J. V. Kierulff, TRAVELLING SHIP-LOADING CRANE, **filed** Nov. 17, 1967, D.C. Oreg. (Portland), Doc. C–67–595, *Jorgen V. Kierulff* v. *Scrap Loaders, Inc. et al.*

2,953,791, J. Mintzer, WAISTBAND CONSTRUCTION, **filed** June 2, 1967, D.C., E.D. Pa. (Philadelphia), Doc. 42868, *Jacob Mintzer* v. *S. Rudofker's Sons, Inc.* Consent judgment granted in favor of plaintiff, Nov. 1, 1967.

2,964,973, G. A. Bergfors, PEDAL AND FOOT STRAP THEREFOR, **filed** June 6, 1967, D.C.N.J. (Newark), Doc. 598–67, *Exercycle Corporation* v. *Anthony Di Antoni and Mencor Inc.* Stipulation and order of dismissal, Nov. 21, 1967.

2,968,622, R. W. Brazda, PORTABLE HEATER FOR TRUCKS AND THE LIKE, **filed** Jan. 12, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c94, *Stuart W. Johnson & Co.* v. *Ro-Ber Inc., White's Metal Fabricating Co., and Bert L. White.* Judgment; plaintiff ower of patent. Defendant has infringed; counterclaim dismissed; defendant et al. enjoined, etc., Nov. 20, 1967.

2,987,440, Junkmann, Kathol and Richter, INJECTABLE HORMONE PREPARATIONS, **filed** Nov. 15, 1965, D.C. Ariz. (Phoenix), Doc. C–5789 Phx., *E. R. Squibb and Sons, Inc.* v. *Myers-Carter Laboratories, Inc.* Patent valid; E. R. Squibb & Sons, Inc., now the owner thereof by assignment; defendants are enjoined, Nov. 16, 1967.

3,002,219, J. A. Bried, METHOD OF AND APPARATUS FOR PICKING FOWL, **filed** Nov. 24, 1967, D.C., N.D. Calif. (San Francisco), Doc. 48278, *Margery Bried Masterson* v. *Foster Poultry Farms.*

3,014,515, Meeker and Hartley, FOOD PROCESSING MACHINE, **filed** Dec. 4, 1967, D.C., S.D. Ohio (Dayton), Doc. C–3487, *The Hobart Mfg. Co.* v. *Air City Food Machine & Scale Co. and Westlein Butcher Supply Co.*

3,083,104, R. F. Celmer, METHODS FOR RECOVERING LIQUIDS FROM VEGETATIVE MATERIALS, **filed** Apr. 29, 1964, D.C., W.D.N.Y. (Buffalo), Doc. C–10,909, *The Taylor Wine Company, Inc.* v. *Ralph F. Celmer.* Judgment and order for defendant, Nov. 13, 1967.

3,177,871, P. H. Meyers, DISPOSABLE SANITARY CONTAINER FOR RADIOGRAPHIC ENEMAS, **filed** Nov. 22, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c2037, *Phillip H. Meyers and Howard S. Stern* v. *Baxter Laboratories, Inc., and Travenol Laboratories, Inc.*

3,211,709, Adamek, Dudley and Woodhams, SULFUR-VULCANIZABLE INTERPOLYMERS OF AT LEAST TWO ALPHA-OLEFINS AND AN UNSATURATED BRIDGED-RING HYDROCARBON, **filed** Nov. 17, 1967, D.C. Del. (Wilmington), Doc. 3439, *Hercules Incorporated* v. *Enjay Chemical Company.*

3,252,149, Welda, Richards, Berezin, Knoll and Rosenblatt, DATA PROCESSING SYSTEM, **filed** Nov. 27, 1967, D.C., E.D.N.Y. (Brooklyn), Doc. 67C–1119, *Digitronics Corp.* v. *The New York Racing Assn. Inc. et ano.*

3,281,105, Kafferlin and Armstrong, CHAIR BASE, **filed** Nov. 27, 1967, D.C., N.D. Ohio (Cleveland), Doc. C67–876, *Corry Jamestown Corporation* v. *Faull & Son Tool & Die Company.*

REISSUES

APRIL 23, 1968

Matter enclosed in heavy brackets **[ ]** appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

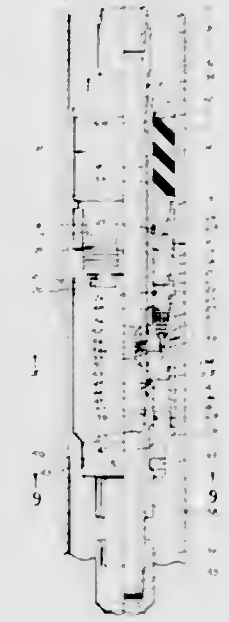
26,379

HYDROSTATIC PRESSURE SET WELL PACKER

Chudleigh B. Cochran and John B. Davis, Houston, Tex., assignors to Cicero O. Brown, Houston, Tex.

Original No. 3,180,419, dated Apr. 27, 1965, Ser. No. 205,603, June 27, 1962. Application for reissue July 18, 1966, Ser. No. 573,139

20 Claims. (Cl. 166—120)



2. A hydrostatic pressure-set well packer, comprising, a tubular body connectible into a pipe string containing a column of hydraulic fluid, an annular radially expandible anchor-and-seal assembly slidably mounted about the body, a fixed abutment member and a longitudinally movable abutment means mounted about the body on opposite sides of said assembly, said movable abutment means being operable in response to hydraulic pressure from within said body to actuate said anchor-and-seal assembly, said movable abutment means comprising a sleeve piston and means cooperating therewith to define an expansible pressure chamber about said body, initially closed inlet passage means providing hydraulic fluid pressure communication between the bore of said body and said pressure chamber, means operable from within the bore of said body to open said inlet passage means to communication with hydrostatic pressure of said column of fluid, and means mounted on the body cooperating with said movable abutment means constructed and arranged to balance fluid pressures externally of said packer across said movable abutment means.

26,380

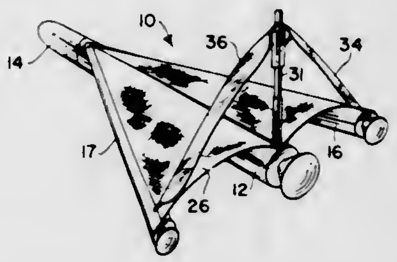
FLEXIBLE WING VEHICLE CONFIGURATIONS

Francis M. Rogallo, 17 Milford Road, Newport News, Va. 23601

Original No. 3,185,412, dated May 25, 1965, Ser. No. 276,664, Apr. 29, 1963. Application for reissue May 15, 1967, Ser. No. 642,250

23 Claims. (Cl. 244—49)

Flexible wing configurations which are associated with booster mechanism. The flexible wing material and is support structure is compacted by various techniques to facilitate launch and is thereafter positioned to form a wing allowing recovery of spent booster structure and payload.



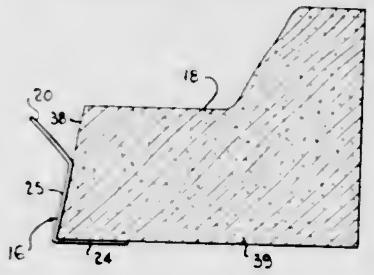
26,381

HOT TOP BOTTOM RING AND METHOD FOR FORMING SAME

Darold W. Thiem, Elm Grove, and Gordon W. Gottschalk, Hales Corners, Wis., assignors to Universal Refractories Corporation, Milwaukee, Wis.

Original No. 3,110,942, dated Nov. 19, 1963, Ser. No. 108,203, May 5, 1961. Application for reissue Aug. 16, 1965, Ser. No. 485,145

10 Claims. (Cl. 249—202)



A hot top bottom ring having a wiper strip securely mounted in a flush relationship to the corner formed by the intersection of the base face and edge face of the refractory ring and the method used to accomplish this result.

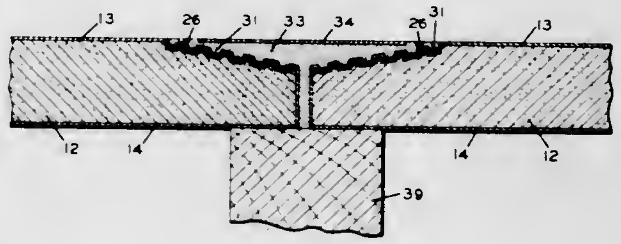
26,382

JOINT STRUCTURE FOR PLASTERBOARD

Paul W. Tillisch, Antioch, and Albert F. Raffaeli, Concord, Calif., assignors to Kaiser Gypsum Company, Inc., Oakland, Calif., a corporation of Washington

Original No. 3,180,058, dated Apr. 27, 1965, Ser. No. 827,367, July 15, 1959. Application for reissue Oct. 7, 1966, Ser. No. 615,864

8 Claims. (Cl. 52—417)



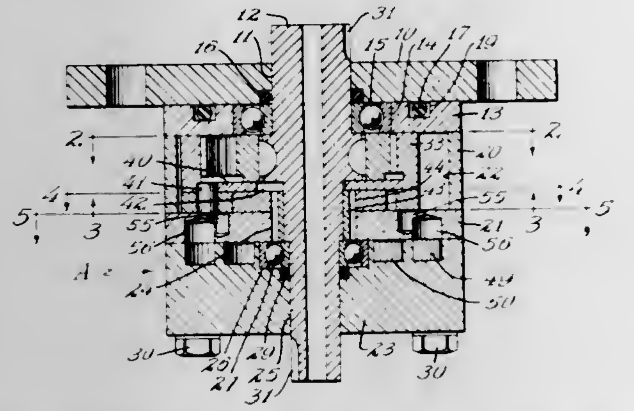
12. In dry wall construction a pair of gypsum core boards having paper covers and disposed in abutting relation to form a joint, said boards having tapered edges and shallow, discontinuous depressions disposed in a plurality of longitudinal and transverse rows in said tapered edges and maintaining said paper in unbroken *state, joint cement on said tapered edges at said joint and fibrous tape applied over said cement, at least some of said depressions underlying the edges of said tape.*

26,383
HYDRAULIC TORQUE MOTORS

Mortimer J. Huber, St. Paul, Minn., assignor, by mesne assignments, to Gresen Manufacturing Company, a corporation of Wisconsin

Original No. 3,215,043, dated Nov. 2, 1965, Ser. No. 220,355, Aug. 30, 1962. Application for reissue Oct. 31, 1966, Ser. No. 597,499

22 Claims. (Cl. 91—56)



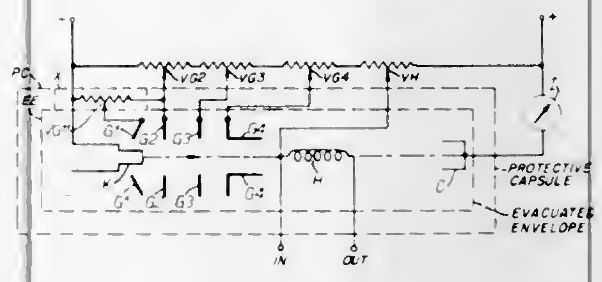
A fluid operated motor in which a gerotor fluid handling mechanism is operated with a first element stationarily disposed in a chamber of a housing and a second element is allowed to orbitally rotate about the first element. The rotational motion of the second element is transmitted to a shaft that is rotatably journaled in the housing coaxially of the first gerotor element so that the shaft rotates at a different speed of rotation than the second gerotor element.

26,384
ULTRA LOW NOISE TRAVELLING WAVE TUBE HAVING A GRID VOLTAGE ARRANGEMENT THAT INCLUDES A PRE-SET POTENTIOMETER

Graeme Oliver Chalk, Chelmsford, England, assignor to English Electric Valve Company Limited, London, England, a British company

Original No. 3,293,479, dated Dec. 20, 1966, Ser. No. 392,198, Aug. 26, 1964. Application for reissue Mar. 31, 1967, Ser. No. 637,017

4 Claims. (Cl. 315—3.5)



1. An ultra low noise travelling wave tube comprising a cathode, a delay line, a collector, at least three grids spaced between said cathode and said collector, a potentiometer having two end terminals and a slider terminal movable between said two end terminals, the slider terminal of said potentiometer being coupled to one of the two grids closest to said cathode, one end terminal of said potentiometer being coupled to the other of said two grids closest to said cathode, means for applying an individually adjustable potential between the two end terminals of said potentiometer, and means for applying [individually adjustable] *individual* potentials to said collector, delay line, and the remaining grids of said travelling wave tube.

PLANT PATENTS

GRANTED APRIL 23, 1968

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing

2,806
APPLE TREE

Bud A. Hoekman, Zillah, Wash. 98953

Filed Nov. 21, 1966, Ser. No. 596,023

1 Claim. (Cl. Plt.—34)

Discovered as a chance seedling in a cultivated orchard, this new variety produces fruit resembling Golden Delicious, but differing therefrom in flavor, firmness, color and surface finish. Less upright in growth than Starking Delicious, the tree is not as spreading as Golden Delicious. Other distinguishing features are also noted.

2,807
PEACH TREE

Mabel A. Logan, Rte. 2, Box 1269,
Grass Valley, Calif. 95945

Filed Dec. 16, 1966, Ser. No. 602,430

1 Claim. (Cl. Plt.—43)

1. A new and distinct variety of peach tree, substantially as illustrated and described, characterized by the regular and very productive bearing of large, freestone, globose fruit having golden yellow flesh streaked with red adjacent the pit cavity, and yellow skin partially overspread and mottled with red; and further characterized by a ripening period of the fruit about three weeks after the Rio Oso Gem.

2,808
PEACH TREE

Mabel A. Logan, Rte. 2, Box 1269,
Grass Valley, Calif. 95945

Filed Dec. 16, 1966, Ser. No. 602,431

1 Claim. (Cl. Plt.—42)

1. A new and distinct variety of peach tree, substantially as illustrated and described, characterized by the regular and productive bearing of large, globose, freestone fruit having white flesh streaked and flecked with red, and a light yellow skin overspread to a substantial extent with red which is partially streaked and mottled; and further characterized, in comparison to the nectar which it generally resembles, by fruit having a ripening period four to five weeks later.

PATENTS

GRANTED APRIL 23, 1968

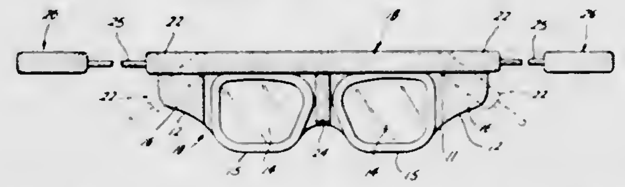
GENERAL AND MECHANICAL

3,378,851
SOFT FRAME ADJUSTABLE EYEGLASSES

Robert O. McBrayer, Houston, Tex., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed July 6, 1966, Ser. No. 563,646

4 Claims. (Cl. 2—14)



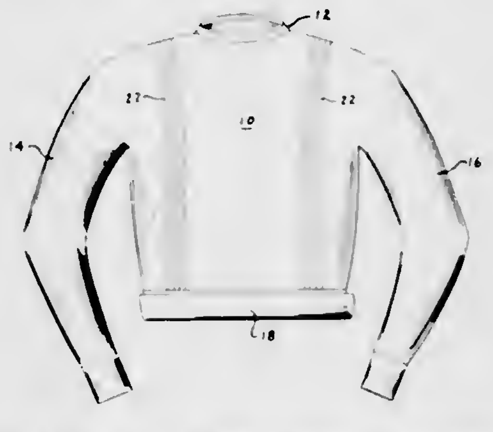
A pliable frame for sunglasses suitable for folding and efficient packaging in emergency survival kits may be constructed from a laminate of nylon and "Velcro." The sunglasses are held in place by two elastic bands which extend from respective sides of the sunglass frame around the wearer's head and are secured together by cooperating "Velcro" tabs on respective terminating ends thereof.

3,378,852
SWEATER

Jean M. Harter, 604 S. 7th St., Goshen, Ind. 46526

Filed Nov. 30, 1964, Ser. No. 414,645

2 Claims. (Cl. 2—90)



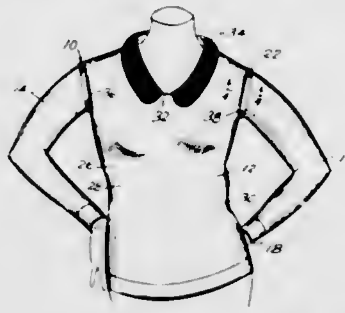
A knitted garment having ornamental portions such as stripes sewed thereon, the stripes being of knitted construction stretchable in all directions so that they form a basic part of the garment and stretch therewith.

3,378,853
CONVERTIBLE SWEATER CONSTRUCTION

Jeannette I. Flerst, Great Neck, N.Y.
(Rm. 200, 545 5th Ave., New York, N.Y. 10017)

Filed June 1, 1965, Ser. No. 460,155

1 Claim. (Cl. 2—90)



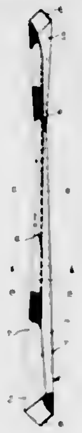
A convertible sweater construction having selectively attachable sleeves interconnecting to respective armholes in the body of the sweater, the armholes being provided with concealing and protecting means in the form of a flexible band which may be folded and retained in folded condition around the edge of the armhole, to conceal the interconnecting means associated therewith.

3,378,854
LINED NECKTIE

George Limperos, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Nov. 1, 1966, Ser. No. 591,310

2 Claims. (Cl. 2—146)



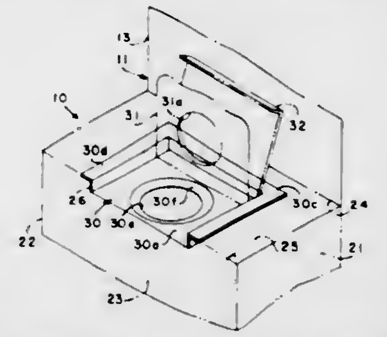
1. A necktie of the type having an inner liner, said inner liner consisting of nonwoven synthetic fibers, about 90% to about 95% by weight of said inner liner being polyethylene terephthalate filaments secured in place by a binder of polyethylene terephthalate/isophthalate bonded to said polyethylene terephthalate filaments and composing about 5% to about 10% by weight of said inner liner, said inner liner being a unitary nonwoven structure having a tensile modulus of less than about 900 pounds per square inch, a thickness in the range of 0.025 to 0.100 inch, a density in the range of about 0.07 to 0.13 gram/cm.^{3}, and a bending length of about 3.7 cm. or less, whereby the necktie exhibits the desired characteristics of stretch, softness, ability to hang flat, resistance to wrinkling, and sufficient body to form a good knot.

3,378,855
TOILET UNIT

Clarence A. Springer, 345 N. Sunnyvale,
Sunnyvale, Calif. 94086

Original application Sept. 20, 1963, Ser. No. 310,313, now Patent No. 3,266,060, dated Aug. 16, 1966. Divided and this application Jan. 14, 1966, Ser. No. 520,720

12 Claims. (Cl. 4—10)

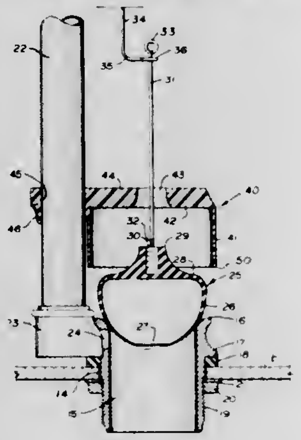


1. A toilet unit comprising a recessed counter sink, said counter sink being formed with an opening in a

bottom wall thereof and with the upper surfaces of said bottom wall being slanted downwardly and inwardly toward the openings of said bottom wall, means for supporting said counter sink, and a closet bowl fixedly mounted for disposition below said opening of said counter sink, said bowl having an opening thereof in register with the opening of said counter sink.

3,378,856
FLOAT VALVE GUIDE FOR WATER CLOSET TANK

Orvan J. Bennett, Fort Lupton, Colo., assignor to Orvan J. Bennett, Fort Lupton, Jack E. Bennett, Denver, and Aldena A. Baskor, Longmont, Colo.
Filed Aug. 27, 1965, Ser. No. 483,260
3 Claims. (Cl. 4—57)

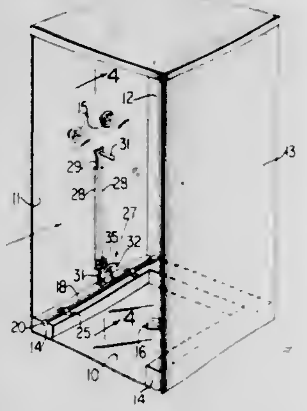


The invention concerns a float valve guide for a standard water closet tank. The guide replaces the conventional metal sleeve through which the lift rod on the float valve would conventionally extend. The guide is formed as an inverted, cup-like structure adapted to receive the float valve. It has an enlarged orifice in its top to receive the boss at the top of the float valve.

The cup-shaped float valve guide is sized and positioned to receive and to hold the float valve a suitable distance above the entrance seat of the discharge pipe at the floor of the water tank so that it will drop upon the seat as the tank drains. When lifted, the float valve fits loosely within the guide, with the float valve boss being in the orifice top. When the float valve is dropped onto the seat to close the water tank, the lift rod is in the orifice where it is permitted to swing to any of a number of various positions which the float valve might assume while it is moving to its seat.

3,378,857
STALL SHOWER

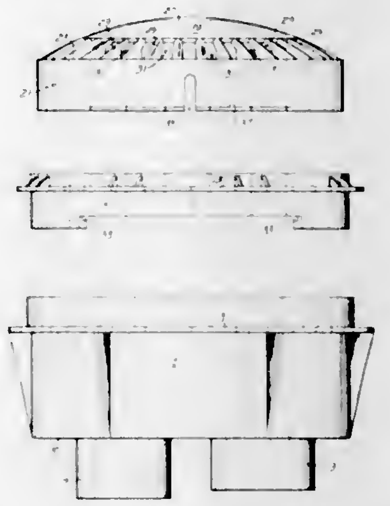
Arsene N. Lucian, P.O. Box 300, Manasquan, N.J. 08736
Filed June 26, 1967, Ser. No. 648,651
7 Claims. (Cl. 4—146)



The present invention relates to baths, and more particularly to an improved stall shower. A stall shower wherein sprays of water are directed upwardly against a person in the shower from a pipe on a ledge at the floor of the shower, and mechanism is provided for moving the pipe to vary the angle at which the sprays are directed against the person.

3,378,858
DRAIN ASSEMBLY

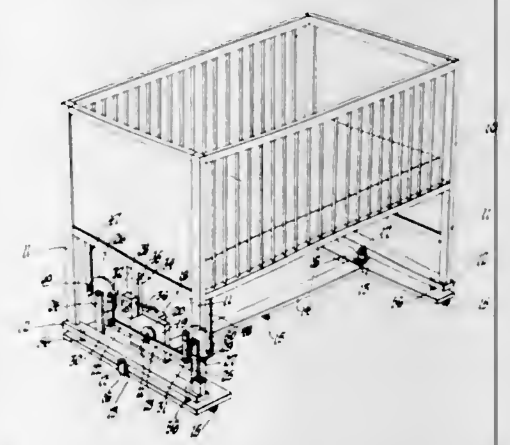
Candido Jacuzzi, Lafayette, Calif., assignor to Jacuzzi Bros., Incorporated, a corporation of California
Filed June 17, 1965, Ser. No. 464,692
3 Claims. (Cl. 4—172)



A drain assembly for a swimming pool, having a cover including a ring, a central imperforate portion covering substantially the entire area bounded by said ring, and a plurality of short substantially radial ribs supporting said central portion slightly above the plane of the ring whereby all flow into such drain must be substantially horizontal and radial to preclude vortexing.

3,378,859
BABY BED AND MECHANISM FOR ROCKING SAME

Paraque Parker, 180 Bassett, Pontiac, Mich. 48053
Filed Aug. 11, 1966, Ser. No. 571,884
3 Claims. (Cl. 5—109)

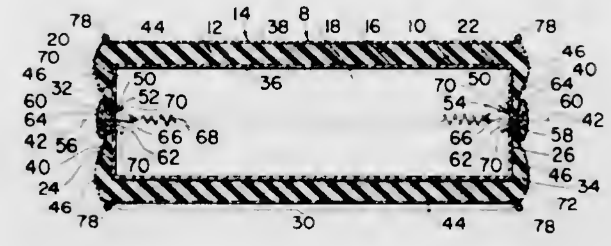


Means for rocking a baby bed and comprising transverse members secured to the legs of the bed and pivoted, or bowed, and secured to a base member and having a motor driving a disc and an operating linkage connected to the bed for causing it to be mechanically or manually actuated.

3,378,860
BOLSTER

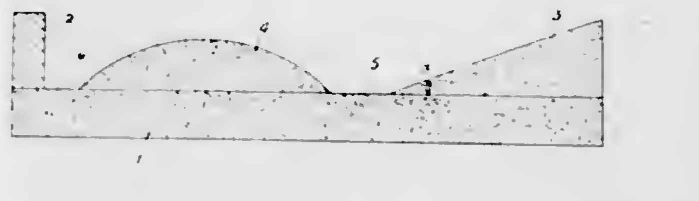
Forrest C. Frazier, 207 Southridge Drive, Fort Wayne, Ind. 46805
Filed Nov. 2, 1966, Ser. No. 591,497
6 Claims. (Cl. 5—340)

1. A bolster comprising a hollow frame having a side portion and opposite end portions, said frame being elongated and having a longitudinal axis, a pillow member of foam material covering said frame, and having a first portion intermediate two second portions, said first pillow member portion overlaying said frame side portion and having a generally cylindrical exterior surface, said second pillow member portions respectively overlaying said frame ends, each of said second portions having a centrally located depression therein, said depressions being on said axis, said second portions having a thickness adjacent to the periphery thereof which is larger than the thickness of said second portions elsewhere, a cover of upholstery material covering said pillow member, said cover being cylindrical, said cover overlaying said pillow member, said cover having opposite end portions extending beyond said pillow member, said cover end portions being folded to overlay and conform to the shape of said second pillow member portions, and means for holding said cover end portions in said folded position and to said frame ends.



3,378,861
MATTRESS OF NOVEL SHAPE

Hubert Jean Gerard Lousberg, 1-3 Rue du Biez, Dison, Verviers, Belgium
Filed Oct. 22, 1965, Ser. No. 500,785
Claims priority, application Belgium, July 20, 1965, 667,197
1 Claim. (Cl. 5—345)

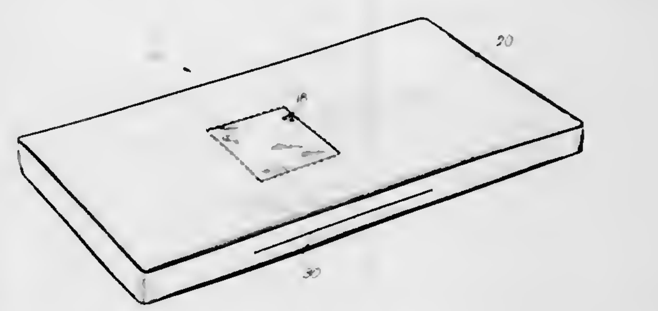


A mattress with a rigid foot element extending upwardly above the height of the feet of a person lying on his back on the mattress. The element supports an upper bed sheet and cover so that these clear the person's feet and allow circulation of air. A support of arcuate cross-section for the person's knees is arranged on the mattress. A support of right angle cross-section, for the head and neck of a person is secured at the head of the mattress.

3,378,862
MATERNITY MATTRESS

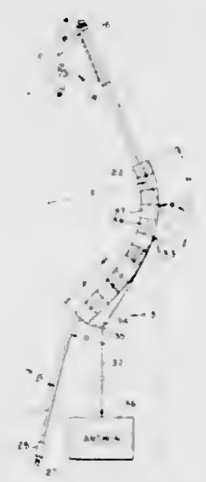
Jerald Paul Skinner, Topeka, Kans., assignor to Independent General, Incorporated, Topeka, Kans., a corporation of Kansas
Filed Aug. 29, 1966, Ser. No. 575,747
4 Claims. (Cl. 5—345)

A foam rubber mattress is provided with a cavity in its upper surface shaped to accommodate the expanded abdomen of a woman in full-term pregnancy. A stretchable panel spans the distance across the cavity and is held in place on the upper surface of the mattress by the ticking. The panel flexes into the cavity when a pregnant woman rests upon the mattress face down, the degree of flexure being dependent upon the size of the expanded abdomen. The panel thus serves as a continuing support for the expanded abdomen during the progressive stages of the pregnancy.



3,378,863
MARINE MARKER

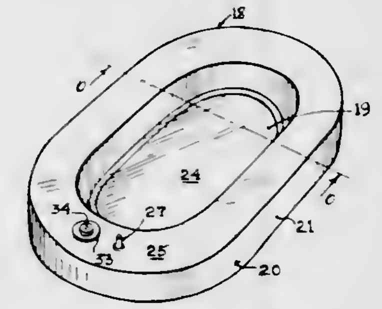
Henry V. Johnson, Panama City, Fla., assignor to the United States of America as represented by the Secretary of the Navy
Filed Jan. 16, 1967, Ser. No. 609,691
9 Claims. (Cl. 9—8)



A spar type marker buoy having a straight flag mast, a curved float, and a curved, weighted counterbalance shaft, which effects an overall geometrical structural configuration that hydroplanes during high water current conditions, thereby preventing submergence of the flag in the water.

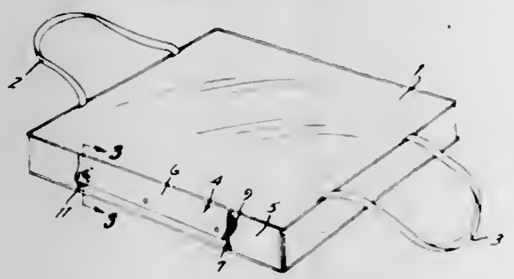
3,378,864
ATMOSPHERICALLY SELF-INFLATING BUOYANT DEVICE

Phil M. Cornes, 2108 Chestnut, Wilmette, Ill. 60091
Filed Feb. 18, 1966, Ser. No. 528,440
5 Claims. (Cl. 9—11)



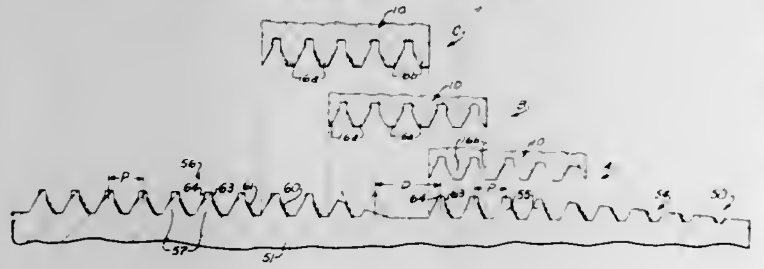
A buoyant device that is self-inflating due to its surrounding atmospheric pressure and formed from an aeriferous cellular material sealed by a continuous liquid impervious envelope and providing a valve by which the envelope and cellular material may be deflated by vacuum, and an enlarged intake in open communication with the envelope and the interior of the cellular material to rapidly permit it to atmospherically expand to its original shape.

3,378,865
RETRIEVABLE LIFESAVING CUSHION
Benjamin R. Pigg, 3975 Le Sage St.,
Lynwood, Calif. 90262
Filed Nov. 8, 1965, Ser. No. 506,713
2 Claims. (Cl. 9—13)



In a lifesaving operation a cushion-like float is thrown to the person in the water, and when that float is grasped by the person it can be pulled back to the boat with the person in the water by means of a cord, one end of which is retained by the person throwing the cushion, while the other end of the cord is attached to the cushion; thus providing an effective means to pull the floating cushion and the person grasping the same back to the vessel.

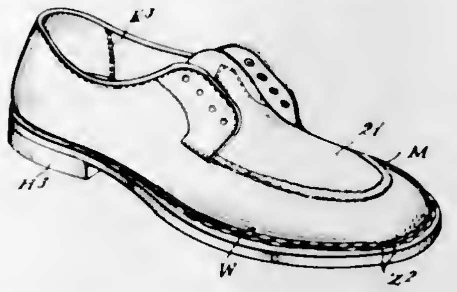
3,378,866
METHOD AND TAP FOR MAKING LOCK NUTS
Gunnar J. Vaernes, Hinckley, Ohio, assignor to The Lamson & Sessions Co., Cleveland, Ohio, a corporation of Ohio
Filed Apr. 14, 1966, Ser. No. 542,577
19 Claims. (Cl. 10—86)



1. A method for producing an internal helical thread convolution having portions of different flank widths on a side wall of a through opening in a metal body comprising the steps of tapping the side wall of said opening in said metal body with a leading section of a tap by relatively rotating said tap and said metal body to form a screw thread convolution having a given flank width and utilizing said leading tap section as a lead screw for leading said metal body onto an axially spaced following tap section, tapping said thread convolution formed by said leading tap section with said following tap section to decrease the flank width thereof until said metal body disengages said leading tap section whereupon said leading tap section no longer provides a lead screw action and said following tap section and said metal body shift axially relative to each other so that the following tap section no longer decreases the flank width of the remaining portion of the thread convolution formed by said leading tap section, and continuing said relative rotation between said tap and said metal body with said remaining portion of the thread convolution passing freely over the following section of the tap.

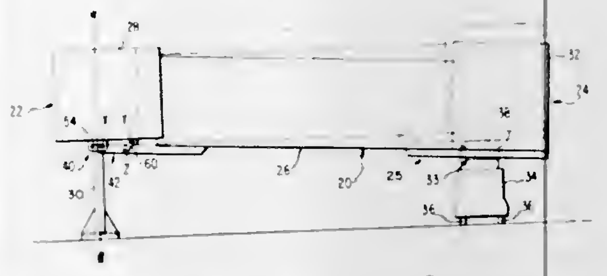
11. A tap for producing an internal helical screw thread convolution having first and second portions of different flank widths on the side wall of a through opening in a metal body comprising: a tap body having leading and following tap sections and a forward end for receiving the metal body and a rearward end for removal of the metal body, first thread cutting means on said leading tap section for cutting a helical thread convolution on the side wall of said opening having a given flank width, second thread cutting means on said following tap section which is effective to remove metal from one of the flanks of the screw thread convolution formed by the leading tap section for a portion of the axial length thereof to decrease the flank width thereof to form said first portion and to pass freely through the remaining portion of said thread convolution formed by said leading section.

3,378,867
METHOD OF MAKING SHOES
Alden H. Grant, Freeport, Maine, and Louis P. Bianchini, Bridgewater, Mass., assignors to Commonwealth Shoe & Leather Co., Inc., Whitman, Mass., a corporation of Massachusetts
Filed Mar. 3, 1965, Ser. No. 436,895
18 Claims. (Cl. 12—142)



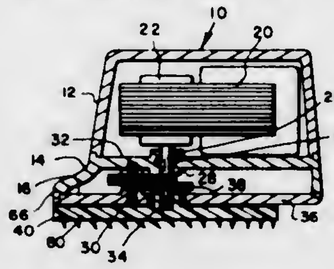
1. That method of making shoes which comprises as steps: assembling and uniting appropriate parts to constitute an upper, providing a midsole, turning the lower margin of the upper outwardly and contacting it with and adhesively uniting it to the marginal portion of the midsole, uniting the outturned margin of the upper to the midsole by a hand-sewn seam to form an embryo shoe, providing an outer sole, so assembling said outer sole with the upper and midsole that the free edges of the margins of the upper, midsole and outer sole are in substantial registry, and uniting the outer sole to the midsole and to the margin of the upper by a seam which is substantially parallel to the hand-sewn seam.

3,378,868
CONVEYANCE LOADER
Joseph C. Wollard, Miami Springs, John S. Slaney, Opa-Locka, and Andrew G. Seipos, Miami, Fla., assignors to Wollard Aircraft Service Equipment Inc., a corporation of Florida
Filed July 6, 1965, Ser. No. 469,546
10 Claims. (Cl. 14—71)



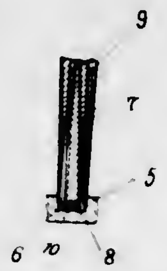
Mechanical coupling device for conveyance loaders which are pivoted at a terminal end and swingable in a vertical plane at the conveyance end, the coupling device acting between the loader passageway and an end support for positively moving the loader passageway longitudinally in response to swinging movement to give desired spatial movement of a desired point on the loader remote from the terminal.

3,378,869
ELECTRIC POT SCRUBBER
Theodore F. Schwartz, 11660 St. Andrews Way,
Scottsdale, Ariz. 85718
Continuation-in-part of application Ser. No. 367,714, May 15, 1964. This application May 26, 1966, Ser. No. 560,036
6 Claims. (Cl. 15—93)



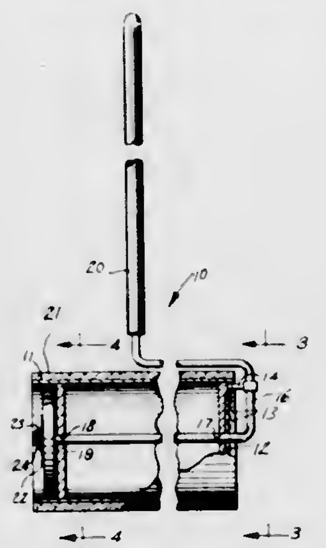
An electric pot scrubber comprising a motor driven disc having a plurality of scrubber teeth directed at an angle to the axis of rotation and generally in the direction of rotation, and adapted to impale a foraminous pad and/or to project therethrough, such that the ends of the teeth provide for scrubbing action on the bottom of a pot or pan; said teeth preferably made of tough flexible material, such as Teflon, nylon or any other suitable equivalent.

3,378,870
TOOTHBRUSH
Kenji Matsunaga, 2 1-chome, Honmachi,
Yao, Osaka-fu, Japan
Filed Mar. 22, 1967, Ser. No. 625,247
3 Claims. (Cl. 15—104.94)



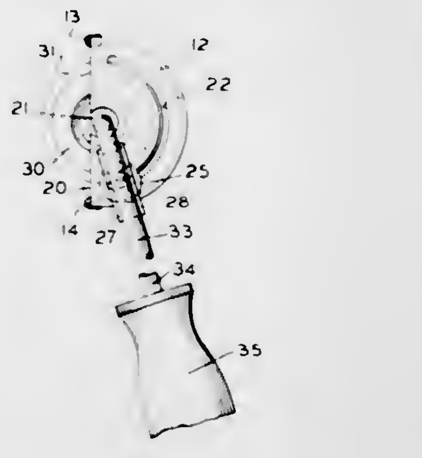
A toothbrush having bristles or hair to which tooth cleaning material in dried form is applied, which material is water soluble.

3,378,871
CYLINDRICAL MOP
Anthony Adam Suleski, Rte. 3, Box 452,
Pewaukee, Wis. 53072
Filed Mar. 29, 1965, Ser. No. 443,425
1 Claim. (Cl. 15—230.11)



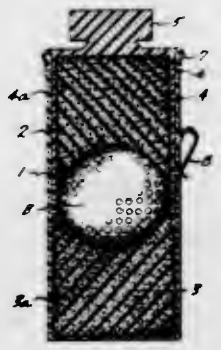
A mop, including a cylindrical shaped sponge unit rotatably mounted on a bail at one end of a handle, the bail having a tooth which is engageable with teeth upon the end of the cylindrical sponge unit so to lock the sponge against rolling when so desired, when the mop is moved in a backward stroke but which will permit rolling of the sponge upon a forward stroke for a limited distance.

3,378,872
SHIELD FOR PAINT ROLLER
Edward F. Frontera, 15 Otsego Road, Verona, N.J. 07044, and Raymond C. Michelfelder, 410 Stonetown Road, Wanaque, N.J. 07465
Filed Sept. 23, 1965, Ser. No. 489,502
7 Claims. (Cl. 15—230.11)



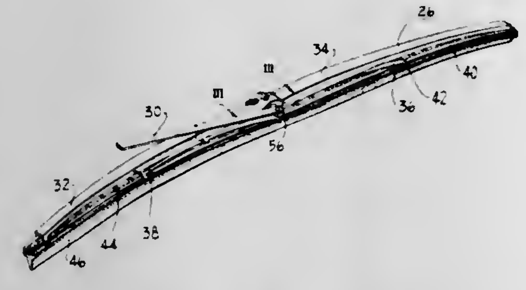
A semi-cylindrical shield is provided with means for frictional attachment thereof to a paint roller carried by a shaft terminating in an offset handle portion. The offset handle portion is mechanically-coupled to a coupling member carried by an end wall of the shield, which coupling member is displaceable along an arcuate slot, formed in said end wall, in response to pressure applied to an edge of the shield.

• 3,378,873
GOLF BALL CLEANER
Frank G. Strout, 2555 29th Ave. S., Apt. 34,
Seattle, Wash. 98144
Filed Aug. 1, 1966, Ser. No. 569,501
7 Claims. (Cl. 15—244)



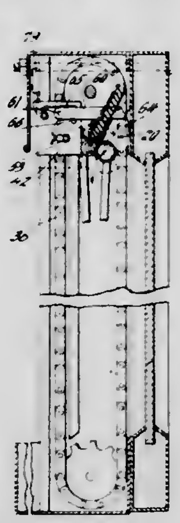
A golf ball cleaning device formed by two telescopically complementary housings which can be rotated relative to one anothed. Sponges containing a cleaning medium are partially adhesively attached to the housings to that as one housing is inserted into the other with the ball placed between the sponges and pressure is applied, the relative rotation of the housings and their sponges rub along the surfaces of the ball to clean it. The sponges are free to conform to the surfaces of the ball since the outer portions of the sponges are not adhesively bonded to the housing.

3,378,874
WINDSHIELD WIPER ASSEMBLY
Anthony C. Scinta, Hamburg, N.Y., assignor to Trico Products Corporation, Buffalo, N.Y.
Filed June 10, 1966, Ser. No. 556,716
10 Claims. (Cl. 15—250.32)



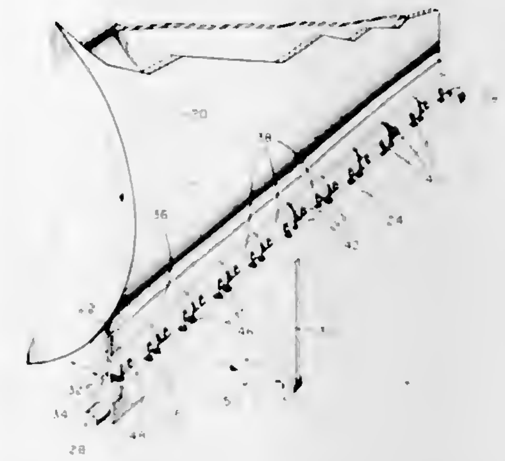
1. A side mounted low silhouette windshield wiper blade and arm assembly comprising a pressure distributing blade superstructure having a transverse receptor disposed within the blade silhouette and a wiper arm having a cantilever mounting pin substantially at its outer end extending at an angle to the longitudinal axis of said arm, said transverse receptor having an opening at its end for receiving said pin at a point lower than the upper surface of the blade by a transversely directed thrust of said blade relative to said arm whereby said arm may lie in a plane intermediate the wiping edge of the blade and the upper assembly thereof and means for releasably interlocking said cantilever pin and said transverse receptor, said cantilever pin forming a rotational axis for said blade.

3,378,875
WINDOW CLEANING DEVICE
Eugene E. Kern, 152 W. Grimsby Road, Kenmore, N.Y. 14217
Filed May 17, 1966, Ser. No. 550,658
10 Claims. (Cl. 15—250.04)



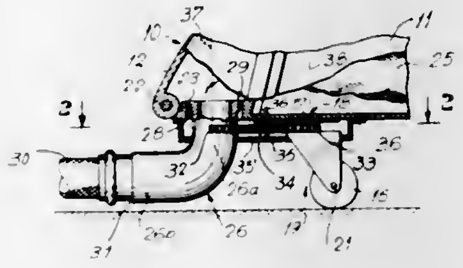
1. In a window cleaning device for operative attachment to a window structure, the combination of a wiper element, rigid guide posts adjacent the sides of said window structure forming a track, holder means slidably engaging said track, means for pivotally mounting the ends of said wiper element on said holder means in opposed relationship to the pane of the window structure, spring means for biasing said wiper element towards said pane, drive means for moving said wiper element along said pane in an operative stroke and a return stroke, latch means for normally retaining said wiper element in a withdrawn position out of engagement with said pane, and means for releasing said latch means in response to the initial movement of said cleaning assembly during said operative stroke whereby said wiper element is brought into cleaning position in engagement with said pane to perform the cleaning operation.

3,378,876
ADJUSTABLE DOCTOR BLADE ASSEMBLY FOR YANKEE DRYERS AND LIKE MACHINES
James B. Sisson, Hamilton, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed Aug. 23, 1965, Ser. No. 481,686
5 Claims. (Cl. 15—256.51)



An adjustable doctor blade assembly useful in supporting a flexible doctor blade with its edge in operative contact with a Yankee dryer or other drum surface. In the adjustable doctor blade assembly, the flexible doctor blade edge is urged against a drum surface by a plurality of backup bar segments. Each backup bar segment is adjustably mounted and fixedly positionable at varying distances in relation to the flexible doctor blade edge. The scraping action along the length of the flexible doctor blade edge against the drum surface can be adjusted to achieve an advantageous profiled scraping or creping action by positioning the individual backup bar segments. The advantageous profiled scraping action can be achieved and maintained despite minor grinding irregularities in the flexible doctor blade edge and the associated drum surface.

3,378,877
MOBILE SUPPORTING MEANS FOR SUCTION CLEANERS
Jan Ingvald Börrefors, Malmo, Sweden, assignor to Aktiebolaget Electrolux, Stockholm, Sweden, a corporation of Sweden
Filed June 13, 1966, Ser. No. 556 980
Claims priority, application Sweden, June 16, 1965, 8,002/65
13 Claims. (Cl. 15—327)



1. In a tank-type suction cleaner comprising an elongated casing having an inlet and outlet at opposite ends and means for moving air therethrough, the combination of

means for normally supporting the casing in a horizontally extending position for movement on a supporting surface, the supporting means including a caster wheel at one end of the casing between opposing sides thereof, means for mounting the caster wheel at the bottom of the casing for movement about a first vertical axis,

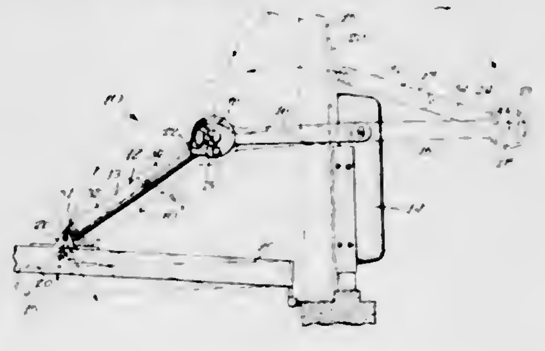
conduit means providing an air passageway having a bend and a first arm extending vertically therefrom and a second arm extending horizontally therefrom,

means connecting the first arm to the casing in communication with the inlet, the connecting means including structure for mounting the first arm on the casing for angular movement about a second vertical axis,

the outer end of the second arm, when the latter is angularly moved about the second vertical axis during movement of the casing from place to place by pulling force applied thereto, being movable to opposite sides of a vertical plane extending lengthwise of the casing and intersecting the second axis, and

mechanism connecting the caster wheel and the first arm of the passageway means to move the caster wheel about the first vertical axis responsive to angular movement imparted to the second arm of the passageway means about the second vertical axis.

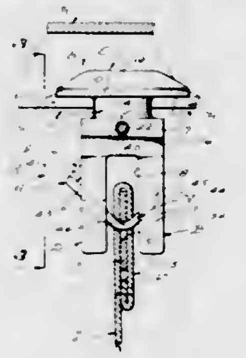
3,378,878
DECELERATOR AND DEAD STOP
Russell C. Flint and Roy L. Pollack, Princeton, Ill., assignors to Schlage Lock Company, San Francisco, Calif., a corporation of California
Filed Mar. 4, 1966, Ser. No. 531,894
9 Claims. (Cl. 16—52)



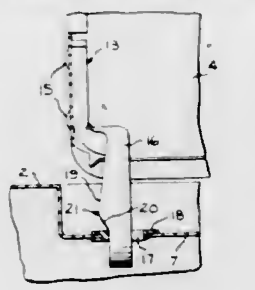
6. A door decelerator and dead stop comprising:
a door frame mounting means:
door mounting means;
an articulated pair of elongated arms extending between said door frame mounting means and said door mounting means:
said pair of arms having a preset maximum angular opening therebetween at which said arms become fixed from further angular opening movement therebetween,
one of said elongated arms being adapted for extension and retraction in length;
hydraulic decelerator means in said one arm hydraulically resisting said extension,
said hydraulic decelerator means being operative only after said preset maximum angular opening between said pair of arms has been reached,
and retaining means in said one arm normally holding said arm in retraction.

3,378,879
DRAPERY GLIDE
Orville T. Stall, Whittier, Calif. (% American Beauti Pleat, Inc., 13545 Excelsior Drive, Norwalk, Calif. 90650)
Filed May 17, 1966, Ser. No. 550,790
14 Claims. (Cl. 16—87.4)

A drapery glide adapted to engage with a pair of laterally spaced, parallel rails of a transverse rod and with the upper hem portion of a drapery arranged below the transverse rod including, a unitary block-like body having a substantially rectangular head portion greater in lateral extent than the free gap in the rod established by the rails and having a flat bottom surface to slidably engage the tops of the rails, said head portion being normally arranged with its major longitudinal axis parallel with the rails, a central neck portion depending from the head portion and projecting freely through and between the rails and a lower carrier portion depending from the neck portion and greater in longitudinal and lateral extent than the free gap, a first slot parallel with the longitudinal axis of the structure entering the upper end of the body and terminating adjacent the lower end of the body to divide the upper portion of the body into two laterally spaced, flexible columns whereby the lateral extent of the head portion can be reduced to allow for engagement of the head portion through the free gap by lateral inward flexing of the column towards each other, a second slot on a plane normal to the plane of the first slot entering the lower end of the carrier portion and in which the hem portion of the drapery is arranged, intersecting the first slot and terminating adjacent the upper end of the said carrier portion to divide the lower portion of the carrier portion and define a pair of longitudinally spaced, depending legs to engage the opposite side of the upper hem portion of the drapery, and a unitary wire hanger pivotally carried by the body and having an elongate, longitudinally extending end portion normally arranged in the first slot and engaged on the bottom of the first slot to bridge the second slot and project through the hem portion of the drapery arranged in said second slot.



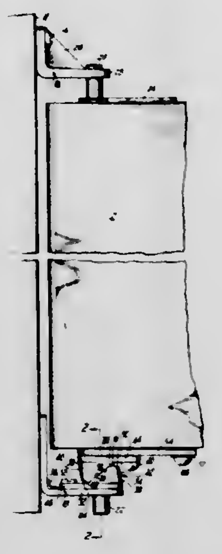
3,378,880
COMBINED HINGING AND HOLDING DEVICE FOR CLOSURE MEMBERS
Akis Haldopoulos and Thomas P. Mitchell, Louisville, Ky., assignors to General Electric Company, a corporation of New York
Filed Sept. 29, 1965, Ser. No. 491,277
5 Claims. (Cl. 16—142)



A combined closure member hinging and holding device includes a flexible hinge leaf member rigidly secured to the closure member and pivotally connected to a bracket secured to the supporting structure for the closure member. The supporting structure includes rigid means forming an opening for the hinge member at a distance from the pivotal attachment. The hinge member has a projection which engages the rigid means to flex the hinge as it moves through the opening and to releasably retain the closure member open. The hinge member may also include a second portion which engages the support structure to limit the opening movement of the closure member.

3,378,881
CAFE HINGE

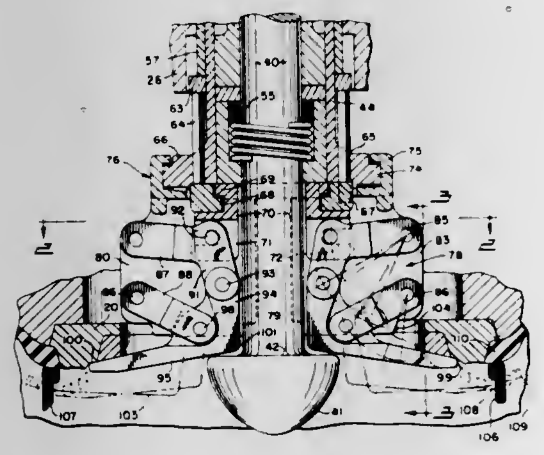
Joffre E. R. Hentzi, Kensington, Conn., and Lewis C. Kiser, Lebanon, Ind., assignors to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed Sept. 11, 1964, Ser. No. 395,820
6 Claims. (Cl. 16—153)



For swingably mounting a door on a jamb, a gravity-actuated pivot hinge assemblage of upper door-carried and lower jamb-fixed frusto-conical pivot elements having complemental minor ends formed with helical cam surfaces coaxial with a pivot pin fixedly carried by the upper element and passing through the lower element, the cam surfaces being free from contaminants by being overhung by the outer surfaces of the elements and by extending transversely at an oblique angle to the pin axis and having abutment shoulders formed at high points thereof for cooperative engagement to releasably hold the door in an open position.

3,378,882
LOADER FOR TIRE CURING PRESS

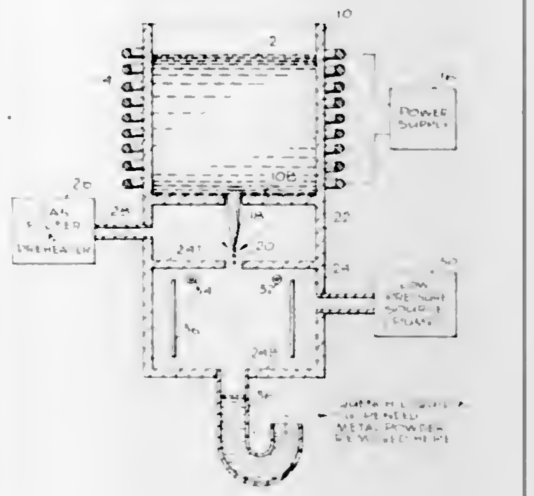
Leonard G. Turk, Akron, Ernest S. Ulm, Stow, and Benjamin Stoyanov, Akron, Ohio, assignors to NRM Corporation, Akron, Ohio, a corporation of Ohio
Filed Apr. 1, 1965, Ser. No. 444,530
8 Claims. (Cl. 18—2)



A self-loading tire curing press incorporating a loading mechanism in one of the mold sections first placing the green tire in registry with the mold section incorporating the loader and then moving the mold section with the green tire in registry therewith until the green tire comes into registry with the other mold section; closing the press to shape and cure the green tire and then utilizing the loading mechanism to strip the cured tire from the mold sections.

3,378,883
VACUUM ATOMIZATION

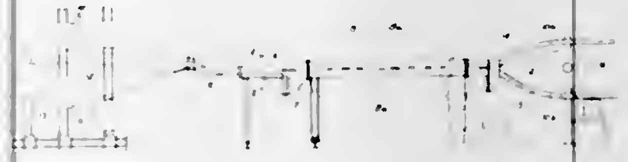
Charles E. Lapple, Los Altos Hills, Calif., assignor to Stanford Research Institute, Menlo Park, Calif., a corporation of California
Filed June 29, 1965, Ser. No. 468,009
5 Claims. (Cl. 18—2.7)



Apparatus for metal atomization is provided wherein liquid metal is atomized by an incoming flow of gas. Metal and gas are drawn together into a mixing region and then into a vacuum chamber wherein the atomized molten metal is quenched and thereafter is collected.

3,378,884
APPARATUS FOR MAKING FIBER REINFORCED RESIN ARTICLES ESPECIALLY IN SHEET FORM

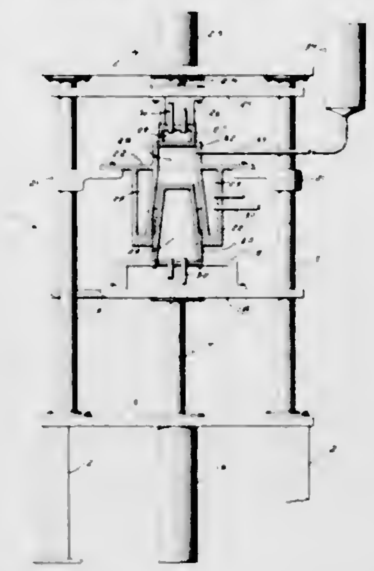
Charles L. Meteer, Bristol, Tenn., assignor, by mesne assignments, to Koppers Company, Inc., Pittsburgh, Pa., a corporation of Delaware
Filed Feb. 25, 1965, Ser. No. 435,193
7 Claims. (Cl. 18—4)



1. Apparatus for concurrently making a plurality of fiber reinforced resin sheets comprising a forming device having a forming passage extended therethrough of width conforming with the width of the sheets to be made and of sufficient size to accommodate a plurality of sheets positioned face-to-face, mechanism for feeding a plurality of separate fiber reinforcements to the forming passage along with a separator strip positioned between the separate reinforcements in the manner of a sandwich, means for impregnating the reinforcements with a liquid heat hardenable resin material, the separator strip being of width greater than that of the forming passage and of the sheets being made and the edge portions of the forming device being provided with grooves in which the edges of the separator strip are received, means for heating and thereby solidifying the resin material as the impregnated reinforcements move through the forming passage, and puller mechanism having gripping elements adapted to engage and pull on the sandwich of separator strip and solidified sheets beyond the discharge end of the forming passage.

3,378,885
APPARATUS FOR FORMING THIN WALL CELLULAR PLASTIC CONTAINERS

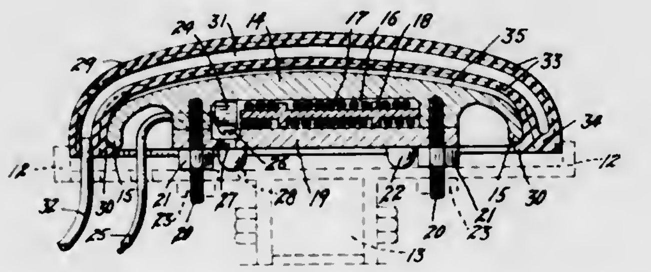
William Arthur Dart, Mason, Mich., assignor to Dart Manufacturing Company, Mason, Mich., a Michigan partnership
Original application Nov. 27, 1959, Ser. No. 855,561, now Patent No. 3,178,491, dated Apr. 13, 1965. Divided and this application Apr. 23, 1964, Ser. No. 368,436
4 Claims. (Cl. 18—5)



1. In a mold press apparatus for forming a thin wall cellular plastic container, the combination including: a frame; an expandable mold having movable components supported by said frame, said mold selectively defining an expanded but closed load position, said mold adapted to close to a final mold position so as to compress foamable resin material loaded therein; means on said frame adapted to introduce pre-determined amounts of resin material into said mold when said mold is in its expanded but closed load position; and means in association with said mold to selectively heat and cool said mold components so as to selectively foamably expand said material, after compression, within said mold to form a thin wall container.

3,378,886
AIR BAG ELEMENTS FOR TIRE CASING SPOTTERS

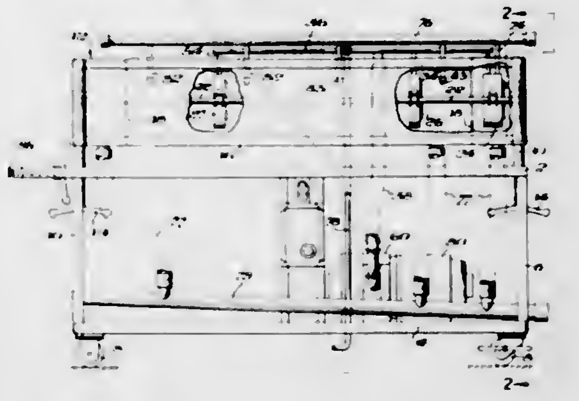
Melvin W. Van Scoyk, 5655 Marshal St., Arvada, Colo. 80002
Filed June 16, 1966, Ser. No. 558,005
6 Claims. (Cl. 18—18)



1. An air bag element for tire casing spotters comprising:
(a) an inverted-cup-shaped, metallic body shell having a heater cavity indented upwardly in its bottom:
(b) an electrical heating element positioned in said cavity;
(c) a cover plate closing the bottom of said cavity and concealing said heating element;
(d) an inverted-cup-shaped, flexible, inflatable, air bag extending over the top and sides of said body shell; and
(e) means for pneumatically inflating said air bag.

3,378,887
VACUUM SIZER

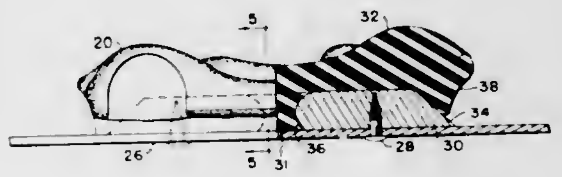
John C. Reib, R.D. 3, Sugar Creek Road, and John D. Russell, 1361 Pittsburgh Road, both of Franklin, Pa. 16323
Filed Sept. 4, 1963, Ser. No. 306,554
6 Claims. (Cl. 18—19)



1. A vacuum sizer comprising, a housing member having a through bore, an open ended sizing sleeve member located within said bore having axially spaced outer surface portions cooperable with spaced surface portions of said housing member to provide air seal regions, one of said members having intermediate said spaced surface portions thereon, a circumferential chamber extending inwardly thereof, externally accessible passageway means in at least one of said members communicating with said chamber, said sleeve having at least one port extending inwardly thereof and in communication with said chamber, said port having the inner end thereof spaced outwardly from the inner surface of said sleeve, and said sleeve having at least one continuous circumferential groove extending from the inner surface thereof and in communication with said inner ends of said port.

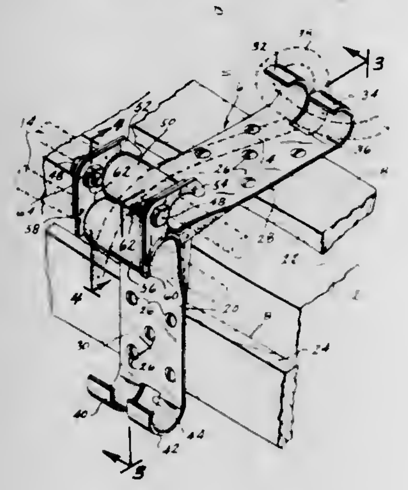
3,378,888
STRUCTURE FOR VACUUM FORMING OF THERMOPLASTIC MATERIAL ON UNDERCUT FLEXIBLE MOLDS

Duane W. Robertson, Utica, Mich., assignor to Holley Plastics Company, Warren, Mich., a corporation of Michigan
Filed Oct. 19, 1965, Ser. No. 497,645
4 Claims. (Cl. 18—35)



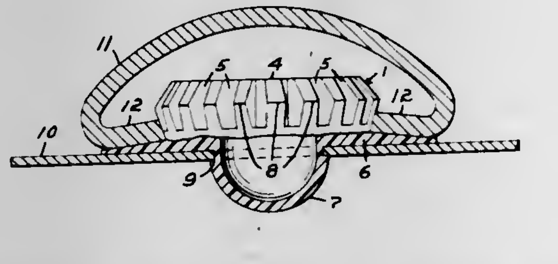
Vacuum forming structure for producing articles having deep undercuts including a vacuum forming tray and a plurality of molds positioned in said tray, each mold including a core of heat dissipating material having sides sloping toward the center thereof upwardly of the tray and an opening through the center thereof having a venturi like cross section with the diameter thereof being larger at the top and bottom of the core than it is centrally of the core and changing smoothly to blend in with the top of the core and a flexible mold body member having an undercut outer periphery, a bottom having outer edges engaged with the sloping outer edges of the core, and a central portion extending completely through and filling the venturi like opening through the core whereby the mold body member may be deformed upwardly and toward the center thereof on removal of a vacuum formed article therefrom without damage to the article or the mold body member and without separating the mold body member from the mold core.

3,378,889
LOAD-BRACING HINGE STRUCTURE
George T. Dunderdale, 23045 Hatteras,
Woodland Hills, Calif. 91364
Filed May 11, 1967, Ser. No. 637,659
8 Claims. (Cl. 24—16)



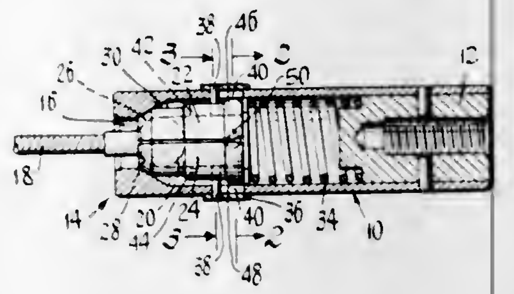
A structure for use on loads in transit for bracing a corner of the load and engagingly receiving tie lines for holding the load. A hinged structure includes two hinge plates pivotally connected at one end and incorporating integral hook sections at the other ends for receiving tie lines. The pivotal joint is formed by upward side extensions of each hinge plate held together by bolts and defining a space or detent therebetween for receiving a tie line. Adjacent the pivotal mount the hinge plates are turned back to afford a curved surface of relatively high radius affording better engagement with a tie line. A plurality of the hinge structures are affixed between two elongate slats to provide an elongate corner brace.

3,378,890
MOLDING FASTENER
Jean Perrochat, Lorrach, Baden, Germany, assignor to A. Raymond, Baden, Germany
Filed Nov. 8, 1966, Ser. No. 592,921
Claims priority, application Germany, Nov. 16, 1965, R 41,999; Dec. 16, 1965, R 42,228
8 Claims. (Cl. 24—73)



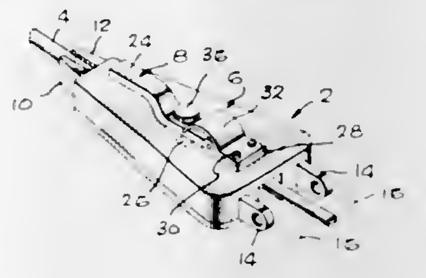
A molding fastener formed of a molded, synthetic plastic material. A generally flat base portion has a centrally located, tubular body portion extending upwardly therefrom and a plurality of flexible bridges extending radially from said body portion. Each of the bridges is spaced from the adjacent bridge by an opening extending to the periphery of the body portion. When a molding is clamped onto the fastener, certain of the bridges are displaced both radially and axially to provide enlarged area for engagement by the molding. The fastener also includes means for attaching it to a supporting structure.

3,378,891
CABLE ENLARGEMENT CLASP
Joseph R. Metz, Ridgefield, Conn., assignor to Norco Inc., Ridgefield, Conn., a corporation of Connecticut
Filed Jan. 18, 1966, Ser. No. 521,358
9 Claims. (Cl. 24—123)



A releasable clasp engageable with a cable enlargement, comprising a tubular body with a mouth at one end, into which a section of cable and enlargement carried thereby can be inserted. Opposed jaws in the body receive the enlargement between them. The jaws and interior of the body have cooperable cam surfaces which force the jaws together to grip the enlargement when the jaws are shifted axially toward the body mouth by a spring. This holds the cable and enlargement captive. A sleeve slidable on the body is connected to the jaws, and can shift them axially away from the mouth to release the enlargement, whereby the cable and enlargement can be withdrawn from the body.

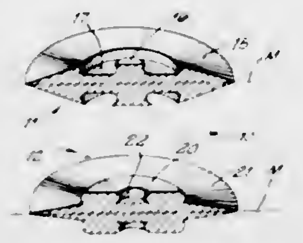
3,378,892
QUICK-ATTACH MECHANISM
Andrew E. Vano, Edwards, Calif., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed July 25, 1966, Ser. No. 567,686
5 Claims. (Cl. 24—126)



1. In a clamp, the combination comprising:
- a housing containing convergent side walls,
- wedge-shaped jaws positioned in said housing in slideable engagement with said convergent side walls;
- a handle pivotally mounted on said housing;
- a sear carried by said handle;
- said housing containing a passage to permit movement of said sear into the interior of said housing;
- each jaw containing means to engage said sear when said jaws are retracted in said housing, said sear preventing said jaws from moving into gripping engagement; and
- resilient means cooperating with said housing to urge each jaw into gripping engagement when said sear is removed from said jaws.

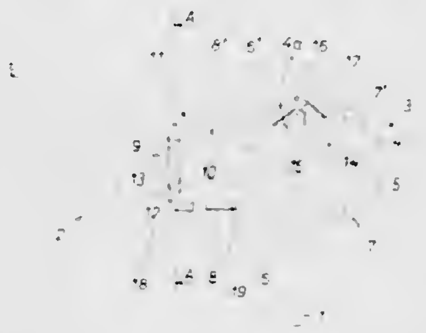
3,378,893
DISCOID SNAP FASTENER
Alfred Labek, Kienbergstrasse 16, Kufstein, Austria
Filed Oct. 15, 1964, Ser. No. 404,068
7 Claims. (Cl. 24—201)

1. A fastener for connecting plastic foil comprising two discoid parts for attachment to a surface of said plastic foil, securement means on a surface of at least one of said discoid parts in the form of a concentric rib extending into gripping engagement with the other part



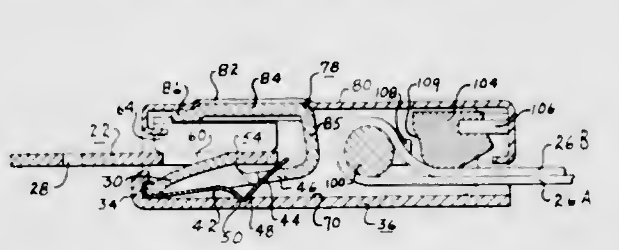
for connecting said one part to the other discoid part, each of said parts being symmetrical about the longitudinal center plane thereof.

3,378,894
SLIDER FOR ZIP-FASTENERS
Giuseppe Bernasconi, deceased, late of Chiasso, Switzerland, by Pietro Bernasconi, executor, Mendrisio, Switzerland, assignor to Metallo S.A., a corporation of Switzerland
Filed May 23, 1966, Ser. No. 552,343
Claims priority, application Switzerland Dec. 13, 1965, 17,247/65
4 Claims. (Cl. 24—205.14)



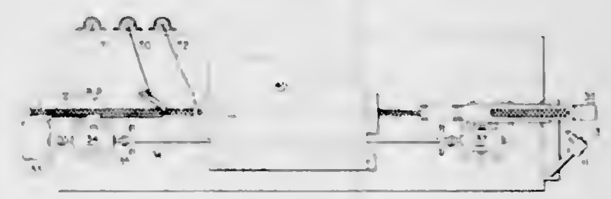
A slide for zip-fasteners with a locking spring which passes with one angled end through a slot of the slide and engages between the teeth of the zip-fastener to lock the same in position, the slide being slidably accommodated in a C-shaped bracket of double T section having a movable pulling tab.

3,378,895
SAFETY BELT BUCKLES
Ray Eberhart, 317 E. Jefferson Blvd., Mishawaka, Ind. 46544
Filed Dec. 3, 1965, Ser. No. 511,377
5 Claims. (Cl. 24—230)



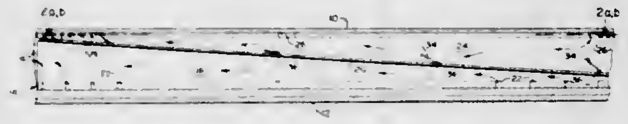
1. A buckle for a safety belt having two sections, comprising male and female portions for connecting said sections, said female portion including a body having a back panel and a front cover with an opening therein, a lever in said body, said lever and male portion having interlocking members for releasably holding said lever and male portion in locked position, a guide means in said body on opposite sides of said opening for retaining said male portion in substantially parallel relation to said back panel and front cover while said male portion is being inserted in and withdrawn from said female portion, a spring means between said lever and said back panel urging said lever and male portion into interlocking position, and an operating button facing said opening joined integrally to the inner end of said lever and forming a U-shaped, plate-like structure of a width greater than the width of said opening for depressing said lever to disengage said interlocking members.

3,378,896
CONTINUOUS PROCESS OF PREPARING FIRED FERRITE CORES
Eberhard A. Schwabe, 148 De Mott Lane, New Brunswick, N.J.
Filed Nov. 16, 1964, Ser. No. 458,801
(Filed under Rule 47(b) and 35 U.S.C. 118)
6 Claims. (Cl. 25—2)



1. A process of manufacturing fired ferrite bodies comprising
- providing a ferrite forming powder containing the components of the desired ferrite and a binding agent,
- molding the powder to shape,
- discharging the molded body from the mold and guiding it directly onto a moving refractory conveyor means in a single layer,
- moving said ferrite body through a firing kiln by means of said conveyor,
- burning out the binder in the presence of air and rapidly firing the ferrite body including passing said body through a zone at a temperature of about 1500° C. in an atmosphere of nitrogen,
- adjusting the speed of travel through the kiln so that cores are delivered for testing in the course of about 2 to 5 minutes after molding,
- introducing inert gas into the kiln at the exit end thereof whereby the fired ferrite cores are protected from reoxidation.

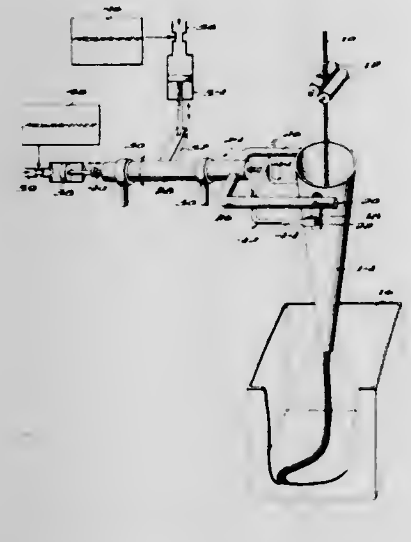
3,378,897
TUNNEL KILN PREHEATING SECTION
William L. Hanley, 91 Middle Road, Palm Beach, Fla., 33480
Filed Aug. 4, 1965, Ser. No. 479,047
5 Claims. (Cl. 25—142)



Disclosed herein is a pre-heating section for a tunnel kiln which is in the usual form, having a housing rectangular in cross-section and of very considerable length. Ducts are provided in the side wall of the tunnel, communicating with the interior thereof to provide for travel of hot gases through the ducts and distribution through ports into the tunnel. The ducts are arranged in pairs, each pair consisting of an upper and lower duct with a common wall between the ducts of a pair, which common wall slopes upwardly in the direction of travel of the gases. Flaps which are angularly adjustable are pivotally mounted on the upper side of the common wall and thus on the base of the upper duct to regulate the distribution of gases therefrom into the tunnel to maintain the rate of heat increase of ware passing through the tunnel, substantially uniform.

3,378,898
TEXTILE PACKAGE LAYDOWN DEVICE

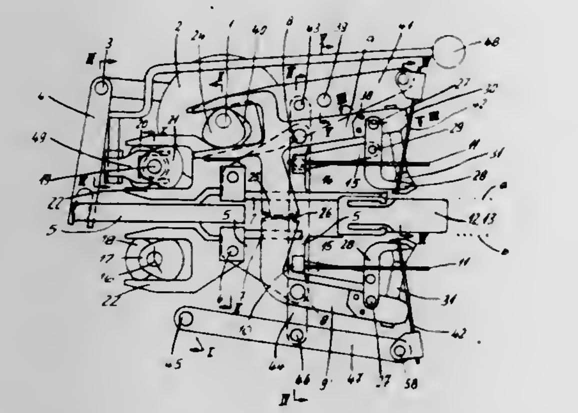
Frank Emmons Mendes 3d, Camden, S.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Mar. 5, 1965, Ser. No. 437,499
4 Claims. (Cl. 28—21)



1. A strand delivery apparatus comprising a fill spout, means swingably supporting said spout for movement about intersecting axes comprising a first mounting fork pivotably attached thereto including a hollow leg extending therefrom, fixed bearing means for supporting said hollow leg and fork for oscillatory movement about the leg axis, a second mounting fork pivotally attached to said spout and provided with a leg extending through said hollow leg and provided for reciprocal movement therein, reciprocating actuators attached to each of said legs for imparting said oscillatory and said reciprocal movements, and control means coupled with each actuator for gradually varying the linear extent of successive reciprocations of each actuator according to a predetermined program.

3,378,899
THREAD SELECTING MECHANISM FOR WARP TYING MACHINES

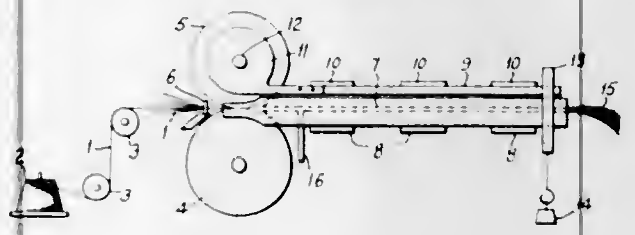
Paul Grönert, Friedberg, near Augsburg, Bavaria, Germany, assignor to Knotex Maschinenbau G.m.b.H., Augsburg, Postfach, Germany
Continuation-in-part of application Ser. No. 199,038, May 31, 1962. This application July 21, 1966, Ser. No. 566,949
10 Claims. (Cl. 28—49)



1. A thread selecting mechanism for a warp tying machine comprising a lifting mechanism adapted for movement toward and away from warp threads, means for reciprocating said lifting mechanism between first and second terminal positions respectively adjacent to and remote from the wrap threads, brush levers pivotally carried by said lifting mechanism, brush holders pivotally carried by said brush levers and adapted for carrying means to wipe across and separate particular ones of the warp threads, means maintaining said brush holders in operative and inoperative positions thereof when it is respectively desired to separate or not to separate said ones of the warp threads, pushers pivotally carried by said brush levers, adapted to tension others of the warp threads, and said brush levers and pushers in part defining a parallelogram linkage for maintaining said pushers in a generally horizontal plane while effecting up and down movement thereof.

3,378,900
METHOD OF BULKING YARNS

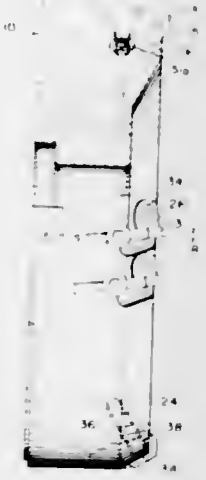
Jack Albert Spicer, Coventry, England, assignor to Courtaulds Limited, London, England, a British company
Filed Feb. 23, 1966, Ser. No. 535,283
2 Claims. (Cl. 28—72)



A yarn bulking process comprising passing a plurality of low-twist, heat-settable, continuous filament yarns between nip rollers and through a stuffing box in which the yarns are allowed a degree of lateral movement, heating the yarns at some stage in their passage through the stuffing box, cooling the yarns to set the crimp imposed on them in the stuffing box, stretching the yarns to separate the filaments in the yarns, and then relaxing the yarns, whereupon the filaments tend to revert to their crimped shapes and engagement of adjacent filaments with each other produces a bulking effect on the yarns.

3,378,901
MILLING CUTTER

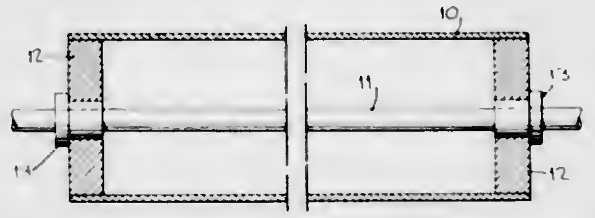
Hubert Dupuis, Warren, Mich., assignor to Goddard & Goddard Company, Detroit, Mich., a corporation of Michigan
Filed Oct. 21, 1965, Ser. No. 499,816
5 Claims. (Cl. 29—105)



A milling cutter having slots for receiving indexable inserts, and eccentric abutment elements extending into the slots and rotatable to provide adjustable abutments for predetermining the position of the inserts.

3,378,902
HYDRAULICALLY ACTUATED DEMOUNTABLE PRINTING CYLINDERS

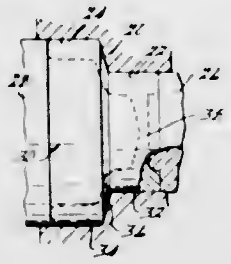
Rolf Hoexter, Fort Lee, N.J., assignor to Mosstype Corporation, Waldwick, N.J., a corporation of New York
Filed July 5, 1966, Ser. No. 562,764
5 Claims. (Cl. 29—113)



A printing cylinder having a pair of hydraulically-actuated collets mounted concentrically at opposing ends thereof, the mandrel for supporting the cylinder being slidably receivable within the collet and securely locked thereto when hydraulic pressure is applied. Each collet includes a cylindrical sleeve having a thick-walled hub section and a relatively long thin-walled pressure section. A broad circumferential channel is cut in the pressure section to form a bendable pressure wall, the pressure section being surrounded by a collar of high tensile strength whose edges are welded to the pressure section to define an annular fluid chamber bounded by the collar and the pressure wall. A pressure cartridge is fitted into a cavity in the hub section, the cartridge communicating with the fluid chamber in the pressure section and including a piston which is advanced inwardly by an adjusting screw. When the annular chamber is filled with hydraulic fluid and the piston is advanced inwardly, the resultant hydraulic pressure causes flexure of the pressure wall, thereby subjecting the mandrel to radially-directed stresses which are uniformly distributed and serve to lock the mandrel to the collet and at the same time to maintain proper concentricity.

3,378,903
FORGING METHOD

Jerry E. Cardillo, Dearborn, Mich., assignor to Federal-Mogul Corporation, Detroit, Mich., a corporation of Michigan
Filed Oct. 23, 1965, Ser. No. 503,400
23 Claims. (Cl. 29—148.4)

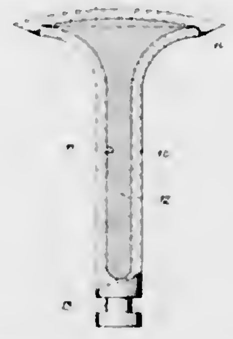


A method for forming ferrous bearing races at an intermediate temperature between normal hot forging and cold forming temperatures.

3,378,904
METHOD OF MAKING VALVES FOR INTERNAL-COMBUSTION ENGINES

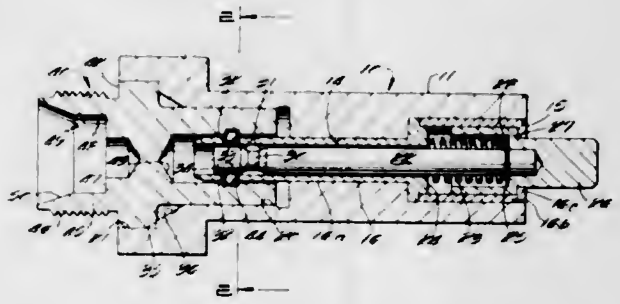
Gisela Prasse and Harry Merkt, Blumberg, Germany, assignors to Teves-Thompson & Co., G.m.b.H., Frankfurt am Main, Germany, a corporation of Germany
Filed June 22, 1965, Ser. No. 465,985
Claims priority, application Germany, Oct. 6, 1964, T 27,149
7 Claims. (Cl. 29—156.7)

1. A method of making a poppet-type valve for an internal-combustion engine which comprises the steps of forming from a relatively high-melting-point material a valve body having a stem and a head extending generally transversely to said stem and providing said valve body with an internal cavity extending from said head into said stem; introducing into said cavity a relatively low-melting-point material of high thermal conductivity; sealing said low-melting point material in said cavity; and thereafter etching away any superficial oxide layers present on the surface of said cavity by raising the temperature of said body above the boiling point of said low-melting-point material.



3,378,905
PRESWAGING TOOL

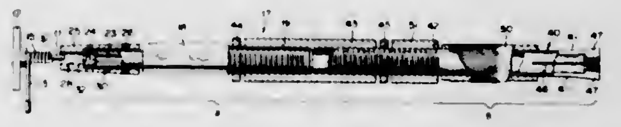
Zolton Szohatzky, Mentor, Ohio, assignor to Crawford Fitting Company, Solon, Ohio, a corporation of Ohio
Filed Oct. 22, 1965, Ser. No. 500,721
5 Claims. (Cl. 29—200)



A tool for preassembling ferrules on the end of a length of tubing by preswaging the ferrules onto the tubing surface. The tool comprises an elongated tool body adapted to be held by a vise or other suitable support, and an assembly head releasably secured to the tool body. The assembly head includes a shank portion receivable in a passage of the body and an end portion including a longitudinal circular cylindrical bore, a radial shoulder, and a flared mouth adapted to receive a piece of tubing. A manual detent on the tool body is operable to selectively engage locking means to release the assembly head from the body for the purpose of attaching various sizes of assembly heads to a single tool body.

3,378,906
WIRE WRAPPING TOOL

Ted C. Dorsey, 4479 Westmont St., Ventura, Calif. 93003
Filed Oct. 28, 1965, Ser. No. 505,579
4 Claims. (Cl. 29—203)

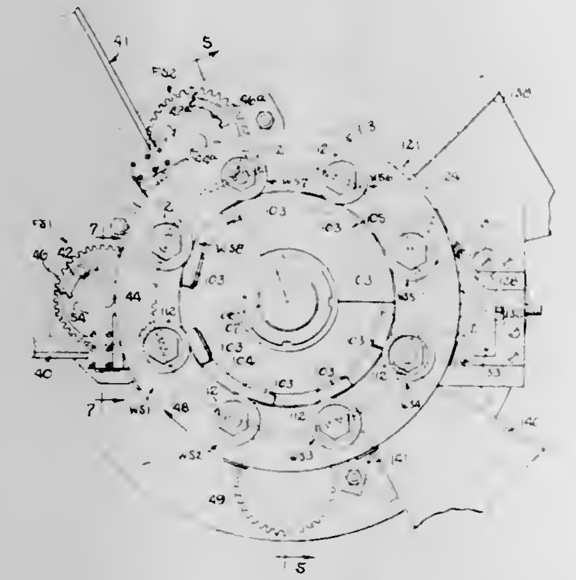


A hand tool for selectively disengaging and re-engaging a coiled wire wrap electrical connection from a terminal pin by slightly expanding the wire coil so that it may be slipped off the terminal pin around which it is wrapped, and subsequently re-establishing the connection by compressing the expanded coil after it has been slipped over a terminal pin, both the expanding and contracting actions being effected without introducing excessive distortion into the coiled wire or adversely affecting the electrical properties of the connection.

3,378,907
WORKPIECE TRANSFER MECHANISM FOR USE WITH ASSEMBLING MACHINES AND THE LIKE

Paul H. Dixon, Rockford, Ill., assignor to Dixon Automatic Tool, Inc., Rockford, Ill., a corporation of Illinois

Filed Mar. 29, 1966, Ser. No. 538,288
10 Claims. (Cl. 29—203)



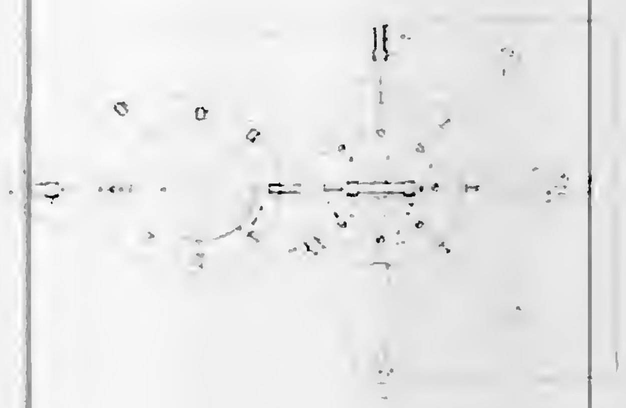
1. An escapement mechanism for transferring workpieces from a fixed feeding station to a plurality of continuously rotating work stations, said escapement mechanism comprising a plurality of transfer arms operatively associated with said feeding station and said work stations, said transfer arms being mounted for movement around a circular path which closely approaches said feeding station and the path of said work stations, each of said transfer arms having a head portion adapted to engage a workpiece at said feeding station whereby the workpiece is transferred from said feeding station to the path of said work stations upon continued movement of said transfer arms, drive means for continuously driving said transfer arms around said circular path, said drive means being operatively connected to said continuously rotating work stations so as to synchronize the rotation of said transfer arms with the rotation of said work stations whereby a workpiece is transferred to each work station upon every pass of the work station by said transfer arms, and control means associated with said transfer arms for advancing the head of each transfer arm toward said work station during each pass, maintaining said head in the advanced position during the tranfer from the feeding station to the work station, and then immediately retracting said head upon completion of the transfer.

3,378,908
MEANS FOR ASSEMBLING LOCK CYLINDER COMPONENTS

Richard M. Buller, Menomonee Falls, Wis., assignor to Master Lock Company, Milwaukee, Wis., a corporation of Wisconsin

Filed Mar. 14, 1966, Ser. No. 534,163
4 Claims. (Cl. 29—208)

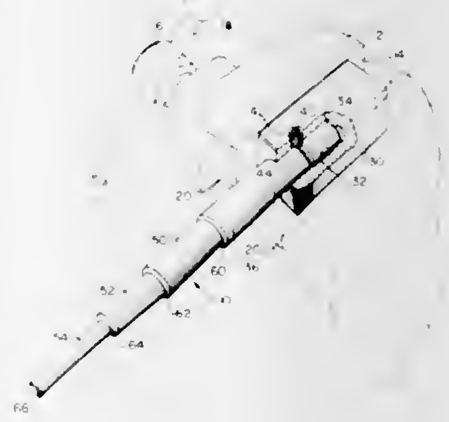
For the automatic assembly of pins, springs and drivers in plugs and shells for lock cylinders, the present invention provides a pair of intermittently driven assembly tables, one of which is a plug assembly table which revolves in one direction, and the other of which is a shell assembly table which simultaneously revolves in the opposite direction. Through the movement of the tables and through certain compression operations, complete cycles are successively, automatically accomplished for the assembly of lock cylinders and their components. During the operation of the plug assembly table successive lock cylinder plugs are loaded with their selected tumbled pins, and during operation of the shell assembly table lock cylinder shells are loaded with springs and driver pins. Ultimately each successively loaded shell on the shell table is assembled onto each successively loaded plug on the plug table for ultimate ejection as complete lock cylinders.



3,378,909
ASSEMBLY TOOL FOR HOSE FITTINGS

Frank P. Esposito, 1527 S. Wisconsin Ave., Berwyn, Ill. 60402

Filed Oct. 26, 1966, Ser. No. 589,659
3 Claims. (Cl. 29—235)

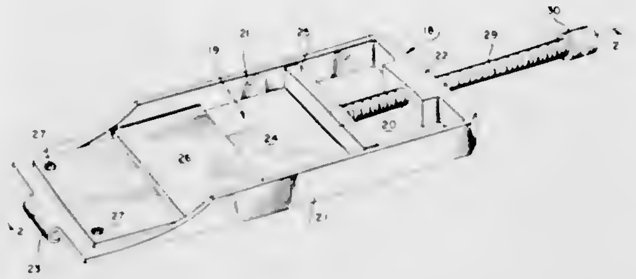


The present invention provides a tool with its body adapted to resist thrust force transmitted along the axis of a mandrel or shaft due to the push action used in assembling flexible hose onto the barbed nipple of a tubular fitting, the fitting being of the type used in pneumatic, hydraulic systems or the like. The tool shaft is stepped along its length at a series of shoulders. Each shaft step is sized to receive the bore of successively smaller fitting for an assembly operation, with the adjacent shaft shoulder is sized to hold thereagainst the remote end of the fitting. The shoulder receives and transmits the thrust force of the assembly operation to the body of the present tool with the tool being held against movement during the operation.

3,378,910
LINEAR FORCE-APPLYING TOOL FOR THE SEPARATION OF JOINED PARTS

Ward W. Are, Jr., Marietta, Ga., assignor to Lockheed Aircraft Corporation, Burbank, Calif.

Filed Oct. 18, 1965, Ser. No. 497,323
2 Claims. (Cl. 29—237)

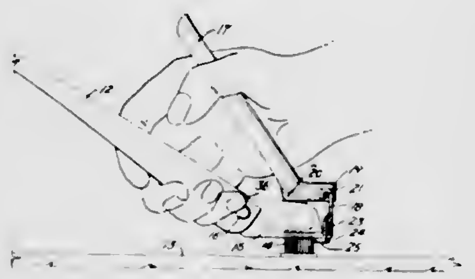


A tool is provided to facilitate removal of a pump assembly mounted on the internal surface of an access door in the wing tank of an aircraft. The conduit from the pump is force-fitted within an adjacent conduit, and the joint is sealed by a conventional O-ring. The tool allows for the application of a uniform force of sufficient magnitude on and against the pump and its conduit to cause a separation of the conduit joint especially when frozen as a result of a swelling of the O-ring as normally occurs without rupturing or otherwise damaging the pump, skin, etc., of the aircraft component.

3,378,911
WINDSHIELD WIPER ARM TOOLS

James T. Clark and James E. Wilson, Fort Morgan, Colo., assignors to Clark-Feather Mfg. Co., Fort Morgan, Colo.

Filed June 13, 1966, Ser. No. 557,268
4 Claims. (Cl. 29—267)



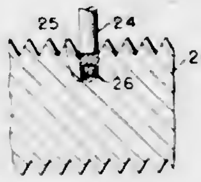
A handle terminating in a relatively short prying arm extending forwardly therefrom at an obtuse angle therewith and having a hooked tension plate hingedly suspended from the forward extremity of said prying arm, the rear extremity of the latter forming a fulcrum for prying said tension plate upwardly to form a plier-like grip upon the elbow fitting when the handle and a windshield wiper arm are gripped in the hand.

3,378,912
METHOD OF FORMING RECESSES IN PARTS FOR THE RECEPTION OF FRICTION LOCKING PLUGS

Richard B. Wallace, Bloomfield Hills, Mich., assignor to The Oakland Corporation, Troy, Mich., a corporation of Michigan

Filed Feb. 28, 1966, Ser. No. 530,728
9 Claims. (Cl. 29—419)

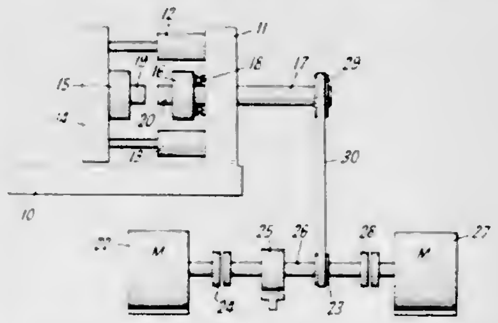
1. The method of forming recesses in parts for the reception of friction locking elements which comprises forming a recess of the approximate desired size and shape in a previously threaded part, shearing material from the side wall of the recess inwardly from the outer end of the recess to form sheared side wall portions in the recess which are composed entirely of straight line elements parallel to the axis of the recess.



3,378,913
FRICTION WELDING MARAGING STEEL

Joseph Chin Jung Cheng, Norwalk, Conn., assignor, by mesne assignments, to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

Filed Mar. 25, 1964, Ser. No. 354,657
4 Claims. (Cl. 29—470.3)

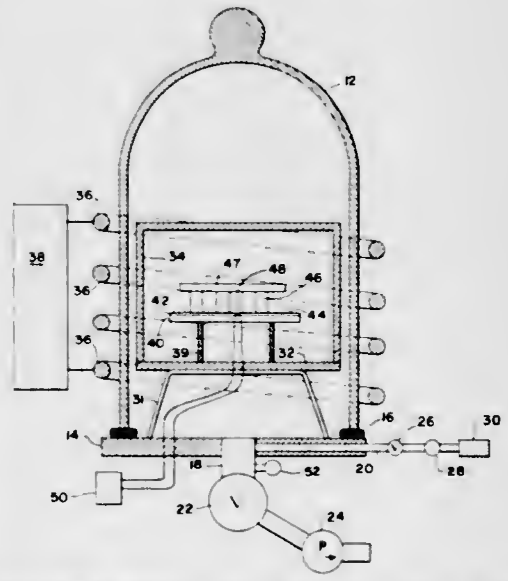


1. The process of friction welding maraging steel workpieces comprising the steps of relatively rotating the workpieces while forcing them together with a force not in excess of the yield strength of the workpieces to put at least 1,000 ft.-lbs. and less than 30,000 ft.-lbs. of energy per square inch of weld area into the weld area, and stopping the relative rotation of the workpieces while continuing to force them together to complete the friction weld wherein the energy is put into the weld area in less than ten seconds.

3,378,914
FLUXLESS ALUMINUM BRAZING

Clarence John Miller, Paoli, Pa., assignor to General Electric Company, a corporation of New York

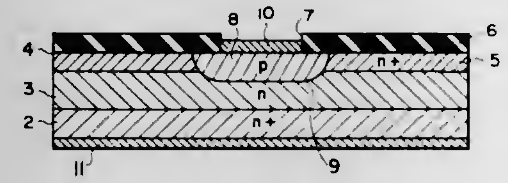
Continuation-in-part of application Ser. No. 477,566, Aug. 5, 1965. This application Aug. 8, 1966, Ser. No. 573,774
9 Claims. (Cl. 29—494)



Aluminum-base alloy parts are assembled, with an aluminum brazing material of lower melting point than that of the parts at the interfaces where joints are to be brazed; the assembly is heated in inert gas at atmospheric pressure or above, while magnesium vapor is provided in the vicinity of the interfaces. Temperature above melting point of brazing material and below that of parts is maintained long enough for magnesium vapor to permit brazing material to wet and join parts.

3,378,915
METHOD OF MAKING A PLANAR DIFFUSED SEMICONDUCTOR VOLTAGE REFERENCE DIODE

Gerhard P. Zenner, Ottawa, Ontario, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada
Filed Mar. 31, 1966, Ser. No. 539,163
4 Claims. (Cl. 29—577)



1. A method of making a planar diffused semiconductor voltage reference diode comprising the steps of:
- (a) preparing a semiconductor body of one conductivity type having two opposing plane surfaces, said body being characterized by having a specific resistivity at one of said surfaces higher than that required for a predetermined breakdown voltage;
- (b) diffusing an impurity from said one surface into said body to form a layer of said one conductivity type extending from said one surface into said body, the layer being characterized by having a specific resistivity at said one surface lower than that required for said predetermined breakdown voltage;
- (c) forming an oxide coating on said surface over said layer;
- (d) diffusing an impurity from said one surface through an aperture opened in said coating to said surface, to form a zone of opposite conductivity type, said zone defining a pn junction with at least said layer of one conductivity type, with said junction extending to said one surface underneath said coating about said zone;
- (e) said latter diffusion step being performed at a controlled diffusion cycle such that said layer diffuses further into said body until the specific resistivity of said layer at said surface is substantially that required for said predetermined breakdown voltage;
- (f) and forming ohmic contacts to said zone on said one surface and to said body of one conductivity type on one or the other of said surfaces.

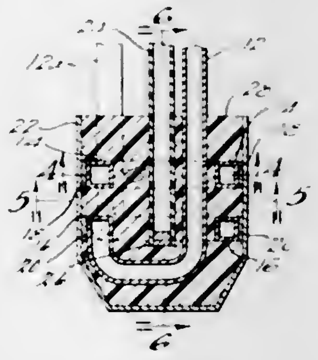
3,378,916
MANUFACTURE OF SUPERCONDUCTING WIRE

Peter Robinson, Fossway, Newcastle-upon-Tyne, England, assignor to International Research & Development Company Limited, Fossway, Newcastle-upon-Tyne, England
No Drawing. Filed Oct. 21, 1965, Ser. No. 500,218
Claims priority, application Great Britain, Oct. 30, 1964, 44,416/64
2 Claims. (Cl. 29—599)

1. A method or process for the production of superconducting niobium-zirconium alloy wire comprising the following steps:
- (a) heat-treating a niobium-zirconium material containing a second phase constituent and having a substantially non-dendritic refined crystal structure substantially free of high concentrations of impurities, in a temperature range 1000°–1250° C. under inert conditions for 30–120 minutes, whereby said second phase is placed in solution with said material;
- (b) quenching the material as quickly as possible to retain the second-phase constituents in solution;
- (c) working the material at a temperature below 500° C. to reduce its cross section and removing any surface defects which may be present;
- (d) further heat-treating the material at a temperature in the range 750° C.–825° C. under inert conditions for 15–130 minutes;
- (e) enclosing the material in a sheath of different material having substantially similar working properties to the material regarding ductility, rate of work-hardening and hardness;
- (f) deforming the material and sheath together to the required final cross-section of the material;
- (g) dissolving the sheath;
- (h) copper-plating the material.

3,378,917
INDUCTION HEATING INDUCTORS

Warren V. Lapham, Detroit, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Apr. 28, 1965, Ser. No. 451,574
9 Claims. (Cl. 29—602)

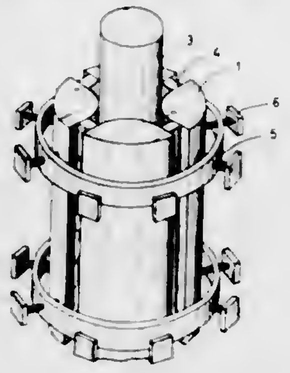


A method for producing an induction heating structure having a heating coil conductor portion securely supported by an integrally formed, electrically non-conducting core. The method comprises shaping a conductor to a desired configuration, surrounding the outer peripheral surface of the shaped portion of the conductor with a vessel such that there is no perceptible space between the surface of the vessel and the conductor surface, introducing a synthetic resin into the vessel and allowing the resin to flow about the contained part of the conductor so as to encompass substantially all surfaces thereof except those which are adjacent the wall of the vessel.

3,378,918
METHOD OF MANUFACTURING A MULTIPOLAR MAGNETIC LENS

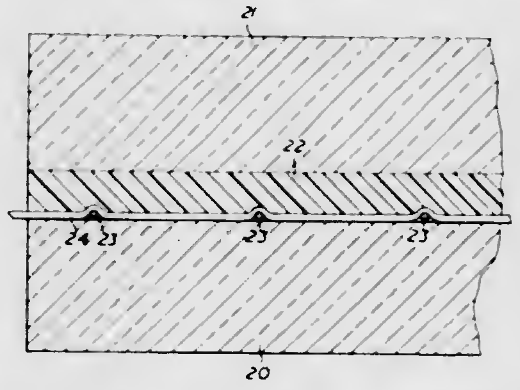
Maurice Closset, Mont-sur-Marchienne, Belgium, assignor to Ateliers de Constructions Electriques de Charleroi (ACEC) Societe Anonyme, Brussels, Belgium
Original application July 15, 1964, Ser. No. 382,802. Divided and this application May 19, 1966, Ser. No. 551,259
Claims priority, application Belgium, July 15, 1963, 634,990
1 Claim. (Cl. 29—602)

A method of manufacturing a multipolar magnetic lens made up of an annular yoke and a plurality of polar pieces mounted along the bore of the yoke. Arcuate air-gap surfaces are first machined on the polar pieces. The latter are then assembled in spaced relationship around a central mandrel having a diameter equal to that of the air-gap at the center of the lens. The polar pieces are then machined, as assembled, to form an outer cylindrical contact surface corresponding to the bore of the yoke. The central mandrel is removed and the polar pieces mounted and secured in the bore of the yoke with the outer cylindrical contact surface in contact with the bore.



3,378,919
LAMINATED TRANSPARENT PANELS INCORPORATING HEATING WIRES

Kenneth Walter Brittan, Great Abington, near Cambridge, England, assignor to Triplex Safety Glass Company Limited, London, England, a British company
Filed July 15, 1963, Ser. No. 294,821
Claims priority, application Great Britain, July 16, 1962, 14,526/62
16 Claims. (Cl. 29—611)

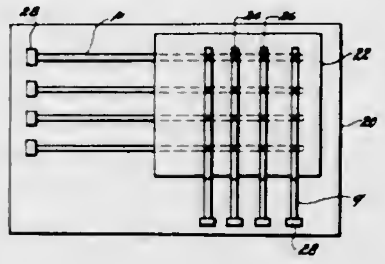


1. A method of making a laminated transparent panel incorporating heating means whereby it can be heated, which comprises the steps of placing a plurality of mutually spaced, electrically conductive, heating wires on an even face of a sheet of transparent, electrically non-conductive material which is to form a layer of the panel, each wire being not more than 0.003" thick, placing a pair of spaced metallic strips directly across and in electrically conductive contact with the wires, each strip being no more than 0.003" thick, and applying deforming pressure to each strip so that it forms an arch over each wire and lies against said even face of said sheet between wires, and laminating the thus assembled parts with a second transparent electrically non-conductive sheet so that in the completed panel the wires and strips are received in recesses in said second transparent, electrically non-conductive sheet forming an adjacent layer of the panel and the wires are in electrical contact with the strips and extend between the strips which can thus act as feed conductors.

3,378,920
METHOD FOR PRODUCING AN INTERCONNECTION MATRIX

Peter F. Cone, Bedford, Mass., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Jan. 26, 1966, Ser. No. 523,517
2 Claims. (Cl. 29—625)

A layered interconnection matrix board formed by printing a series of parallel conductors on a sheet of dielectric material, applying an insulating material over said sheet and portions of said conductors while leaving uncovered portions of said conductors, applying a fusible material at the uncovered portions, applying a second series of conductors at an angle to said first series of conductors to overlie the fusible material, and causing the fusible material to break down between conductors of each series at which no interconnection is desired.



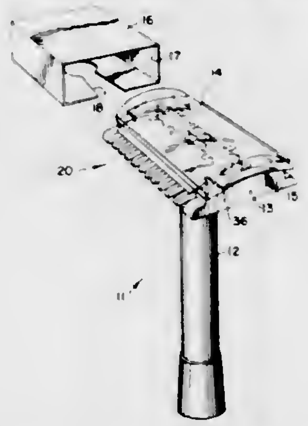
3,378,921
SPIDER CENTER BAR AND STEM ASSEMBLY

Frank A. Ferraro, Monroe, Conn., assignor to Eversharp, Inc., Milford, Conn., a corporation of Delaware
Filed Mar. 9, 1967, Ser. No. 621,888
4 Claims. (Cl. 30—60.5)

Means for adjoining a safety razor spider stem and center bar which allows the spider stem and center bar to be formed of flat stock, reducing materal requirements, and permitting employment of faster and less expensive manufacturing techniques.

3,378,922
DISPOSABLE SAFETY RAZOR

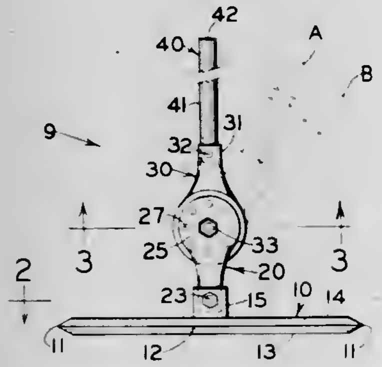
Clarence O. Schrader, Sherman Oaks, and James L. Marcotte, Torrance, Calif., assignors to Eversharp, Inc., Milford, Conn., a corporation of Delaware
Filed June 11, 1965, Ser. No. 463,189
12 Claims. (Cl. 30—66)



A disposable plastic razor of the double edge type formed from three molded pieces consisting of a handle, frame and cap. The frame has guard bars and a blade seat which supports a conventional double edge razor blade. The clamped condition of the blade may be visually determined because the cap is formed of clear plastic. The parts are assembled by placing the blade seat in the handle and then inserting an integral stem on the cap into the handle through the frame, causing expansion of a boss on the frame, disposed within the handle to lock the parts together and, if desired, the frame and cap may be also heat staked. The junction of the frame and cap is readily frangible to permit easy destruction of the razor to preclude further use.

3,378,923
MULTIPURPOSE IMPLEMENT

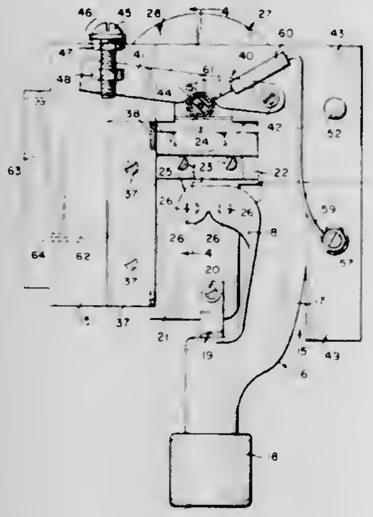
Anthony Andrew Trush, 218 N. 19th St., Apt. 5,
Omaha, Nebr. 68102
Filed Jan. 16, 1967, Ser. No. 609,406
8 Claims. (Cl. 30—318)



This invention relates to a multipurpose hand tool or implement, and especially this invention relates to a multipurpose tool suitable for various tasks including cutting plant growth, hoeing the earth, and scraping off ice and similarly adherent topical layers.

3,378,924
CABLE CUTTING ASSEMBLY

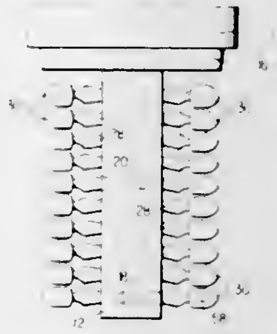
Philip E. Porter, 207 Woodland Drive,
Forest Heights, Md. 20021
Filed July 26, 1966, Ser. No. 567,883
12 Claims. (Cl. 30—91.2)



Cable cutting assembly including a base plate, a movable plate positioned adjacent the base plate, a micrometer caliper type member carried by the base plate and engageable with the movable plate for moving the same with respect to the base plate, a cutting element mounted on the movable plate, a cable holder engaged with the base plate for positioning the cable in the path of movement of the cutting element, the cable holder and base plate being relatively rotatable, a cable retainer member adjustably mounted on the base plate, a probe for selective engagement with the cable conductors, signal means in circuit with the probe and cutting element, and a source of electrical energy electrically connected to the signal means for actuating the same upon engagement of the cutting element with the selected cable conductor, to complete the electrical circuit.

3,378,925
TOOTH SHADE GUIDE

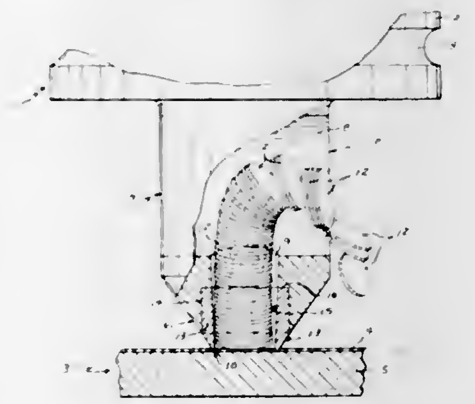
Robert O. Faller, Buffalo, N.Y., assignor to Williams Gold Refining Company, Buffalo, N.Y., a corporation
Filed July 14, 1965, Ser. No. 471,937
2 Claims. (Cl. 32—71)



A tooth shade guide assembly comprising a tank filled with a desired liquid, a closure therefor and a support to hold the shade guide elements within the tank secured to the closure. The support comprises a center wall member having secured thereto on each side an end member with transverse slots, the wall closing off the slots to form a series of openings disposed on each side of the wall. The shade guide elements are thus supported in the openings. To hold the elements securely within the openings, the walls of the slots are somewhat flexible and the dimensions of the opening are slightly less than that of the portion of the elements inserted in the openings. To further increase the holding effect, the portions of the elements within the openings are outwardly tapered so that a jamming action results.

3,378,926
HOLLOW ENGRAVING POINTS

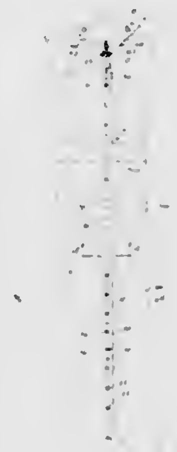
Robert H. Sicking, 5705 Itaska Ave.,
St. Louis, Mo. 63108
Filed May 19, 1967, Ser. No. 641,422
2 Claims. (Cl. 33—18)



A data plotting machine engraving point or stylus having an elongated cylindrical body with a conical engraving tip having an upwardly and outwardly flared central longitudinal bore therein extending from said tip to provide an annular ring shape engraving extremity adjacent the conical tip. An enlarged cylindrical transverse passage is provided in the conical tip at the upper end of the upwardly flared passage having a greater diameter than the diameter of the upper end of the flared bore. The transverse passage extends across the upper portion of the conical tip at right angles to the central axis of the flared longitudinal bore and the opposite ends of the transverse cylindrical passage open outwardly at opposite sides of the upper portion of the conical tip. The sides of the tip are flattened at the outlet ends of the enlarged transverse cylindrical passage.

3,378,927
BLACKBOARD DRAFTING IMPLEMENTS

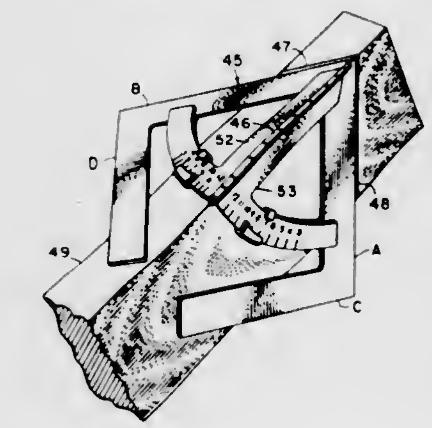
Earnest E. Lowery, 5335 Buena Vista Ave.,
Fair Oaks, Calif. 95628
Filed Apr. 21, 1967, Ser. No. 632,694
8 Claims. (Cl. 33—26)



Blackboard accessories comprising an elongated arm provided with means spaced axially thereof to releasibly receive and connect one or more pieces of chalk thereon, and means fixedly secured to one end of the arm to releasibly connect the arm on the blackboard for movement across its writing surface to selectively chalk-inscribe linear or arcuate lines thereon, and wherein adjacent pairs of linear lines may be simultaneously drawn parallel to one another and adjacent pairs of arcuate lines may be inscribed in concentric relation relative to one another.

3,378,928
INSTRUMENT FOR MARKING IN THE CUTS ON ROOF RAFTERS

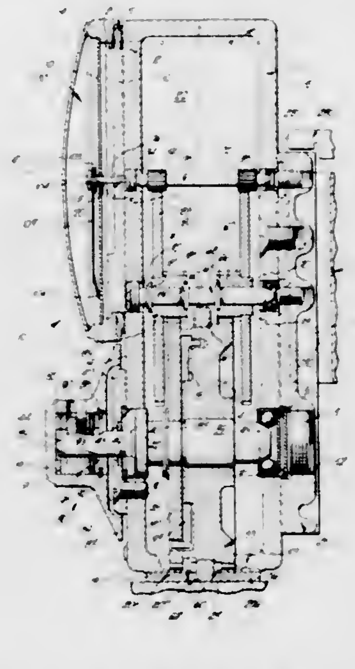
Percy S. Hawkins, 2343 Marshall Ave. SE.,
Grand Rapids, Mich. 49507
Filed Oct. 28, 1966, Ser. No. 590,389
5 Claims. (Cl. 33—90)



An instrument for locating the cuts on structural members that interengage at standard angular relationships, the instrument having right-angle members hinged with respect to each other, the apex of said right-angle members being centrally disposed thereon so that the legs of each of said right-angle members locate the traces of complementary cuts on a particular side of a structural member.

3,378,929
MEASURING DEVICE

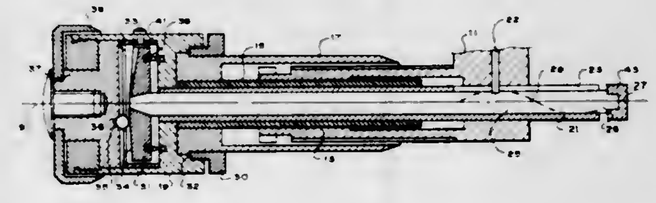
Clinton E. Deardorff and Edward John Williams, Woodland Hills, Calif., assignors to Primus Mfg., Inc., San Lorenzo, Puerto Rico, a corporation of California
Continuation of application Ser. No. 147,012, Oct. 23, 1961. This application Jan. 3, 1967, Ser. No. 622,837
8 Claims. (Cl. 33—125)



Improvements in and for a friction-wheel distance measuring device of the type described in U.S. Patent 3,311,985 are described. The improvements include a resettable coarse-reading visual indicator mounted to a metering wheel shaft, the coupling of the coarse-reading indicator to the shaft permitting this indicator to be reset or zeroed while the metering wheel and measurement surface along which the wheel rolls are engaged without causing the metering wheel to slip relative to the measurement surface. An improved anti-backlash system for the motion amplifying gear train, viz., the use of parallel gear trains and a single anti-backlashing spring, is also described, as is an improved mounting mechanism for the housing of the device. The mounting mechanism includes a tongue-and-groove type connection between the housing and the mounting mechanism and a spring biased lug engaged with the housing itself essentially directly along the line of the tongue-and-groove connection so that the housing cannot move relative to the mounting mechanism independently of the biasing mechanism but arranged so that the housing may be removed readily from the mounting mechanism when desired.

3,378,930
MEASURING DEVICE

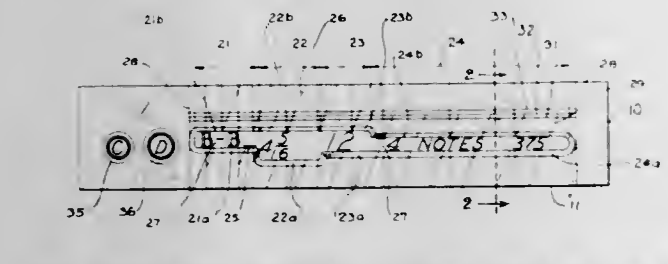
Albert L. Wooldridge, Manitou Springs, Colo.
(438 Donohoe, 2, Palo Alto, Calif. 94303)
Filed Aug. 31, 1966, Ser. No. 576,469
Claims priority, application Great Britain, Sept. 13, 1965, 39,076/65
5 Claims. (Cl. 33—170)



A micrometer-like measuring device includes a variable pitch helix for incorporating a selected correction factor into length or distance measurements. A measuring device as disclosed herein obviates the need for individually calculating adjustment of part dimensions to compensate for casting shrinkages, material compaction and the like. This is accomplished according to the illustrated embodiment of the present invention by providing a cam spindle which is free to move axially with the spindle of a micrometer-type spindle and barrel. As the barrel is rotated to extend or withdraw the spindle with respect to a frame, the cam spindle is rotated about one turn over the axial adjustment length of the spindle by a helix in the spindle which is keyed to the frame. This one-turn motion of the cam spindle positions a ball between a reference plane and the radially-diverging surface of the spindle cam such that the radial position of the ball outward from the rotational axis of the barrel and cam spindle determines the correction factor incorporated in the distance measurement.

3,378,931
DRAFTING INSTRUMENT

Gregory S. Dolgorukov, Ferndale, Mich.
(407 Fisher Bldg., Detroit, Mich. 48202)
Continuation of application Ser. No. 313,698, Oct. 3, 1963. This application Jan. 18, 1967, Ser. No. 610,198
2 Claims. (Cl. 33—174)



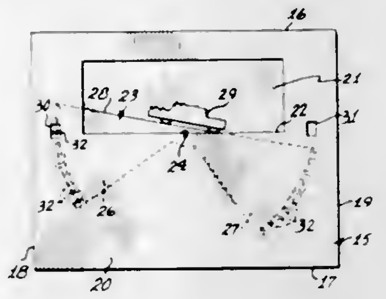
This application discloses an improved lettering guide of the slotted line type, eliminating some serious disadvantages of the previously devised guides of this nature, and particularly the necessity of moving the guide up and down for lettering hyphens and fraction signs in order to center them with respect to whole number and fractions, as is necessary with guides of the prior art in dimensioning operations. The improved lettering guide disclosed herein enables the user to letter in a novel and complete font of engineering lettering based on smallest lettering characters of approximately .16" in height, encircle revision letters with advantageously corresponding circle and to perform virtually all lettering and dimensioning operations without moving the guide up and down until completing a full line of lettering irrespective of the heights of the characters therein. Furthermore, in one of its aspects the improved lettering guide disclosed herein does not depend on the presence of a guiding straight line "edge" on its ruler-like body, and therefore may be provided on drafting instruments such as irregular or French curves and sweeps having no straight line edges, and be used on drawings having no positive means identifying its base line. The guides of the construction herein disclosed also provide for drawing circles at the intersection of grid lines usually provided on drafting media such as painted aluminum panels.

3,378,932
GRADE INDICATOR

Frank E. Neill, Phoenix, Ariz.
(5838 N. Palo Cristi Road, Paradise Valley, Ariz. 85251)
Filed Nov. 4, 1966, Ser. No. 592,101
4 Claims. (Cl. 33—215)

1. A visible grade indicator for motor vehicles comprising in combination:

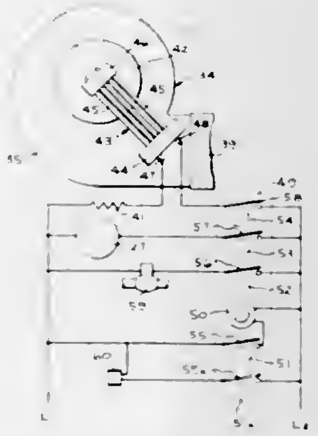
(A) a housing arranged to be fixed to a motor vehicle,
(B) a transversely disposed front panel on said housing having an indicating window with a bottom edge defining an artificial horizon,
(C) a swinging indicating dial pivotally mounted on said housing having a grade indicating line edge and a simulated vehicle mounted on said grade indicating line arranged to tilt relative to said artificial horizon,
(D) said dial carrying plural indicia for indicating the inclination of said housing,
(E) and actuating means mounted in said housing responsive to the force of gravity to pivotally position said dial in response to the grade being traversed by said vehicle,



said actuating means positioning said dial so that said grade indicating line edge appears in said indicating window inclined relative to the bottom edge of said window an amount corresponding to the inclination of said housing to the horizontal and the particular indicia corresponding to said inclination appears in said aperture.

3,378,933
DRYING SYSTEM FOR DISHWASHER

Thomas E. Jenkins, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Jan. 13, 1966, Ser. No. 520,442
9 Claims. (Cl. 34—54)



An electrically heated drying system for a dishwasher including a blower and means interconnecting the blower to the dishwasher wash chamber. An electrical heating element is disposed within the path of air propelled by the blower and electrically-responsive valve means is provided to control the flow of air through the blower. The electrically-responsive valve means is connected in electrical series with another electrical component of the dishwasher to be controlled by the same control means which controls the other electrical component.

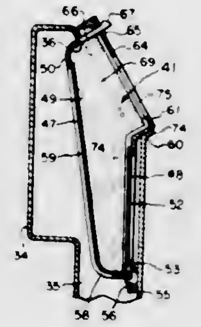
3,378,934
LINT TRAP FOR CLOTHES DRYERS

Clifford E. Erickson, Chicago, Ill., assignor to General Electric Company, a corporation of New York
Filed July 28, 1966, Ser. No. 568,424
7 Claims. (Cl. 34—82)

1. For use in a clothes dryer of the type having a clothes receptacle and an exhaust duct with an inlet opening positioned for convenient manual access, wherein a flow of heated air passes through the receptacle and then

enters the exhaust duct, an improved lint trap comprising:

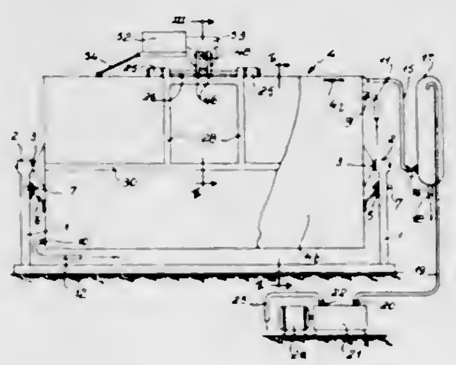
(a) first and second sides having the major part thereof foraminous, said sides:
  (i) being hinged together at the bottom thereof;
  (ii) providing a generally U-shaped cross-sectional configuration in a first relationship;
  (iii) being pivotable to a second relationship in which the surfaces forming the inside of the said U-shaped cross-section are easily and independently accessible;



(b) said trap being insertable in said exhaust duct when said sides are in said first relationship;
(c) means at the top of said sides cooperatively effective with the duct inlet opening to retain said trap at said opening with said sides extending generally in the direction of flow; and
(d) means closing the ends of said U-shaped configuration so that air flows into said trap at the top of said U-shaped configuration and flows out of said trap only through the foramina formed therein.

3,378,935
APPARATUS FOR DRYING HIDES, SKINS AND SIMILAR SHEETLIKE ARTICLES

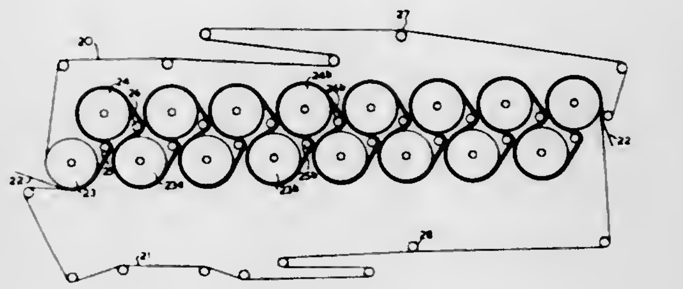
Paul Augere, Sceaux, France, assignor to Charvo S.A., Grenoble, Isere, France, a French joint-stock company
Filed Sept. 16, 1966, Ser. No. 580,077
Claims priority, application France, Sept. 23, 1965, 32,496, Patent 1,460,696
3 Claims. (Cl. 34—92)



A flat casing with two polished parallel sides is oscillatably supported by a frame to receive a hide to be dried on any of its polished sides. A hinged air-tight cover is thereafter applied on the said side, this cover having a permeable inner cushion which is pressed against the hide, and vacuum is applied to the inner space of the cover. Heating means are provided within the casing which may be locked at two positions symmetrical with respect to a vertical plane.

3,378,936
DRIER SECTION OF PAPERMAKING MACHINE

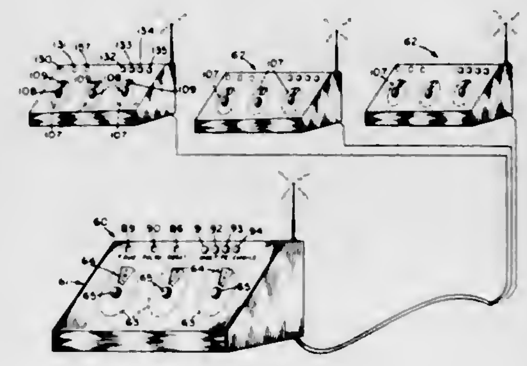
John Buss, Clarkson, Ontario, Canada, assignor to Abitibi Power & Paper Company, Limited, Iroquois Falls, Ontario, Canada, a corporation of Canada
Continuation of abandoned application Ser. No. 309,818, Sept. 18, 1963. This application Oct. 17, 1966, Ser. No. 601,251
Claims priority, application Canada, Sept. 26, 1962, 858,836
2 Claims. (Cl. 34—116)



An improvement for minimizing paper shrinkage in a paper drying machine for drying a continuous running sheet of paper having an upper row of drier rolls and a lower roll of drier rolls staggered with respect to the rolls of the upper row and a paper sheet passing successively around the drier rolls of the upper and lower rolls, including, a pair of double mesh screens maintained under tension and adapted to firmly contact the top and bottom of the paper sheet and support it throughout substantially the full extent of the drier, the upper row of drier rolls and the lower row of drier rolls being so positioned in relation to each other as to decrease the distance which the paper must travel between rolls to a minimum.

3,378,937
TEACHING DEVICE

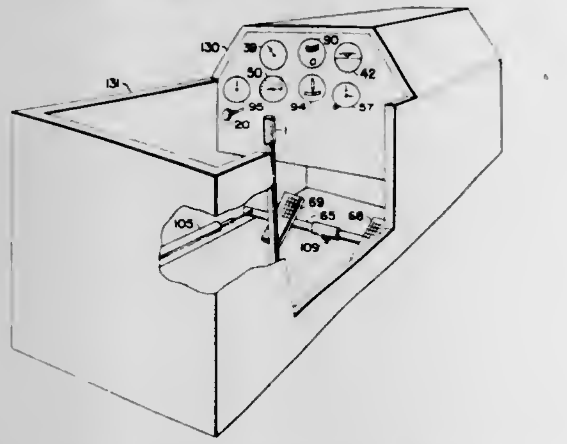
Edward L. Warren, 6333 Stafford Drive, North Olmsted, Ohio 44070
Filed Apr. 29, 1966, Ser. No. 546,271
9 Claims. (Cl. 35—9)



A device for indicating the correctness of programmed answers which includes a master control panel having a plurality of settings for selecting a corresponding plurality of programmed answers. The device further includes a student's module having a corresponding plurality of settings for indicating selected answers to the programmed questions. The master control panel has a frequency generating means which generates a unique signal for each setting of the master control panel. A correct answer is indicated in response to the generated frequency of the master control panel when the settings of the master control panel and the student's module correspond.

3,378,938
AVIATION TRAINER

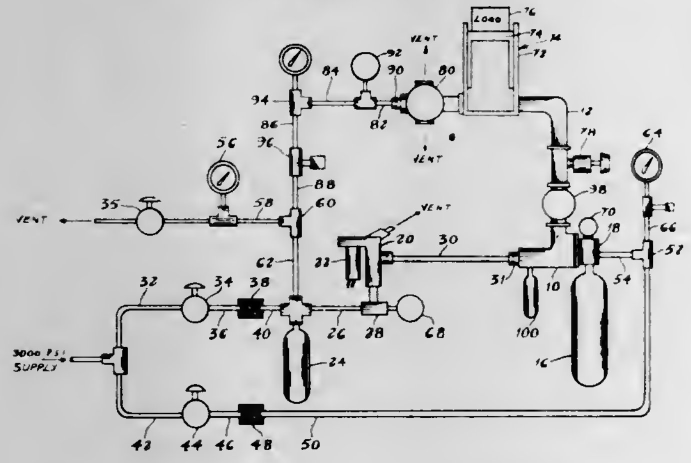
Rudolf A. Frasca, 606 Neil St., Champaign, Ill. 61820
Continuation-in-part of application Ser. No. 320,976, Nov. 4, 1963. This application Aug. 2, 1965, Ser. No. 476,249
20 Claims. (Cl. 35—12)



1. An aviation trainer comprising a control stick or wheel which is fixedly secured to a shaft and which is movable to simulate the movement required to position an aircraft's elevators, and a centering system for applying a pressure which tends to return said control stick or wheel to its neutral position to realistically simulate the effect of air slipstream on an aircraft's elevators when deflected, said centering system comprising a frame member which is pivotally mounted at its one end to said trainer and which has said shaft secured to its opposite end, arm means having an elongated slot formed therein and pivotally fixed at one end to said trainer, pin means fixedly secured to said frame and engaged within said elongate slot, a hyraulic cylinder fixedly and pivotally secured to said trainer and having a piston fixedly and pivotally secured to the opposite end of said arm means, said control stick or wheel upon being moved forward or backward causing said frame to pivot and move said pin means within said elongated slot, the movement of said pin means causing said arm means to pivot, whereby said piston is pulled from said hydraulic cylinder to thereby exert a force on said arm means to resist said pivotal movement thereof, said force being transmitted to said frame and to said shaft.

3,378,939
REGULATING VALVE FOR EJECTION SEAT TRAINER

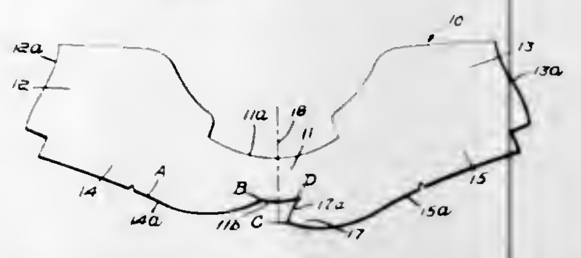
Thomas P. Carey, Durwood, Md., and Theodore T. Hadeler, Montvale, N.J., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed July 18, 1966, Ser. No. 566,089
9 Claims. (Cl. 35—12)



This invention is characterized by the incorporation in a gas pressure actuated seat ejection system of an unbalanced single state loaded gas flow regulator connected to pass gas under pressure from a fixed volume power gas source to a piston type actuator under the initial actuation and control of a pilot gas pressure means, and wherein the effective gas pressure reception areas of a poppet valve and a pilot piston of said regulator are selected to provide a progressive opening of the regulator valving mechanism responsive to the continued passage of gas to the actuator, thereby accelerating the actuator piston at a rate which increases with time.

3,378,940
MOCCASIN SHOE AND BLANK THEREFOR

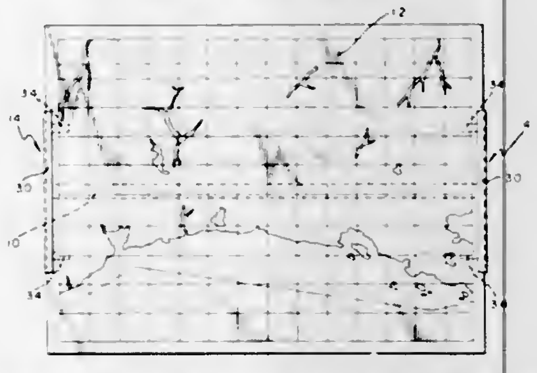
Richard J. Potvin, Jr., Brockton, Mass., assignor to R. J. Potvin Shoe Company, Inc., Brockton, Mass., a corporation of Massachusetts
Filed June 22, 1964, Ser. No. 376,748
15 Claims. (Cl. 36—11)



1. A moccasin shoe comprising an upper having a toe portion and bottom-forming portions disposed in edge-abutting relationship, a forward edge and a continuous seam joining said toe portion to one of said bottom-forming portions transversely of the forepart of the shoe bottom and rearwardly of said forward edge and joining said bottom-forming portions together longitudinally of the shoe bottom.

3,378,941
HOLDER FOR FLEXIBLE SHEET

Milton D. Pollitt, 6510 E. 14th, Wichita, Kans. 67206
Filed Aug. 15, 1966, Ser. No. 572,538
17 Claims. (Cl. 40—10)

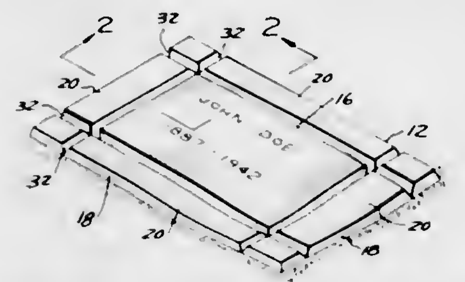


A sheet forming a chart or map is held in stable extended position by a spring ribbon secured at its ends to the sides of the sheet by means including members of U-shape cross-section receiving the edges of the sheet. The spring ribbon has a concave-convex cross-section in stable extended position and when straightened in cross-section has different properties such as roll-in, roll-out or balanced charcteristics relative to coiling or uncoiling with the sheet.

3,378,942
HEADSTONE COVER

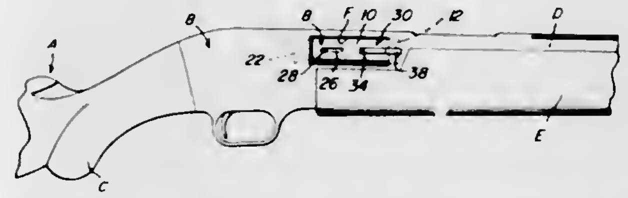
James Diamond, 2581 Andover Road, Trenton, Mich. 48183, and Harvey W. Brick, 21487 Astor Court, Grosse Ile, Mich. 48138
Filed Feb. 14, 1966, Ser. No. 527,218
2 Claims. (Cl. 40—124.5)

A unitary molded plastic enclosure for a concrete cemetary grave base having a central recessed portion for receiving a marker tablet therein such that the enclosure and tablet together form a mold for the base. The recessed portion of the enclosure is apertured wherein stud means, extending from the tablet through the aperture, are embedded in the poured concrete when poured so that the enclosure is retained on the base by the overlying tablet.



3,378,943
SAFETY PLUG FOR GUNS

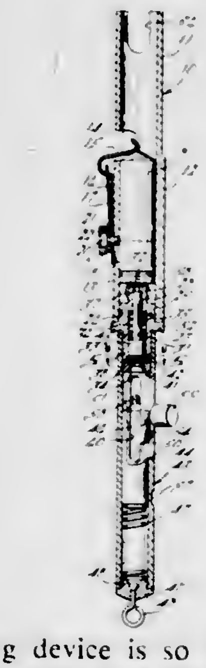
Raymond Valburg, 797 Schroeder Lane, Grants Pass, Oreg. 97526
Filed Oct. 18, 1966, Ser. No. 587,560
6 Claims. (Cl. 42—1)



The safety device herein shown and described is characterized, generally speaking, by a self-contained extensible and retractable plug expressly constructed to be initially inserted and lodged in the receiver chamber of a gun and subsequently dislodged and withdrawn from a chamber through a port aligned with said chamber. It embodies an outer sleeve provided with outstanding means which assist in positioning and anchoring the plug in a given chamber blocking state. Second means is carried by an inner sleeve and serves to slide the inner sleeve against the spring-loaded outer sleeve.

3,378,944
FLARE LAUNCHING DEVICE

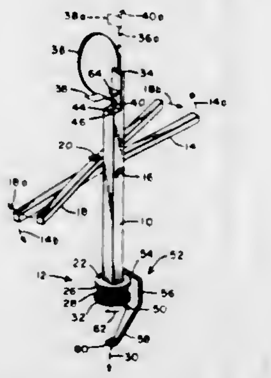
Robert Mainhardt, Callearroyo Diablo, and Edward F. Lamp, Walnut Creek, Calif., assignors to MB Associates, a corporation of California
Filed Nov. 15, 1966, Ser. No. 594,504
6 Claims. (Cl. 42—1)



A flare launching device is so constructed to receive either the flare projectile or a firing pin striking means within the launching tube so arranged as to have the retaining finger for the projectile also retain the firing pin striking means within the launching tube.

3,378,945
FISHING APPARATUS

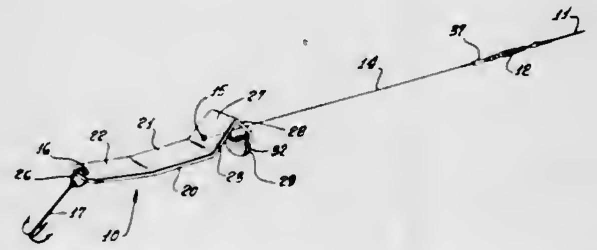
Archie G. Johnson, Amery, Wis. 54001
Filed Oct. 22, 1965, Ser. No. 500,895
13 Claims. (Cl. 43—17)



1. Fishing apparatus comprising: a staff member having first and second ends; line supporting means fixedly coupled to one of said ends of said staff member; line guide means coupled to said staff member for guiding line as it is fed from said line supporting means; a spring member having first and second ends and slidably coupled to said staff member; a rotatable trigger mounted on said staff member, said trigger having a spring-member-engaging portion, and a finger portion for engaging line wound on said line supporting means, said rotatable trigger being activated by line pressure on said finger portion; and support means coupled to said staff member intermediate said first and second ends for holding said staff member in an upright position.

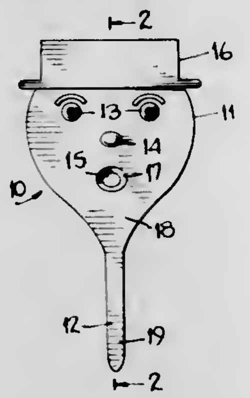
3,378,946
FISH LURE DEVICE

Irvin Jay, North Hollywood, Calif.
(5944 Calhoun, Van Nuys, Calif. 91401)
Filed July 19, 1965, Ser. No. 472,817
6 Claims. (Cl. 43—42.06)



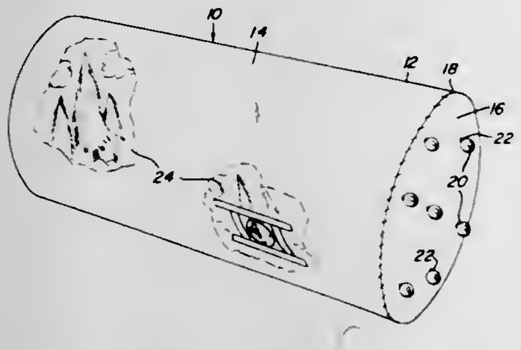
A fish lure device adapted to move in an irregular and darting fashion in water including a central portion, a tail portion angularly disposed to the central portion, a head portion including at least three angularly disposed head sections a first one of which is angularly disposed and connected to the central portion, a second of which is angularly disposed to the first section and a third of which is angularly disposed to the second section. The intersection between the second and third sections having a port therein, and a wire-like leader element connected at one end to the first one of the head sections and passing through the port, whereby the connection between the leader element and the lure is rearward of the second and third sections of the head portion so that water passing through the port when the lure is drawn through the water will react upon the first section of the head portion causing the lure to move irregularly through the water.

3,378,947
ANIMATED JUMPING TOY
Jack Zimmerman, Roaring Brook Lake,
Putnam Valley, N.Y. 10579
Filed Sept. 23, 1965, Ser. No. 489,486
3 Claims. (Cl. 46—129)



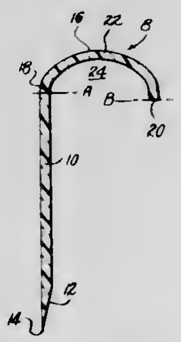
An animated toy comprising a substantially flat sheet with an apertured portion therein and a resilient flap which can be bent and inserted into the apertured portion, whereby due to its resiliency the flap will yieldably slide out of the apertured portion and spring into its normal unstrained position.

3,378,948
PILLOW WITH SOUND PRODUCING ELEMENTS
Samuel C. Gervaise, 121 E. Main St.,
Fredonia, N.Y. 14063
Filed Apr. 8, 1965, Ser. No. 446,545
9 Claims. (Cl. 46—175)



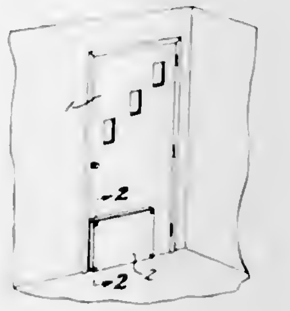
An elongated cylindrical pillow having a plurality of bells mounted either thereon or therein for the production of a noise when the pillow is utilized as a plaything.

3,378,949
LAWN EDGING DEVICE
Maurice Thomas Dorris, 19702 Matsonia Ave.,
Huntington Beach, Calif. 92646
Filed Dec. 20, 1965, Ser. No. 514,904
10 Claims. (Cl. 47—33)



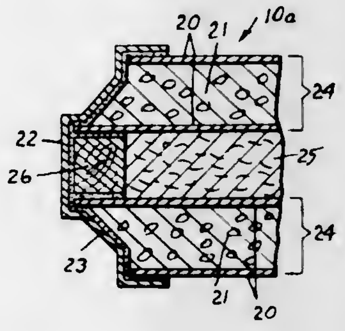
A lawn edging device comprising a vertical base strip to the upper end of which is attached a normally horizontally extending flange of resilient, flexible material. The base strip is pressed into the earth along the area to be edged. To edge the area, the outer edge of the flange is flexed upwardly a substantial distance to allow vegetation growing next to the flange to be placed therebeneath, after which the flange is released and allowed to resume its normal generally horizontal position.

3,378,950
THROW RUG MOUNTING ON A DOOR
Arnold A. Butler, 4043 Howard Ave.,
Los Alamitos, Calif. 90720
Filed Oct. 24, 1966, Ser. No. 589,012
4 Claims. (Cl. 49—70)



1. A throw rug mounting on a door, said door being hinged for inward swinging movement in a doorway, a threshold in the doorway, a mat, one end of said mat being secured to the threshold, an arm, means pivotally mounting the arm on the inside of the door adjacent the hinge side and proximate the lower margin thereof for vertical swinging movement parallel to the plane of the door, spring means urging said arm to a raised position above the floor level, and means securing the opposite end of the mat to the arm whereby the mat is held in a raised retracted position parallel to the door when the door is closed and is extended along the floor in front of the door as the door is opened inwardly.

3,378,951
MOVABLE PARTITION STRUCTURES
Benjamin D. Malone, Jr., P.O. Box 1415,
Punta Gorda, Fla. 33950
Continuation-in-part of application Ser. No. 370,873, May 28, 1964. This application Jan. 23, 1967, Ser. No. 610,851
5 Claims. (Cl. 49—127)

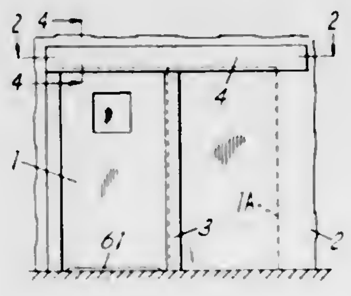


In a movable partition structure, the combination of a plurality of movably mounted vertical panels having abutting side edges when in their partition forming position, each of said panels comprising at least one panel member consisting of a pair of flat skins of hard nonporous material having good sound reflecting properties and a surface capable of use as a chalk board, a core of low density cellular sound absorbing material sandwiched between said skins and having the skins adhesively bonded to opposite sides thereof, a perimetric metallic frame surrounding said panel, and a layer of a soft latex composition bonding said frame to said core and to said skins,

whereby to provide a non-rigid connection between the skins and attenuate transmission of sound energy through the frame from one skin to the other, said frame consisting of frame members each having an angulated cross-section providing baffling and sound reflecting portions angularly offset from a normal plane traversing said panel.

Each of said panels also includes a second panel member of the same construction as the first mentioned panel member and disposed in spaced parallel relation thereto, spacer means separating the first and second panel members, and an insulating blanket of porous sound-absorbing material provided in the space between said panel members, said metallic frame being sufficiently wide to span both panel members and the insulating blanket therebetween.

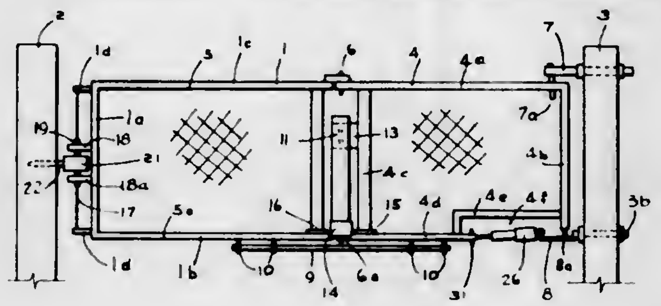
3,378,952
SLIDING DOOR OPERATING MECHANISM
Bruce B. Bidelman, Marshall, Raymond R. Martin, Albion, and George R. Millard, Tekonsha, Mich., assignors to Ronan & Kunzl, Inc., Marshall, Mich.
Filed Mar. 11, 1966, Ser. No. 533,503
16 Claims. (Cl. 49—360)



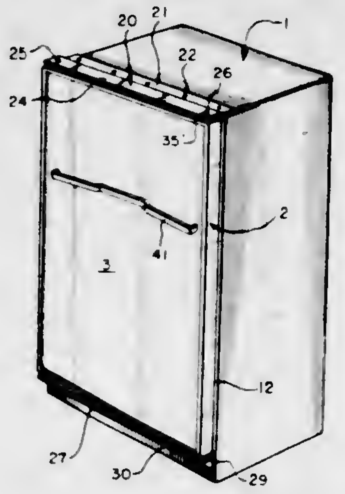
8. Sliding door operating and supporting mechanism including a door supporting track to support a door in open and closed positions relative to an upright jamb, rollers spaced along said track and connected to the edge of the door, a drive shaft extending transversely of said track adjacent an end thereof and having a reversible drive including a motor connected to the shaft,
  said mechanism being characterized by a drive pulley connected to said shaft,
  an idler pulley mounted on said track,
  a drive member loop trained around said pulleys,
  means connecting a reach of said drive member loop to said door,
  and door opened and door closed retarding means disposed in spaced relation along said track to be frictionally engaged by parts carried by the door in approaching the opened and closed positions of said door respectively
  said retarding means having springs loaded as the parts approach open and closed positions of the door, said springs being released by initial movement of the parts on the door away from opened and closed positions of the door.

3,378,953
AUTOMATIC GATE
Alan Ogilvy Barrowclough, Whitaker Place, Auckland, Auckland, New Zealand
Filed July 26, 1965, Ser. No. 474,695
Claims priority, application New Zealand, Aug. 5, 1964, 139,014
4 Claims. (Cl. 49—364)

A vehicle-operated gate is in two relatively swinging sections. Pressure of the vehicle on a leaf spring unblocks the sections so that they can swing relative to each other and also stores energy to push the gate open, both in the pushed leaf spring and in a further leaf spring that interconnects the two sections and urges them toward uniplanar relationship. A hydraulic piston and cylinder regulate the opening swing of the gate and also hold the gate open for a fixed period before allowing the gate to swing closed by gravity.

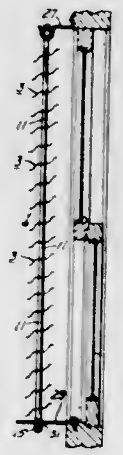


3,378,954
REVERSIBLY MOUNTED CABINET DOOR
Raymond C. Sandin, Winnetka, Ill., assignor to General Electric Company, a corporation of New York
Filed Dec. 27, 1966, Ser. No. 604,951
6 Claims. (Cl. 49—382)



This invention relates to door mounting structures, and more particularly, to an arrangement for reversibly mounting a door upon a cabinet in a manner whereby the door may be opened from either of the two opposite sides of the cabinet, to suit the requirement of the user.

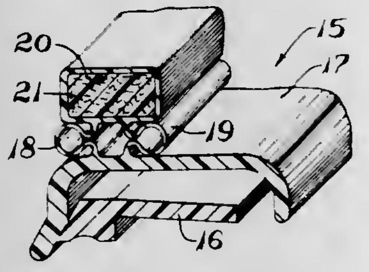
3,378,955
SUN SCREEN
Wallace W. Wahlgren, 15 Marr Ave.,
Oakland, Calif. 94611
Filed Sept. 14, 1965, Ser. No. 487,222
4 Claims. (Cl. 49—397)



An externally mountable sun screen made up of horizontal, preferable translucent louvres, angled to intercept and filter out the heat of the sun while transmitting directly and by reflection, in dispersed form, both the direct light rays from the sun and reflected light from the sky and environment, the louvres being certically spaced to permit clear and direct horizontal viewing.

3,378,956
EXTRUDED SEALING MEMBER

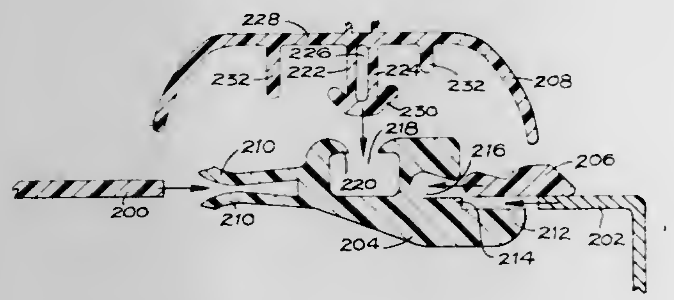
Sheldon A. Parks and Howard J. Naeser, Marietta, Ohio, assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Feb. 23, 1965, Ser. No. 434,385
8 Claims. (Cl. 49—485)



1. A one-piece elongated extrusion adapted to provide a seal between a wall member having an opening and a closure member for that opening, the said extrusion comprising integral longitudinally extending portions formed respectively of materials exhibiting different stiffness for samples thereof of like dimensions, the extrusion portion of greater stiffness comprising an attaching portion adapted to be attached to one of the two members and the portion of lesser stiffness including a hollow chamber a wall of which provides a sealing surface, and at least one flexible wall intermediate said attaching portion and hollow chamber supporting the latter in spaced relationship to the attaching portion and in a manner permitting movement of the hollow chamber relative to the attaching portion, the said extrusion being formed entirely of synthetic plastic capable of having its stiffness reduced by the addition thereto of a plasticizer, the portion of the extrusion of lesser stiffness having a greater proportion of plasticizer incorporated therein than the portion of greater stiffness.

3,378,957
GASKET ASSEMBLY

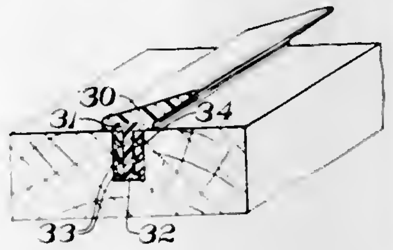
Walter C. Frehse, Evansville, Ind., assignor to The General Tire & Rubber Company, a corporation of Ohio
Filed Feb. 23, 1966, Ser. No. 529,537
2 Claims. (Cl. 49—487)



A refrigerator gasket is composed of a rigid retainer adapted to be mounted between the outer shell and the inner liner of the door and a flexible sealing element which is snapped into and retained within the retainer. An insulating material such as polyurethane foam may be used in the door to assist in holding the rigid retainer in place.

3,378,958
EXTRUSIONS HAVING INTEGRAL PORTIONS OF DIFFERENT STIFFNESS

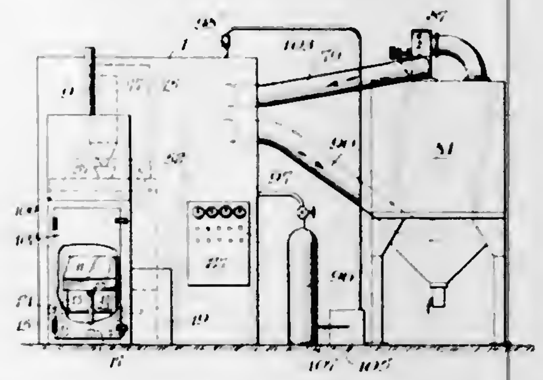
Sheldon A. Parks and Howard J. Naeser, Marietta, Ohio, assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 434,385, Feb. 23, 1965. This application Sept. 21, 1966, Ser. No. 581,039
17 Claims. (Cl. 49—489)



Extruded plastic sealing gaskets and trim strips having an integral stiff attaching rib with flexible fins for inserting into a narrow mounting groove, characterized by the fins being formed of a material having lesser stiffness than that employed for the rib.

3,378,959
APPARATUS FOR DEFLASHING MOLDED GOODS

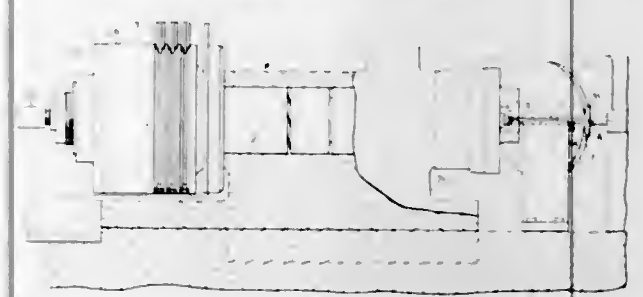
William A. McCormick, Jr., Hagerstown, Md., assignor to The Pangborn Corporation, Hagerstown, Md., a corporation of Delaware
Filed July 29, 1964, Ser. No. 385,884
15 Claims. (Cl. 51—13)



Molded goods are deflashed in a gas pressurized chamber which has an air locking chamber at its entrance and an externally disposed dust collector communicating with the gas chamber. Gas return means connect with the pressurized chamber for recirculating filtered gas back to the pressurized chamber.

3,378,960
MACHINE TOOL WORKPIECE DRIVING MECHANISM

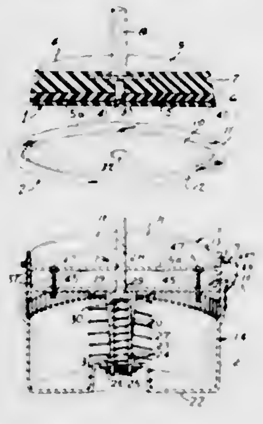
William B. Seidel, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Filed Jan. 13, 1965, Ser. No. 425,213
7 Claims. (Cl. 51—237)



A work gripping and rotating drive apparatus in a machine tool, particularly a precision grinding machine, having a jaw portion adjustable to align its axis with that of a workpiece gripped thereby and a driving portion connected to the jaw portion and rotatable on an axis parallel to the axis of the jaw portion.

3,378,961
DISC SANDING APPARATUS

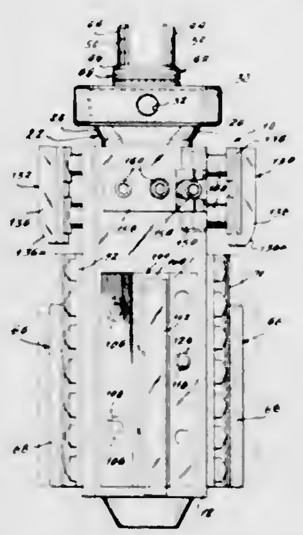
Miksa Marton, 27 Waverly Drive, Brockville, Ontario, Canada
Continuation-in-part of application Ser. No. 467,275, June 28, 1965. This application Feb. 24, 1967, Ser. No. 618,398
Claims priority, application Canada, Oct. 21, 1966, 973,694
9 Claims. (Cl. 51—275)



An apparatus for mounting an apertured circular sheet of material on a disc-shaped mounting member and including a flat base disposed inside a tubular member between the ends thereof, and being spaced a distance from one of the ends corresponding to the distance between the peripheral face of the mounting member and a groove extending around the peripheral side wall thereof. A guide pin is also provided which extends from the center of the base to a position above the above-mentioned end of the tubular member so that the sheet can be centered with respect to the mounting member.

3,378,962
HONING DEVICE

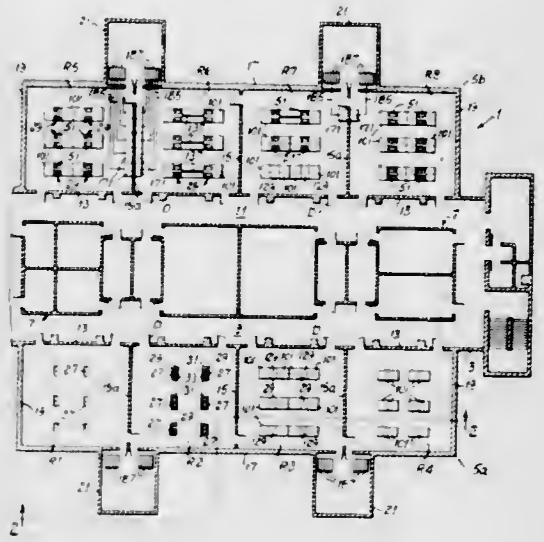
Joseph Sunnen, 400 S. Warson Road, Clayton, Mo. 63105
Filed Mar. 6, 1964, Ser. No. 349,892
22 Claims. (Cl. 51—339)



1. A honing head for honing cylindrical surfaces comprising a body having a pair of stone assemblies mounted in opposed relationship thereon and a pair of guide assemblies also mounted in opposed relationship thereon to define four locations on a cylindrical circumference for engagement with a surface to be honed. one of said assemblies being resiliently biased outwardly on said body and the other three of said assemblies being relatively rigidly supported thereon for establishing the honing diameter of said head, a stabilizing guide assembly mounted on said body substantially in axial alignment with each of said stone assemblies, each of said stabilizing guide assembly including means for adjusting the radial extended position thereof on the body, said stabilizing guide assemblies having wear elements thereon that engage a surface being honed at the beginning of a honing operation in order to establish a proper axial movement for said head, and means for pivotally mounting said head on a honing machine.

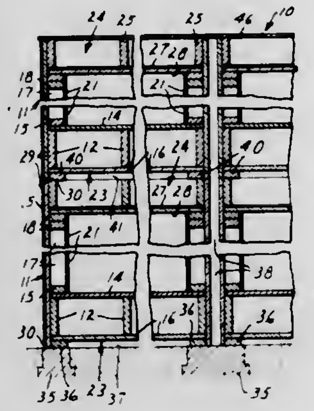
3,378,963
SCIENCE BUILDING LAYOUT AND EQUIPMENT

Gyo Obata, Ladue, Mo., assignor to Southern Illinois University Foundation, Carbondale, Ill., a corporation of Illinois
Filed July 30, 1964, Ser. No. 386,257
7 Claims. (Cl. 52—34)



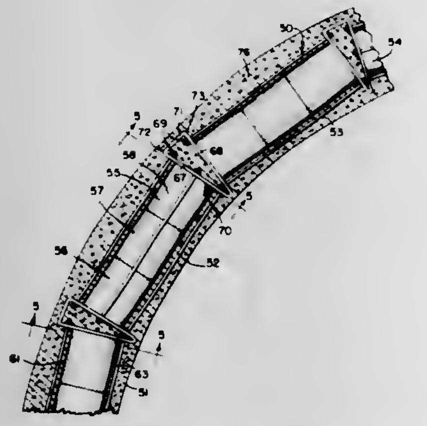
1. A laboratory facility for use for different science disciplines comprising a laboratory room having two opposite walls constituting end walls and two opposite walls constituting side walls. the floor of said room having two rows of utility openings therein extending endwise of the room, with each opening in one row transversely aligned and paired with a respective opening of the other row, a plurality of cabinets on the floor, one over each of said openings, each cabinet being rectangular in plan, having ends parallel to the end walls of the room and sides parallel to the side walls of the room. and being interiorly open for passage of utility lines and per se open at the top, each cabinet being adapted to have two sinks mounted therein at its top with one sink toward one end of the cabinet and the other sink toward the other end of the cabinet, a table-top supporting frame associated with each cabinet, each frame comprising a pair of horizontal rails located on the outside of the ends of the cabinet adjacent the top of the cabinet and extending laterally outward on both sides of the cabinet, said rails being adapted to support two table tops. one at each side of the cabinet, at an elevation above the top of the cabinet, legs for the rails, and two table tops mounted on the rails. one at each side of the cabinet, said table tops being slidably mounted on the rails between an open position wherein their edges toward the cabinet are located substantially in register with the sides of the cabinet for opening up the top of the cabinet and a closed position wherein said edges are contiguous substantially in the vertical central endwise plane of the cabinet to close the top of the cabinet.

3,378,964
BUILDING CONSTRUCTION AND METHOD
Darrell F. Erickson, Rapid City, S. Dak., assignor to Rushmore Homes, Rapid City, S. Dak., a corporation of South Dakota
Filed Apr. 13, 1965, Ser. No. 447,787
5 Claims. (Cl. 52—79)



A building construction and method wherein a plurality of similar, preconstructed units are fitted together in vertical overlying relationship with a completely enclosed dead-air space therebetween and in horizontal spaced-apart relationship with a dead-air space therebetween. The dead-air space provides a sound and heat cushion to insulate units from each other.

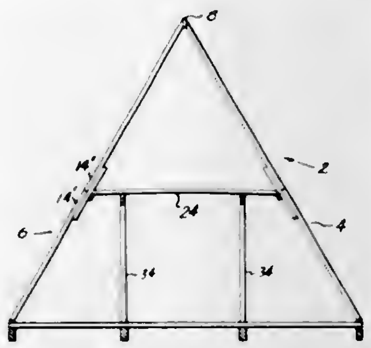
3,378,965
PRESTRESSED CONCRETE REINFORCING ARCH STRUCTURE
Alben V. Broquist, Chisago City, Minn. 55013
Filed Oct. 18, 1965, Ser. No. 496,864
3 Claims. (Cl. 52—88)



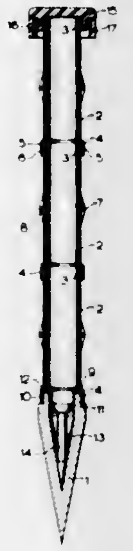
A reinforced concrete arch structure having a prestressed core imbedded in the concrete and comprising a number of sections consisting of parts adapted to be assembled in the field and to be pre-stressed during or after erection.

3,378,966
ROOF STRUCTURE
Spuli Walter Lindal, Blaine, Wash.
(9004 S. 19th St., Tacoma, Wash. 98466)
Filed Oct. 22, 1965, Ser. No. 501,672
14 Claims. (Cl. 52—90)

1. A roof structure having three members arranged in an upright generally triangular frame, the upright flank members of said frame consisting essentially of interconnected strips of sheathing material laid upright in the slope of the flanks, side by side with one another in a plurality of cover courses running horizontally of the flanks, one above another and in edge opposite relationship with one another in the vertical direction of the flanks, and battens of reinforcing material running horizontally of the flanks, in overlapping relationship with the adjacent edge portions of the cover courses, and directly joined to said edge portions so as to form rigid splice joints between the battens and the cover courses, in the areas of overlap, and the cover courses at the upper and lower ends of the flank members being rigidly interconnected to one another, and to the third member at the bottom of the frame, respectively, to integrate the three members into a rigid structure.



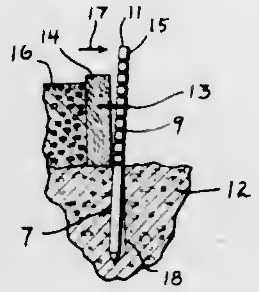
3,378,967
MARKER FOR UNDERGROUND MARKING OF MEASURING POINTS
Wolfgang Baumeister, 11 Im Ort, Ludenscheid, Westphalia, Germany
Filed Jan. 6, 1965, Ser. No. 423,796
Claims priority, application Germany, Jan. 21, 1964, B 75,076; Aug. 7, 1964, B 58,575; Sept. 24, 1964, B 78,655
13 Claims. (Cl. 52—98)



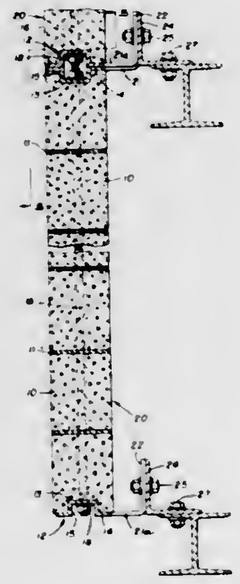
1. A marker for underground marking of measuring points comprising a conical pointed member of relatively rigid material, a tube joined to said conical member, said tube and conical member being joined to each other by an axial boss of said conical member being received internally of an end portion of said tube, and a plurality of axially opening grooves dividing said boss into a plurality of axially directed projections whereby said conical member can be detached from said tube by fracturing said projections by means of an associated tool.

3,378,968
CEMENT FORM STAKE
James C. Shoemaker, Rockford, Ill., assignor to Andrew F. Wintercorn, Rockford, Ill.
Filed Oct. 22, 1965, Ser. No. 502,228
1 Claim. (Cl. 52—155)

This cement form stake is of cylindrical form and of a length sufficiently longer than the width of a form board to be supported thereby, so that it is adapted to be driven into the ground vertically to a pre-determined depth for good support of the board, leaving a length projecting above the board so that the projecting upper end may be struck on the inner side facing the form board to incline the stake away from the standing form board in the form stripping operation to loosen it and enable easier removal. The stake has a pointed lower end and a flat upper end adapted to be hammered upon, and has horizontal annular grooves provided therein in vertically spaced relation adapted selectively to receive a staple at a selected elevation for the fastening of the form board to the stake. U-shaped staples are used to fasten the boards to the stakes, each staple having the legs spaced slightly under the base diameter of the annular groove in which the staple is to be entered to permit hand placement of the staple, frictionally straddling the stake preliminary to driving the staple home in the board.

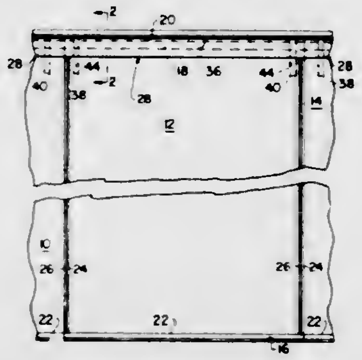


3,378,969
PREFABRICATED COMPOSITE MASONRY PANEL FORMED OF PRELAID INDIVIDUAL MASONRY MODULES BONDED TOGETHER
George K. Larger, 2744 Gantz Road, Grove City, Ohio 43123
Filed Sept. 7, 1966, Ser. No. 577,688
6 Claims. (Cl. 52—228)



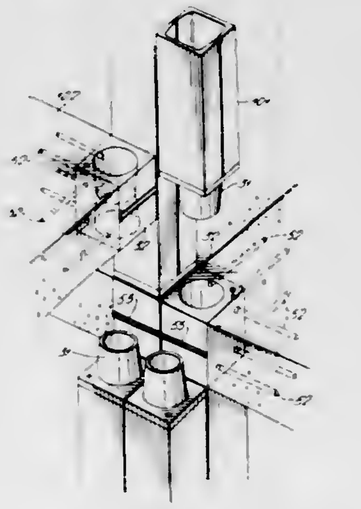
A masonry panel which is formed of individual masonry units or modules, such as concrete blocks, bricks, tile or the like, that are bonded together in a composite unitary panel. The panel is prefabricated of the masonry units at a factory or shop rather than on the job for economy and efficiency. The panel can be fabricated by use of the block-laying machine disclosed in my co-pending application, Ser. No. 524,892, filed Feb. 3, 1966, now Patent No. 3,350,833 issued Nov. 7, 1967, by other block-laying machines or by hand but it is preferably made by use of the machine disclosed in said application.

3,378,970
WALL CONSTRUCTION
Arthur G. Imbrecht, Long Beach, Calif., assignor to Hupp Corporation, Cleveland, Ohio, a corporation of Virginia
Filed Mar. 18, 1966, Ser. No. 535,393
13 Claims. (Cl. 52—238)



1. For use in erection of a movable room partition between a pair of spaced substantially parallel boundary surfaces of a room, a rigid substantially rectangular wall panel, a space filler mounted along one edge of said panel, said space filler being substantially co-extensive in length with said panel one edge, means on said space filler and on said panel providing a telescopic connection therebetween whereby said space filler can be moved toward and from said panel one edge to thereby effectively change the size of said panel, and means including at least one magnetic coupling element fixed to said filler adapted when said panel is erected to form part of a partition to be magnetically coupled to a second magnetic coupling element attached to the one of said parallel surfaces adjacent said one panel edge for magnetically maintaining said space filler in its extended position.

3,378,971
BUILDING STRUCTURES AND JOINT MEMBERS THEREFOR
Oscar Singer, 10 Dorland Court, West Hill, London SW. 15, England, and Jan Bobrowski, North Cheam, England; said Bobrowski assignor to said Singer
Filed Aug. 12, 1963, Ser. No. 301,673
Claims priority, application Great Britain, Aug. 17, 1962, 31,751/62; Jan. 4, 1963, 565/63
4 Claims. (Cl. 52—263)

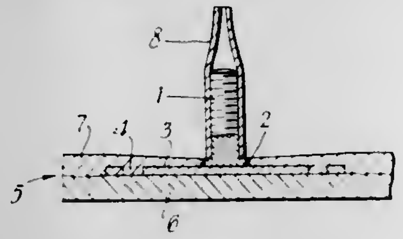


1. A building structure including at least two laterally adjacent substantially horizontal structural members, at least two dry spigot and socket joints, at least two vertical supporting members, each of the said joints include two parts, one part being a tapered spigot and the other part a mating tapered socket, the sockets being adapted to receive the spigots axially and abut against the spigots, the spigots and sockets being machined to such accuracy that each have in combination tapered load bearing abutment surfaces and transverse load bearing abutment sur-

faces, one part of each joint being secured to the said two horizontal structural members respectively, and the other part of each joint being secured to the two vertical supporting members respectively, the said horizontal structural members being connected to the said vertical supporting members by the said dry spigot and socket joints, with the axis of the spigots and sockets vertical, the tapered abutment surfaces being adapted to restrain relative horizontal movement between spigots and sockets in all directions, the said parts of each joint which are secured to the said two horizontal structural members, having each a narrow projecting rim, which lie substantially in the common neutral surface of bending of the two horizontal structural members.

3,378,972
STUD WITH A PERFORATED ANCHORING SHEET

Kenneth Ernest Stanley, 86 Wendover Road, Aylesbury, England
Filed Aug. 10, 1964, Ser. No. 388,633
Claims priority, application Great Britain, Aug. 13, 1963, 31,991/63; Feb. 26, 1964, 8,048/64
5 Claims. (Cl. 52—309)



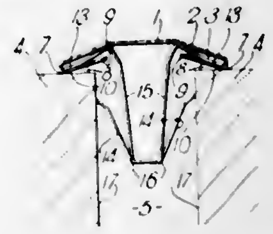
1. A stud comprising a metal shank, a metal sheet having one major surface adjacent to an end face of said shank and serving as the head of said stud, means welding said shank to said sheet at said end face, portions of said sheet spaced from said means defining perforations having outlines of part circles and formed through said sheet from said one major surface to the other major surface of said sheet, and projecting portions projecting beyond a major surface of said sheet and produced by displacement of material of said sheet to form said perforations, said perforations adapted to receive a polymerizable material therethrough to bond layers of a laminate comprising said polymerizable material, said layers of said laminate being contiguous with said major surfaces of said sheet, and fastening means on said shank for fastening an article to said shank.

2. In combination, a member consisting of a plurality of layers of fibrous material and resin, a metal stud shank, a stud head in the form of a metal sheet embedded between two adjacent layers of said member and having one major surface adjacent to an end of said shank, means welding said shank to said sheet at said end, portions of said sheet spaced from said means defining perforations through said sheet from said one major surface to the other major surface of said sheet and having said resin extending therethrough, and fastening means on said shank for fastening an article to said shank.

3,378,973
JOINT COVERING STRIPS

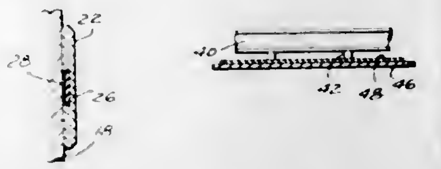
Christopher G. Tudor-Pole, Bracknell, England, assignor to Secomastic Limited, Bracknell, England, a British company
Filed Nov. 1, 1965, Ser. No. 505,829
Claims priority, application Great Britain, Nov. 24, 1964, 47,772/64
3 Claims. (Cl. 52—466)

1. In combination an elongated coverstrip for closing a joint between two adjacent panels and at least one spring clip for holding said coverstrip in position over said joint, said coverstrip comprising a central portion positioned between two flanges which are inturned to define opposed channels, and each of said clips comprising a U-shaped spring member having two arms, each arm having a free end formed at an end of said spring member, each of said free ends being bent and biased away from the other to fit into one of said opposed channels, and an outwardly projecting tongue punched out of each of said arms at a point spaced from said ends, said tongues being positioned to engage the side walls of said panels to frictionally retain said clip in position in said joint and said cover strip in position over said joint.



3,378,974
MAGNETIC SUPPORT MEANS FOR A COVERING

Clinton G. Bush, Jr., Centre Island, N.Y., assignor to Elton Industries, Inc., New York, N.Y., a corporation of New York
Filed May 6, 1965, Ser. No. 453,626
2 Claims. (Cl. 52—483)

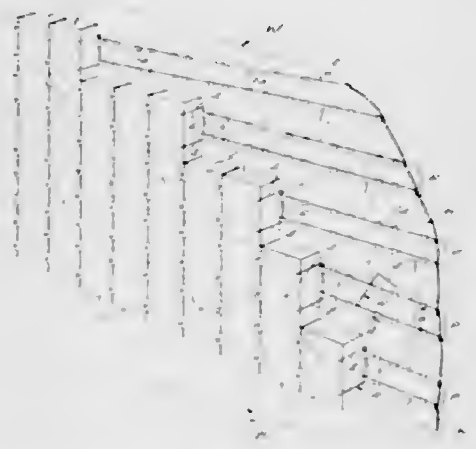


An assembly which defines at least part of the interior space of a room. The assembly includes a support means and a covering means which covers the support means and which has an exterior surface which is directed toward the interior of the room and an inner surface directed toward the support means. A magnetic means engages the support means and the inner surface of the covering means to mount the latter on the support means with the magnetic force of the magnetic means. This magnetic means includes, for example, a ferrous sheet engaging the support means and a plurality of permanent magnets which engage and remain by their magnetism attached to the ferrous sheet, the covering means including a plurality of tiles which respectively have inner surfaces forming the inner surface of the cover means and it is these inner surfaces which respectively carry the permanent magnets. The inner surfaces of the tile lie flush against the ferrous sheet so as to be mechanically positioned by the latter, and in addition the tiles are respectively recessed at their inner surface to receive the permanent magnets in these recesses, and these permanent magnets have exposed surfaces flush with the inner surfaces of the tile, so that the tiles while mechanically positioned in space by the surface of the ferrous sheet are held against the latter by the magnetic structure.

3,378,975
WALL STRUCTURE WITH A METAL SHELL AND LINING BLOCKS SECURED BY SUPPORT BARS AND RETAINER PINS

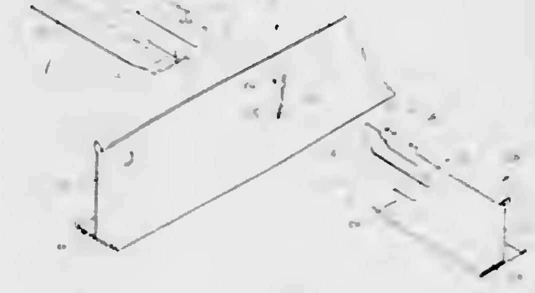
Robert R. Hill, Westlake, Ohio, assignor to Lee Wilson Engineering Company, Inc., Cleveland, Ohio, a corporation of Ohio
Filed May 24, 1966, Ser. No. 552,498
2 Claims. (Cl. 52—508)

A wall structure, particularly adapted for furnaces that are lined with insulating or refractory blocks, in which an outer metal shell has a plurality of parallel support bars secured to its inner surface, the bars being spaced inwardly from the inner surface of the shell, and a plurality of U-shaped block retainer pins are supported with the base portions thereof between the shell and the support bars. The retainer pins have arm portions extending away from the shell between adjacent blocks and spaced apart sufficiently to permit limited movement of the pins transversely of the support bars. The base portions of the U-shaped pins are movable both longitudinally and transversely of said support bars between the bars and the outer shell. Adjustable locking means are mounted on the ends of the arm portions of the retainer pins, which extend beyond the inner faces of the lining blocks, and are movable on the arm portions to engage the faces of the adjacent blocks and hold the blocks against the support bars while permitting limited relative movement between the blocks and the support bars caused by expansion and contraction of the blocks, bars, or shell.



3,378,976
CEILING FRAMEWORK

Thomas C. Meredith, Jr., Columbia, S.C., assignor to R.B.M. Metals Company, Inc., Columbia, S.C., a corporation of South Carolina
Filed Sept. 9, 1965, Ser. No. 486,093
12 Claims. (Cl. 52—573)

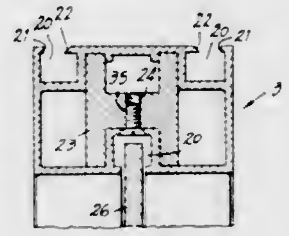


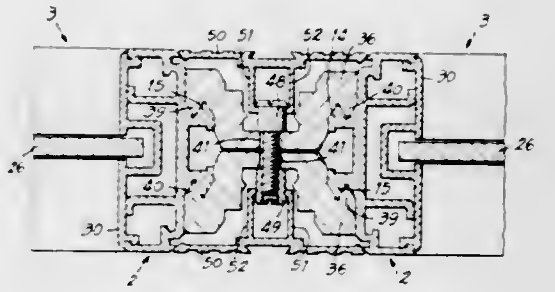
A ceiling suspension grid in which a snap fit is obtained between a notched groove on the tongues of the cross frame members and a tab in the aperture of the upright portion of the main frame members.

3,378,977
DISMOUNTABLE PARTITIONS, PANELS AND SPECIAL SECTIONS APPLIED TO THIS END

Jean Vervloet, 9 Ave. Bois du Dimanche, Brussels, Belgium
Filed Sept. 21, 1964, Ser. No. 397,920
Claims priority, application Belgium, Sept. 24, 1963, 637,777; Aug. 18, 1964, 651,937
12 Claims. (Cl. 52—584)

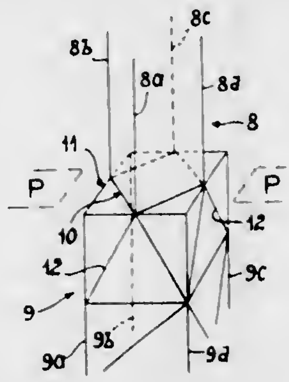
1. A dismountable partition system adapted to receive panels, said system consisting of sets, each set comprising two uprights and at least two crosspieces, each of said uprights having a side surface with means adapted to receive a vertical edge of a panel, each of said uprights also having a profiled front surface with gripping ribs, each of said cross-piece being of a hollow prismatic shape and having a U-shaped inlet adapted to receive a horizontal edge of said panel, at least two assembling rods connecting said uprights with said cross-pieces and being H-shaped in cross section, each of said assembling rods extending through the hollow portion of a separate one of said prismatic cross piece and having two legs extending on opposite sides of the inlet of the cross-piece, means attaching an end of said assembling rods to said uprights, elongated clamps, each clamp having two opposed pairs of ribs, the ribs of each pair engaging the gripping ribs of a separate upright, and joint covers consisting of elongated strips and having means engaging said clamps.





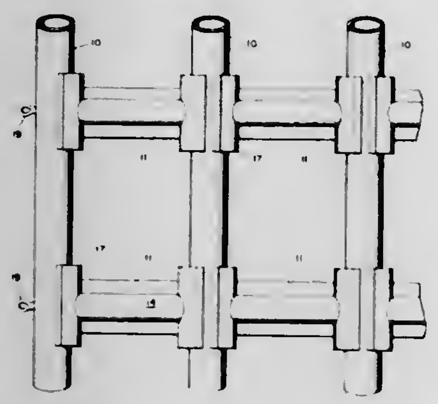
3,378,978
SHAFT OF TELESCOPED SECTIONS

Pierre Durand, Lyons, France, assignor to Richier (Societe Anonyme), Paris, France
Filed Oct. 24, 1965, Ser. No. 504,440
Claims priority, application France, May 21, 1965, 46,028, Patent 1,444,294
2 Claims. (Cl. 52—632)



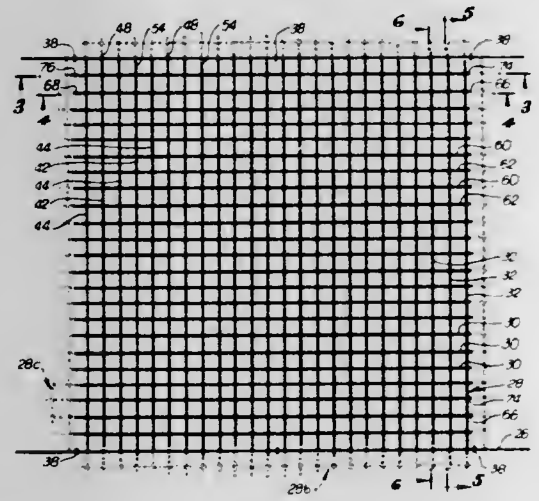
A telescoping tower has polygonal upper and lower sections that telescope within each other. The apices of the upper section are located adjacent midpoints of the sides of the lower section. The lower end of the upper section has a plurality of triangular prisms one secured to each of its sides, these prisms adapting the lower end of the upper section to slide in and to be selectively secured to the lower section of the tower.

3,378,979
MOUNTABLE LATTICEWORK
Ragnar Moritz Lublin, O-A-vagen 12,
Ekero, near Stockholm, Sweden
Filed May 26, 1965, Ser. No. 459,054
Claims priority, application Sweden, May 28, 1964,
6,513/64
6 Claims. (Cl. 52—663)



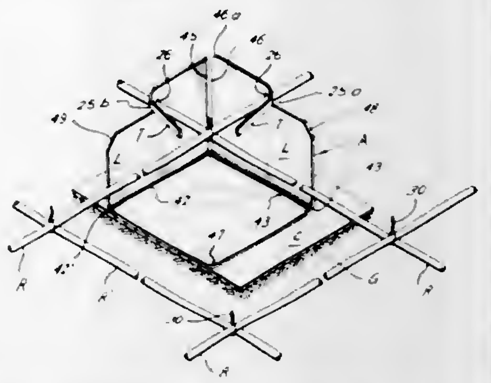
A mountable latticework is comprised of rigid vertical bar members and horizontal intermediate members, both members being provided with bores or channels therethrough in order to permit the threading of a resilient connecting member through the bores. The intermediate members are provided with ends of the shape corresponding to the exterior shape of the bars so that a positioning interfit of the bars and pieces is achieved.

3,378,980
LOUVER CONSTRUCTION
Jacob H. Blitzer, Jr., Los Angeles, Calif., assignor to Integrated Ceilings, Inc., Los Angeles, Calif., a corporation of California
Filed Aug. 1, 1966, Ser. No. 569,173
6 Claims. (Cl. 52—668)



A light diffusing louver for disposition below a light source. Spaced parallel vertical supporting strips are supported below a ceiling and have slots extending downwardly from their upper edges. Baffles are arranged between said strips each comprising longitudinal and transverse ribs, some of the transverse ribs having slots at one side of the baffle extending upwardly from their lower edges and other of the transverse ribs having slots at the opposite side of the baffle extending upwardly from their lower edges. The slotted portions of the transverse ribs are movable downwardly into meshing relation with the slotted portions of the supporting ribs, with the transverse ribs of the baffles on opposite sides of each strip being in substantial alignment. The longitudinal ribs of the baffles between the strips are in substantial alignment.

3,378,981
CHAIR FOR CONCRETE REINFORCING
James Max Horne, Pasadena, Tex., assignor to
Henry R. Cooper, Pasadena, Tex.
Filed Apr. 28, 1965, Ser. No. 451,463
7 Claims. (Cl. 52—677)



1. A chair for supporting longitudinally extending concrete reinforcing members, including:

(a) a load bearing member having a substantially plane lower face adapted to rest on a substantially horizontal flat surface to thereby prevent said load bearing member from digging into and gouging the flat surface;

(b) a pair of support legs extending substantially vertically upwardly from said load bearing member for supporting concrete reinforcing at a predetermined elevation relative to said flat surface;

(c) each of said legs being in sheet form and having oppositely disposed upstanding sides and an upper edge intersecting said upstanding sides;

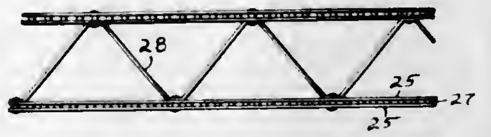
(d) each of said legs having a laterally extending notch for receiving a longitudinal concrete reinforcing member, said notch being defined by:

  (1) a longitudinally extending shoulder means for limiting lateral inward movement of the concrete reinforcing member;

  (2) an opening in one of said upstanding sides of each of said legs for enabling the concrete reinforcing member to be received by said notch; and

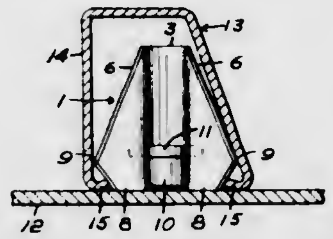
(e) a laterally extending manually deformable tab formed in the plane of the sheet forming each of said legs adjacent each of said notches; and each of said tabs having a horizontal length substantially greater than the width of each notch so that it can be manually bent with a single bend around the reinforcing member in the notch for each reinforcing member in its notch and preventing movement of the chair relative to the reinforcing member when the tabs are bent around the reinforcing member.

3,378,982
MASONRY WALL REINFORCING AND SPACING STRIP
Leon P. Lanctot, 1525 Manville Road,
Woonsocket, R.I. 02895
Filed July 6, 1966, Ser. No. 563,107
4 Claims. (Cl. 52—694)



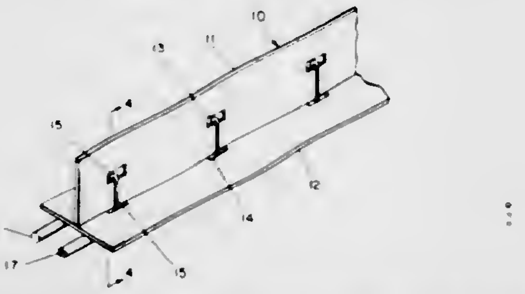
A combination spacing and reinforcing strip to be inserted in the mortar between the blocks of a masonry wall. The strip comprises spaced parallel perforated strips of metal adapted to be positioned on edge, for strength. The strips are connected by cross members. Each strip is a double length of material with the burrs of the perforations used as the spacing between the strips.

3,378,983
MOLDING FASTENER
Bert O. Anderson, Allston, Mass., assignor to United-Carr Incorporated, Boston, Mass., a corporation of Delaware
Filed Nov. 29, 1966, Ser. No. 597,620
8 Claims. (Cl. 52—718)



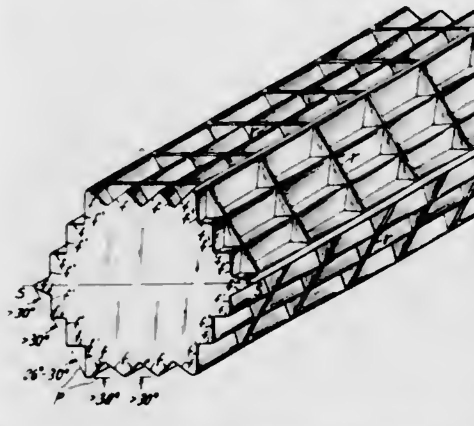
A fastener combination for securing a trim piece, for example, a molding, to a vehicle body panel including a headed stud and a resilient sheet metal clip adapted to snappingly engage the stud and the trim piece. The clip has particular application where the stud is secured to the body panel without perforation of the latter, for example, by welding.

3,378,984
CONSTRUCTION BEAMS
Sverre Quisling, 1240 Sherman Ave.,
Madison, Wis. 53703
Filed May 12, 1966, Ser. No. 549,542
3 Claims. (Cl. 52—729)



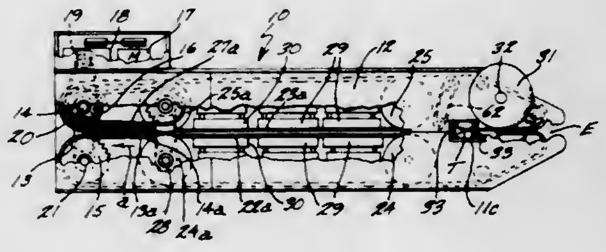
Lightweight construction beams formed of at least two flat metal sections held perpendicular to each other by wire connectors. The wire connectors are resilient and have coils for suspending tubular conduits, wires, and the like from the beams.

3,378,985
CONCRETE REINFORCING BARS WITH DEEP ALVEOLI
Anton Bugan, Via Rodriquez Pereira 206, Rome, Italy
Filed Nov. 27, 1963, Ser. No. 326,445
Claims priority, application Austria, Nov. 29, 1962,
A 9,379/62
5 Claims. (Cl. 52—739)



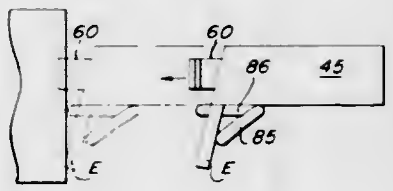
1. A longitudinally grooved concrete reinforcing bar of six-pointed star shape in cross section including two pairs of flanks symmetrical to one of the longest symmetrical axes S—S declining from the sides of the circumscribing hexagon at nearly 30°, characterized by four pairs of main flanks symmetrical to said symmetrical axis and declining at an angle greater than 30° from the sides of the hexagon, and a plurality of diagonal ribs rolled in the longitudinal grooves of the bar.

3,378,986
SEALING APPARATUS
Richard H. Thompson, New Richmond, Wis., assignor to Doughboy Industries, Inc., New Richmond, Wis., a corporation of Wisconsin
Filed Apr. 12, 1965, Ser. No. 448,583
12 Claims. (Cl. 53—76)



A bag closing and tape applying machine conveying a bag; tape feeding rollers initially applying the tape to the bag top and releasing the tape and bag top as the tape and bag top are sealed and moved by the sealing bands during sealing.

3,378,987
EDGE PROTECTOR APPLICATOR
Peter Lems, Wilmette, Ill., assignor to Signode Corporation, a corporation of Delaware
Filed Apr. 29, 1965, Ser. No. 451,819
18 Claims. (Cl. 53—124)



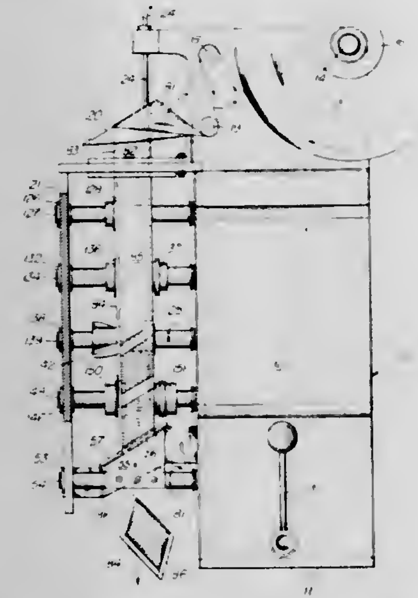
An arrangement is disclosed for a strapping station for applying angled-leg type edge protectors to a corner region of a bundle, the arrangement including guide tracks located to extend generally normal to the exposed bundle corner regions and a separate applicator mounted on each track and movable along a straight line approach path to effect deposit of the edge protector on the corresponding bundle corner region. Each applicator incorporates a magazine storing a stack of nested edge protectors oriented in an oblique relation and each with its concave face foremost, the applicator having its feed end facing directly toward the bundle and provided with a side discharge opening and with an external gripper mechanism that defines a chute aligned with the discharge opening to releasably hold an ejected edge protector in an oblique orientation wherein its free end is forward of its gripped end. An ejector is reciprocably mounted at the feed end of the applicator to eject the lead protector of the stack endwise through the discharge opening.

Straight line approach movement of the applicator brings the free end leg corner into initial contact with the bundle adjacent the corner and sets up a reaction causing a twisting and realigning of the edge protector as it automatically strips from the gripper mechanism and seats flush against the bundle corner.

The external gripper mechanism includes a back up plate to react against the external apex line region of the ejected edge protector, a pair of spring-loaded swingably mounted jaws engageable with opposite lateral extremities of the ejected edge protector, an actuator for releasing one jaw before the other, and a pair of levers to control the orientation of the ejected edge protector after release by the jaws.

3,378,988
APPARATUS FOR MAKING SEALED PACKAGES

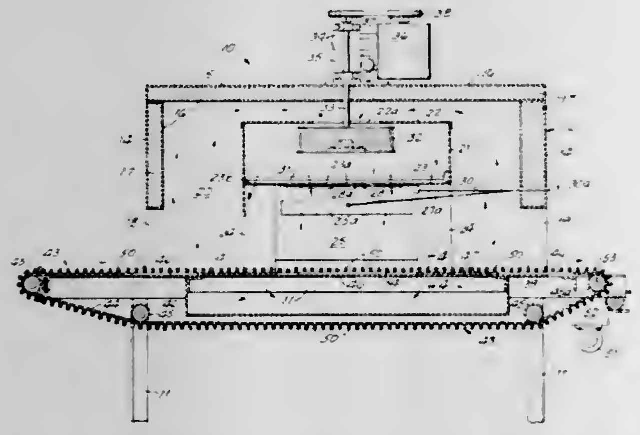
Robert B. McClosky, 113 Lawn St.,
Park Ridge, N.J. 07656
Filed May 20, 1966, Ser. No. 551,603
7 Claims. (Cl. 53—180)



The invention relates to methods and apparatus for making sealed packages in which the packaging machine and method of making the packages utilizes forming means for longitudinally folding a continuous web of flexible sheet material; first sealing means for sealing the marginal portion of the longitudinal edge of the web of sheet material to form a tube; second sealing means for forming at longitudinally spaced intervals transverse seals which are each progressively formed from the longitudinally sealed edge of the tube to the folded edge of the tube and filling means for filling the tube with desired amounts of fluid material.

3,378,989
PACKAGING MACHINERY

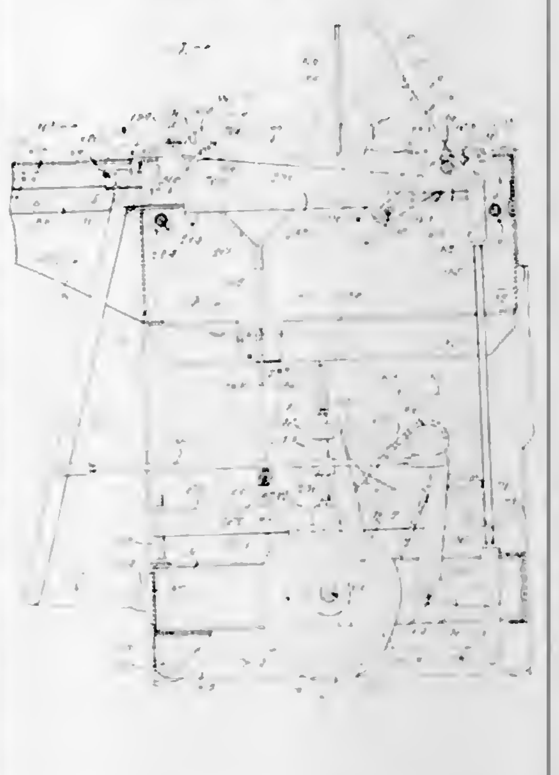
Stanley D. Denker, New Richmond, Wis., assignor to Doughboy Industries, Inc., New Richmond, Wis., a corporation of Wisconsin
Filed Feb. 24, 1965, Ser. No. 434,965
5 Claims. (Cl. 53—184)



A shrink tunnel including a hood with open end walls through which a conveyor extends in overlying relation with an air plenum directing air upwardly through ports in the top of the plenum into the interior of the hood; the conveyor comprising widely spaced rollers moving around an endless path; there being notched bars over which the rollers ride and are revolved within the hood, the rollers remaining stationary as they pass over the notches.

3,378,990
WRAPPING MACHINE

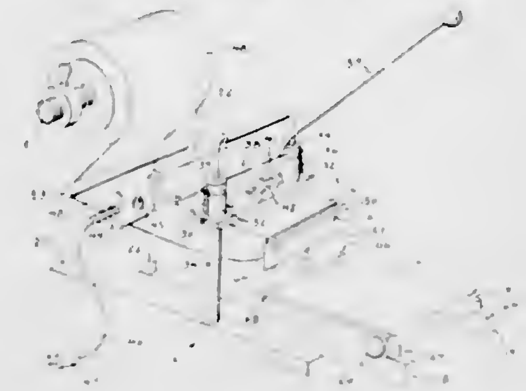
Henry Lowell Byland, 20 Berkshire Lane,
Deerfield, Ill. 60015
Filed Dec. 7, 1964, Ser. No. 416,504
13 Claims. (Cl. 53—206)



The machine for wrapping packages of the type including a rectangular tray and an irregularly shaped content within the tray, such as meat and the like, with a square sheet of heat sealable material, wherein the sheet is initially wrapped about the package with its diagonal axes generally coincident with the major and minor axes of the tray, and two opposite corners of the sheet are folded under and against the bottom of the tray and sealed together so that the sheet is secured properly about the package with generally tubular extensions projecting at opposite sides, includes a pusher for advancing the package in initially wrapped condition to a final wrapping position, a front pivotally mounted tucking means engageable with the forward part of the under portions of the projecting tubular wrapper to fold those parts upwardly against the side of the tray, rear tuckers connected to and movable with the pusher and engageable with the rearward part of the under portions of the projecting tubular wrapper to fold those parts upwardly against the sides of the tray, side folding blades with reentrant parts to fold the projecting tubular portions including the tucked forward and rearward parts over the front tuckers as the pusher and the rear tuckers are retracted, the front tuckers and the folding blades being removed from the tucking and folding positions, respectively, without disturbing the tucked and folded tubular sheet portions, movable heat sealing frames including a curtain folding the tucked and folded sheet portions against the undersides of the tray subsequent to the removal of the front tuckers and the folding blades and sealing them to the initially folded and sealed sheet portions, a single track rotatable cam, an electric motor for driving the cam, and appropriate linkage connecting the cam track with the pusher, the front tuckers, the rear tuckers, the folding blades, and the movable heat sealing means.

3,378,991
HEAT SEALING APPARATUS

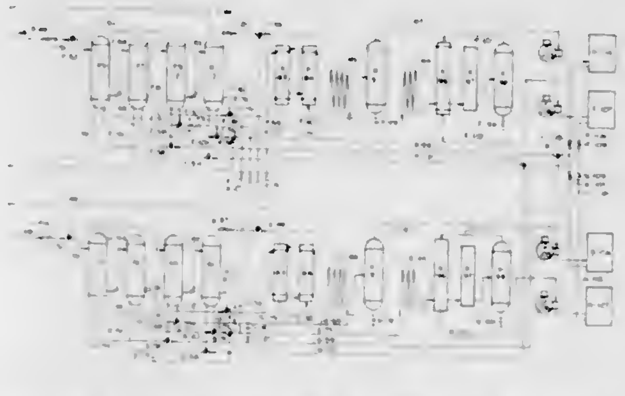
Ralph F. Anderson, 332 Calvin Park Blvd.,
Rockford, Ill. 61107
Filed Aug. 30, 1965, Ser. No. 483,668
7 Claims. (Cl. 53—373)



An apparatus and method of heat sealing the end of a cover strip to containers in which the container draws the strip with it as it is moved from the sealing position. A cutter is mounted on the sealing head for cutting the strip at the back end of the package and means is provided for impalling the strip adjacent the cut end to retain the strip in position for sealing a succeeding container.

3,378,992
GAS TREATING PROCESS UTILIZING OVERLAPPING ADSORPTION PHASES

Dewey W. Pierce and Charles J. Carmichael, Lake Charles, Ind., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed July 17, 1964, Ser. No. 383,471
2 Claims. (Cl. 55—62)

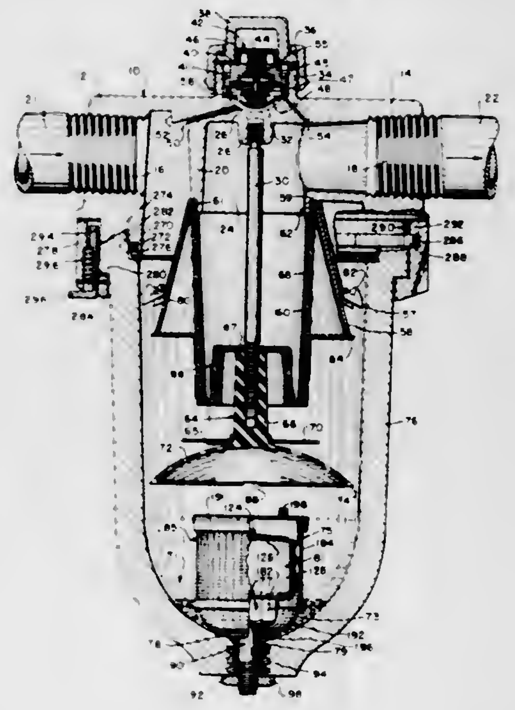


Discloses a cyclic four-bed process for removing sorbable components from the flowing gas stream. Two of the four beds are continually in the sorption phase for two cycles, one bed lagging the other by one cycle. Effluent gas from the bed most recently placed in the sorption phase is used as a cooling gas for a hot regenerated third bed. The fourth saturated bed is regenerated in an open or closed heating circuit. Each bed may be made up of two separate sub-beds, one of carbon, the other of silica gel to selectively remove sorbable components. The like sub-beds are regenerated in separate closed circuits, the regeneration gas in each being circulated through a double set of heaters, condensers and separators hooked in parallel.

3,378,993
AIR LINE FILTER

Edward W. Veres, Walter E. Draxler, and Herbert G. Hanson, Arlington Heights, and Robert E. Poethig, Glenview, Ill., assignors to The Bastian-Blessing Company, Chicago, Ill., a corporation of Illinois
Filed July 3, 1963, Ser. No. 292,597
8 Claims. (Cl. 55—219)

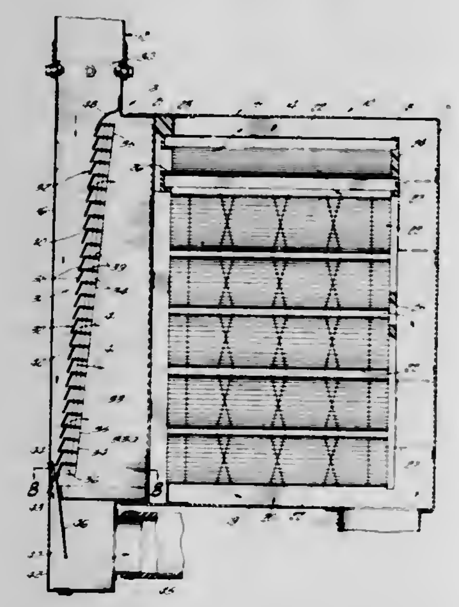
1. An air line filtering device comprising a die cast body made of an electrically conductive material which includes aluminum and having an inlet conduit, an outlet conduit and a chamber, a pressure differential responsive diaphragm urged inwardly and dividing said chamber into two compartments the inner one of which is in communication with the inlet conduit and the outer one of which is in communication with the outlet conduit, signal means actuated by said diaphragm when the pressure in said one compartment exceeds that in the other compartment by a predetermined differential including an element propelled upwardly by said diaphragm, a transparent dome closing said outer compartment receiving said signal means and being removable for manually resetting same, means on the body defining a pair of concentric shoulders and a central boss, an accumulator bowl of a plastic dielectric material axially engaging the outer one of said shoulders to define a reservoir for the collection of liquid under pressure in the bottom thereof, a ring member on said body detachably supporting said bowl in said engagement, a porous filter element of an electrically conductive sintered metal which includes copper supported on the other of said concentric shoulders, dielectric means below said body for supporting said filter including readily releasable dielectric elements interengaging the filter element and body, including a resilient dielectric element around the upper edge of the filter element constituting the sole engagement between said other shoulder and the filter, said filter defining a frustum of a cone depending below said body, a dielectric member carried by said central boss and engaging the lower end of the filter constituting the sole engagement between the body and filter element at the lower end thereof, filter shrouding means carried by said other shoulder including vane means marginally terminating in a plurality of fan blades and a downwardly and outwardly curved lower edge for swirling air downwardly along the side of the bowl before the air contacts the filter, a baffle carried by said dielectric member having a substantially semi-spherical contoured surface curved downwardly toward the bottom of said bowl and terminating in a castellated edge in close contiguous relationship with the side wall of the bowl defining a quiescent zone at the bottom of the bowl, a radially extending baffle disposed above said arcuate baffle and immediately below but spaced from said porous member, a housing supported in said bowl below said baffle and protected thereby including a vertical tubular means having a conduit communicating with said reservoir and with the atmosphere, a float responsive to the level of liquid in the bottom of the bowl and having a central portion adapted to slide vertically on said tubular means, a link attached at one



end to the float for movement thereby and at the other end extending inward across said central portion and supported on said housing, an expulsion conduit through said housing including a cylinder in said housing below said liquid level, a piston reciprocable in said cylinder, a valve actuated by movement of the piston for placing the interior of said bowl in communication with said expulsion conduit through said cylinder, conduit means for venting the cylinder to atmosphere on the valve side of said piston, and valve means actuated by said link intermediate its ends for selectively applying different pressures to the cylinder on the other side of the piston for actuating same to open and close said piston actuated valve, and bleed conduit means through said piston for venting said other side of the piston to atmosphere including a self cleaning pin in said bleed conduit means for determining the flow capacity of said bleeding means, said pin and conduit means being axially movable with respect to each other in association with movement of said piston actuating valve and said piston.

3,378,994
AIR FILTER ASSEMBLY

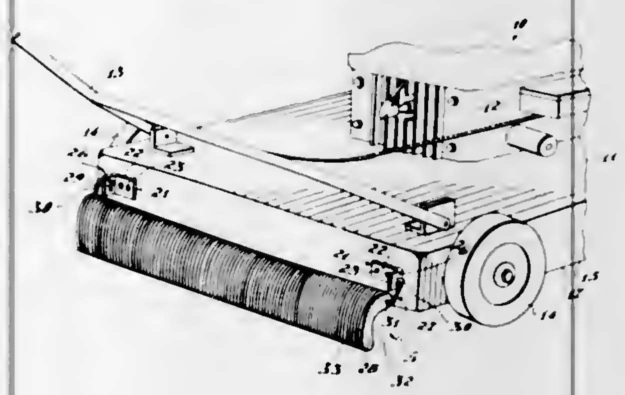
Richard S. Farr, Los Angeles, Calif., assignor to Farr Company, El Segundo, Calif., a corporation of California
Filed June 3, 1966, Ser. No. 555,045
1 Claim. (Cl. 55—324)



1. A two-stage air filter assembly adapted for use in areas of high dust concentration comprising; a housing having a substantially planar front wall, an intake opening adjacent and at a right angle to said front wall, a substantially planar inertial separating panel mounted in said housing at a small acute angle to said front wall with the diverging ends of said panel and wall on opposite sides of and immediately adjacent said intake opening, the converging extremities of said front wall and panel being closely spaced to form a bleed slot therebetween, means for continually drawing some air and inertially separated dust through said bleed slot and discharging such air and dust from the assembly, said panel having a multiplicity of spaced blades positioned substantially perpendicular to the direction between said intake opening and said bleed slot with said blades forming cleaned-air outlets through the panel between blades, said blades having spaced portions extending in the direction away from said intake opening joined to other spaced portions extending away from said front wall whereby said outlets are formed to extend first in a direction substantially reverse from the air coming from said intake opening and next in a direction substantially perpendicular away from said front wall, a partition wall in said housing positioned relatively parallel or at a small angle to said panel and spaced a short distance from said panel on the side opposite from said front wall, a plurality of cylindrical pleated paper filters extending from said partition wall away from said panel, openings in said partition wall aligned with the interior of each said paper filter for allowing the air to pass from said panel into and through said paper filters for fine filtering, a support bracket positioned between said panel and said partition wall and joined to said blades intermediate the length of the blades to reinforce said panel, said support bracket having a flange adjacent and parallel to said partition wall for engaging at least a portion of said partition wall to support the partition wall against vibration and flexure toward said panel, and said flange being located between said openings in said partition wall.

3,378,995
SAFETY GUARD

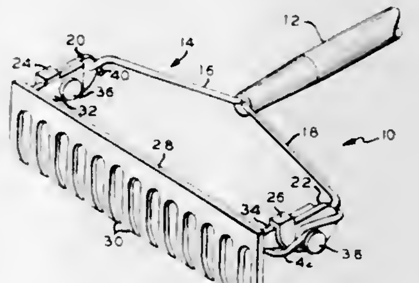
Maurice P. Welsh, 6316 Meis Ave., Cincinnati, Ohio 45224
Filed July 1, 1965, Ser. No. 468,871
8 Claims. (Cl. 56—25.4)



A safety guard for use of a manually operated lawn mower comprising a series of guard elements mounted for vertical movement and individual pivotal movement upon a supporting rod. The guard elements depend from the rear of the lawn mower and ride over the ground so as to block the entry of a foot of the operator into the area beneath the lawn mower.

3,378,996
SELF-CLEANING RAKE

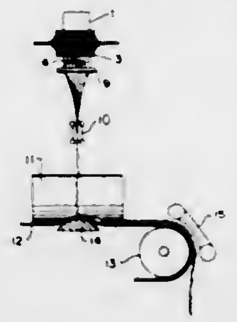
John Wenglarz, 253 Chicago St., East Peoria, Ill. 61611
Filed May 17, 1965, Ser. No. 456,354
3 Claims. (Cl. 56—400.2)



A self-cleaning rake having a rake head with a pair of arms pivotally secured to the free ends of a bifurcated bracket carried by a handle; the arms having a flat upper surface, and the ends having an ear with a flat lower surface. A pair of spring means engaging the bracket ends and the arms to urge the rake head into a raking position wherein the flat surfaces are in plane contact and the head being pivotable to a cleaning position in which the surfaces are in line contact.

3,378,997
METHOD AND APPARATUS FOR MANUFACTURING BULKY CRIMPED YARN FROM SYNTHETIC RESIN FILMS

Mitsuo Matsui, 1–1529 Honjo, Tochigi-ken, Ashikaga-shi, Japan, and Chuji Shimizu, 5–89 Minami-cho, Nukui, Kogani-shi, Tokyo-to, Japan
Filed Sept. 27, 1966, Ser. No. 582,320
Claims priority, application Japan, Sept. 28, 1965, 40/59,623
5 Claims. (Cl. 57—34)

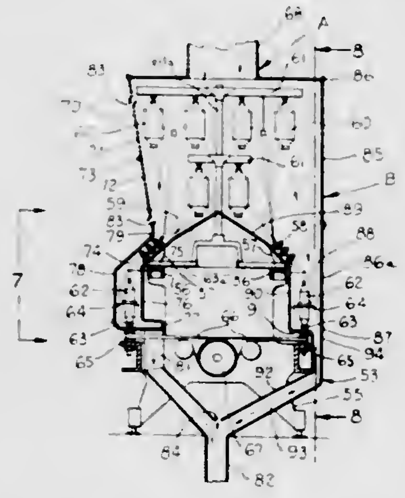


1. A method for manufacturing a crimped yarn made of split reticulated yarn, which comprises splitting synthetic resin film with a splitter to give uniformly arranged slits on the film, forming said split film into a fibrous strand, then pressing said fibrous strand against a moving belt while passing the strand between a pair of rolls, and withdrawing the fibrous strand therefrom to thereby impart to the strand uniform crimp, and thereafter heat-treating to set the crimp.

2. An apparatus for manufacturing crimped yarn of split recticular fiber made of synthetic resin film, which comprises a pair of an elastic roll and a splitter for cutting the film into a reticulated structure, a false-twisting device, a pair of rolls and an endless belt supported by a belt supporting member placed below the endless belt so as to from therebetween a nearly triangular space, and a heat-treating device placed in succession to the endless belt.

3,378,998
AIR HANDLING AND CLEANING APPARATUS FOR MACHINES

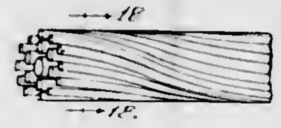
John Cooper Shackelford, 39 Serrine Drive, Greenville, S.C. 29605
Continuation-in-part of application Ser. No. 511,399, Dec. 3, 1965. This application July 28, 1966, Ser. No. 568,473
3 Claims. (Cl. 57—56)



1. An apparatus for cleaning lint and other light material from a motor operated fiber manipulating textile machine for improving the environmental conditions for the fiber manipulating operation comprising: a chamber enclosing working instrumentalities of said machine at points where lint normally is dislodged and collects in substantial quantities; said chamber including, an opening therein for receiving air in an upper portion thereof, a cover for gaining access to an inside portion of said chamber, and a substantially vertical guide for said cover; a base member adjacent the bottom of the machine having an opening therein for receiving accumulated line from said chamber; a lower portion of said chamber being in close proximity to an upper portion of said base member during the operation of said fiber manipulating machine; said lower portion having an opening therein for discharging air into said base member; said chamber and base member defining an enclosure for said machine; means for raising said cover on said guide for providing access to said machine; a collection unit communicating with said base member for receiving lint therefrom; and means for passing air through said enclosure for maintaining said machine and fiber substantially free from lint and fly.

3,378,999
METALLIC YARN STRUCTURE

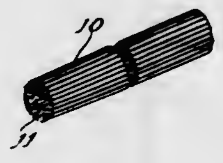
John A. Roberts, North Chelmsford, and Joseph R. Quirk, Woburn, Mass., assignors to Brunswick Corporation, a corporation of Delaware
Filed June 17, 1965, Ser. No. 464,721
9 Claims. (Cl. 57—139)



A metal yarn structure wherein the filaments are set under pressure while in a substantially nonelastic state to be free of residual torsion while having a preselected helical twist. The setting of the filaments in the helical configuration is effected by twisting the filaments in a matrix while concurrently effecting constriction thereof to fluidize the filaments and permit the setting thereof upon release of the constriction forces in the torsion-free helical configuration.

3,379,000
METAL FILAMENTS SUITABLE FOR TEXTILES

Harold H. Webber, Groton, Mass., and Albert H. Wilson, Jr., De Land, Fla., assignors to Roehr Products Co., Inc., a corporation of Delaware
Application Mar. 14, 1963, Ser. No. 265,262, which is a continuation of application Ser. No. 463,759, June 14, 1965, now Patent No. 3,277,564, dated Oct. 11, 1966. Divided and this application Sept. 15, 1965, Ser. No. 487,559
7 Claims. (Cl. 57—139)



A tow of metal filaments and method of forming the same by constricting a bundle of rods in a suitable matrix material whereby the rods define filaments having a maximum cross section of less than approximately 10 microns and a length of greater than approximately 50 feet and having a trace amount of a different material diffused in the outer surface thereof. The constriction is effected by a drawing of the rods in the matrix to the desired final diameter.

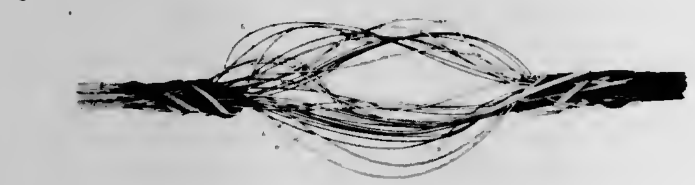
3,379,001
BLENDS OF CELLULOSIC AND POLYPIVALOLACTONE STAPLE FIBERS

Tod W. Campbell, Waynesboro, Va., and Fred William Knobloch, Hockessin, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Apr. 9, 1965, Ser. No. 447,081
9 Claims. (Cl. 57—140)

Blends of from about 20 to 95% by weight of cellulosic staple fibers and from about 5 to 80% of polypivalolactone staple fibers exhibit high compressional recovery properties and fabrics made of the blends have good wash-wear performance.

3,379,002
SPLICED YARN

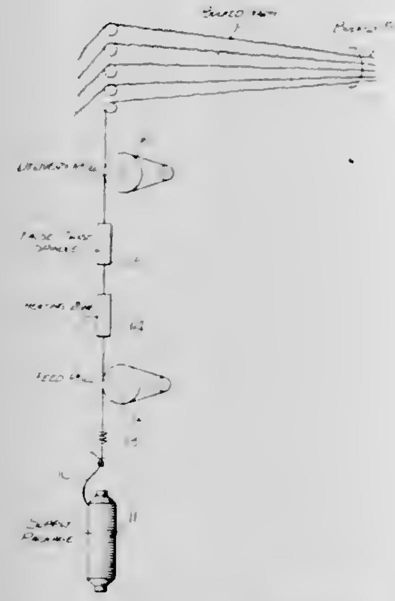
Nathan Rosenstein, West Hartford, Conn., assignor to Spunize Company of America, Inc., Unionville, Conn., a corporation of Connecticut
Continuation-in-part of application Ser. No. 562,623, July 5, 1966. This application Feb. 24, 1967, Ser. No. 618,507
6 Claims. (Cl. 57—142)



The disclosed slice for two multi-filament yarns embodies spaced apart areas in which the filaments on one yarn are entangled with those of the other. At an intermediate point or points in the zone of entanglement, the filaments of the joined yarns are wedged apart and separated by a central air space.

3,379,003
METHOD OF MAKING SPUN YARN FROM FALSE TWIST CRIMPED YARNS

Maurice S. Kanbar, 2 E. 75th St., New York, N.Y. 10021
Filed Dec. 28, 1964, Ser. No. 421,411
4 Claims. (Cl. 57—157)



1. The method of forming spun yarn, comprising the steps of:

(A) individually texturizing a plurality of multifilament synthetic plastic yarns by the false-twist process to form bulked yarns,

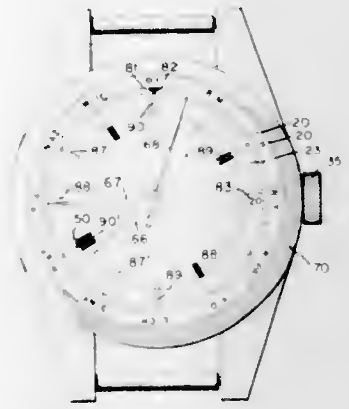
(B) collecting the bulked yarns into a tow,

(C) chopping the tow into staple lengths, and

(D) spinning the staple lengths to interlock the bulky fibers into a continuous length of spun yarn.

3,379,004
TETRA-TIME TRAVEL WATCH

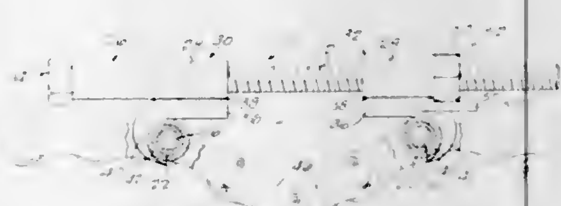
Shuo-Tang Lee, 25 Chi-kuang St., Taichung, Taiwan
Continuation-in-part of application Ser. No. 417,841, Dec. 11, 1964. This application Aug. 29, 1966, Ser. No. 576,191
7 Claims. (Cl. 58—42.5)



A watch including, within a watch case, an outer local time dial ring and an inner rotatably mounted Greenwich dial, time indicating hands mounted for simultaneously indicating time on both the dial ring and the inner dial, an a.m.-p.m. indicating ring rotatably underlying the local time dial and selectively indicating, through an opening in the dial ring, either a.m. or p.m., and a calendar ring underlying the local time dial ring and selectively exposing, through a suitable opening, the day of the month. The watch is also provided with means for effecting an automatic synchronized driving of the a.m.-p.m. indicating ring and the calendar ring, and in addition provides for a specific orientation of indicia so as to enable an indication of time in four different time zones simultaneously.

3,379,005
CHAIN CLAMP

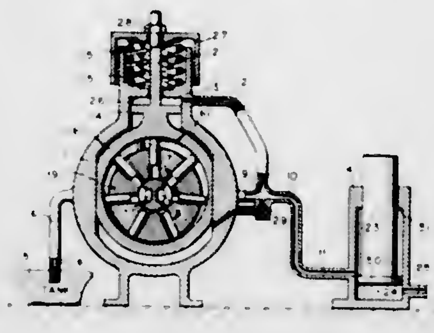
Alpha L. Jones, Stockton, Calif., assignor of twenty-five percent to Alpha L. Jones, twenty-five percent to Jimmie M. Jones, and fifty percent to Melvin J. Denney, all of Stockton, Calif., as tenants in common
Filed Apr. 1, 1966, Ser. No. 539,536
8 Claims. (Cl. 59—7)



1. A chain clamp comprising a clamping bolt having a shank formed with a fixed head on one end thereof, a pair of first and second chain link pin engaging jaws sleeved on the bolt shank for rotational and sliding movements thereon, the first jaw being located adjacent to the bolt head and the second jaw being spaced from the first jaw along the bolt shank, and a stop nut threaded on the bolt shank at the side of the second jaw remote from the first jaw.

3,379,006
FLUID POWER SUPPLY DEVICE WITH AN ADJUSTMENT MEANS FOR AUTOMATIC DECREASE OF POWER CONSUMPTION IN ANALOGY WITH AN INCREASE OF PRESSURE IN FLUID

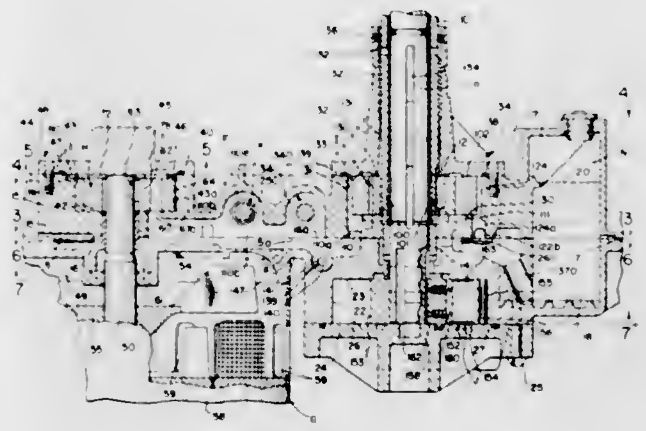
Karl Eickmann, 2420 Isshiki, Hayama-machi, Kanagawa-ken, Japan
Filed Apr. 1, 1966, Ser. No. 539,546
Claims priority, application Germany, Apr. 6, 1965, B 81,323
14 Claims. (Cl. 60—52)



A fluid power supply arrangement is disclosed as including at least one variable delivery pump having control means adjustable to vary the pump delivery between a maximum delivery position and a minimum delivery position, driving means operating the pump, at least one fluid power operated load device connected to the delivery port of the pump and an adjusting device operatively connected to the pump control means. The adjusting device includes biasing means biasing the control means to the maximum delivery position, and fluid pressure responsive means operable on the control means in opposite to the biasing means. The fluid pressure responsive means is connected to the output port of the pump to apply the pump delivery pressure to the fluid pressure responsive means.

3,379,007
HYDRAULIC TRANSMISSION

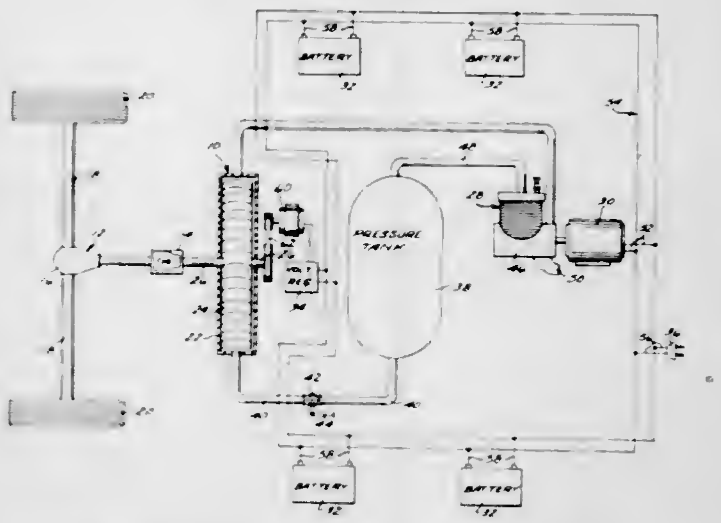
Robert Wesley Brundage, St. Louis, Mo., assignor to The Emerson Electric Mfg. Co., St. Louis, Mo., a corporation of Missouri
Filed Mar. 23, 1966, Ser. No. 536,846
13 Claims. (Cl. 60—53)



A hydraulic transmission having an improved housing design and in which a constant speed positive displacement hydraulic pump drives either of two hydraulic motors and wherein the speed of either motor may be controlled independently of the other over a wide range and in an infinite number of steps.

3,379,008
FLUID PRESSURE SYSTEM FOR OPERATING A VEHICLE DRIVE

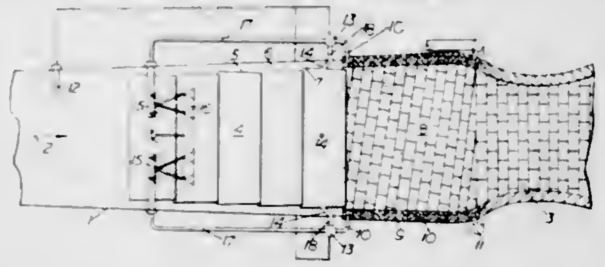
Carl A. Manganaro, 1971 El Monte Drive, Thousand Oaks, Calif. 91360
Filed May 5, 1966, Ser. No. 547,838
4 Claims. (Cl. 60—57)



A turbine drive system for propulsion of a vehicle and in which the turbine is driven by air compressed by a compressor which is driven by an electric motor, the motor being operable by batteries in circuit with an alternator which is driven by the turbine.

3,379,009
COMBUSTION SYSTEM FOR FLUID FUEL

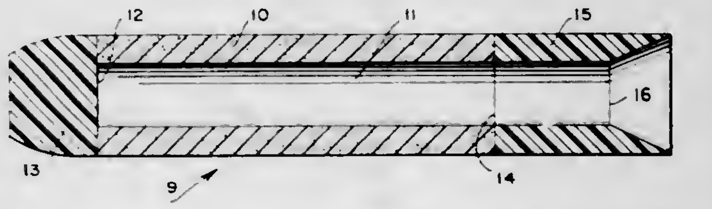
James Waller Sharp, Bristol, and Philip Eric Hardy, Nuneaton, England, assignors to Bristol Siddeley Engines Limited, Bristol, England, a British company
Continuation of application Ser. No. 461,323, June 4, 1965. This application June 27, 1967, Ser. No. 649,353
Claims priority, application Great Britain, June 6, 1964, 18,870/64
4 Claims. (Cl. 60—243)



Apparatus for injecting fuel into an air breather type combustion chamber at different locations along the length thereof, the specific location being selected in response to temperature changes of pre-combustion gas.

3,379,010
CHAMBERLESS ROCKET

Edwin D. Harvey, Frostburg, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Jan. 3, 1962, Ser. No. 164,201
1 Claim. (Cl. 60—253)

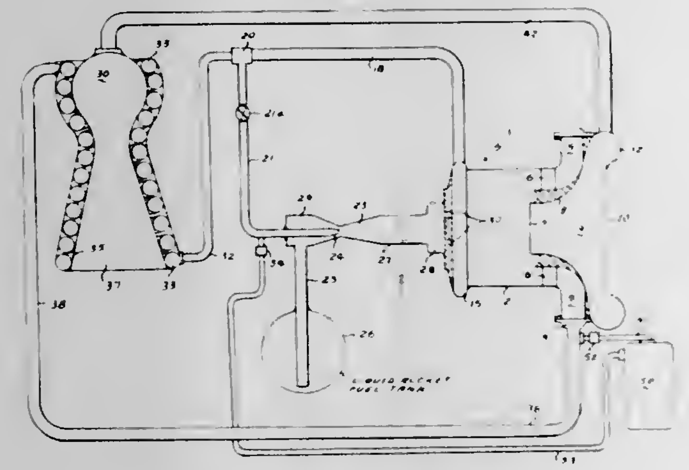


1. A caseless rocket propellant comprising a perforated smokeless powder grain, a first section, closed, consisting essentially of cellulose acetate, connected with one end of

said grain and forming an end section therefor; and a second section, perforated, consisting of cellulose acetate, and connected to the opposite end of said powder grain as a nozzle member therefor; said powder grain consisting essentially of from 46 to 61% nitrocellulose, from 39 to 29% nitroglycerin, from 6 to 9.5% triacetin, from 1.5 to 2% lead salicylate, from 1 to 1.6% 2-nitrodiphenylamine, and from 1.5 to 2% lead beta-resorcylate.

3,379,011
ENERGY EXCHANGE DEVICE AND SEPARATOR

Hans J. P. von Ohain and Roscoe H. Mills, Dayton, Ohio, assignors to the United States of America as represented by the Secretary of the Air Force
Filed Nov. 8, 1966, Ser. No. 593,247
6 Claims. (Cl. 60—259)

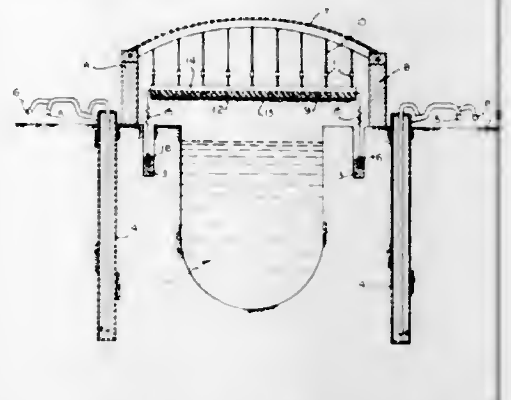


In accordance with the invention, very high fluid pressure and velocity in a liquid can be generated in apparatus having no moving parts. Driver gas under high pressure and preferably at high temperature is passed into a vortex chamber casing through swirl vanes so as to create a vortex flow in the chamber with very high rotational speed in the core. The liquid is sprayed into the vortex chamber so as to be picked up by the vortex core and accelerated to rotate with the core and by centrifugal force to move radially outward to move along the chamber outer walls to a collection groove or channel where the liquid under very high pressure and or velocity or both can be withdrawn. In one form of the apparatus, cryogenic liquids such as liquid air can be accelerated to very high velocity by using a high pressure, high temperature, low molecular weight driver gas to obtain stagnation pressures and temperatures in a hypersonic wind tunnel connected to the pump, far beyond those attainable with conventional apparatus.

3,379,012
SEALING MEANS FOR GROUND RESERVOIRS

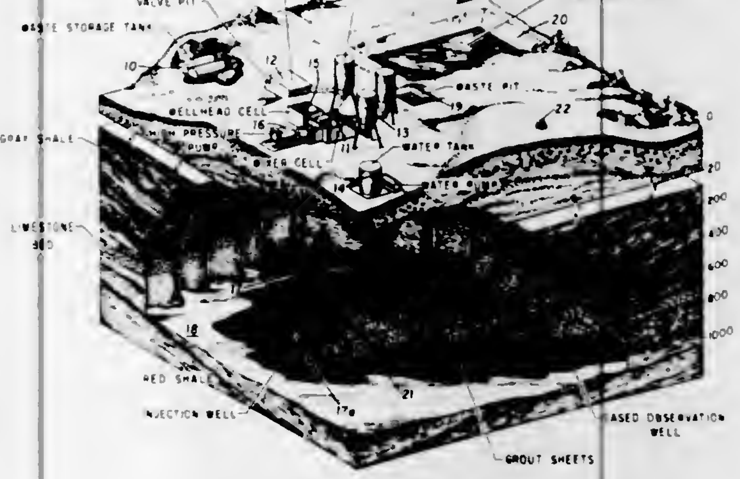
Robert Glover Jackson, Hornchurch, Essex, England, assignor to Conch International Methane Limited, Nassau, Bahamas, a Bahamian company
Filed Mar. 24, 1964, Ser. No. 354,351
Claims priority, application Great Britain, Aug. 19, 1963, 32,707/63
11 Claims. (Cl. 61—.5)

1. A sealing means for a ground reservoir for storing substances below ambient temperature, said reservoir having a fluid-impervious roof above the highest level of the reservoir, which comprises a continuous, fluid-impervious membrane extending down from the roof of the reservoir into a region containing a liquid which freezes at the temperature of the stored substance, and a layer of fluid-impermeable, low modulus material adherently secured to at least the inner face of the lower portion of the membrane so that it at least covers that portion of the inner face of the membrane which would otherwise be in contact with said liquid which freezes at the temperature of the stored substance, said layer being thicker than the membrane and being compressibly deformable to reduce stresses transmitted between the frozen liquid and the membrane.



3,379,013
METHOD OF DISPOSING OF WASTE MATERIALS

Knox A. Slagle, Duncan, Okla., and Tsuneo Tamura, Oak Ridge, Tenn., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware
Filed Dec. 29, 1964, Ser. No. 421,783
10 Claims. (Cl. 61—.5)



A method of disposing of radioactive waste materials, wherein the materials are added to a hydraulic cement slurry comprising attapulgite and illite type clays, the cement slurry is pumped into an earth formation under fracturing pressure and allowed to set in the fractures created.

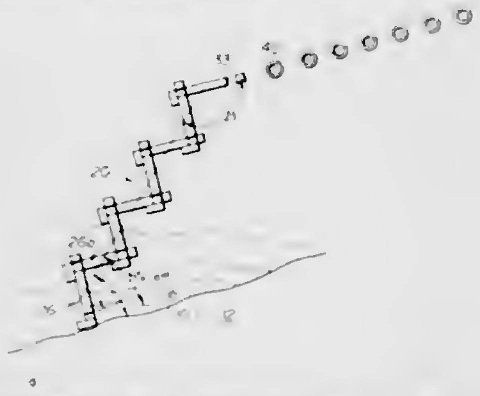
3,379,014
SOIL SEALANT COMPOSITIONS AND PROCESSES

Kenneth G. Phillips, Lombard, Theodore R. Schuh, Jr., Broadview, and William J. Ward, Naperville, Ill., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware
No Drawing. Filed Oct. 26, 1964, Ser. No. 406,552
5 Claims. (Cl. 61—1)

1. A process for treating soil beneath a body of surface water to decrease the water seepage through said soil, which process comprises providing in said body of surface water a concentration of at least 25 p.p.m. of a water soluble salt of humic acid obtained from a member of the class consisting of peat, brown coal, lignite and leonardite and of at least 25 p.p.m. of a water soluble inorganic salt selected from the group consisting of alkali metal carbonate and alkali metal polyphosphate at a weight ratio of the humic acid salt to said inorganic salt of 3:1 to 1:3, and, upon seepage of said water into said soil therebeneath, decreasing the water permeability and, hence, the seepage through said soil by base exchange of the cations of said salts with base exchangeable polyvalent metal cations of said soil.

3,379,015
PIER CONSTRUCTION

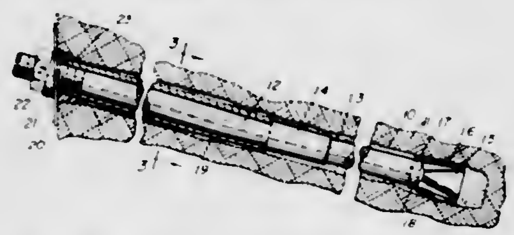
Elmer Fred Macks, Willow Lane, Vermilion, Ohio 44089
Filed Dec. 7, 1965, Ser. No. 512,085
1 Claim. (Cl. 61—4)



A pier construction for diminishing erosion of a shore line of a body of water and for enhancing beach build-up. A first pier portion of interlocking members extends at an angle from the beach and forms a trap leg for sand and fines carried in the water and a second portion formed of spaced members extends from the off-shore end of the trap leg toward the direction from which fines and sand flow and forms a wave dissipation leg.

3,379,016
ROCK BOLT ASSEMBLY AND PROCEDURE FOR USE IN CONJUNCTION WITH BLASTING OPERATIONS

Chester I. Williams, 347 Greenbriar, SE., Grand Rapids, Mich. 49506
Filed Jan. 11, 1965, Ser. No. 424,657
5 Claims. (Cl. 61—35)

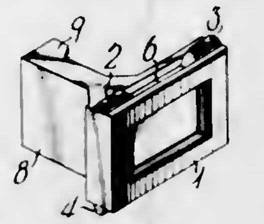


A rock bolt with removable shielding around it along the portion immediately inward from the surface of a rock formation in which the bolt is installed, the shield being operative to prevent the bonding of grout to the shielded portion of the bolt.

3,379,017
CONCRETE BLOCKS FOR SHORE AND BANK PROTECTION

Sugiaki Kusatake, 132 Nishikitsuji-hachikencho, Nara, Japan
Filed June 13, 1966, Ser. No. 557,284
Claims priority, application Japan, June 14, 1965, 40/48.368
9 Claims. (Cl. 61—37)

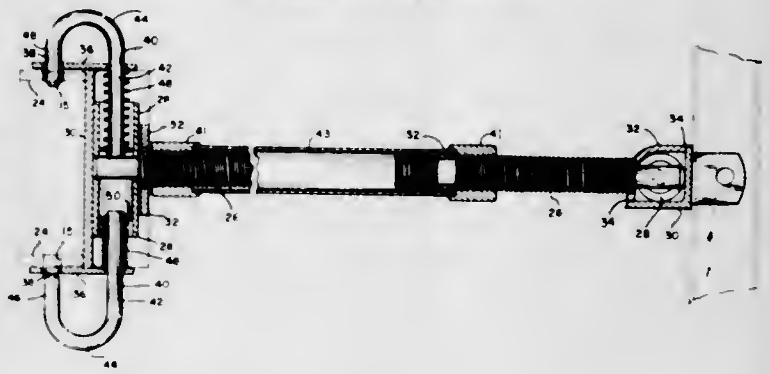
A block for use in the construction of a wall for river banks or seashores having a thickness in the form of a rectangular face plate provided on its upper and lower edges with a pair of halving joints, a prop member vertically extending behind the face plate in the position biassed inwardly by one quarter of the length of the face plate and a rib formed on one side of the tail end of the prop member, said prop member being formed with the same height as the face plate, said face plates being piled upside down in every other layer in a header formation



with the result that the prop members of the face plates form a stiffener in a vertical straight line behind the wall and that the ribs of the tail ends of the prop members project right and left alternately.

3,379,018
SHORING STRUCTURE

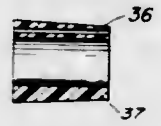
Herman C. Frentzel, Milwaukee, Wis., and Robert E. Wenninger, 3810 Lakeside Road, Pewaukee, Wis. 53072; said Frentzel assignor to said Wenninger
Filed May 14, 1965, Ser. No. 455,731
4 Claims. (Cl. 61—41)



Disclosed herein is a shoring structure having a pair of lightweight plank members interconnected by expandable cross braces which are pivotally and removably connected to the plank members.

3,379,019
ROCK BOLT ASSEMBLY FOR UPGROUTING OPERATIONS

Chester I. Williams, 347 Greenbriar SE., Grand Rapids, Mich. 49506
Filed May 3, 1965, Ser. No. 452,592
6 Claims. (Cl. 61—45)



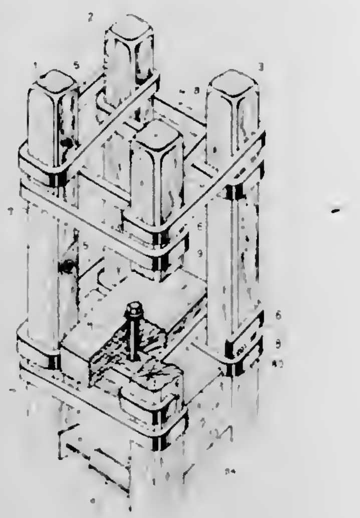
A plug for engagement with a rock bolt rod to isolate a portion of a hole occupied by the bolt from an injected charge of grout, the plug having a passage for receiving a tube alongside the rod.

3,379,020
DOLPHIN OR MARINE CONSTRUCTION

Heinrich A. Krug, Friedensweg 29, Hamburg-Nienstedten, Germany
Filed Dec. 7, 1964, Ser. No. 416,210
Claims priority, application Germany, Dec. 10, 1963, K 51,576; Feb. 26, 1964, K 52,213
19 Claims. (Cl. 61—46)

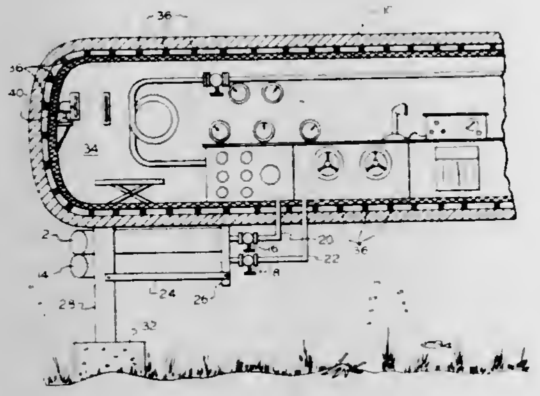
1. A bound dolphin structure, comprising a plurality of spaced, rammed piles, resilient connecting means of rubber-elastic composition adapted to join said piles and

to urge each pile toward each adjacent joined pile, said connecting means comprising elongated bands having an interior layer of material for imparting a limit of elongation to said bands, and inelastic spacing means interposed between said joined piles to maintain said bands in an expanded beyond normal state within the elastic limit of the material, said spacing means and said resilient bands cooperating to hold each of said piles in a predetermined space relationship one with the other.



3,379,021
INHABITABLE UNDERWATER STRUCTURE

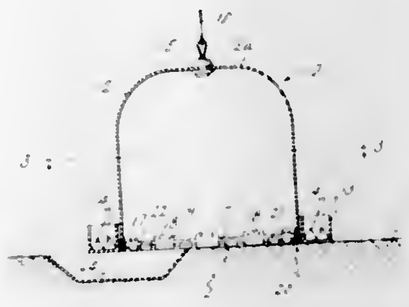
Edwin A. Link, Binghamton, N.Y., assignor, by mesne assignments, to Ocean Systems, Inc., New York, N.Y., a corporation of New York
Filed Sept. 28, 1964, Ser. No. 399,546
6 Claims. (Cl. 61—69)



1. An inhabitable underwater structure comprising,
a pressurized vessel having walls defining an inside chamber, said inside chamber being adapted to accommodate an occupant and the outside of said walls being adapted to contact the sea water when the vessel is submerged in order that said walls assume the approximate temperature of the surrounding sea water;
means for supplying a breathing mixture to said chamber; and
an inner lining of low heat conductive material inside said chamber and positioned adjacent said walls of said vessel and substantially coextensive with said walls and being effective to isolate said occupant from the walls of said chamber and fluid circulation space means being provided intermediate said lining and said walls and being interconnected with the chamber by passages extending transversely through the lining to permit said breathing mixture to circulate from the chamber and contact said walls of said chamber.

3,379,022
UNDERWATER SHELTER

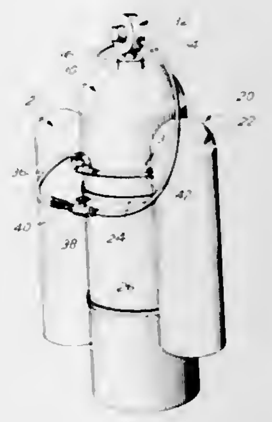
Glenn T. Welton, Arlington, Va., assignor to Uniroyal, Inc., a corporation of New Jersey
Filed Dec. 1, 1964, Ser. No. 415,066
4 Claims. (Cl. 61—69)



1. An underwater shelter for enabling human beings to be housed, move about, and perform various activities in an atmosphere of air and in a dry state without the use of diving suits, helmets and associated equipment even though submerged far below the surface of the water, comprising a body made of flexible sheet material impervious to both air and water and adapted to be inflated to assume a housing-like shape having a closed top and a substantially full-width open bottom defining the access to and egress from the interior of the shelter, and ballast means secured peripherally to said body at the bottom end region thereof for weighting the shelter to counteract the buoyancy thereof when inflated and for providing ground-engaging support means for the shelter when the same is lowered to the bottom of a body of water.

3,379,023
UNDERWATER DIVING APPARATUS

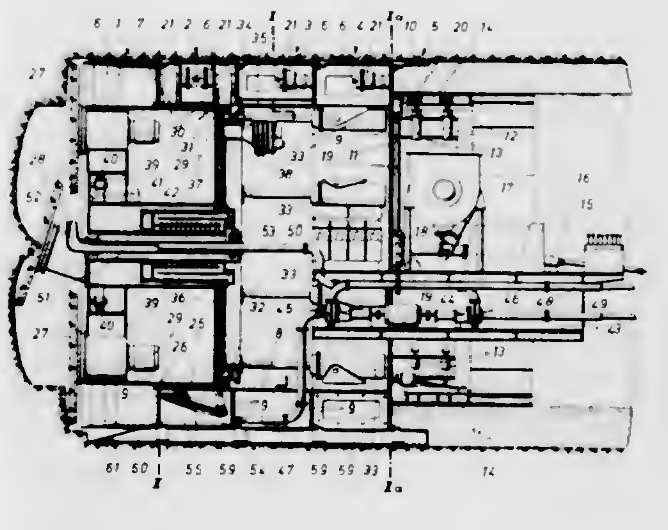
Ralph Crose, Woodstock, Ill., assignor to Kim Enterprise, Inc., a corporation of Illinois
Filed Mar. 3, 1967, Ser. No. 620,523
7 Claims. (Cl. 61—70)



A scuba diver equalizer in the form of two balance tanks which are adapted to be removably affixed to the diver's air tank and which are adapted to be filled and depleted of water, by displacing it with air. Air is supplied to the balance tanks in a controlled manner, directly from the diver's air tank or, alternatively, from an auxiliary air tank which is affixed to one of the balance tanks.

3,379,024
MACHINE FOR CONSTRUCTING LINED DUCTS THROUGH ROCK

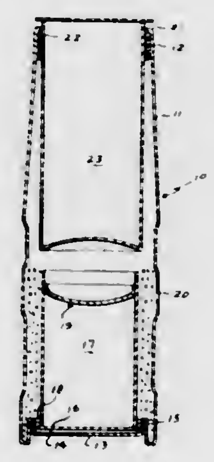
Josef Wohlmeyer, deceased, late of Vienna, Austria, by Maria Wohlmeyer, Ilse Kirchner, Helmut Wohlmeyer, Helga Wohlmeyer, all of Vienna, Austria, heirs; Anna Berger, testamentary heir, Vienna, Austria, and Hans Waber, Vienna, Austria, guardian of Robert Berger and Anna Berger, testamentary heirs, both of Vienna, Austria
Filed Apr. 13, 1965, Ser. No. 449,383
20 Claims. (Cl. 61—85)



A tubular shield provided in its front end with a rotary drum carrying adjustable and rotatable working tools by which a duct is formed. A formwork of a smaller diameter at the rear end of the shield defines an annular space between itself and the wall of the duct. Concrete is pumped into the annular space to form a lining for the finished duct, and as the lining hardens, pumping of the concrete provides a force which advances the shield with the working tools along the duct. Tracks for the shield are also provided along with power means for advancing the shield along the tracks at the start of the duct forming operation where finished duct lining is not available for advancing the shield by pumping of concrete.

3,379,025
COOLING DEVICE

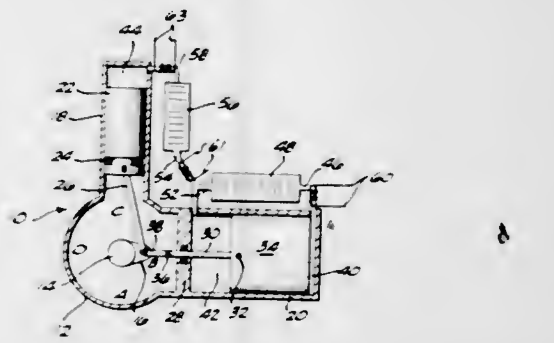
William R. Donnelly, 903 Washington Ave., Piqua, Ohio 45356
Filed Sept. 9, 1964, Ser. No. 395,231
11 Claims. (Cl. 62—4)



1. A portable device for changing the temperature of a container and its contents consisting of a squeeze bottle type receptacle having at its bottom an enclosure forming an annular chamber with the squeeze bottle, said enclosure maintaining separated charges of chemicals which on contact are capable of inducing a heat transfer in reference to the bottle contents, a portion of said enclosure providing rupturable means separating the respective charges of chemicals, said bottle having a neck portion at its top defining the opening thereto and, in connection therewith, means for supporting the container in nested relation to said bottle and in elevated relation to said enclosure and chemical contained therein, said supporting means providing, with the container, a seal of said bottle, said rupturable means being arranged and oriented substantially transversely of said bottle so as to rupture an application of a radially applied pressure causing the wall of the squeeze bottle to engage and squeeze said enclosure, thereby rupturing the rupturable means to produce an opening for communicating said chemicals to provide a reaction enabling a heat transfer in respect to the contents of the supported container.

3,379,026
HEAT POWERED ENGINE

Kenneth W. Cowans, Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Continuation-in-part of application Ser. No. 531,183, Mar. 2, 1966. This application May 18, 1967, Ser. No. 658,304
20 Claims. (Cl. 62—6)

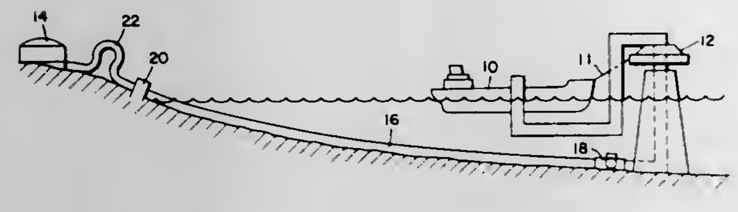


Several embodiments of cryogenic engines are disclosed which utilize input heat as an energy source resulting in efficient low-temperature refrigeration and useful work output. Cylinders arranged in out-of-phase relationship have pistons connected to a common crankshaft. The pistons have surfaces in facing communication with the crankcase volume for conventional rod connection to the shaft. The surfaces on said pistons may be sized in relation to the stroke of the respective pistons so that the swept volume of the respective surfaces are substantially equal during each machine cycle. The result is an efficient machine configuration offering exceptionally smooth operation in service. Additionally, by predetermining the pressure level of the gas in the crankcase, torque or work output at the crankshaft may be uninterrupted and thereby further improve the smoothness of engine operation.

3,379,027
ROLLER-SUPPORTED LNG PIPELINE

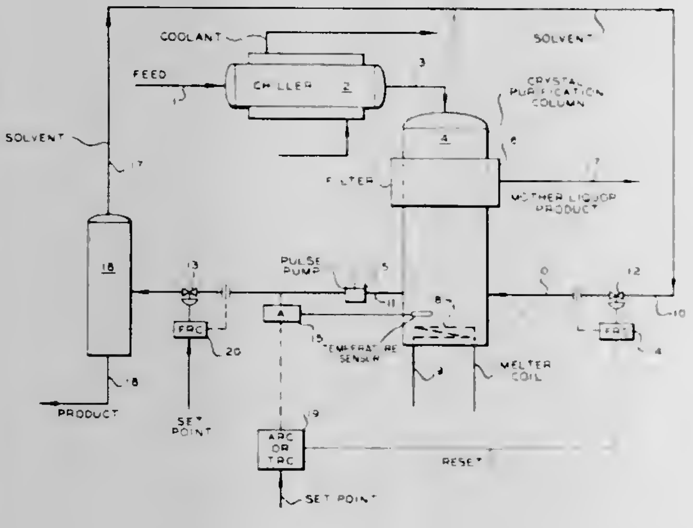
Roger W. Mowell, West Caldwell, and John Mascenik, Mount Tabor, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Mar. 30, 1965, Ser. No. 444,003
3 Claims. (Cl. 62—55)

An insulated submerged LNG pipeline extending between a shore based facility and an offshore ship loading terminal. The LNG-carrying inner pipe is thermally insulated and roller supported to permit thermal expansion and contraction relative to a surrounding casing pipe and to permit withdrawal of the entire pipe length from the casing onto the shore for inspection and maintenance of the insulation system.



3,379,028
MELTING A CRYSTALLINE FRACTION IN A SOLVENT PRESENCE

Glenn H. Dale, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Apr. 4, 1966, Ser. No. 539,833
7 Claims. (Cl. 62—58)

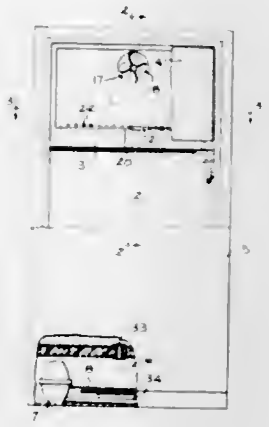


1. A process for purifying a high melting point or sublimable or heat decomposable material comprising passing said material to a chiller to form a crystal slurry, passing said crystal slurry to a purification zone where non-crystallized impurities are removed, passing crystals through a purification zone, passing purified crystals to a melting zone in which crystals are melted at least in part by a heater in the presence of solvent, passing melt and solvent countercurrent to crystal flow to said purification zone, passing solvent to said melting zone, removing solvent and purified material from said melting zone, controlling the solvent feed to said melting zone responsive to a condition selected from a group consisting of temperature in said melting zone and composition measurement of a mixture of solvent and purified material removed from the melt zone.

3,379,029
AUTO DEFROST REFRIGERATOR

Ralph E. King, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Apr. 29, 1966, Ser. No. 546,264
4 Claims. (Cl. 62—180)

A household refrigerator comprising a cabinet divided by a horizontally insulated partition into an upper freezer compartment and a lower fresh food compartment. An evaporator chamber is positioned at the rear of the freezer compartment and has a single air outlet into the freezer compartment. Air from the freezer compartment is circulated (1) back to the evaporator chamber, and (2) to the fresh food compartment via a passageway at the front of the partition and back to the evaporator chamber by way of another passageway at the rear of the partition. A temperature sensing element, for controlling the condensing unit, is positioned in the fresh food compartment.



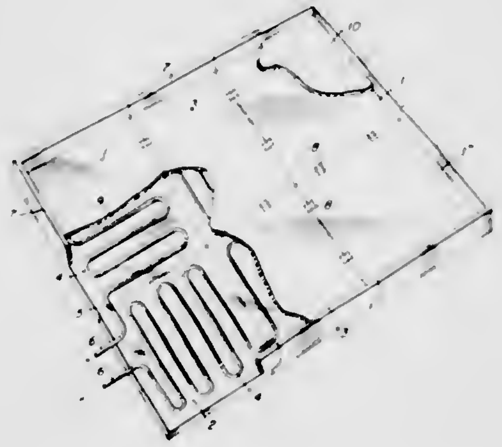
3,379,030
REFRIGERATION SYSTEM WITH MEANS FOR CONTROLLING OIL RETURN

Gaither B. Garner, 2325 Ridge Road, Raleigh, N.C. 27609
Filed Sept. 29, 1966, Ser. No. 582,975
7 Claims. (Cl. 62—192)

1. In a refrigeration system having a compressor with high pressure and low pressure sides and a crankcase, a high pressure line for conveying gases from the high pressure side to a condenser, a receiver to collect liquefied refrigerant in operative relation to said condenser, an evaporator for vaporizing said liquid refrigerant in operative relation to said receiver, and a suction line operatively connected from said evaporator to the low pressure side of said compressor; the improvement comprising: a suction line evaporator composed of an enclosed inner barrel having upper and lower portions; said suction line passing from said evaporator into the upper portion of said barrel; said suction line leaving the upper portion of said barrel and passing into the suction side of said compressor; a lubricant return line passing from the lower portion of said barrel to the crankcase of said compressor; an enclosed jacket having upper and lower portions surrounding a substantial portion of the exterior of said barrel; said high pressure line passing from the high pressure side of said compressor to the upper portion of said jacket; said high pressure line leaving the lower portion of said jacket and connected to said condenser; temperature sensing means located adjacent the lower portion of said barrel; thermostatic control means operatively connected to said sensing means; and a valve means located in said lubricant line and controlled by said thermostat whereby by means of temperature sensing an automatic valve control, liquid refrigerants and crankcase lubricants may be separated and passed to their respective inlets in said compressor.

3,379,031
ARTIFICIAL ICE RINK EMPLOYING MODULAR UNITS

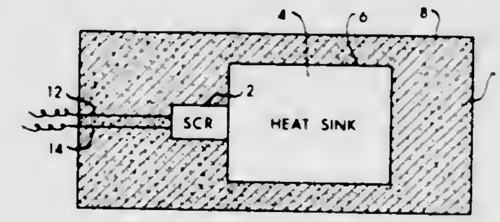
John C. Lewis, Jr., 29 South St., Middlebury, Vt. 05753
Filed Jan. 24, 1966, Ser. No. 522,471
4 Claims. (Cl. 62—235)



1. An artificial ice rink comprising at least two, interconnected, fibre-glass reinforced polyester resin, cooling modules having integral sides for ice retention thereon and having internal veins for the circulation of a cooling liquid which maintains the surface of said modules at a temperature below the freezing point of water to allow for formation of ice thereon.

3,379,032
TEMPERATURE STABILIZATION APPARATUS FOR WELL LOGGING SYSTEMS

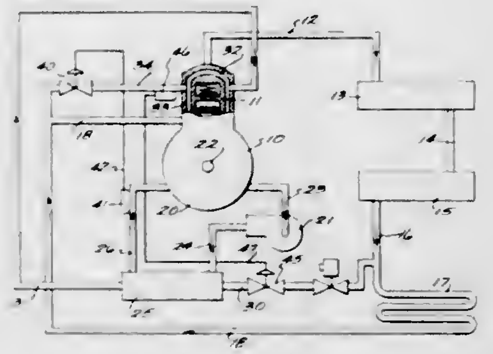
Billy F. Wilson, Houston, Tex., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Dec. 21, 1965, Ser. No. 515,368
3 Claims. (Cl. 62—259)



Electronic components which fail at a predetermined temperature are mounted upon a compartment having therein a material having a melting point which is lower than said predetermined temperature and coupling means for thermally interconnecting the heat sink and the component.

3,379,033
REFRIGERATION SYSTEM AND APPARATUS

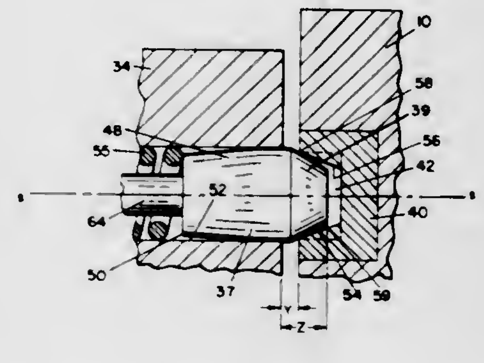
Whitney I. Grant, Muskego, Wis., assignor to Vilter Manufacturing Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Aug. 10, 1966, Ser. No. 571,475
13 Claims. (Cl. 62—505)



A refrigerating system wherein the refrigerant employed in the system is utilized for maintaining the compressor lubricating oil at proper temperatures and for cooling the compression cylinders.

3,379,034
YIELDABLE DRIVE COUPLINGS

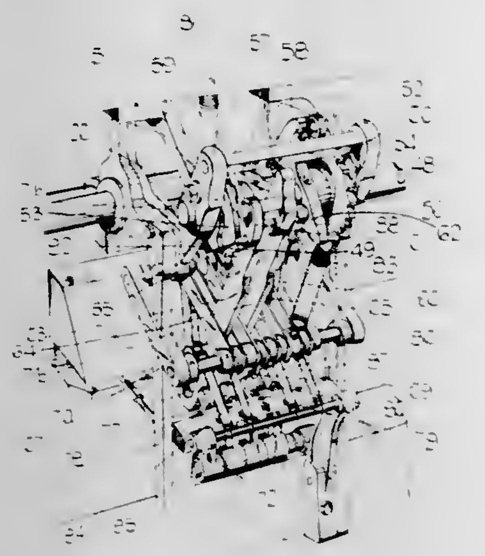
Ralph P. Gustafson, Hubbardston, Mass., assignor to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts
Filed Oct. 14, 1966, Ser. No. 586,845
8 Claims. (Cl. 64—29)



1. In a yieldable drive coupling comprising: a driving member, a driven member adjacent said driving member, and a spring loaded plunger slidable in a retaining hole extending therein from the adjacent surface of one of said members, said plunger having a head with a substantially conical portion having a sloping surface which extends into a round depression in the adjacent surface of the other of said members; the improvement being that the base of said conical portion has a slightly larger diameter than the outer rim of said round depression and the sloping surface of said plunger head is at a greater angle with respect to a longitudinal axis of said plunger and said round depression than is the circumferential surface defining said round depression, whereby said plunger will contact said outer rim, enabling said driving member to drive said driven member under normal load conditions, and to be cammed into its retaining hole by said outer rim to disconnect said driving member from said driven member when the coupling is subjected to abnormally high load conditions, and the amount of high load necessary to cam said plunger out of engagement with said round depression is consistent due to the consistent contacting position of said plunger in said round depression.

3,379,035
STRAIGHT BAR KNITTING MACHINES

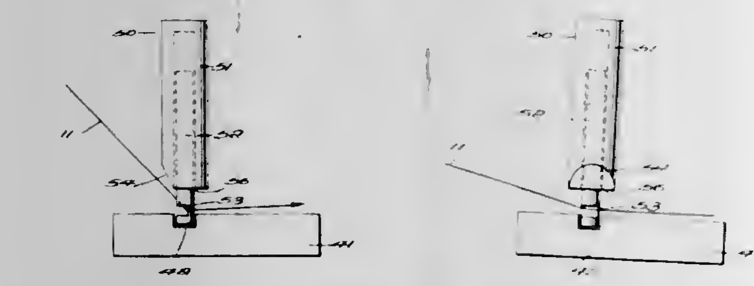
William Bentley, Woodhouse Eaves, near Loughborough, and Norman Henry Small, Leicester, England, assignors to William Cotton Limited
Filed Jan. 4, 1965, Ser. No. 423,117
Claims priority, application Great Britain, Jan. 4, 1964, 458/64
4 Claims. (Cl. 66—88)



1. A straight bar rib knitting machine having in combination vertical frame and horizontal machine beard needles, and sinkers, individually movable presser elements separate from said sinkers, infinitely variable patterning means operable on the individually movable presser elements, front presser edges on said individually movable presser elements, means for locating the individually movable presser elements at a position for the vertical frame needle beards to press against said front presser edges for non-patterned knitting on these needles, presser blocks projecting laterally from the individually movable presser elements, and cam operated means adapted to operate the patterning means and cause infinitely variable selections of the individually movable presser elements to advance to a position where infinitely variable selections of the horizontal machine needles have their beards pressed against said presser blocks for infinitely variable patterned knitting on these horizontal machine needles.

3,379,036
ELASTIC YARN HOLDING MEANS FOR CIRCULAR KNITTING MACHINES

James Otis Farmer, Garfield Park, New Castle, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed July 13, 1965, Ser. No. 471,526
3 Claims. (Cl. 66—145)



A holding device on a circular knitting machine for clamping yarn from an inactive elastic yarn feed finger and located on a line between the feed finger and a yarn-severing means, the device comprising a tube containing a notched rod extensible between a yarn engaging position exterior of the tube and a yarn holding position within the tube mounted vertically above and cooperating with a recess in the dial of the knitting machine, and means for actuating said rod in accordance with the deactivation of the feed finger to clamp the yarn before severing thereof.

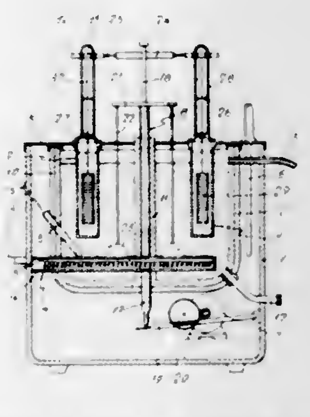
3,379,037
MULTIPLE YARN STOP MOTION ASSEMBLY

Michael Antonevich, Somerset, N.J., assignor, by mesne assignments, to Crawford Stop-Motion Co., Inc., New Brunswick, N.J., a corporation of New Jersey
Filed Mar. 15, 1966, Ser. No. 534,474
10 Claims. (Cl. 66—163)

A stop motion and signal light at each yarn of a multi-feed circular knitting machine. Yarn breakage closes a circuit through a first coil which in turn closes a circuit to a second coil. When energized the second coil opens the drive motor circuit. To ensure sufficient current to the first coil and all signal lights a half wave rectifier shunts the first coil.

3,379,038
DEVICE FOR PRESSURE DYEING TEXTILE SAMPLES

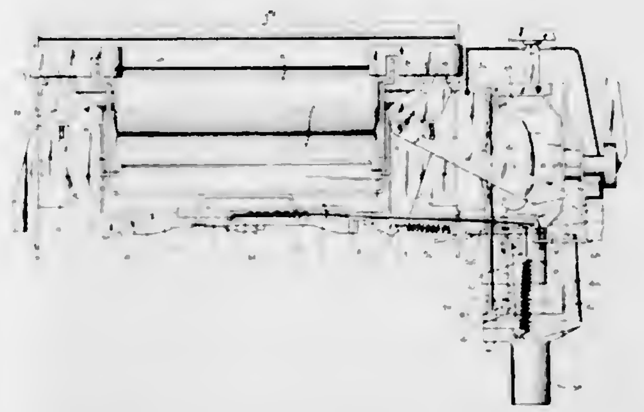
José Maria Arumí Blancafort, Plaza Tetuan 24, Barcelona, Spain
Filed Jan. 13, 1966, Ser. No. 520,481
Claims priority, application Spain, Feb. 8, 1965, 309,103
3 Claims. (Cl. 68—156)



A dyeing device in which a sample holder is positioned in a receptable containing a dyeing bath and is connected to a magnetic core which is magnetically coupled to an external magnetic element, an actuator mechanism being provided for acting on the receptacle or the external magnetic element to move the same while the other remains stationary.

3,379,039
INSTINCTIVE PRESSURE RELEASE FOR WRINGERS

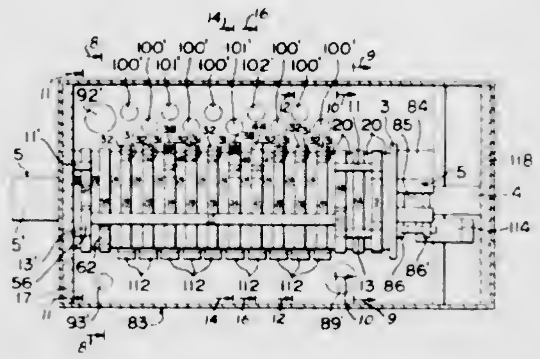
Robert Bruce Sherer, St. Joseph, Mich., assignor to Whirlpool Corporation, Benton Harbor, Mich., a corporation of Delaware
Filed Feb. 15, 1966, Ser. No. 527,617
10 Claims. (Cl. 68—256)



An instinctive wringer roll pressure release mechanism for a clothes wringer which will enable a person who has inadvertently caught a part of his body or apparel between the wringer rolls to release the wringer roll pressure by an instinctive reflex movement. This movement will exert a push or pull force which pivots the wringer about a horizontally positioned pin thereby initiating release of wringer roll pressure.

3,379,040
PUSHBUTTON LOCK

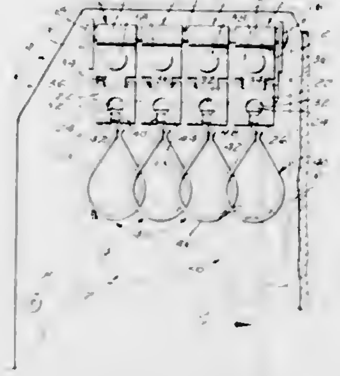
Junichi Shimono, 144 2-chome, Torimi-cho, Nishi-ku, Nagoya-shi, Japan
Filed Feb. 23, 1966, Ser. No. 529,308
8 Claims. (Cl. 70—313)



The disclosure deals with a lock having in a casing a slidable bolt with a multitude of transverse notches, and a multitude of tumbler elements individually movable into and from register with respective bolt notches in locked bolt position. One handle each on the front and rear side of the casing may independently be operated simultaneously to move all tumbler elements into a certain position in which all but a select number thereof are out of register with the respective bolt notches, thereby locking the bolt in lock position with the select tumbler elements. Another handle on the rear side of the casing may be operated simultaneously to move all select tumbler elements from register with the respective bolt notches to thereby release the bolt in its locked position for movement into its unlock position. Further provided on the front side of the casing are handles, one for each tumbler element, of which those associated with the select tumbler elements are individually operable to move the latter out of register with the respective bolt notches, while the remaining handles are individually operable to move the associated tumbler elements into register with their bolt notches.

3,379,041
KEY HOLDER AND KEY CONTAINER INCLUDING SAME

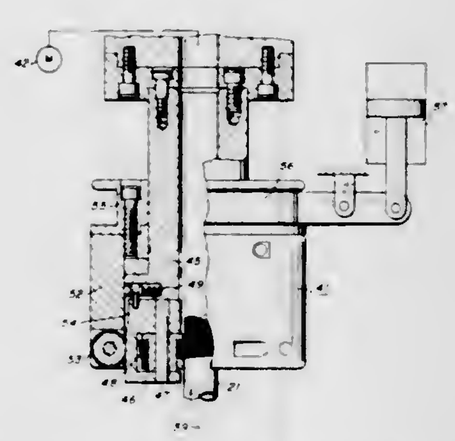
Edward Hanna, Nevasink, N.J., assignor to Hanna Keyholder Company, Incorporated, Atlantic Highlands, N.J., a corporation of New Jersey
Filed May 11, 1966, Ser. No. 549,206
13 Claims. (Cl. 70—456)



The key holder comprises a strip bent upon itself to have first and second bends, with a first end overlapping a second end to define a loop. The strip has a slot extending from said first bend to the part of the first end overlapping the second end, and there having an enlarged opening. The second end is resiliently urged toward the first end to normally block the enlarged opening, but it is movable away from said first end to unblock the enlarged opening in order to permit an enlarged part of a key carrier to pass therethrough. The other portion of said slot permits a shank of the key carrier to pass therethrough, but not the enlarged key carrier part. The second end of the strip is provided with a recess, and the first end has a projecting part received in the recess to align said ends. In preferred form there are a pair of recesses receiving a pair of projecting parts. The second bend is a partially closed loop, and a plurality of such holders are pivotally mounted in side-by-side relation in a key container.

3,379,042
METHOD AND MACHINE FOR FORM ROLLING

Harry W. Brown, Sr., Euclid, Ohio, assignor to The National Acme Company, a corporation of Ohio
Filed Dec. 27, 1965, Ser. No. 516,348
18 Claims. (Cl. 72—10)

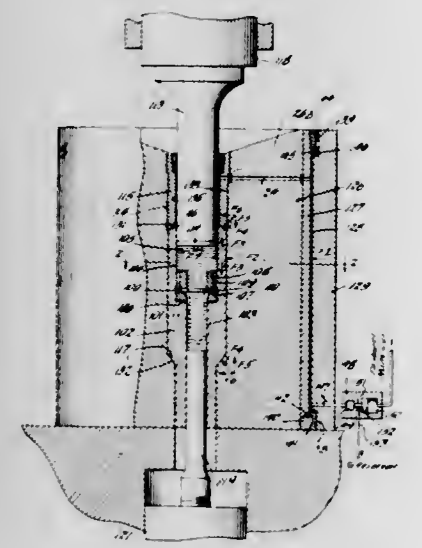


1. A form rolling machine, comprising in combination,
a frame,
a carriage movable longitudinally on said frame,
a motor connected to drive said carriage longitudinally of said frame,

a form roll head including a plurality of form rolling rolls thereon,
means to relatively longitudinally move said roll head and a tube to be form rolled in accordance with longitudinal movement of said carriage,
means to establish a controlled feed rate of said motor for a forward longitudinal movement of the carriage,
means to relatively rotate said roll head and the tube to roll a form on the exterior surface of the tube,
a control element and housing,
the relative rotation of said roll head and tube while in engagement relatively longitudinally moving the tube and the head,
means to relatively move said control element and housing in accordance with relative longitudinal movement of said roll head and the tube,
means connecting said control element and housing to said motor for control of same to establish forward movement of said carriage, and
means connecting said control element and housing for relative followup movement in accordance with longitudinal movement of said carriage.

3,379,043
PRESSURE VESSEL FOR FORMING APPARATUS

Francis J. Fuchs, Princeton Junction, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 1, 1965, Ser. No. 436,128
25 Claims. (Cl. 72—56)

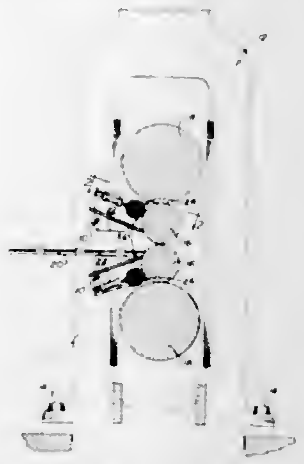


A pressure vessel including a forming cylinder for containing fluid which is pressurized by a piston movable into the cylinder. The forming cylinder is expandable in response to a predetermined fluid pressure to allow a portion of the pressurized fluid to flow out of the cylinder, past the piston, into another cylinder, or succession of cylinders, spaced from and surrounding the forming cylinder. The pressurized fluid in the surrounding cylinder, or cylinders, exerts inward forces on the forming cylinder counteracting the radial forces generated by the piston acting on the fluid contained in the forming cylinder.

3,379,044
CLEANING DEVICE FOR A ROLLING MILL

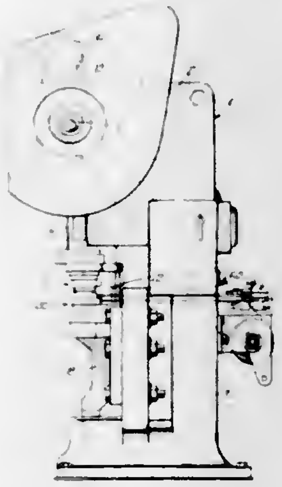
Albert Kirschner, Coeur d'Alene, Idaho, assignor to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware
Filed Jan. 14, 1965, Ser. No. 425,578
3 Claims. (Cl. 72—236)

A brush cleaning device attached to a rolling mill or the like for use in engaging the surface of a work roll in order to remove picked-up debris from the surface thereof during treatment of a workpiece between the work rolls and being controllably adjustable transversely and longitudinally of the work roll.



3,379,045
COIN AND TRIM MACHINE

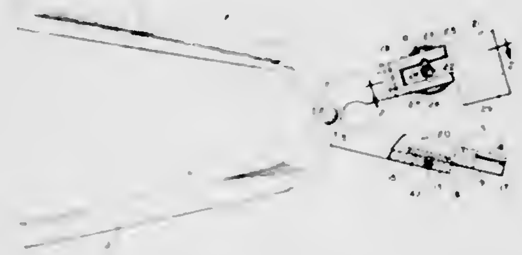
Charles A. Uncapher, Oak Lawn, and Ronald H. Roulo, Palos Heights, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Apr. 4, 1966, Ser. No. 539,998
16 Claims. (Cl. 72—332)



1. A machine for reducing the thickness of a lap seam weld connecting the ends of metal strip material and for trimming the side edges of the strip material at the weld area to remove weld portions projecting outside of the normal edges of the strip material which machine comprises an upright press frame and a pair of coining die members, said coining die members being disposed in opposed relation with one die member thereof being mounted for vertical reciprocation between an open and closed position relative to the other die member so as to engage and flatten the thickened weld area of the strip ends when placed between the same, trimming knives at opposite sides of the one die member which co-operate with opposite edges of the other die member to trim material extending outwardly of said edges, stop members on the edges of said other die member which are spaced to clear the trimming knives and which permit projecting weld portions to extend beyond the edges of the dies when the welded strip material is positioned with an edge thereof against the stop members, said trimming knives and said stop members being spaced on opposite sides of the die members a distance which is greater than the maximum width of the welded strip material so that when the welded strip material is positioned between the die members it may be moved laterally in either direction to position the edge thereof against the stop members, means to grip the strip material mounted for reciprocation in a lateral path, and means to reciprocate the die members and the strip gripping means in timed relation so as to first bring the die members together to coin the weld area, then to separate the die members and free the strip material so that it may be shifted laterally to successively position the edges against the stop members at one side of the die member and thereafter against the stop members at the opposite side thereof while the die members reciprocate in timed relation and trim the edges of the strip material.

3,379,046
ELECTRONIC COMPONENT LEAD FORMING TOOL

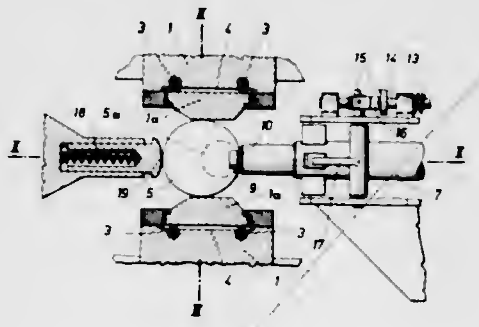
C. G. Glenn, 6th St. SW., Arab, Ala. 35016
Filed Oct. 24, 1965, Ser. No. 505,075
16 Claims. (Cl. 72—401)



A hand tool capable of bending the leads of electronic components, such as resistors or capacitors, without damaging the leads or doing internal damage to the component itself. The tool is constructed somewhat like a pair of pliers but has adjustable jaws, so that the upper jaw overlaps the lower jaw in closed position. The lower jaw is arranged to firmly hold a component by its leads in a removable component holding die, while the upper jaw pivots down and neatly bends the leads of the component.

3,379,047
FORGING PROCESS AND MACHINE

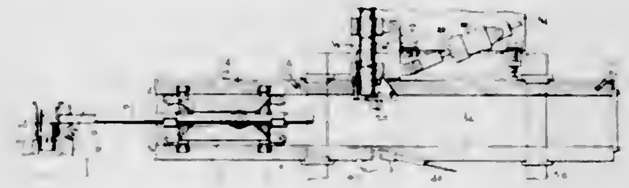
Bruno Kralowetz, Weinleiten 142, St. Ulrich, near Steyr, Austria
Filed Nov. 19, 1965, Ser. No. 508,652
Claims priority, application Austria, Jan. 20, 1965, A 413/65
8 Claims. (Cl. 72—404)



5. A forging machine for forging disclike workpieces from a blank which is smaller in cross-section and larger in length than the forged workpiece, said machine comprising four hammers spaced 90° apart and constituting two pairs of hammers, the hammers of each of said pairs being adapted to blow toward each other, means for adjusting the distance between the hammers of each of said pairs and the blow thereof independently of the distance between the hammers of the other of said pairs at the end of a blow thereof, a holder-up, a jaw-type blank holder spaced from said holder-up and adapted to grip such blank in a position in which said blank is engaged by said holder, its end faces are presented to one of said pairs of hammers and opposite sides of its periphery are presented to the other of said pairs of hammers, said blank holder comprising at least one friction roller, which is arranged to engage a blank in said position and operable to rotate said blank about its axis, and means arranged to urge said holder-up resiliently against said blank in said position.

3,379,048
HOT BILLET LOADER

William C. Cooper, Royal Oak, and Harvey J. Nelson, Warren, Mich., assignors to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Dec. 27, 1965, Ser. No. 516,254
10 Claims. (Cl. 72—419)



1. Apparatus for feeding billets from a supply chute to a press container, comprising in combination, a chute adapted to carry a line of billets, a movable bottom closure at the bottom of said chute for holding up the line of billets, clamp means for holding upper billets when lower billets are to be fed out from the bottom, a travelling billet receptacle having open upper and lower ends adapted to receive a billet from said chute, in its upper end when disposed therebelow, a movable bottom closure for said receptacle, means for moving said receptacle from a receiving position beneath said chute to a delivery position away from said chute, means for opening said chute closure to deliver a billet to said receptacle when disposed beneath the chute, and means at said delivery position for opening said receptacle closure to drop out a billet into the container.

3,379,049
METHOD FOR TESTING OPTICAL MEMBRANES

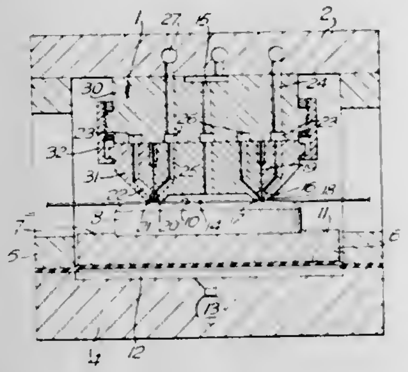
Marcel J. E. Golay, 116 Ridge Road, Rumson, N.J. 07760
No Drawing. Filed Dec. 9, 1965, Ser. No. 512,809
4 Claims. (Cl. 73—4)

A method of testing the surface tension characteristics of optical membranes by deforming the membrane under a vacuum and measuring the focal distance on the concave side. The product of the vacuum and the focal distance is a function of the surface tension of the membrane.

3,379,050
INSTRUMENT FOR THE MEASUREMENT OF THE ROUGHNESS OF PAPER

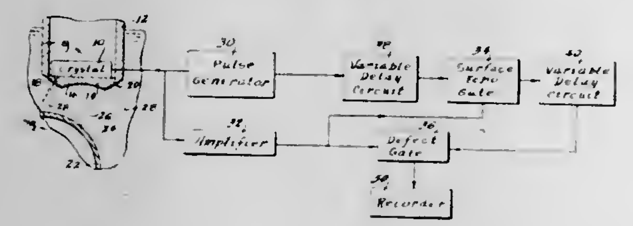
John Russell Parker, Gravesend, England, assignor to Bowaters United Kingdom Pulp and Paper Mills Limited, London, England, a corporation of the United Kingdom
Filed Nov. 26, 1965, Ser. No. 509,836
Claims priority, application Great Britain, Dec. 1, 1964, 48,762/64
8 Claims. (Cl. 73—37)

An instrument for measuring roughness of a surface, such as paper, measures the flow of fluid under pressure across one or more thin metering lands maintained in contact with the surface. The land means is located within a channel within a paper-contacting head. Pressure fluid flows through duct means within the head to the channel and between the land means and the surface being tested for roughness.



3,379,051
MULTIPLE BEAM ULTRASONIC NONDESTRUCTIVE TESTING DEVICE

Milton F. Zeutschel, Kennewick, and Norman E. Dixon, Pasco, Wash., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Sept. 24, 1965, Ser. No. 490,148
7 Claims. (Cl. 73—67.9)

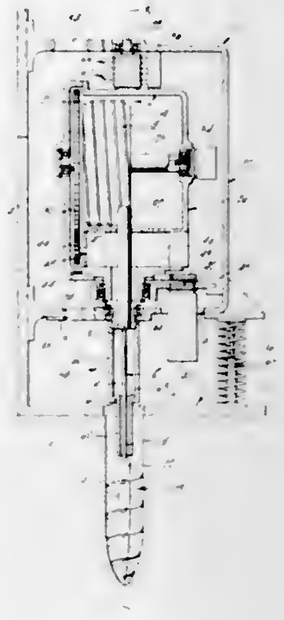


1. An ultrasonic device for nondestructively testing a specimen comprising means for generating an ultrasonic wave, means for generating from said ultrasonic wave a first ultrasonic beam focused on the surface of said specimen so that a portion thereof is reflected therefrom, means for simultaneously generating from said ultrasonic wave a second ultrasonic beam focused on the surface of said specimen to generate ultrasonic waves therein and having a longer transit time than said first ultrasonic beam, means for detecting reflections of said first and second ultrasonic beams from said specimen, and means responsive to detected surface reflections of said first ultrasonic beam from said specimen for measuring only detected subsurface reflections of said second ultrasonic beam from said specimen.

3,379,052
SOIL PENETROMETER

Earle A. Howard, 4321 Beulah Drive, La Canada, Calif. 91011; George M. Hotz, 1564 Gaywood Drive, Altadena, Calif. 91001; and Robert P. Bryson, 2616 N. Upland St., Arlington, Va. 22207
Filed Sept. 20, 1965, Ser. No. 488,384
16 Claims. (Cl. 73—81)

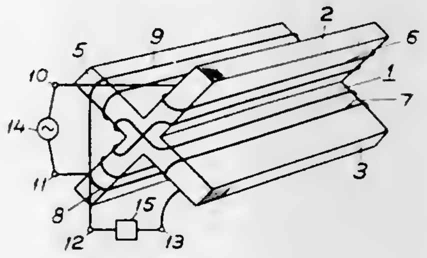
1. Apparatus for burrowing into a soil formation comprising:
- (a) an elongate coilable torque transmitting member,
- (b) coiling means for the torque transmitting member at one end of the torque transmitting member,
- (c) an auger connected to the other end of the torque transmitting member to be driven in response to rotation of the torque transmitting member,
- (d) a base adapted to be supported on the surface of soil formation,
- (e) support means for the coiling means mounted to the base for rotation relative to the base,
  - the torque transmitting member extending from the coiling means to the auger along the axis about which the support means is rotatable relative to the base, and



- (f) drive means coupled to the support means operable to rotate the support means about said axis to rotate the torque transmitting member thereby to drive the auger.

3,379,053
MEANS FOR MEASURING MECHANICAL STRESSES IN MAGNETO-STRICTIVE MATERIAL

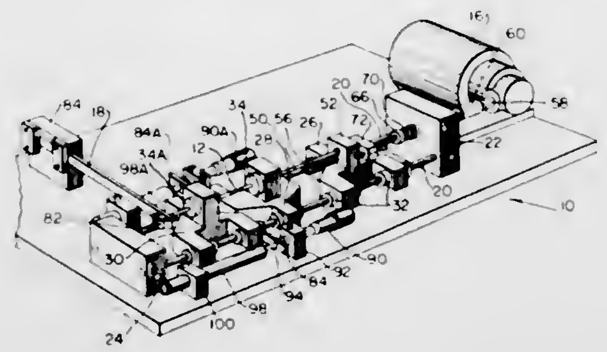
Sten Berglund and Orvar Dahle, Vasteras, Sweden, assignors to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation
Filed Mar. 24, 1966, Ser. No. 537,091
Claims priority, application Sweden, Mar. 25, 1965, 3,848/65
9 Claims. (Cl. 73—88.5)



A transducer for determining mechanical stresses in magneto-strictive material, the transducer consists of a core which is formed as a cross and at least one of the two cross arms passing in the same direction is provided with an exciting coil while at least one of the remaining cross arms is provided with a measuring coil. The transducer is placed in a bore which is perpendicular to the stress direction and generates a substantially homogeneous magnetic flux in the surface of the bore which magnetic flux is substantially at right angles to the longitudinal direction of the bore. The transducer indicates the magnetic potential difference caused by the mechanical stresses in the material between two zones in the wall of the bore.

3,379,054
TENSILE TEST APPARATUS

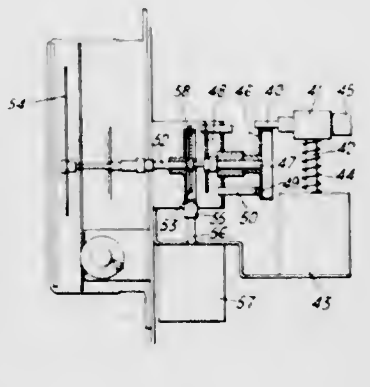
Robert C. Folweiler, Bedford, Mass., assignor to Lexington Laboratories, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Sept. 9, 1965, Ser. No. 486,170
1 Claim. (Cl. 73—95)



Apparatus for testing the tensile properties of relatively fine, short filaments or "whiskers" in which the specimen under test is held between a pair of movable supports. One support is connected to a drive mechanism, while the other is attached to a load bar to stress the sample in tension. Transducers are used to sense movements of the supports and means are provided to convert the outputs of the transducers to indications of load and elongation.

3,379,055
FUEL EFFICIENCY METER

Alfred W. Barker and Frank Ramsay, Bletchley, England, assignors to The Sandall Precision Co. Ltd., Bletchley, England, a British company
Filed Dec. 16, 1965, Ser. No. 514,312
Claims priority, application Great Britain, Dec. 18, 1964, 51,512/64
1 Claim. (Cl. 73—113)

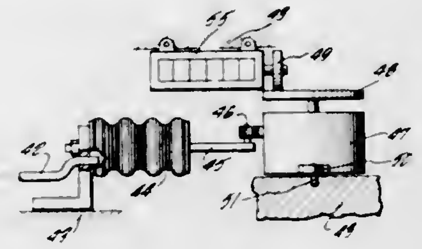


A device for indicating miles per gallon or the like in which an indicating needle moved by a torsion spring is periodically repositioned according to distance traveled and fuel flowrate.

3,379,056
ENGINE WEAR METER

Edward F. Ellison, 2132 E. Chevy Chase Drive, Glendale, Calif. 91206
Filed June 24, 1966, Ser. No. 560,153
10 Claims. (Cl 73—115)

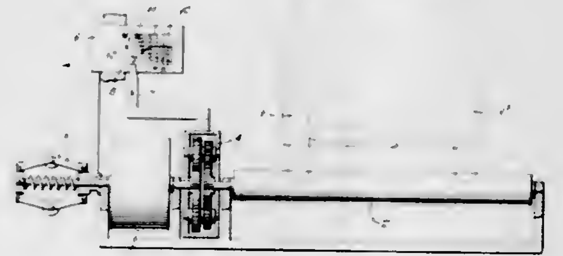
1. A meter capable of indicating wear in an internal combustion engine having an intake manifold comprising:
- an intake manifold pressure sensing device responsive to the pressure in the intake manifold to generate a pressure signal;
- means independent of engine revolution rate cooperating with the pressure signal for generating an output signal representative of the pressure signal combined with time, such signal having a relatively high value with high manifold pressure and a relatively low value with low manifold pressure;



- a counter responsive to the output signal to indicate the cumulative total of such signals over a period of time.

3,379,057
APPARATUS FOR MEASURING THE POWER OF MOTOR VEHICLES

Horst Hegenbart, Heppenheim an der Bergstrasse, Germany, assignor to Gebr. Hofmann K.G. Maschinenfabrik, Darmstadt, Germany
Filed Apr. 9, 1965, Ser. No. 446,944
Claims priority, application Germany, Apr. 10, 1964, H 52,320
8 Claims. (Cl. 73—117)

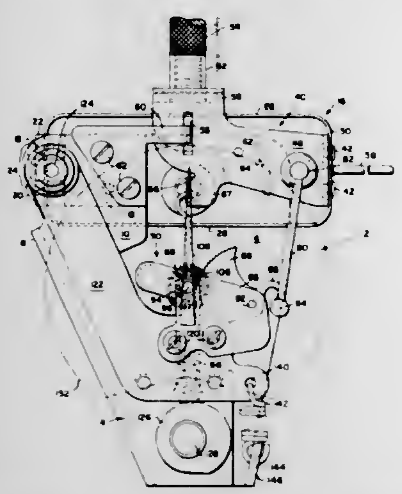


Motor vehicle power measuring apparatus having means for measuring the rotary speed of the driving wheels of a vehicle at a vehicle receiving station utilizing at least one roller adapted to be rotated by the driving wheels. Flywheel means are rotatably connected to the roller, and a torque measuring means effective to detect the torque required for the acceleration of said flywheel is provided along with means for continuously recording the torque and the speed of rotation on a coordinate system in order to determine the power as a function of the speed of rotation.

3,379,058
FORCE GAUGE

Norman E. Sindlinger, Medford Lakes, N.J., assignor to Ametek, Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 21, 1965, Ser. No. 499,284
6 Claims. (Cl. 73—141)

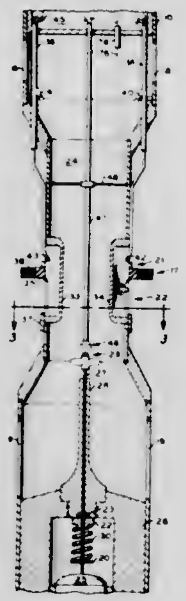
A force gauge has a frame to which one end of a cantilever beam is secured and a load transmitting member connected to the beam. A dial indicator having a frame, a pinion, an indicator needle connected to the pinion and a sector gear engaging the pinion is connected to the beam by a link pivotally connected to the sector gear and to the beam. A lever supports the frame of the dial indicator and is mounted on the force gauge frame to pivot about a point adjacent the point where the beam is secured to the force gauge frame. The force gauge frame, the beam, the link, the pivotal member and the dial indicator form a four bar linkage system. Cam



means are provided for moving the pivotable member to initially position the needle of the dial indicator.

3,379,059
FLOW METER WITH GRAVITY AND LIQUID SENSING SWITCHES

Bruce F. Wiley, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed May 4, 1966, Ser. No. 547,599
2 Claims. (Cl. 73—155)

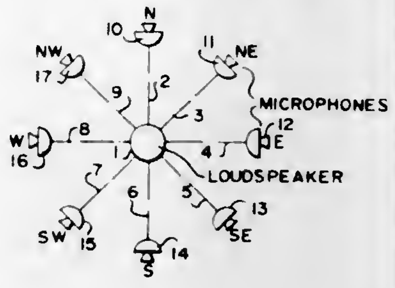


A flow meter comprising an elongated housing which supports a packer that extends outwardly to engage the walls of a well. First and second flow conduits extend through the housing to communicate with opposite sides of the packer. An impeller which can be rotated at variable speeds is positioned in one conduit. Thermistors are positioned in both conduits and connected to a voltage source so as to provide a measurement of the difference in fluid flows through the two conduits. An electrical conductivity switch is carried by the housing to disconnect the voltage source when the housing is removed from liquid. A gravity switch can be employed to disconnect the voltage source when the housing is positioned on its side.

3,379,060
WIND METER

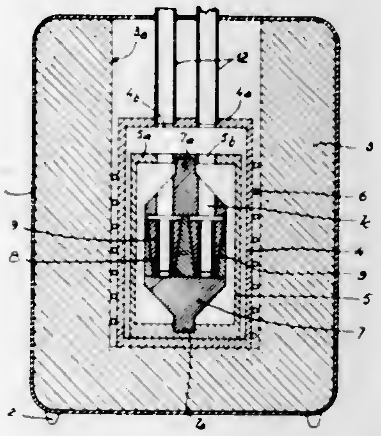
Charles B. Pear, Jr., Eau Gallie, Fla., assignor to Radiation Incorporated, Melbourne, Fla., a corporation of Florida
Filed Oct. 22, 1965, Ser. No. 501,997
15 Claims. (Cl. 73—189)

An instrument for measuring direction and velocity of fluid flow comprising a speaker for transmitting a radially directed sonic pulse to a plurality of microphones disposed equidistant from the speaker along radial paths which are co-planar with the direction of a fluid flow velocity to be measured. The time required for transmission of the pulse between the speaker and microphone depends upon the vectorial flow component along each path. Logic circuitry is provided to indicate which microphone is first to receive the transmitted pulse and also to initiate transmission of another pulse in response to the first received pulse. An indicating circuit is responsive to the repetition rate of the transmitted pulses to provide an indication of flow velocity.



3,379,061
CALORIMETER

Jacques Mercier, Lyon, France, assignor to Societe pour la Diffusion d'Appareils de Mesure et de Controle, D.A.M., Lyon, France, a French joint-stock company
Filed Jan. 26, 1965, Ser. No. 428,149
Claims priority, application France, Jan. 28, 1964, 44,403, Patent 1,401,221
1 Claim. (Cl. 73—190)

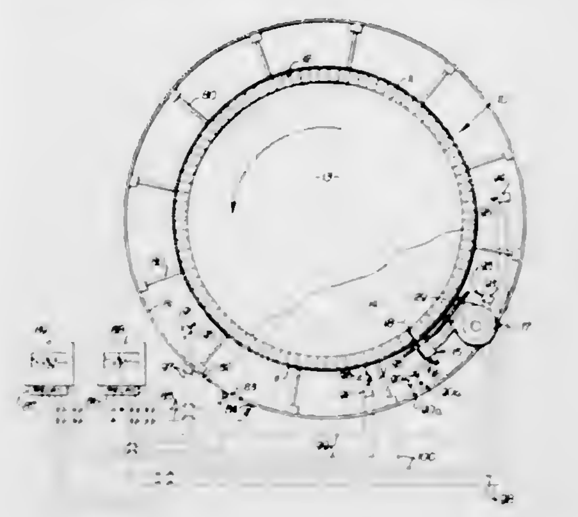


A calorimeter for the measure of heat absorption or generation comprises a number of calorimetric cells each carrying on its periphery a thermo-sensitive electrical winding surrounded with a layer of a material of low conductivity, the latter being in contact with the wall of an individual cell-receiving chamber in a common metallic block. The chambers are in the form of upwardly opening vertical bores. The block is disposed within a shell enclosed within an outer casing having a thick inner heat-insulating layer and heating means are disposed in an intermediate space left between the said heat-insulating layer and the periphery of the shell.

3,379,062
MEASUREMENT OF ROTARY KILN TEMPERATURES

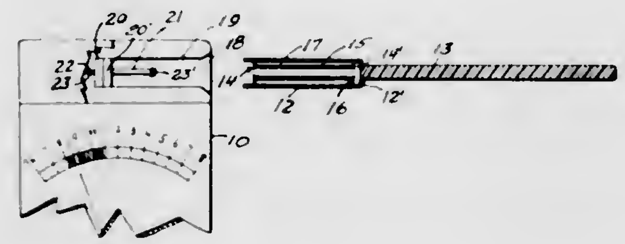
Otto G. Lellep, 3990 4th St., Riverside, Calif. 92501
Filed July 22, 1965, Ser. No. 474,005
9 Claims. (Cl. 73—351)

A system for measuring the gas and solid temperatures in a rotary kiln. A receptacle for receiving a pyrometer is mounted on the kiln, the receptacle having a blower to keep the channel to the kiln interior free of material, and a switching arrangement is connected so as to separate signals for the gas and solid temperatures. A heat barrier protects the blower and pyrometer from excessive kiln temperatures.



3,379,063
TEMPERATURE MEASURING APPARATUS

Milton Schonberger, Washington Township, N.J., assignor to I.N.M. Industries Corporation, New York, N.Y., a corporation of Delaware
Continuation-in-part of application Ser. No. 280,344, May 14, 1963. This application Feb. 3, 1965, Ser. No. 431,771
14 Claims. (Cl. 73—362)

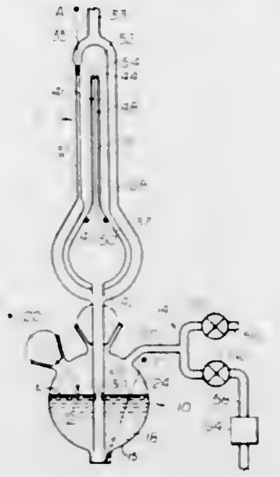


A temperature measuring system in which a non-indicating heat receptor or probe is placed in heat-absorbing relation with a body or region whose temperature is to be measured, the receptor or probe storing heat at the temperature to be measured by means of a non-conducting mass of high heat capacity or by way of the rotation of a bimetallic coil. The receptor or probe being then not connected to a temperature indicating device is subsequently brought into temperature indicating relation with such device, whereby the receptor or probe in a clinical thermometric system can be disposable.

3,379,064
AUTOMATIC RECORDING McLEOD GAUGE

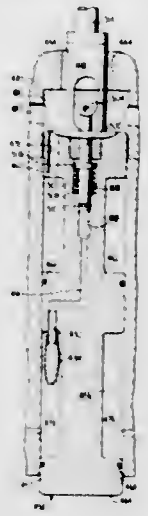
Paul A. Faeth, Cleveland, Ohio, assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Dec. 28, 1965, Ser. No. 517,156
2 Claims. (Cl. 73—400)

A McLeod gauge having three electrodes disposed at various levels therein and also including a reservoir having an air bleed and connected to a vacuum source through a solenoid valve. The three electrodes are connected to a relay having a pair of contact sets and energized from an electrical power source. A current limiting resistor is connected serially with the relay winding. One of the sets of contacts is connected to a relay in a power supply section to cause the solenoid valve to close when the contact set closes. A pair of resistance wires are disposed in the McLeod gauge and connected to a recorder through a measuring circuit.



3,379,065
PRESSURE LIQUID SAMPLING SYSTEM AND APPARATUS

Harry A. Gibbon, Tarrytown, N.Y., assignor to Research Corporation, New York, N.Y., a nonprofit corporation of New York
Continuation-in-part of application Ser. No. 496,503, Oct. 15, 1965. This application Nov. 14, 1966, Ser. No. 604,097
11 Claims. (Cl. 73—425.4)

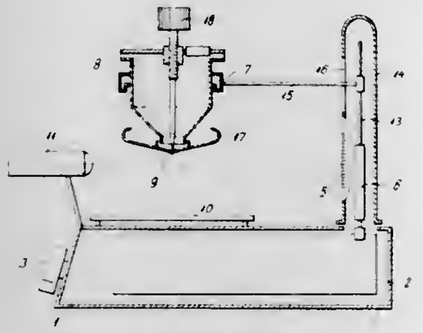


A device is provided for collecting a fluid sample from a body of fluid surrounding a selectively sealable container and withdrawing the container with the collected sample without contaminating the collected sample by fluid in an environment remote from the collection zone. Provision is also made for removing the collected sample while maintaining the sample at substantially the same pressure at which the sample existed in the collection zone.

3,379,066
GENERAL TESTING OF SPRAYABLE PAINTS AND VARNISHES, ESPECIALLY FROM THE POINT OF VIEW OF THE ELECTROSTATIC SPRAY

Jozsef Domokos, Gyorgy Benedek, Bela Kiss, and Laszlo Winkler, Budapest, Hungary, assignors to Hajtomu es Felvonogyar, a firm
Filed Aug. 6, 1965, Ser. No. 477,738
1 Claim. (Cl. 73—432)

Sprayability and other characteristics of paints and varnishes may be tested by apparatus comprising a viscosity-measuring jar having a spray head fastened to its bottom and a needle valve adjustable vertically in the orifice of the spray head. The jar is vertically adjustably mounted on and above a grounded pedestal which carries a high-voltage direct current source, by means of a vertical guiding bar which carries a choke resistance and which is covered by an insulating cap marked in scale divisions viewable by an optical device. A separate vessel for testing flash point is carried by the pedestal and has a spark-drawing conical body extending upward from its bottom.

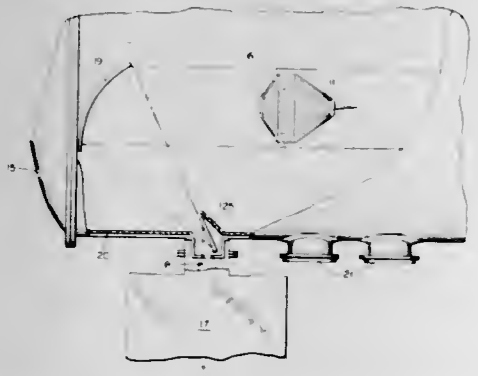


3,379,067
SATELLITE THERMAL ENERGY INPUT SIMULATOR

Donald A. Wallace, Oxnard, Lawrence R. Kelley, Inglewood, Duane L. Garber, Port Hueneme, Marion R. Bottorff, Oxnard, and Eugene F. Lovejoy, Newbury Park, Calif., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Sept. 17, 1965, Ser. No. 488,294

24 Claims. (Cl. 73—432)



The present concept is directed to apparatus for simulating the environmental conditions of a satellite in orbit. A test chamber is provided in which an object designed to represent a vehicle in space may receive (1) radiant energy representing that received directly from the sun by a satellite, (2) radiation representing solar energy reflected from a planet, and (3) further radiation corresponding to that emitted by the planet itself. The balance of these energy fluxes will determine the absolute temperature level which will exist on the vehicle. Inasmuch as the radiant efflux is a function of vehicle orientation with respect to the sun, planetary orbit characteristics, and vehicle attitude relative to the orbit axis, all of these factors are taken into account in approaching as closely as possible a duplication of the thermal balance parameters for a near-earth orbit.

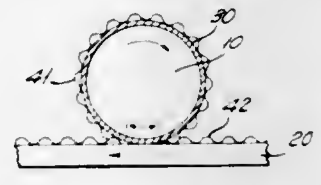
3,379,068
METHOD FOR TESTING RELATIVE SURFACE MOVEMENTS

Jürgen Albrecht and Horst Hönicke, Leipzig, and Rudolf Ruder, Karl-Marx-Stadt, Germany, assignors to Institut für Polygraphische Maschinen, Leipzig, Germany

Filed Sept. 27, 1965, Ser. No. 490,476

5 Claims. (Cl. 73—432)

A method for testing whether or not there is any relative movement between a pair of synchronously moving surfaces. In accordance with the method there is situated between and in engagement with the pair of synchronously moving surfaces a soft layer of uniform thickness which thus separates the surfaces from each other. These surfaces are then moved in synchronism repeatedly along predetermined strokes without adding to or removing from the soft layer so as to provide in this way, when relative movements occur between these surfaces, local variations in the thickness of the layer. These variations are indicative of any lack of synchronism.

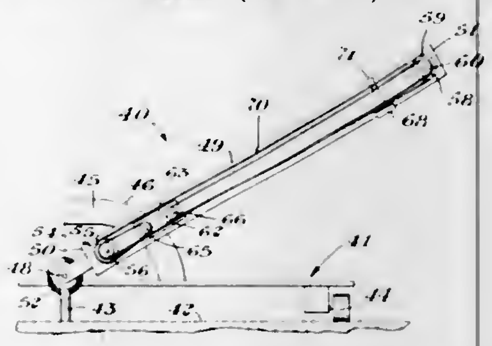


3,379,069
MECHANICAL LINKAGE

Douglas S. Chisholm, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Mar. 21, 1966, Ser. No. 535,830

5 Claims. (Cl. 74—1)



1. An apparatus particularly suited and adapted to multiply linear motion; the apparatus comprising a frame; the frame having a first and second end, a first wheel pair rotatably mounted generally adjacent the first end, a second wheel pair rotatably mounted adjacent the second end, the first and second wheel pairs comprising at least first and second wheels, the first wheels of the first and second wheel pairs being of like pitch diameter, and the second wheels having like pitch diameter; a mount slidably disposed upon the frame and adapted to slidably move between the first and second wheel pairs, the mount having affixed thereto first and second idler wheels, an endless linear motion transmitting means extending between the first wheel of the second wheel pair, from the first wheel of the first wheel pair to one of the idler wheels, about the idler wheel to the second wheel of the first wheel pair, from the second wheel of the first wheel pair to the second wheel of the second wheel air, about the remaining idler wheel to the first wheel of the second wheel pair and each of the wheels being capable of independent rotary motion.

3,379,070
CONTROL APPARATUS

Leo Spiegel, Clearwater, Fla., assignor to Honeywell Inc., a corporation of Delaware

Filed June 26, 1963, Ser. No. 290,664

8 Claims. (Cl. 74—5)

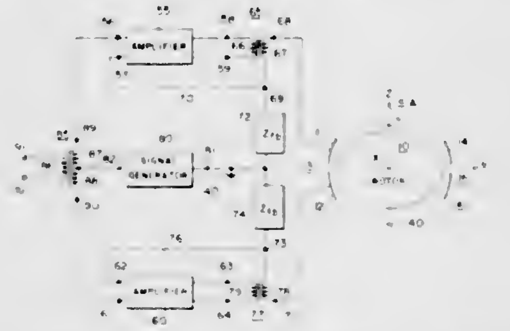
1. An inertial instrument comprising:

a housing having an insulative menas defining a generally hollow spherically shaped cavity;

an electrically conductive, substantially spherically shaped oblate member having upper and lower hemispheres positioned within said cavity, said member having an axis of universal symmetry, passing centrally through said two hemispheres;

supporting means provided within said cavity to support said member free of physical contact with said envelope for relative motion with said housing;

two electrically isolated electrodes mounted on said insulating means of said housing at substantially diametrically opposite locations and adjacent to said member, one of said electrodes being positioned adjacent said upper hemisphere and the other of said electrodes being positioned adjacent said lower hemisphere; and



means connected to said electrodes for establishing and controlling electric forces between said electrodes and said member for the purpose of applying torques to said member about an axis perpendicular to said axis of universal symmetry.

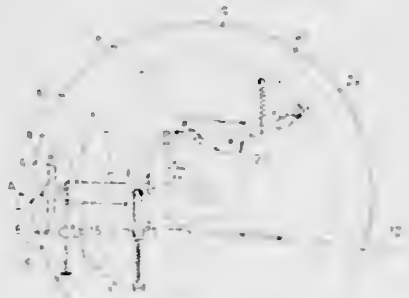
3,379,071
MECHANISM FOR VARYING THE SPEED OF THE TURNTABLE OF A RECORD PLAYER

Jozef Antoon Grosemans, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 1, 1965, Ser. No. 492,184

Claims priority, application Netherlands, Oct. 24, 1964, 64—12,421

3 Claims. (Cl. 74—194)



A compact speed changer mechanism for record players which will operate by linear movement of an actuator. A lever is mounted on the record player frame, an idler wheel is mounted on the lever and engages a stepped driving shaft and the turntable. The actuator engages the lever and a saw-toothed aperture in the frame. Movement of the actuator moves the idler wheel axially along the stepped shaft and also pivots the idler wheel out of contact with the shaft during movement between steps.

3,379,072
CHAIN LINK AND CHAIN INCLUDING SAID LINK

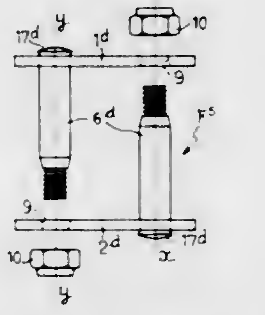
Paul Kuntzmann, Villejuif, France, assignor to Compagnie des Transmissions Mecaniques Seine-Doubs-Isere, Levallois-Perret, Seine, France, a French body corporate

Filed Oct. 23, 1965, Ser. No. 503,951

Claims priority, application France, Jan. 29, 1965, 3,664

9 Claims. (Cl. 74—251)

A link for a transmission chain comprising two link plates each having two apertures therein, and two elements disposed in said apertures, disposed perpendicular to the plates and interconnecting the plates, at least one of said elements being a pin having adjacent an end portion thereof, a conical portion which is convergent outwardly of the link towards said end portion of the pin and engaged in one of said apertures which has a conical shape, the same apex angle and the same diameter as said conical portion, and axial clamping means axially fixed to said end portion of said pin and engaged against the side of the corresponding plate having said conical aperture opposed to said conical portion of the pin and tightly applying the conical portion in said conical aperture.

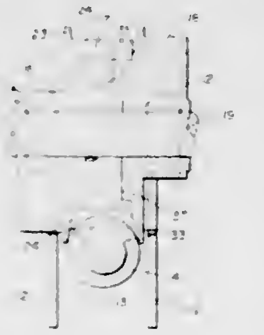


3,379,073
WELDED GEAR AND CAM ASSEMBLY FOR POWER OPERATED KNIVES AND OTHER TOOLS

Harvey Korshak, Skokie, Ill., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut

Filed Mar. 10, 1966, Ser. No. 533,355

6 Claims. (Cl. 74—434)



1. A welded gear and cam assembly for power operated knives and other tools comprising

(a) an integrally formed gear and cam, the cam being eccentrically located on one side of the gear,

  (a-1) the gear having a shallow recess in its free side and a cavity communicating with the recess,

(b) a separately formed cam having a protruding thickened area on one of its sides for seating in the recess in the gear and a projection extending outwardly from the thickened area complemental to the cavity in the gear, and

(c) welding connecting the proximate sides of the gear and separately formed cam after the thickened area and projection on the separately formed cam have been inserted into the recess and cavity on the free side of the gear whereby the integrally formed gear and the separately formed cam become a unitary structure.

3,379,074
LEVER OPERATED ACTUATOR MEANS

Charles M. Hirst, Jr., Moberly, Mo., assignor to Orscheln Brake Lever Mfg. Company, Moberly, Mo., a corporation of Missouri

Filed May 3, 1966, Ser. No. 547,272

3 Claims. (Cl. 74—470)

1. Operating means for displacing a first load-bearing member generally longitudinally of a second member, comprising

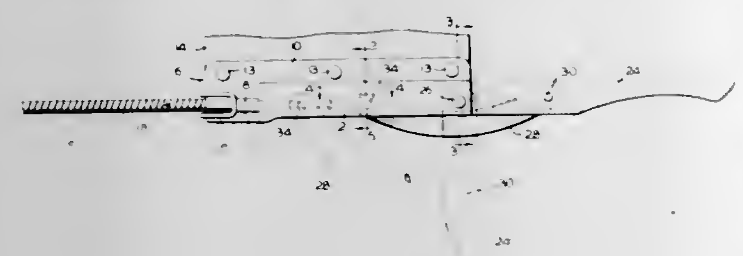
a lever;

means including a first pivot pin pivotally connecting one end of said lever with said second member;

a rigid metal resilient link having a normal first configuration and being adapted for elongation under tensile stress said link having a substantially linear load-elongation curve;

means including a second pivot pin pivotally connecting one end of said link with a portion of said lever intermediate the ends thereof; and

means including a third pivot pin pivotally connecting the other end of said link with said first member, the axes of said first, second and third pivot pins being parallel;

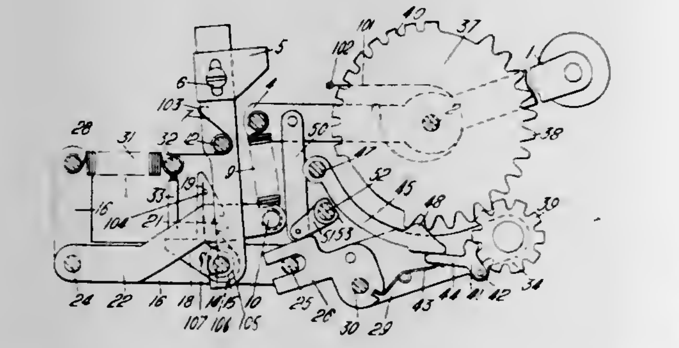


said lever being pivotable form an unlocked position in which the lever is angularly arranged relative to said second member and said first pivot pin is on one side of the plane containing said second and third pivot pins toward an overcenter locked position in which the lever is generally colinearly arranged relative to said second member and said first pivot pin is on the other side of the plane containing said second and third pivot pins, said first member being displaced in the direction of said first pivot pin when the lever is pivoted from the unlocked to the locked position;

said link being elongated to increase the distance between the second and third pivot pins as a direct function of the load on said first member when said lever is pivoted from the unlocked to the locked position.

3,379,075
PAWL MECHANISMS

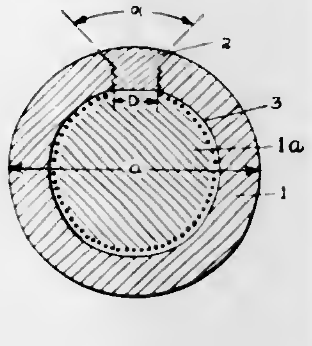
Herbert George Harrison, Enfield, England, assignor to English Numbering Machines Limited, Enfield, England, a British company
Filed Sept. 29, 1965, Ser. No. 491,113
Claims priority, application Great Britain, Nov. 25, 1964, 47,833/64
4 Claims. (Cl. 74—527)



The invention relates to a pawl mechanism having two pawls for locking respectively two toothed wheels which normally mesh with each other. One of the pawls normally bears against the other to lift the other completely out of engagement with its toothed wheel while said one pawl ratchets over its toothed wheel on rotation of the same. The toothed wheels are releasable of each other while each is engaged by its pawl for ensuring re-engagement of the toothed wheels without accidental rotation of the toothed wheels about their respective axis.

3,379,076
APPARATUS FOR FORMING HOLLOWS IN SPHERICAL FUEL ELEMENTS

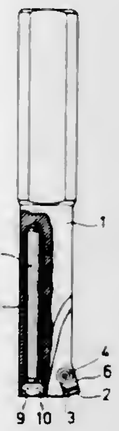
Lothar Rachor, Kleinauheim (Main), Germany, assignor to Nukem Nuklear-Chemie und -Metallurgie Gesellschaft m.b.H., Wolfgang, near Hanau (Main), Germany
Original application Sept. 4, 1964, Ser. No. 394,404, now Patent No. 3,284,314. Divided and this application Jan. 26, 1966, Ser. No. 523,172
Claims priority, application Germany, Sept. 13, 1963, N 23,747
3 Claims. (Cl. 77—3)



A device for forming spherical hollows in nuclear fuel elements consists of a part mounted for movement in two straight-line guides at angles to each other and a chisel with a curved edge is mounted by one end on said member to move in an arc such that it cuts a spherical hole in the sphere as the sphere is rotated about its axis.

3,379,077
RADIAL ADJUSTMENT MEANS FOR CUTTING TOOLS

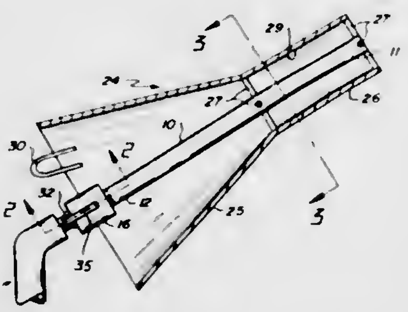
Manfred Wallace Gustafson, Fagersta, Sweden, assignor to Fagersta Bruks Aktiebolag, Fagersta, Sweden, a joint-stock company of Sweden
Filed Mar. 8, 1967, Ser. No. 621,676
Claims priority, application Sweden, Mar. 10, 1966, 3,173/66
5 Claims. (Cl. 77—58)



A means for making fine radial adjustments of an internal cutting or boring tool in which the tool holder has a longitudinally extending bore adjacent the cutting tool end and offset from its center diametrically opposite the cutting tool. A rod of somewhat smaller diameter than the bore and with rounded ends is retained in the bore. An adjusting screw closes the bore at the cutting tool end and bears against the corresponding rounded end of the rod. Tightening of the screw causes slight bending of the rod and the tool holder to effect a fine adjustment of the radial position of the cutting tool.

3,379,078
SOCKET WRENCH FOR SPRINKLER NOZZLES

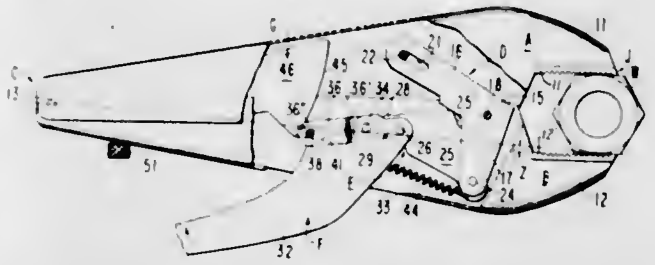
William J. Sallows, Upper Bench Road, R.R. 1, Keremeos, British Columbia, Canada
Filed July 28, 1966, Ser. No. 568,478
Claims priority, application Canada, May 12, 1966, 960,184
4 Claims. (Cl. 81—125)



A socket wrench for sprinkler nozzles for removing a nozzle of a sprinkling system without shutting off the water supply. A socket wrench to engage the nozzle and unscrew it, an inner water passage including the socket and a tube to take discharge from the nozzle, and an inverted funnel guard to shield a person removing and replacing the nozzle.

3,379,079
CLAMPING AND LOCKING APPARATUS

James W. Cutter, 276 Galli Drive, Los Altos, Calif. 94022
Filed Feb. 16, 1966, Ser. No. 527,697
9 Claims. (Cl. 81—367)

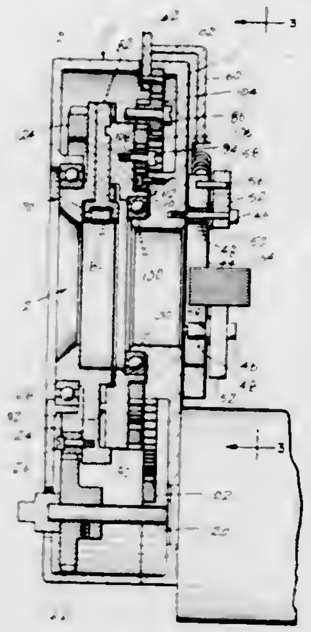


5. A clamping apparatus comprising, in combination: first and second actuating arms; means connecting said arms together for rotating one end of each of said arms in directions toward and away from each other; work engaging means secured on the other end of each of said arms; means mounted intermediate the ends of said arms for locking said arms relative to each other, said locking means including a toggle joint movable from an unlocked position to a locked position for forcing said arms toward one another, said arms being retained proximate each other when the toggle joint is in the locked position, said locking means also including means for automatically maintaining a substantially constant spacing between the ends of the toggle joint at the beginning of movement thereof into the locking position irrespective of the size of the work between the work engaging means.

3,379,080
CUTTING DEVICE FOR PIPES AND THE LIKE

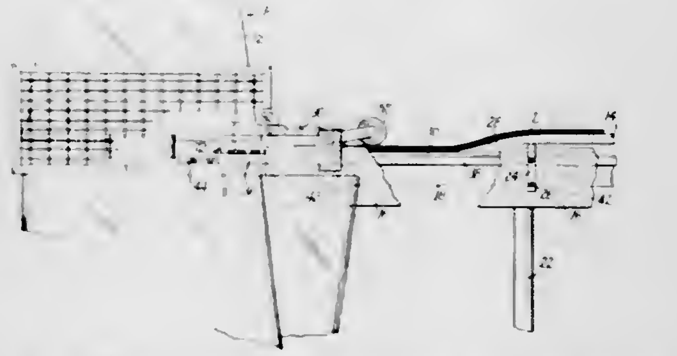
Anthony G. Massa, 23 Preston St., Hartford, Conn. 06114
Filed Dec. 13, 1965, Ser. No. 513,325
8 Claims. (Cl. 82—61)

There is disclosed a power-operated cutting device for pipes and the like adapted to cut and sever pipes of various sizes and diameters utilizing clamping means and a cutting head which is rotatably mounted in the housing. A cutter and a plurality of centering members are adapted to be moved radially inwardly and outwardly of the pipe-receiving aperture, and camming means are engaged with the cutter and centering means for movement thereof relative to the cutting head while the cutting head is rotating. Manually operable means move such means simultaneously into cutting and clamping engagement with the pipe received in the device so that the operator is able to clamp and cut the pipe with one movement.



3,379,081
CUTTING APPARATUS WITH WORK FEED

Alan Firth and Lawrence Mawbey, Leicester, England, assignors to United Shoe Machinery Corporation, Flemington, N.J., and Boston, Mass., a corporation of New Jersey
Filed May 19, 1966, Ser. No. 551,427
Claims priority, application Great Britain, May 29, 1965, 22,928/65
3 Claims. (Cl. 83—422)



1. In cutting apparatus comprising a press having a cutting bed and a beam arranged for relative movement for pressing cutting dies through workpieces, in combination therewith:

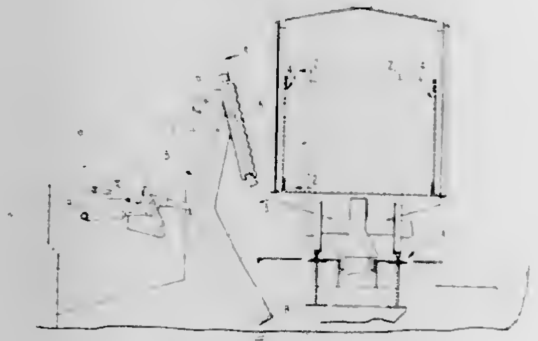
a work support providing a laying up table for forming a lay comprising a plurality of plies of material, said support having an edge spaced horizontally from said cutting bed,

a conveyor comprising a conveyor member mounted for movement underneath the work support past said edge and toward said bed for carrying a cutting die in edge-up orientation with said lay superimposed thereon into said press,

a roller extending transversely across said conveyor between said edge of the work support and the cutting bed, said roller being mounted for vertical bodily movement to engage the upper surface of a lay superimposed on a cutting die disposed on said conveyor,

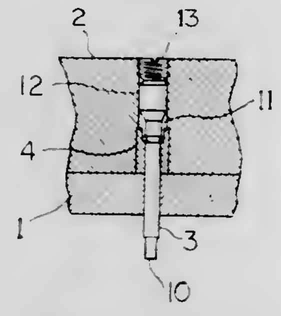
and means for rotating said roller during such engagement at a peripheral speed equal to the linear speed of the lay on the conveying member for assisting in feeding said lay.

3,379,082
BOXCAR INNER DOOR OPENER
Willard E. Erickson, Chicago, Ill., assignor to Link-Belt Company, a corporation of Illinois
Filed Jan. 10, 1966, Ser. No. 519,501
5 Claims. (Cl. 83—564)



A boxcar inner door opener for removing inner doors constructed of either wood or paper reinforced by a series of metal straps, the opener employing a retractable cutter bar mounted on one end of the inner door engaging portion of the opener and moveable between an operative cutting position for removing a paper door to an inoperative position permitting the opener to remove a wooden door without any interference from the cutter bar.

3,379,083
MACHINEABLE HEADED PUNCH
Alfred Norman Burns, Cheswick, and John Calisto Vecchi, Natrona Heights, Pa., assignors to Oberg Manufacturing Co., Inc., Freeport, Pa., a corporation of Pennsylvania
Filed Nov. 19, 1965, Ser. No. 508,721
2 Claims. (Cl. 83—686)



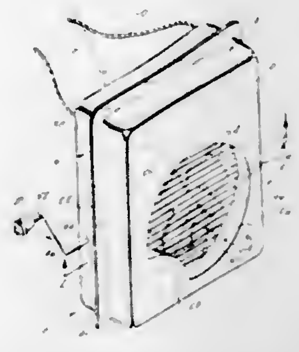
This application discloses improvements in machineable heads for piercing punches, and the present invention is a modification of the piercing punches disclosed in Patent 3,149,524 granted Sept. 22, 1964.

3,379,084
VISUAL EFFECT MEANS FOR MUSIC BOX TOY
John W. Ryan, Bel-Air, and Jacob De Gelder, Torrance, Calif., assignors to Mattel, Inc., Hawthorne, Calif., a corporation of California
Filed Jan. 3, 1966, Ser. No. 518,321
11 Claims. (Cl. 84—97)

1. In combination with a music box of the type having music means including a movable means adapted to be moved when said music means is actuated, visual effect means, comprising:

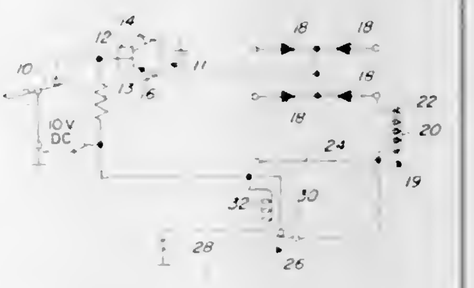
visual display means mounted on said movable means for movement therewith; and

viewing means mounted in said music box for exposing said display means to the view of a user of said music



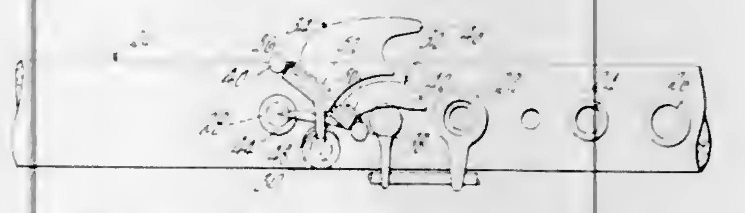
box, said viewing means changing the appearance of said visual display means during movement thereof by said movable means.

3,379,085
OPERATIONAL CIRCUITRY FOR PIPE ORGANS
Howard A. Burton, 3045 3rd Ave., Marion, Iowa 52302
Filed Aug. 18, 1965, Ser. No. 480,699
9 Claims. (Cl. 84—337)



A solid state electronic circuit for use in the key and stop action circuits of pipe organs to control the valves operating the organ pipes.

3,379,086
KEY MECHANISM FOR CLARINET
Rosario Mazzeo, ℅ Symphony Hall, Boston, Mass.
Filed Oct. 19, 1965, Ser. No. 498,065
8 Claims. (Cl. 84—382)



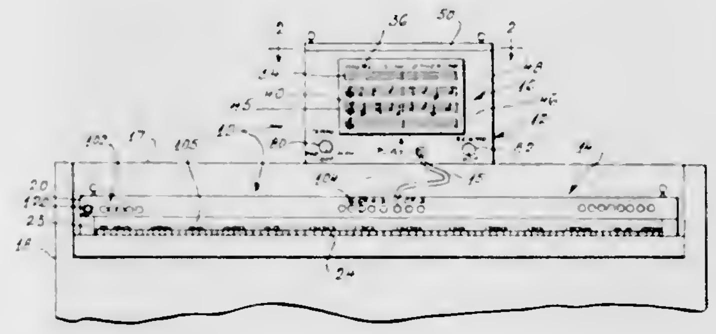
Upper joint key mechanism for a clarinet including first, second and third finger closing tone holes left hand, an A tone hole, an A♭ tone hole, a thumb tone hole and a register tone hole, A and A♭ keys axle supporting means for each of said A and A♭ keys running in the same direction providing a pivotal support for said A key closely adjacent said clarinet and a pivotal support for said A♭ key substantially raised from and at the left hand side of the clarinet.

In one form of the invention there is an A and A♭ key supporting axle extending from between the A♭ tone hole and first finger closing tone hole left hand diagonally and outwardly toward the upper end of the clarinet substantially parallel to the line of said A and A♭ tone holes. The A♭ key lever mounted on the upper and outer portion of said axle crosses over the longitudinally extending A key lever.

In a second form of the invention a separate A key supporting axle is provided parallel to and overlying the A♭ key supporting axle, both extending longitudinally of the clarinet interposed circumferentially between the line of the finger tone holes and a leftwardly off-set A tone hole. Contact elements on the respective A and A♭ keys engage when the A key is pressed to raise the A♭ key.

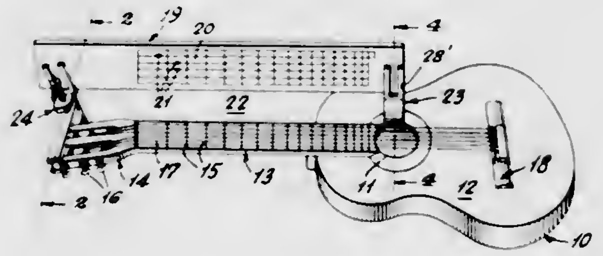
The thumb tone hole covering key of the clarinet is provided with a thumb engaging plaque built up to provide a thumb engaging surface a substantial distance above the surface of the clarinet, contoured to the shape of the thumb tip, being sloped inwardly toward the upper end of the clarinet, to substantially the level of the register key plaque engaging surface when pressed, thereby forming a substantial continuation of the thumb engaging surface of the register key plaque.

3,379,087
ELECTRICALLY OPERATED MUSIC DISPLAY AND CUING APPARATUS
Dorothea M. Weitzner, 8 E. 62nd St., New York, N.Y. 10021
Filed June 16, 1965, Ser. No. 464,457
5 Claims. (Cl. 84—478)



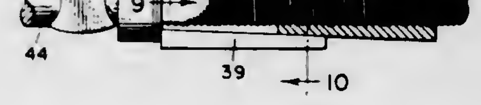
A music display and cuing apparatus is described. A web carrying conventional musical notation on one side has electrically conductive coded marks on the other side. The web is displayed at a musical instrument. An associated cuing device has lamps disposed adjacent keys to light up when decoding elements contact the coded marks. Circuitry in the display apparatus and cuing device make it possible to cue transposed keys automatically, to advance the web rapidly to any desired point, and to reverse the web at will.

3,379,088
VISUAL NOTE INDICATOR FOR STRINGED INSTRUMENTS
Ripley Dau Fox, Pasadena, Calif. (Le Presbytere 30, Aumessas, France)
Filed Aug. 19, 1965, Ser. No. 480,880
15 Claims. (Cl. 84—485)



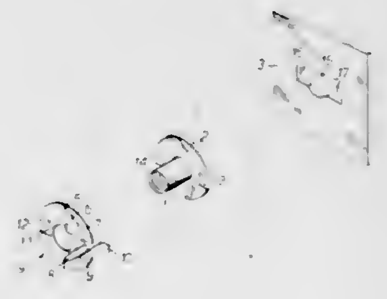
1. A visual note indicator for a stringed instrument having a body, a sound hole in the upper surface of said body, a neck projecting from said body and terminating in a head disposed at an angle to said neck, spaced parallel frets on said neck providing a keyboard, tuning keys on said head, and strings extending from said keys over said neck and sound hole to anchoring means on said body, said indicator comprising an elongated panel, a diagram on one face of said panel simulating the frets and strings of said instrument, indicia on said panel indicating finger positions for producing certain chords or notes, and means for mounting said panel on said instrument in spaced parallel relation to said neck to permit insertion and movement of the players' hand between said panel and said neck, the surface of said panel bearing said diagram extending upwardly at an angle to the upper surface of said neck and facing the player, said mounting means including a supporting member engaging said panel at one end and engaging the body of said instrument at said sound hole, and a securing member engaging said panel at the opposite end and including means to removably fix said securing member to the head of said instrument.

3,379,089
LIMITED EXPANSION ROCK BOLT ANCHOR
Chester I. Williams, 347 Greenbriar SE., Grand Rapids, Mich. 49506
Filed Apr. 4, 1966, Ser. No. 539,857
2 Claims. (Cl. 85—73)



A rock anchor with a cone expander surrounded by an expansible shell, in which relative axial movement between the expander and the shell is limited by interengageable abutments on the expander and shell.

3,379,090
CLIP FOR SECURING AN ARTICLE TO AN APERTURED SUPPORT
Leslie Parkin, Bobbers Hill, England, assignor to United-Carr Incorporated, Boston, Mass., a corporation of Delaware
Filed Feb. 23, 1966, Ser. No. 529,396
Claims priority, application Great Britain, Mar. 22, 1965, 12,087/65
3 Claims. (Cl. 85—80)



A nut assembly comprising a nut having a tubular barrel with a flange at one end and a retaining device having an apertured base portion with arms extending therefrom. The barrel of the nut is received through the apertured base and lug portions at the free ends of the arms engage the workpiece to maintain assembly.

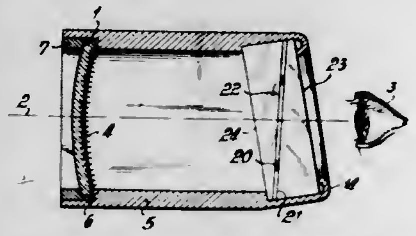
3,379,091
METHOD OF MAKING SOFTENED FABRICS

Leonard D. Kurtz, Woodmere, N.Y., assignor to Sutures, Inc., Coventry, Conn., a corporation of New York
No Drawing. Continuation-in-part of applications Ser. No. 220,085, Aug. 28, 1962, Ser. No. 230,284, Oct. 12, 1962, Ser. No. 312,328, Sept. 30, 1963, and Ser. No. 323,891, Nov. 15, 1963. This application May 8, 1964, Ser. No. 366,187
5 Claims. (Cl. 87—1)

3. A method of fabricating a pliable braided polyester thread comprising the steps of providing a drafted polyester filament, hot-stretching said drafted filament at a temperature in the range of from glass transition temperature thereof to the softening point thereof to elongate the filament in the range of from a minimum of 20%, based on its pre-stretched length, to just below the breaking point, and subsequently braiding a plurality of hot-stretched filaments into a braided thread.

3,379,092
ALBADA TYPE VIEWFINDER WITH REDUCTION OF INTERFERENCE DUE TO REFLECTED LIGHT RAYS

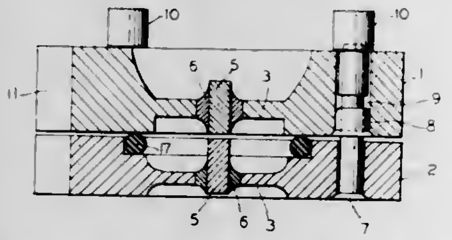
Friedrich Papke, Braunschweig, Germany, assignor to Voigtlander, A.G., Braunschweig, Germany, a corporation of Germany
Filed July 5, 1963, Ser. No. 293,052
Claims priority, application Germany, July 7, 1962, V 22,757
3 Claims. (Cl. 88—1.5)



An Albada type viewfinder having a front lens which is transparent and provided with a concave inner face. A partially light permeable concave mirror is situated on the concave inner face of the front lens. A reflecting picture limiting frame is positioned substantially in the focal plane of the mirror to be imaged thereby substantially at infinity in the eye of an observer. A laterally opaque housing mounts the front lens and the frame with an air gap therebetween. A substantially flat plate component of transparent material closes the eye end of the housing. This latter component is mounted, by a suitable mounting structure, in a position inclined with respect to a plane which is perpendicular to the optical axis of the viewfinder, at an acute angle which will reflect light rays from the surface of the flat component out of the path of light rays reaching the eye of an observer through the viewfinder.

3,379,093
RADIATION SAMPLE CELLS

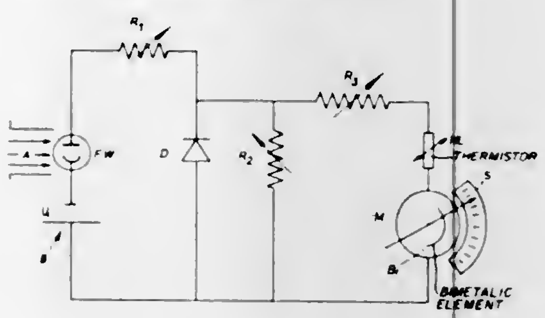
Jesse S. Ard, Glenside, Pa., assignor to the United States of America as represented by the Secretary of Agriculture
Filed June 10, 1964, Ser. No. 374,216
2 Claims. (Cl. 88—14)



Radiation sample cells in which a layer of silver is deposited on a non-metallic window and then bonded to a supporting element with low melting solder. The cells do not have to be dismantled to align, grind, or polish the windows; these operations can be performed by warming the soldered bond until it is pliable and making the necessary adjustments.

3,379,094
LIGHT METER

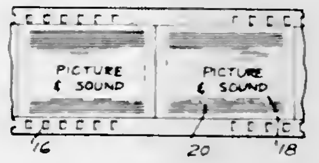
Wilhelm Bertram, 125 Planegger Strasse, Munich-Pasing, Germany
Filed May 25, 1964, Ser. No. 369,723
4 Claims. (Cl. 88—23)



A light meter device having a battery circuit containing a photo-conductive cell therein. The battery circuit is connected to a network which includes a plurality of parallel branches, one of said branches containing a meter and a resistance connected in series therein. Another of the parallel braches contains a nonlinear resistance element therein for partially equalizing the nonlinearity of the photoconductive cell. The resistance connected in series with the meter constitutes a thermistor to compensate for the temperature dependency of the nonlinear resistance element. The meter is also provided with a bimetallic biasing means for causing a zero-point shift of the meter at low light intensities.

3,379,095
METHOD OF AND MEANS FOR RECORDING AND REPRODUCING SOUND

Edward K. Kaprelian, Rte. 3, Box 14, Joppa, Md. 21085
Filed Dec. 17, 1963, Ser. No. 331,183
29 Claims. (Cl. 88—28)

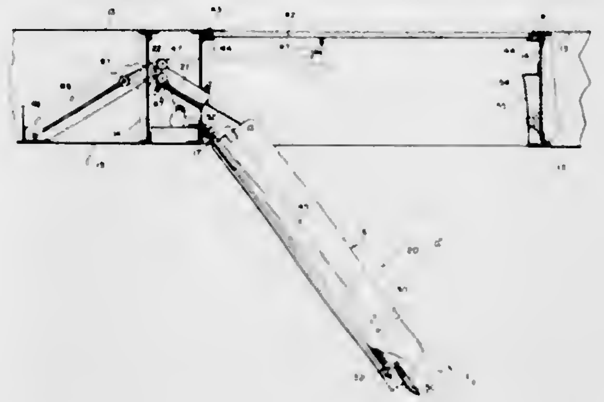


1. In a combined picture and sound track, a picture portion which is transparent to non-visible radiation and a superposed sound track portion which is transparent to visible radiation.

3,379,096
STORES MOUNTING AND EJECTING MECHANISM FOR AIRCRAFT

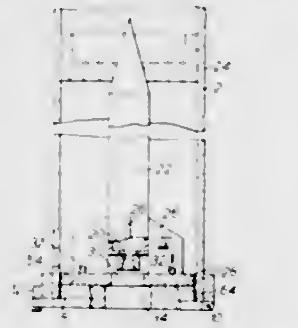
Hugh I. Gillham, Marietta, and Frederick J. Kuhlman and Oliver F. Snow, Atlanta, Ga., assignors to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Sept. 20, 1965, Ser. No. 488,558
2 Claims. (Cl. 89—1.5)

A launcher is provided that automatically cocks and automatically fires flares or other ejectable stores such as bombs, etc. from aircraft. This launcher is retractable into and extendable from an airplane and insures: (a) accommodation in the airplane of multiple flares or stores of various sizes; (b) automatic flare release at the end of the extension cycle; (c) flush airplane contour in retracted position; (d) automatic cocking of the movable mechanism during loading; (e) sealing of the internal airplane pressure at all times; and (f) re-loading of flares or stores during aircraft flight.



3,379,097
ROCKET LAUNCHING

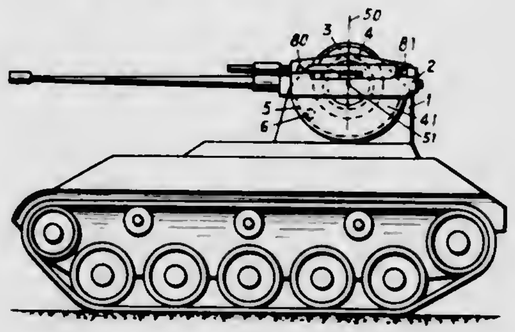
William Thoby Fisher, Somerset, England, assignor to Bristol Aerojet Limited, Somerset, England, a company of Great Britain
Continuation-in-part of application Ser. No. 348,637, Mar. 2, 1964. This application Jan. 17, 1966, Ser. No. 521,095
Claims priority, application Great Britain, Mar. 18, 1963, 6,464/63
4 Claims. (Cl. 89—1.816)



A rocket launcher comprising a tube containing a rocket and a separate apertured piston member behind the rocket, the tube having an annular flange wall at its rear end bounding an aperture through which propulsion gases from the rocket pass straight through to uncontained atmosphere.

3,379,098
MOUNTING DEVICE FOR AUTOMATIC GUNS

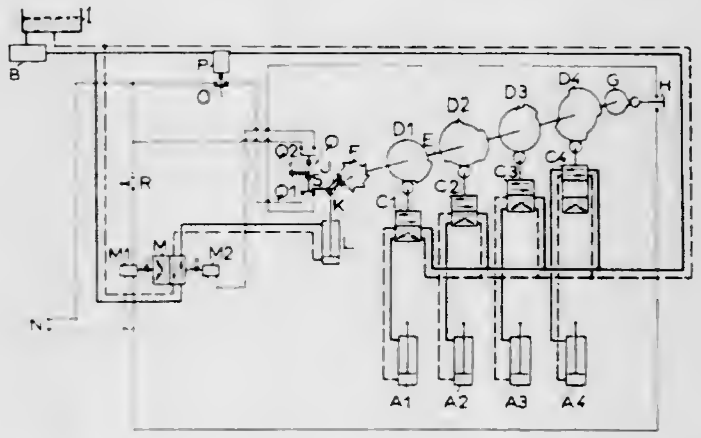
Louis Zurbuchen, Zurich, Switzerland, assignor to Oerlikon Buhrle Holding Ltd., Zurich, Switzerland
Filed July 29, 1966, Ser. No. 568,853
Claims priority, application Switzerland, Aug. 5, 1965, 11,032/65
9 Claims. (Cl. 89—40)



A mounting devince for an automatic gun having a portion free to recoil to a limited extent with respect to the mounting comprising two sliders arranged one behind the other and parallel to the gun axis along which the recoiling portion slides. Two pivots fixed on the same side of the mounting each carry one of the sliders. The recuperator and non-recoiling portions of the gun are also carried by the sliders.

3,379,099
INSTALLATION FOR THE AUTOMATIC CONTROL OF HYDRAULIC JACKS OR LIKE DEVICES

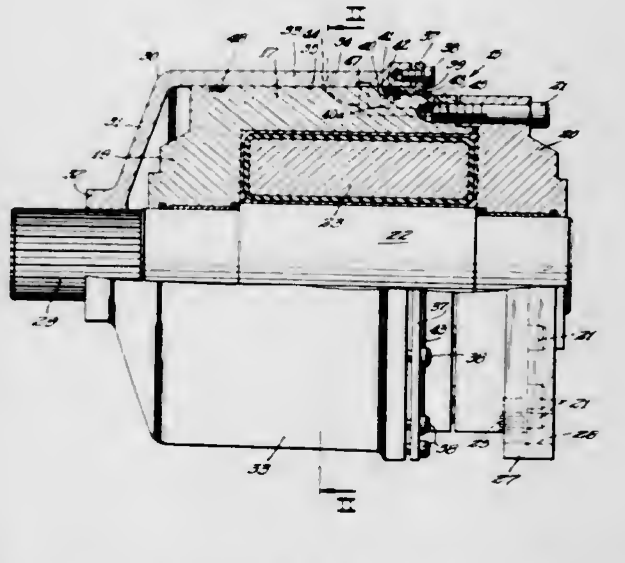
Jean Missioux, Sannois, France, assignor to Botalam, Paris, France, a corporation of France
Filed Jan. 18, 1966, Ser. No. 521,335
Claims priority, application France, Oct. 22, 1965, 35,889
12 Claims. (Cl. 91—412)



A system for automatically controlling the flow of pressure fluid to one or a plurality of hydraulic jacks from a common source, wherein the pressure fluid can be selectively fed to the hydraulic jacks. A programmed selector device, which controls the distribution system, as in turn controlled by a flow detector which is positioned in the pipe conveying pressure fluid to the distribution system.

3,379,100
HYDRAULIC ROTARY ACTUATOR WITH FAIL-SAFE LOCKING MEANS

Rollin Douglas Rumsey and John M. Perhach, Buffalo, N.Y., assignors to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan
Filed July 7, 1965, Ser. No. 470,174
13 Claims. (Cl. 92—27)



Several forms of fail-safe locks are provided for rotary hydraulic actuators and comprise opposed normally frictionally lockingly engaged braking surfaces respectively corotatively connected with relatively rotatable members of the actuators. Hydraulic fluid is employed as needed to release the braking surfaces.

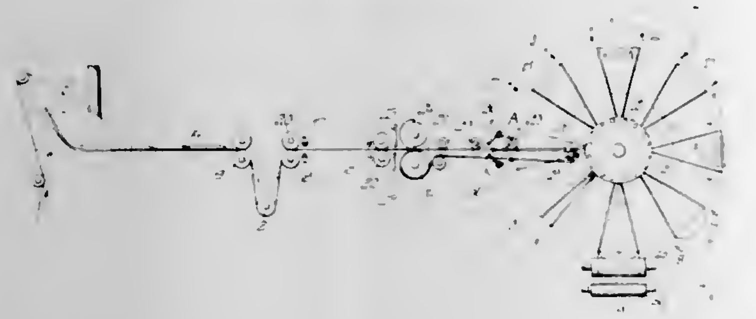
3,379,101

METHOD AND APPARATUS FOR MAKING BAGS

Thomas E. Piazze, Mount Vernon, Ohio, assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Mar. 4, 1966, Ser. No. 531,903

11 Claims. (Cl. 93—8)



1. A method of fabricating bags which comprises transversely sealing at predetermined intervals a flattened tube of flexible bag forming material, severing the tube adjacent the successive transverse seals to divide the tube into bag forming sections of uniform length, telescoping the open end of each bag section over a collapsed plate mandrel, opening up the mandrel so as to cause the end with the transverse seal to open out into a transverse plane with triangular end portions extending in said plane and outwardly of oppositely disposed side wall sections which are generally triangular and in planes converging in the direction of the open end of the bag section, sealing across the inside edges of the triangular end portions resulting in the formation of a diamond-shaped end wall with triangular shaped waste portions outside the sealed edges, collapsing the mandrel and flattening the completed bag for removal from the mandrel.

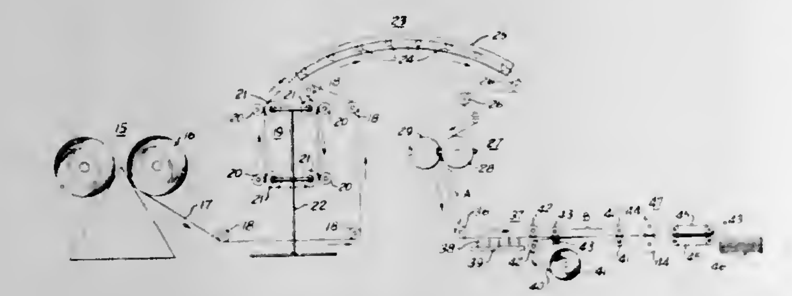
3,379,102

CONTAINER AND METHOD OF PRODUCING SAME

Albert L. James, Anoka, Minn., and William C. Heller, Jr., 3521 N. Shepard Ave., Milwaukee, Wis. 53211; said James assignor to said Heller

Filed Oct. 7, 1965, Ser. No. 493,680

16 Claims. (Cl. 93—36)



Production of paperboard containers having window openings in the base sheet entirely covered by a strip of transparent thermoplastic material adhered to the base sheet throughout the entire area of the strip.

3,379,103

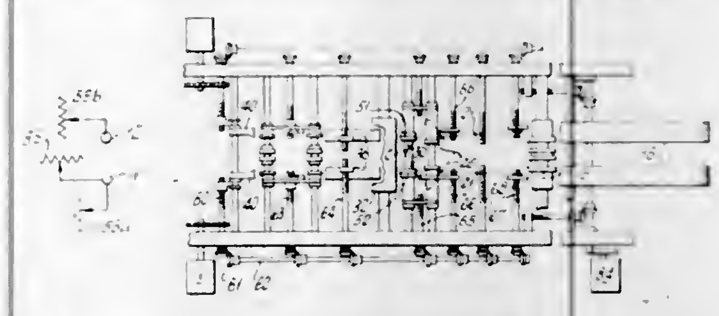
DEVICE FOR ADJUSTING ENVELOPE-MAKING MACHINE

Ernest H. Treff, Port Washington, N.Y., assignor to F. L. Smithe Machine Company, Inc., New York, N.Y., a corporation of New York

Filed Mar. 15, 1965, Ser. No. 439,775

21 Claims. (Cl. 93—62)

In an envelope-making machine, means are provided for monitoring the movement of blanks therethrough and means are provided for automatically adjusting the position of the mechanisms for creasing, gumming and folding different sizes of envelope blanks. The adjusting means



are responsive to electrical signals generated by the monitoring means.

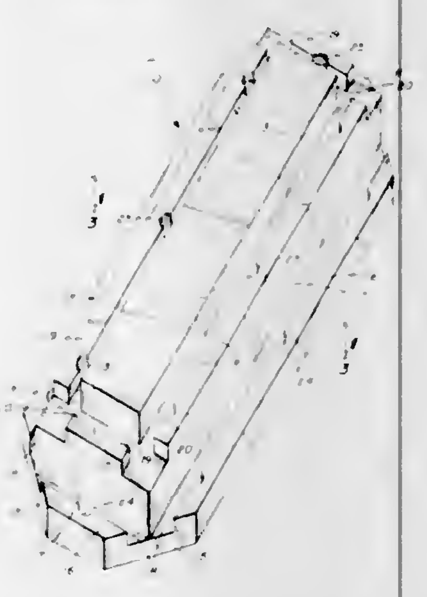
3,379,104

CONNECTION MEANS FOR LANDING MAT SECTIONS

James E. Scholl, Fairfax, Va., assignor to the United States of America as represented by the Secretary of the Navy

Filed Mar. 15, 1966, Ser. No. 536,214

4 Claims. (Cl. 94—13)



A landing mat formed of interlocking sections, each section being formed with one substantially flat smooth surface, its opposite surface having an inner flat, smooth rectangular area, a peripheral rib spaced from the inner area by a peripheral groove, the rib being of lesser thickness than the inner area and a second peripheral rib spaced from the first rib by a second peripheral groove, the second rib being of least thickness, the sections being used with ribs interlocking with grooves of adjacent sections to leave the flat smooth surface and the inner smooth area exposed.

3,379,105

PERMANENT CURB FORM STRUCTURE HAVING TONGUE AND GROOVE JOINT MEANS

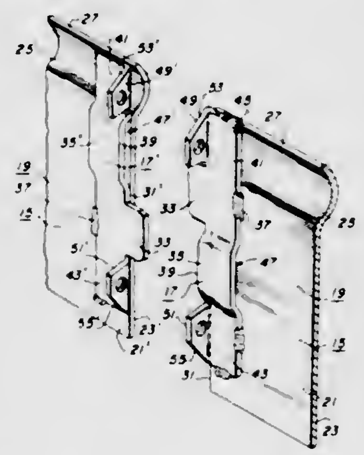
Hugh C. Lynch, 5569 Lyford Ave., Memphis, Tenn. 38117

Filed July 29, 1966, Ser. No. 568,889

3 Claims. (Cl. 94—31)

1. A permanent form structure for forming and permanently facing the curb or border of concrete walks, roads, automobile service station islands and the like comprising: a first curb form section including a horizontal longitudinally uniform sheet metal rail member including a flat body portion having planar inward and outward side surfaces, and including a longitudinal concavoconvex rib portion offset outwardly relative to said outward side surface and terminating in a longitudinal edge surface, and including an end portion having an inward side surface terminating in an end edge surface extending generally

perpendicular to said longitudinal edge surface, a first elongated vertical joint member fixedly secured in confronting engagement along the inward side surface of said first rail member end portion and spanning the concave side surface of said rib portion, said first joint member including a tongue element and a groove element vertically spaced apart, said tongue element being flat and substantially of uniform thickness and extending beyond the end edge surface of said first rail member in parallel relationship therewith, said groove element being substantially spaced from the inward side surface of said first rail member end portion and defining a grooved opening therebetween; a second curb form section including a longitudinally uniform sheet metal rail member of the same cross sectional size and configuration as the rail member of said first curb form section and including a flat body portion having planar inward and outward side surfaces, and including a longitudinal concavoconvex rib portion offset outwardly relative to said outward side surface and terminating in a longitudinal edge surface, and including an end portion having an inward side surface terminating in an end edge surface extending generally perpendicular to said longitudinal



edge surface, a second elongated vertical joint member fixedly secured in confronting engagement along the inward side surface of said second rail member end portion and spanning the concave side surface of said second rail member end portion, said second joint member including a tongue element and a groove element vertically spaced apart, said tongue element being flat and substantially of uniform thickness and extending beyond the end edge surface of said second rail member in parallel relationship therewith, said groove element being substantially spaced from the inward side surface of said second rail member end portion and defining a groove opening therebetween, the attachment respectively of the joint members on the end portions of the rail members being such that with the end edge surfaces of said first and second rail members abuttingly engaged and with the rail members in corresponding longitudinal alignment, the tongue and groove elements of said first and second rail members are coactingly engaged with the tongue element of one joint member being engaged with the groove element of the other joint member; and coupling means for releasably coupling said first and said second joint members together in said coactingly engaged configuration.

3,379,106

XEROGRAPHIC REPRODUCTION APPARATUS

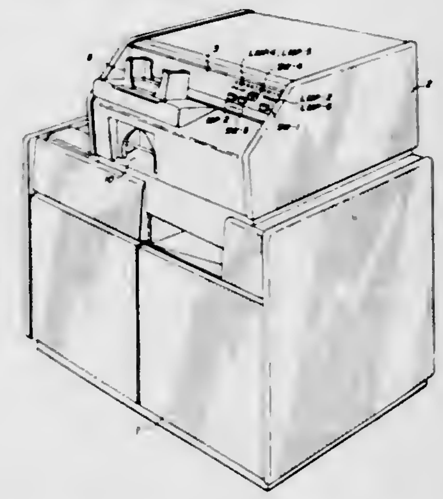
Ellsworth D. Hewes, Rochester, and Raymond C. Zoppoth, Pittsford, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Dec. 31, 1964, Ser. No. 422,804

2 Claims. (Cl. 95—1.7)

1. In an automatic xerographic apparatus of the type wherein a moving photoconductive surface is uniformly charged, then exposed to a light image of a microdata card which is being moved in timed relation with the moving surface passed a scanning apparatus having a fixed optical axis to form a latent electrostatic image on the surface, the latent image being developed by means of a resinous xerographic powder and the developed image transferred to a cut paper sheet, apparatus for controlling the canning of a microdata card and movement of the cut paper sheet in timed relation with the moving photoconductive surface to produce a reproduction of said card including

paper supply means for holding cut sheets of copy paper,
paper transport means for transporting individually sheets of paper from said paper supply into contact with the moving photoconductive surface to effect transfer of a developed image thereon,
a card transport having a movable card carriage for supporting and moving individual microdata cards,
drive means associated with said card transport for moving the carriage reciprocally between a first and second position passed the scanning apparatus whereby said card is scanned,



card feeding means for moving a card into and ejecting a card from said carriage while said carriage is in the first position,
circuit means associated with said card transport and said paper feed means to control the movement of cards and paper in timed relation with the moving photoconductive surface, said circuit means including,
a first switching means associated with said card feeder to selectively control the feeding of a card into said carriage when the same is in the first position,
a second switching means associated with the card carriage and located at the first position, said second switching means being operable by the movement of said card carriage from said first position towards the second position to condition said paper feed means to advance a sheet of cut paper, and
a third switching means being operable in conjunction with the moving photoconductive surface to cause advancement of a paper sheet in timed relation with said surface whereby a sheet of paper contacts the moving surface in registration with a developed image thereon.

3,379,107

AUTOMATIC EXPOSURE CONTROL DEVICE FOR PHOTOGRAPHIC CAMERAS

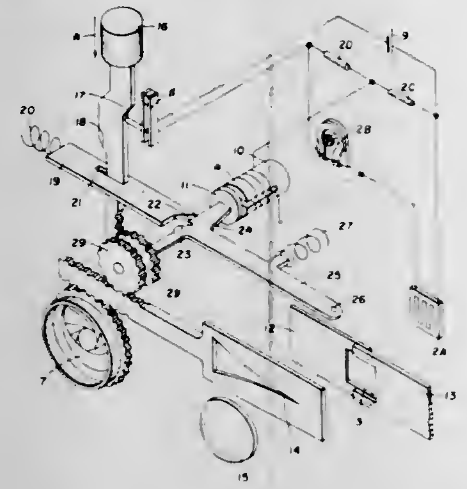
Ernst Lieser, Stuttgart-Vaihingen, and Karlheinz Häberle, Stuttgart-Wangen, Germany, assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Mar. 8, 1965, Ser. No. 437,854

Claims priority, application Germany, Apr. 11, 1964, K 52,648

8 Claims. (Cl. 95—10)

An automatic control device for photographic cameras wherein a photoresistance element is operatively associated with a bridge circuit to automatically set the diaphragm aperture opening through an electromechanical



transducer means upon depression of a camera shutter actuating mechanism.

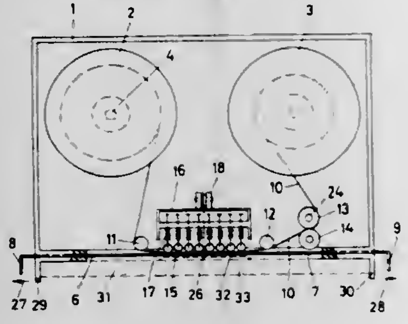
3,379,108
EXCHANGEABLE FILM MAGAZINE FOR MICROFILM CAMERAS

Fritz Beyer, Winsen an der Luhe, Herbert Froese and Alex Jacknau, Berlin, Walter Scheffel, Langenfeld, and Fredi Wolf, Berlin, Germany, assignors, by direct and mesne assignments, to Agfa-Gevaert Aktiengesellschaft Leverkusen, Germany, a corporation of Germany

Filed Mar. 24, 1965, Ser. No. 442,424

Claims priority, application Germany, Apr. 29, 1964, J 25,742

9 Claims. (Cl. 95—31)



An exchangeable film magazine which is adapted to be mounted over the shutter opening of a camera in optical alignment therewith. Two reels for transporting the film are rotatably mounted inside the film magazine. Two slide members which are movable in opposite directions are mounted on the bottom member of the film magazine over an opening in said bottom member. A film pressure mechanism is mounted between the two reels inside the film magazine and presses that portion of the film which is located between the two reels substantially parallel and flatly against the bottom of the film magazine so that this portion projects slightly from the bottom of the film magazine through said opening therein when said two slide members have been moved outwardly to expose said opening.

3,379,109
AUTOMATIC CENTER SHUTTER FOR PHOTOGRAPHIC PURPOSES

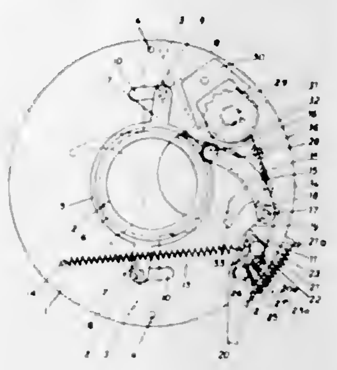
Wilhelm Bertram, Munich-Grafelfing, Germany, assignor to Ernst & Wilhelm Bertram, Munich-Pasing, Germany

Filed June 8, 1965, Ser. No. 462,302

Claims priority, application Germany, June 11, 1964, B 77,208

7 Claims. (Cl. 95—62)

A shutter control mechanism wherein the opening and closing movement of the shutter blades is controlled by means of a toggle device. The toggle device consists of driving and driven levers having a one-way drive coupling therebetween. The toggle device is positionable in either a rest or a release position, in which positions the levers are oppositely inclined relative to one another. In either of these positions, the shutter blades are in the closed position. Movement of the toggle device from the release position toward the rest position causes the levers to become aligned in an intermediate position wherein the shutter blades are open. During return movement of the driving lever from the rest position to the release position, the coupling between the driving lever and the driven lever is disconnected whereby the shutter remains closed.

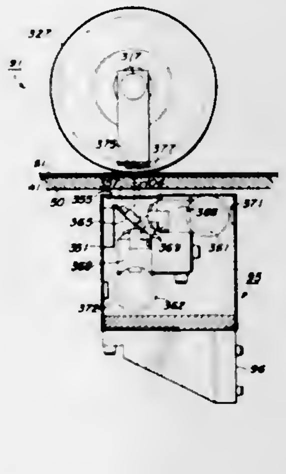


3,379,110
EXPOSURE CONTROL SYSTEM

John E. Blackert and Douglas E. Webb, Webster, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Oct. 1, 1965, Ser. No. 491,910

10 Claims. (Cl. 95—75)



9. Photographic exposure apparatus comprising in combination:

(a) a transparent platen for supporting an image transparency to be reproduced;

(b) means for supporting a light sensitive duplicating material in overlying contact with said image transparency;

(c) lamp house means defining an aperture slit positioned to illuminate an incremental area on said image transparency, said lamp house means comprising:

  (1) an ultraviolet exposing light,

  (2) a red sensing light, and

  (3) a dichoric mirror optically positioned to reflect said ultraviolet light and conduct said red light through said slit;

(d) a red colored member positioned in surface contact with said duplicating material, said red colored member being operatively connected to said lamp house means for movement therewith;

(e) an array of light sensors optically positioned within said red colored member to receive the red sensing light illuminated from the slit in said lamp house means; and

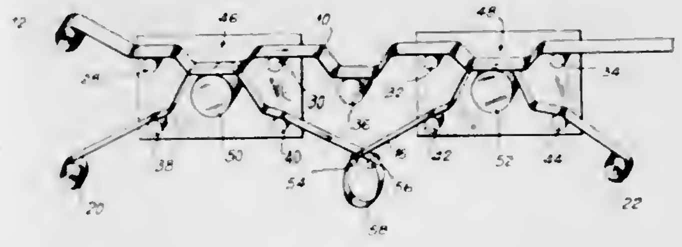
(f) circuit means responsive to the intensity of said red sensing light as determined by said sensors for modulating the intensity of said ultraviolet exposing light.

3,379,111
APPARATUS FOR PRINTING MULTIPLE IMAGES ON PHOTOGRAPHIC RAW STOCK

Saul Jeffee, Highpoint Road, Scarsdale, N.Y. 10583, and John Kowalak, 19 Coles Court, River Edge, N.J. 07661

Continuation-in-part of application Ser. No. 463,301, June 11, 1965. This application Mar. 20, 1967, Ser. No. 641,079

10 Claims. (Cl. 95—75)



The following disclosure describes several techniques and devices for printing from movie film negatives onto photographic raw stock and in particular techniques and devices for shifting the negative and/or raw stock laterally relative to one another so that the negative can be used on a plurality of parallel strips on the raw stock after which the raw stock can be slit to obtain a plurality of positive films. According to one described technique, the shifting is accomplished by feeding the negative or the raw stock through a looped path or spiral path whereby the lateral shifting is effected. According to another technique described hereinunder, skewed rollers are employed to shift the negative or raw stock relative to each other. The techniques are first developed diagrammatically in the drawing and specification and then a particular construction of a machine is described in which numerous features appear. One of these features is the provision of special tensioning means which tension the negative raw stock in order to provide for an exact printing and taking into account the fact that the negative can be run in both forward and reverse directions. Another feature is that two negatives can be employed such as one negative for picture images and a second negative for soundtracks. The disclosure also describes techniques for running the negative repeatedly along an endless path. Additional features include the special roller construction employed for shifting the negative or raw stock laterally as aforesaid.

3,379,112
IRRADIATION DEVICE AND MORE PARTICULARLY EXPOSURE DEVICE

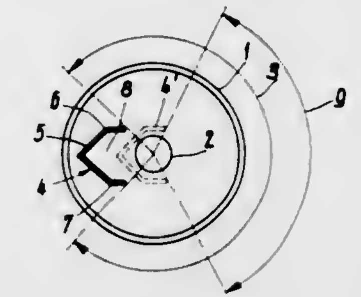
Georg Cranskens, Wedel, Germany, assignor to Lumoprint Zindler KG, Hamburg, Germany

Filed July 7, 1965, Ser. No. 470,169

Claims priority, application Germany, July 15, 1964, L 48,297

13 Claims. (Cl. 95—77.5)

An exposure device for a copying apparatus is formed of a frame supporting a radiation permeable guiding surface with guide means for moving material over the surface. Mounted on the frame is a radiation source, for example, a light or a heat source, for directing radiation through the guiding surface to the material passing over it. A shutter or reflector for the radiation source is located within the frame and is movably positionable in a rectilinear direction between a pair of limiting positions. The shutter has a generally U-shaped configuration with the opening formed between its outstanding legs directed toward the guiding surface. In one of its limiting positions the shutter partly encloses the radiation source while in its other limiting position the shutter is spaced away from the radiation source and is located an increased distance from the guiding surface. The shutter is selectively positionable between the two limiting positions for varying the intensity of the radiation directed to the guiding surface. In one embodiment the length and/or the spacing of the legs of the U-shaped shutter vary along the length of the shutter for achieving uniform intensity of radiation from the overall length of the radiation source.



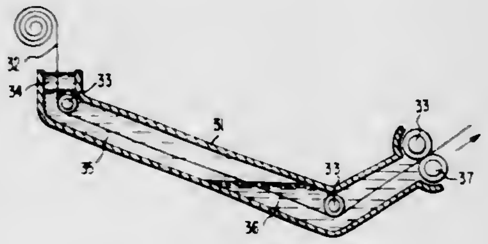
3,379,113
METHOD AND APPARATUS FOR PROCESSING LIGHT-SENSITIVE ELEMENTS

Katsumi Hosoya and Yo Iijima, Kanagawa, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Kanagawa, Japan

Filed June 23, 1966, Ser. No. 559,936

Claims priority, application Japan, June 23, 1965, 40/37,202

10 Claims. (Cl. 95—89)



1. A method for processing light-sensitive elements which comprises placing in a tank at least two processing solutions in layers, said solution having different specific gravities, and passing a light-sensitive element successively through said solution layers.

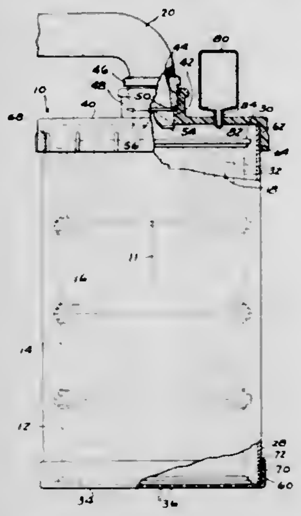
3,379,114
FILM WASHING DEVICE

Robert R. Joseph, Southfield, Mich. (℅ Commercial Printing & Imprinting Co., 7517 Intervale Ave., Detroit, Mich. 48238)

Filed July 29, 1965, Ser. No. 475,655

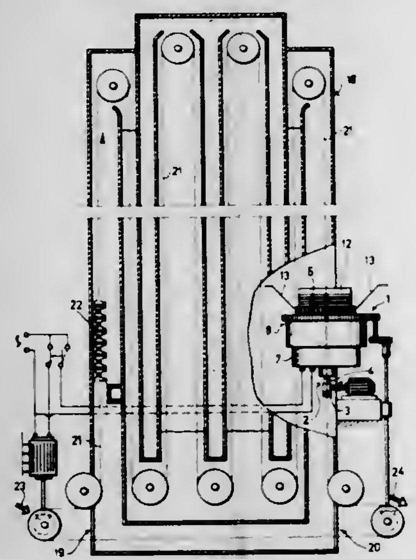
5 Claims. (Cl. 95—97)

A film washing tank having a cylindrical side wall with top and bottom walls threaded thereto, the top wall having a rigid inlet fitting thereon adapted for connection with a source of water under pressure such as a faucet or hose. The inlet fitting provides a rigid connection for the hose or faucet attached thereto so that the tank may be suspended in a generally vertical position from said hose or faucet when filled. The bottom wall has a plurality of small outlets therein of such a size as to cause the tank to become filled with water when water under pressure is admitted thereto through the inlet fitting.



3,379,115
INSTALLATION FOR THE STERILIZATION OR PASTEURIZATION OF COMMODITIES PACKED IN CONTAINERS

Johannes Bernardus van der Winden, Amstelveen, Netherlands, assignor to Gebr. Stork & Co's Apparatenfabriek N.V., a corporation of the Netherlands
Filed Aug. 8, 1966, Ser. No. 570,897
Claims priority, application Netherlands, Mar. 9, 1966, 66—3,058
4 Claims. (Cl. 99—249)

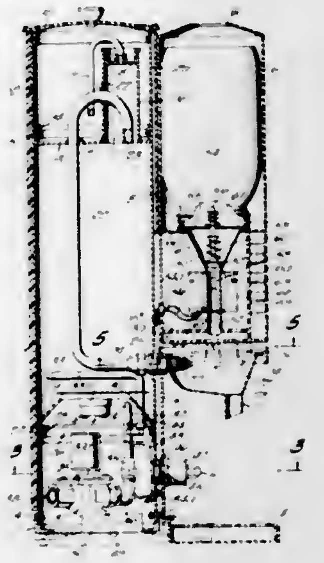


A device for an installation for the sterilization or pasteurization of commodities packed in containers, said device including a drive synchronized with the advance of a conveyor which transports the containers through a treatment zone in the installation, and a number of mark members transported by the drive and functionally associated with the containers for indicating which containers may have remained in the treatment zone in excess of the desired dwelling time.

3,379,116
BEVERAGE OR FOOD DISPENSER

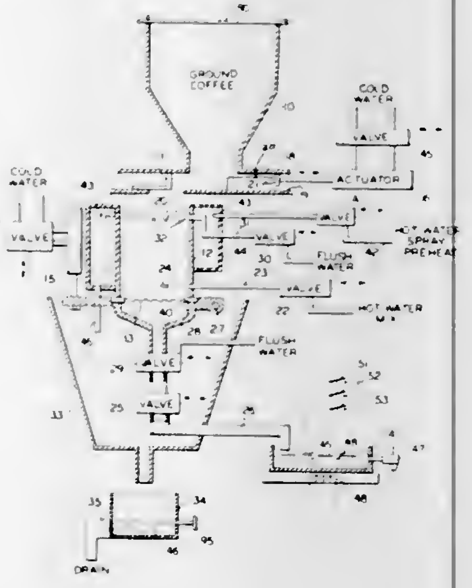
Ernest N. Martin, Escondido, Darwin B. Maxson, Downey, and Joseph F. Scheffer, Covina, Calif., assignors to Columware, Inc., Lynwood, Calif., a corporation of California
Filed May 31, 1966, Ser. No. 554,192
37 Claims. (Cl. 99—275)

An upright tank for heating water serves as a support for a container of powdered material on one side of the tank and a mixing chamber below the container, the mixing chamber having a dispensing spout to deliver the mixed beverage to a cup. When a cup is pushed against a switch at the bottom of the tank, the tank delivers hot water to the mixing chamber and, after a time delay, powdered material is delivered to the mixing chamber from the container, the mixed beverage being then discharged into the cup. The upright tank has a cover, an upper head spaced below the cover to form therewith an upper compartment, and a lower head spaced below the upper head to form therewith a water heating chamber and also to form a lower compartment below the water heating chamber. The cover and both the upper head and the lower head are removable to facilitate cleaning of the entire interior of the tank and the components therein.



3,379,117
PROGRAMMED AUTOMATIC COFFEE MACHINE

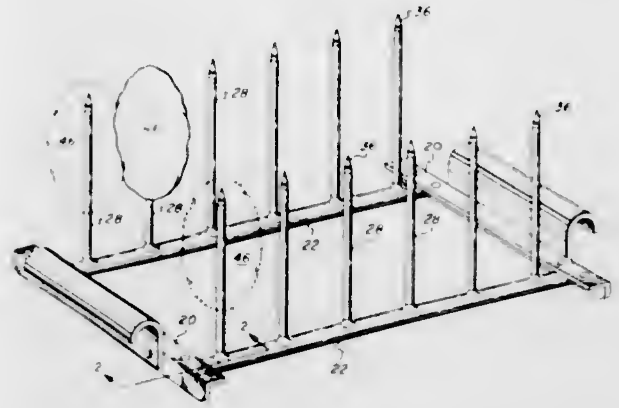
Sanford E. Richeson, Brooklyn, N.Y., assignor to Alfred B. Levine, Chevy Chase, Md.
Filed Oct. 22, 1965, Ser. No. 501,153
19 Claims. (Cl. 99—283)



A cyclically operating coffee beverage making machine that during each cycle automatically prepares and dispenses a preadjustable quantity of beverage. The machine incorporates adjustable programming enabling a human operator to preselect the storage of a given quantity of beverage wherein the machine automatically recycles as required to maintain this preselected stored quantity. An independent programming mechanism permits the human operator to also preselect the quantity of beverage produced during each cycle.

3,379,118
BAKING RACK

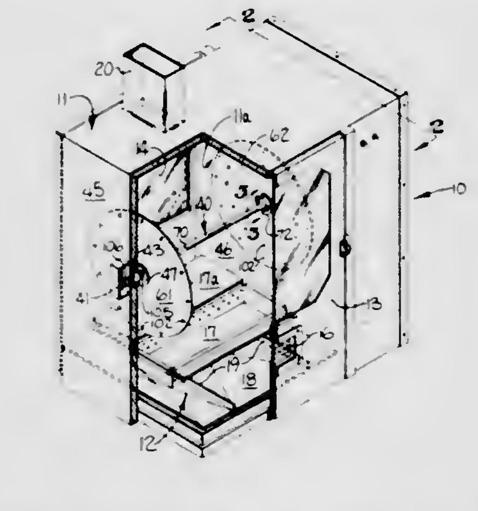
William Perez, 153 Meadowsweet Road, Williston Park, N.Y. 11596
Filed Mar. 28, 1966, Ser. No. 537,877
5 Claims. (Cl. 99—419)



1. A baking rack having a main body frame including at least one hollow frame member means comprising: a plurality of hollow pins, each including a tube portion, said pins being mounted on top of said hollow frame member means, said pins and said hollow frame member means forming a closed system being partly filled with vaporizable liquid means, said vaporizable liquid means being contained substantially within said hollow frame member means beneath said pins, each of said pins being adapted to receive and hold a food mass in impaled position on the said pin; whereby when a food mass is impaled on the pins and the rack including the food masses is subjected to heat external to said rack and said food mass, the resulting vapors of the vaporizable liquid means will flow upwardly through the tubes of the pins to heat the food masses internally, condense, and return to the hollow frame member beneath the pin.

3,379,119
BARBECUE ROTISSERIE

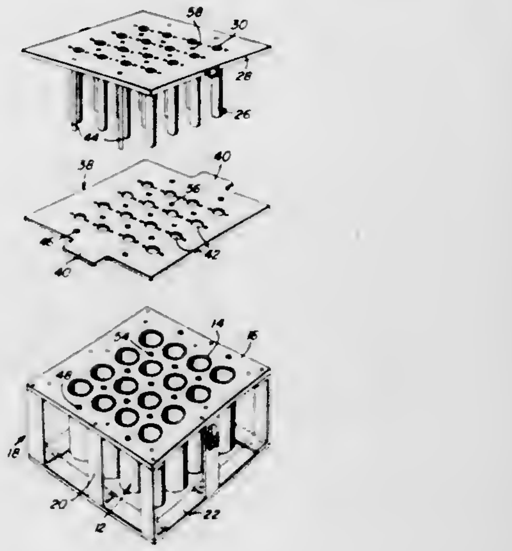
Albert C. Harrill, 2710 Mayflower Road, Charlotte, N.C. 28208
Filed Apr. 6, 1966, Ser. No. 540,658
2 Claims. (Cl. 99—421)



A barbecue device having a housing and a rotisserie comprising first and second spaced apart axially aligned stub shafts rotatably mounted in the housing, a central shaft positioned between the stub shafts, a pair of spit supporting discs positioned adjacent each end of the central shaft and the end of the associated stub shaft, and including means permitting removal of the central shaft and the discs from the stub shafts without disturbing the positional arrangement of the stub shafts.

3,379,120
BUN MOLDING APPARATUS

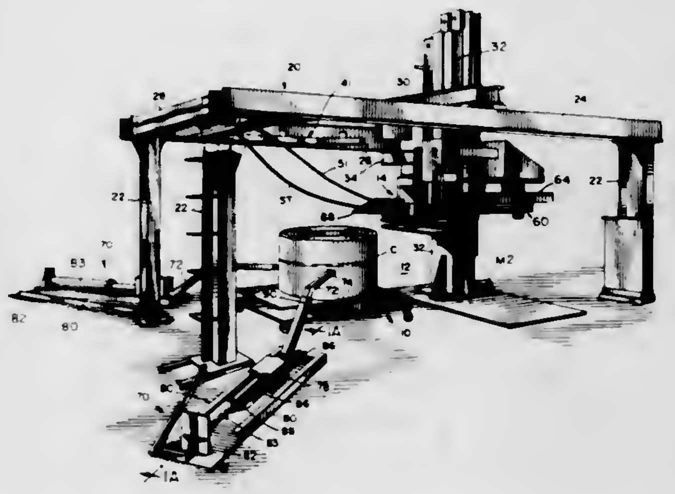
Harry C. Fogle, P.O. Box 245, Oilton, Okla. 74052
Filed Dec. 7, 1966, Ser. No. 599,967
9 Claims. (Cl. 99—439)



A bun molding device including a plurality of frame mounted molding cups receiving relatively smaller frame mounted molding cores coaxially therein for the molding of hollow buns. A stripping plate is removably mounted on the core frame to strip the buns therefrom after a removal of the cores from the cups.

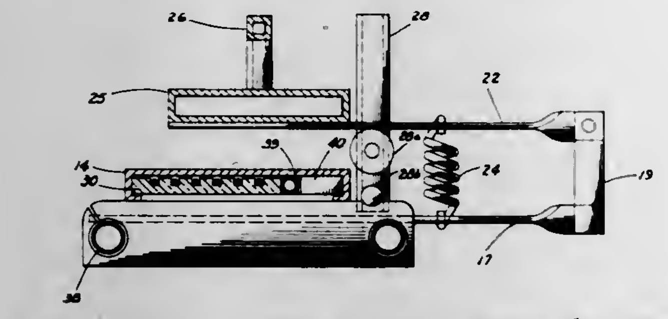
3,379,121
METHOD OF AND APPARATUS FOR POSITIONING STRAPPING

Peter Lems, Wilmette, Ill., assignor to Signode Corporation, Chicago, Ill., a corporation of Delaware
Continuation-in-part of application Ser. No. 495,931, Oct. 14, 1965. This application Feb. 13, 1967, Ser. No. 615,815
11 Claims. (Cl. 100—2)



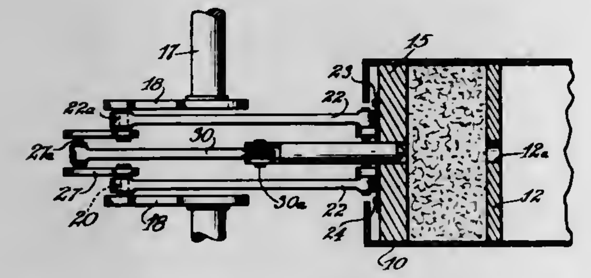
A strap positioning method and apparatus for encircling a hot rolling mill strip coil at a strapping station with a loop of steel strapping preparatory to tightening the loop about the coil. The loop is created by feeding the strapping endwise from a conventional strapping head through a fixed overhead chute centered above the strapping station until the ends of the loop overlap each other. Thereafter. the strapping head is lowered and, during the lowering operation, certain chute gates are successively opened to progressively release the loop of strapping and allow the same to fall by gravity and become draped loosely about the coil and over a pair of strap supports which guide the loop to the proper strapping level during slack takeup and tensioning operations.

3,379,122
PLASTIC LAMINATING APPARATUS
Joseph P. Banner, 2550 N. Venice,
Tucson, Ariz. 85716
Filed Sept. 28, 1965, Ser. No. 490,847
1 Claim. (Cl. 100—93)



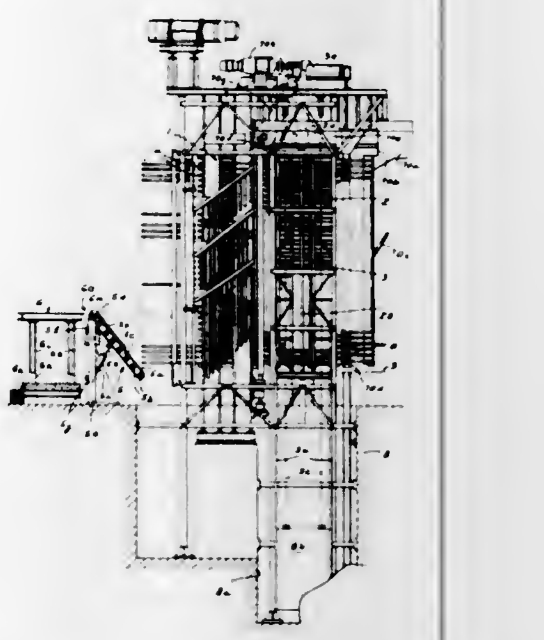
1. A plastic laminating apparatus of the character described comprising two spaced-apart upright support members, two lower transverse members, each of said lower transverse members having one end fixedly attached to one of said upright support members, two upper transverse members, each of said upper transverse members having one end movably attached to one of said upright support members, two longitudinally extending rod members, one end of each of said rod members being fixedly attached to one of said lower transverse members, and another end of each of said rod members being fixedly attached to the other of said lower transverse members, a multiplicity of spaced-apart transverse rib members, said rib members being slidably related with said rod members, a longitudinally extending heating platen carried by said transverse rib members, a longitudinally extending pinch clamping member fixedly supported at each end by one of said upper transverse members, two coil springs, each spring being anchored to one of said lower transverse members, and each spring being attached to one of said upper transverse members, means including two lifting levers for controlling the tension of said coil springs, and temperature control means associated with said heating platen.

3,379,123
HAY BALER ATTACHMENT
Corliss L. Weltner, Rte. 3, Box 300,
Parkersburg, W. Va. 26101
Filed June 3, 1966, Ser. No. 555,038
3 Claims. (Cl. 100—98)



This invention relates to a hay baler having means to form a ventilating passage in the bale. The ventilating means comprises a piercing plunger which advances through an opening in the compression plunger and through an opening in a header. A bale of hay having an elongated opening therethrough is the final product of the baler.

3,379,124
PLURAL ACTUATED PRESS MEANS FOR A PRESS-CHARGING SYSTEM
Karl Bruder, Krefeld, and Walter Hüsges, Dulken, Germany, assignors to Firma G. Siempelkamp & Co., Krefeld, Germany, a corporation of Germany
Continuation-in-part of application Ser. No. 534,324, Mar. 15, 1966. This application Apr. 26, 1966, Ser. No. 545,340
10 Claims. (Cl. 100—137)



1. In a system for the charging of a multiplaten press, the improvement which comprises:

a vertically displaceable press-charging station disposed adjacent said multiplaten press and provided with a multiplicity of charging stages corresponding in number to the platens of said press for delivering layers of material to be compressed from said stages to said platens in an elevated position of said press-charging station, said press-charging station being raisable for successive positioning of said stages at a feeding level for successively depositing corresponding layers of material upon said stages;

hold-down means carried by said press-charging station and including a respective vertically movable hold-down element overlying each of said stages and actuatable for compressing the respective layers against the respective stages;

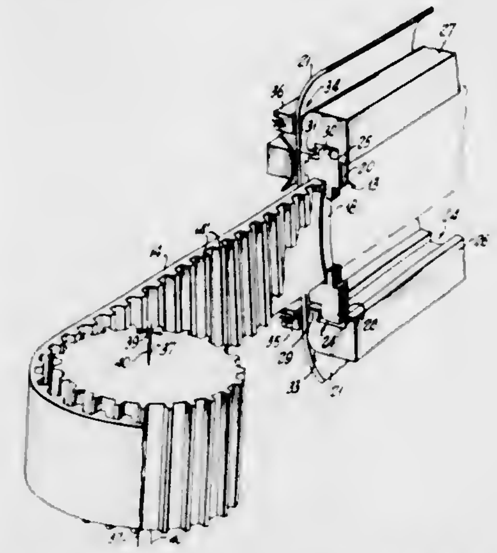
first actuating means for collectively lifting said hold-down elements upon elevation of said station to shift the respective layers into said press; and

second actuating means operable to raise the hold-down elements of each stage independently of the other hold-down elements for receiving the respective layers between the respective element and stage at said feeding level.

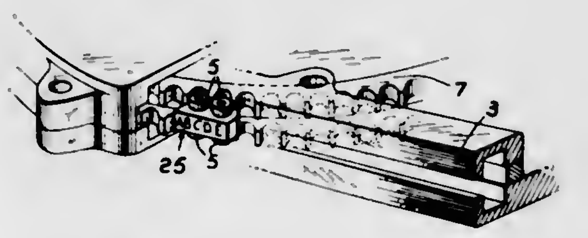
3,379,125
TYPE SLUG IMPACT CONTROL IN HIGH SPEED CHAIN PRINTERS
Carmine J. Antonucci, Commack, N.Y., assignor to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York
Filed Jan. 25, 1967, Ser. No. 611,651
6 Claims. (Cl. 101—93)

The specification and drawings show a chain printer

in which the type slugs are driven by free-flight hammers against a paper web. The penetration of the slugs is controlled by a surface that runs parallel to the print line.



3,379,126
CLOSED LOOP PRINTING MACHINE AND TYPE SLUG SUPPORTING MEANS
Karel J. Staller, Rutherford, and Preben Gomard, Montclair, N.J., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Delaware
Filed July 8, 1966, Ser. No. 563,786
8 Claims. (Cl. 101—111)

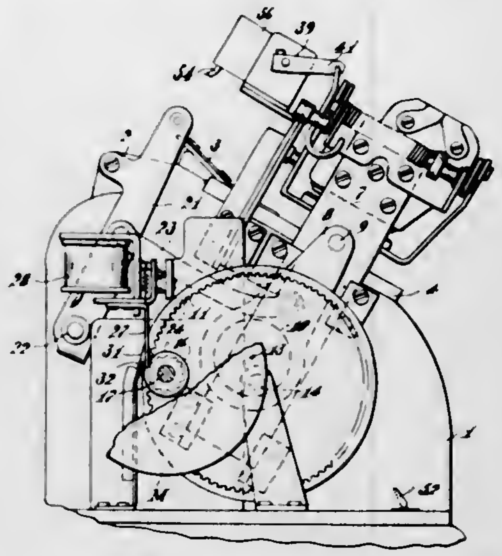


A printing device was provided in which a plurality of print slugs are pushed around a closed loop past a print position. The loop conveyor in the print position has a magnetic portion for attracting the print slug to provide a secure backing during the print stroke so that the print slug will not vibrate and smear the printed character. The slugs are provided with a pair of rollers to provide free movement around the loop conveyor.

3,379,127
THERMOGRAPHIC IMAGING PROCESS
Douglas A. Newman, Glen Cove, N.Y., assignor to Columbia Ribbon and Carbon Manufacturing Co., Inc., Glen Cove, N.Y., a corporation of New York
No Drawing. Filed July 29, 1963, Ser. No. 298,402
6 Claims. (Cl. 101—471)

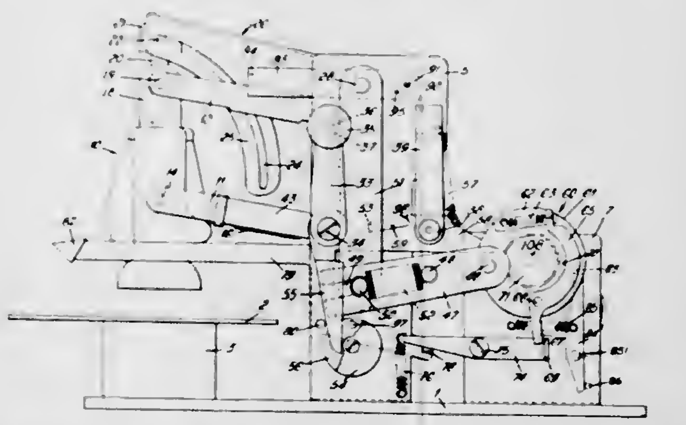
1. In the process of imaging a flexible sheet comprising the steps of superposing original infrared radiation-absorbing images together with a flexible sheet and a transfer sheet having a heat-transferable imaging layer, the imaging layer being in intimate surface contact with the surface of the flexible sheet, and applying to said images radiations rich in infrared which are absorbed by the images and heat the imaging layer and cause it to melt and transfer to the flexible sheet in image form in areas corresponding to the location of the original images, the improvement which comprises using as the transfer sheet one having a thin plastic foundation having on the surface thereof opposite the surface carrying the heat-transferable imaging layer a thin anti-static coating which is free of materials which absorb infrared radiation to any substantial degree, said coating having a melting point of at least 120° F. so as to resist melting at the amibent temperatures of the said process, whereby the tendency of the transfer sheet to crimp and wrinkle in the heated areas is avoided.

3,379,128
LABEL PRINTER
Arnold R. Bone, Needham, Mass., assignor to Dennison Manufacturing Company, Framingham, Mass., a corporation of Nevada
Filed Oct. 22, 1965, Ser. No. 501,422
3 Claims. (Cl. 101—292)



Cyclic apparatus comprising a head movable back and forth between printing and retracted positions once during each cycle, rotary means for actuating the head, means for stopping the head at the end of each cycle, and means including a counter for starting the head recurrently.

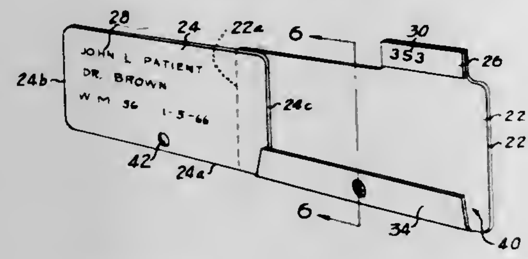
3,379,129
PRINTING MACHINE
Herbert G. Harrison, Enfield, England, assignor to English Numbering Machines Limited, Enfield, England, a British company
Filed July 28, 1966, Ser. No. 568,576
Claims priority, application Great Britain, Aug. 21, 1965, 35,972/65
3 Claims. (Cl. 101—316)



The invention relates to a printing mechanism comprising a single mechanism for setting the mechanism to print alternatively under 2 different printing pressures, the mechanism is set for printing under a weak printing pressure when only a single sheet has to be printed and under a heavier printing pressure when a plurality of carbon copies are simultaneously to be made during printing. In the first case printing is effected under the action of a single-revolution clutch through two levers coupled together by spring means. In the second case movement of one lever is restricted so that during rotation of the single-revolution clutch the spring means are tensioned whereupon the restriction of said lever is removed and printing is effected under the action of the spring means.

3,379,130
PRINTING DEVICE

Clarence R. Korfmann, Mentor, Ohio, assignor to Addressograph-Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware
Filed July 25, 1966, Ser. No. 567,733
2 Claims. (Cl. 101—368)

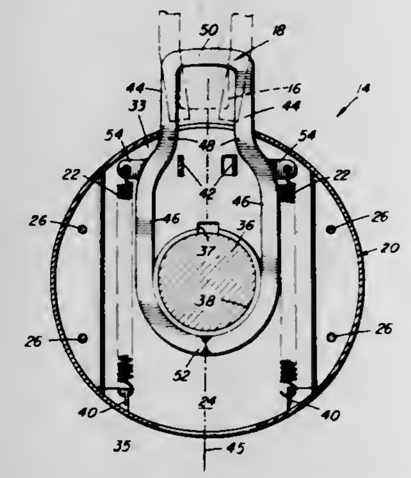


A printing device with a replaceable portion which device is made of plastic sheet and comprises a carrier and two embossed printing plates which are carried by the carrier. One of the margins of the carrier is turned over to form a spring tongue, and the tongue contains an opening which is in alignment with a projection struck up from the body of the carrier. One of the printing plates, bearing data of a relatively temporary nature, has an opening near one of its longer margins which, when placed in alignment with the projection and opening in the carrier, serves to removably retain the plate on the carrier.

The carrier also contains a tab portion extending from the margin opposite to the spring tongue. The second printing plate, which bears relatively permanent data, is secured to the tab portion so as to present its printing surface coplanar with the printing surface of the first printing plate. The second plate is so positioned on the tab portion of the carrier that it abuts the first plate to inhibit inadvertent dislodgment of the first plate from the carrier.

3,379,131
SUSPENSION ASSEMBLY

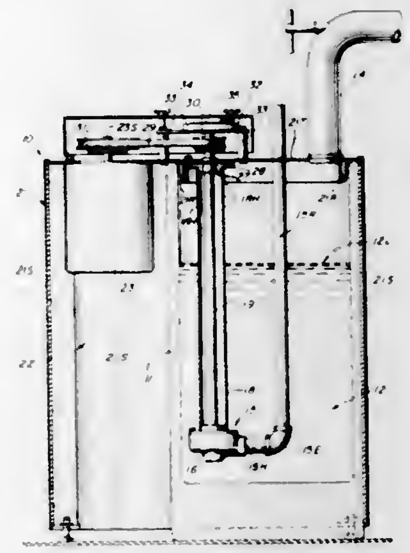
Horace D. Webb, Dahlgren, Va., assignor to the United States of America as represented by the Secretary of the Navy
Filed Oct. 22, 1965, Ser. No. 502,722
5 Claims. (Cl. 102—7.6)



A suspension assembly, for use with a practice ordnance device, designed as a self-contained unit so as to facilitate interchangeable use and replacement. The assembly's bomb attaching means is maintained wholly within the unit when not in use.

3,379,132
CRYOGENIC PUMP

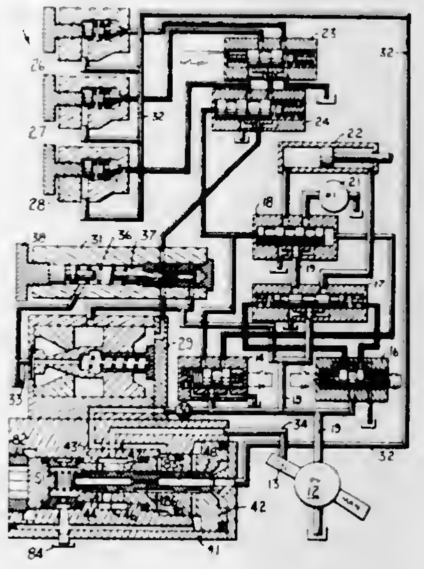
Richard C. Wagner, Clarendon Hills, Ill., assignor to Integral Process Systems, Inc., a corporation of Illinois
Filed Aug. 16, 1965, Ser. No. 479,825
2 Claims. (Cl. 103—26)



A cryogenic liquid circulation system is disclosed comprising a main housing mounting a dewar vessel therein for providing a thermally isolated sump for a reservoir of cryogenic liquid. Pumping mechanism supported from the main housing includes a depending shaft housing carrying a pump housing in submerged relation in the liquid and a depending shaft extending in clearance relation through the shaft housing and mounting an impeller for close clearance rotation in the pump housing. Adjustable mechanism on the main housing enables setting of the pump operating clearance. Gas lock is prevented by a vent passage leading from the impeller chamber through axial holes in a plastic shaft bearing, through clearance space between the shaft and shaft housing and through exposed holes in the shaft housing.

3,379,133
MODULATION CONTROL FOR A HYDRAULIC CIRCUIT

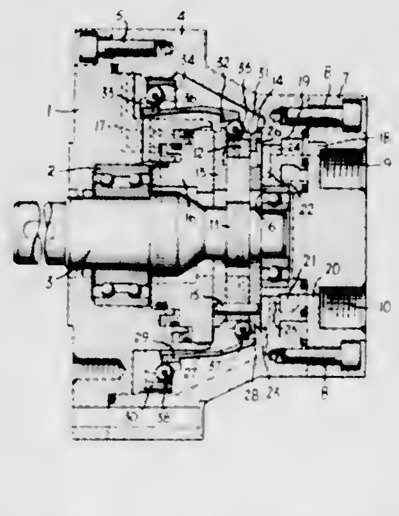
Willard T. McCormick, Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Apr. 29, 1966, Ser. No. 546,372
5 Claims. (Cl. 103—37)



A modulation control for minimizing pressure fluctuations in a hydraulic system having a variable displacement hydraulic pump and a pressure control valve which is located remote from the pump includes a modulating valve connected in fluid flow relationship between the output of the pump and the stroke control of the pump. The modulating valve is responsive to the pressure from the remote pressure control valve and modulates all of the fluid flowing to and from the stroke control of the variable displacement pump.

3,379,134
GUIDE MEANS AND ROTARY DEVICE

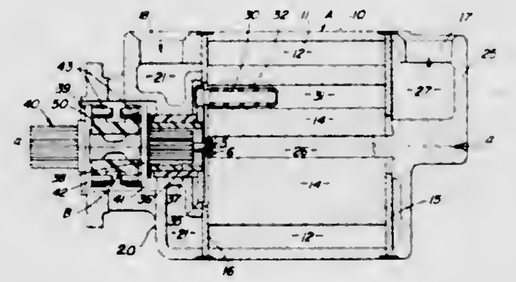
Jorgen Frederik Waldorff, Nordborg, Denmark, assignor to Danfoss A/S, Nordborg, Denmark, a company of Denmark
Filed July 12, 1966, Ser. No. 564,680
Claims priority, application Germany, July 13, 1965, D 47,720
8 Claims. (Cl. 103—130)



A rotary apparatus operative either as a gear pump or a gear motor having an inner gear traveling inside an outer ring gear in an eccentrically situated path or orbit and jointly defining therewith concavities with the teeth that alternately received fluid and then expel it from the concavities. The outer ring gear has rotary motion in an eccentric orbit applied thereto. A hollow shaft guides the outer gear in its orbital path and has passages within which rolling balls allow a rocking motion of the guide permitting eccentric orbital motion of the outer gear.

3,379,135
TORSIONAL COUPLING

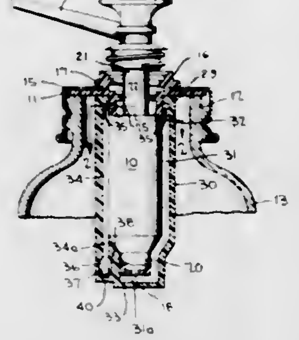
Herbert W. Kaatz, Elyria, Ohio, assignor to Airborne Mfg. Co., Elyria, Ohio, a corporation of Ohio
Filed Mar. 28, 1966, Ser. No. 537,995
10 Claims. (Cl. 103—202)



A torsional coupling for connecting a drive shaft to a coaxial load shaft and for isolating the rotary load from torsional vibrations transmitted by the rotary drive. The coupling utilizes a tubular elastomeric dampening member in cooperation with other structure, the various parts being so arranged as to provide a non-linear spring characteristic for the elastomeric dampening member.

3,379,136
LIQUID DISPENSER

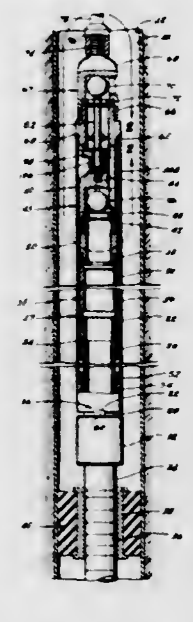
Douglas F. Corsette, Los Angeles, Calif., assignor, by mesne assignments, to Diamond International Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 26, 1966, Ser. No. 575,338
7 Claims. (Cl. 103—203)



1. An adapter sleeve for application to the pump cylinder of a conventional container-supported reciprocating liquid dispensing pump to adapt same for operation when inverted, said cylinder being provided with an axially-directed intake port through its lower end and with an air breather port through its cylindrical wall, said sleeve being formed to define a cylindrical cavity opening upwardly in an axial direction through the upper end of the sleeve for reception of said pump cylinder and having a closed lower end, said sleeve being formed to define a liquid inlet passage positioned for communication with the intake port of the pump cylinder and opening radially outwardly from said sleeve to the exterior thereof at an axial location on the sleeve adjacent its open upper end, said sleeve further being formed with an air breather passage positioned for communication with the breather port of a pump cylinder and opening to the exterior of the cylinder adjacent the closed lower end thereof.

3,379,137
BLEED VALVE FOR PUMPS

David E. Harder, Tulsa, Okla., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Apr. 22, 1966, Ser. No. 544,437
5 Claims. (Cl. 103—221)

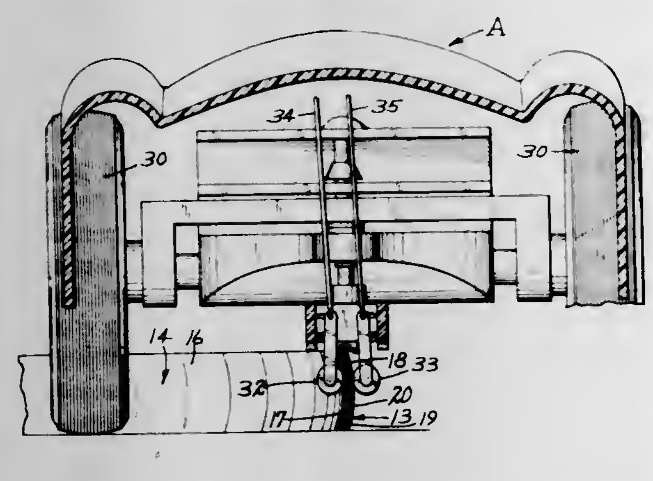


A well pump for use in a well bore that includes a pump barrel and pump plunger telescopically arranged and adapted to be reciprocated relative to one another. A first one-way valve is mounted in the pump barrel, and a second one-way valve is mounted in the pump plunger.

The pump barrel and plunger are movable to a retracted position wherein a first push rod engages the first valve to hold it in the open position, and a second push rod engages the second valve to hold it in an open position simultaneously with the opening of the first valve to permit fluid in the pump and well bore above the pump to be drained downwardly through the pump.

3,379,138
GUIDE RAIL FOR ELECTRICALLY OPERATED TOY VEHICLE

Oscar Francis Lindstrom, Great Falls, Mont., assignor of one-half to David J. McKay, Great Falls, Mont.
Filed Sept. 7, 1966, Ser. No. 577,629
4 Claims. (Cl. 104—148)



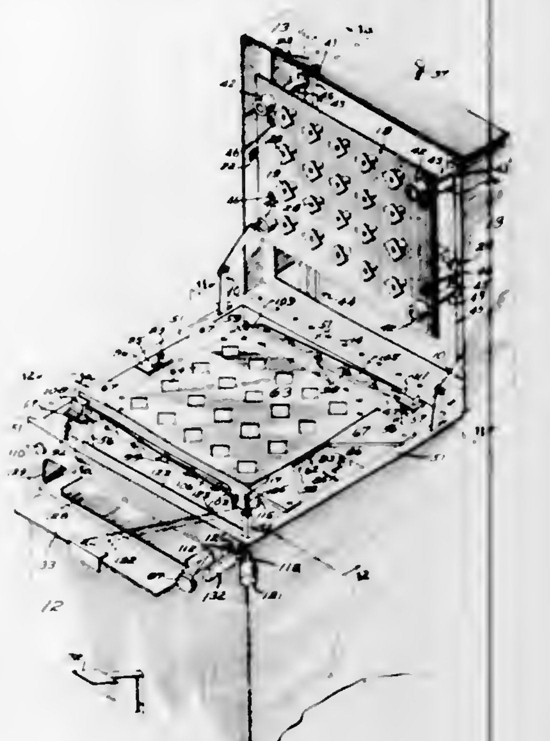
1. A monorail guide track for power operated toy vehicles having a pair of opposed power collecting brushes comprising:

(a) a pair of elongated, flexible track elements formed of an electrically conductive material and having a cross-sectionally arcuate shape;
(b) insulator means interposed between said track elements and conforming generally to the cross-sectionally arcuate shape thereof;
(c) means connecting one end of each of said track elements and said insulator means to the other of their respective ends with one of said track elements in nesting relationship with the other of said track elements and said insulator means whereby to form a self-sustaining monorail guide track in the shape of a closed generally planar curve;
(d) said track elements defining inner adjacent surfaces and outer conducting surfaces engagable one each by one of the pair of opposed power collecting brushes of the toy vehicle;
(e) one of said track elements and said insulator means being formed of a resilient material; and
(f) means connecting said outer conducting surfaces to a source of electrical energy.

3,379,139
METHOD AND APPARATUS FOR QUANTITY PRODUCTION OF UNBAKED FOLDED PASTRIES

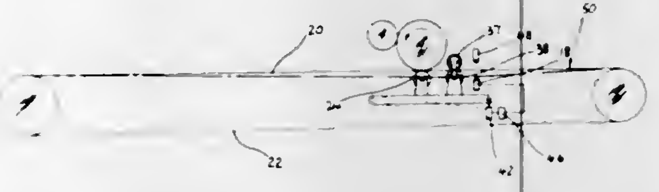
Robert J. Lipinsky, 86 Buddington Road, Huntington, Conn. 06484
Filed Sept. 30, 1965, Ser. No. 491,781
13 Claims. (Cl. 107—1)

Unitary cabineted apparatus for converting a sheet of pastry dough into a production quantity of separate unbaked pastry blanks or the like incorporating a filler ingredient separately enfolded by each dough blank, and discharging such quantity of folded pastry blanks simultaneously from the apparatus for conveyance to a bake oven. Also a method of sequentially producing, treating and assembling such folded blanks and feeding the filler ingredient thereto that can be practiced with the aid of such apparatus. In such method the unitary blanks are first punched simultaneously from the sheet of dough, then provided simultaneously with deposits of the filler ingredient, then enfolded simultaneously about such deposits of ingredient, and next discharged for baking by snap action of the apparatus that permits all the blanks to drop away simultaneously from their means of support.



3,379,140
WAFER FEED DEVICE

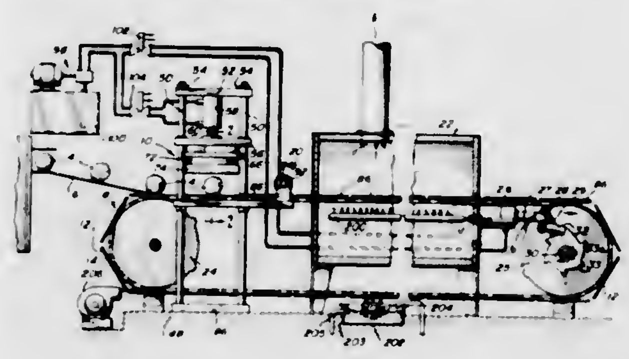
Stanley William Crispe, Liverpool, and Michael John Mercer, Newton-le-Willows, England, assignors to T. & T. Vicars Limited, Newton-le-Willows, Lancashire, England, a British company
Filed Mar. 18, 1966, Ser. No. 535,553
Claims priority, application Great Britain, May 13, 1965, 20,165/65
6 Claims. (Cl. 107—1)



1. A wafer feed device comprising a wafer receiving station, wafer coating means, conveyor means arranged to carry a supply of wafers from said receiving station, past said coating means, said conveyor having a coating position and a non-coating position located adjacent said coating position, deflector means operable adjacent said coating means to selectively deflect said conveyor means between said coating position in which a wafer carried thereby passes adjacent said coating means for coating and said non-coating position in which a further wafer carried by said conveyor is retracted away from said coating means, so as to be led past said coating means without being coated, wafer sensing means capable of detecting the presence of a wafer at said receiving station and counting means associated with the said sensing means, said reflector means being operable in response to a signal from said counting means resulting from the passage of a predetermined number of wafers through said receiving station.

3,379,141
METHOD AND APPARATUS FOR FORMING PIZZA SHELLS

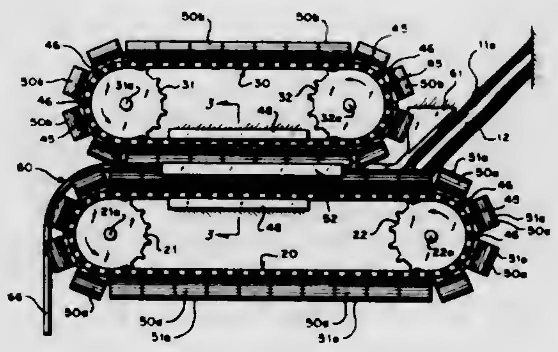
Fred A. Groth, Chicago, Ill., assignor to Pasquale Associates, Inc., a corporation of Illinois
Filed June 14, 1965, Ser. No. 463,521
6 Claims. (Cl. 107—4)



A method and apparatus are disclosed for transforming a ball of low shortening dough wherein the ingredients are dispersed in a random fashion characterized by grainy hard bread dough texture into dough having attributes of high shortening dough. The apparatus includes a press located along an indexing plate conveyor and including an internally heated platen, an annular ring carried in lost motion connection from the ring and a spring working between the platen and ring to locate the ring in confining relation to the dough ball on each conveyor plate. The platen flattens the dough against the conveyor plate under high pressure and while the dough is positively confined by the annular ring to transform the low shortening dough to a dough wherein the ingredients are dispersed in a uniform fashion and are characterized by a flaky pie crust dough texture.

3,379,142
BAGEL-MAKING APPARATUS

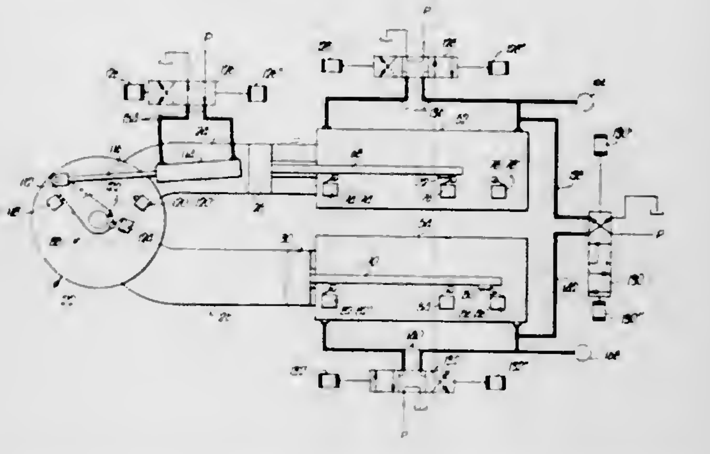
Bernard W. Reiter, 1001 City Ave. 19151, and Karl Einstein, 6020 Alma St. 19149, both of Philadelphia, Pa.
Filed Sept. 12, 1966, Ser. No. 578,716
9 Claims. (Cl. 107—8)



An apparatus to mechanically form a bagel from uncooked lumps of dough. A pair of parallel opposed endless chains each carry moulds. A stationary mandrel extends between opposed moulds and stationary spacers also extend between opposed moulds. The dough is rolled around and along the mandrel by the movement of the opposed moulds. The mandrel has relaxation points along its length.

3,379,143
AUTOMATIC CORN PRESS

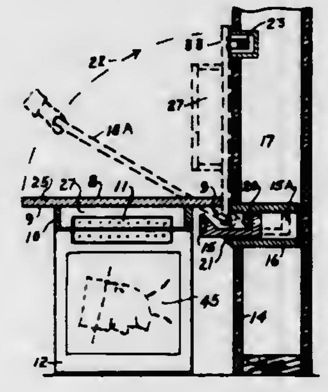
Edwin F. Kelley, Kansas City, Mo., and Frank J. Thomas, Overland Park, Kans., assignors, by mesne assignments, to Manley, Inc., Kansas City, Mo., a corporation of Missouri
Original application Feb. 10, 1964, Ser. No. 343,608. Divided and this application Nov. 29, 1966, Ser. No. 610,702
20 Claims. (Cl. 107—14)



A pair of material-feeding tubes are associated with an extrusion head, each tube having a material inlet spaced from the head for receiving dough which is ultimately forced into the head and extruded therefrom. A rotary valve is utilized to alternately communicate the tubes with the head to provide continuous extrusion. A reciprocating ram is disposed in each tube for loading the latter and forcing the loaded dough into the head. Loading is effected in a particular tube by reciprocating the ram thereof across the inlet to progressively load the tube a wad at a time until a mass of dough is accumulated, whereupon a continuous forward stroke of the ram commences to pack the dough against the closed valve, the latter being open to the other tube at this time which is in its extrusion phase. After packing, the valve is shifted to open that tube to the head and the ram thereof is then driven under high pressure to extrude the packed dough, during which time the other ram is caused to undergo its loading phase.

3,379,144
UNATTACHED TABLE AND MEANS FOR STORING SAME

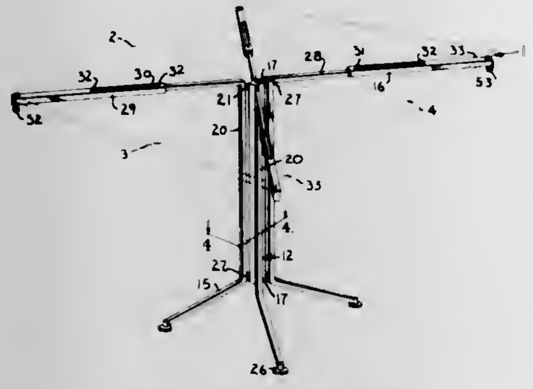
Robert Ellis, 350 E. Plaza, Solana Beach, Calif. 92075
Filed May 16, 1966, Ser. No. 550,251
3 Claims. (Cl. 108—33)



Means for positioning an unattached table against an adjacent wall with the lower edge of its top slightly above a hook or catch protruding from the wall, thus permitting the opposite edge of the table top to be easily grasped and manually lifted against the wall and secured by an upper hook, which thus clears the floor space for other purposes. The securing hooks are normally recessed within the wall and the pedestal type table legs are then folded inwardly to provide a compartment with the visual side of the legs simulating a wall picture or ornament.

3,379,145
FOLDING TABLE

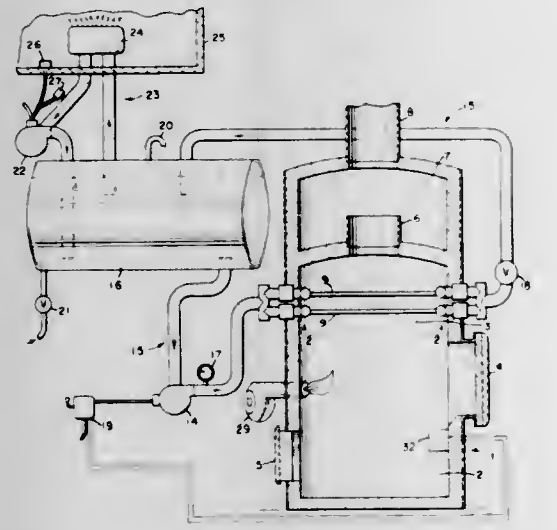
Edgar M. Lieberman, 7309 Sycamore, Kansas City, Mo. 64133
Filed Dec. 23, 1966, Ser. No. 604,312
10 Claims. (Cl. 108—112)



A folding table of a pedestal type with a table top having hingedly connected portions, the hinges being adjacent edges that abut when the table is in unfolded or erected position, the table portions being substantially in parallel planes when folded. The pedestal or support structure has a plurality of leg and arm assemblies swingably mounted thereon with the arms being extendable with outer ends connected to the respective table top portions in spaced relation to the hingedly connected edge portions whereby folding and unfolding of the table top portions swing the leg and arm assemblies to folded and unfolded positions, movable guide means being connected to the pedestal and table top to maintain the table top centered relative to the pedestal.

3,379,146
INCINERATOR HEATING SYSTEM

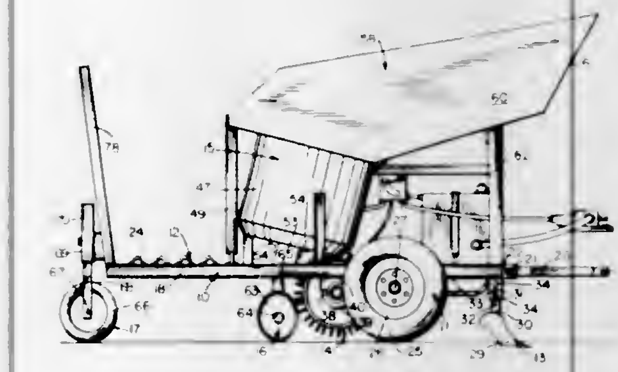
Adrian Sluiter, Schenectady, N.Y., assignor to Central Markets, Inc., Schenectady, N.Y., a corporation of New York
Filed Mar. 18, 1966, Ser. No. 535,436
4 Claims. (Cl. 110—10)



An apparatus utilizing heat generated by the incineration of waste materials to raise the temperature of a heat transfer fluid by passing the heat transfer fluid through a heat exchanger suspended in the upper portion of the apparatus, transferring the heated fluid to a storage means and circulating the fluid from the storage means to a building heating means. A similar apparatus where circulation of the heat transfer fluid to the heat exchanger is controlled by a flame sensing device. A similar structure where means are provided to prevent cavitation of the fluid within the heat exchanger.

3,379,147
MINT PLANTER

Edgar Cochran, Royal City, Wash. 99357
Filed Aug. 8, 1966, Ser. No. 570,838
2 Claims. (Cl. 111—2)



1. An agricultural implement for the planting of root material of the nature aforesaid, comprising, in combination:

a principal frame adapted for locomotion by medially depending wheels and having a forwardly projecting hitch and rearwardly disposed operating platform;

a forward digging plow adjustably depending from the forward portion of said frame member adapted to dig a furrow in earth therebelow upon forward motion of said frame relative thereto;

a planting disk, rotatably carried by said principal frame, disposed rearwardly of said digging plow, including a flat surfaced wheel having a plurality of threaded holes carrying a plurality of radially projecting studs threadedly engaged therein, the lowermost projection of said studs being vertically above the surface supporting said principal frame;

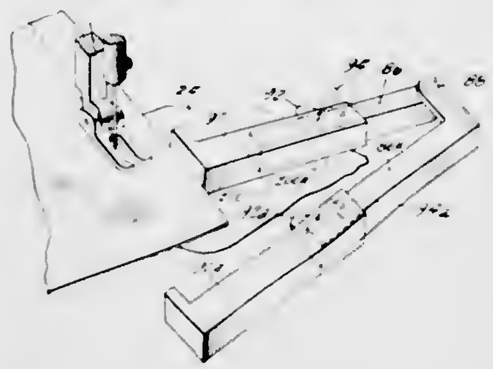
root storage facilities associated with said planting disk, including a cylindrical planting hopper disposed above said planting wheel so as to allow rotatable projection of at least the stud portion of said wheel therein, said cylinder having an axially aligned hopper rotor therein adapted to periodically move rotatably in one direction and thereupon in the opposite direction in cycles of predetermined length by a cog carried by the wheel axle operatively communicating with a second cog carried on a jack shaft rotatably journaled upon the frame and having a cam member thereon operatively communicating with a cam follower carried by a reversing valve adapted to permit fluid flow in one direction when activated by said cam member and in the opposite direction when not so activated and a storage hopper operatively communicating with the planting hopper;

a covering disk disposed rearwardly and laterally of said planting disk adapted to cover material deposited by said planting disk;

a vertically adjustable packing wheel depending from said frame immediately rearwardly of said covering disk adapted to compact soil above planted mint; and means of supplying motive power to the implement.

3,379,148
ADJUSTABLE GAGE FOR SEWING MACHINES

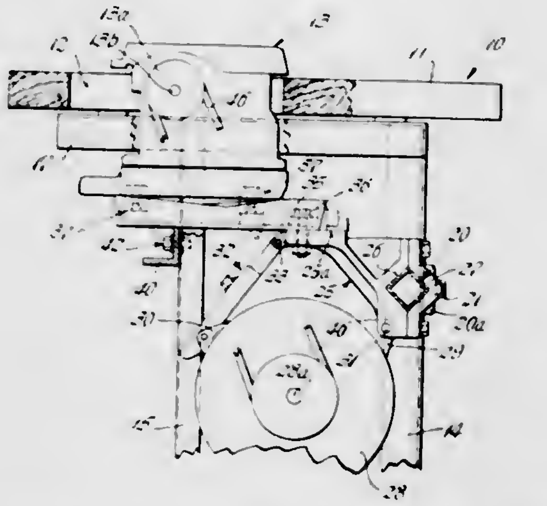
Arthur Kalish, 949 43rd St., Brooklyn, N.Y. 11219
Filed Sept. 21, 1965, Ser. No. 488,983
1 Claim. (Cl. 112—153)



A magnetized member is provided with a pair of locating pins insertable in guide holes of a sewing machine table. The magnetized member is attracted to the ferrous material of the sewing machine table and is prevented from lateral displacement by the pins. A gage bar is slidable along the magnetic bar. The gage bar is held in a desired position along said member by a spring-actuated latch.

3,379,149
STAND FOR SEWING MACHINES

Richard Russell, Tappan, N.Y., assignor to Willcox-Gibbs Sewing Machine Company, New York, N.Y., a corporation of New York
Filed Aug. 9, 1966, Ser. No. 571,342
7 Claims. (Cl. 112—217.3)

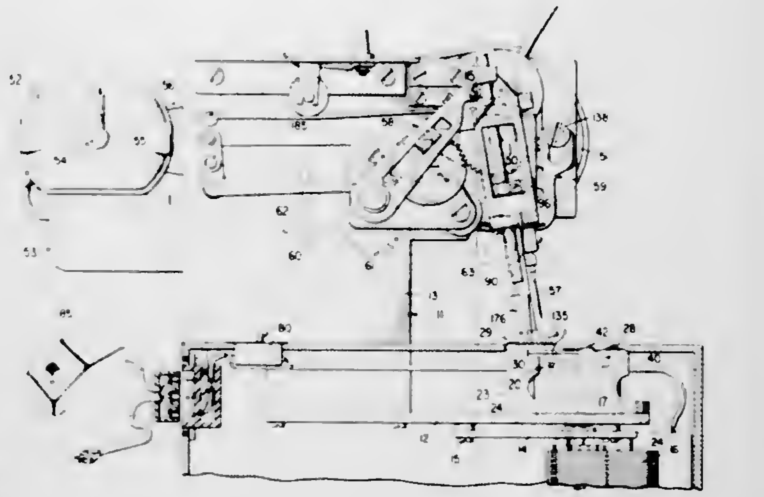


A stand for supporting a sewing machine or the like and a motor therefor comprising a work supporting top surface having a machine receiving opening therein and support means including a bracket having means to support said motor and a machine supporting plate adjustable on the bracket and extending under said opening and having a front portion supported by a front bar of the support means whereby the sewing machine and motor are mounted independently of the work supporting surface and are adjustable as a unit with respect thereto.

3,379,150
LOOP TAKERS FOR SEWING MACHINES

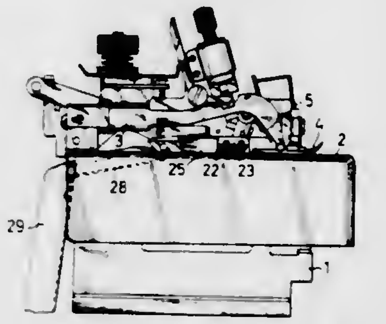
Ralph E. Johnson, Boonton, N.J., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Original application Mar. 12, 1965, Ser. No. 439,420. Divided and this application Apr. 12, 1967, Ser. No. 630,292
3 Claims. (Cl. 112—228)

A sewing machine is disclosed having a loop taker of the type adapted to concatenate threads into lock stitches. The bobbin case of the loop taker rests against a planar bearing surface on the loop taker body and the sole constraint for the bobbin case axially, radially and angularly of the loop taker body is provided by a stationary bobbin case retainer carried by the sewing machine.



3,379,151
THREAD CHAIN TRIMMING DEVICE FOR SEWING MACHINES

Helmut Tiemann, Bielfeld, Germany, assignor to Kochs Adlernahmaschinenwerke, AG, Bielfeld, Germany
Filed Jan. 17, 1967, Ser. No. 609,899
Claims priority, application Germany, Jan. 19, 1966, K 58,181
6 Claims. (Cl. 112—252)

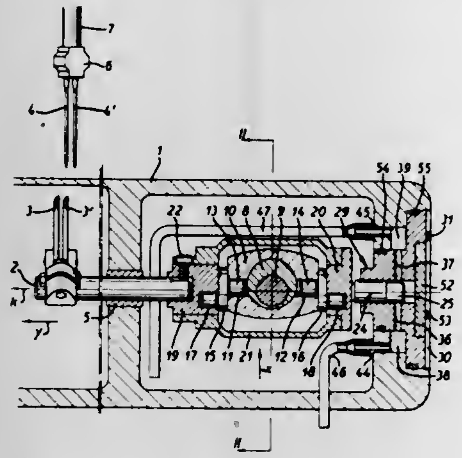


A device for trimming the thread chain formed between successive pieces of work fed through a sewing machine during its operation, at the beginning and end of the seam. A movable knife is mounted beyond the path of motion of the work piece, is moved with the feed dog, and co-acts with a fixed counter knife. A mechanism for the automatic insertion of the thread chain between the knives is provided.

3,379,152
OIL CIRCULATION DEVICE IN A SEWING MACHINE

Luigi Bono, Pavia, Italy, assignor to Necchi Società per Azioni, Pavia, Italy
Continuation of application Ser. No. 345,963, Feb. 19, 1964. This application Dec. 21, 1966, Ser. No. 603,687
Claims priority, application Italy, Apr. 5, 1963, 7,525/65, Patent 695,661
6 Claims. (Cl. 112—256)

An oil pumping means in a sewing machine, including an oil piston pump whose piston is radially cut away for a portion of its length and which is reciprocably driven along a cylinder axis and also rotatably oscillated about said axis by means of an eccentric driving connection which drives piston jointly with the hook shaft of the machine, the piston cut away portion serving to alternately close and open radially opposite oil ports in the cylinder.

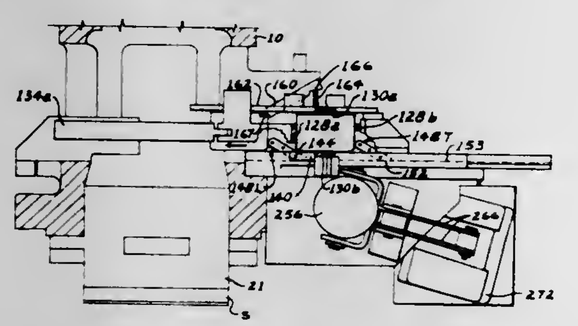


3,379,153
FEED MECHANISM FOR CUP-SHAPED BLANKS

Arthur Dean Smith, also known as A. Dean Smith, San Lorenzo, Henry G. Henrickson, Walnut Creek, and Cornelis Langewis, Oakland, Calif., assignors to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware

Original application Apr. 29, 1963, Ser. No. 276,632. Divided and this application July 8, 1966, Ser. No. 590,112

3 Claims. (Cl. 113—115)



1. Apparatus for delivering cup-shaped blanks to the barrel of a container-forming machine comprising corridor means leading laterally into the barrel of the container-forming machine and means including a slide for propelling the blanks along said corridor means and into said barrel, means for reciprocating said slide along said corridor means, a pair of spaced arms pivotally supported from said slide to extend forwardly therefrom, a roller pivotally supported between the free ends of said arms and means urging said arms yieldably into a position in which they slant relative to said slide so that upon forward movement of said slide said roller engages the rear wall of a cup-shaped blank in said corridor means and propels it forwardly, and upon rearward movement of said slide said arms submerge below the bottom of a succeeding cup-shaped blank.

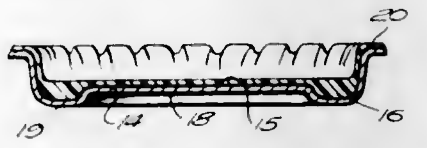
3,379,154
METHOD OF MAKING A CLOSURE CAP

Fernando M. Ronci, 584 Pleasant Valley Parkway, Providence, R.I. 02908

Filed Aug. 30, 1965, Ser. No. 483,757

20 Claims. (Cl. 113—121)

1. The method of manufacturing a closure cap which comprises punching a plurality of annular grooves in a sheet of metal stock, depositing a predetermined amount of sealer material on said sheet, spreading said material over said sheet to form a thin coat covering said sheet and to fill said grooves, and stamping a finished closure member from said sheet at each of said grooves whereby each closure member has a central body portion with a peripheral groove and an integral depending skirt portion, said sealing material coating the interior of said closure member and filling said groove.

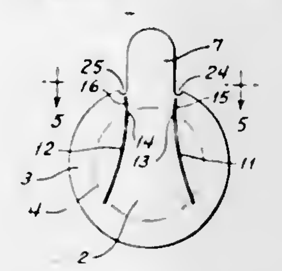


3,379,155
METHOD OF FORMING CLOSURE CAPS

Herbert F. Wheaton, Summit, and Stanley J. Koll, Keansburg, N.J., assignors to American Flange & Manufacturing Co., Inc., New York, N.Y., a corporation of Delaware

Original application Nov. 25, 1963, Ser. No. 325,817, now Patent No. 3,258,149, dated June 28, 1966. Divided and this application Oct. 21, 1965, Ser. No. 505,594

5 Claims. (Cl. 113—121)



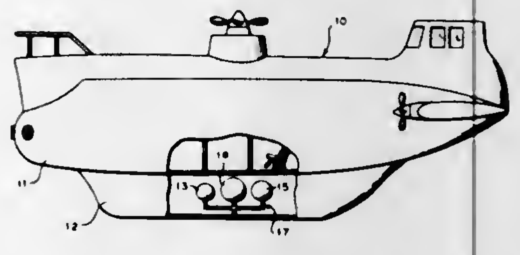
A method of forming lightweight metal closure caps provided with a tear strip portion to facilitate removal from a container. The forming of the cap and particularly the score lines which defines the tear strip, are carried out so as to improve upon the structural qualities of the finished cap.

3,379,156
AUTOMATIC BUOYANCY COMPENSATION SYSTEM

Keatinge Keays, Groton, and Raymond L. Colechia, Mystic, Conn., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Dec. 5, 1966, Ser. No. 599,685

7 Claims. (Cl. 114—16)



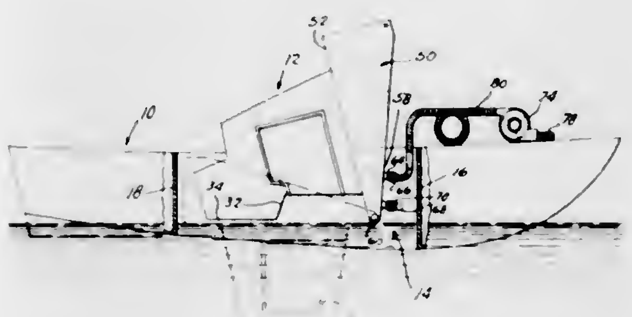
Greater design strengths required in deep-diving submarines render them less compressible in the water manifesting a steadily increasing buoyancy as the submarine descends. To compensate for this increase, compressed air tanks are added to the outside of the pressure hull and filled to predetermined pressures. A floating-ball check valve in each tank admits ambient sea water as the vehicle descends. As the vehicle ascends, the water is expelled from the tanks but the compressed air remains entrapped. In this manner, the vehicle ballast varies approximately in direct proportion to the buoyancy over the entire depth range.

3,379,157
WATERCRAFT WITH SUBMERSIBLE MARINE OBSERVATION CHAMBER

William L. Post, 7401 Beachview Drive, Miami Beach, Fla. 33141

Filed Oct. 14, 1966, Ser. No. 586,817

11 Claims. (Cl. 114—66)



1. In combination, a watercraft for surface aqueous movement, a cabin having transparent portions for subsurface marine observation, pivot means mounting said cabin on said craft for movement from an elevated position in which the cabin is substantially above the water surface to a lowered position in which the cabin is at least partially submerged, and said cabin having a ballast-water-receiving compartment positioned above the water surface in the elevated position of the cabin, and a water discharge nozzle including a control valve mounted near the bottom of said compartment close to said pivot means.

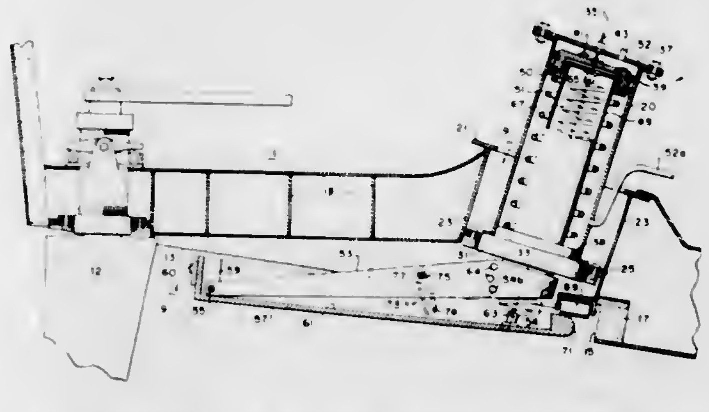
3,379,158
AUTOMATIC STABILIZER FOR WATERCRAFT

John Plum, Montgomery County, Md.

(5402 Tuscarawas Road, Washington, D.C. 20016)

Original application Feb. 25, 1965, Ser. No. 435,383. Divided and this application Mar. 1, 1966, Ser. No. 550,071

6 Claims. (Cl. 114—66.5)



An apparatus adapted to stabilize stepped planing hulls. The apparatus may be controlled to provide a negative trim angle to pull down the stern portion of the vehicle and a positive trim angle to lift the stern portion of the vehicle.

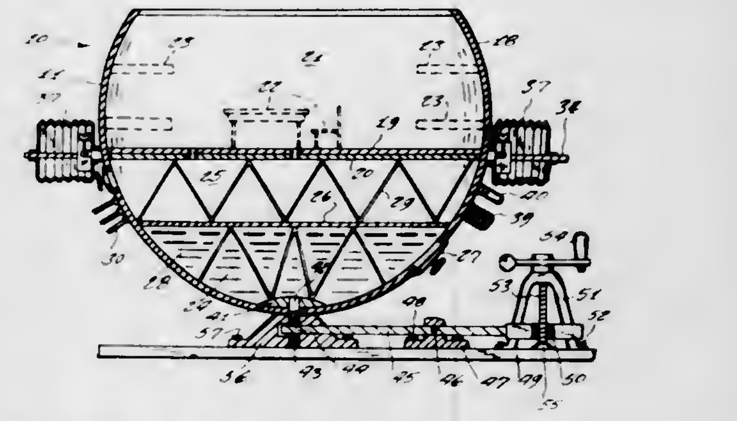
3,379,159
ANTISEASICKNESS CABIN

John Lovrich, 307 S. Middletown Road, Nanuet, N.Y. 10954

Filed Feb. 13, 1967, Ser. No. 615,695

2 Claims. (Cl. 114—189)

A ship cabin or room, the cabin having a heavier weight at its lower end so that it remains upright, and the cabin being supported in a gimbal ring pivotally secured to a deck of a ship so as to permit, universally, movement of the cabin, so to prevent seasickness to the occupants within it when the ship is rolling and pitching.

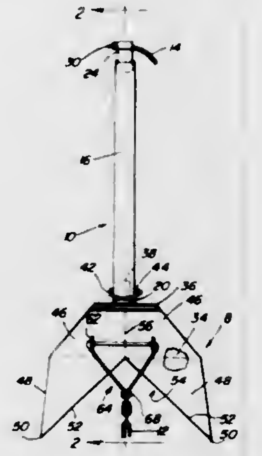


3,379,160
ANCHOR CONSTRUCTION

Paul D. Gibbons, 5844 McCommas, Dallas, Tex. 75206

Filed Mar. 2, 1967, Ser. No. 620,132

7 Claims. (Cl. 114—208)



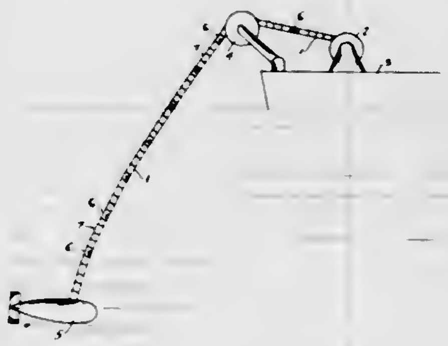
An anchor having two flukes secured together and a stem secured to the flukes at an angle. The anchoring line is secured directly to the flukes.

3,379,161
TOWLINES WITH MINIMUM WIDTH FAIRINGS

Donald A. Nichols, Old Lyme, and Julius O. Natwick, Niantic, Conn., assignors to the United States of America as represented by the Secretary of the Navy

Filed Aug. 31, 1966, Ser. No. 576,804

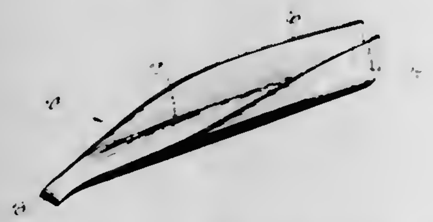
9 Claims. (Cl. 114—235)



A streamlined towline providing mechanical and electrical connection of a submerged body and a ship, comprising a strength member and electrical conductors in a streamlined fairing and fairing support rings. Fairing support rings fixed at intervals to the strength member each support a support-fairing unit, and each support-fairing unit supports a number of rider-fairing units. The rings prevent high compression loads accumlating in the fairing by transferring these loads in increments to the strength member and eliminate the need for links and stacking by preventing gaps from forming between fairing units.

3,379,162
POSITIONING DEVICE FOR CABLE FAIRING

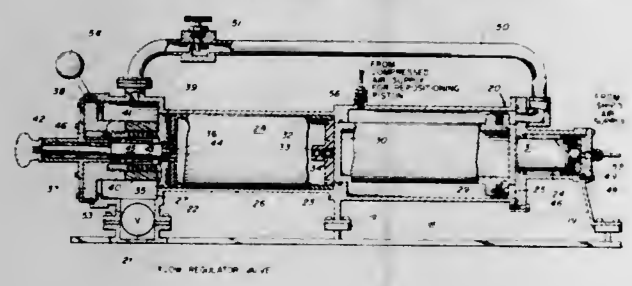
Clarence K. Chatten, Jackson Heights, and Saul A. Eller, New York, N.Y., assignors to the United States of America as represented by the Secretary of the Navy
Filed Nov. 16, 1966, Ser. No. 595,322
2 Claims. (Cl. 114—235)



This invention comprises a trough-like structure for passively rotating a cable fairing, or like object, 180° in attitude. The interior contour of the trough changes gradually from one end to the other and this change in contour forces the fairing, which is in sliding contact with the interior of the trough, to conformably change its orientation. The trough-like structure has a base, two sides extending upwardly from the base and a downwardly curving lip portion at one end of the base. Each side flares upwards from the lip end to a maximum height at the other end of the base. The cross-sectional view of the base and sides has a large radius of curvature at the lip end, the radius of curvature gradually becoming smaller toward the other end where the cross-section is substantially U-shaped.

3,379,163
MEANS OF LAUNCHING TORPEDOES

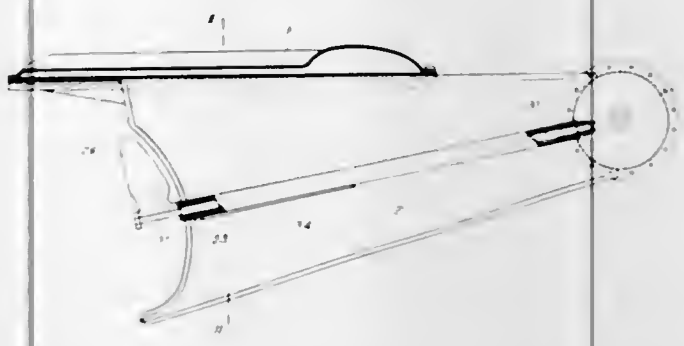
Roger H. Wiethoff, Wayzata, Minn., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Mar. 10, 1967, Ser. No. 623,189
3 Claims. (Cl. 114—238)



A steam generating system for propulsion energization of a torpedo launching tube incorporates a valved, deformable plastic hydrogen peroxide containing chamber and a reaction chamber containing a catalyst, together with an air operating pilot piston, a main driving piston and a fitting for connection to pressurized air supply source for compression of the deformable hydrogen peroxide chamber to expel the solution contained therein through the valve and into the reaction chamber. A valve controlled feedback loop effects a self energization of the driving piston after initial actuation by the pressurized air. The system incorporates valve type control devices for effecting the desired parameters of operation required to launch a torpedo from a below-deck launching tube of a surface type naval vessel.

3,379,164
NAUTICAL APPARATUS HAVING A REMOVABLE CENTERBOARD

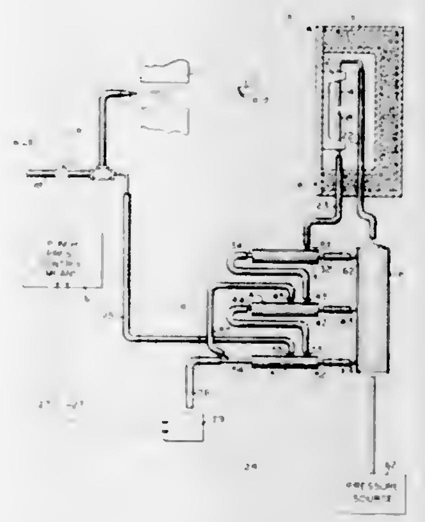
Justin Benoît Pillon, 38 Rue Bugeaud, Lyon, Rhone, France
Filed Mar. 1, 1967, Ser. No. 619,697
Claims priority, application France, Mar. 3, 1966, 51,850, Patent 1,482,036
8 Claims. (Cl. 115—6.1)



A floating support for a person having a centerboard with a manually operated propulsion means on the centerboard. The centerboard is mounted in a groove under the support.

3,379,165
OBJECT DETECTING SYSTEM

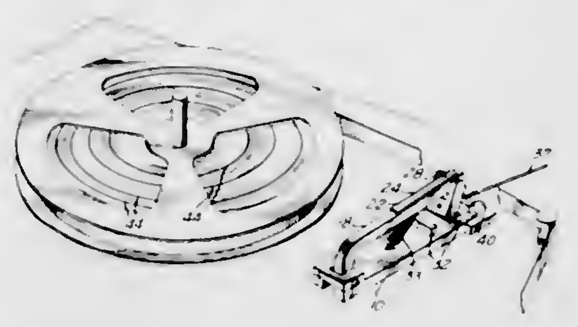
Richard C. Mott, Harwood Heights, Ill., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed June 16, 1966, Ser. No. 558,103
9 Claims. (Cl. 116—65)



1. A fluidic device for detecting moving objects, comprising:
means for generating sound upon being struck, said means for generating sound adapted to be struck by a moving object;
sound insulating means attached to said means for generating sound to form a substantially sound proof chamber;
and turbulence-type fluid amplifier means disposed within said chamber, said fluid amplifier means having an input means and an output means, said input means adapted for connection to a pressure source means whereby said input means issues a free-flowing, laminar jet, said output means disposed in substantial axial alignment with said input means to capture said laminar jet and provide an output pressure, said laminar jet being caused to become turbulent by the sound generated by said moving object striking said means for generating sound.

3,379,166
TAPE INDICATOR

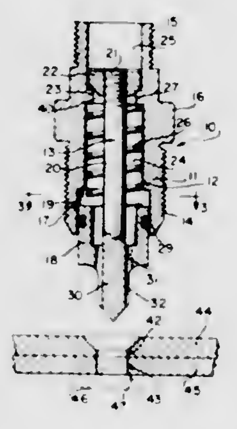
Frank P. Inglima, 1370 N. Dominion Ave., Pasadena, Calif. 91104
Filed Aug. 30, 1965, Ser. No. 483,687
2 Claims. (Cl. 116—114)



A device capable of selectively raising recording tape as it is being reeled on a takeup reel to produce a misaligned portion of the tape which is higher than the remaining tape to indicate the location of desired recorded material on the tape, by means of an arm member which contacts the lower edge of the tape as it is being reeled and pushes it up, upon activation by the person operating the device.

3,379,167
DISPENSING DEVICE

William L. Douglas, Marietta, Ga., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Mar. 30, 1965, Ser. No. 443,990
17 Claims. (Cl. 118—3)

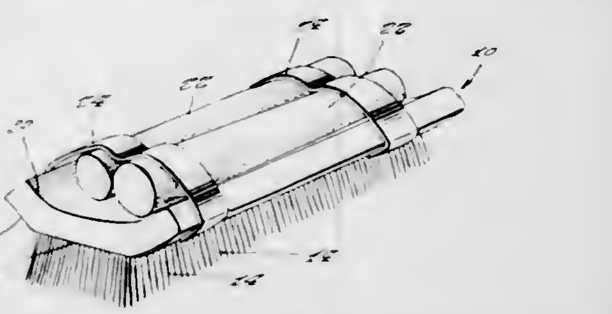


This device provides a mechanical means to apply selected sealants in measured quantities within defined requirements. Application of sealants is accomplished by a controlled method of placing the sealant in fastener holes in such a manner that the labor costs in clean up time are minimized while satisfying the exacting requirements relative to "wet fastener" installations set up by the strictest quality control and manufacturing standards.

3,379,168
GOLF BALL CLEANING AND CHALKING DEVICE

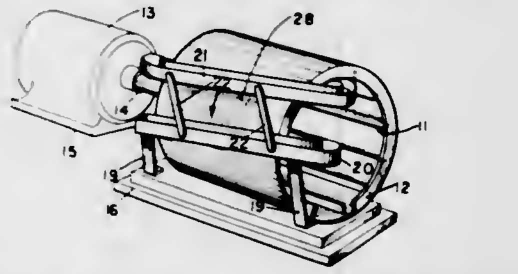
Marcellus M. Bosworth, 9112 Bunkum Road, East St. Louis, Ill. 62204
Filed July 18, 1966, Ser. No. 565,962
2 Claims. (Cl. 118—72)

1. A golf ball cleaning and chalking device comprising an elongated brush including a base element having brush bristles extending from one face thereof and whose opposite face is concave in the transverse direction so as to present, with complementary portions of said one face, oppositely disposed inclined wing sections; at least one elongated chalk member disposed in parallel relationship to said wing sections and supported on said concave surface; and clip means engaging said chalk member and wing sections and extending transversely across said concave surface whereby to clamp said chalk member to the concave surface of the brush.



3,379,169
APPLICATOR-RESERVOIR DRUM INCLUDING MEANS TO CONVEY PARTICULATE COATING MATERIAL

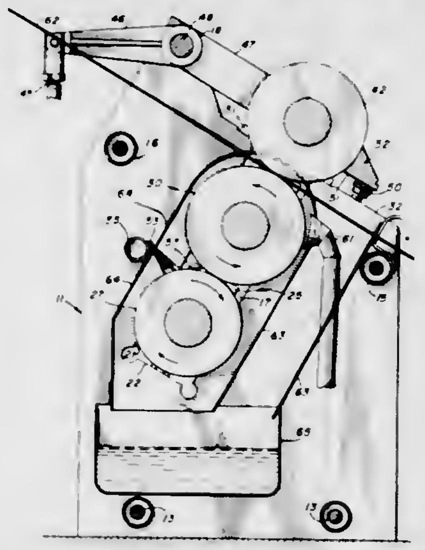
Charles L. Lovercheck, 632 W. 7th St., Erie, Pa. 16502
Filed May 28, 1963, Ser. No. 283,930
3 Claims. (Cl. 118—258)



In a coating apparatus a horizontally disposed rotary applicator roll, the inside of which comprises a reservoir for particulate coating material, in combination with a pair of vibratory trough means whereby said particulate material is received and conveyed out of the rotating roll by an upper one of said trough means, cascaded onto the applicator portion of said roll and the excess of said cascaded material returned to the reservoir by a lower one of said trough means.

3,379,170
LIQUID APPLICATOR

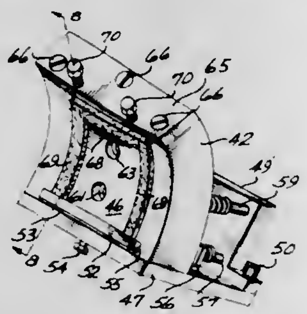
Edgar E. Thomas and David E. Lamon, Appleton, Wis., assignors to Appleton Machine Company, a corporation of Wisconsin
Filed Feb. 16, 1965, Ser. No. 433,000
2 Claims. (Cl. 118—259)



A continuous web three-roll liquid applicator having a rider roll, a dampening roll and an applicator roll in which a moving web passes between the rider roll and dampening roll in engagement with the outer surfaces thereof for causing rotation of the rolls. Pressure applied to the web as it passes between the rider roll and dampening roll may be positively controlled. The dampening roll and the applicator roll are mechanically interconnected so the applicator roll is positively driven by the dampening roll thereby allowing for control of the amount of liquid transferred from the applicator roll to the dampening roll. A liquid supplying means includes means for spraying liquid onto the surface of the applicator roll to maintain uniform distribution of the liquid across the roll and for controlling metering of the liquid onto the dampening roll.

3,379,171
RELEASE AGENT COATING APPARATUS

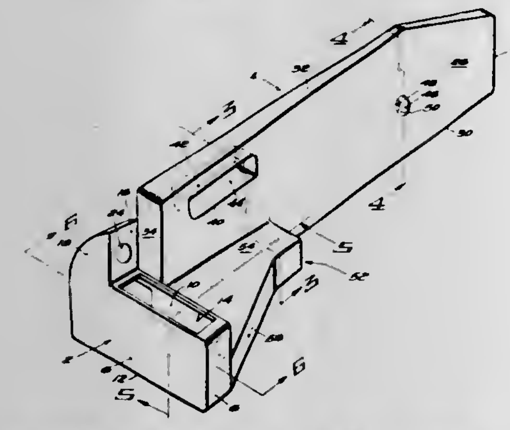
Richard H. Cordingly and Dale W. Quackenbush, Longview, Wash., assignors to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington
Filed Aug. 17, 1964, Ser. No. 389,865
8 Claims. (Cl. 118—261)



1. An apparatus for applying liquid to a wheel surface comprising in combination:
- an applicator pot means;
- side seal means secured to said pot means;
- a doctor blade positioned normal to and in contact with said side seal means;
- adjusting means supported in said pot means and engageable with one end of said side seal means to adjust the pressure of the other end of said side seal means against said doctor blade; and
- inlet means in said pot means for supplying said liquid to the chamber formed by said pot means, said side seal means, said doctor blade, and said wheel surface.

3,379,172
COMBINED WATER BOTTLE AND BRUSH HOLDER

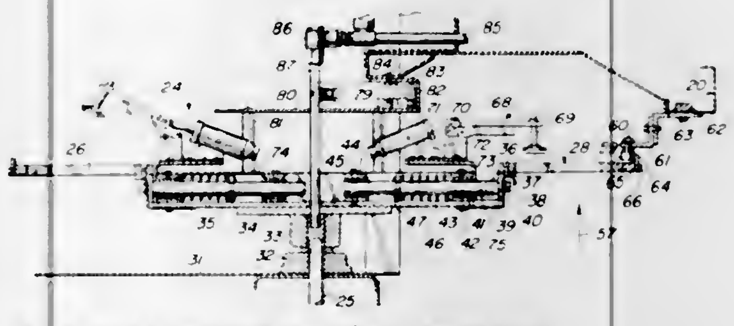
Britton H. Doyle, Nashua, N.H., assignor to Nashua Corporation, Nashua, N.H., a corporation of Delaware
Filed May 6, 1966, Ser. No. 548,172
8 Claims. (Cl. 118—267)



The invention is a water supply means for gummed tape dispensers, in the form of a water bottle combined with a brush holding portion, the combination being attachable to a tape dispensing apparatus. The water bottle has an upstanding hollow structure for holding a supply of water and a horizontally extending brush holding portion connected thereto. Water is automatically admitted to the brush holding section for wetting the brush as need arises, the supply of water to the brush section being automatically cut-off when water has reached a given level in the brush holding section. An additional upstanding chamber is provided with a hole therein through which the combination water bottle and brush holder may be conveniently filled with a supply of water without removing the brush.

3,379,173
ROTARY-LINEAR SPRAY PAINTING MACHINE

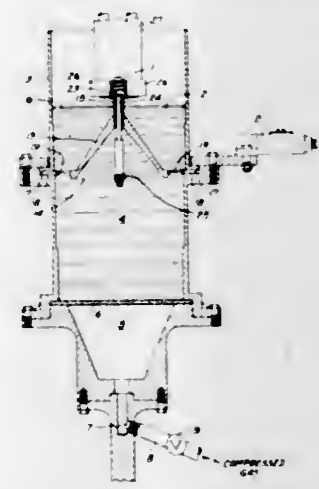
Harry Szczepanski, 755 Oakleigh Road NW., Grand Rapids, Mich. 49504
Filed Oct. 3, 1966, Ser. No. 583,846
7 Claims. (Cl. 118—301)



1. A spray painting machine, comprising:
- a frame;
- a rotor rotatably mounted in said frame;
- at least one mask carrier mounted on said rotor for movement having a component toward and away from the axis of rotation of said rotor;
- a spray station producing a spray axis disposed at a selected position along the path of movement of said mask carrier determined by the rotation of said rotor;
- cam and follower means mounted on said frame and mask carrier, and adapted to induce substantially radial motion of said mask carrier to cause said spray axis to follow a straight line with respect to said mask carrier: and drive means for said rotor.

3,379,174
APPARATUS FOR APPLYING A COATING ONTO A LOCALIZED REGION OF THE INSIDE OF A HOLLOW ARTICLE

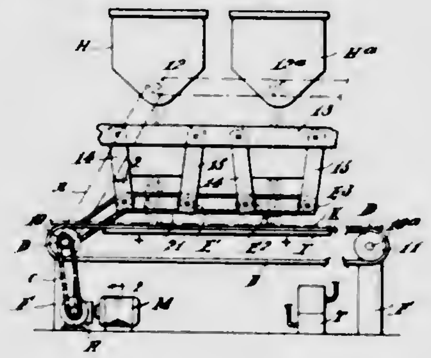
Vincent Vodicka, South Euclid, Ohio, assignor to General Electric Company, a corporation of New York
Filed Apr. 1, 1964, Ser. No. 356,552
7 Claims. (Cl. 118—318)



Apparatus for applying a coating of powdered resin onto a localized region of the inside wall of a hollow article having an open end, by levitation of the powdered resin from a fluidized bed thereof, has a funnel-shaped applicator nozzle positioned with its funnel mouth end facing downwardly and immersed in the fluidized powder bed and its upper nozzle-spout end projecting above the top surface of the powder bed. Holder means support the hollow article with its open end down and positioned over the upper nozzle-spout end of the applicator nozzle, and a deflector cap member overlies the open upper nozzle-spout end of the applicator nozzle to intercept the coating particles issuing upwardly therefrom and redirect them laterally outward of the nozzle end onto localized regions of the hollow heated article.

3,379,175
FLOCK-APPLYING APPARATUS

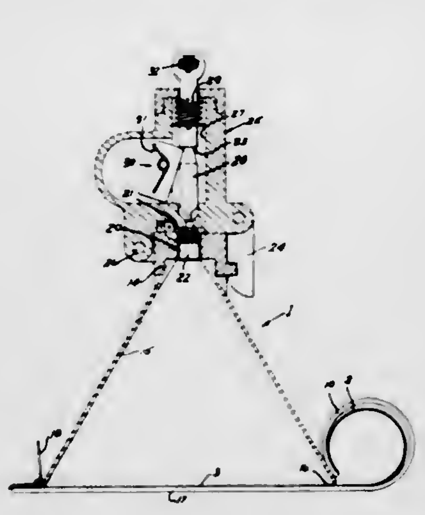
Francis T. Spencer, Biddeford, Maine, assignor to West Point-Pepperell, Inc., Boston, Mass., a corporation of Georgia
Filed Apr. 8, 1966, Ser. No. 541,321
6 Claims. (Cl. 118—636)



An electrostatic grid structure interposed in the path of downwardly falling flock fibers dropped freely from a dispensing device, said grid structure comprising parallel, spaced rotatable elements charged to a high electrostatic potential, and means for rotating said cylindrical elements at a constant predetermined angular velocity.

3,379,176
LIVESTOCK IDENTIFICATION METHOD AND APPARATUS

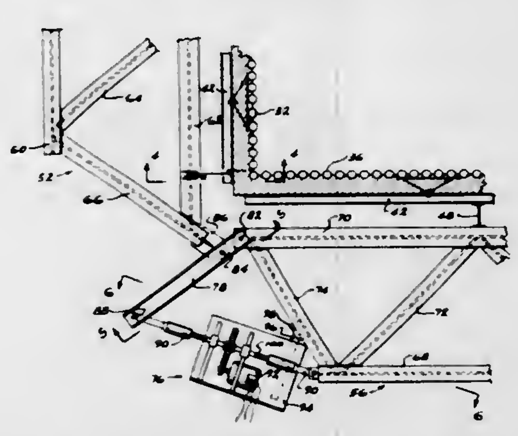
Robert L. Propst, Ann Arbor, Mich., assignor to Herman Miller, Inc., Zeeland, Mich., a corporation of Michigan
Filed Oct. 20, 1965, Ser. No. 498,759
19 Claims. (Cl. 119—1)



A method and apparatus for identifying livestock and individual animals which destroys the roots of the hair within a selected area on the animal's body and tattoos identifying characters within this selected area by a sudden impelling or impact force on one side of a strip containing a depilatory and indicia.

3,379,177
BUCKSTAY CONNECTION FOR FURNACE WALLS

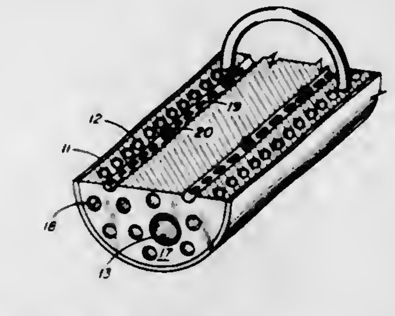
Gunter J. Stalph, Windsor, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Dec. 29, 1966, Ser. No. 605,857
12 Claims. (Cl. 122—6)



Apparatus for connecting heavy buckstays about the walls of a vapor generator furnace in a manner that permits the buckstays to be attached independently of the heat exchange tubes that line the furnace walls. The buckstays are attached to vertical beams that are suspended from building steel or are bottom supported and that surround the furnace. They are connected at the ends such that the buckstays on opposed walls serve as ties for those on adjacent walls. In order that the buckstays can undergo movement coincident with expansion and contraction of the walls they are interconnected at their ends by stiff pivotable linkage connections. The position of the links determines the position of the buckstays and the former are driven in response to signals emitted by sensors adatped to determine the position of the furnace walls relative to the buckstays.

3,379,178
FAST STARTUP DEVICE FOR TORPEDO POWER PLANT

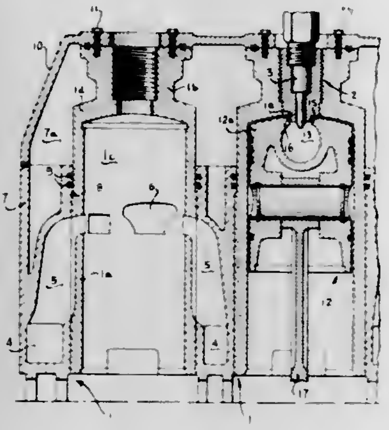
Carl Boyars and Charles F. Sharn, Silver Spring, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Nov. 17, 1964, Ser. No. 412,297
10 Claims. (Cl. 122—247)



1. In a torpedo power plant,
- a casing defining a combustion chamber,
- a pipe mounted longitudinally within the casing for introducing an oxidant into the chamber,
- a plurality of tubular coils mounted within said combustion chamber for generating steam.
- a mixture of lithium shot and pyrotechnic pellets surrounding said pipe and coils and filling said chamber,
- and means for igniting the mixture of lithium shot and pyrotechnic pellets,
- whereby the ignited pellets rapidly raise the temperature of the lithium shot above its melting point to enable the lithium to react with the oxidant and further heat the coils to generate steam for the power plant.

3,379,179
INTERNAL COMBUSTION ENGINE

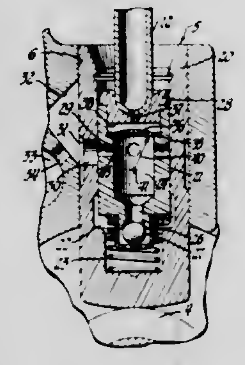
Albrecht Wolfgang, Mantzel, Ingolstadt (Danube), Germany, assignor to Inpaco Trust Reg., Vaduz, Liechtenstein
Filed June 8, 1965, Ser. No. 462,235
Claims priority, application Germany, June 9, 1964, J 26,001
9 Claims. (Cl. 123—65)



1. In a two-cycle internal combustion engine, a plurality of cylinders each defining a chamber having a single outlet for combustion products and each having a first end provided with a head and a second end; and a casing surrounding said cylinders and defining an air-containing compartment surrounding the second end of each cylinder, said casing further defining a plurality of air-conveying channels communicating with each of said compartments, said channels extending substantially axially of the respective cylinders and having discharge ends communicating with the respective chambers in zones located between the ends of the corresponding cylinders.

3,379,180
HYDRAULIC VALVE LIFTER

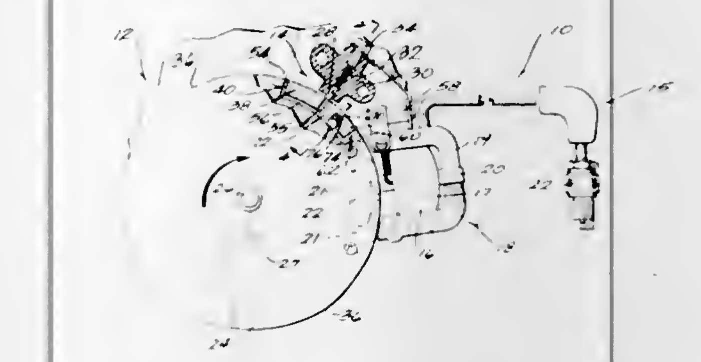
Richard H. Kabel, Warren, and Robert J. Belling, Madison Heights, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 6, 1967, Ser. No. 643,985
3 Claims. (Cl. 123—90)



A push rod and rocker operating mechanism including a side pressure oil fed hydraulic tappet having a hollow plunger open at its upper end through a central aperature in its push rod seat member for flow of oil to the rocker, there being a plate-like valve in the plunger having a part-cylindrical surface abuttable with a flat surface on the push rod seat member to variably restrict such flow, and the valve having a hole therethrough at one side of its curved surface to induce tilting of the valve when urged into abutment with the push rod seating member by forces of inertia or oil pressure in the plunger.

3,379,181
IGNITION SYSTEM

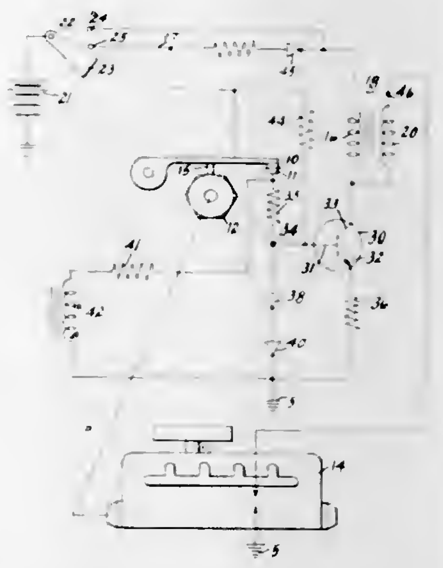
Lloyd H. Tuggle, Galesburg, Ill., assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware
Filed Feb. 9, 1966, Ser. No. 526,216
8 Claims. (Cl. 123—146.5)



Disclosed herein is an ignition system including a grounded rotatable member which is a part of a primary circuit and which is engaged by a contact along the periphery thereof to complete the circuit. The rotary member includes a pair of inserts which are electrically insulated from the remainder of the member so as to interrupt current flow as the contact member passes by. One of the inserts is electrically connectable to the member through an element which is radially movable in response to variation in rotational speed.

3,379,182
IGNITION SYSTEM

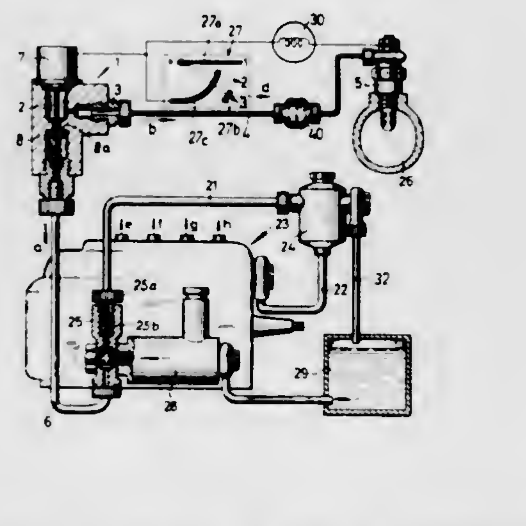
Albert D. Rittmann and James E. Shearer, Kokomo, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 29, 1966, Ser. No. 546,300
3 Claims. (Cl. 123—148)



An ignition breaker point operated transistorized ignition system which utilizes a transistor switch for establishing and interrupting the energizing circuit for the primary winding of the ignition coil and an inductor device for extinguishing the transistor upon the opening of the breaker points wherein the combination of a resistor connected in parallel with the breaker points for rendering the transistor switch reconductive before the points reclose and a diode connected in series with the current carrying electrodes of the transistor and the ignition coil primary winding for preventing oscillatory currents through the ignition coil primary provides for the rapid increase of current through the ignition coil primary and the combination of an emitter resistor and at least one diode connected in parallel with the base-emitter junction of the transistor switch and the emitter resistor provides a features for limiting current through the transistor switch.

3,379,183
STARTER ARRANGEMENT FOR INTERNAL COMBUSTION ENGINES

Karl Wolf, Stuttgart-Sonnenberg, Germany, assignor to Robert Bosch, GmbH., Stuttgart, Germany
Filed Aug. 11, 1966, Ser. No. 571,899
Claims priority, application Germany, Aug. 17, 1965, B 83,283
10 Claims. (Cl. 123—179)

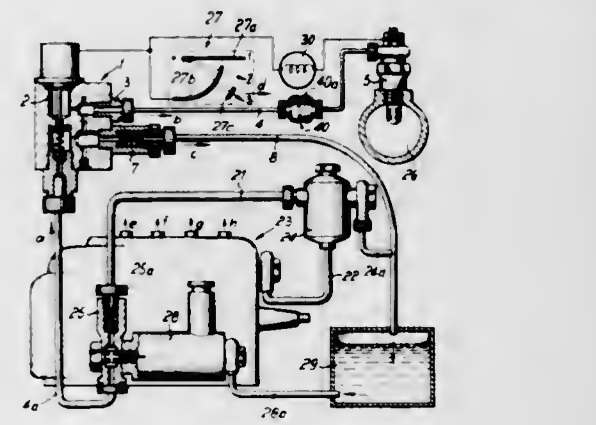


1. A starter arrangement for internal combustion engines of the type having an intake manifold communicating with at least one combustion chamber which receives fuel from an injection pump and wherein the injection pump receives fuel from a fuel pump having a pipe connecting its pressure outlet with the intake of the injection pump, said starter arrangement comprising a preheating device extending into the intake manifold; conduit means connecting the pressure outlet of the fuel pump with said preheating device; a pressure-responsive valve provided in the pipe between the fuel pump and the injection pump for delaying the admission of fuel to the injection pump when the fuel pump is started so that said preheating device receives fuel ahead of the injection pump; and heating means for raising the temperature of said preheating device so that fuel admitted by said conduit means is ignited and the resulting flame is propagated into and heats the combustion chamber before the latter receives fuel from the injection pump.

3,379,184
PREHEATING ARRANGEMENT FOR INTERNAL COMBUSTION ENGINES WITH FUEL INJECTION

Karl Wolf, Stuttgart-Sonnenberg, Germany, assignor to Robert Bosch, G.m.b.H., Stuttgart, Germany
Filed Aug. 11, 1966, Ser. No. 571,900
Claims priority, application Germany, Aug. 17, 1965, B 83,284
15 Claims. (Cl. 123—179)

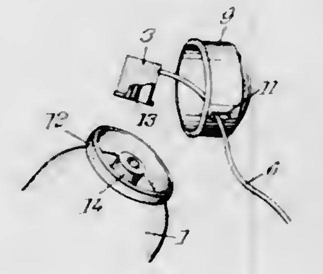
1. A valve assembly for use in preheating arrangements of internal combustion engines, particularly for controlling the flow of fuel to the electrically heated preheating device in the intake manifold of an internal combustion engine with fuel injection, comprising a body defining a space, a fuel-admitting inlet communicating with said space, and an outlet for discharging fuel from said space; a solenoid-operated valve member for controlling the admission of fuel via said inlet; an overflow line connected with said body and communicating with said space; and a pressure-responsive valve for regulating the admission of fuel from said space into said overflow line.



8. A preheating arrangement for internal combustion engines of the type having at least one combustion chamber communicating with an intake manifold and wherein such chamber receives fuel from an injection pump which is supplied with fuel by piping connected to the pressure outlet of a fuel pump, said preheating arrangement comprising a preheating device extending into the intake manifold; conduit means connecting the pressure outlet of the fuel pump with said preheating device; a valve assembly including a body installed in said conduit means, a valve member provided in said body for normally sealing the same to prevent the flow of fuel to said preheating device, an overflow line connected to said body, and a first pressure-responsive valve for regulating the flow of fuel from said conduit means into said overflow line; electric means for moving said valve member to open position and for simultaneously heating said preheating device so that said device ignites the fuel delivered by said conduit means in response to starting of the fuel pump whereby the resulting flame preheats the combustion chamber of the engine; and a second pressure-responsive valve provided in the piping between the fuel pump and the injection pump for delaying the admission of fuel to the injection pump so that the preheating device invariably receives fuel ahead of the injection pump.

3,379,185
DEVICES FOR ADVANCING THE STARTING OF COLD INTERNAL COMBUSTION ENGINES

Maurice Frisch, 24 Parc de l'Ile Verte, 78 Chatou, France
Filed May 10, 1966, Ser. No. 548,951
Claims priority, application France, July 19, 1965, 25,177/65
4 Claims. (Cl. 123—180)



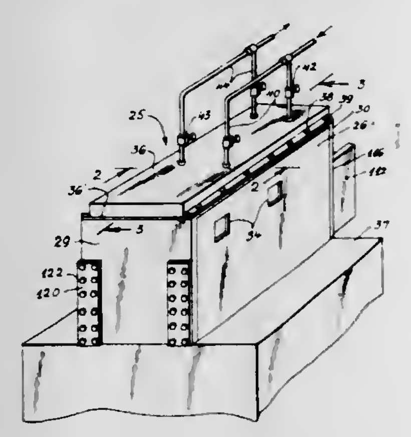
1. A device for advancing the starting of the cold internal combustion engine of a vehicle which comprises in combination a nozzle rigidly mounted in the air intake of said engine, a can containing a starting fluid under pressure, outlet means for said fluid carried by said can, a valve controlling the release of said fluid under pressure from said can through said outlet means and a member for actuating said valve both carried by said can, a flexible pipe connecting said outlet means to said nozzle, a cap

adapted to protect said actuating member and said outlet means movably fit in its closure position on said can and apertured to permit the loose passage therethrough of said flexible connection pipe, whereby said cap, in its closure position, protects said valve against any inopportune actuation, and, when removed from said closure position, is retained in a "non-losable" manner on said flexible connection pipe.

3,379,186

MACHINE WITH POLYHEDRAL PISTONS AND RENEWABLE STRAIGHT SEALS

Oscar A. Yost, 302 W. 22nd St.,
New York, N.Y. 10011
Filed Sept. 8, 1966, Ser. No. 577,953
18 Claims. (Cl. 123—193)

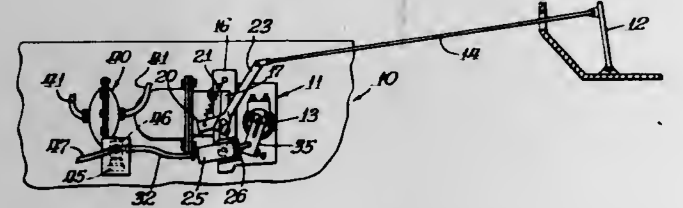


1. An engine comprising a rigid body having a plurality of integrally joined flat exterior walls and flat interior partitions defining a plurality of flat sided compartments, each of said compartments being polygonal in cross section for movably supporting correspondingly shaped pistons, at least one of said flat exterior walls has at least one longitudinally extending recess on its inner side, and a least one straight sealing bar for sealing a side of each piston disposed in said recess, said bar extending longitudinally of said body and crossing all of said compartments, so that the sealing bar can be moved longitudinally into and out of said body without disturbing any piston.

3,379,187

DIESEL SAFETY CONTROL APPARATUS

Roy J. Armbrust, 28501 Oaklawn, Glen Ellyn, Ill. 60137
Filed May 5, 1966, Ser. No. 547,835
3 Claims. (Cl. 123—198)

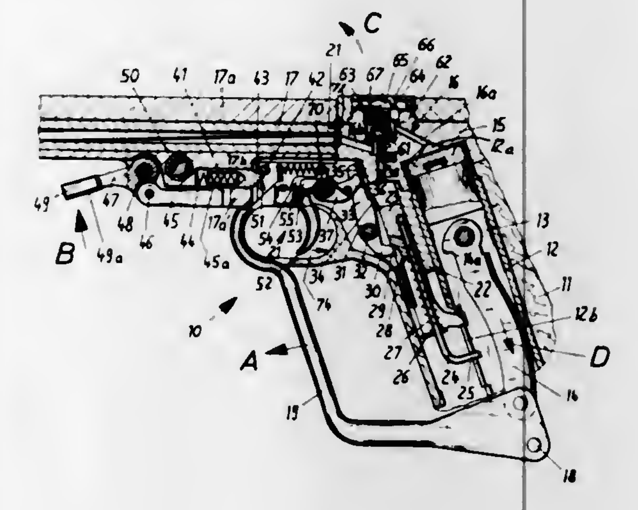


1. A protective device for an internal combustion engine having a pressurized oil lubricating apparatus with a feed and a drain, a forced circulation cooling system and a speed control apparatus with a moveable member effective to regulate the speed of the engine, said device comprising: hydraulic responsive means for connection to said lubricating apparatus, said means having a part moveable through a range of positions in response to the variance in pressure of the lubricating oil apparatus through a range of pressure; detection means for connection to said cooling system and having a portion moveable from an unacceptable position to an acceptable position when the force is adequate to produce satisfactory circulation; a control valve moveable between two positions and operatively connected to said portion to be moved to said positions respectively corresponding to said two positions of said portion, said valve having a hydraulic responsive means connection for connection to said hydraulic responsive means, a feed connection for connection to said lubricating apparatus and a drain connection, communication being established through the valve between the feed and hydraulic responsive means connection when said portion is in the acceptable position and when the portion is in the unacceptable position communication therebetween being blocked; and means connecting said moveable member and said part for adjusting said speed control apparatus to reduce the speed of said engine without stopping the engine, below the speed demanded thereof as the oil pressure drops below a normal value, with the speed reduction reflecting the extent to which the oil pressure is below said normal; whereby with inadequate oil pressure the speed at which the engine may be operated is reduced, yet the engine may be started and operated at a slow speed and when unsatisfactory circulation is indicated by the detection means the oil flow to the hydraulic responsive means is blocked and the engine is likewise slowed down.

3,379,188

TRIGGER TYPE COMPRESSED AIR GUN HAVING A PISTON WITH AIR VALVE AND AIR VALVE ACTUATOR

Fritz Walther, Wetterstelnweg 4,
Ulm (Danube), Germany
Filed Dec. 9, 1964, Ser. No. 417,107
Claims priority, application Germany, Dec. 12, 1963,
W 35,815
6 Claims. (Cl. 124—13)



1. A compressed air weapon comprising:
a barrel;
a compressed air cylinder;
a piston and piston rod reciprocally mounted within said cylinder;
a cocking lever system for controlling said piston, said piston being mounted to compress air captured in the cylinder when said lever system is in a cocked position;
trigger means for triggering a shot, said trigger means comprising a pivotally mounted trigger;
a valve chamber connecting the compressed air cylinder with said barrel;

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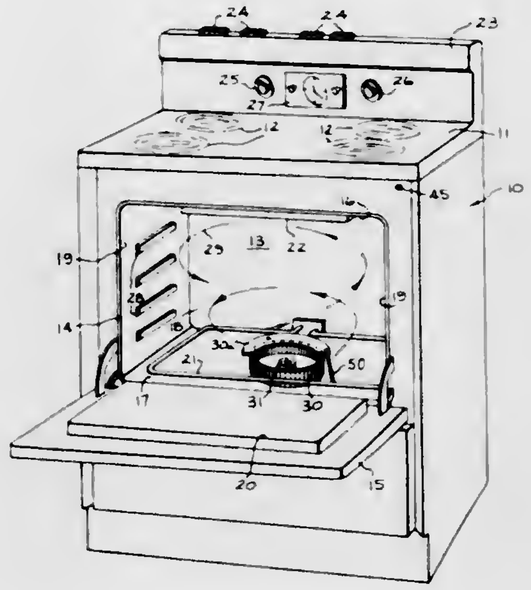
said piston rod being pivotally connected with the cocking lever system for compressing air in said cylinder by first drawing air into said cylinder during an intake stroke and then compressing the air drawn in during a compression stroke;
valve means being positioned in said valve chamber between the compressed air cylinder and the barrel, said valve means having a first end that is struck by the striker;
a striker member positioned adjacent said valve chamber being moved in a first direction when said piston is drawing air into said chamber and being moved in an opposite direction when said piston is compressing air in said cylinder;
spring means biasing said striker member toward said valve means first end;
a pivotally mounted catch-latch member having a first end slidably engaging said striker member during the air intake stroke to pivot said catch-latch member to engage and restrain said striker member against said spring means;
said trigger means normally abutting a second end of said catch-latch member to hold the catch-latch member in its restraining position and being further adapted to release said catch-latch member when said trigger means is squeezed to unlatch said striker member;
said catch-latch member is rotated by the action of said spring means to release said striker member to strike said valve means first end and lift the valve means first end together with its valve head to open the valve chamber and thereby allow the compressed air to move rapidly from its cylinder to said valve.

3,379,189

FORCED CONVECTION OVEN

Paul R. Staples, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Aug. 8, 1966, Ser. No. 571,082
3 Claims. (Cl. 126—21)

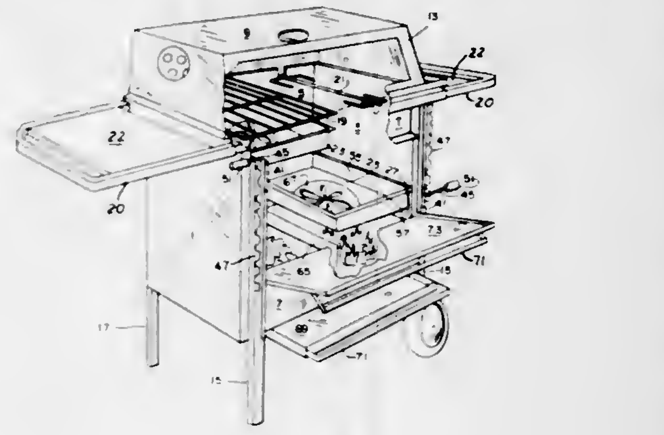


A forced convection baking oven having an air handling means that is located within the oven cavity and preferably raised slightly above the bottom wall thereof. The air handling means is a powered device that has a vertical, axial air intake and a horizontal, radial air outlet for creating an unstable vortex air flow that wanders in a random pattern throughout the cooking cavity to increase the heat transfer capability of the oven.

3,379,190

BARBECUE COOKING UNIT WITH VERTICALLY MOVABLE FIREBOX SUPPORT

Charles C. Leach, University City, Mo., assignor to Glaser Products Corp., St. Louis, Mo., a corporation of Delaware
Filed Sept. 12, 1966, Ser. No. 578,636
10 Claims. (Cl. 126—25)

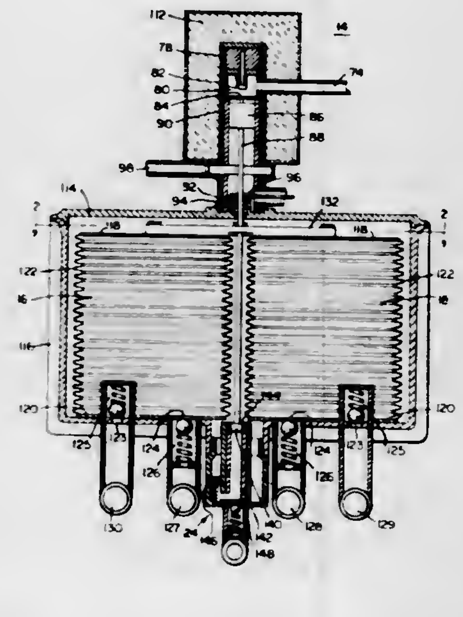


1. A cooking unit comprising a housing, food supporting means therein, a shallow firebox below said food supporting means, an upright hollow member of polygonal cross section secured to said housing and having coplanar vertical slots in its opposite webs, a plate-like member within said housing and extending through said vertical slots, with one end protruding from said hollow member outwardly of said housing, a vertically-elongated element secured to said plate-like member within said hollow member and mounting vertically-spaced groups of ball bearings engaging the interior corners of said posts, and means carried by said plate-like member for selectively positioning the latter vertically, and means securing said firebox to said plate-like member.

3,379,191

NUCLEAR POWERED MECHANICAL HEART

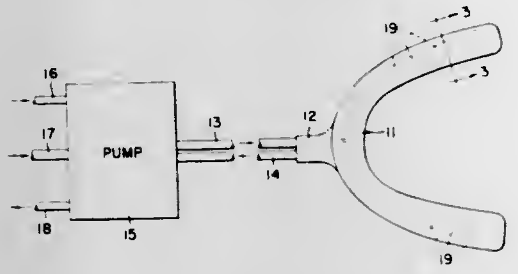
Robert J. Harvey, Sudbury, Mass., assignor to Thermo Electron Engineering Corporation, Waltham, Mass., a corporation of Delaware
Filed Apr. 2, 1964, Ser. No. 356,771
12 Claims. (Cl. 128—1)



A medical prosthetic device for utilization with the circulatory system of a living organism, comprising a radioisotope power source energizing a closed-cycle miniature reciprocating steam engine, with a condenser, feedwater pump, heat dissipation system, and related controls. The device, capable of total implantation within the body, activates blood pumps to circulate the blood in a physiologic manner in mammals.

3,379,192
DENTAL TREATMENT DEVICE

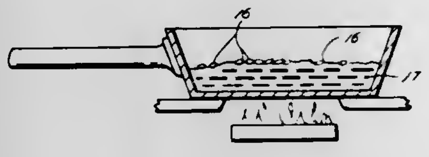
Lamar G. Warren, Jr., 2181 NE. 27th Drive, Wilton Manor, Fort Lauderdale, Fla. 33305
Filed May 10, 1965, Ser. No. 454,348
5 Claims. (Cl. 128—66)



A dental treatment device, shaped to conform to the contours of the dentition, which applies fluids to the surfaces of the teeth and gums and removes the fluid, once it has served its usefulness, from the mouth of the user.

3,379,193
METHOD OF FORMING AND USING TEETH COVERS

Richard P. Monaghan, Box 247, Overton, Tex. 75684
Filed Oct. 11, 1965, Ser. No. 494,409
9 Claims. (Cl. 128—136)

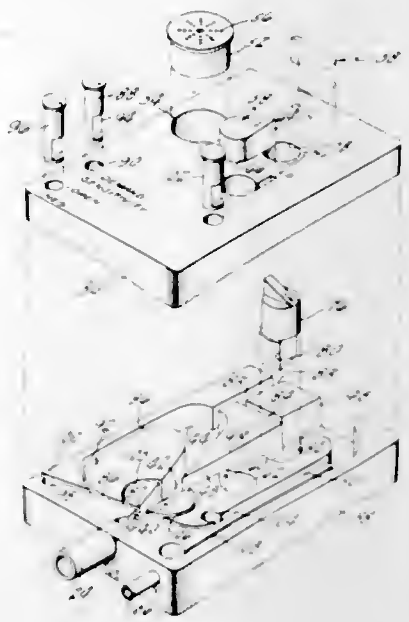


A method of forming a teeth cover for a person's lower set of teeth wherein plastic formable material is partially preformed on the person's upper set of teeth and thereafter is positioned on the lower set of teeth for a finalized shaping while in a plastic formable condition by closing the jaws together to the normally closed position. The method also includes the forming of a cover for the person's upper set of teeth by initially shaping it and then, with the finalized lower teeth cover in position also, finalizing the shape of the upper teeth cover with the jaws closed, whereby teeth protectors are provided which protect the teeth without subjecting the jaw to dangerous displacement. The teeth protectors thus shaped are valuable for use with toothpaste or anti-caries products because of their flexibility and conformity to the gums and teeth whereby massage of the gums and thorough distribution of the anti-caries product is accomplished.

3,379,194
FLUID AMPLIFIER CONTROLLED RESPIRATOR

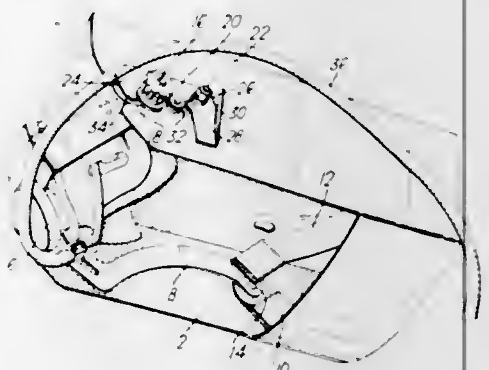
Hermann Ziermann, Cheshire, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed June 29, 1965, Ser. No. 467,838
10 Claims. (Cl. 128—145.6)

A pure fluid amplifier augments or controls respiration and includes feedback passages and restrictions for controlling the inspiration to expiration ratio, the shape of the pressure curves and the negative pressure. A nebulizer is incorporated in combination with the amplifier in a manner to prevent the loss of medication in the expiration cycle.



3,379,195
AIRCRAFT-MOUNTED EMERGENCY OXYGEN MASKS AND HOLDER

Bruce John Bleach, Bristol, England, assignor to British Aircraft Corporation (Operating) Limited, London, England, a British company
Filed Jan. 21, 1965, Ser. No. 426,925
Claims priority, application Great Britain, Jan. 24, 1964, 3,220/64
8 Claims. (Cl. 128—146.3)

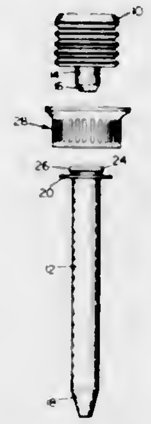


An oxygen mask is housed above a seat in an airplane in a holder having an open front end and provided with means releasably engaging opposite sides of the mask so that the mask can be pulled directly from the holder for use in an emergency.

3,379,196
THREE-PIECE MEDICINE DROPPER TUBE WITH IMPROVED SEALING CONNECTION

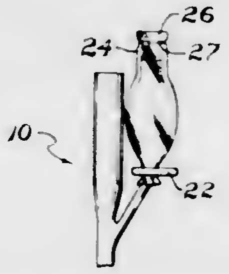
Joseph M. Mitchell, % Barmar Product Corp., 27 High St., Clinton, Mass. 01510
Filed Oct. 5, 1965, Ser. No. 493,127
3 Claims. (Cl. 128—233)

A three-piece medicine dropper comprising a dropper tube, a bellows at one end thereof, and an attached closure cap, wherein the tube has a short flange at the bellows end and a larger flange spaced therefrom, the closure cap having a central opening having an edge snap-fitted into the space between the flanges, and the bellows has a projection set into the tube in the flange area and tending to swell it outwardly, thus snugly holding all the parts together.



3,379,197
SELF-INFLATING CATHETER WITH MEANS TO PREVENT LEAKAGE OF INFLATION FLUID

Robert L. Hayes, Mount Holly, N.J., assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Aug. 10, 1965, Ser. No. 478,548
4 Claims. (Cl. 128—349)



The side inflation arm of a self-inflatable bag catheter (which has an inflating fluid under pressure confined within such inflation arm) is enclosed in a fluid-impervious envelope to deduce the diffusion loss of inflation fluid contained in the side inflation arm.

3,379,198
COHERENT TOBACCO STRIP AND THE PROCESS FOR PREPARING THE SAME

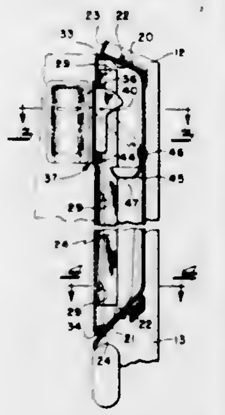
James D. Mold and Andrew G. Kallianos, Durham, N.C., assignors to Liggett & Myers Tobacco Co., New York, N.Y., a corporation of New Jersey
No Drawing. Filed June 9, 1965, Ser. No. 471,493
18 Claims. (Cl. 131—140)

1. A process for producing improved coherent tobacco strip having reduced irritation properties which comprises thoroughly mixing tobacco fines, humectant and water in a reactor, heating said mixture under pressures of up to about 20 p.s.i.g. for a period of up to about 20 minutes at temperatures not exceeding about 225° F. in the ground tobacco and sheeting the mixture to produce a coherent tobacco strip.

3,379,199
ASH RECEIVER

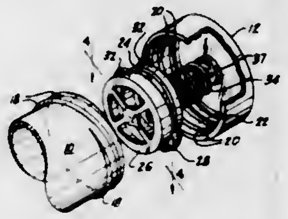
George F. Gielow and Robert L. Edwards, Mansfield, Ohio, assignors to Artnell Company, Chicago, Ill., a corporation of Delaware
Filed Aug. 19, 1966, Ser. No. 573,538
7 Claims. (Cl. 131—235)

1. An ash receiver adapted to be mounted on a vehicle seat or the like, comprising a vertically arranged elongated body having an open side and being generally U-shaped in horizontal cross-section, an elongated cover generally coextensive in length with said body, hinge means for hinging said cover to said body, said cover being selectively movable between a closed position closing the otherwise open side of said body of said receiver and an open position spaced from such open side for emptying the receiver contents, a door pivotally mounted on said cover for swinging movement into the interior of said receiver for gaining access thereto when said cover is in a closed position for placing ashes and the like into said receiver, and means for releasably retaining said cover in a closed position.



3,379,200
LENS CONTAINFR

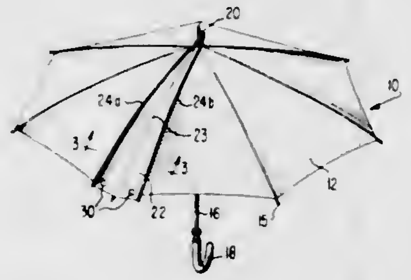
Ruth M. Pennell, Box 186, Chelan, Wash. 98816
Filed Oct. 24, 1965, Ser. No. 504,627
8 Claims. (Cl. 134—143)



An open-work basket to receive and enclose a contact lens is flexibly mounted for lateral movement within a fluid-tight container. Agitation of the container moves the basketed lens in fluid and cleanses it.

3,379,201
INTEGRAL UMBRELLA CASE

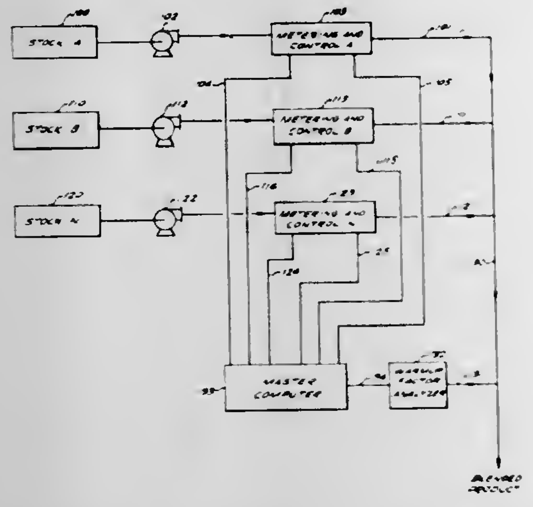
Matthew P. Lynch, 111 Willowbrook Ave., Clifton Heights, Pa. 19018
Filed Oct. 22, 1965, Ser. No. 501,505
1 Claim. (Cl. 135—33)



A panel of stretchable material is secured along the radius of an umbrella canopy. The panel is stretched laterally in order to circumscribe the collapsed canopy and secured in encasing relationship.

3,379,202
CONTINUOUS GASOLINE WARMUP FACTOR ANALYZER AND METHOD OF CONTROL

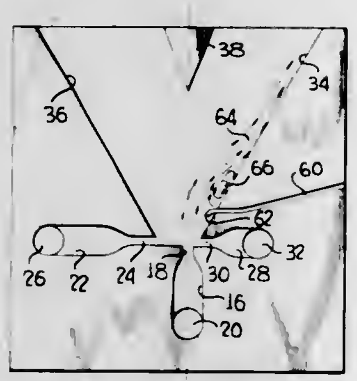
William H. Page, Long Beach, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
Filed Sept. 30, 1965, Ser. No. 491,731
20 Claims. (Cl. 137—3)



17. A method of continuously producing a blended liquid product having a predetermined controlled warmup factor, which comprises:
simultaneously combining a plurality of liquid components at volume flow rates controlled to maintain the proportion of each component in the blend at a selected value, at least one of said components having a warmup factor below the warmup factor of said liquid product and at least one of said components having a warmup factor above the warmup factor of said product;
continuously measuring the warmup factor of said blended product; and
adjusting the proportion of components in said blended liquid product to maintain said warmup factor at said predetermined value.

3,379,203
PURE FLUID AMPLIFIER HAVING POSITIVE AND NEGATIVE OUTPUT PRESSURES

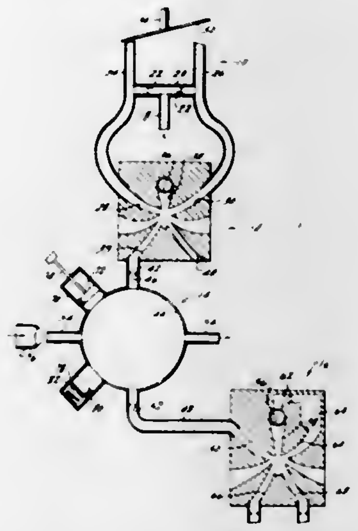
Francis M. Manion, Rockville, Md., assignor to Bowles Engineering Corporation, Silver Spring, Md., a corporation of Maryland
Filed Dec. 15, 1964, Ser. No. 418,416
18 Claims. (Cl. 137—81.5)



1. A fluid-operated system comprising:
an interaction chamber and means for issuing a stream of fluid under pressure into said interaction chamber;
a side wall defining at least one side of said interaction chamber and having a surface located with respect to said stream such that said stream may attach to said surface and form a boundary layer bubble between said stream and said surface;
a pressure responsive means located in said boundary layer bubble;
control means for deflecting said stream relative to said surface and said pressure responsive means such that varying portions of said pressure responsive means are subjected to said stream.

3,379,204
FLUID SIGNAL RESONATOR CONTROLS

Lonny Ray Kelley, Schenectady, and Carl Gustav Ringwall, Scotia, N.Y., assignors to General Electric Company, a corporation of New York
Filed May 19, 1965, Ser. No. 457,006
2 Claims. (Cl. 137—81.5)

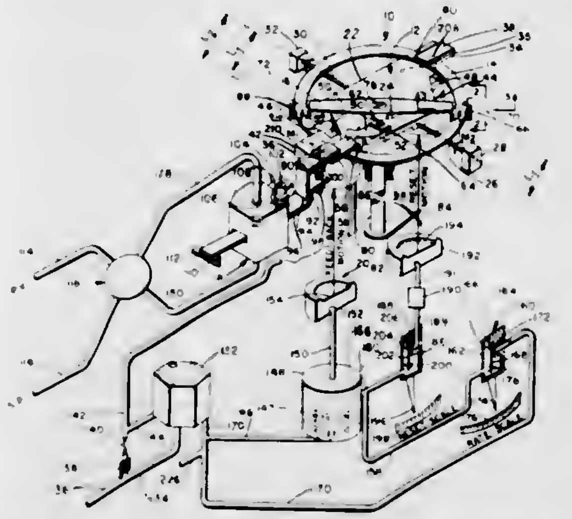


The disclosure shows a fluid signal resonator comprising a fluid signal generator utilizing a fluid amplifier. A signal input from the fluid amplifier is fed to the chamber of a resonator. The resonator further comprises opened tubes projecting therefrom. The resonator has a resonant frequency which is a function of the volume of the chamber and the length and area of the tubes. When the input signal is at this resonant frequency, a relatively high output signal is provided at an output passageway. The output signal, when the input signal is at the resonant frequency, is also in phase with the input signal and shifts out of phase and is rapidly attenuated when the input signal shifts from the resonant frequency. The resonant frequency of the resonator is also a function of the temperature of the fluid in the chamber and means are provided for passing a given fluid through one tube, the chamber, and out the other tube so that the condition of resonance is an indication of the temperature of the fluid passing through the resonator chamber.

3,379,205
PNEUMATIC FORCE BALANCE CONTROLLER

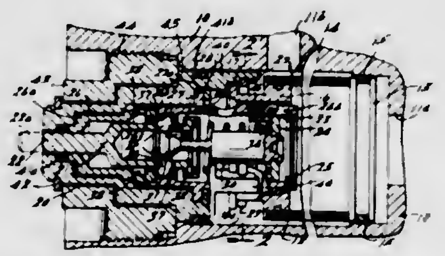
Robert Schmitz, Hatboro, Pa., assignor to Honeywell Inc., a corporation of Delaware
Filed Oct. 12, 1964, Ser. No. 403,228
9 Claims. (Cl. 137—86)

1. A motion balance apparatus comprising a plate mounted for rocking motion on a pivot, an electrically deformable ring member with substantial rigidity and a nozzle of a bleed valve fixedly connected for movement with the plate, an adjustable torque resistant means for said ring having a rigid portion in rotatable contact with opposite surfaces of one side of the ring member to adjust the torque of the ring member, an input motion applying means positioned adjacent the nozzle of the bleed valve for altering the fluid pressure output of the bleed valve, a distensible member to apply changes occuring in the fluid pressure output of the bleed valve as a feedback motion to the plate, and the said adjustable means rotatably contacting the opposite surfaces of the one side of the ring member being operable to provide other additional different selected increasing and decreasing degrees of rigidity of the plate as the torque adjusting means is moved along the ring respectively away from and toward the pivot on which the plate is mounted.



3,379,206
DIFFERENTIAL PRESSURE INDICATING AND FLUID BYPASS DEVICE

James C. Whiting, Royal Oak, Mich., assignor to Michigan-Dynamics, Inc., Detroit, Mich., a corporation of Michigan
Filed June 9, 1965, Ser. No. 462,508
2 Claims. (Cl. 137—110)

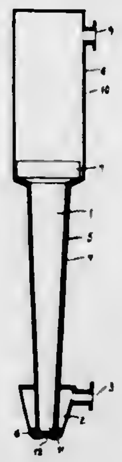


A differential pressure indicating device of the type in which a pressure responsive piston is exposed to fluid pressures on opposite sides thereof upstream and downstream, respectively, of a filter. Downstream pressure is assisted by a spring which is seated against a signal member and when the spring is compressed against the signal member, spring and piston are released for joint movement to a position in which the signal member indicates a clogged filter condition. Once the signal member is in its indicating position, further movement of the piston against the spring will expose a bypass opening to permit fluid to flow around the filter and prevent too great a pressure drop across the filter.

3,379,207
SAFETY VALVE

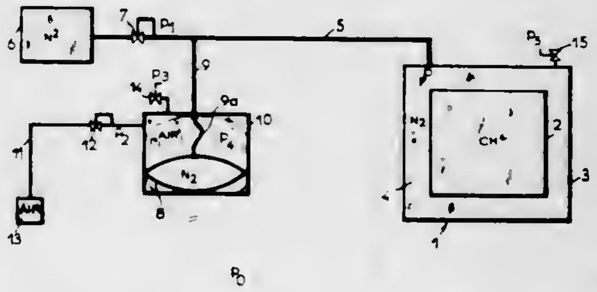
Thomas Valdemar Bentsen, Aarhus, Denmark, assignor to Jydsk Varmekedelfabrik A/S, Brabrand, Denmark
Filed Feb. 5, 1965, Ser. No. 430,518
Claims priority, application Denmark, Feb. 14, 1964, 713/64
3 Claims. (Cl. 137—251)

A pressure relief valve formed of a valve housing with a stop member against which a valve member disposed within the valve housing can abut in such manner that the said valve member is maintained at a small distance from the parts of the valve housing surrounding the valve member. The lower end of valve housing includes mercury to provide a seal between the valve member and the valve housing and to partly carry the valve member. A pressure inlet chamber is provided around the lower end of the valve member and valve housing, said chamber having an inlet for admitting a pressurized medium and having an upturned portion acting as said stop member for the lower end of the valve member. The valve member being substantially conical and having a relatively large diameter head portion remote from said stop member or of stepped longitudinal cross-section decreasing in diameter towards said stop member.



3,379,208
DEVICE FOR AUTOMATICALLY CONTROLLING THE PRESSURE OF AN ENCLOSED FLUID

Jean Alleaume, Saint-Cloud, France, assignor to Technigaz, Paris, France, a corporation of France
Filed June 1, 1965, Ser. No. 460,387
Claims priority, application France, June 1, 1964, 976,687
6 Claims. (Cl. 137—263)

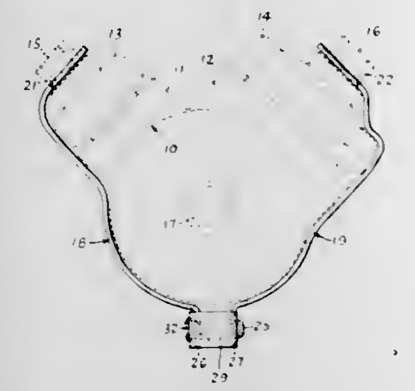


An apparatus for maintaining a constant pressure in a fixed volume enclosed space containing an expansible fluid comprising, a variable volume flexible walled vessel in fluid communication with the enclosed space, a constant volume chamber containing the vessel and fluid supply and regulating means for maintaining a regulated source of pressurized expansible fluid within the chamber.

3,379,209
SECURING DEVICE FOR FIRE HYDRANTS

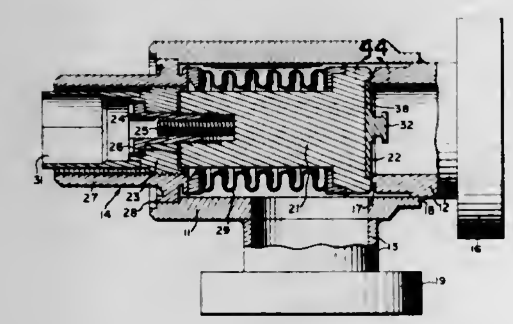
Joseph W. Spiselman, 873 E. 26th St., Brooklyn, N.Y. 11232
Filed Apr. 19, 1965, Ser. No. 448,959
8 Claims. (Cl. 137—296)

A fire hydrant comprising a trunk body, a water inlet source, and a water outlet source in said trunk body including outlet nozzles provided with removable caps rotatably mounted on said outlet nozzles and adapted when in closed position to prevent discharge of water from said outlet nozzles, and means associated with said trunk body and removable outlet caps for preventing rotation of said removable caps when mounted in closed position on said outlet nozzles.



3,379,210
HIGH VACUUM VALVE

William R. Wheeler, Saratoga, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Aug. 6, 1962, Ser. No. 214,988
12 Claims. (Cl. 137—327)

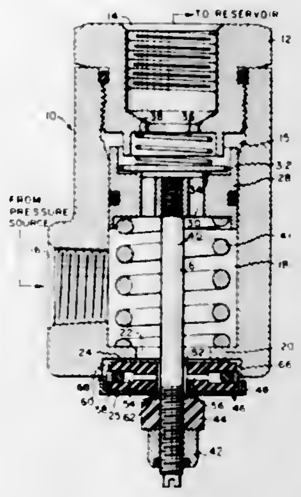


1. A valve comprising a cylindrical tubular valve body, a cylindrical inlet conduit having a valve seat formed at one end protruding from one end of said body and welded in gas-tight relation thereto with said seat disposed within said body, a cylindrical outlet conduit protruding from the side of said body, and a valve stem assembly disposed to move axially within said body, said valve stem assembly comprising an internally threaded nut welded gas-tight to the other end of said body, an externally threaded sleeve threaded into said nut, a plunger rotatably attached to said sleeve by an internally and externally threaded swivel bolt means comprising a clamping bolt threaded through said swivel bolt to prevent backlash, said plunger having a recess facing said valve seat, a rigid-flat-metal gasket disposed within said recess, and a metal bellows welded gas-tight at one end to said nut member and at the other end to said plunger, said valve seat having a conical annular surface making an angle with said gasket, said angle having a value between 10° and 35°.

3,379,211
COMPRESSION CONTROL VALVE

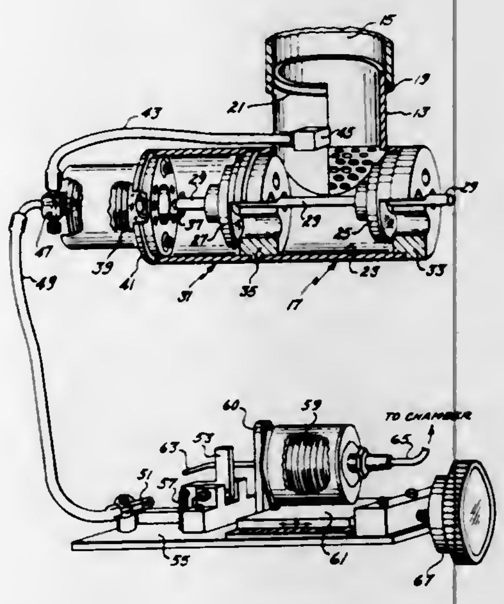
Robert J. Morse, Elyria, Ohio, assignor to Bendix-Westinghouse Automotive Air Brake Company, Elyria, Ohio, a corporation of Delaware
Filed Nov. 5, 1965, Ser. No. 506,485
9 Claims. (Cl. 137—469)

1. A valve comprising a body having an inlet cavity connected to a source of fluid pressure, an exhaust cavity in said body, a port connecting said inlet and exhaust cavities, a valve in the exhaust cavity controlling said port and exposed at all times through said port to pressure in said inlet cavity urging said valve to open position, resilient means urging said valve at all times to closed position in opposition to the pressure in said inlet cavity, a pressure responsive expansible element integrally connected to said exhaust valve for movement therewith, fluid pressure conduit means connecting said element at all times with the pressure in said inlet cavity for expanding said element into close adjacency with the wall of said exhaust cavity to afford an added motive area for said valve to effect movement of same to open position with a snap action upon cracking thereof, second fluid conduit means cooperating with said expansible element for freely connecting said exhaust cavity to atmosphere after a predetermined movement of said valve and element in an opening direction, and means automatically retracting said element to a position substantially spaced from the wall of said cavity when the pressure in said inlet cavity is at a predetermined low value.



3,379,212
VACUUM REGULATING APPARATUS

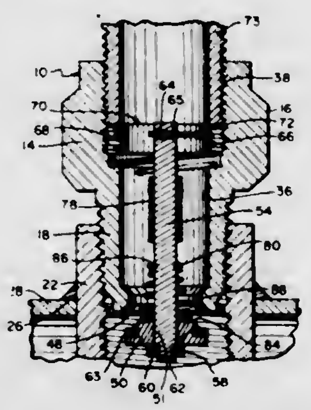
Henry B. Whitmore, Rte. 5, Box 369, San Antonio, Tex. 78211
Filed Dec. 7, 1965, Ser. No. 512,248
3 Claims. (Cl. 137—489.5)



1. An automatic vacuum regulating apparatus for maintaining the negative pressure in an altitude simulation chamber, said apparatus comprising a chamber mount for attaching the apparatus to a port in said chamber, an elongated cylindrical body portion in communication with said chamber mount, a first valve disposed inside said body portion, a restrictor section positioned in axial alignment adjacent to said body portion, a second valve disposed in said restrictor section, a laterally movable shaft passing through said body portion and into said restrictor section, said first and second valves being fixedly attached to said shaft and movable therewith, a first valve seat operatively associated with said first valve and forming one end member of said body portion, a second valve seat operatively associated with said second valve and forming the other end of said body portion and one end of said restrictor section, a bellows attached to a bellows mount forming the other end of said restrictor section, said bellows having one end closed and the other end in communication with said chamber, an operating arm connected between one end of said shaft and the closed end of said bellows, the expansion and contraction of said bellows producing a corresponding lateral movement of said shaft, a bleed line connection disposed in said chamber mount, a bleed line connecting said bleed line connection to the open end of said bellows, a bleed control needle positioned at the open end of said bellows for controlling the air flow to and from said bellows, a normally open control bleed valve in communication with said bleed control needle through a control bleed line for feeding bleed air to said bellows, a pivotally mounted valve restricting arm having one end positioned under said control bleed valve, a laterally movable working arm in spaced relation to the other end of said valve restricting arm and operatively associated therewith, lateral movement of said working arm causing a corresponding pivoting movement of said valve restricting arm and lifting said arm against said control bleed valve to stop the flow of bleed air therethrough, and an altitude sensing bellows having one end closed and the other end in communication with said chamber through a chamber sensor line, said working arm being attached to the closed end of said altitude sensing bellows to produce a lateral movement proportional to the negative pressure in said altitude simulation chamber.

3,379,213
EXCESS FLOW CHECK VALVE

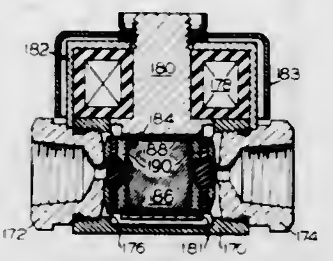
Evans R. Billington, Glenview, Ill., assignor to The Bastian Blessing Company, Chicago, Ill., a corporation of Illinois
Filed Jan. 12, 1966, Ser. No. 520,143
13 Claims. (Cl. 137—515.5)



1. A check valve comprising a body having a passage therethrough defining a surface of revolution including a shoulder and a valve seat spaced from each other,
a valve stem disposed axially in said passage,
a valve member carried by said stem to engage said valve seat, and
resilient means urging said valve stem to close said valve member against said valve seat comprising an integrally formed coiled spring having a resilient coiled portion resting at one end on said shoulder and actuating said valve stem at the other end to urge said valve stem to move said valve member in a predetermined direction with respect to the valve seat,
said resilient coiled portion supporting as a unit therewith an alongated sleeve member coaxially in said surface of revolution which slidably receives said valve stem in guided relationship as the sole support for the valve stem in a radial direction in said passage.

3,379,214
PERMANENT MAGNET VALVE ASSEMBLY

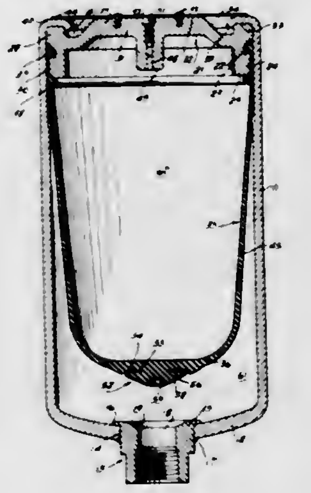
Robert W. Weinberg, West Hartford, Conn., assignor to Skinner Precision Industries, Inc., New Britain, Conn., a corporation of Connecticut
Filed Jan. 15, 1965, Ser. No. 425,735
1 Claim. (Cl. 137—625.5)



A valve assembly including a body having an inlet and an outlet and a flow passageway including a valve chamber therebetween, a single electromagnet supported on the body, a valve member in the valve chamber movable between first and second flow control positions for controlling fluid flow, and magnetic circuit means including a permanent magnet providing a permanent magnetic flux, and a reversible polarizable semipermanent magnet providing a residual flux in the same direction as the electromagnet flux of sufficient magnitude and duration for latching the valve member, upon de-energization of the electromagnet, while effectively resisting a reversal in direction of the residual flux due to the influence of the permanent magnet.

3,379,215
PRESSURE VESSELS

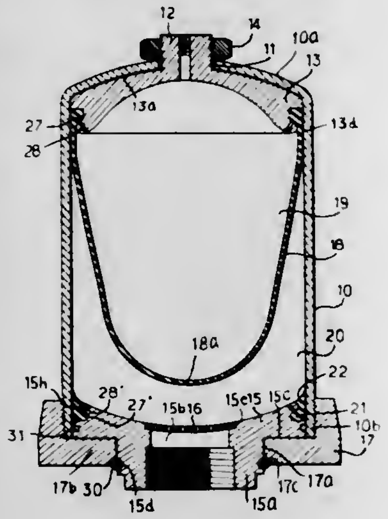
Edward M. Greer, Beverly Hills, and Ram Singh, Los Angeles, Calif., assignors to Greer Hydraulics, Inc., Los Angeles, Calif., a corporation of New York
Filed July 28, 1965, Ser. No. 475,482
10 Claims. (Cl. 138—30)



This invention relates to the art of pressure vessels, more particularly of the type having a metal valve member mounted on one end thereof, said valve member being in the form of a hollow button or cup which is substantially frusto-conical in cross section having a top wall at its wider diameter portion with a central opening into which the bladder material may flow to fill the interior of the cup.

3,379,216
PRESSURE VESSEL

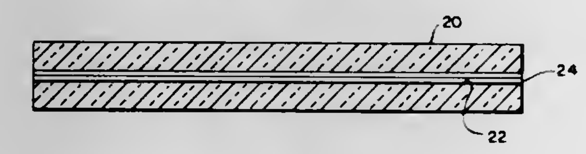
Jacques H. Mercier, New York, N.Y., assignor to Mercier Olaer Patent Corporation, Wilmington, Del., a corporation of Delaware
Filed Nov. 9, 1965, Ser. No. 507,019
Claims priority, application France, Nov. 16, 1964, 995,053, Patent 1,422,967
6 Claims. (Cl. 138—30)



1. A pressure vessel comprising a container of rigid material having two ports, a flexible separator of resilient deformable material positioned in said container and intervening between said ports to define a gas and liquid chamber, said separator having a peripheral annular bead, a retaining disc in said container having an annular groove therein and having an annular surface on one side of the groove adapted to abut against the inner wall surface of said container, the portion of said disc on the other side of said groove being spaced from the adjacent inner wall surface of said container, said bead being positioned in said annular groove with the adjacent portion of said separator wall extending through said space, and passage means extending through said disc and into said annular groove, said passage means being in communication at one end with said gas chamber and positioned so that the gas pressure in said gas chamber will react against said bead to wedge the latter into the space between said abutting surfaces to maintain an effective seal.

3,379,217
CAPILLARY PASSAGE AND METHOD OF MAKING

Lynn B. Leonard, Fullerton, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed Sept. 24, 1963, Ser. No. 311,185
16 Claims. (Cl. 138—44)

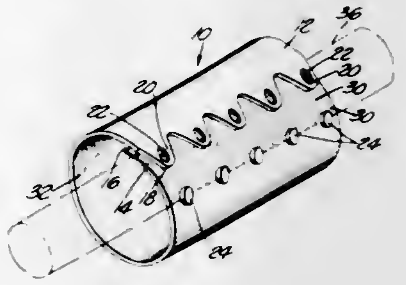


1. In combination:
an elongated glass capillary tube;
a body of glass having a passage therethrough no longer than said capillary tube and having a lower softening temperature than said capillary tube; and said capillary tube being positioned lengthwise in said passage with each end of said capillary tube extending to at least each respective end of said passage and said capillary tube having its outer walls sealed to the walls of said passage.

7. The method of forming a capillary passage in a body of glass comprising the steps of:
providing an elongated glass capillary tube;
providing a body of glass having a passage therethrough no longer than said capillary tube and of larger cross-sectional area than said capillary tube, said body having a lower softening temperature than said capillary tube;
inserting said capillary tube lengthwise in said passage with each end of said capillary tube extending to at least each respective end of said passage; and
heating said body of glass adjacent said tube to the softening temperature of said body whereby said body will collapse and seal onto said capillary tube upon cooling.

3,379,218
CLOSURE SLEEVE FOR PIPES OR THE LIKE

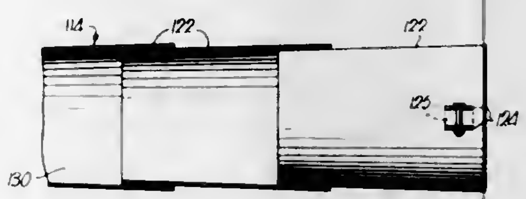
Julian S. Conde, Belmont, Calif., assignor to Raychem Corporation, Redwood City, Calif., a corporation of California
Filed July 29, 1965, Ser. No. 475,742
15 Claims. (Cl. 138—99)



A closure sleeve for pipes or the like constructed from a piece of independently dimensionally heat unstable material, that is, material that will return to its original shape and dimensions upon application of heat alone. The edges of the piece of material are held together by the cooperation of protuberances formed on one edge with holes formed along the other edge which is preferably scalloped.

3,379,219
ELEVATOR SPOUT CONSTRUCTION AND METHOD OF MAKING SAME

Carl R. Schuh and John W. Lamoreaux, both of Waterville, Kans. 66548
Filed July 6, 1965, Ser. No. 469,948
6 Claims. (Cl. 138—118)

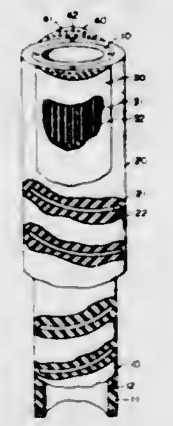


A grain bin is provided with a discharge tube having a sectionalized spout at the lower end thereof. According to one form of the invention, each spout section is protected against wear by a liner comprising a synthetic resin binder impregnated with an abrasion resistant, granulated substance such as flint, black granite, silicon carbide or sand. The granules of the substance are disposed adjacent the inner surface of the liner in proximal relationship to one another, and the density of the substance progressively increases as such surface is approached. A fiber glass sheet is bonded to the binder during curing in order to provide increased structural strength.

In a second form of the invention, the entire spout section is constructed of the same materials as discussed above for the liner. A tubular configuration is imparted to the structure after partial curing of the binder, and the density of the granules is the greatest at the internal surface over which the grain flows during discharge from the bin.

3,379,220
HIGH BENDING STRENGTH TUBULAR MEMBERS OF FIBER REINFORCED PLASTICS

Atsushi Kiuchi, 23–31 Fumioka-cho, Shizuoka, Hamamatsu, Japan; Sobei Suzuki, 12 Ebisucho 1-chome, Gifu, Japan; and Saburo Koike, 52 Nakakusuno-cho, Kagamihara, Inaba-gun, Japan
Filed Mar. 17, 1965, Ser. No. 440,394
Claims priority, application Japan, Mar. 21, 1964, 39/15,419
2 Claims. (Cl. 138—125)

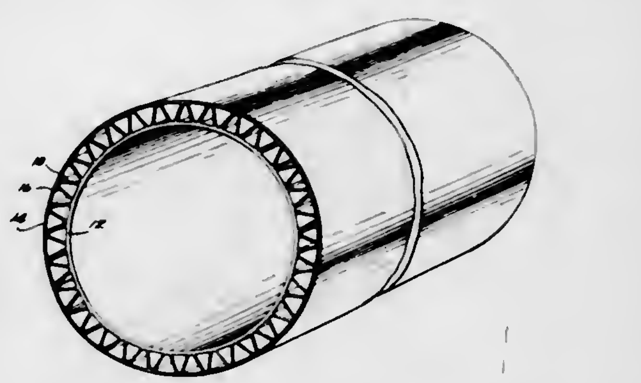


A multilayer tubular member of fiber reinforced plastic material high in bending strength, comprising a plurality of plastic layers in the form of coaxial tubes each including a thermosetting plastic material and embedded therein at least one length of tow of plastic fibers helically wound, the particular ones of said plastic layers each having said length of tow of plastic fibers which is embedded therein wound helically in one direction and the adjacent plastic layers each having said length of tow of plastic fibers embedded wound helically in the other direction, so that the direction of helical winding of the tows of plastic fibers alternates in successive layers, and a pair of longitudinal ridge portions symmetrically disposed on the diametrically opposed portions of one of the outer and inner peripheral surfaces of the tubular member throughout the length and being of the same thermosetting plastic material and a plurality of lengths of tow of the same plastic fibers as in the layers longitudinally embedded in spaced parallel relationship in the ridge portions, the plurality of plastic layers and said pair of the longitudinal ridge portions being incorporated in a unitary structure.

3,379,221
UNDERGROUND CONDUIT

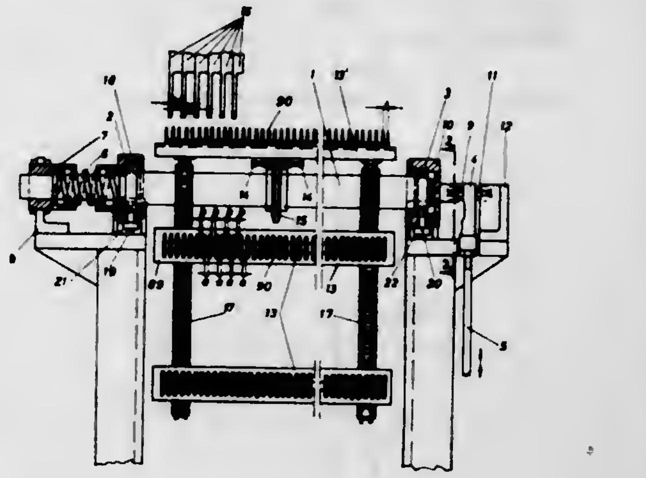
William R. Harry, Hartland, Lloyd Ewing, Milwaukee, and Raimond J. Smiltneek, Butler, Wis., assignors, by mesne assignments, of one-half to Ashland Oil & Refining Company, a corporation of Kentucky, and one-half to Armco Steel Corporation, a corporation of Ohio
Continuation-in-part of applications Ser. No. 237,083, Nov. 13, 1962, Ser. No. 308,393, Sept. 12, 1963, and Ser. No. 475,223, July 27, 1965. This application Dec. 28, 1965, Ser. No. 525,005
20 Claims. (Cl. 138—148)

The application discloses conduit especially adapted for underground use. The conduit is formed of concentric tubes of synthetic resinous material of specified flexural modulus, connected by spacing and bracing means which act in compression or in tension, rather than in mere resistance to flexing, to secure the concentric tubes against radial and angular displacement relative to one another. The conduit is formed in such manner that it exhibits the property of having a stiffness within a specified range, and this property, acting in concert with the particular structure and specified material of construction enables the conduit manufacturer to produce a corrosion-proof conduit having substantial longitudinal flexibility, improved crushing strength and adaptability to a wide variety of installation conditions, while making efficient use of the material of construction.



3,379,222
PILE THREAD SELECTING, CUTTING, AND POSITIONING DEVICE FOR A CARPET LOOM

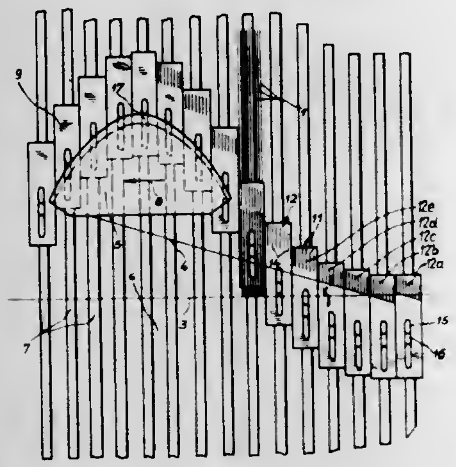
Svend Sigurd Christie Fleischer, Kroyersvej 14, Klampenborg, Denmark; Christen Carl Thomsen, Skovvej 93, Charlottenlund, Denmark; Gottfried Gerhard Wilhelm Hofmann, Am Baum 37, Hamburg-Bergedorf, Germany; and Werner Heinrich Rossberg, Moosberg 17c, Hamburg-Bergedorf, Germany
Filed July 9, 1965, Ser. No. 470,814
Claims priority, application Germany, July 16, 1964, F 43,448
16 Claims. (Cl. 139—6)



Pile threads are taken by a series of grippers from supply means and inserted in successive operations into corresponding series of gaps between walls of a thread carrier which transports the pile threads to the knotting device of the loom. The grippers draw the pile threads out of openings in a supply means where they are cut to the proper length by a cutting band running over a pair of wheels. The operating means of the grippers can be adjusted to pull pile threads of different length out of the supply means, and to insert them in a correct symmetrical position in the gaps of the thread carrier. Absence or displacement of a pile thread in a gap of the carrier causes closing of a circuit and indication of the faulty condition.

3,379,223
BEAT-UP MECHANISM FOR TRAVELLING-WAVE SHEDDING LOOMS

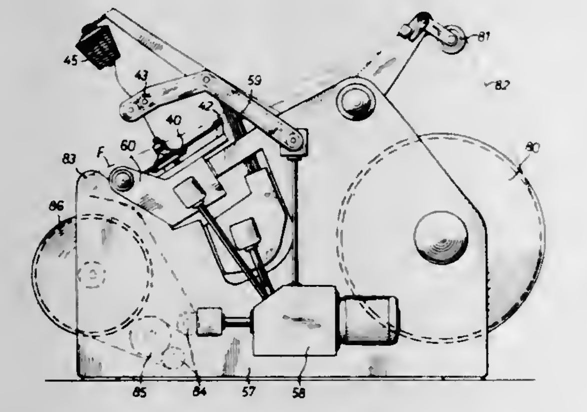
Heinrich Fend, Uster, Zurich, Switzerland, assignor to Oerlikon-Buhrle Holding A.G., Zurich, Switzerland
Filed July 22, 1966, Ser. No. 567,244
2 Claims. (Cl. 139—12)



In a beat-up mechanism for a progressive shedding loom comprising a plurality of sequentially operated reed elements each having a plurality of reed teeth, the active edges of the reed teeth on each reed element, and preferably also of adjacent reed elements as they are approaching the fell of the fabric, are situated on a straight line forming an angle with the fell. This line preferably is parallel to the portion of the weft thread which extends from the shuttle delivering it to the point where it is beaten up on the fell.

3,379,224
METHOD FOR FILLING LOOM SHUTTLES WITH CUT-TO-LENGTH PIECES OF WEFT THREAD AND APPARATUS FOR THE PERFORMANCE OF THE AFORESAID METHOD

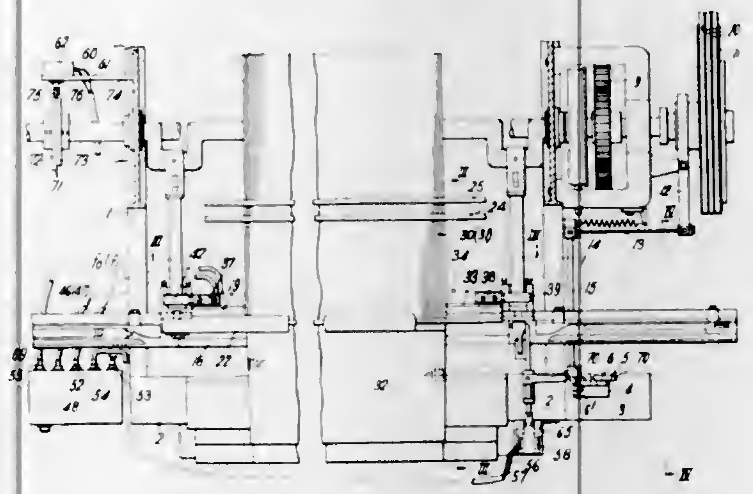
Heinrich Fend, Uster, Zurich, and Herbert Fend, Dubendorf, Zurich, Switzerland, assignors to Oerlikon-Buhrle Holding A.G., Zurich, Switzerland
Filed Dec. 2, 1965, Ser. No. 520,543
Claims priority, application Switzerland, Dec. 7, 1964, 15,809/64
19 Claims. (Cl. 139—224)



An apparatus and method for filling loom shuttles with cut-to-length pieces of weft thread, wherein each shuttle has separate weft thread inlet and discharge openings, particularly the shuttles of wave weaving looms. Means are provided for continuously delivering a thread along a predetermined thread path through a reference point along the thread path and into the inlet opening of a shuttle. The continuously delivered thread passes through the shuttle so that a leading end portion thereof projects out of the discharge opening of the shuttle. Means are provided for seizing and retaining the projecting leading end portion near the discharge opening immediately after said leading end portion has moved out of said discharge opening. The continuously delivered thread is cut to form a cut-to-length weft thread piece as soon as a predetermined length of the continuously delivered thread has additionally moved through said reference point from the moment at which said leading end portion has been seized near said discharge opening, and simultaneously redirecting the continuously delivered thread into the inlet opening of another shuttle while conveying the remainder of said cut-to-length weft thread piece into the first mentioned shuttle.

3,379,225
LOOM STOPPING APPARATUS

Teruhiko Ichimi, Osaka, Keinosuke Takahashi, Ako, Ziro Ozeki, Yokkaichi, and Yukishige Shimoyama, Kishiwada, Japan, assignors to Toyo Boseki Kabushiki Kaisha, Osaka, Japan
Filed May 26, 1966, Ser. No. 553,173
Claims priority, application Japan, May 31, 1965, 40/32,358; Dec. 29, 1965, 40/81,767
3 Claims. (Cl. 139—353)

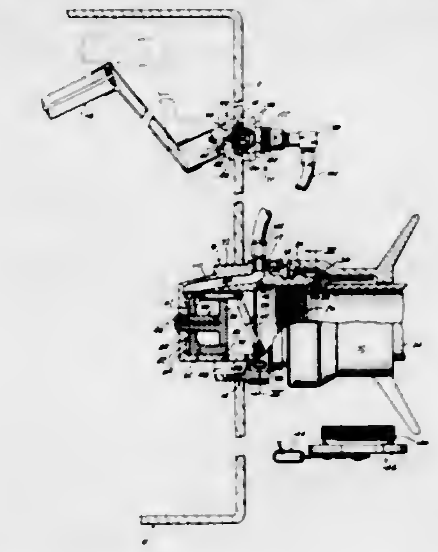


A loom stopping apparatus for a loom having a sley and a warp shed forming means, said stopping apparatus comprising a light source and a photoelectronic element mounted on opposite ends of the sley and aligned so that the light source directs a beam of light against the photoelectronic element through the warp shed formed by the warp shed forming means, electromagnetic means coupled to said photoelectronic element and actuated thereby when the light intensity detected by said photoelectronic element changes due to a broken warp, loom stopping means coupled to said electromagnetic means and actuated thereby to stop the loom when the electromagnetic element is actuated, and circuit breaking means coupled to said loom and to the circuit between said photoelectronic element and said electromagnetic means for breaking the circuit therebetween each time the warp shed forming means changes the shed, whereby the loom stopping apparatus is not actuated to stop the loom except when the warp thread breaks.

3,379,226
TANK COUPLING

Raymond E. Denney, Jackson, and Robert G. Cox, Rives Junction, Mich., assignors to Aeroquip Corporation, Jackson, Mich.
Filed Oct. 21, 1965, Ser. No. 499,686
9 Claims. (Cl. 141—207)

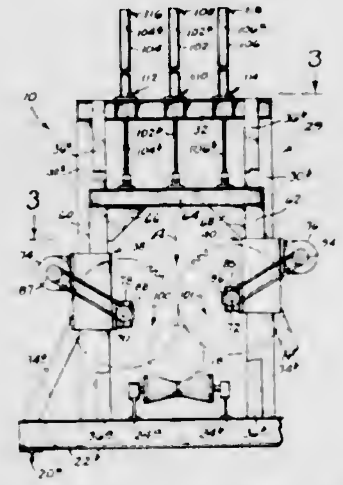
An automatic shutoff and level control device preferably for railroad refueling systems employing an inlet valve having a sliding piston operated by differential pressure to close the valve when the tank is substantially full.



Manual means are provided to override the automatic means.

3,379,227
SAW APPARATUS

Howard C. Mason, Rte. 2, Box 810, Oregon City, Oreg. 97045
Filed Feb. 8, 1966, Ser. No. 525,964
9 Claims. (Cl. 143—47)

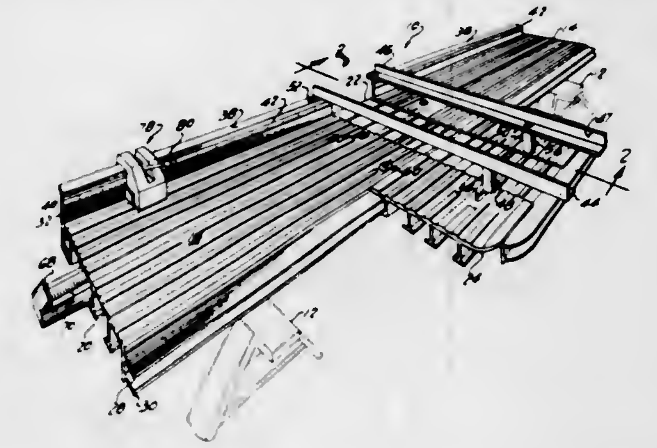


Saw apparatus including a support for supporting an elongated workpiece, a pair of upright guide posts on opposite sides of the support extending thereabove, a pair of rigidly interconnected carriages mounted for up and down movement on the posts, and a pair of power-driven saw arbors, which parallel one another and a workpiece supported on the support, with such arbors mounted on the carriages and carrying saw blades. The saw blades occupy substantially a common vertical plane which is normal both to the rotational axes of the arbors and to the longitudinal axis of the workpiece on the support.

3,379,228
PORTABLE SAW TABLE

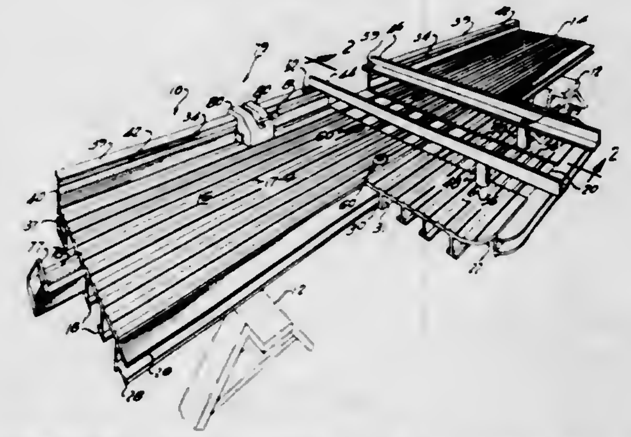
George A. Carlberg, Northbrook, and Burton L. Siegal, Skokie, Ill., assignors, by direct and mesne assignments, to Porta-Table Corporation, Chicago, Ill., a corporation of Illinois
Filed Nov. 9, 1965, Ser. No. 506,963
11 Claims. (Cl. 143—132)

A work table for supporting a power saw in position for the controlled cutting of construction material; said table being constructed of a planar top section having supporting means for said portable saw mounted to the upper portion thereof to permit movement of the saw across the width of said table. The planar top section of said table adapted to be recessed across its width in the general area of said supporting means to in effect define separated portions of said top section. A plurality of spaced apart reinforcing ribs depending from the underside of the top section and spanning said recess to effectively interconnect said separated portions of said top section. In addition, a plurality of retractable pin members upstanding from the working surface of the top section and positioned such that they are adapted to be engaged by a section of construction material to support said section at a predetermined angle relative the path of travel of the power saw as defined by the aforementioned supporting means.



3,379,229
PORTABLE SAW TABLES

Burton L. Siegal, Skokie, Ill., assignor, by mesne assignments, to Porta-Table Corporation, a corporation of Illinois
Filed Nov. 9, 1965, Ser. No. 506,994
5 Claims. (Cl. 143—132)

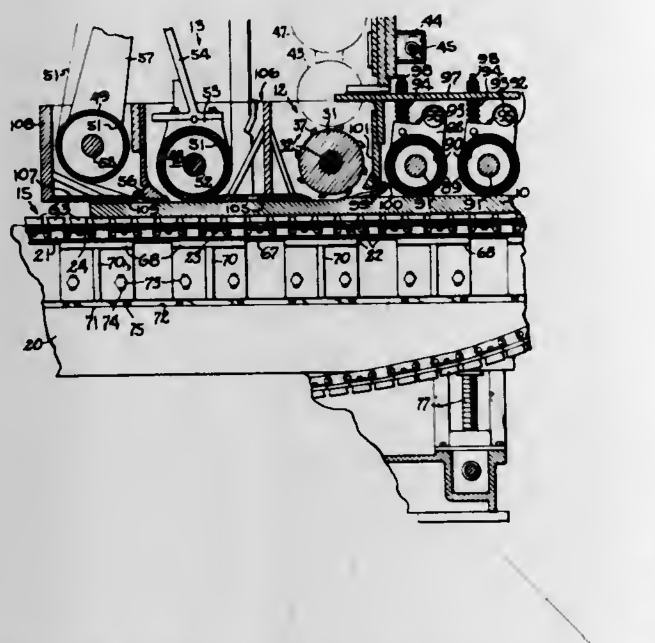


A work table for supporting cutting means and construction material in a predetermined relationship so that said construction material may be cut or mitered at a desired angle. The table having a plurality of miter pin assemblies associated with the upper working surface thereof, each of said assemblies including a spring biased plunger and selectively operable means for retaining said plunger in a first position with a portion thereof extending above the working surface of the table to be engaged by a construction material, or in a second position wherein said plunger is retracted below said work surface.

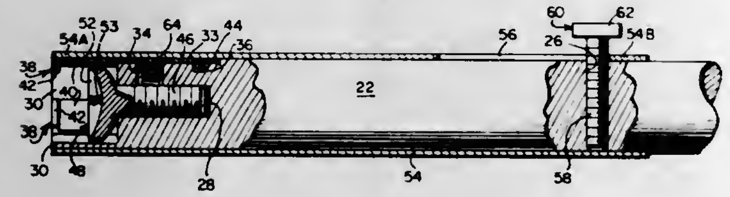
3,379,230
FINISHING MACHINE

Phillip J. Roehrig, Rockford, Ill., assignor to Solem Machine Company, Rockford, Ill., a corporation of Illinois
Filed Dec. 13, 1965, Ser. No. 513,480
11 Claims. (Cl. 144—1)

A combined planing and sanding machine having planing and sanding heads disposed above a resiliently compressible belt conveyor for successive engagement with a substantially flat workpiece on the conveyor. The latter comprises a series of rigid slats joined together in an endless belt with rubber blocks fastened to the slats to engage the work, the slats sliding along a rigid backing, and the planing head is a cylinder with helical rows of teeth fitted therein. The sanding head uses an endless belt guided around three rolls, one of which presses the belt against the planed surface of the work. To center the work on a predetermined longitudinal reference plane, pressure rolls yieldably press the work into the conveyor ahead of the planing head, a pressure plate engages the planed surface between the heads, and another pressure plate engages the sanded surface beyond the sanding head. An alternate conveyor uses a fabric belt with a molded facing having integral compressible lugs thereon.

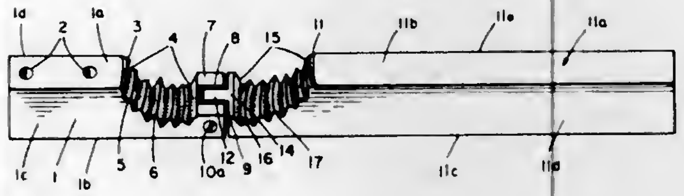


3,379,231
FASTENER HOLDER AND DRIVER
John Gallo, Sr., 64 Broad St., Boston, Mass. 02157
Filed Nov. 29, 1966, Ser. No. 597,718
8 Claims. (Cl. 145—52)



1. A driver device for a work fastening means having a driver engageable head including an outer end and an underside, said device comprising an elongated main body portion having a pair of opposed ends, elongated fastener head guide sleeve means projecting longitudinally from one end of said main body portion in peripherally spaced relation, fastener head seat means disposed at said one end of said main body portion and being centrally disposed with respect to said fastener head guide means, said fastener head seat means being engageable with the outer end of said fastener means as the latter is inserted through said guide means, fastener head drive and clamp means disposed on said main body portion for movement between and away from said guide means to engage with and be disengaged from, respectively, said underside of said head of said fastener means when seated in its said seat, means constantly biasing said clamp means for movement away from said guide sleeve means, and a reciprocable collar mounted on said main body portion movable in one direction to force said clamp means between said guide sleeve means against the force of said biasing means and thereby to clamp said fastener head between said clamp and fastener head seat means.

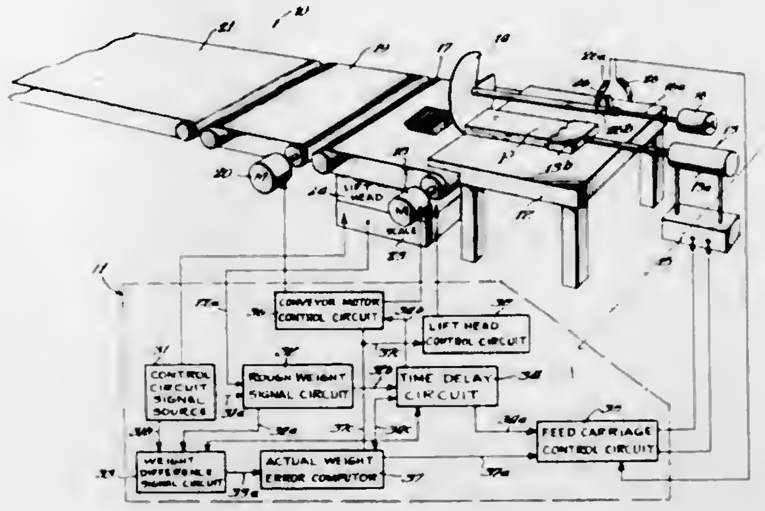
3,379,232
NUTCRACKER
Mayo A. Cox, 306 N. Meridian St., Tallahassee, Fla. 32301
Filed June 3, 1964, Ser. No. 372,187
3 Claims. (Cl. 146—13)



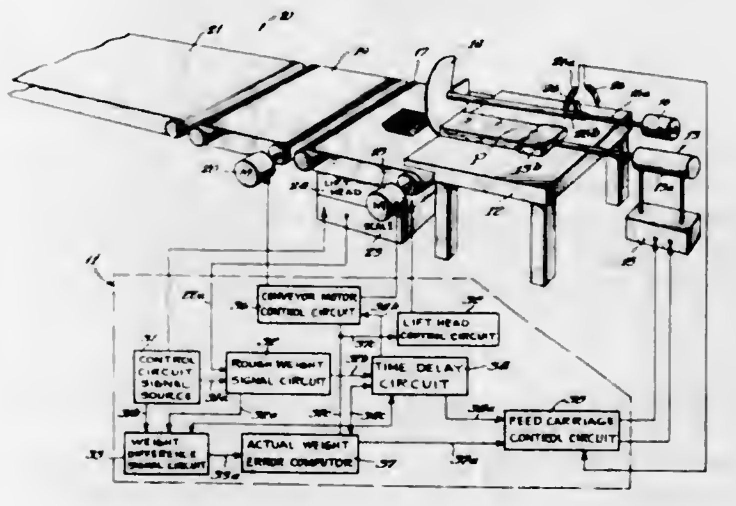
1. A nut cracker comprising a base having a top, bottom and sides connecting said top and bottom, a concave recess adjacent one end of said base in said base top, a series of convex teeth integral with said base and extending in said recess between said sides, a medial tooth of said series of teeth being of greater height than the remainder of said series of teeth, and a bifurcated shoulder at said base end, a handle having a top, bottom and sides connecting said handle top and bottom and an end face extending laterally of said sides, a concave recess in said handle top adjacent said end face thereof, a series of convex teeth integral with said handle and extending in said handle recess between said handle sides, a medial tooth of said series of handle teeth being of greater height than the remainder of said series of handle teeth and a lug extending longitudinally from said handle end face into said base bifurcated shoulder, means pivotally connecting said lug and bifurcated shoulder whereby said handle end face will ride on to and engage said bifurcated shoulder upon pivoting of said handle and the top teeth of both series of teeth will meet, stopping the pivoting of said handle towards said base and said base and handle teeth being positioned whereby corresponding teeth of each series of teeth are opposite one another when said handle top is brought towards said base top.

3,379,233
SLICING MACHINE HAVING AUTOMATIC CONTROLS FOR PRODUCING GROUPS OF PRESELECTED WEIGHT
Frank S. Kasper, Hazel Crest, Ill., assignor to Amtron, Inc., Midlothian, Ill., a corporation of Illinois
Continuation of application Ser. No. 445,887, Apr. 6, 1965. This application May 15, 1967, Ser. No. 638,671
9 Claims. (Cl. 146—94)

1. Apparatus for automatically effecting the production of groups of sliced product of a desired final weight; which apparatus comprises a slicer; product feed means for selectively advancing said product to said slicer; scale means for receiving slices of said product as said feed mechanism advances said product to said slicer; and control means connected to said scale means and said product feed means for selectively dictating the operation thereof, said control means including means for sensing the accumulation on said scale means of a partial product group having at least a preselected weight and for producing a signal in response to the accumulation of at least said preselected weight, means connected to said responsive means for interrupting the operation of said product feed means in response to a signal from said responsive means, means actuated by the signal from said responsive means for effecting an accurate weight measurement of said partial product group after a preselected period of delay, means for converting said accurate weight measurement into a control signal, and means for actuating said product feed means for a preselected period of time in accordance with said control signal so as to add additional product to said partial product group and thereby yield a completed group of sliced product having the desired final weight.

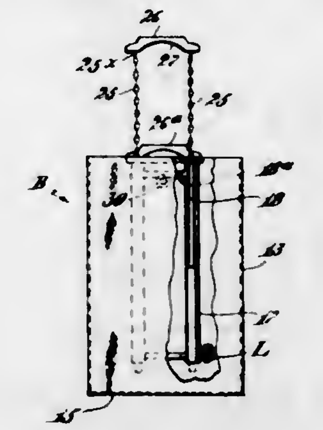

LIFT HEAD
CONVEYOR MOTOR CONTROL CIRCUIT
LIFT HEAD CONTROL CIRCUIT
CONTROL CIRCUIT SIGNAL SOURCE
ROUGH WEIGHT SIGNAL CIRCUIT
TIME DELAY CIRCUIT
FEED CARRIAGE CONTROL CIRCUIT
WEIGHT DIFFERENCE SIGNAL CIRCUIT
ACTUAL WEIGHT ERROR COMPUTOR

3.379,234
METHODS OF EFFECTING SLICING OPERATIONS
Frank S. Kasper, Hazel Crest, Ill., assignor to Amtron, Inc., Midlothian, Ill., a corporation of Illinois
Original application Apr. 6, 1965, Ser. No. 445,887. Divided and this application May 25, 1967, Ser. No. 641,346
7 Claims. (Cl. 146—222)


LIFT HEAD
CONVEYOR MOTOR CONTROL CIRCUIT
LIFT HEAD CONTROL CIRCUIT
CONTROL CIRCUIT SIGNAL SOURCE
ROUGH WEIGHT SIGNAL CIRCUIT
TIME DELAY CIRCUIT
FEED CARRIAGE CONTROL CIRCUIT
WEIGHT DIFFERENCE SIGNAL CIRCUIT
ACTUAL WEIGHT ERROR COMPUTOR

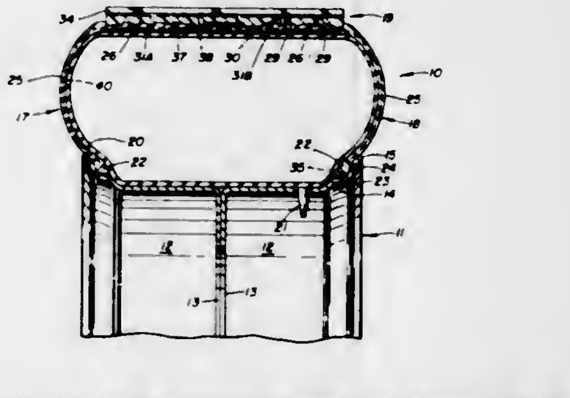
A method for producing groups of sliced product of precise group weights involves advancing the product into a slicer by an electronically controlled device. The slices are deposited on a scale as sliced and an electronic control signal halts the slicing operation as the weight on the scale approaches the desired group weight. A weight comparison is effected between the desired weight and the actual weight on the scale to develop another electronic control signal which re-initiates operation of the slicer to automatically effect slicing of only a further amount of product as is required to attain the desired weight. Other features are disclosed.

3,379,235
MERCHANDISING CONTAINER
Frank E. Horton, Dorchester, Mass., assignor to Cartier, Inc., New York, N.Y., a corporation of New York
Filed June 6, 1966, Ser. No. 555,463
6 Claims. (Cl. 150—1.7)



A bag of small size and pleasing external appearance appropriate as a sales receptacle for small articles of jewelry and having a handle device at each of opposite sides which, by gravity action, tends to retreat from view, when released.

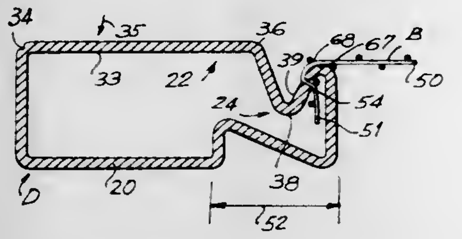
3,379,236
MOLDED TIRES
Sterling W. Alderfer, Akron, Ohio, assignor to Sterling Alderfer Company, Akron, Ohio, a corporation of Ohio
Filed Aug. 3, 1965, Ser. No. 476,907
7 Claims. (Cl. 152—344)



A pneumatic tire and method for making same. The tire comprises at least two opposed sections molded of elastomeric material. Each section has an annular mounting base at the radially innermost extent thereof and side walls which extend radially outwardly of the mounting base. The radially outer extremity of the side wall terminates in a transverse joinder flange. Serrated interlocking means are provided to join the joinder flanges on two opposed tire sections so that a tread is presented. To mold these tire sections a cavity of generally sickle-shaped cross section is formed in a mold. Reinforcing materials are positioned at selected locations within this sickle-shaped cavity, and the elastomeric material from which the tire is to be made is introduced into the cavity and cured. Two such molded sections are joined to form the tire, the tread section being either separate or integral with one of the sections so molded.

3,379,237
FRAME CONSTRUCTION FOR SCREENS
Henry Miller Worthington, Baltimore, Md.
Filed Oct. 24, 1965, Ser. No. 504,488
11 Claims. (Cl. 160—371)

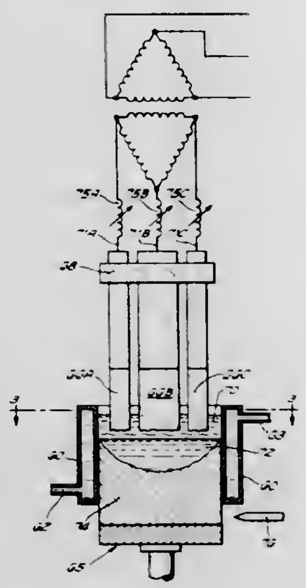
The present disclosure describes a box cross-section extruded member of aluminum or similar metal which has at the open side two reverse U-shaped hook-like members which when pressed together under substantial stress will abut and hold the edge of the screening in position therebetween, preventing movement thereof.



3,379,238
POLYPHASE ELECTRIC FURNACE FOR MOLDING INGOTS

Walter Sieckman, Canonsburg, Pa., assignor, by mesne assignments, to Lectromelt Corporation, Pittsburgh, Pa., a corporation of Delaware

Filed May 26, 1965, Ser. No. 458,977
2 Claims. (Cl. 164—252)



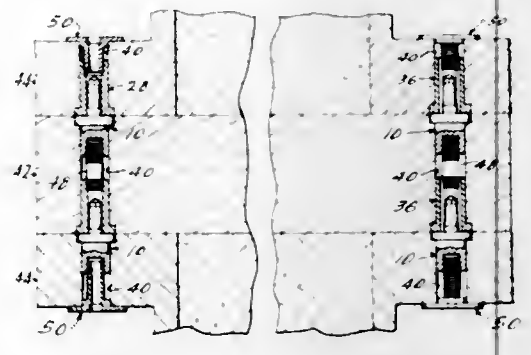
A three-phase electric furnace having three electrodes arranged in a single row within an open top mold and presenting horizontally aligned lower ends spaced above an ingot as already formed in the mold and disposed beneath a slag blanket over the ingot, the end electrodes being of similar cross sections and each generally one half of the cross section of the center electrode.

3,379,239
GUIDE MEANS FOR CORE BOXES AND THE LIKE

Gerald R. Rusk, Toledo, Ohio, and Frederick M. Hagquist, deceased, late of Toledo, Ohio, by Mrs. Frederick M. Hagquist, executrix, Toledo, Ohio, assignors to Freeman Supply Company, Toledo, Ohio, a corporation of Ohio

Filed Oct. 23, 1965, Ser. No. 504,259
7 Claims. (Cl. 164—387)

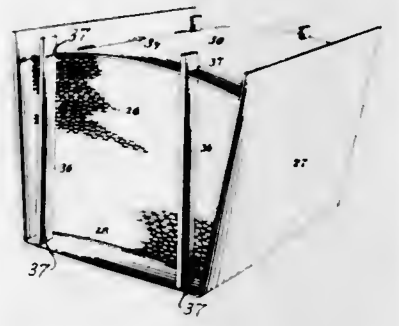
1. A pin and bushing assembly for accurately booking core boxes and the like, said assembly comprising: a pair of bodies each having an axially extending external cylindrical surface with a flange on one end thereof, said cylindrical surfaces being of the same diameter, one of said bodies having an axially extending pin on the opposite side of said flange from said cylindrical surface, said pin having an external guide surface and defining a cylinder of a predetermined diameter smaller than said first mentioned cylindrical surface, the other one of said bodies having an axially extending opening therethrough with a portion thereof having a close sliding fit with respect to said external guide surface of said pin, the end of at least one of said bodies spaced from said flange having a threaded connection, and means having a hold down flange and an axially extending projection the end of which is adapted for threaded engagement with said threaded connection of said one of said bodies.



3,379,240
ELEMENT BASKET FOR REGENERATIVE HEAT EXCHANGERS

Thomas L. Woolard and Kenneth O. Bellows, Wellsville, N.Y., assignors to The Air Preheater Company, Inc., Wellsville, N.Y., a corporation of Delaware

Filed Apr. 11, 1967, Ser. No. 630,132
5 Claims. (Cl. 165—10)



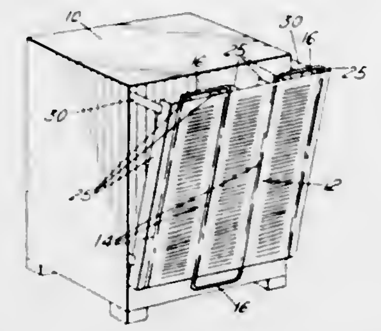
A heat storage segment for a rotor of a rotary regenerator is formed of a U-shaped basket, a rigid arcuate pressure member, and resilient heat storage plates. The plates are placed in the basket and compressed using the pressure member which is then welded to the basket thus forming a unitary segment for the rotor.

3,379,241
REFRIGERATOR CONDENSER APPARATUS WITH FUNNEL SHAPED FLUE

Gerard Gau, Clamart, France, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Feb. 21, 1966, Ser. No. 529,021
Claims priority, application Great Britain, Apr. 15, 1965, 16,185/65
1 Claim. (Cl. 165—53)

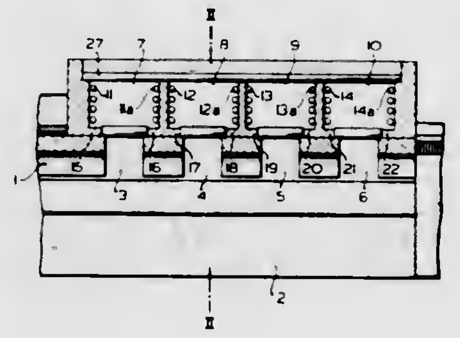
1. A refrigerant condensing apparatus comprising a refrigerator cabinet having a flat vertically extending rear wall, a condenser plate having flanges on either side thereof forming side walls connecting said rear wall and said condenser plate, said side walls each having a width at its top greater than the width at its bottom to support said condenser plate at an inclination with respect to the rear wall, said rear wall, side walls, and said plate enclosing an upwardly directed funnel shaped flue space open at the bottom of said plate and at the top thereof, a plurality of interconnecting tubes contacting said plate, a plurality of U-shaped channel members having a web portion thereon in juxtaposition with said plate and secured thereto to clamp said tube between said flange and said plate at the inside surface thereof, each of said pluralities of U-shaped channels extending throughout substantially the full height of said plate and including spaced apart flanges therein disposed interiorly of said flue space, each of said flanges of the channel members having louvers therein for passage of air flow produced by upward drafts in said flue space, said plate having portions thereon intermediate said channel members with a second plurality of louvers therein for directing convective air currents exteriorly of said flue space into mixed air flow relationship with the upward draft through said flue for removing heat from refrigerant passing through said series of interconnected tubes.



3,379,242
TUNNEL FURNACE

Gottfried Cremer, 72 Kolner Str., 502 Frechen, near Cologne, Germany, and Heinz Behrens, 19 am Weidenpesch, 5022 Junkersdorf, Germany

Filed Mar. 14, 1966, Ser. No. 533,999
2 Claims. (Cl. 165—120)



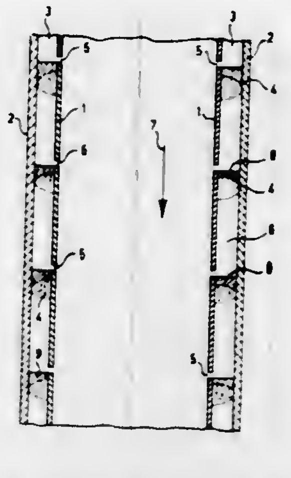
A tunnel furnace in which chambers are disposed above the furnace passage through which the material being fired travels. Within each chamber are vertically looped coils, one being disposed adjacent each side wall of the chamber and above a ledge bounding an aperture communicating with the furnace passage. The ledges prevent scale detachment from the cooling pipes from entering the furnace passage and damaging the material being fired.

3,379,243
DEVICE FOR THE HEAT INSULATION OF REACTOR CHANNELS

Eggert Ohlmer, Velate, Varese, Jacques Dufresne, Varese, and Sergio Finzi, Masnago, Varese, Italy, assignors to European Atomic Energy Community (Euratom), Brussels, Belgium

Filed Mar. 12, 1965, Ser. No. 439,399
Claims priority, application Germany, Mar. 16, 1964, E 26,618
6 Claims. (Cl. 165—135)

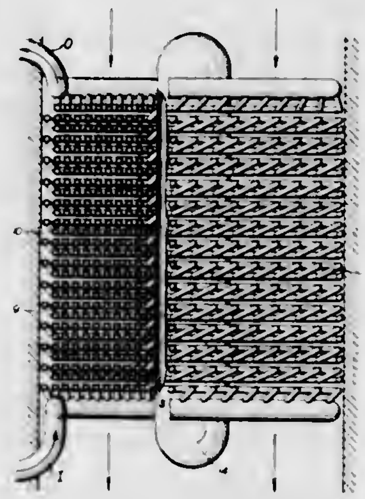
For the heat insulation of a double-walled nuclear reactor pressure tube channel, flow restricting elements and pressure equalizing holes are provided in the clearance between the inner fuel sheath and the outer pressure tube in such a way that the pressure equalizing holes are disposed upstream of the restricting elements and along circumferential lines, the elements being disposed in spaced relationship axially of the channel so that a separate coolant flow injected into the clearance will fill the clearance chambers formed by the spaced restricting elements with gas to thus thermally insulate the outer wall. As an alternative, the restricting elements and the holes are provided in pairs closely adjacent each other and a coolant stream is fed into the pressure tube that remains just unsaturated under the most unfavorable reactor conditions.



3,379,244
HEAT EXCHANGER

Paul Gilli, Vienna, Austria, assignor to Waagner-Biro Aktiengesellschaft, Vienna, Austria

Filed Apr. 5, 1965, Ser. No. 445,394
Claims priority, application Austria, Apr. 6, 1964, A 2,972/64
19 Claims. (Cl. 165—163)



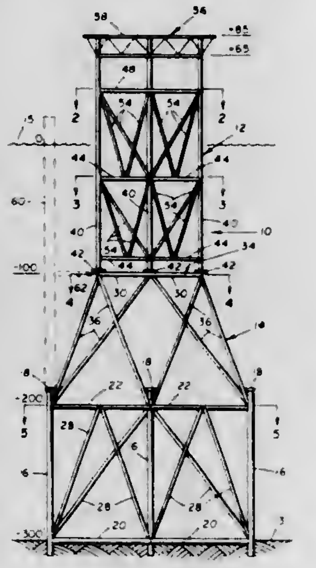
1. A heat exchanger comprising, in combination, a vessel having a main axis and inlet and outlet means for a first fluid; and pipe means located in the interior of said vessel and having inlet and outlet means for a second fluid, said pipe means including a plurality of heat exchanging pipes, each pipe having similarly curved main pipe portions extending between a central part and an outer part of said interior of said vessel in superimposed spaced planes substantially transverse to said main axis, each similarly curved main pipe portion of each of said pipes being located angularly offset relative to such main pipe portions of the same pipe which are located in adjacent ones of said superimposed spaced planes, and a plurality of curved connecting pipe portions each connecting the ends of two main pipe portions of the same

pipe which are located in adjacent superimposed spaced planes and which are angularly offset so that said curved connecting pipe portions are inclined to said main axis, said curved connecting pipe portions having a radius of curvature greater than half the distance between adjacent superimposed spaced planes.

3,379,245

TENDED DRILLING PLATFORM FOR MULTIWELL SUBSURFACE COMPLETION

William F. Manning, Springdale, Conn., assignor to Mobil Oil Corporation, a corporation of New York
Filed May 17, 1966, Ser. No. 550,811
10 Claims. (Cl. 166—.5)



1. In the production of offshore oil and/or gas, a bottom-supported drilling and production platform comprising a lower production support section adapted to be submerged completely when supported on the marine bottom at a drilling site and an upper drilling support section adapted to be supported on said production support section and to extend above the surface of the body of water when at said drilling site; means for supporting production wellheads, of wells drilled from said upper drilling section, on said lower production section beneath the surface of a body of water at diving depth; means for supporting drilling equipment on said upper drilling support section above the surface of said body of water; and means for releasably mounting said upper drilling support section on said lower production support section.

3,379,246

THERMAL METHOD FOR PRODUCING HEAVY OIL

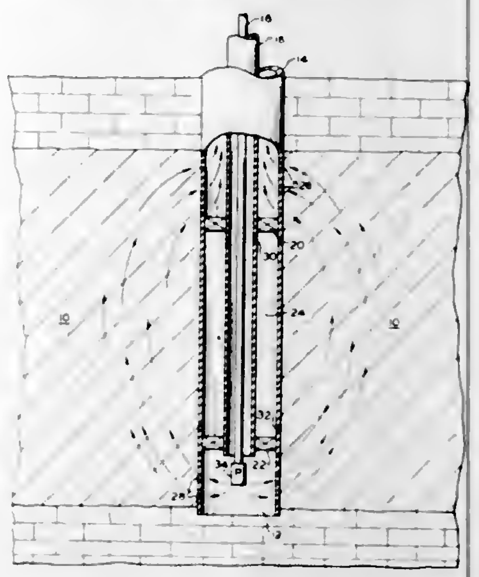
Isadore Sklar and G. W. Walker, Bakersfield, Calif., assignors to Mobil Oil Corporation, a corporation of New York
No Drawing. Continuation of application Ser. No. 444,395, Mar. 31, 1965. This application Aug. 24, 1967, Ser. No. 663,168
17 Claims. (Cl. 166—2)

A method for producing hydrocarbons from a subterranean formation by moving therethrough an in situ combustion front between input and output wells. Formation fluid is displaced toward each output well. When directional movement of the front, which may be monitored, will displace formation fluid beyond the drainage radius of an output well, steam is injected, one or more times, in a quantity into such well to increase the flow of formation fluid from the output well sufficiently to correct directionally the movement of the front for displacing greater amounts of formation fluid into the drainage radius of this output well. Hydrocarbons are recovered from the fluid produced from the output wells.

3,379,247

OIL RECOVERY PROCESS USING HOT FLUIDS

Melcon Santourian, Meshed, Iran, assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Nov. 8, 1965, Ser. No. 506,676
11 Claims. (Cl. 166—11)

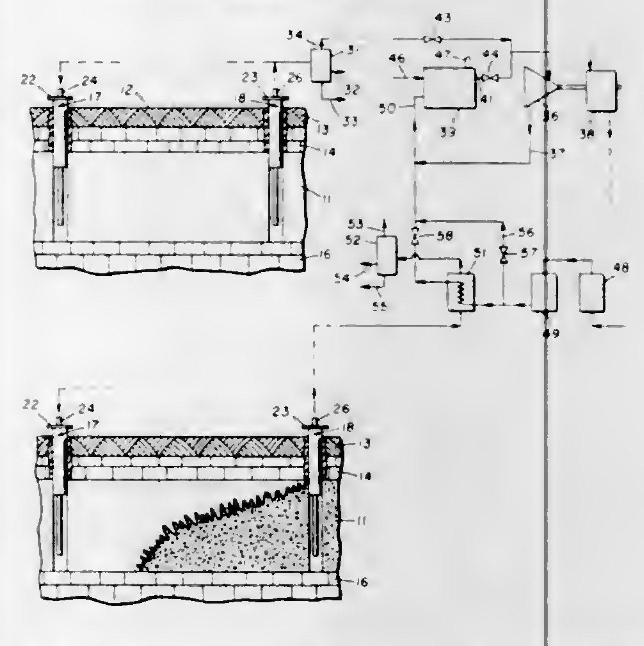


Heavy oil is produced from a stratum containing the same and penetrated by a production well provided with a casing and tubing string by isolating a section of the annulus intermediate the upper and lower boundaries of the stratum, passing hot fluid (such as steam) from the well into the stratum below the isolated section to heat the stratum surrounding said section, the oil being fluidized and collected in the well from which it is recovered by pumping or gas lift. Heating fluid is also circulated thru the isolated section of annulus to aid in heating adjacent stratum. Eventually, fluids including oil are produced in the annulus above the isolated section and thereafter heating fluid is forced thru the stratum to one or more offset wells, preferably, after producing oil around the offset well in the foregoing manner.

3,379,248

IN SITU COMBUSTION PROCESS UTILIZING WASTE HEAT

Lloyd K. Strange, Grand Prairie, Tex., assignor to Mobil Oil Corporation, a corporation of New York
Filed Dec. 10, 1965, Ser. No. 513,139
5 Claims. (Cl. 166—11)



Injecting water into a hot portion of a formation traversed by a combustion front to produce a flow of steam therefrom at certain temperature and pressure conditions. Heat energy is removed from the steam until a substantial part thereof is condensed to water. This heat energy is employed to power mechanisms for moving fluids between the earth's surface and a second portion of the formation in which in situ combustion is being undertaken. The water condensed from the steam may be used as feed water for conversion to steam by heat exchange with hot produced fluids. This resultant steam may also be employed for moving fluids between the earth's surface and the portion of the formation in which in situ combustion is being undertaken.

3,379,249

PROCESS FOR OIL PRODUCTION BY STEAM INJECTION

Ralph E. Gilchrist and Richard J. Sonnenfeld, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed July 29, 1966, Ser. No. 568,730
6 Claims. (Cl. 166—11)

1. A process for producing oil from an oil stratum containing water-swellable clay, which comprises the steps of:

(a) injecting a substantial fluid slug of at least one alkyl halide of the group chlorides and bromides thru an injection well into said stratum toward a production well therein;
(b) thereafter, injecting a substantial slug of ammonia thru said injection well behind the slug of step (a);
(c) injecting steam into said stratum behind the slugs of steps (a) and (b) to cause mixing of said slugs and reaction of said alkyl halide and ammonia to form amines and drive an aqueous front thru said stratum toward said production well to produce oil therein; and
(d) recovering produced fluids from said production well.

3,379,250

THERMALLY CONTROLLING FRACTURING

Charles S. Matthews, Westport, Conn., and Pieter Van Meurs and Charles W. Volek, Houston, Tex., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Sept. 9, 1966, Ser. No. 578,244
5 Claims. (Cl. 166—11)

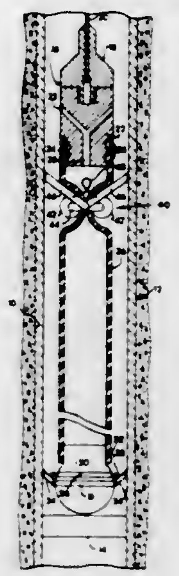
1. A process for heating an areally extensive portion of subsurface earth formation, which process comprises:

(a) establishing fluid communication through a pair of wells and a substantially horizontal fracture that is located within a substantially impermeable subsurface earth formation and is encountered by the wells at locations which are separated by at least about 25 feet;
(b) flowing sufficient fluid into the fracture to form a layer that extends between the boreholes of the pair of wells; and
(c) heating the layer of fluid that extends between the wells to a temperature at least about 100° F. above the normal temperature of the earth formation while maintaining a temperature gradient of less than about 1° F. per foot along the layer of fluid extending between the wells.

3,379,251

DUMP BAILER

Floyd O. Bohn, Houston, Tex., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 501,222
8 Claims. (Cl. 166—23)

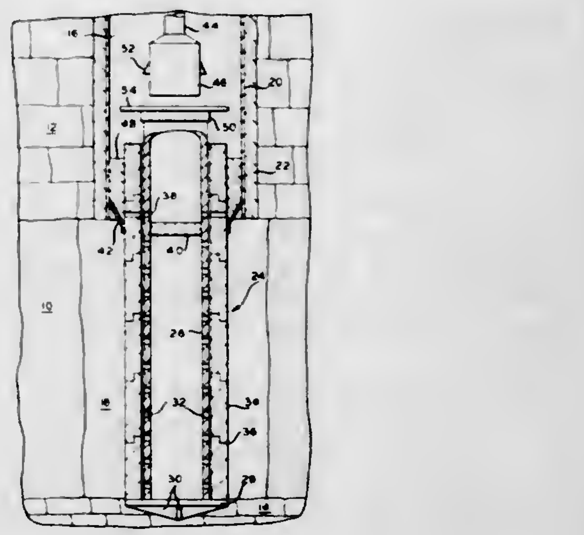


A dump bailer for placing material in a well bore or the like. The dump bailer includes a head member having an upper end connected with wire line for positioning the dump bailer in the well bore. A flexible tube forming a materials reservoir is connected with the lower end of the head and filled with the material to be deposited in the well bore. An ejectable plug located in the lower end of the flexible tube retains the material therein. A collapsing member located on the tube is arranged to collapse the tube in a direction perpendicular to the length of the tube. The collapsing member and tube are movable relative to each other, and relative movement therebetween forces the plug and material out of the tubing.

3,379,252

WELL COMPLETION FOR EXTREME TEMPERATURES

George B. Heckler and Robert F. Meldau, Morichal, Venezuela, assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Nov. 29, 1965, Ser. No. 510,249
6 Claims. (Cl. 166—29)



A well is completed for high temperature service by setting a casing string extending to a level adjacent the top of a producing stratum, cementing the lower end of the casing to the adjacent earth with high temperature refractory cement, forming above ground an assembly of several joints of permeable refractory ceramic pipe end-to-end around an upright perforate metal conduit of smaller diameter than the pipe to form a narrow annulus therewith the joints being cemented together with aforesaid refractory cement, the lowermost joint resting on a support flange fixed to the lower end of the metal conduit, and the assembly being of such length as to reach from the bottom of the well into the lower end of the casing, setting the assembly on the well bottom, and cementing the upper section to the surrounding casing with said cement.

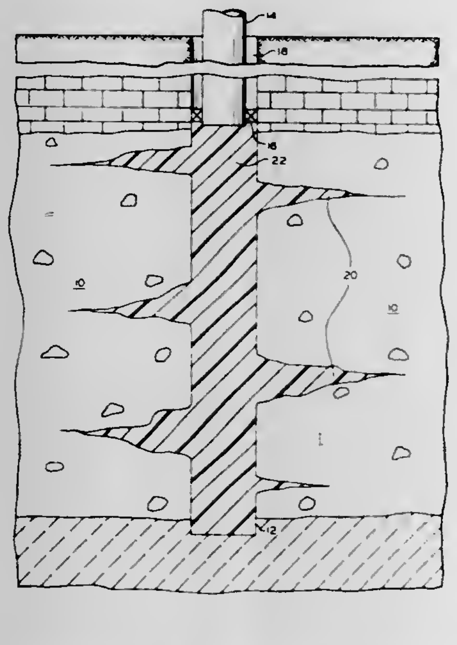
3,379,253

PLUGGING OF VUGGED AND POROUS STRATA

Melvin E. Chism, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Aug. 16, 1965, Ser. No. 479,837

8 Claims. (Cl. 166—33)



Vuggs encountered in formations when drilling a well are sealed off to prevent lost circulation by depositing in the well bore in the vugged area a solid foam-forming agent, foaming and solidifying the agent, and drilling thru the plugged well bore.

3,379,254

METHOD FOR INITIATING IN SITU COMBUSTION WITHIN A SUBTERRANEAN FORMATION

Billy G. Holmes, Lancaster, Tex., assignor to Mobil Oil Corporation, a corporation of New York

Filed Aug. 25, 1966, Ser. No. 574,963

3 Claims. (Cl. 166—38)

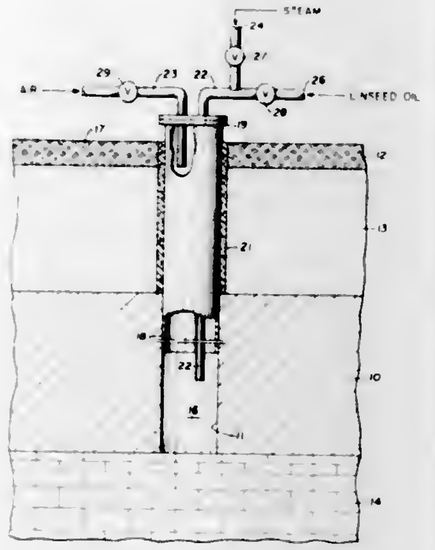
1. A method for initiating in situ combustion within a permeable petroleum-containing subterranean formation penetrated by an injection well having at least two conduit means for conveying fluids from the earth's surface to said formation to be ignited, the steps comprising:

(a) injecting steam through one of said conduit means into said formation to be ignited, said steam being at suitable conditions of temperature and pressure to heat the well-exposed face of said formation to at least 300° F., and during at least terminal steam injection said conduit means being restricted to flows of oxygen-containing gas into the well;

(b) introducing into one of said conduit means a quantity of linseed oil sufficient to wet the face of the formation to be ignited while interrupting the flow of other fluids into the formation through said conduit means;

(c) passing steam through said conduit means receiving linseed oil in a flow sufficient only to displace the linseed oil into the face of said formation but not to drive said linseed oil into the formation away from the well, and while the steam yet flows into the well;

(d) injecting a gaseous stream containing free oxygen through other of said conduit means which have not carried linseed oil into the formation in an amount sufficient to support combustion whereby the linseed oil spontaneously ignites at the heated face of the formation and the resulting combustion front thereby moves only radially outwardly from the well into the formation; and



(e) continuing the passage of steam through said conduit means until residuary linseed oil therein is removed to an amount incapable of forming explosive vapors during the time injection of the gaseous stream is undertaken.

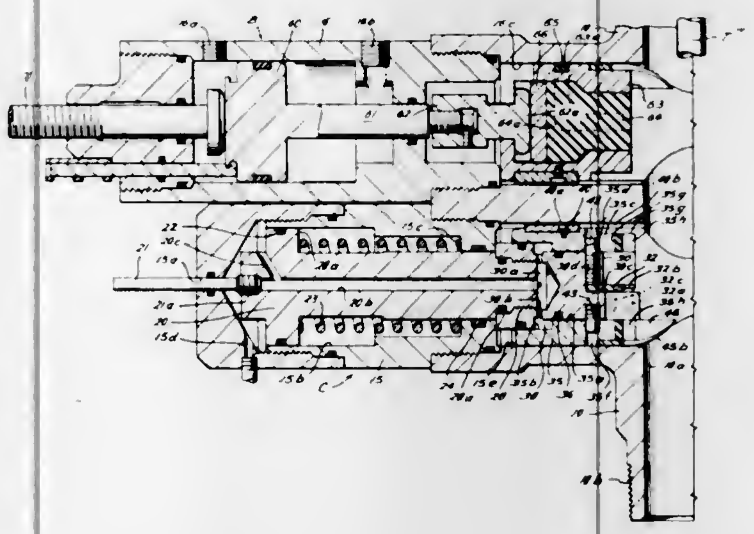
3,379,255

CUTOFF ASSEMBLY FOR USE AT WELLHEADS

Albert L. Burns, Jr., and Damon T. Slator, Houston, Tex., assignors to Bowen Tools, Inc., a corporation of Texas

Filed July 28, 1966, Ser. No. 568,456

10 Claims. (Cl. 166—55)



1. A cutoff assembly for use at wellheads, comprising:

(a) a housing having

(1) a wellhead body with a longitudinally-extending bore through which a well pipe or the like is adapted to extend, and

(2) a hydraulic cylinder disposed laterally with respect to said longitudinally-extending bore,

(b) a first piston slidably disposed in said cylinder for movement towards and away from the said bore,

(c) a cutter blade connected to said first piston for movement therewith for cutting the pipe or the like in the longitudinally-extending bore,

(d) a second piston slidably disposed in said cylinder for movement towards and away from said bore, and

(e) a stabilizer connected to and movable with said second piston for engagement with the external surface of the well pipe to stabilize the pipe while cutting same.

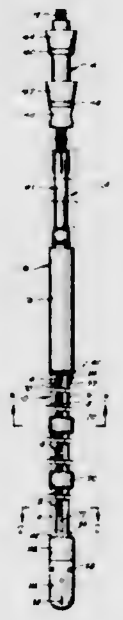
3,379,256

OIL WELL IGNITION DEVICE

John D. Alexander and William L. Martin, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

Continuation of application Ser. No. 399,442, Sept. 28, 1964. This application Feb. 27, 1967, Ser. No. 619,071

14 Claims. (Cl. 166—60)



An oil well ignition device which includes a plurality of elongated, parallel electrical heater elements each having a hot central section and relatively cooler end portions. The heater elements are spaced from each other by spacer rings and by upper and lower headers through which the end portions of the elements pass. A bottom cap is secured to the lower header and encloses and protects the end portions of the elements which project through the lower header. A top cap is secured to the upper header and encloses and protects the end portions of the elements which project through the upper header. A power cable extends into the top cap, is anchored there by a cable clamp, and supplies electrical power to the heater elements. A motion control piston may be included in the assembly by mounting such piston slidably around the power cable above the top cap.

3,379,257

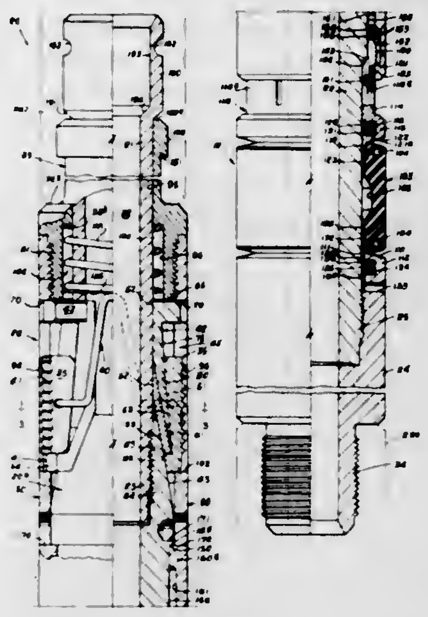
ANCHORING DEVICES FOR WELL TOOLS

Jack W. Tamplen, Celina, Tex., assignor to Otis Engineering Corporation, Dallas, Tex., a corporation of Delaware

Filed Oct. 14, 1965, Ser. No. 495,910

14 Claims. (Cl. 166—137)

An anchoring device having locking dog expander means having dual wedging members for positively locking the locking dogs in expanded position and providing for ready release when desired. Sealing means is initially mechanically expanded to sealing engagement and is then pressure actuated.



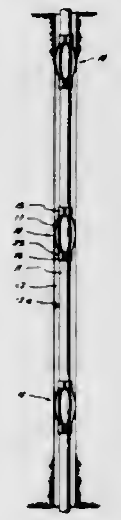
3,379,258

CENTRALIZER

Charles W. Turbyfill, P.O. Box 490, Marshall, Tex. 75670

Filed Mar. 21, 1966, Ser. No. 535,921

8 Claims. (Cl. 166—241)



1. A centralizer for positioning with a tubular member in a well bore comprising:

(a) an upper collar positioned on the tubular member,

(b) a lower collar positioned on the tubular member and spaced from said upper collar,

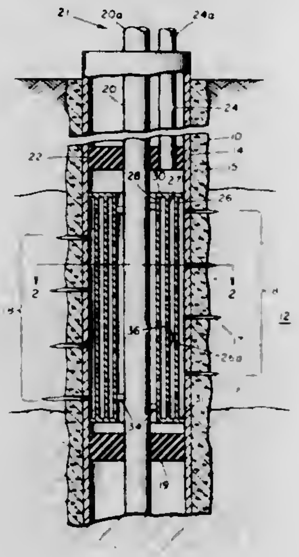
(c) internally formed hinges secured to each of said collars for protecting each of said hinges from damage from the well bore and for enabling each of said collars to be easily positioned on and removed from the tubular member,

(d) spaced bows having arcuate portions therein, said bows being secured to each of said collars and mounted therebetween wherein the arcuate portions of said spaced bows engage the sides of the well bore to center the tubular member in the well bore,

(e) intermeshed tabs having aligned openings therein mounted with each of said upper and lower collars, and

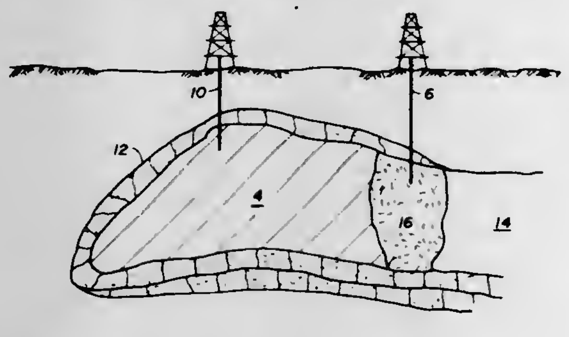
(f) a resilient pin having convex sides and an upper portion joining the sides, one of each of said pins being forcibly inserted in said aligned openings of said intermeshed tabs thereby reducing the clearance between each of said collars and the tubular member to a minimum clearance which reduces the annulus between the tubular member and tse sides of the well bore to enable fluids to flow freely therethrough.

3,379,259
EROSION PROTECTION FOR WELLS
Alvin V. Metler, Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York
Filed Mar. 30, 1966, Ser. No. 538,855
8 Claims. (Cl. 166—242)



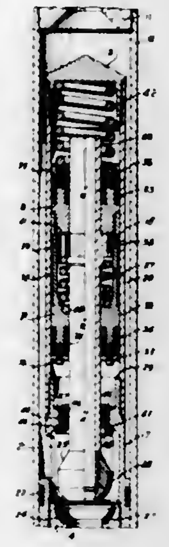
A system used in a multi-ply completed well for protecting a tubing which carries a fluid from a lower production formation against the erosive effects of a fluid from a higher production formation as the erosive fluid enters the well under high pressure through perforations in the well casing. The system comprises a plurality of baffle sleeves concentrically mounted about the tubing in the area of the higher production formation. Each of the sleeves has perforations which are staggered in relation to perforations in the next adjacent sleeve so that the erosive fluid entering the well is forced to follow a tortuous flow path before it impinges on the tubing. This changing flow path causes the erosive fluid to decrease its kinetic energy and reduce its impact velocity before it reaches the tubing, thereby reducing erosion of the tubing and increasing the life thereof.

3,379,260
METHOD OF STORING HYDROCARBON FLUIDS USING A FOAM BARRIER
Leo J. O'Brien, Crystal Lake, Ill., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
Filed Sept. 7, 1965, Ser. No. 485,356
8 Claims. (Cl. 166—9)



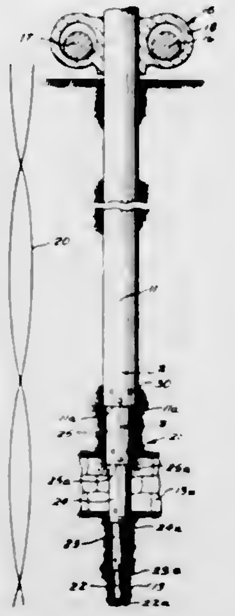
A method for confining hydrocarbon fluid in a natural subterranean storage reservoir having an open side by establishing a bank of foam along the open boundary of the reservoir capable of inhibiting the flow of fluid from the reservoir.

3,379,261
PERCUSSION TOOL
Leo A. Martini, 2623 Hudnall, Apt. 212, Dallas, Tex. 75235
Filed May 23, 1966, Ser. No. 552,219
6 Claims. (Cl. 173—64)



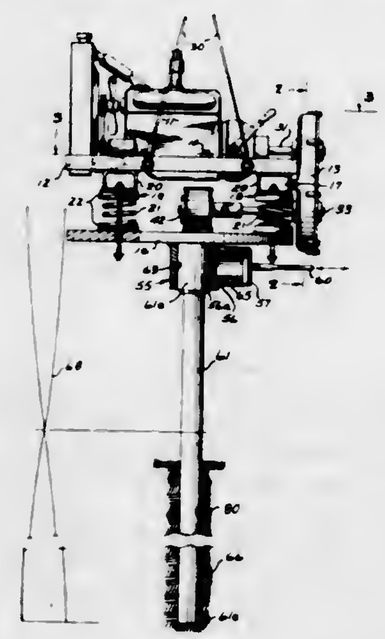
1. A percussion tool for a rotary drill bit mounted on the lower end of a rotary drill pipe including a housing connected in the drill pipe adjacent the drill bit and having a passage for conducting drilling fluid from said pipe to said bit, an upwardly facing valve seat at the lower portion of the passage of the housing, a valve member in said housing passage above the valve seat and movable by the flow of the drilling fluid through said passage into engagement with said seat to halt said flow whereby the inertia of said fluid imparts a downward impact to said drill bit, a tubular barrel mounted in said passage above said valve seat in spaced relation to said housing and having a closed upper end and an open lower end communicating with said passage, a piston reciprocably mounted in the barrel and having its lower end exposed to the fluid in said passage whereby the piston is movable upwardly by the pressure of said fluid when the valve member is seated, stop means in said barrel underlying said piston, first resilient means for urging said piston downwardly into engagement with the stop means, a mandrel upstanding from said valve member so as to be movable therewith and slidably supported by said piston whereby said valve member is unseated by upward movement of said piston, second resilient means between portions of the mandrel and piston for supporting said mandrel in coaction with said piston, the second resilient means urging said mandrel upwardly relative to said piston to unseat said valve member and permitting relative downward movement of said mandrel and seating of said valve member, said second resilient means being compressed by upward movement of said piston relative to said mandrel whereby said valve member remains seated during initial upward movement of said piston, and spring pressed upwardly seating valve means at the lower end of said barrel in surrounding relation to said mandrel for restricting the upward flow of fluid from said passage into said barrel to retard upward movement of said piston and unseating of said valve member and for permitting substantially unrestricted downward flow from said barrel to said passage upon unseating of said valve member whereby said piston is rapidly reengaged with said stop means by the force of the first resilient means.

3,379,262
STEPPED TERMINATION FOR SONIC CASING DRIVE
Albert G. Bodine, Jr., 7877 Woodley Ave., Van Nuys, Calif. 91406
Filed Dec. 23, 1965, Ser. No. 516,035
5 Claims. (Cl. 175—19)



A penetration point has a plurality of increasingly wider diametered steps, such steps being spaced substantially from each other. Each such step forms a drive shoulder extending substantially perpendicularly from the longitudinal axis of the penetration point and cooperates in the driving of the point through an earthen formation, with each shoulder operating to make a pilot hole for the next succeeding shoulder.

3,379,263
SONIC METHOD AND APPARATUS FOR INSTALLING PILE MEMBER, CASING MEMBERS OR THE LIKE, IN EARTHEN FORMATIONS
Albert G. Bodine, Jr., 7877 Woodley Ave., Van Nuys, Calif. 91406
Continuation-in-part of application Ser. No. 340,745, Jan. 28, 1964. This application Feb. 1, 1966, Ser. No. 524,059
5 Claims. (Cl. 175—19)



1. A method for installing an elongated member in an earthen formation comprising the steps of

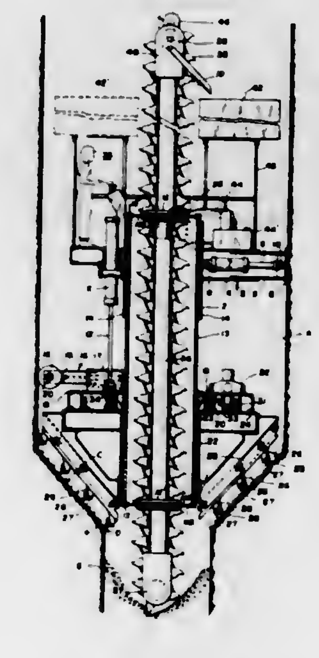
forming a pre-bore in said earthen formation and fluidizing and compacting the earthen particles surrounding said pre-bore by sonically vibrating a mandrel member to cause such member to bore into said formation,

when said pre-bore condition has been achieved, removing said mandrel therefrom and placing said member to be installed in said pre-bore,

sonically vibrating said member to be installed so as to cause further fluidization and compaction of the soil in said pre-bore and to cause said member to be driven therein, and

when said member to be driven has penetrated into said pre-bore to the desired depth, discontinuing the sonic energization thereof whereby the earthen particles surrounding said member fall tightly against said member in tight gripping relationship therewith.

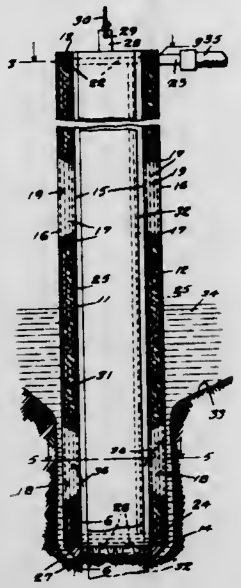
3,379,264
EARTH BORING MACHINE
Kenneth C. Cox, Sewickley, Pa., assignor to Dravo Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 5, 1964, Ser. No. 409,182
17 Claims. (Cl. 175—86)



An earth boring machine having a plurality of cutting disks having wedge form peripheries, which are moved while being held against the working face under great pressure in concentric paths over the working face is disclosed. The cutting disks are axially located on a cutter head in different planes so that the working face is of a cone-like configuration with the conical surfaces being desirably quite steep. Each cutter disk follows in succession the cut made by the next cutter inwardly and downwardly and works to break away an area which has lost its lateral support on the downhill side by the action of the cutter ahead, which is one increment inwardly and downwardly toward the center.

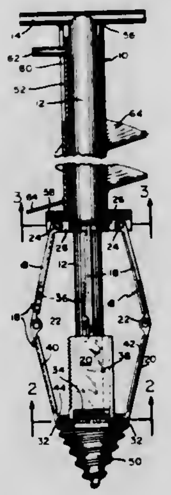
3,379,265
PILE EXTRACTOR AND SETTER
George F. Geiger, Rte. 1, Box 336A, Charleston, S.C. 29407
Filed Jan. 7, 1966, Ser. No. 519,310
7 Claims. (Cl. 175—215)

A tubular casing which is guided in its up and down movement by engagement over a piling and which utilizes a jet action and cutting teeth for excavating the earth around a piling to enable the piling to be raised and removed or for creating a hole in which the piling can be embedded. Ballast contained in a chamber of the casing weights the casing sufficiently to effect the excavating action as it is allowed to descend by gravity.



3,379,266
EARTH BORING MECHANISM WITH EXPANSION UNDERREAMER

Roy W. Fletcher, 35 Twin Oaks Ave.,
San Rafael, Calif. 94901
Filed Oct. 21, 1965, Ser. No. 499,764
8 Claims. (Cl. 175—285)

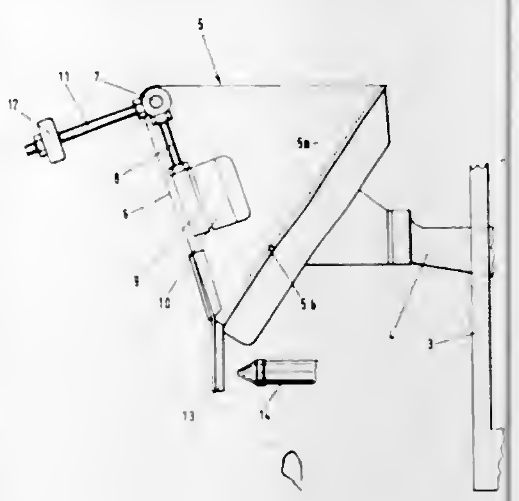


An earth boring mechanism with three rotatively connected telescoping elements, one rotating on a base plate having a threaded footer and slidably supporting a spider, another roating and moving the spider to expand and collapse articulated cutting blades interconnecting the spider and baseplate, and the third element limiting upward movement of the spider and carrying a screw conveyor.

3,379,267
MAGNETIC-PNEUMATIC CONTROLLED DISCHARGE VALVE

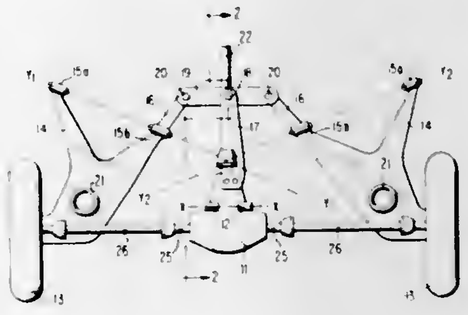
Benjamin Mackenzie, Harrow, England, assignor to Driver Southall Limited, South Ruislip, England, a British company
Filed Jan. 14, 1966, Ser. No. 520,599
Claims priority, application Great Britain, Jan. 22, 1965, 2,841/65
8 Claims. (Cl. 177—108)

A weigh pan carried by a conventional weighbeam has a material receiving body closed by a pivoted discharge door that swings toward shut condition under the influence of gravity and is positively retained shut by a magnetic means. When a suitable material weight is in the pan, the door is positively swung open by an agency other than the magnetic means and which acts with enough force to overcome the holding force of the magnetic means. This agency may be an air jet impinging on the door remote from its pivot, or may be an electromagnetic device such as a plunger acting through a system of links connected to the door.



3,379,268
WHEEL SUSPENSION

Kurt Enke, Fellbach, Wurttemberg, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart, Germany
Filed Oct. 19, 1965, Ser. No. 497,860
Claims priority, application Germany, Oct. 27, 1964, D 45,718
14 Claims. (Cl. 180—73)

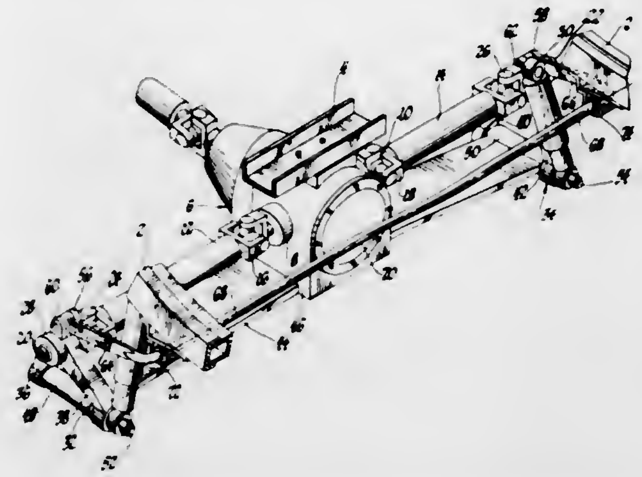


A wheel suspension for motor vehicles, particularly the driven rear wheels thereof, wherein the axle gear is pivoted about a transverse axis forwardly of the rear wheel centers and has a forwardly extending lever arm connected to arm portions of the inclined guide members extending forwardly of the guide member pivots.

3,379,269
VARIABLE RATE SINGLE-LEAF SPRING INDEPENDENT REAR SUSPENSION

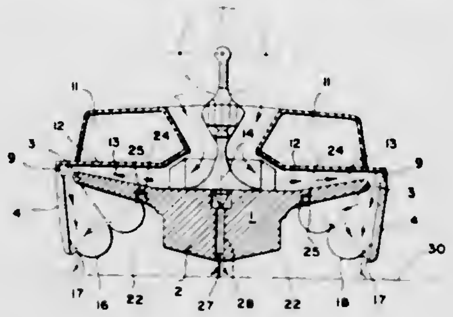
Walter C. Zetye, Southfield, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 14, 1966, Ser. No. 601,739
10 Claims. (Cl. 180—73)

3. In a motor vehicle having a suspended differential, a pair of wheel supporting members disposed at opposite sides of said differential, a road wheel rotatably mounted on each support, a pair of oppositely extending live axles operatively connecting said wheels with said differential, a leaf spring extending transversely between said supports and pivotally connected thereto at its opposite ends on longitudinally extending axes, means fixedly attaching the central portion of said spring to said differential in a fixed horizontally inclined plane, a torsional stabilizer rotatably mounted on said vehicle on a transverse axis longitudinally displaced from the axis of rotation of said wheels, and lever means operatively connecting said stabilizer to said wheel supports.



3,379,270
VESSEL CONVERTIBLE TO WATERCRAFT AND AIR CUSHION VEHICLE

Derek James Hardy, Cowes, Isle of Wight, and Lavis Albert Henry Riddle, East Cowes, Isle of Wight, England, assignors to Westland Aircraft Limited, Yeovil, Somerset, England
Filed Oct. 11, 1965, Ser. No. 494,551
Claims priority, application Great Britain, Oct. 15, 1964, 42,035/64
9 Claims. (Cl. 180—127)

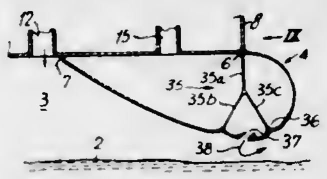


A displacement watercraft is convertible into an air cushion vehicle through the control of extensible inner and outer skirts which are retracted to a position adjacent the sponson of the watercraft during normal operation. The outer skirt is supported intermediate its edges so that it is folded in two when retracted.

3,379,271
VEHICLES FOR TRAVELLING OVER A SURFACE PROVIDED WITH FLEXIBLE SKIRTS OF DIFFERING STIFFNESSES

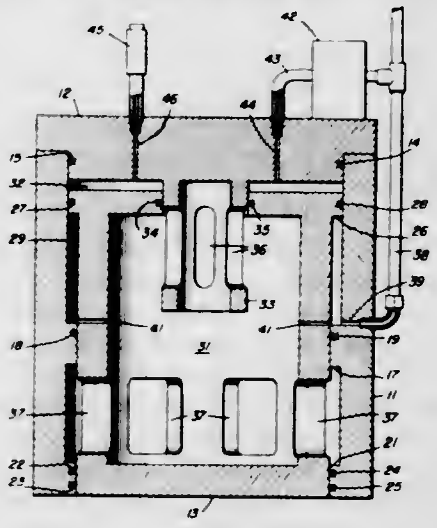
Leslie Arthur Hopkins, Dibden Purlieu, Southampton, and Robert Granville Moore, Hythe, Southampton, England, assignors to Hovercraft Development Limited, London, England, a British company
Filed Sept. 7, 1965, Ser. No. 485,175
Claims priority, application Great Britain, Sept. 14, 1964, 37,439/64)
3 Claims. (Cl. 180—128)

A gas cushion vehicle having an inflatable skirt attached to the body of the vehicle and laterally bounding the cushion space, the skirt being made from flexible sheet material and having portions of differing stiffnesses distributed along the cushion boundary, at least in the bottom region of the skirt, so as to dampen vibrations of the skirt caused by the escape of gas from the cushion when the skirt is deflected by obstacles. The portions of different stiffnesses may be produced by attaching to the skirt at spaced intervals along the bottom thereof stiffening members or tie-lines extending upwardly to the vehicle body, or by forming the skirt from at least two species of flexible material of differing stiffnesses.



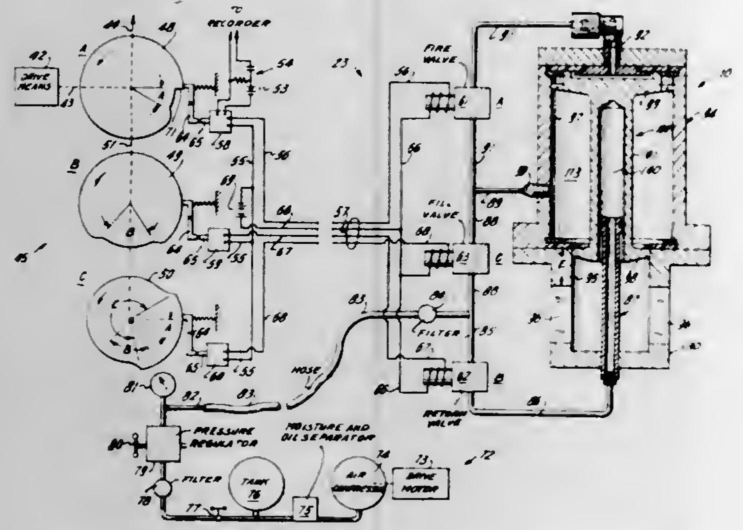
3,379,272
PNEUMATIC EXPLOSION GENERATOR (PEG)

James W. Brooks, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Nov. 26, 1965, Ser. No. 510,454
6 Claims. (Cl. 181—.5)



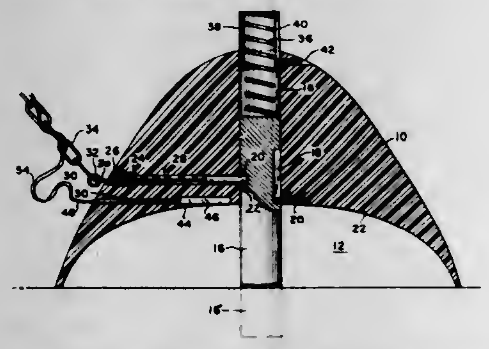
1. A pneumatic explosion generator for producing repetitive, high energy acoustic pulses underwater, comprising:
- a housing having a cylinder and a cylinder head,
- a hollow, cylindrical piston slideably positioned within said cylinder, said piston having a plurality of exhaust ports cut through its sidewall near its bottom end, a portion of the exterior wall of said piston and the adjacent interior wall of said cylinder defining a first chamber, the interior of said piston defining a second chamber, and the top of said piston and said cylinder head defining a third chamber,
- means for supplying air under pressure to said first chamber for driving said piston in an upwardly direction,
- port means for providing communication between said first chamber and said second chamber when said piston is in its uppermost position, and
- trigger means for admitting air into said third chamber to move said piston in a downwardly direction until said exhaust ports are exposed outside of said housing thereby causing the air within said second chamber to be expelled rapidly enough to form an explosion, said piston being restored to its uppermost position within said housing by the potential energy stored in the compressing of air trapped within said first chamber during the downward movement of said piston whereby said generator may be recycled by actuating said triggering means.

3,379,273
POWERFUL SOUND IMPULSE GENERATION METHODS AND APPARATUS
Stephen V. Chelminski, Redding, Conn., assignor to Bolt Associates, Inc., East Norwalk, Conn.
Continuation-in-part of application Ser. No. 151,853, Nov. 13, 1961. This application Nov. 12, 1963, Ser. No. 322,677
28 Claims. (Cl. 181—.5)



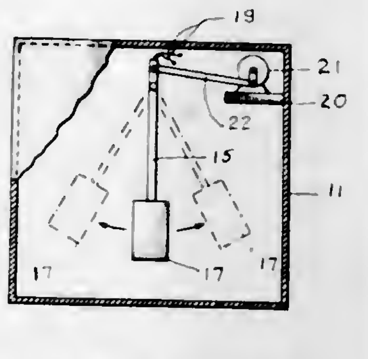
Methods and systems generating and utilizing powerful acoustical waves produced underwater, useful for reflection or refraction types of seismic surveys or for combinations of these. Compressed air fed to acoustical impulse generator apparatus is confined therein, electrical signals produced for firing to suddenly release the confined compressed air generating powerful acoustical waves. The pressure of compressed air is applied for re-closing the confined volume, to confine air again to repeat the sudden release; the amplitude and frequency spectrum characteristics of the acoustical waves may be varied; and in certain embodiments fuel is burned in the confined air, raising the pressure before release. Various embodiments of high-velocity shuttle configurations, pneumatic shuttle-return means, by-pass passages, seals, movable spring-biased seals, valve means, shapes of discharge vents, chamber arrangements, and electrical firing circuits are shown. Automatic firing arrangements are disclosed for self-firing without electrical signals, and a towing chassis unit with tail boom and fins is disclosed.

3,379,274
ACOUSTICAL TUNNEL OR THE LIKE DETECTING DEVICE
Nelson A. Frost, 232 Mill St., Byram, Conn. 10573
Filed Sept. 6, 1966, Ser. No. 577,327
6 Claims. (Cl. 181—.5)



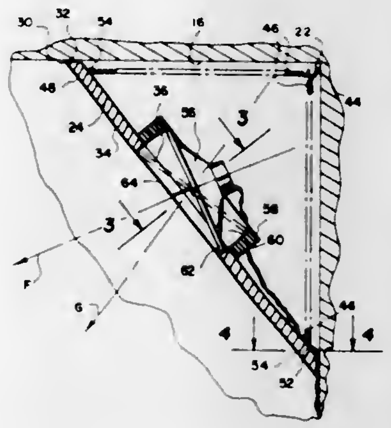
An acoustical tunnel detecting device wherein a striker member is releasably retained in retracted position by manually releasable trigger means and spring means operate on the striker member only when the spring means is stressed by manually depressible plunger means to drive and striker member into sound producing engagement with a solid appearing surface upon release of the trigger.

3,379,275
ORGAN TONE CHAMBER
Leonard Pavia, Florham Park, N.J., assignor to Pavia-Farny Associates, Morris Plains, N.J.
Filed Jan. 3, 1966, Ser. No. 518,222
8 Claims. (Cl. 181—27)



1. An organ tone-chamber comprising:
(a) a chamber;
(b) a sound-emission port in the chamber;
(c) a pivotally mounted support in the chamber;
(d) a transducer housing mounted on the support;
(e) a sound-emission port on the housing;
(f) a transducer mounted in the housing;
(g) a means to reciprocate the support, in the manner of a pendulum.

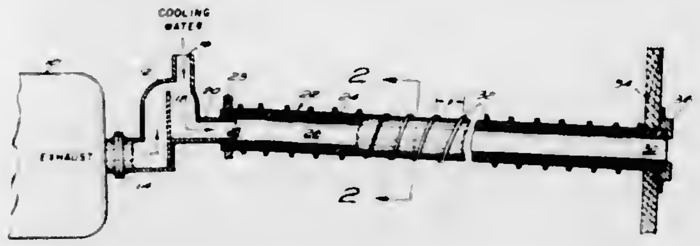
3,379,276
SPEAKER INSTALLATION MEANS
Adam D. Goettl, 4690 E. Palomino Road, Phoenix, Ariz. 85018
Filed Dec. 2, 1966, Ser. No. 598,671
10 Claims. (Cl. 181—31)



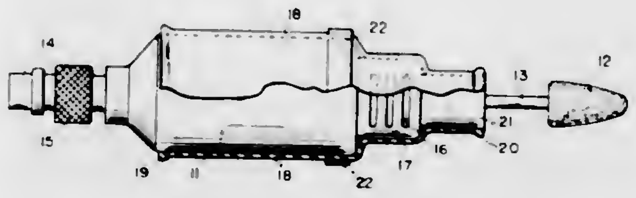
A speaker installation means having a triangular frame disposed to close a corner recess of a building room, ceiling and wall structure, and wherein resilient coil springs hold the speaker frame secured to a fixture in the corner recess, and wherein gimbal bolts and slotted mounts are disposed adjustably to hold said speaker for angular axial adjustment throughout two axes with relation to the speaker frame.

3,379,277
FLEXIBLE EXHAUST GAS CONDUIT AND MUFFLER
Donald Sargent Willy, Squantum, Mass., assignor to Submarine Research Laboratories, Everett, Mass., a corporation of Massachusetts
Filed Jan. 17, 1966, Ser. No. 521,060
6 Claims. (Cl. 181—36)

1. A combination muffler and exhaust gas conduit for internal combustion engines in which cooling water is introduced into the exhaust gases close to the engine, comprising an elongated thick-walled conduit of resilient cellular material having a central passage for the mixture of exhaust gas and cooling water, and resilient restraining means in snug mechanical engagement with the outer wall portion of the conduit.



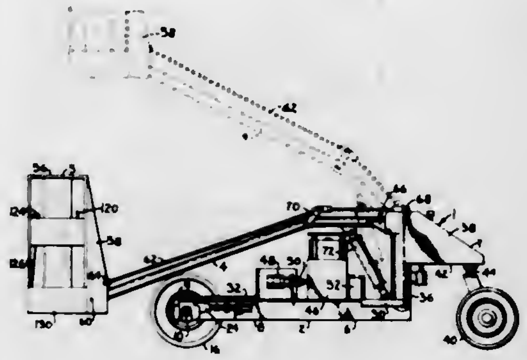
3,379,278
MUFFLER FOR PNEUMATICALLY POWERED TOOLS
Carl Skowron, M. C. #1, Damascus Road, Salem, Ohio 44460
Filed Jan. 19, 1967, Ser. No. 610,263
4 Claims. (Cl. 181—36)



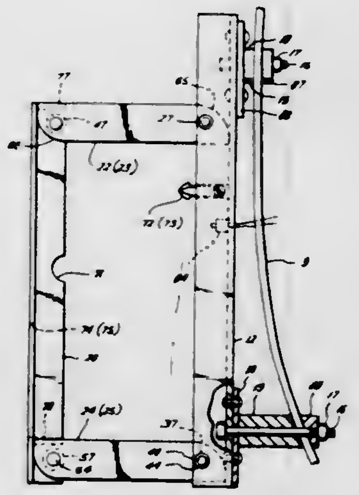
This disclosure relates to a sound deadening device for use on a pneumatic tool such as a grinder. An open-ended sleeve of an elastic, resilient material is tightly fitted over the body portion and exhaust ports of the tool, being bonded to the body portion. Spent air exhausted from the tool forces the sleeve away from the tool and escapes at the end of the sleeve. A band of non-elastic material is placed around the body of the tool closely adjacent the exhaust ports in the opposite direction from the end of the sleeve through which the air escapes. This band is secured to the sleeve and prevents air from forcing the sleeve away from the body portion of the tool.

3,379,279
MOBILE AERIAL PLATFORM
Emmet G. Slusher, 21st and Aull Lane, Lexington, Mo. 64067
Filed July 18, 1966, Ser. No. 565,963
9 Claims. (Cl. 182—14)

A self-propelled mobile unit having an aerial platform for use in lifting personnel and equipment wherein the mobile unit has a frame including a generally T-shape structure of tubular material with spaced independently driven wheels at one end and a wheel with a caster mounting at the other end; a boom being pivotally mounted adjacent said other end on an upstanding member with the aerial platform carried at the free end of the boom with self-leveling connections thereto, said boom being bent whereby it can extend over the power plant in lowered position of the platform and provide a low silhouette for the entire structure. The power plant on the mobile unit driving a fluid pump for supplying fluid under pressure to motors having positive drive connections with the driven wheels with controls including valves on the aerial platform for controlling the fluid pressure moved to the motors thereby controlling the rate and direction of movement of the mobile unit, the valves being such that when moved to stop flow of fluid to the motors it locks the flow and serves as a brake preventing movement of the mobile unit. The control valves have a single lever arrangement for controlling direction of movement. The mobile unit has a fuel tank at the end on which the caster wheel is mounted to serve as a counterweight to the aerial platform to aid in stability of the unit.



3,379,280
FOLDING LADDER
Max L. Pace, Deer Park, Tex. (75[illegible]6 Dillon St., P.O. Box 60236, Houston, Tex. 77060)
Filed May 6, 1966, Ser. No. 548,083
6 Claims. (Cl. 182—96)

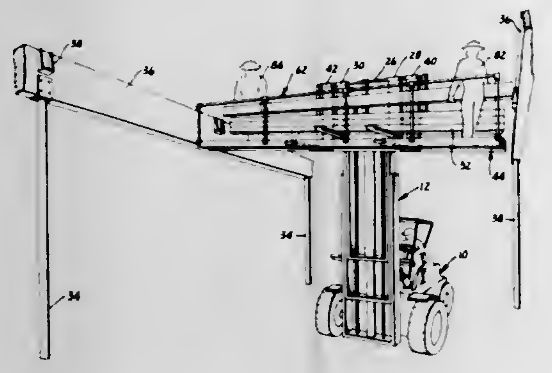


The disclosure is of a folding ladder for use on trucks, boats, and the like, which is retracted when not in use and extended for use.

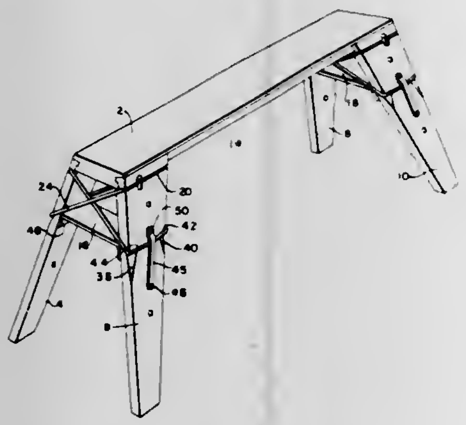
3,379,281
METHOD AND EQUIPMENT FOR BUILDING CONSTRUCTION
Richard C. Calletti, Santa Rosa, and Stanley J. Borges, San Rafael, Calif., assignors to Standard Structures, Inc., San Rafael, Calif., a corporation of California
Filed Mar. 8, 1966, Ser. No. 532,722
4 Claims. (Cl. 182—113)

1. In combination with a high-lift truck having a pair of forwardly extending load-lifting forks: a second pair of forwardly extending forks of substantially greater length than said load-lifting forks disposed below the level of said load-lifting forks, an elongated platform

mounted on the second pair of forks, said platform being disposed at a level below said load-lifting forks therefor having its long or lengthwise dimension disposed transversely of the second pair of forks, and having its short or width dimension disposed both in subtending relation and in forwardly extending relation to said load-lifting forks.



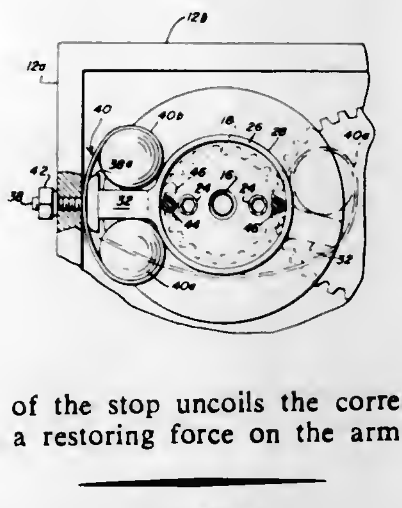
3,379,282
SCAFFOLD HORSE
Eugene W. Knuth, Land O'Lakes, Wis. 54540
Filed June 30, 1966, Ser. No. 561,896
6 Claims. (Cl. 182—186)



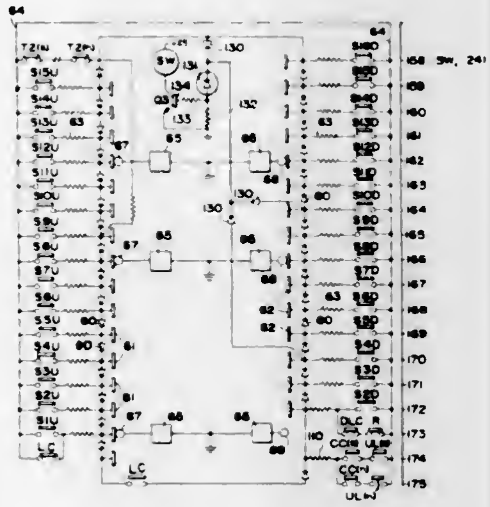
A scaffold horse in which the parts are dimensioned to form a compact package and which can be easily assembled from the packaged form. The legs are tapered and retained in pairs. The maximum width of the legs is substantially equal to the width of the plank so that by laying one pair of legs with their maximum width adjacent one end of the plank and the other pair with the maximum width adjacent the other end, the legs and plank form a package with an outline substantially the same as the plank and with a thickness equal to the thickness of plank and a pair of legs.

3,379,283
BIDIRECTIONAL ROTARY SPRING RETURN MECHANISM
Robert B. Cole, Covina, Calif., assignor, by mesne assignments, to the United States of America
Filed Aug. 18, 1967, Ser. No. 661,733
7 Claims. (Cl. 185—37)

A spring mechanism for returning a rotary potentiometer shaft to its center position of rotation after being decoupled from a drive shaft as by a magnetic clutch. The mechanism comprises a single negator spring coiled into two equal sized coils with the coils set on opposite sides of a fixed mechanical stop. The potentiometer shaft carries a radial arm which in the centered position is aligned with the stop. Movement of the arm to one side or the other of the stop uncoils the corresponding coil which exerts a restoring force on the arm.

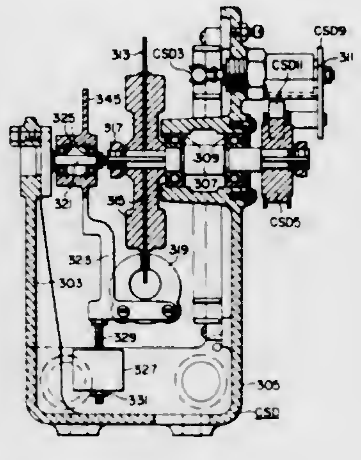


3,379,284
ELEVATOR CONTROL INCLUDING A COMMON TRANSMISSION CIRCUIT WITH A THRESHOLD CIRCUIT FOR EACH CAR TO DETERMINE ITS AVAILABILITY TO ANSWER CALLS
Maynard C. Yeastlng, Elmore, Ohio, assignor, by mesne assignments, to The Reliance Electric and Engineering Company, Cleveland, Ohio, a corporation of Ohio
Filed Mar. 26, 1963, Ser. No. 268,023
7 Claims. (Cl. 187—29)



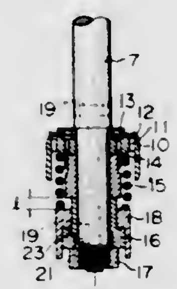
1. A group supervisory control system for a group of elevator cars arranged to serve a plurality of floors comprising, in combination, means for registering calls, a call transmission circuit common to a plurality of elevator cars of said group and corresponding to the path of the cars connected to said call registering means, a unidirectional conductive device having a forward voltage drop in said transmission circuit for each position corresponding to a floor along the path of the cars, means for supplying a substantially constant direct current to said transmission circuit at points corresponding to registered calls, current sensing means for each car connected to said transmission ci:cuit at points corresponding to the position of the car, said sensing means being adapted to drain current from said circuit in a magnitude which is a function of the availability of the car to answer calls whereby the sensing means of the available car most proximate a point corresponding to a registered call alters the current in said transmission circuit from said point to the sensing means of other cars, and means for starting each car in response to the acceptance of current corresponding to a call by its sensor.

3,379,285
LOW-FRICTION SPEED-RESPONSIVE SENSOR FOR ELEVATOR
William H. Leitz, Westfield, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 28, 1964, Ser. No. 348,099
6 Claims. (Cl. 187—29)



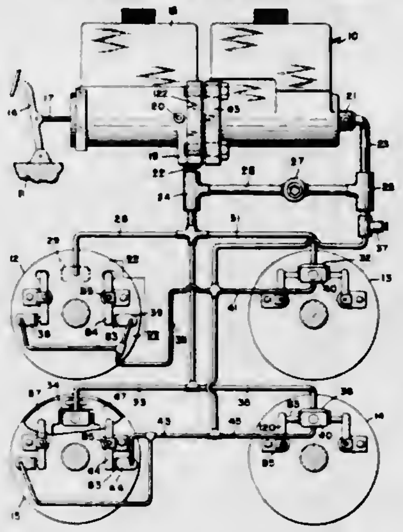
Application of a vehicle brake is supervised by a low-friction speed-responsive device which is effective when the vehicle is in a predetermined region, such as a terminal region, to apply the brake.

3,379,286
OIL DAMPER
Tatsuya Takagi, 6–10 Araebisu-machi, Nishinomiya-shi, Japan
Filed June 14, 1966, Ser. No. 557,519
Claims priority, application Japan, Mar. 30, 1966, 41/19,292
8 Claims. (Cl. 188—88)



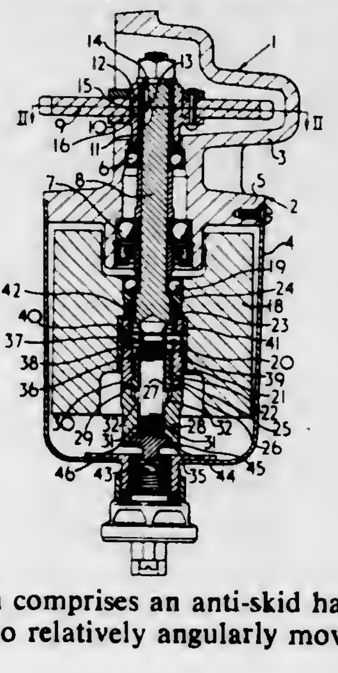
An oil damper particularly for damping shocks which are apt to be transmitted from the ground through the wheels of a vehicle includes a piston rod having a piston which is slidable in a double-walled cylinder and which is adapted to be pivoted at one end to a moving part. A press piston is carried at the inner end of the piston rod beyond the piston and a floating cylinder is disposed with a skirt portion around the press piston and it is slidable between the press piston and the piston. The piston includes a passage which is closed by a valve under the biasing force of a spring carried between the valve and the floating cylinder. A feature of the construction is that when the piston is moved some oil ahead of the piston is bypassed through a passage defined in the piston and covered by the valve. In addition, additional fluid is passed through a bore of the piston and under increased pressure it causes the lifting up of the floating cylinder in a direction away from the press piston to cause the biasing spring acting on the valve to exert an increased closing pressure thereon.

3,379,287
PLURAL ACTUATED BRAKE SYSTEM
Leandre J. Gaudet, 22 Kendall St., Worcester, Mass. 01605; Matilda M. Gaudet, administratrix of said Leandre J. Gaudet, deceased
Filed Mar. 18, 1966, Ser. No. 535,429
5 Claims. (Cl. 188—152)



1. An automotive brake system, comprising
(a) a vehicle having a plurality of wheels, each wheel having a primary and a secondary wheel cyli[illegible]
(b) a master cylinder having two pistons in respective cylinders operable from a single pedal,
(c) a first conduit system connecting one of the cylinders to the primary wheel cylinders and a second conduit system connecting the other of the cylinders to the secondary wheel cylinders, and
(d) a volume displacement device operatively connected within said second conduit system between said other cylinder and said secondary wheel cylinders, said device comprising a cylindrical body provided with a bore, a spring-biased member movable in said cylindrical body, an inlet port in said cylindrical body connecting said second conduit system and said other cylinder and an outlet port in said cylindrical body connecting said second conduit system and said secondary wheel cylinders.

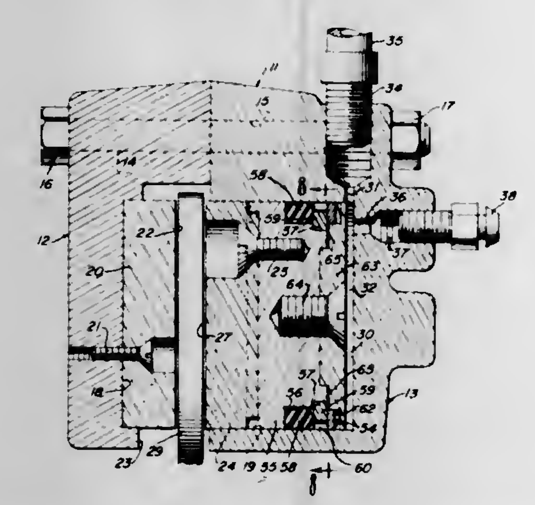
3,379,288
VEHICLE ANTI-SKID BRAKING SYSTEMS
John Walter Davis, Coventry, England, assignor to Dunlop Rubber Company Limited, London, and Birmingham, England, a corporation of Great Britain
Filed Aug. 15, 1966, Ser. No. 572,578
Claims priority, application Great Britain, Aug. 24, 1965, 36,194/65, 36,195/65
13 Claims. (Cl. 188—181)



This invention comprises an anti-skid having an inertia flywheel with two relatively angularly movable members, one of which is responsive to flywheel over-running to signal wheel skid. The two relatively movable members are held together by a torsion spring which also provides a torque resistance opposing relative rotation of the two members which effects a camming apart to operate a brake applying system in response to skid condition. The coil spring is readily adjustable to control the deceleration rate at which the device is intended to operate.

3,379,289
SELF-ADJUSTING BRAKING MECHANISM

Harold S. Hollnagel, 918 W. Laramie Lane, and Harold E. Hollnagel, 10229 N. River Road, both of Milwaukee, Wis. 53217
Continuation-in-part of application Ser. No. 464,296, June 16, 1965. This application June 3, 1966, Ser. No. 562,033
6 Claims. (Cl. 188—196)

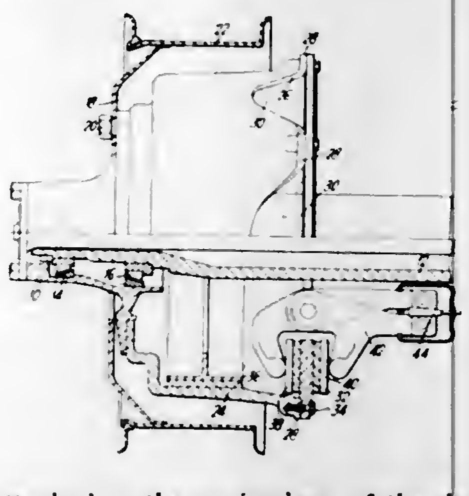


Embodiments of friction brake mechanisms are disclosed wherein a housing defines a guide cylinder for a hydraulically actuated piston of a self-retracting type. A continuous one-piece friction ring encircles the reduced rear end of the piston which receives a rigid back up element to be engaged during advance of the piston in moving to its brake apply position for causing the friction ring to assume a stable advanced position determined by the brake system wear. A compression spring normally reacts between the friction ring and the back up element to urge the piston towards a brake release position in which there is a predetermined axial clearance relation between the back up element and the friction ring. Positive stop engagement determines this axial clearance relation. In one form, an annular intermediate recess opens through the rear of the piston and receives a coil type compression spring. In another form, a reduced diameter edge recess on the piston receives an annular wave spring overlapping an outer marginal portion of the friction ring with the back up element overlapping an inner marginal portion of the friction ring to establish the positive stop relationship for defining the predetermined axial clearance, with the friction ring having pairs of axial slots each comprising an inner peripheral slot and an outer peripheral slot adjacent but offset circumferentially therefrom.

3,379,290
BRAKE ASSEMBLY

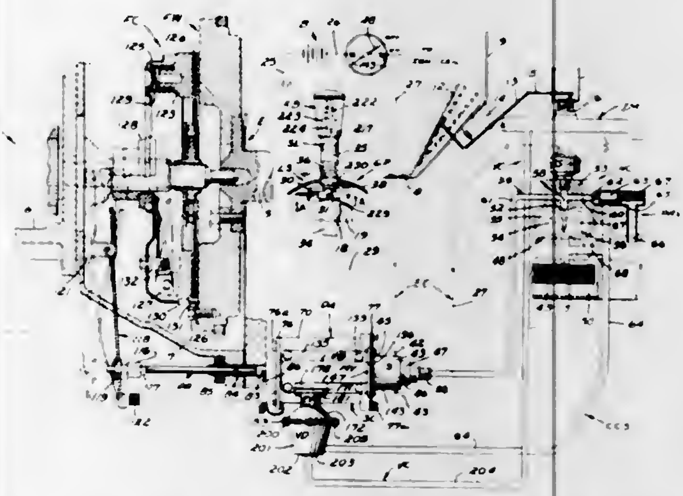
William Alexander Hamilton, Luton, England, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 30, 1966, Ser. No. 576,023
Claims priority, application Great Britain, Sept. 10, 1965, 38,695/65
2 Claims. (Cl. 188—218)

A brake assembly in which the brake drum is attached at one axial end to the wheel hub, the other axial end of the brake drum having a wave-form edge comprising alternatively arranged projections and apertures with a brake disc attached to the projections of the drum waveform edge. The drum has service brake shoes engaging it and the disc has emergency brake shoes engaging it.



3,379,291
TRANSMISSION WITH CLUTCH HAVING FLUID AND SPRING RELEASE MEANS

Glenn T. Randol, Mountain Lake Park Md.
(3 E. 2nd Ave., Loch Lynn Heights, Md. 21550)
Filed May 11, 1965, Ser. No. 454,937
30 Claims. (Cl. 192—.052)



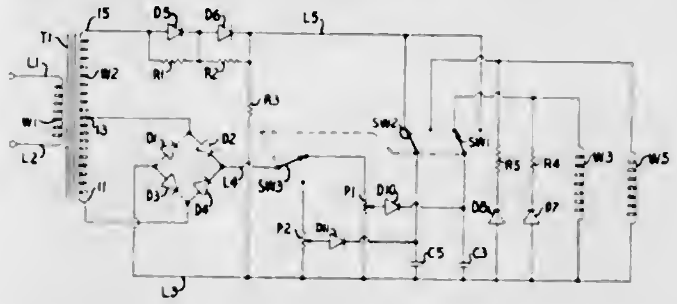
This invention is related with the art on automatic clutch controls and systems utilizable by motor vehicles and the like for controlling the master friction clutch interposed in the drive line between the vehicle engine and associated change-speed drive transmission (gearbox), the invention having special reference to a novel and improved electro-hydraulic-vacuum control system having particular utility in operative association with that type of gearbox controllable by a floor mounted shift-lever selectively manipulative by the driver at will to change the transmission speed drive or to effect neutral thereof in coordination with automatic declutching and reclutching operations of said clutch, and wherein auxiliary disengaging means are effective automatically under driver supervision to release the engine for starting when the latter is under torque-load produced by the vehicle while parked "in-gear."

3,379,292
CONTROL APPARATUS FOR ELECTRICALLY OPERATED CLUTCH AND BRAKE

James W. Grygera, Racine, Wis., assignor to Eaton Yale & Towne, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Aug. 12, 1966, Ser. No. 572,013
8 Claims. (Cl. 192—12)

1. Control apparatus for alternately energizing an electrically operated clutch and an electrically operated brake having respective D.C. excited windings and for providing rapid responses therein, said apparatus comprising:

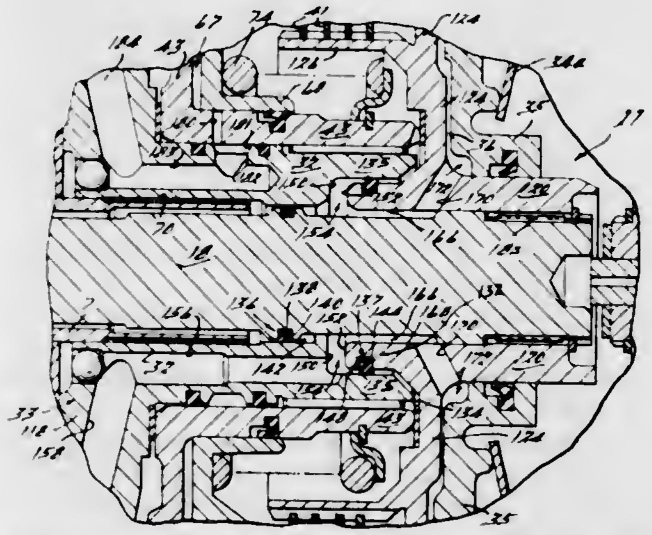
a first electrical power source providing current at a first relatively high voltage;
a second electrical power source providing current at a second relatively low voltage;
a first energy storage capacitor;
a second energy storage capacitor;
first switching means for connecting said first capacitor alternately to said first source to be charged thereby and to said brake winding;
second switching means for connecting said second capacitor alternately to said first source to be charged thereby and to said clutch winding, said first and second switching means being coupled for simultaneous operation whereby when one of said capacitors is connected to said first source the other is connected to the respective winding;



first rectifier means connecting said first capacitor to said second source for isolating said first source from said second source during charging of said first capacitor by said first source; and
second rectifier means connecting said second capacitor to said second source for isolating said first source from said second source during charging of said second capacitor by said first source whereby said brake and said clutch when energized are initially excited at a voltage higher than said second voltage by energy stored in the respective capacitors and are then maintained energized by current from said second source thereby providing a rapid response of said clutch and brake to operation of said switching means.

3,379,293
TRANSMISSION CLUTCH WITH HYDRAULIC SEALS

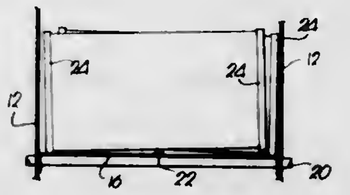
Wayne O. Hill, Detroit, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed May 2, 1966, Ser. No. 546,798
7 Claims. (Cl. 192—85)



An automatic transmission for a motor vehicle in which the pressure fluid passageway to the forward clutch passes between a first relatively small diameter seal between the hub section of the main shaft bearing and the shaft, and a second relatively large diameter seal between a rearward lip extension of the hub section and a forward extension of the hub portion of the clutch drum, this arrangement preserving the structural integrity of the shaft and eliminating radial stacking or overlapping passageways to thereby minimize the external dimensions of the transmission.

3,379,294
SERPENTINE CHUTE FOR CAN VENDER HAVING STRUCTURE PREVENTING RIM INTERLOCK

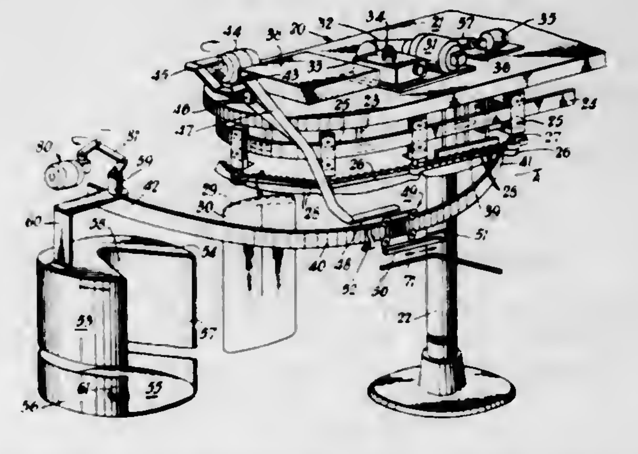
William James Van Llew, Jr., Kansas City, Mo., assignor to The Vendo Company, Kansas City, Mo., a corporation of Missouri
Filed Jan. 26, 1967, Ser. No. 611,934
3 Claims. (Cl. 193—2)



A raised bead on the surface of an article support ramp of a vending machine prevents jamming of canned products gravitating down the ramp. The bead is centered between the walls of the dispensing compartment and extends along the direction of inclination of the ramp in order to preclude interlocking of the rims of a sufficient number of cans to bridge between the walls by causing at least a pair of the cans tending to interlock rims to be tilted in opposite directions by the bead.

3,379,295
SELF-SERVICE APPARATUS

Clement Varley, "Whitefriars," 9 Dormiers Wells Lane, Southall, Middlesex, England
Filed Aug. 26, 1965, Ser. No. 482,723
Claims priority, application Great Britain, Aug. 28, 1964, 35,440/64
30 Claims. (Cl. 194—4)

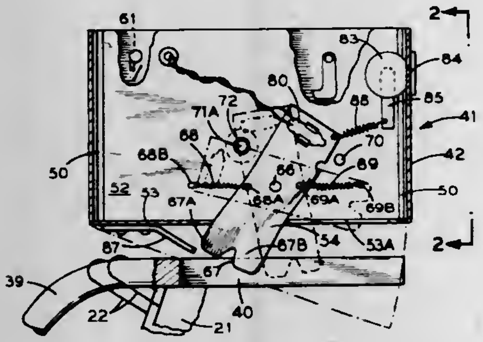


1. Apparatus for returning an item or article, left for processing, to a customer authorized to receive the article by virtue of possession of a particular token, comprising support means having a plurality of locations each adapted to receive an article to be returned to a customer, each location having a code perculiar thereto, a supply of reusable tokens, equal in number to the number of locations and each carrying identical coded information

identifying the token as appropriate for use in the apparatus, and an identification code, exclusive to each token and rendering each token specific to one of said locations, means for supplying each customer depositing an article for processing with a token for use when retrieving the article after processing, sensing means for sensing whether the coded information on a particular token fed thereto at the time the article is returned to the customer renders the token appropriate for use in the apparatus, and for sensing the code on said particular token to determine which of said locations is specific to the code on said particular token, means for delivering, from said supporting means to a place at which articles are returned to the customers, the article at the specific location identified by the code on the token fed to the sensing means, and selecting means, actuated by the sensing means upon presentation of an appropriate token, for bringing the delivering means and said specific location into co-operating relationship thereby to permit transfer of said specific article from said supporting means to the delivering means for transfer to said place, and means for retaining in the apparatus the token when it is presented to the apparatus to retrieve a deposited article.

3,379,296
COIN CONTROLLED BAG DISPENSER

Stan Brenner, Massapequa, N.Y., assignor to John R. Lebb Distributors Inc., Moonachie, N.J.
Filed Oct. 27, 1966, Ser. No. 590,060
30 Claims. (Cl. 194—10)

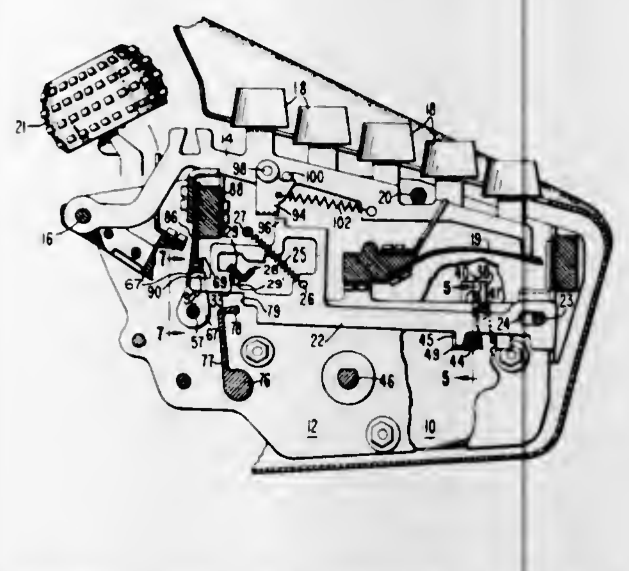


The disclosure is directed to a coin-controlled bag dispenser in which the bags to be dispensed are retained on a bar having a notch formed adjacent the dispensing end of the bar. A coin-actuated assembly including a cam gate is operatively associated with the notched end of the bar for movement between a release position to effect individual dispensing of a bag from the dispensing end of the bar when a coin of proper denomination is deposited and a bag loading position wherein the cam gate is rotated to a position beyond the release position of the cam gate.

3,379,297
ELECTRIC TYPEWRITER KEYBOARD OPERATED MECHANISM

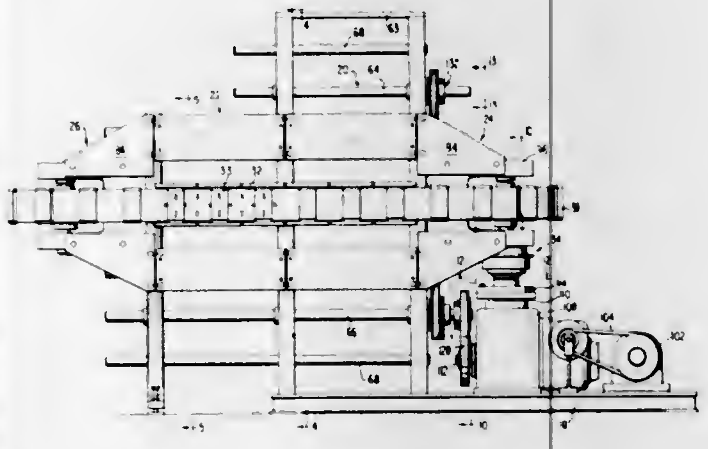
Richard J. Jablonski, Farmington, and Arthur M. Pasinski, Detroit, Mich., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed May 3, 1967, Ser. No. 635,715
10 Claims. (Cl. 197—16)

The disclosure includes keyboard operated mechanism of an electric typewriter for operating key selected switches representative of corresponding type and also to activate a machine cycle control switch. The key operated mechanism for each type character has an interposer which is pivotal by key depression to activate the machine cycle switch and is slidable by and during the cycling operation to effect the closing of a type selecting switch, followed by the printing operation. A normally tensioned flexure or leaf spring is released by a predetermined distance of depression of a key to activate the machine cycling switch whereupon the spring then functions as a latch to hold the interposer in effective position for operation by the cycling operation.



3,379,298
INDEXING ASSEMBLY MACHINE

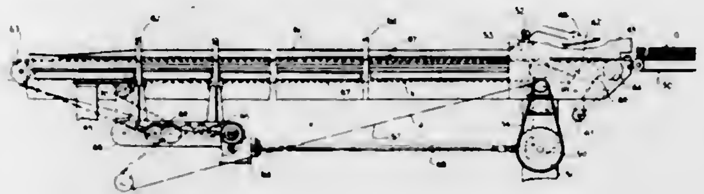
Grant N. Willis, Bristol, Conn., assignor to Arthur G. Russell Company, Incorporated, Bristol, Conn., a corporation of Connecticut
Filed Jan. 28, 1966, Ser. No. 523,636
7 Claims. (Cl. 198—19)



1. An indexing assembly machine comprising:
(a) a base,
(b) modular sectional units capable of supporting and operating tooling and accessories, the sections assembled together and at least partially supported on the base, said modular sectional units including a common cam shaft and pivot shaft extending therethrough and a main drive means for driving the cam shaft,
(c) a pair of end frames, one at each end of the assembled modular sections,
(d) a drive drum rotatably supported on one end frame in a horizontal plane,
(e) an idler drum rotatably supported on the other end frame,
(f) an indexing drive for the drive drum, said indexing drive being driven by said main drive means,
(g) a relatively flat endless steel drive band positioned around the drums,
(h) means for adjustably tensioning the steel drive band, and
(i) work holders attached to the outside of the drive band.

3,379,299
APPARATUS FOR CONVEYING AND DIVERGING ROWS OF ARTICLES

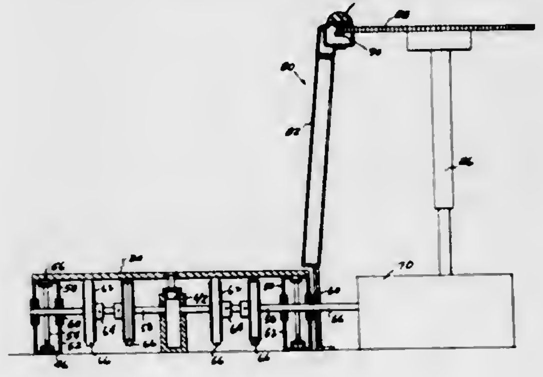
Arthur J. Griner, Wyckoff, N.J., assignor to National Biscuit Company, New York, N.Y., a corporation of New Jersey
Original application Dec. 31, 1963, Ser. No. 334,796. Divided and this application Dec. 21, 1966, Ser. No. 603,487
9 Claims. (Cl. 198—30)



Apparatus comprising conveyor means for supplying parallel contacting rows of articles, such as biscuits stacked on edge, to a plurality of single-row conveyors which receive adjacent rows at different levels and deliver the same as laterally separated rows at a common level, each said conveyor comprising an endless belt supported primarily by idler pulleys in line therewith and driven by a drive pulley in line therewith, and common means for driving said drive pulleys.

3,379,300
MOVING SIDEWALK

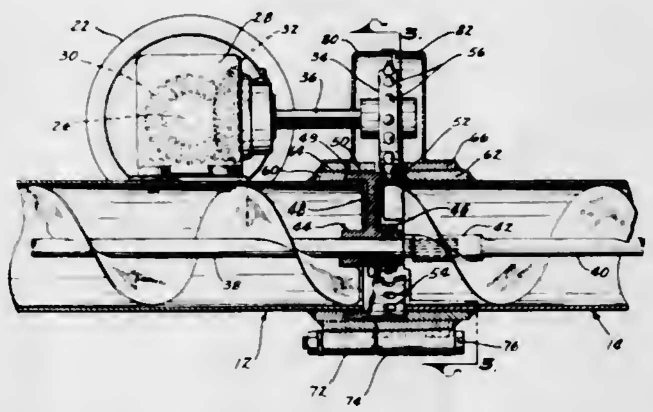
Willis Ford Karr, Warren, Mich., assignor to Stearns Manufacturing Company, Inc., Flat Rock, Mich, a corporation of Michigan
Continuation-in-part of applications Ser. No. 423,267, Jan. 4, 1965, and Ser. No. 461,232, June 4, 1965. This application Oct. 24, 1965, Ser. No. 504,335
3 Claims. (Cl. 198—181)



A conveyor consists of a plurality of flat pallets each having a convex edge and a concave edge, joined together by links which retain the pallets with the concave edge of one abutting the convex edge of the next. The links are fixed to one pallet and pivotably supported to the next so as to allow pivoting motion of one pallet with respect to the next, in the plane of the surfaces of the pallets, about the center of the convex edge of the abutting edges. The pallets are supported on a plurality of short, closed loop, belt sections which are arrayed about axes disposed normally to the pallet course, and to the pallet surfaces, so that one surface of the belt extends parallel to the pallet course. The belts are shorter than the pallet course, and the ends of the belts overlap one another.

3,379,301
CENTER DRIVE AUGER CONVEYOR

Arnold F. Kopaska, Guthrie Center, Iowa 50115
Filed July 29, 1966, Ser. No. 568,988
7 Claims. (Cl. 198—213)



A device including a pair of tube sections having an auger shaft rotatably mounted therein and a gear disposed therebetween having an annular portion disposed radially outwardly of the conveyor tubes and having an annular flange extending laterally of said tubes in mating engagement with the outer peripheral surfaces of each of said tubes, a drive wheel rotatably disposed in direct engagement with the outer peripheral surface of said gear for driving said auger shaft. The annular portion of the gear is disposed along its peripheral edges closely adjacent a pair of annular portions secured to said tubes and each having an annular member secured thereto terminating longitudinally closely adjacent each other and having an opening formed therebetween for said drive gear to engage said auger gear. A plurality of fastener units interconnect said tubes and are secured to said annular members.

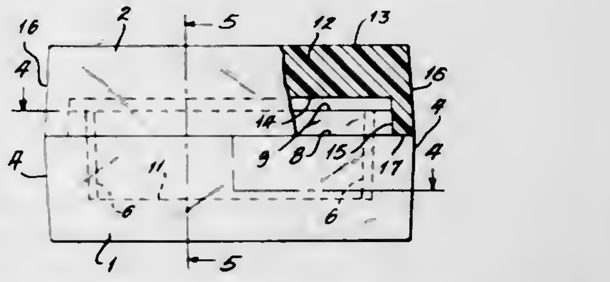
3,379,302
SODIUM-VAPOR DISCHARGE LAMP HAVING AN ENVELOPE WITH A POROUS INNER WALL

Anthonie Jan Burggraaf and Ernest Onno Willem van der Stelt, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 10, 1965, Ser. No. 513,081
Claims priority, application Netherlands, Jan. 7, 1965, 65—111
3 Claims. (Cl. 206—.6)

A sodium-vapor lamp having an envelope, the inner wall of which is porous, the pores of the wall opening out at the surface being free of any material and preferably communicating with one another which minimizes selective absorption of the rare gases used in starting the lamp.

3,379,303
SLIDE HOLDER

John H. Jenkins, 1525 Andrew Drive, Warson Woods, Mo. 63122
Filed May 31, 1966, Ser. No. 554,944
3 Claims. (Cl. 206—62)



A container made from low density plastic material, said container having a bottom and top portion adapted to be secured in assembled relation by pressure-sensitive tape after articles have been placed in holding means in said container.

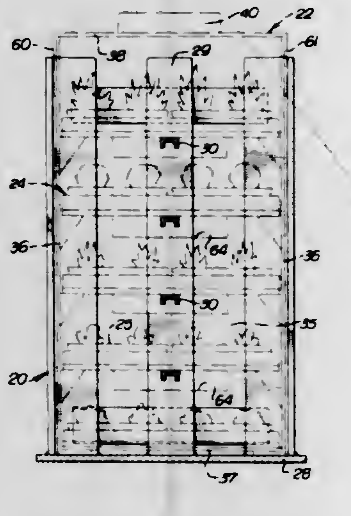
3,379,304

SHIPPING PACKAGE OF NURSERY FLATS

Richard S. Mertz, Torrance, Calif., assignor to American Plant Growers, Inc., Wilmington, Calif., a corporation of California

Filed Apr. 26, 1967, Ser. No. 633,898

16 Claims. (Cl. 206—65)



A shipping package of nursery flats is constructed of two matching hollow specially formed side panels or cartons standing on end with their open fronts facing each other, and having integral vertically spaced corner supports for the flats which, upon installation, are secured by stapling through wings of the side panels. The walls of the flats, being stapled as aforesaid, retain the side panels in rigid conjunction with the flats to provide a completed shipping package.

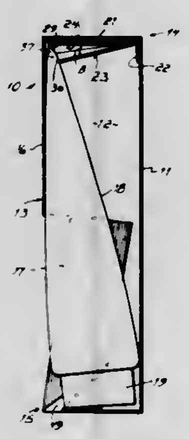
3,379,305

END STRUCTURE FOR SHADOW BOX CARTON

Orison W. Stone, New York, N.Y., assignor to R. A. Jones and Company, Inc., Covington, Ky., a corporation of Kentucky

Filed Oct. 3, 1966, Ser. No. 583,737

7 Claims. (Cl. 206—45.14)



An end structure for a carton having a primary flap overlying the end of the carton, the end structure including a secondary flap which projects angularly into the carton and is maintained at its projected angle by gusset flaps secured to the secondary flap and the side walls of the carton.

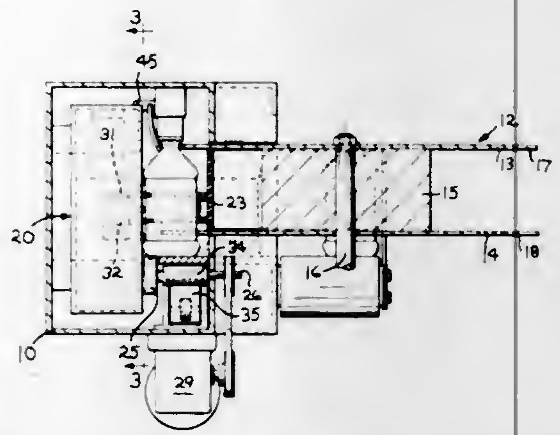
3,379,306

APPARATUS FOR INSPECTING CONTAINERS FOR WALL THICKNESS DISTRIBUTION

Benny B. Mathias, Maumee, and Larry J. Schmersal and Lowell W. Sebring, Toledo, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio

Filed Oct. 23, 1965, Ser. No. 502,846

8 Claims. (Cl. 209—111.5)



In the inspection of glass containers, the containers are fed individually, and in succession to a rotating carrier which moves the containers into position in front of an inspection device. The inspection device takes the form of radio-frequency source coupled to a pair of antennas which will radiate or establish an electromagnetic field directed so that a portion thereof will pass through the wall of the container with a voltage sensing pickup placed so as to sense the field strength after its passage through a selected portion of the container wall. The container is rotated so as to give a scan of the total circumference of the container wall, at the level of the pickup. The voltage at the pickup constitutes an indication of the wall thickness of the container.

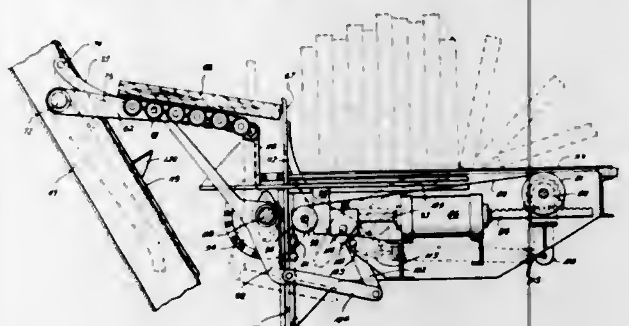
3,379,307

LUMBER SORTING APPARATUS

Douglas W. Dron, Phoenix, Ariz., assignor to Southwest Forest Industries, Inc., Phoenix, Ariz., a corporation of Nevada

Filed Oct. 19, 1966, Ser. No. 587,784

10 Claims. (Cl. 209—123)



1. An apparatus for sorting pieces of lumber, comprising:

inclined chute means adapted for movement of pieces of lumber downwardly thereon with the long axes thereof generally horizontal;

lumber accumulating tray means spaced apart from said chute means;

first deflector means associated with said chute means and adapted to selectively deflect pieces of lumber from said chute means to said tray means;

second deflector means associated with said tray means and adapted to engage the leading edge of said deflected pieces of lumber and to further deflect said pieces of lumber to a generally vertical standing position in said tray means; and

support means for supporting at least a portion of said pieces in said standing position in said tray means during accumulation of said pieces therein.

3,379,308

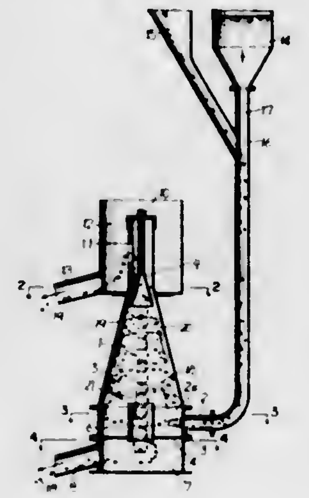
HEAVY MEDIUM CYCLONE SEPARATOR

Takeshi Horiuchi, Otsu 12, Tsuruoka-shi, Torii-cho, Yamagata-ken, Japan

Filed Oct. 7, 1964, Ser. No. 402,160

Claims priority, application Japan, Oct. 8, 1963, 38/52,512; Feb. 18, 1964, 39/8,565

2 Claims. (Cl. 209—172.5)



1. An apparatus for separating materials of different specific gravities, comprising a separating chamber having a truncated conical shape with the wider end downwardly, a feed pipe opening tangentially into the lower end of said separating chamber, a cylindrical tubular section extending upwardly from the upper end of the conical separating chamber and having an exhaust outlet opening therein for discharging heavier materials, an inverted cone in the upper end of said conical separating chamber with the cone spaced from the wall of the separating chamber to leave an annular passage between the cone and the separating chamber, the upper end of the cone having a hollow tube thereon extending through the top of the cylindrical tubular section and being open to the atmosphere through the top of the chamber, a partition closing the bottom of said separating chamber and a tube extending through the center of said partition and extending upwardly into the separating chamber to a level above the level of said feed pipe for discharging lighter materials, and a heavy medium tank and a material hopper connected to said feed pipe and being positioned at a level above the level of the top of the separating chamber for feeding a mixture of heavy medium and material to the chamber.

3,379,309

SCREENING OR CONVEYING MACHINE

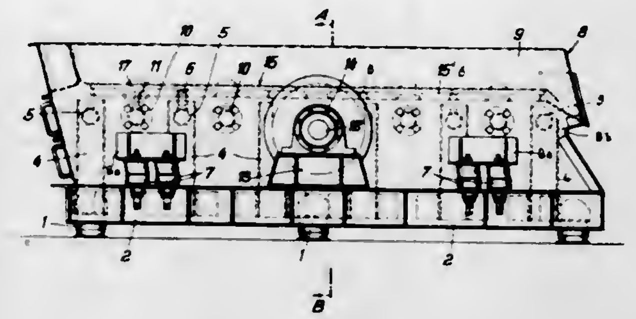
Albert Wehner, Weberstrasse, 31, Monheim (Rhine), Germany

Filed Oct. 4, 1965, Ser. No. 492,781

Claims priority, application Germany, Oct. 21, 1964, W 37,801

5 Claims. (Cl. 209—325)

1. A vibratory machine having two frames oscillatingly movable relative to one another, one of said frames having side walls, and the second of said frames comprising vertical standards each of said frames having tray supports extending transversely to a given forward direction, the supports of the two frames being arranged side by side in alternate fashion at spaced intervals and disposed horizontally in a common plane, a tray alternately resting on the supports of said respective two frames and in driven engagement with one of said frames so as to be moved in said forward direction; vibration generating means disposed transversely of said given forward direction and extending through said side walls and below said tray supports having a shaft revolvable on said one frame, a sprung machine base frame said vertical standards being mounted thereon, said supports of the second oscillating frame being mounted on said vertical standards and disposed within the side walls of said one oscillating frame, said one oscillating frame being sprung with respect to said base frame, said base frame extending transversely beyond the confines of said side walls having bearings mounted thereon, and said one frame having said shaft journalled in said bearings.



3,379,310

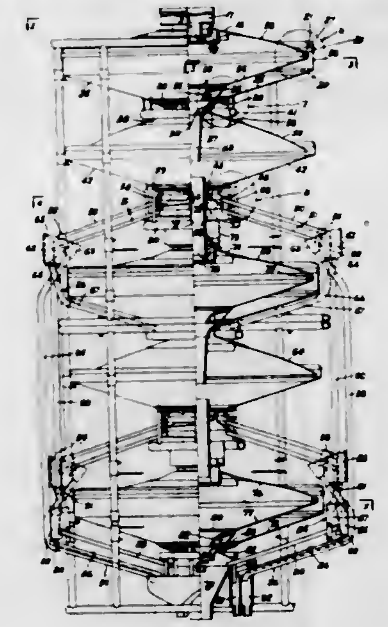
METHOD AND APPARATUS FOR THE WET GRAVITY CONCENTRATION OF ORES

Ernst Reichert, Southport, Queensland, Australia, assignor to Mineral Deposits Pty. Limited, Sydney, New South Wales, Australia, a company of New South Wales

Filed Aug. 16, 1966, Ser. No. 572,815

Claims priority, application Australia, Aug. 17, 1965, 62,881/65

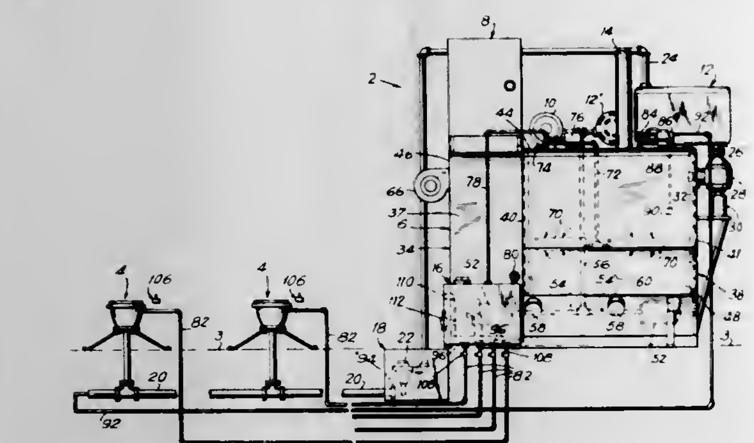
8 Claims. (Cl. 209—459)



Apparatus and a method for the concentration of ores in flowable pulp form in which the pulp is caused to flow gravitationally and radially outwardly down a conical fanning path, then radially inwardly down a conical concentration path, whereafter ore values are removed near the bottom of the concentration path, the fanning path being arranged so that it gets progressively steeper towards its lower end, the fanned pulp being divided into two parts and fed to separate portions in the concentration path which respectively handle said fanned pulp parts, the values output from said two separate portions being recombined for further treatment and subsequent removal.

3,379,311
SEWAGE TREATMENT AND DISPOSAL SYSTEMS

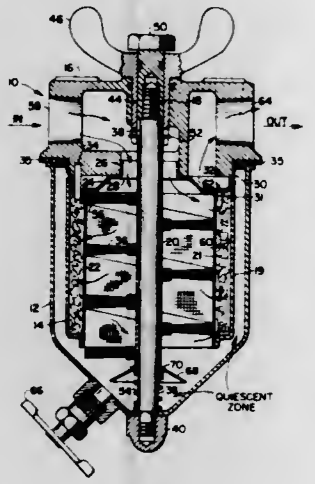
James M. Kulka, 4903 Willow Springs Road, La Grange, Ill. 60525
Filed June 10, 1965, Ser. No. 462,987
12 Claims. (Cl. 210—97)



A sewage treatment and disposal system where a controlled flow of sewage from toilet units is conveyed to a treating tank. In the treating tank the sludge is settled and the liquid is aerated by diffusers to oxidize bacteria. The treating tank includes an air chamber having an air blower and heater by which a controlled evaporation of the aerated liquid is effected to maintain the liquid content of the system at a predetermined amount. Clear liquid is removed from the treating tank to a clear water tank from whence it is utilized in flushing the toilet units.

3,379,312
FLUID STRAINERS

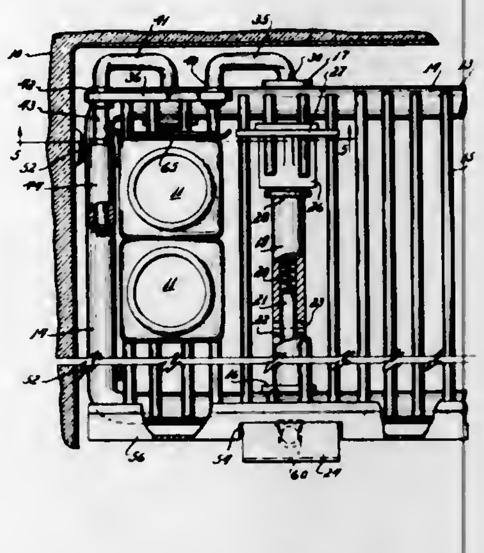
Richard E. Brown, Lyndhurst, Ohio, assignor to North American Rockwell Corporation, a corporation of Delaware
Filed Mar. 16, 1965, Ser. No. 440,095
2 Claims. (Cl. 210—415)



A fluid filter assembly comprises an annular generally cylindrical filter unit within which is rotatably mounted a helical brush adapted to scrape the inner filter area in one revolution. The fluid is introduced into the interior of the filter unit, and contaminant removed by the brush falls into a chamber in the bottom of the assembly out of the direct flow path through the assembly. Rotation of the brush may be controlled either by a pressure operated switch responsive to clogging of the filter or an automatic timer.

3,379,313
REFRIGERATOR SHELF CONTAINER POSITIONING DEVICE

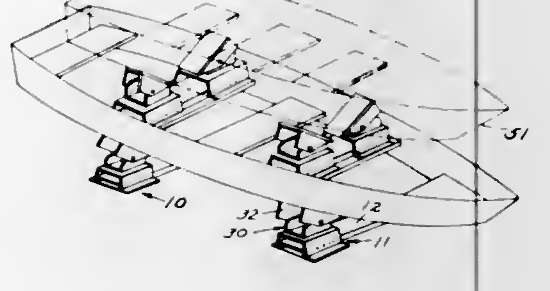
William E. Reddig, Birmingham, and Harold H. Smith, Detroit, Mich., assignors to American Motors Corporation, Detroit, Mich., a corporation of Maryland
Filed Mar. 2, 1966, Ser. No. 531,269
4 Claims. (Cl. 211—49)



A positioning device for a refrigerator shelf organizing the storage of product filled containers, such as milk or the like, placed at the front of the shelf for movement manually in a column rearwardly and being mechanically transferred and brought forward in another column for the removal of the containers in the sequence of their storage on the shelf.

3,379,314
STACKING DEVICES

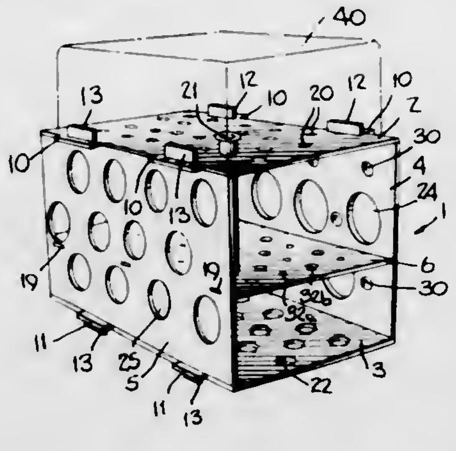
Walter L. Canning, Birmingham, Mich., assignor to Alex F. Walker & Associates, Inc., Royal Oak, Mich., a corporation of Michigan
Filed June 17, 1966, Ser. No. 558,365
4 Claims. (Cl. 211—49)



1. A boat stacking device comprising a pair of blocks and a channel; said blocks and said channel being telescopically slidably disposed relative to one another for linear extension and retraction of said blocks relative to one another and said channel; each said block having a base plate, a block plate spaced above said base plate, and intermediate legs; said channel having a span plate between said block plate and said base plate and side flanges at said legs; adjustable connecting means securing said channel flanges and said legs together as located in the linear extended retracted position of said blocks and said channel; said stacking device being used in pairs to support a boat and individualy adjustable to fit the different widths of the boat adjacent its stern and bow; and an anti-skid cushion pad mounted on the bottom of said base plate.

3,379,315
TEST TUBE RACK

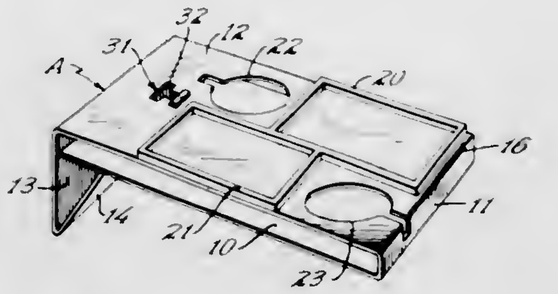
Samuel M. Broadwin, New York, N.Y., assignor to Maryland Plastics Incorporated, New York, N.Y., a corporation of Maryland
Filed Apr. 7, 1966, Ser. No. 540,965
6 Claims. (Cl. 211—72)



The present invention is directed to a collapsible test tube rack which comprises top, bottom and side walls. Each of these walls have test tube openings therein of different sizes. An intermediate support place is interposed between the top and the bottom wall. Support means, in the form of openings or depressions, are formed in said intermediate plate in order to act as a support for test tubes in the openings in the top and bottom walls. The openings in the opposite side walls are offset from each other and support means are provided on each side wall to support test tubes inserted into the openings in the opposite side wall.

3,379,316
AUTO SNACK TRAY

Joshua R. Harrell, 1033 N. Pate St., Carlsbad, N. Mex. 88220
Filed Oct. 23, 1965, Ser. No. 503,767
7 Claims. (Cl. 211—73)

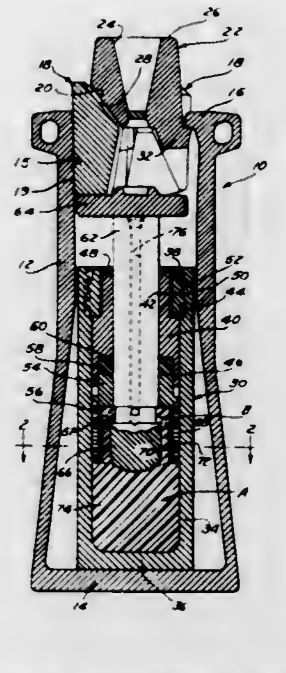


This invention relates to foldable service tray for a vehicle seat which is lower adjoining the seatback than at the forward edge thereof. The tray includes a platform adapted to rest on the forward edge of the seat and having at its rear end a leg panel extending downwardly from the platform and supported by a brace panel extending forwardly and upwardly from the lower edge of the leg panel and locked to the platform.

3,379,317
DRAFT GEAR

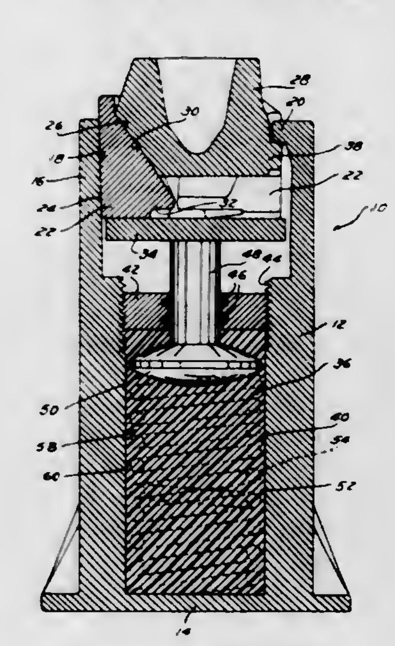
Robert L. Carlson, Chicago, Ill., assignor to W. H. Miner, Inc., Chicago, Ill., a corporation of Delaware
Filed Feb. 2, 1966, Ser. No. 524,515
2 Claims. (Cl. 213—22)

A friction draft gear wherein inward movement of the friction shoes is opposed by movement of a piston and rod assembly inwardly of and through a fixed volume of compressible solid confined in a casing disposed in the gear housing, the outer end of the piston rod being engageable by the friction shoes, and wherein the piston is provided with axial orifices disposed inwardly of the periphery thereof whereby the piston and rod assembly is guidingly supported at axially spaced points in said chamber and a piston rod bearing mounted in the open end of the chamber, respectively, whereby the piston and rod assembly is positively retained in axial alignment in the casing during inward movement as a result of impact forces. A differential pressure seal is provided to prevent extrusion of the compressible seal along the piston rod.



3,379,318
DRAFT GEAR

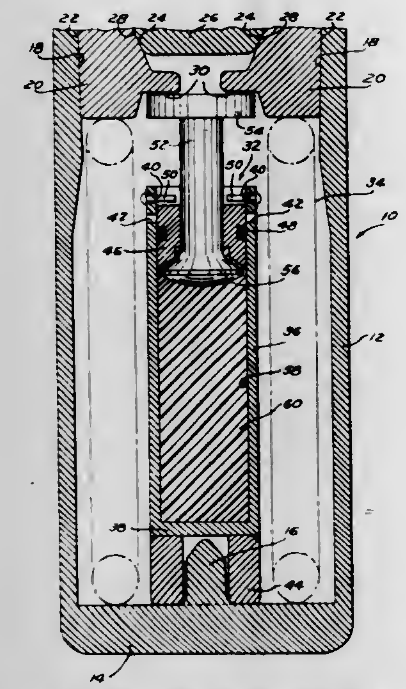
William J. Trongeau, Glen Ellyn, Ill., assignor to W. H. Miner, Inc., Chicago, Ill., a corporation of Delaware
Filed Feb. 2, 1966, Ser. No. 524,532
2 Claims. (Cl. 213—22)



A friction draft gear wherein inward movement of a series of friction shoes is opposed by the rod end of a piston having an annular peripheral orifice and being movable in a confined volume of compressible solid material having an auxiliary-return coil spring embedded therein in a manner providing additional metering of the compressible solid during a reduction of the volume thereof due to the piston rod movement.

3,379,319
DRAFT GEAR

James R. Stasieluk, Chicago, Ill., assignor to W. H. Miner, Inc., Chicago, Ill., a corporation of Delaware
Filed Feb. 3, 1966, Ser. No. 524,906
2 Claims. (Cl. 213—22)

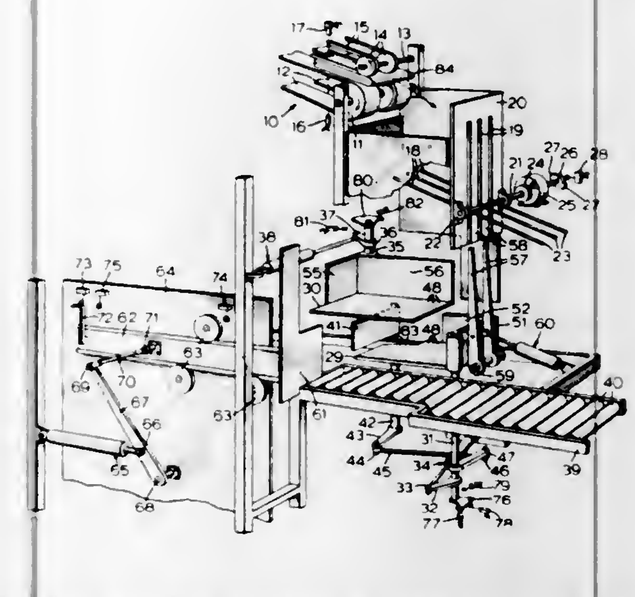


A friction draft gear wherein inward movement of the friction shoes of a friction clutch as a result of impact forces applied thereto is cooperatively opposed by a damped spring and a coil spring disposed externally of the damped spring with each being independently engageable with said friction shoes whereby upon removal of such impact forces the friction clutch is immediately returned to its normal position by the coil spring independently of the return of the damped spring to its normal position. The damped spring is characterized by a casing containing a confined volume of a compressible solid and by a piston having a peripheral orifice disposed in the casing with the piston rod thereof extending outwardly of the casing for engagement by the friction shoes, whereby to provide a damping and spring force as impact forces are imparted to the piston rod by the friction shoes as a result of a reduction in volume of the compressible solid due to inward movement of the piston rod as well as metering of the compressible solid through the piston orifice.

3,379,320
COMPENSATING STACKER

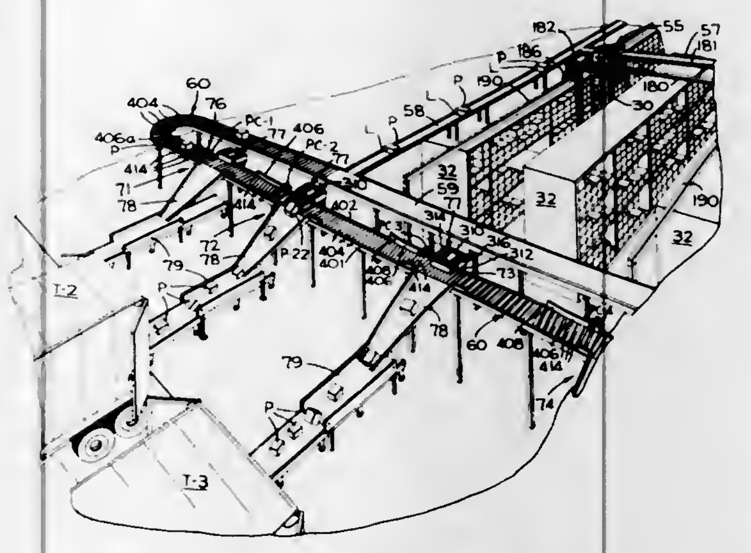
Roy William Loach, Agincourt, Ontario, and James Frederick Procter, Milliken, Ontario, Canada, assignors to Sheridan-Loach Limited, Scarborough, Ontario, Canada, a company
Filed Sept. 22, 1966, Ser. No. 581,294
6 Claims. (Cl. 214—6.5)

1. Compensating stacker machine comprising a first platform, a second platform disposed in fixed relationship to said first platform, a substantially horizontal pivot shaft about which said first and second platforms are so rotatably movable as alternately to occupy a loading station, means for counting articles being loaded on the one of said platforms occupying said loading station, drive means, operation of which is controlled by said counting means, for causing said rotation of said first and second platforms on loading of a predetermined number of articles, a lower receiving tray pivotally movable about a substantially vertical axis from a position below said loading station to a first discharge station, an upper receiving tray pivotally movable about a substantially vertical axis from a position below said loading station to a second discharge station located directly above said first discharge station, said lower and upper receiving trays being angularly displaced relative to one another when in said discharge stations through substantially 180° relative to the angular setting of said trays in the positions below said loading station, power means for alternately pivoting said lower and said upper receiving trays to and from the respective positions below said loading station and said discharge stations in phase with said rotation of said pivot shaft, ejector means for removing articles from said lower receiving tray at said first discharge station, a supporting structure for supporting articles so removed, said ejector means serving to remove articles from said upper receiving tray at said second discharge station for depositing on top of said articles removed from said lower receiving tray.



3,379,321
CARRIER WITH AN ARTICLE LABEL UNIT FOR A WAREHOUSE SYSTEM

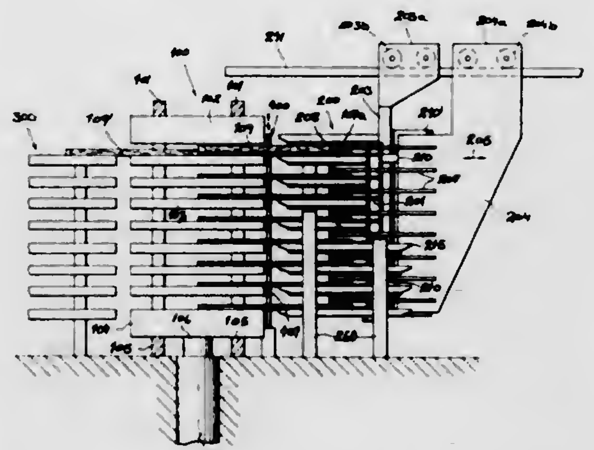
Stanley M. Weir, Palo Alto, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Feb. 25, 1966, Ser. No. 530,057
4 Claims. (Cl. 214—16.4)



4. In combination, a carrier on which an order-picking operator can pick articles from storage units, a plurality of labels, said labels containing indicia that indicates the quantity of articles to be picked and the destination of the picked articles, a labeling unit for placing labels on picked articles and having means for advancing a series of said labels along a predetermined path on said carrier, and means operatively associated with said unit for displaying the indicia on the labels to the view of the operator on the carrier.

3,379,322
LOST MOTION PRESS-CHARGING APPARATUS

Karl Bruder, Krefeld, and Walter Hüsges, Dulken, Germany, assignors to Firma G. Siempelkamp & Co., Krefeld, Germany, a corporation of Germany
Filed Mar. 15, 1966, Ser. No. 534,324
Claims priority, application Germany, Mar. 16, 1965,
S 95,981
10 Claims. (Cl. 214—16.6)



1. An apparatus for the charging of a multiplaten press comprising:

a charging station disposed adjacent said press and having a multiplicity of stages each corresponding to a press level for feeding a body to be compressed onto the respective levels of the press;

a plurality of charging plates assigned respectively to said stages and adapted to receive said bodies for advancing them on said charging plates onto said press and withdrawable to deposit the bodies upon the respective plates;

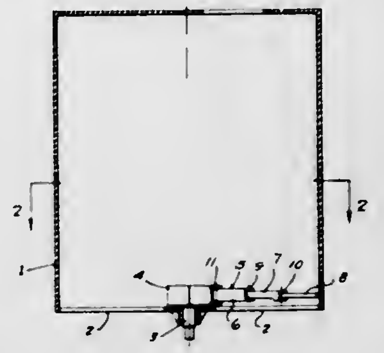
plate-shifting means engageable with said plates and displaceable toward and away from the press for shifting said plates from a retracted position in which said plates are disposed at said charging station for receiving the bodies to be compressed to a forward position of said plates within said press and thereafter returning said plates to said retracted position; and

slider means displaceable jointly with and relatively to said plate-shifting means while forming a lost-motion linkage therewith and having abutment surfaces engageable with corresponding edges of the respective bodies on said plates for aligning said edges during an initial movement of said slider means relatively to said plate-shifting means in the direction of said press, said slider means thereafter engaging said plate-shifting means for displacing said plates from said retracted position to said forward position.

3,379,323
DEVICE FOR MOVING MATERIAL IN A SILO

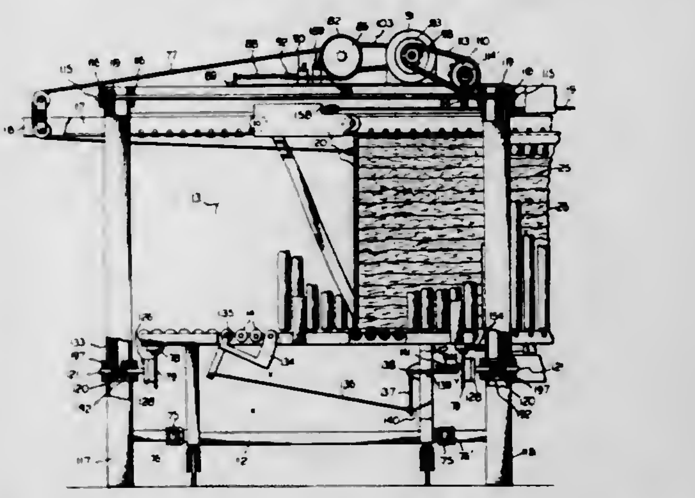
Willles Roald Knutsen, Hasselasen 808, Arendal, Norway
Filed May 2, 1966, Ser. No. 546,954
Claims priority, application Sweden, May 3, 1965,
5,756/65
7 Claims. (Cl. 214—17)

The present invention relates to a device for stirring and/or breaking up a mass of bulk material in a silo in order to facilitate removal of material therefrom. The device comprises one or more paddle arms, each pivotally connected to a housing mounted on a rotatable shaft arranged vertically and centrally in a silo and extending through at least that part of the silo in which a stirring action is wanted. Preferably the shaft is mounted in the bottom and top walls of the silo and extends through at least one of these walls in order to be rotatable from the outside. In accordance with the present invention each paddle arm consists of a plurality of pivotally connected sections, and a wire or other flexible member is connected at one end to the distal section and guided over the joints between the sections at a distance from the pivoted axis, the other end of the wire being connected to an actuating means in the housing. This actuating means tends to move the sections to a position in which they are aligned and extended radially from the housing.



3,379,324
VEHICLE POSITIONING AND UNLOADING MEANS

Eugene F. Wallace, Chalmette, and Harold L. Salaun, Jr., James I. Kotter, and James P. Lanigan, Jr., Metairie, La., assignors to the United States of America as represented by the Secretary of Agriculture
Filed Mar. 2, 1966, Ser. No. 531, 273
4 Claims. (Cl. 214—57)

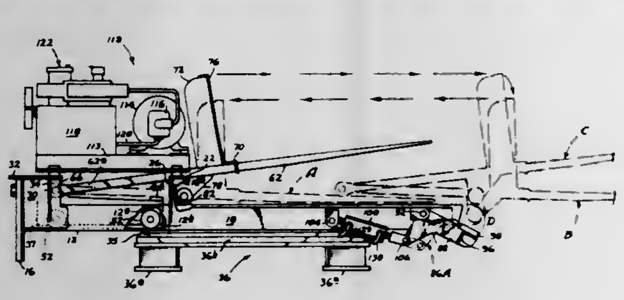


A fully automated bale-opening apparatus comprises a stationary portion provided with a reciprocating, fiber-picking, sub-assembly at one end and, at the other end an entrance and an exit opening for receiving a movable truck to supply a bale to be opened. As soon as the truck begins to enter the entrance opening, interlocking means draw the truck completely into the apparatus and a pusher dolly forces the bale against the reciprocating member. When the bale has been completely opened, the pusher dolly automatically returns to its starting position, a waiting truck with a fresh bale pushes the empty truck through the exit opening, and the process is repeated.

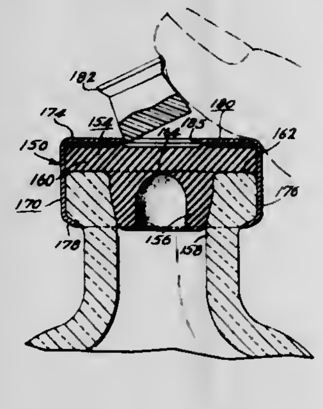
3,379,325
LOAD-HANDLING APPARATUS

Max Frey, Portland, Oreg., assignor to Cascade Corporation, Portland, Oreg., a corporation of Oregon
Filed June 13, 1966, Ser. No. 557,098
6 Claims. (Cl. 214—134)

Load-handling apparatus including a turntable, an elongated track anchored to the turntable for revolving about an upright axis, a carriage supported for movement along the track between retracted and extended positions, and a pair of lift forks mounted on the carriage for shifting between lowered and raised positions relative to the carriage, with the forks supported entirely on the carriage when in their lowered position. A power-operated elevating member is positioned adjacent an end of the track which member is operable, with the carriage occupying its extended position, to raise and lower the forks through engaging guide rollers mounted on the forks. With the forks raised, such guide rollers are then positioned for riding on the track, and with subsequent movement of the carriage on the track the rollers support the forks for retraction and extension in a raised position.



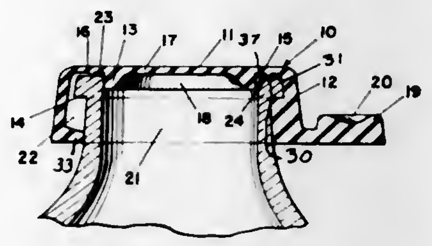
3,379,326
CONTAINER CLOSURE
Eli Frank Andersen, Devon, Pa., assignor to The West Company, Phoenixville, Pa., a corporation of Pennsylvania
Original application Sept. 22, 1965, Ser. No. 489,184, now Patent No. 3,358,865, dated Dec. 19, 1967. Divided and this application Apr. 12, 1967, Ser. No. 650,146
2 Claims. (Cl. 215—38)



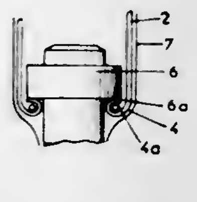
A truly tamper-proof container closure for closing the opening in a container and particularly adapted to hold a stopper in place in a pharmaceutical bottle or the like comprising a cup-like cap with an annular top portion and a skirt depending from the outer peripheral edge of the annular portion, an annular disc overlying the top portion and a button projecting upwardly through the opening in the top and connected to the annular disc by fracturable bridge means. The button is adapted for removal at the bridge connections to expose the stopper to permit the contents of the container to be withdrawn by a hypodermic needle.

3,379,327
CLOSURE AND CONTAINER COMBINATION
Leo J. Link, Erie, and Carl H. Boetcker, Lake City, Pa., assignors to American Sterilizer Company, Erie, Pa., a corporation of Pennsylvania
Filed Dec. 27, 1965, Ser. No. 516,284
3 Claims. (Cl. 215—40)

A venting sterilization closure having a caplike shape, an annular sealing plug extending into the mouth of the container, a wedge-shaped projection engaging the lip of the container, a shoulder supported by a flange extending from the lower end wall of the closure and a notch in said shoulder to allow venting during sterilization.

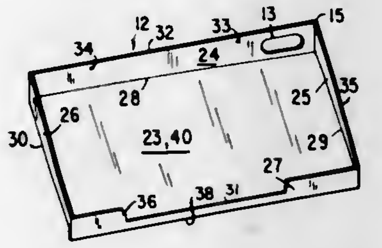


3,379,328
CORK WIRES
André Plion, 2 bis Rue de la Baume, Paris 8eme, France
Filed June 21, 1967, Ser. No. 647,728
Claims priority, application France, June 27, 1966, 66,977
5 Claims. (Cl. 215—94)



A cork-wire comprising a wire cage with four branches each having an inwardly turned hook at one end. A ring of wire is threaded through all the hooks and is arranged to engage the lower surface of the flange on the neck of a bottle.

3,379,329
AIR CONDITIONING EQUIPMENT
David F. Bryans, Cazenovia, and Carl C. Herb, Syracuse, N.Y., assignors to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Dec. 1, 1965, Ser. No. 510,906
3 Claims. (Cl. 220—1)

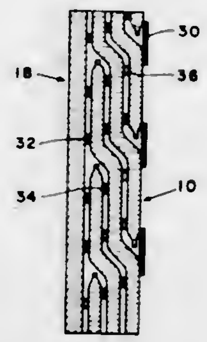


A drain pan for an air conditioning unit adapted for right or left hand draining according to the direction that portions of the drain pan blank are bent.

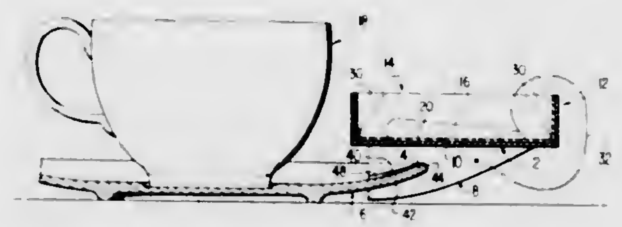
3,379,330
CRYOGENIC INSULATION SYSTEM
Porter J. Perkins, Jr., Rocky River, Ohio, assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Dec. 8, 1965, Ser. No. 512,559
8 Claims. (Cl. 220—9)

Cryogenic insulation in the form of panels that are self-evacuated at the time of use to provide the required quality of insulation. Prefabricated insulation panels

comprising multilayers of shields and separators enclosed in a vacuum-tight flexible casing that contains a gas having a low vapor pressure at cryogenic temperatures are secured to the outer surface of a tank containing a cryogen.

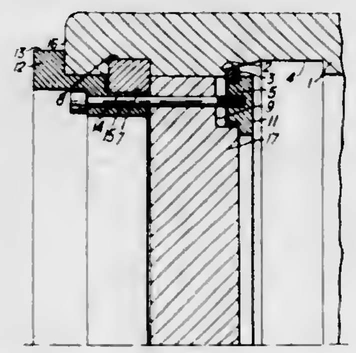


3,379,331
PACKAGEABLE TEABAG RECEPTACLE
Rosalind G. Kamlet, 11011 Childs St., Silver Spring, Md. 20901
Filed Mar. 1, 1967, Ser. No. 619,826
10 Claims. (Cl. 220—23.83)



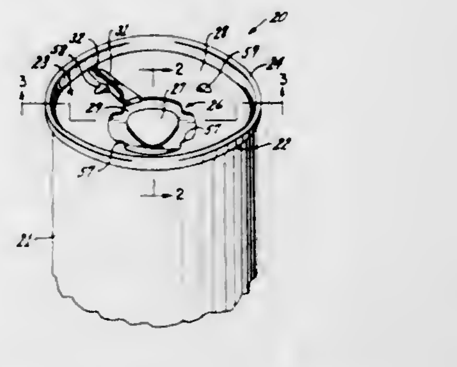
An individual disposable teabag receptacle adapted to be positioned on the rim of a saucer to receive a soaked teabag is attached to each teabag in a box thereof. The teabag receptacle includes a base adapted to be supported horizontally on the rim of the saucer by support means depending from the base and further includes wall means extending upwardly around the edge of the base to define a teabag receiving enclosure. Both the wall means and the support means may be folded closely adjacent the base to place the teabag receptacle in a generally flat inoperative condition prior to use in which each receptacle occupies a minimum of space in the box of teabags.

3,379,332
CLOSURE DEVICES
Harold Henry Anderson, Cathcart, Glasgow, Scotland, assignor to G. & J. Weir Limited
Filed May 4, 1965, Ser. No. 453,150
Claims priority, application Great Britain, May 5, 1964, 18,589/64
6 Claims. (Cl. 220—46)



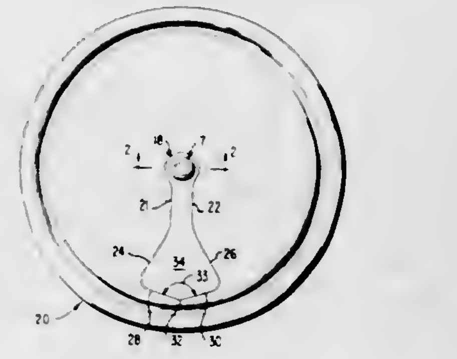
A closure device for a chamber, comprising a closure plate and a ring recessed into a wall of the chamber, the plate being arranged to engage with the ring to close the chamber so that any force within the chamber forces the plate into closer engagement with the ring, and the ring being an endless metal ring of substantially rectangular cross-section which is deformed to a substantially oval shape for fitment into, or removal from, the chamber.

3,379,333
CONTAINER EASY-OPEN MEANS AND METHOD OF MAKING THE SAME OR THE LIKE
Thomas Navia, White Bear Lake, Minn., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Aug. 5, 1966, Ser. No. 570,625
30 Claims. (Cl. 220—47)



1. A container having wall means defining a chamber therein for containing product means, said wall means having an openable portion, and opening means movably carried by said wall means and having edge means cooperable with said openable portion to separate at least part of said openable portion from said wall means upon movement of said opening means from one position thereof to another position thereof whereby said separated part of said openable portion defines an opening through said wall means for dispensing said product means from said chamber.

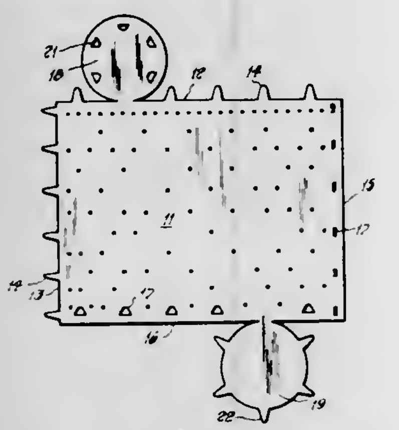
3,379,334
CONTAINER OPENING STRUCTURE
Marvin S. Young, Tampa, Fla., assignor to National Steel Corporation, a corporation of Delaware
Filed Nov. 2, 1965, Ser. No. 506,052
11 Claims. (Cl. 220—54)



Easy-open sheet metal container having a mushroom-shaped lug for receiving a pronged opener. The lug is unitary with sheet metal of the container. A scoreline of reduced sheet metal thickness facilitates opening. The scoreline circumscribes the mushroom-shaped lug with at least a portion of the scoreline being contiguous to a perpendicular projection of flanged portions of the mushroom-shaped lug onto the container sheet metal. This structure provides for opening of a container with penetration of the container by the opener means or any portion of the sheet metal being removed to form the opening.

3,379,335
PREFABRICATED TRASH CONTAINER

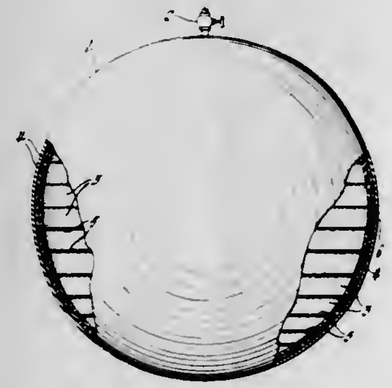
Anthony E. Mongelluzzo, 603 E. Locust St., Mechanicsburg, Pa. 17055
Filed Mar. 1, 1966, Ser. No. 532,548
4 Claims. (Cl. 220—62)



The disclosure relates to a one-piece prefabricated trash container, preferably formed from sheet metal or steel fiber board, which may be stowed flat and assembled easily and quickly by an inexperienced person.

3,379,336
SELF-SEALING TANK

Rowland L. Stedfeld, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 30, 1966, Ser. No. 597,930
7 Claims. (Cl. 220—63)

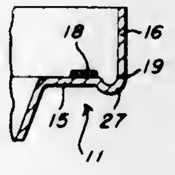


This invention relates generally to fluid storage vessels. More specifically, the invention is directed toward fluid storage vessels having improved self-sealing means. Herein is disclosed and claimed a self-sealing vessel comprising principally the vessel itself and a plurality of pendant rubber-like flaps affixed to the vessel's inner wall. The aforesaid flaps move in response to a differential pressure occurring across them incident to the occurrence of a leak in the immediate vicinity of the flap, thus ultimately covering or plugging the leak.

3,379,337
COVERED RECEPTACLE AND METHOD OF MAKING THE SAME OR THE LIKE

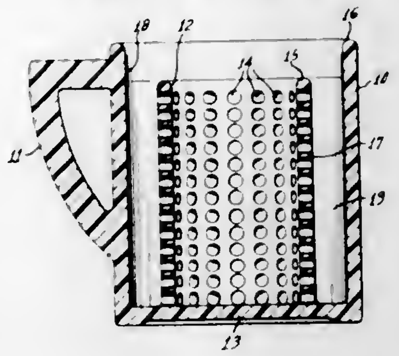
Otto R. Weber, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Feb. 26, 1965, Ser. No. 435,565
10 Claims. (Cl. 220—67)

This disclosure relates to an improved means for sealing a cover member to the open end of a metallic foil receptacle having an outwardly directed substantially horizontal flange surrounding the open end thereof and against which the outer peripheral portion of the cover member is disposed, the horizontal flange having a sealing compound disposed thereon to secure the cover member thereto and the horizontal flange terminating in an upwardly directed peripheral flange adapted to be folded over the outer peripheral edge of the cover member when the same are assembled together.



3,379,338
SPLASH-RETARDING VESSELS

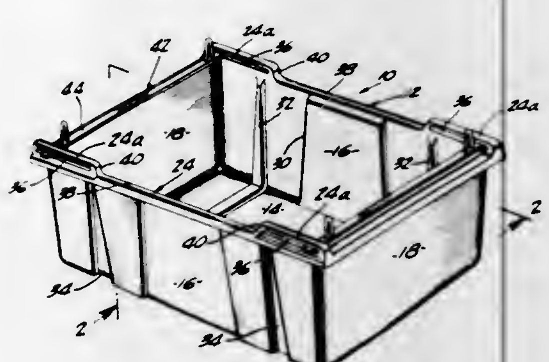
Wilbur Marks, Deer Park, N.Y., and Gerard L. E. Jarlan, Versailles, France, assignors to Oceanics, Inc., Plainview, N.Y., a corporation of New York
Filed June 29, 1966, Ser. No. 561,520
1 Claim. (Cl. 220—90.4)



A splash-retarding vessel for drinking or the like in which an internal baffle is mounted in the principal chamber, the baffle taking the form of an upstanding, thick-walled tubular member coaxially arranged in the chamber spaced from the walls to define a toroidal turbulence chamber and pierced by an array of spaced holes through which liquid flows to dissipate energy by viscous friction.

3,379,339
STACKABLE CONTAINER HAVING MOVABLE SUPPORT MEMBERS

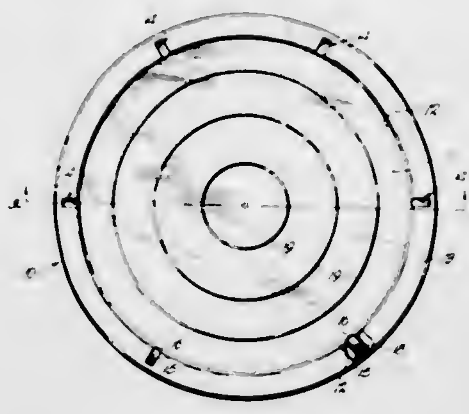
Donald J. Asenbauer, Whittier, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Aug. 17, 1965, Ser. No. 480,271
7 Claims. (Cl. 220—97)



A unitary molded plastic container having flanged side walls, longitudinally extending slots formed in both the side walls and flanges near the container ends, a pair of metal stacking bails slidingly retained in the slots at respective ends of the containers, and transverse ribs formed in the bottom wall of the container directly beneath the inner ends of the bail slots and having downwardly opening channels under the ribs so that when the stacking bails are in their innermost positions an identical superimposed container may be stacked thereon with the channels of the superimposed container being engaged by and supported on the bails of the underneath container; while alternatively the bails may be moved to their outermost positions at the ends of the container for nesting identical containers with each other.

3,379,340
STACKING TRAYS

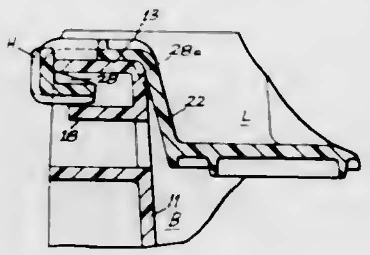
Paul Silvio, 5201 S. Pleasant, Kansas City, Mo. 64133
Filed Oct. 21, 1965, Ser. No. 499,457
4 Claims. (Cl. 220—97)



My invention consists of a circular, stackable tray having a number of stacking lugs, or spacers, by which a number of identical trays may be stacked, one upon the other, allowing a ventilated space between the bottoms of successive trays. The tray has an outwardly tapering circular side wall and a horizontal rim, in which a series of irregularly spaced ventilating parts are formed, the parts extending downward of the rim so as to also serve as stacking lugs.

3,379,341
TOTE BOX

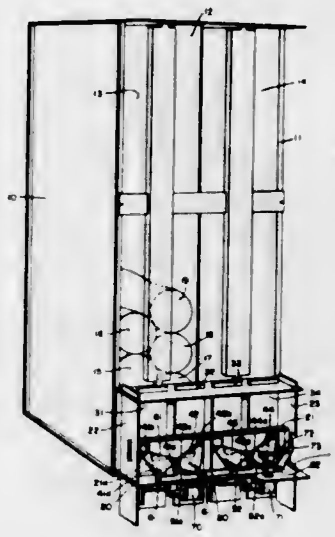
Robert F. Miles, Cincinnati, Ohio, assignor to MS Industries, Inc., Cincinnati, Ohio, a corporation of Ohio
Filed June 21, 1967, Ser. No. 647,665
8 Claims. (Cl. 220—97)



A tote box with separate lid which when the lid is removed is nestable in another like tote box without regard to end for end orientation and which when the lid is in place is stackable on another like tote box with its lid in place without regard to end for end orientation, the lid being attachable to the tote box without regard to end for end orientation. An improved arrangement for securing a lid to a box is disclosed.

3,379,342
MULTIPLE COLUMN VENDING MACHINE

Meigs W. Newberry, East Longmeadow, Mass., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 13, 1967, Ser. No. 615,516
6 Claims. (Cl. 221—129)



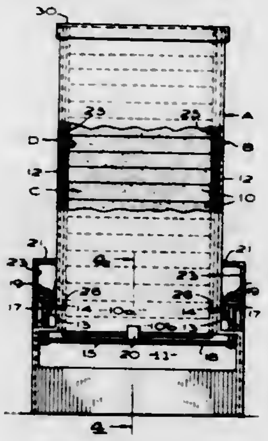
A plurality of respective selection control members for the respective gate controlled dispensing mechanisms of a plurality of side-by-side storage columns are selectively and individually actuated to an operated position at the beginning of a vend cycle and a single return mechanism is operable to return any operated one of the selection control mechanisms from the operated position before the end of a vend cycle.

ERRATUM

For Class 221—224 see:
Patent No. 3,379,346

3,379,343
SLICED BREAD DISPENSER

Joseph T. Kirkland, 145 N. Kingston St., San Mateo, Calif. 94401
Filed Dec. 16, 1966, Ser. No. 602,378
3 Claims. (Cl. 221—251)



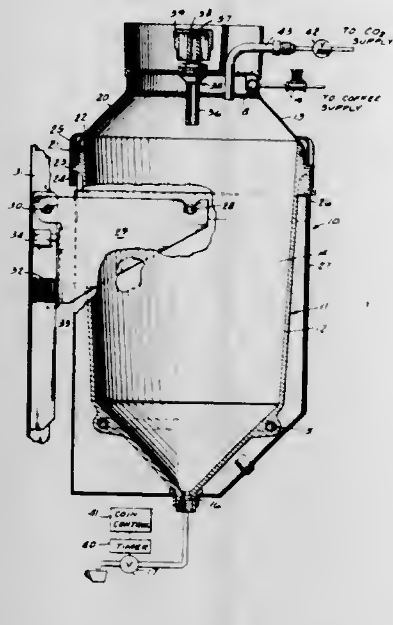
A sliced bread dispenser having a compartment for holding a loaf of bread, with the slices being stacked one above the other, and an operating plate for discharging the lowermost slice of bread, while temporarily arresting downward movement of the remaining slices in the stack.

3,379,344
APPARATUS FOR TREATING AND HANDLING A BEVERAGE

Richard T. Cornelius, Minneapolis, Minn., assignor to The Cornelius Company, Anoka, Minn., a corporation of Minnesota

Filed June 28, 1966, Ser. No. 561,113

6 Claims. (Cl. 222—70)



A housing having a heated vented chamber is supported on a casing which is carried by trunnions on a pivoted bracket which controls filling means that direct a highly carbonated beverage such as coffee against a stationary frusto-conical surface at the upper end of the chamber to cause the beverage to move centrifugally to a lower portion of larger diameter as a thin layer of progressively decreasing thickness so as to decarbonate it and heat it for withdrawal through a dispensing valve under the control of a coin-controlled timer.

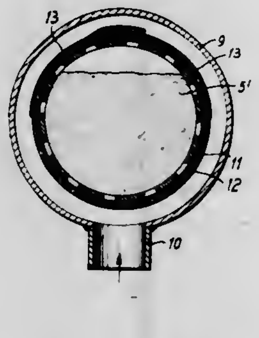
3,379,345
STORAGE VESSEL OR FEED UNIT FOR POWDERED MATERIALS WITH AIR-PERMEABLE GUIDING OR SEPARATING WALLS

Manfred Erwin Gehrung, Baden-Wurttemberg, Germany, assignor to Werner & Pfleiderer, Stuttgart-Feuerbach, Germany, a corporation of Germany

Filed Dec. 8, 1966, Ser. No. 600,091

Claims priority, application Germany, Dec. 21, 1965, W 36,284

3 Claims. (Cl. 222—195)



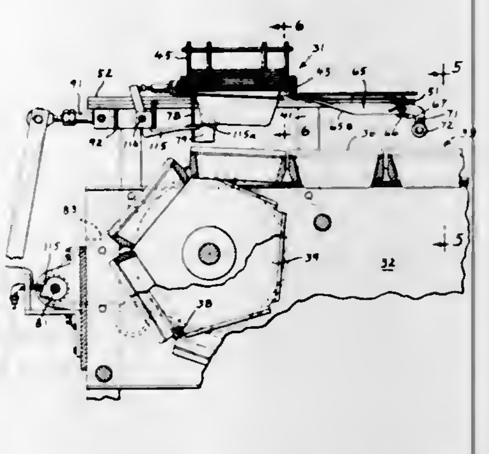
A feed element for powdered materials comprises an outer airtight shell, a perforated inner shell with an air-permeable covering secured to the outside of said perforated shell, the air-permeable covering comprising at least one layer of woven material which is secured to the perforated shell by adhesion extending over a proportion of the area of the air-permeable covering, the adhesion area being chosen according to the resistance to air flow required of the covering.

3,379,346
DISPENSING APPARATUS FOR HOLLOW NESTED ARTICLES

Kenneth Frederick, Davis Junction, and Leo Strombeck, Rockford, Ill., assignors to Anderson Bros. Mfg. Co., Rockford, Ill., a corporation of Illinois

Filed July 28, 1966, Ser. No. 568,609

9 Claims. (Cl. 221—224)



An apparatus for dispensing nested articles from a stack onto a conveyor in which a slide has support ledges underlying the flanges on the end article in one position of the slide, and the slide is moved in timed relation with the conveyor to a second position in which article strippers on the slide move laterally of the stack between the flanges on the end article and the penultimate article and then move downwardly to press the end article off the stack and into the conveyor path. A denester is operated in timed relation with the operation of the slide to grip the sides of the end article, press the bottom of the end article upwardly to produce an initial separation of the flanges on the penultimate article from those on the end article prior to movement of the article stripper therebetween.

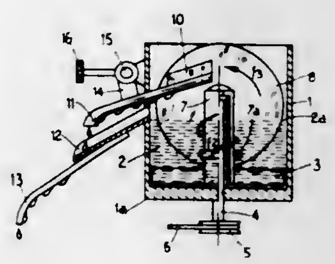
3,379,347
MIXER-DOSIMETER-DISPENSER FOR ABRASIVES AND LIKE, SPECIALLY FOR LAPPING MACHINES AND LIKE

Francesco Melchiorre, Viale Piemonte 11, Cinisello Balsamo, Milan, Italy

Filed Mar. 3, 1967, Ser. No. 620,490

Claims priority, application Italy, Mar. 18, 1966, 762,623

6 Claims. (Cl. 222—231)



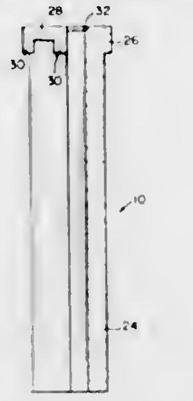
A mixing-dosing-distributing device for abrasive stuffs suspended in water comprising a vertical disc partially submerged in the suspension and rotating so that the abrasive stuff is transported by the disc to a height above the suspension where a spatula is provided to scrape the abrasive stuff off the disc and direct it to a distribution zone.

3,379,348
SPOUT CONSTRUCTION

Fred W. Pierson, and Fred W. Pierson, Jr., Grand Rapids, Mich. (both % Richard P. Matthews, 2316 S. Eads St., Arlington, Va. 22202)

Filed Nov. 5, 1965, Ser. No. 506,523

3 Claims. (Cl. 222—566)



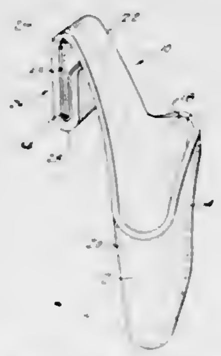
A pouring spout for a molten metal pan having depending legs extending from the top of the spout for scraping the pan and collecting dirt between the legs when the spout is rotated.

3,379,349
HOLSTERS

Edwin Henry Hier, 9991 West Parkway, Detroit, Mich. 48239

Filed May 1, 1967, Ser. No. 635,214

3 Claims. (Cl. 224—2)



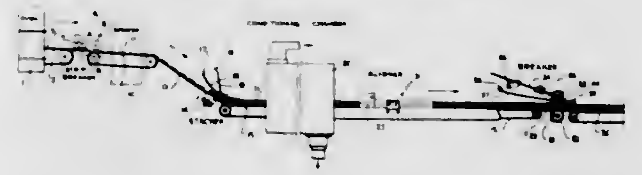
A belt-attached holster for supporting a pistol in a partially concealed position inside the waist band of the user. The belt engaging section of the holster has a rigid, hook-shaped metal strip which engages the lower edge of the belt. A flexible strap folds over the top edge of the belt to provide a connection between the hook-shaped metal strip and the pistol-receiving pouch.

3,379,350
ARTICLE CONVEYING, SEPARATING AND STACKING APPARATUS

Arthur J. Griner, Wyckoff, N.J., assignor to National Biscuit Company, a corporation of New Jersey

Continuation-in-part of application Ser. No. 310,532, Sept. 19, 1952. This application Dec. 31, 1963, Ser. No. 334,796

22 Claims. (Cl. 225—97)



1. Apparatus of the character described adapted to transform an elongated sheet of baked dough having a plurality of longitudinal and lateral scores first into rows of shingled individual baked dough strips and then into files of individual panels by conveying said sheet and breaking said conveyed sheet along said lateral scores to form a plurality of laterally extending strips, which comprises in sequential combination along the line of travel of the baked dough being processed:

means for shingling said strips;

means for conveying said shingled strips;

means for engaging each of the conveyed shingled strips along the respective top edges thereof only; and

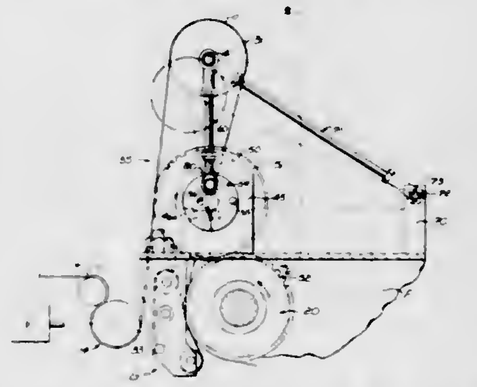
means for breaking the engaged shingled strips along said longitudinal scores thereof.

3,379,351
METHOD AND APPARATUS FOR FEEDING WEBS AT CYCLICALLY VARIABLE SPEEDS

Albert J. Sarka, Fairview Park, Ohio, assignor to Harris-Intertype Corporation, Cleveland Ohio, a corporation of Delaware

Continuation-in-part of application Ser. No. 438,552, Mar. 10, 1965. This application Mar. 6, 1967, Ser. No. 620,697

18 Claims. (Cl. 226—2)



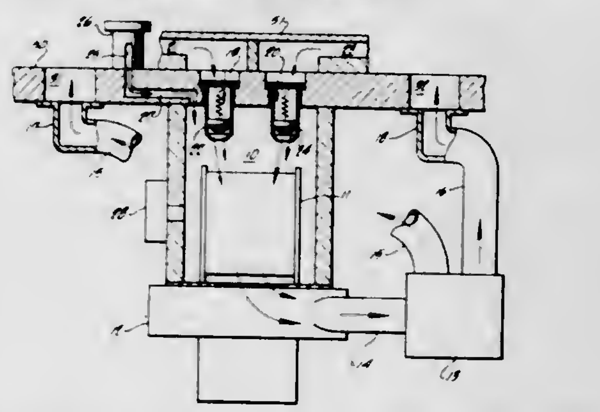
Three cooperating rotatable cylinders form a pair of nips. Cutting and/or creasing elements on the cylinders engage the material at the nips and work on the material. A material advancing means feeds material to the cylinders at a constant speed, and a roll intermediate the advancing means and the first nip is shifted to change the speed of the material relative to rotation of the cylinders and slows the speed of the material advancing through the nips when no work is being performed thereon at the work stations. Changing of the advancing speed is effected due to the roll increasing the distance that the material moves from the advancing means to the first nip.

3,379,352
VACUUM SYSTEM FOR MULTIPLE STATION TAPE HANDLING APPARATUS

Harold E. Hass, Temple City, Robert G. Nordman, Pasadena, and Harry F. Rayfield, Arcadia, Calif., assignors to Burrough Corporation, Detroit, Mich., a corporation of Michigan

Filed Mar. 21, 1966, Ser. No. 535,764

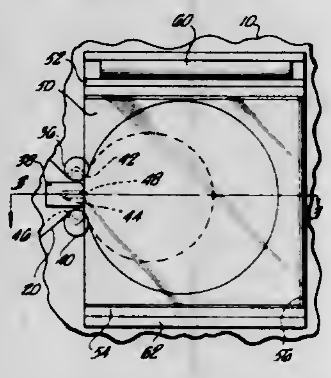
12 Claims. (Cl. 226—11)



1. In a multiple station tape handling system having vacuum columns normally closed by slack loops of unbroken tape the combination comprising a single vacuum

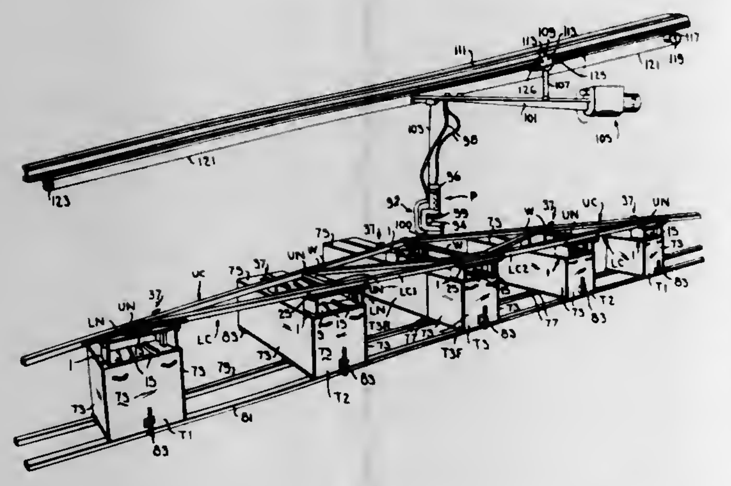
pump to serve all the stations, plural means for interconnecting the vacuum columns and the vacuum pump, and means individual to each interconnecting means for substantially sealing it off when a vacuum column which it interconnects becomes open.

3,379,353
POSITIVE PRESSURE BUFFER DEVICE FOR MAGNETIC TAPE TRANSPORT
Abraham Brand, Van Nuys, Calif., assignor to Consolidated Electrodynamics Corporation, Pasadena, Calif.
Filed Oct. 22, 1965, Ser. No. 501,413
5 Claims. (Cl. 226—29)



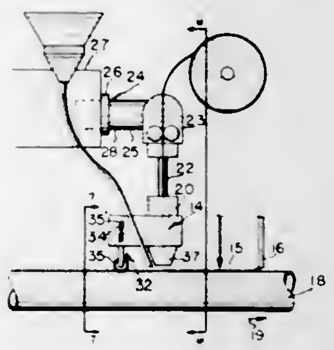
This application describes a magnetic tape transport having a loop-forming buffer between each reel and the region of the recording head, in which the loop, under positive air pressure, forms into a substantially free full circle without any external restraint on the shape of the loop. While any momentary decrease in diameter of the loop is resisted by an increase in pressure with the enclosed volume formed by the loop, the effective area of the loop is reduced so that the net tension on the tape is substantially constant.

3,379,354
APPARATUS FOR FABRICATING WOOD STRUCTURES
Walter G. Moehlenpah, Ladue, and George E. Pallme, Jr., St. Louis County, Mo., assignors to Hydro-Air Engineering, Inc., St. Louis, Mo., a corporation of Missouri
Filed Oct. 18, 1965, Ser. No. 496,942
28 Claims. (Cl. 227—152)



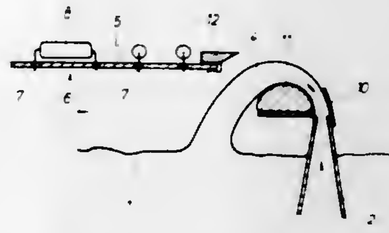
Apparatus for fabricating wood structures, such as roof trusses, comprises a plurality of substantially identical units mounted on table structure. Channels on the units mount fixtures for locating the truss members relative to the various units and for holding them in place during fabrication operations. Each unit has a movable locator tray which holds a toothed nailing plate beneath the intersection of two truss members. A portable press is moved from unit to unit for driving the nailing plates which are supported by the trays into the truss members.

3,379,355
WELDING HEAD CENTERING DEVICE FOR TUBE MAKING MACHINES
Victor Bobrowski, 208 Bruce Ave., Winnipeg, Manitoba, Canada
Filed Mar. 12, 1965, Ser. No. 439,151
3 Claims. (Cl. 228—25)



An angulated shaft rotatably mounted in a fixed support and carrying a head for continuous welding of longitudinal edges of a tube. A tube edge engaging guide member is supported by a bracket on the welding head, being longitudinally aligned with the head in a plane which is offset laterally from the axis of rotation of the angulated shaft so that the weight of the welding head biases the guide member laterally into engagement with one edge of the tube being welded.

3,379,356
ARRANGEMENT FOR AN INSULATING PANEL SOLDERING DEVICE ACCORDING TO THE FLOWSOLDER PROCESS
Gebhard Eith, Ludwigsburg-Pleidelsheim, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 14, 1965, Ser. No. 487,274
Claims priority, application Germany, Sept. 25, 1964, St. 22,724
5 Claims. (Cl. 228—37)

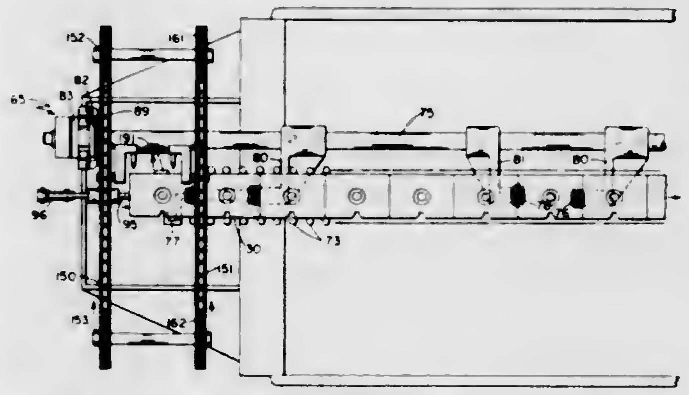


The flow of solder in a dip-soldering facility is guided laterally as solder flows from a nozzle. The direction of the resulting directed flow is chosen to be in opposition to the direction of motion of a wafer being soldered. The flow of solder is supported in contact with the wafer by a body having a semi-circular cross section with the curved side upward. The leading edge of the wafer supports a flashing to prevent the flow of solder over the top of the wafer.

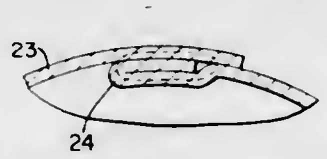
3,379,357
CONVEYING AND ORIENTING APPARATUS
Paul L. Chagnon, Hamilton, Mass., Stanley J. Gartner, Emporium, Pa., and Alfred S. Jankowski, Stoneham, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed June 4, 1965, Ser. No. 461,479
14 Claims. (Cl. 228—47)

Conveying and orienting apparatus including a plurality of pallets each having a movable holder for supporting an unfinished transistor. Each pallet has vertical and

horizontal registration surfaces to permit accurate positioning of the pallet at each of a series of stations through which it is indexed in sequence. The position of the holder in the pallet is adjusted vertically and horizontally at positioning stations so as to position the transistor semiconductor die at a precise location with respect to the registration surfaces of the pallet. Thus, when a pallet is accurately positioned at a wire bonding station by reference to its registration surfaces, the semiconductor die is accurately positioned with respect to the wire bonding mechanisms.

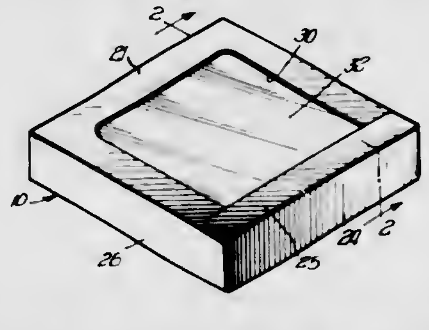


3,379,358
CONTAINER
Daniel S. Cvacho, Chesterfield County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Apr. 26, 1966, Ser. No. 545,316
1 Claim. (Cl. 229—4.5)



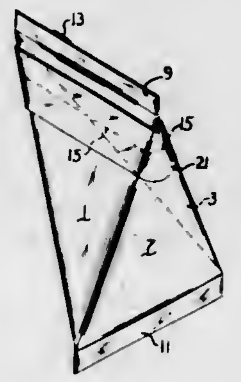
This disclosure relates to a container having composite side wall means made of elongated tubular wall means fastened one within the other along their adjoining surfaces and arranged and fastened to a tubular inner liner made of a material containing metal. The inner liner is convolutely formed and has a longitudinal multiple thickness welded seam extending therealong generally parallel to its axis.

3,379,359
WINDOW DISPLAY CONTAINER
Edwin L. Arneson, Hackensack, N.J., assignor to Federal Paper Board Company, Inc., Bogota, N.J., a corporation of New York
Filed Apr. 26, 1966, Ser. No. 545,315
5 Claims. (Cl. 229—16)



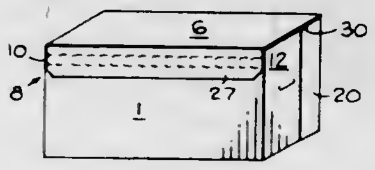
1. A generally rectangular blank of foldable sheet material which is cut and scored for fabricating a rectangular container having a window opening in a wall thereof, said blank comprisng top and bottom wall and a pair of end wall forming panels connected along spaced, parallel, hinge forming score lines, one of said panels terminating at a cut edge of the blank, and a rectangular window opening cut in said blank so that one side thereof coincides with said cut edge, said opening extending inwardly of said cut edge in the direction of the opposite edge of said one panel, and a relatively narrow connecting panel hinged to the free edge of the wall panel at the oppositely disposed edge of said blank which is adapted to be secured to the margin of said one panel in which said opening is cut when the container is set up whereby to form a closure for the side of said window which extends along said cut edge.

3,379,360
PACKAGE
Harold T. Crossley, Foxboro, Mass., assignor to Packaging Frontiers, Inc., Waltham, Mass., a corporation of Delaware
Filed June 6, 1966, Ser. No. 555,335
2 Claims. (Cl. 229—22)



A tetrahedron-shaped package has a slit which extends completely across one of its four triangular sides, around the two adjacent triangular sides and partly into the fourth triangular side. Over this slit is removably sealed a closure tape. On peeling off the closure tape, the end portion of the package above the slit may be folded back to form a side opening extending entirely across the end of the package for removing the contents of the package.

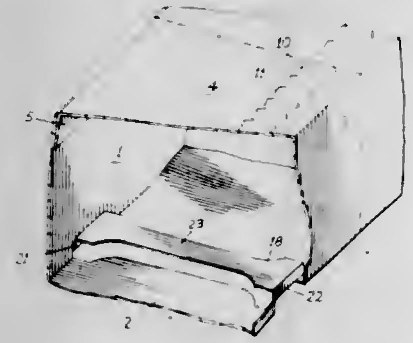
3,379,361
CARTON
Bayard I. Barnes, Oakland, Calif., assignor to The Mead Corporation, a corporation of Ohio
Filed Dec. 12, 1966, Ser. No. 600,796
4 Claims. (Cl. 229—33)



The invention in one form as applied to a folding box of the so-called trunk style and having bottom, front, rear and lid panels comprises a bottom end panel foldably joined to each end of said bottom panel, a lid end panel foldably joined to each end of said lid panel and normally disposed in overlapping face contacting relation to the adjacent bottom end panel, a front end panel foldably joined to each end of said front panel, a rear end panel foldably joined to each end of said rear end panel and normally disposed in overlapped face contacting relation with the adjacent one of said front end panels and secured thereto by a disjointable connection, a closing tab formed on at least one of said lid end panels and a closing slot formed in at least one of said overlapped panels and disposed to receive said closing tab, said one of said lid end panels being arranged to occupy alternate positions inside and outside said overlapped panels and said closing tab being disposed for insertion into said holding slot when said lid end panel is disposed outside said overlapped panels and when said overlapped panels are detached from each other whereby said overlapping panels are held closed by said lid end panel. According to a feature of the invention, one of said overlapped panels is wider than the other and the holding slot is disposed in the wider one of said overlapped panels and the cooperating locking tab is disposed medially of said lid end panel. According to another feature of the invention a pull tab is formed along an edge of one of the overlapped panels and a weakened severance line is formed in the other overlapped panel in the overlapped area thereof whereby said overlapped panels are rendered readily separable. Of course it is within the contemplation of the invention that the conventional severable fastening means may also be utilized to hold the lid panel in a closed condition.

3,379,362
CARTON FOR FRAGILE ARTICLES

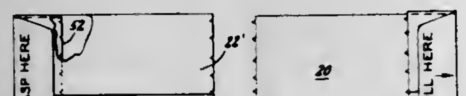
Robert W. Nerenberg and Alfred B. Kleingers, Jr., Middletown, Ohio, assignors to The Interstate Folding Box Company, Middletown, Ohio, a corporation of Ohio
Filed Feb. 2, 1966, Ser. No. 524,622
2 Claims. (Cl. 229—40)



A carton structure for fragile articles, such as eggs, comprising a tubular container and a filler inserted in the tubular container from one end thereof, the filler having a plurality of upwardly opening cup-shaped article receiving cells arranged in side-by-side relation, the bottom of the container having at least one locking strap struck therefrom which is hingedly connected to the opposing side walls of the container, the locking strap being displaceable upwardly from the plane of the container bottom wall and having openings therein of a size to receive the lowermost end portions of the cup-shaped cells of the filler.

3,379,363
STUFFED SEALED ENVELOPES

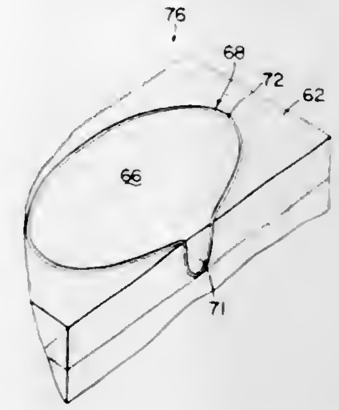
Harold A. Sutphen, Jr., Longmeadow, Mass., assignor to United States Envelope Company, Springfield, Mass., a corporation of Maine
Filed May 20, 1966, Ser. No. 551,573
3 Claims. (Cl. 229—85)



1. A stuffed, sealed envelope comprising, in combination, a sheet of insert material, an envelope enclosing said sheet, two opposite ends of said sheet and envelope being substantially coextensive and said sheet and envelope being connected only near said coextensive ends, a weakened line extending around the girth of said envelope and spaced inwardly from one end of said connected ends, a weakend line extending across said sheet at the opposite connected end but inward from said connection, whereby the end of said envelope and said sheet may be pulled apart as a unit exposing an appreciable area of said sheet.

3,379,364
PACKAGE MEANS

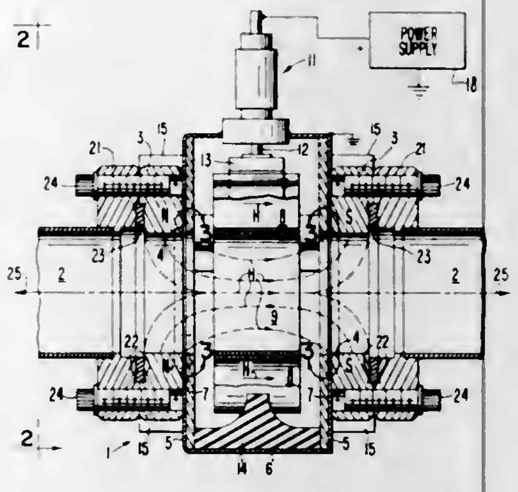
Nicholas J. Pilger, Thousand Oaks, Calif., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed July 7, 1966, Ser. No. 563,420
3 Claims. (Cl. 229—87)



This disclosure relates to a package construction comprising a plastic overwrap material used to define exterior surface means and having score means in such plastic overwrap material to define an integral controlled configuration tear-out strip therein which is readily torn out to open the package construction.

3,379,365
MAGNETICALLY CONFINED ION GETTER PUMP HAVING COMBINED COUPLING FLANGE AND POLE PIECE STRUCTURE

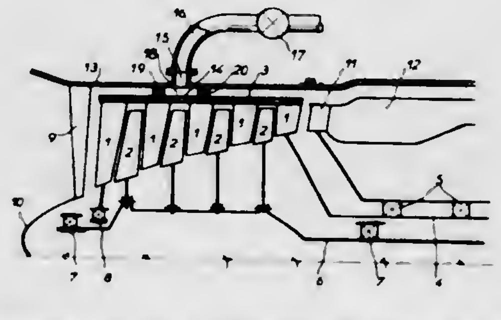
Paul W. Hait, Los Altos, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Aug. 15, 1966, Ser. No. 572,305
7 Claims. (Cl. 230—69)



1. A getter ion magnetically confined glow discharge pump apparatus including; means forming a hollow vacuum envelope; means forming an anode structure disposed within said envelope; means forming a cathode structure disposed within said envelope and including portions to be bombarded by positive ions to cause sputtering of cathode material for gettering gas within said envelope and being spaced from said anode structure on opposite sides of said anode structure with said anode structure disposed therebetween; means forming a magnetic structure disposed on opposite sides of said anode structure for applying a magnetic field which threads through said envelope, said anode, and said spaced cathode portions; means for partitioning said anode structure into a plurality of glow discharge passageways distributed transversely to the direction of the magnetic field threading through said anode and serving to enhance the glow discharges through said passageways; means forming a coupling flange at one end of said envelope for coupling the pump to apparatus to be evacuated, and wherein said coupling flange is of magnetic material forming a portion of said magnetic structure of the pump apparatus, whereby the overall size of the pump is reduced compared to similar pumps having separate flange and magnetic structure portions.

3,379,366
CONTRA-ROTATING COMPRESSORS

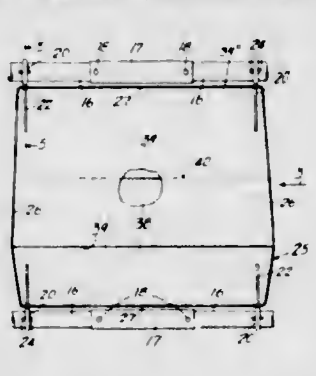
Michel Robert Garnier, Sceaux, Hauts-de-Seine, France, assignor to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France, a company of France
Filed Nov. 16, 1966, Ser. No. 594,935
Claims priority, application France, Nov, 18, 1965, 38,942
3 Claims. (Cl. 230—115)



1. A contra-rotating compressor comprising two rotors each with a set of blades, the set of blades of one rotor being attached to the inner surface of a rotatable drum, means to cause the two sets of blades to revolve in opposite directions, a fixed outer casing enclosing the rotatable drum, said drum including ports formed in the surface thereof in a radial plane containing at least one compressor stage, said casing having an aperture, the ports being radially aligned with the aperture in the casing, means for connecting the aperture to the surrounding atmosphere, and sealing means between the rotatable drum and the fixed casing on each axial side of the aperture.

3,379,367
HAMPER SUPPORTED LAUNDRY BAG

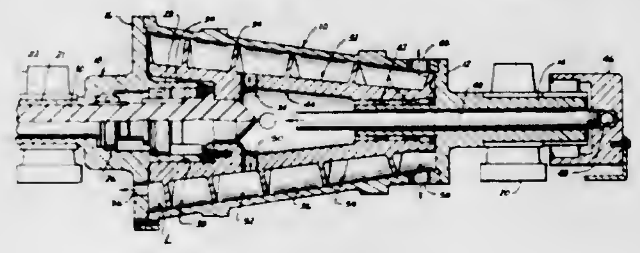
Charles E. Murcott, Valley Drive, Bay Crest, Huntington, N.Y. 11743
Filed Mar. 14, 1966, Ser. No. 534,192
10 Claims. (Cl. 232—43.2)



A hospital laundry bag which is supported upon a portable hamper in movement of the bag from place to place. The bag structure has, at the top thereof, a pair of overlapping closure flaps controlling a closure at the top of the bag. Further, a bag structure, wherein the lower portion of the bag is opened and closed by a reversible closure wall.

3,379,368
CENTRIFUGAL SEPARATOR

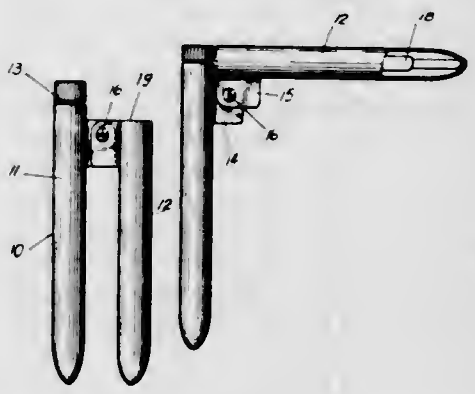
Lafayette E. Gilreath, Houston, Tex., assignor to Gilreath Hydraulics, Inc., Houston, Tex., a corporation of Texas
Filed Dec. 6, 1965, Ser. No. 523,812
4 Claims. (Cl. 233—7)



A centrifugal separator of the type having a longitudinally tapered barrel mounted for rotation about its longitudinal axis and a longitudinally tapering rotor tapered to conform to the taper of the barrel and mounted for rotation in the barrel about the same axis and provided with a spiral flight extending from end to end thereof whose pitch increases and whose radial extent diminishes toward the smaller end of the barrel to form with the barrel and rotor a spiral passageway whose cross-sectional area at any location is at least equal to the cross-sectional area of the passageway at any other location closer to the larger end of the barrel. The barrel and rotor are adapted to be rotated in the same direction at somewhat different speeds to cause solids separated by centrifugal action to be moved toward the smaller end of the barrel, the volume of the passageway due to the increasing pitch and diminishing radial dimensions of the flight being effective to prevent clogging of the passageway by the separated solids while allowing the flow of liquid through the passageway toward the larger end of the barrel.

3,379,369
COMBINED MEDICAL THERMOMETER SPINNER AND STERILIZER THEREFOR

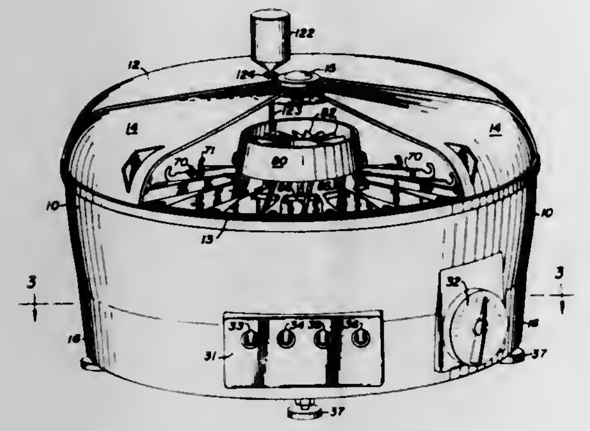
Emery Dutch, 320 W. 77th St., New York, N.Y. 10024
Filed Aug. 11, 1966, Ser. No. 571,870
1 Claim. (Cl. 233—26)



A thermometer shaker and sterilizer apparatus is described. The apparatus includes two hollow tubular cases which are pivotally connected at a point near their open ends. During the thermometer shaking operation the case holding the thermometer is pivoted to a position substantially perpendicular to the spinning case so that the case containing the thermometer is closed off to thereby retain the thermometer within its case.

3,379,370
FAT TESTING CENTRIFUGE

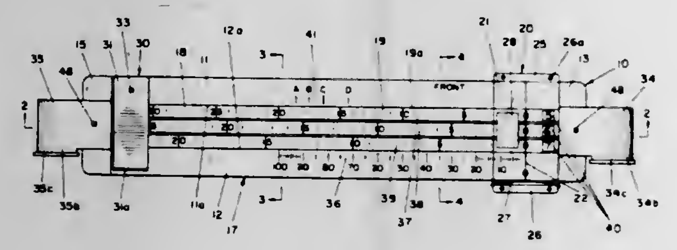
Bazeel B. Anderson, P.O. Box 1957,
Fort Worth, Tex. 76101
Filed Sept. 29, 1966, Ser. No. 583,050
7 Claims. (Cl. 233—26)



A fat testing centrifuge wherein test bottles are tiltably mounted on radial arms extending from a hub, a metering wheel mounted on the hub and having at least one circular row of pockets therein for receiving a reagent while the hub and wheel are turning and means communicating the reagent in the pockets to the bottles while the latter are in their tilted positions.

3,379,371
AVERAGING DEVICE

Mark W. Seng, Madison, Wis., assignor to Wisconsin Alumni Research Foundation, Madison, Wis., a corporation of Wisconsin
Filed Dec. 1, 1966, Ser. No. 598,241
8 Claims. (Cl. 235—61)

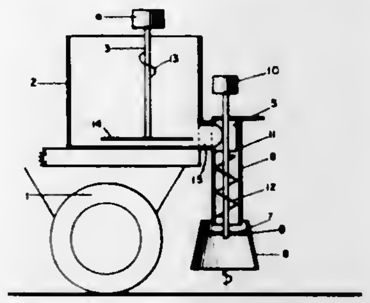


An arithmetic averaging device which comprises two elongate members connected together in spaced relationship to form a tape receiving channel therebetween, an inelastic flexible tape slideably received in such channel and a hairline containing cursor slideably mounted on the elongate member and capable of movement independently of the tape. At least one of the elongate members carries an inscribed main numerical scale graduated from the smallest to the largest of the figures to be averaged and the tape has at least one scale inscribed upon it which is visible in conjunction with the main numerical scale and which is as many times longer than the main numerical scale as the greatest number of figures to be averaged.

3,379,372
METHOD AND APPARATUS FOR PREVENTING SNOW AND ICE ACCUMULATION

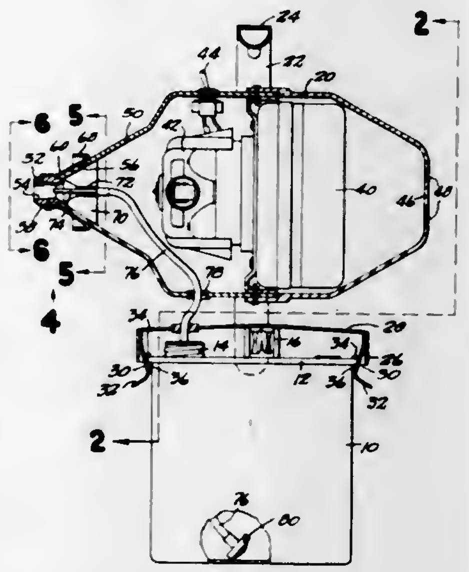
Christian Nemmaier, Steinhoering-Abersdorf, and Peter Mario Amann, Kempten, Germany, assignors to Elsenwerk Friedrich Schroeder, Munich, Germany
Filed Feb. 26, 1965, Ser. No. 435,457
13 Claims. (Cl. 239—7)

A method and apparatus for coating a road surface with an even, adherent coating of a salt slurry having a high viscosity and an amount of water therein which is considerably less than the amount needed to form a saturated liquid solution whereby the formation of ice and accumulation of snow is deterred and the removal thereof is facilitated, with a minimum of loss of salt.



3,379,373
METHOD AND MEANS FOR PRODUCING AND CONTROLLING THE DISCHARGE OF FOG

Roger Roberts, Lowell, Mich., assignor to Root-Lowell Manufacturing Company, Lowell, Mich., a corporation of Ohio
Filed Dec. 22, 1965, Ser. No. 515,594
10 Claims. (Cl. 239—8)



1. A fogging device comprising
a housing enclosing a power driven air impeller and having air inlet and air outlet openings,
liquid supply means including a discharge tube positioned substantially coaxially and adjacent said air outlet opening with clearance for flow of air therearound to said outlet opening,
said housing having a group of spaced apertures therein surrounding and spaced from said outlet opening, and
valve means shiftable on said housing between a position closing said apertures and a position opening said apertures to a predetermined extent,
said valve means being spaced from and clear of said outlet opening.

3,379,374
FUEL INJECTION DEVICE

Lee T. Mekkes, Grandville, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 22, 1966, Ser. No. 574,118
6 Claims. (Cl. 239—90)

1. A fuel injection device comprising
a stationary nozzle having a central bore and a discharge orifice at one end of said bore,

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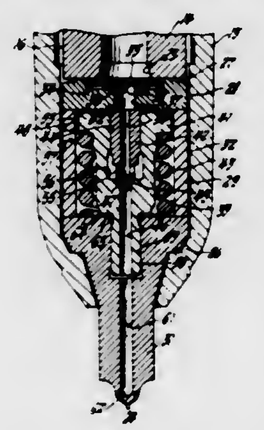
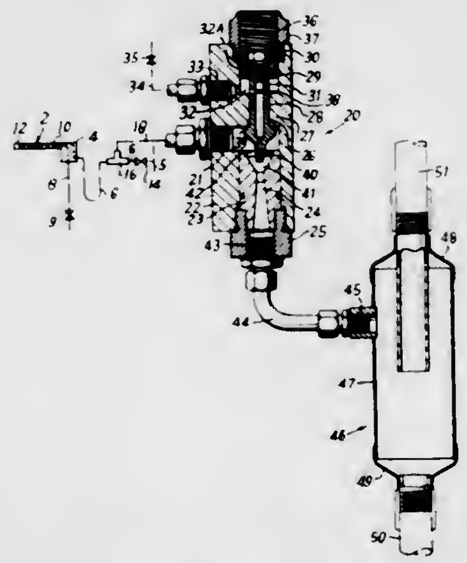
a reciprocable valve seat member having an axial passage with a valve seat intermediate its ends and separating said passage into larger and smaller diameter portions, said smaller diameter portion connecting with said nozzle bore,
a stationary needle valve having a body portion sealingly engaging said larger diameter portion, an end of smaller diameter than said body portion and engageable by said valve seat and an axial bore terminating short of said end and connecting with an annular chamber formed between said needle valve and the larger diameter portion of said seat member passage adjacent said valve seat and



biasing means urging said valve seat member in a direction to engage said valve seat with said valve member end,
said biasing means being adapted to yield to the force caused by delivery of a predeterrmined pressure of fuel to said annular chamber whereby to move said valve seat away from said needle valve end and permit fuel to flow past said valve seat and axially into said nozzle.

3,379,375
IGNITION BURNER

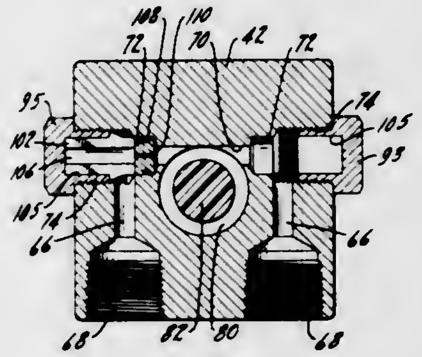
Ernest S. Walkling, Orpington, Edwin C. McKenzie, Wallington, and John S. Maskell, Petts Wood, England, assignors to Babcock & Wilcox, Limited, London, England, a corporation of Great Britain
Filed July 26, 1965, Ser. No. 474,578
Claims priority, application Great Britain, July 28, 1964, 29,957/64
7 Claims. (Cl. 239—110)



A liquid fuel burner system with provisions for the withdrawal of all residual fuel after the burner is shutdown. The invention includes four separate arrangements, one operating on the principle of suction created by an air ejector, two using the principle of suction created by a piston and one employing positive pressure of steam introduced into the fuel oil conduit at the burner barrel. The system is particularly well suited for systems which burn heavy fuel oil and are used only intermittently such as for lighting-up of main burners. The withdrawn fuel is passed through a separator and discharged into a storage zone remote from the burner system.

3,379,376
TWO FLUID GUN JET

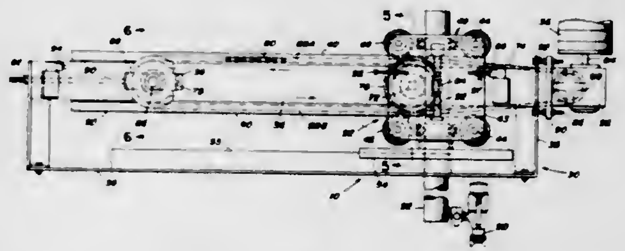
Robert P. Williams, Glen Ellyn, and Richard G. Piggott, Bellwood, Ill., assignors to Spraying Systems Co., a corporation of Illinois
Filed Oct. 3, 1966, Ser. No. 583,598
8 Claims. (Cl. 239—142)



1. For use with a spray gun or the like, a fluid inlet block secured to said spray gun, a mixing chamber in said inlet block, a plurality of passages in said block, communicating with said chamber, said passages being disposed in coaxial alignment on opposite sides of said chamber and tangent to the periphery thereof so that fluid passing through said passages enters said chamber in direct opposition so as to create turbulence therein for mixing the fluids, and a valve operable to provide fluid communication between said chamber and a spray orifice.

3,379,377
SPRAYING APPARATUS

William M. Ripple, Metairie, La., assignor to American Standard Inc., a corporation of Delaware
Filed Feb. 19, 1965, Ser. No. 433,861
3 Claims. (Cl. 239—186)



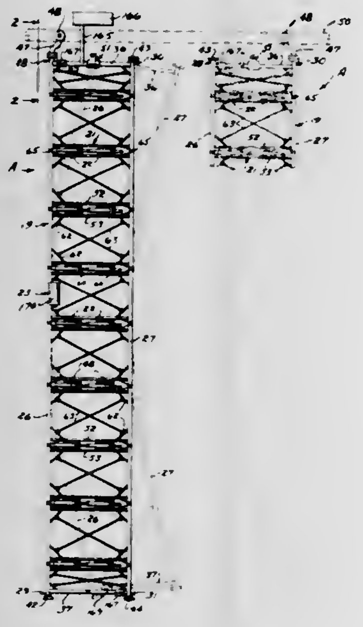
A spraying apparatus for automatically applying a coating of fluent material to an article of manufacture wherein a trolley mounted on an elevated support rail carries a sprayhead which is operable to spray an underlying article of manufacture during reciprocal movement of the trolley and its sprayhead along the support rail.

3,379,378
IRRIGATION SYSTEM

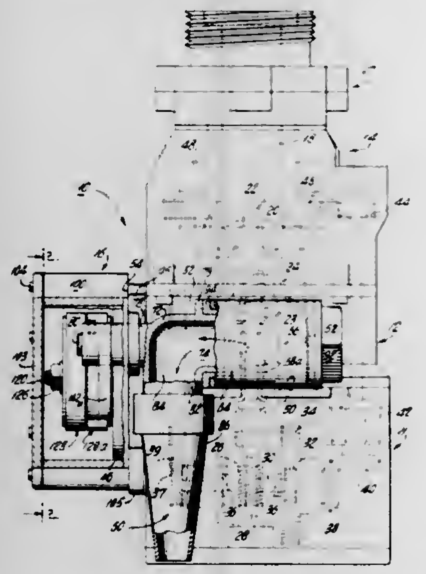
Hadley H. Kern, Star Rte. 2, Morton, Tex. 79346
Filed Sept. 30, 1966, Ser. No. 583,242
12 Claims. (Cl. 239—212)

1. In an agricultural irrigation system, the combination of conduit means for conveying water along a predetermined path, a plurality of spaced sprinkler heads

mounted on said conduit means for release of water from said conduit means in a predetermined spray pattern, a plurality of vehicle means, support means for mounting each said vehicle means on said conduit means, said support means including vehicle attaching means for movement of said vehicle means to a transport position in support of said conduit means thereon for mobile orientation of said conduit means and to a retracted position for support of said conduit means independently of said vehicle means, and vehicle positioning means for operable movement of said vehicle means to said transport position and said retracted position thereof.

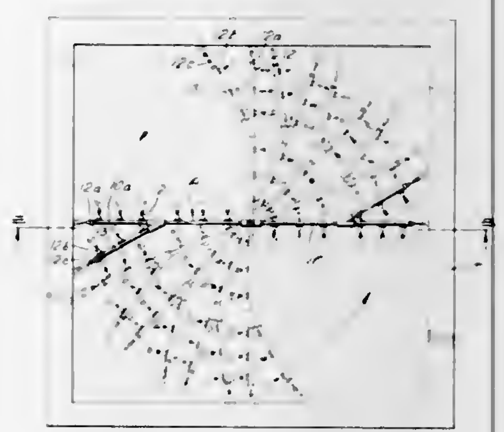


3,379,379
TANK WASHING APPARATUS HAVING OSCILLATING NOZZLES
James W. Orem, Red Bank, N.J., assignor to Butterworth System, Incorporated, a corporation of Delaware
Filed June 28, 1966, Ser. No. 561,088
5 Claims. (Cl. 239—227)



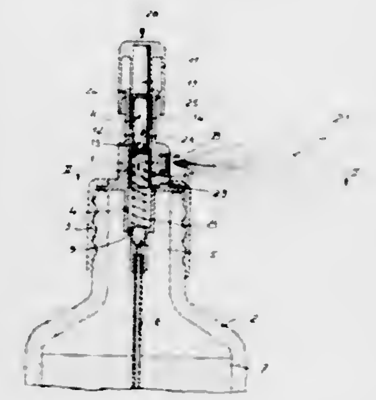
1. Apparatus for washing selected areas within a storage vessel which comprises: (1) a housing assembly comprising an upper stationary collar, a coupling unit positioned below and rotatably mounted with respect to said stationary collar, an impeller case positioned below said coupling unit, and a gear case positioned below said impeller case; (2) a first conduit passing through said assembly into a compartment within said impeller case; (3) a first upright shaft concentrically disposed within said assembly and extending therethrough, said first shaft at the upper end thereof having vanes attached thereto within said coupling unit and being further characterized by having a worm gear attached thereto at its lower end within said gear case; (4) means for passing fluid through said first conduit by said vanes thereby causing said first shaft to rotate; (5) a worm wheel meshing with said worm gear thereby causing said worm wheel to rotate when said worm gear rotates, said worm wheel mounted on; (6) a first cross shaft which is perpendicular to said first upright shaft and in an offset plane; (7) a first pinion affixed to one end of said first cross shaft and meshing with; (8) a gear wheel drive mounted on; (9) a second cross shaft which is characterized by having at the one end thereof a second pinion and at the other end thereof a first beveled gear, said first beveled gear meshing with a; (10) a second beveled gear, the axis of rotation of which is perpendicular to the axis of rotation of said first beveled gear, said second beveled gear being rigidly attached to; (11) a second upright shaft parallel to said first upright shaft, said second shaft being characterized by having at its upper end thereof a third pinion which meshes with; (12) a ring gear rigidly attached to the inner surface of said coupling unit; (13) a bearing positioned between said coupling unit and said stationary collar whereby as said third pinion is rotated, the coupling unit, the impeller case and the gear case will rotate with respect to said stationary collar about the longitudinal axis of said assembly, said second pinion at the one end of said second cross shaft meshing with a; (14) nozzle gear drive, said nozzle gear drive characterized by being mounted concentrically on a square shaft; (15) two crank arms eccentrically mounted on said square shaft; (16) two mating couplers cooperating respectively with each of said crank arms; (17) rocker arms attached to the ends of said couplers and to ends of a; (18) pair of nozzle assemblies, and (19) second conduit means communicating from said compartment to said nozzles whereby as said gear drive rotates said nozzles will oscillate through predetermined arcs.

3,379,380
Y-TYPE ROTARY FILTER BED AGITATOR
Robert F. McGivern, Worthington, Ohio (℅ M-C-G Corp., 175 E. Broadway, Westerville, Ohio 43081)
Filed Oct. 11, 1965, Ser. No. 494,612
2 Claims. (Cl. 239—254)



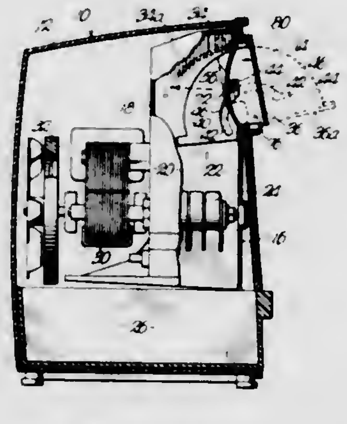
A filter bed agitator in the form of a horizontal arm with a Y-shaped outer end adapted to rotate about a vertical axis. The agitator is particularly useful in cooperation with a filter tank or similar tank of square form for the backwashing of the filter material and is so designed that it will effectively backwash the material in the difficult-to-reach corners of the tank.

3,379,381
ATOMIZER PUMP
Raymond Decaux, Verchery Soucieu-en-Jarrest, Rhone, France
Filed Jan. 6, 1966, Ser. No. 519,061
Claims priority, application France, Jan. 7, 1965, 45,473, Patent 1,430,243; July 15, 1965, 46,222, Patent 88,512
5 Claims. (Cl. 239—333)



Atomizing mechanism primarily for scent sprays, comprising a body, means mounting said body on the neck of a container, an axial bore in said body, a valve in the base of said bore for communication with the interior of said container, a piston slidable in said bore, said piston comprising a push rod having an upper skirt, a tubular sleeve fitted in said upper skirt and a lower skirt on said tubular sleeve, the external diameter of said tubular sleeve being less than the diameter of said bore to leave an annular space between said sleeve and said bore, an output valve providing communication between the interior of said sleeve and the base of said bore and an opening in the wall of said sleeve communicating between the interior of said sleeve and said annular space, an atomizing nozzle on the outside of said body, feed channels in said body communicating between said nozzle and said bore and disposed to be uncovered by said lower skirt of the piston on downward movement of the latter, and spring means urging said piston upwardly.

3,379,382
ICE CRUSHER APPARATUS
Jack E. Briar, Mission, Kans., Larry L. Hudson, Kansas City, Mo., and Foster Lisle Talge, Jr., Overland Park, Kans., assignors to Dazey Products Company, Kansas City, Mo., a corporation of Missouri
Filed Mar. 24, 1966, Ser. No. 537,128
7 Claims. (Cl. 241—63)



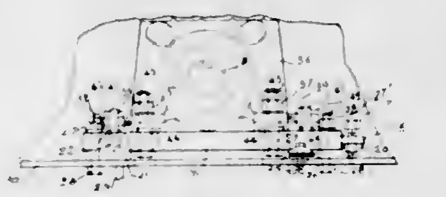
1. In an ice crusher having a housing with an opening for receiving ice to be crushed, crushing means, and an electric motor operably coupled with said crushing means for operating the latter:

a closure for said opening shiftably mounted on said housing for movement between a position closing said opening and a position clearing said opening;

releasable latch means normally holding said closure in its closing position; and

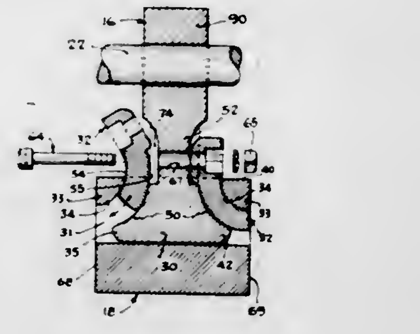
switch means electrically coupled with said motor and operably coupled with said latch means for operating the motor and releasing the latch means when said switch means is actuated.

3,379,383
FINE GRIND HAMMER MILL WITH ADJUSTABLE HAMMER ROTOR
Roy W. Stepanek, Cedar Rapids, Iowa, assignor to Pettibone Mulliken Corporation, a corporation of Delaware
Filed Oct. 23, 1965, Ser. No. 504,253
3 Claims. (Cl. 241—86)



The hammer rotor or the hammer mill is adjustable with respect to the grating past which the hammers rotate. Lateral adjustable is accomplished by adjustable screws at opposite ends of a bearing block for moving it along a plate, and the plate is hinged at one end and moved vertically at its other end, which is in the direction of rotation from the hinged end, by a jack screw, the parts being firmly clamped during operation.

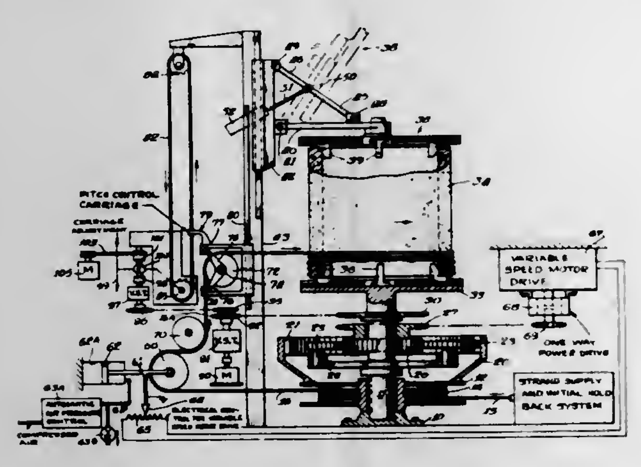
3,379,384
HAMMER TIP AND CLAMP
Anthony F. Compagnoni, Chicago Heights, Ill., assignor to Abex Corporation, a corporation of Delaware
Continuation-in-part of application Ser. No. 413,488, Nov. 24, 1964. This application June 24, 1965, Ser. No. 466,742
10 Claims. (Cl. 241—197)



A hammer for a hammer mill is constructed to include a shank and a detachable head having portions complemental to an insert which aids in holding the parts together.

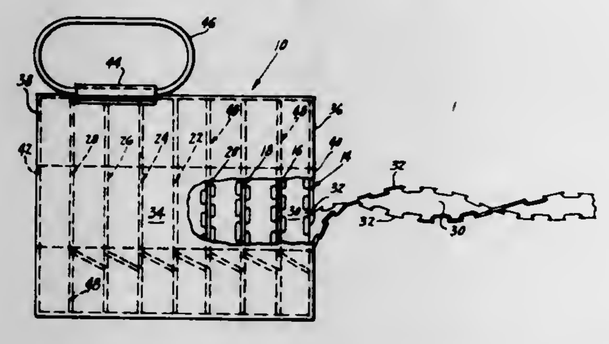
3,379,385
MACHINE FOR TENSIONING AND WINDING WIRE ONTO PIPE
Paul L. Osweiler, Dayton, Ohio, assignor to Price Brothers Company, Dayton, Ohio, a corporation of Michigan
Filed Sept. 3, 1965, Ser. No. 484,936
3 Claims. (Cl. 242—11)

A machine for prestressing cable and winding it onto a concrete pipe by vertically supporting it on a shaft coaxial with a capstan and three element gear differential. A first motor reciprocates a wire distributing guide and rotates the pipe, shaft and planetary gears of said differential while a second motor rotates the sun gear of the differential at a speed regulated by a cable guide responsive to the tension and thus elongation of the cable. The cable is unwound from a supply, wrapped for several turns about the wire tensioning capstan connected to the ring gear of the differential, led over the tension responsive guide, then over the distribution guide to be connected to the pipe so that speed of rotation of the pipe is regulated to maintain constant tension in the cable.



3,379,386
DEVICE FOR DISPENSING TWISTED BARBED TAPE

Melbourne W. Bobolts, 5292 Berkshire, Detroit, Mich. 48224, and James R. Crooks, 22460 LaVon, St. Clair Shores, Mich. 48080
Filed July 15, 1966, Ser. No. 565,446
9 Claims. (Cl. 242—55)

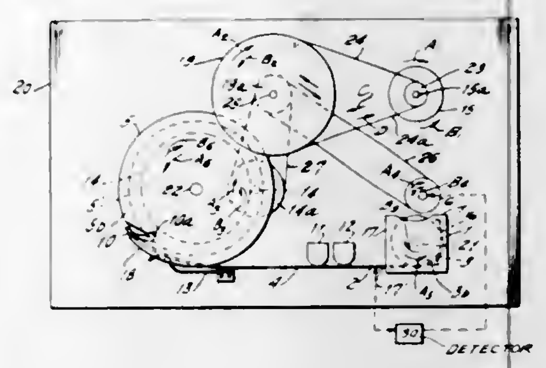


A dispenser for barbed wire in generally cylindrical configuration with an apertured end opening for pulling the barbed tape therethrough, a plurality of separators spaced longitudinally of the container, each separator having a central opening therein and a plurality of radially outwardly wound reels of barbed tape the outer end of one tape being connected to the inner end of the next succeeding tape for dispensing by pulling such that the tape is twisted as it is dispensed is disclosed.

3,379,387
THREADING MEANS FOR A CARTRIDGE-TYPE TAPE RECORDER

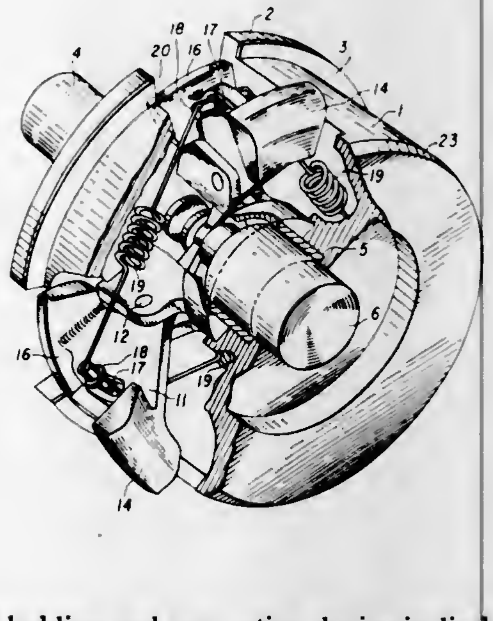
Choku Takahashi and Tadashi Nishizawa, Tokyo, Japan, assignors to Nippon Electric Company Limited, Tokyo, Japan
Filed May 17, 1966, Ser. No. 550,766
Claims priority, application Japan, May 19, 1965, 40/29,031, 40/38,957; June 16, 1965, 40/48,574
6 Claims. (Cl. 242—55.13)

This invention may be employed in tape recorders, motion picture projectors and any like device and broadly teaches a means for automatically threading a tape onto a tape take-up reel generally comprising a reel of tape positioned within a cartridge with the tape having a leader portion attached to its forward end. The leader has a widened front portion and when the tape storage reel unwinds, it urges the tape leader toward a take-up reel. Adjacent the take-up reel is a guide means which guides the widened front portion of the leader against the periphery of the take-up reel. The take-up reel has notches which are tilted such that when the take-up reel rotates in a direction to wind the tape around itself, the widened front portion of the leader slides into the notches and is trapped therein so that further rotation of the take-up reel causes the tape to be wound thereon. The supply reel is provided with a biasing spring which normally biases the leader against its own biasing force to restrain the leader from unwinding from the cartridge. Marker means are provided on the leader near its trailing edge to indicate to a suitable detector means that the widened portion of the leader strip has been captured by the notches and to disengage the roller drive means from the tape in the cartridge.



3,379,388
REEL HOLD DOWN KNOB

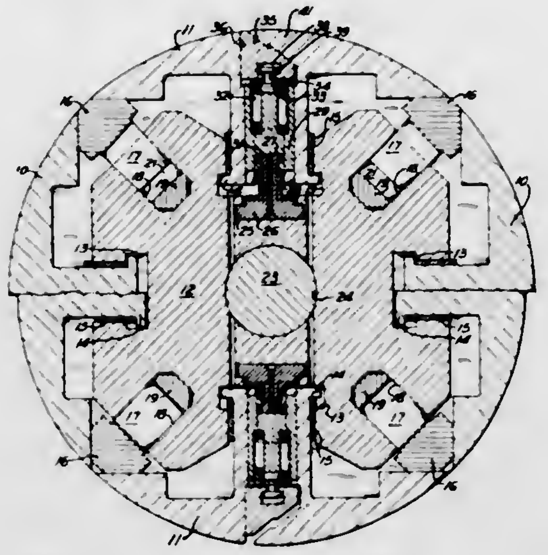
Norman P. Gruczelak, Houston, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Dec. 30, 1966, Ser. No. 606,316
5 Claims. (Cl. 242—68.3)



A reel holding and supporting device is disclosed which includes a hub having a flanged rear and slots included therein, said hub providing radial support for a reel. A plurality of Y-shaped holding arms are pivotally positioned in said slots and either lock a reel on said hub or push a reel off of said hub upon activation of a reel releasing means.

3,379,389
TENSION REEL

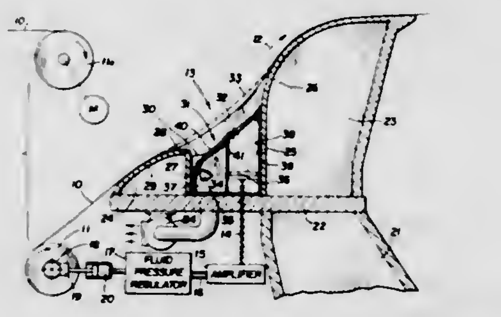
John Thomas O'Keefe, Pittsburgh, Pa., assignor to United Engineering and Foundry Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 15, 1966, Ser. No. 603,403
Claims priority, application Great Britain, Dec. 29, 1965, 55,127/65
7 Claims. (Cl. 242—72.1)



A tension reel comprising an arbor for carrying a plurality of segments and movable wedges common to adjacent sides of the segments for effecting expansion and collapse of the segments by an actuating shaft passing through the arbor. At least one segment having a gripper which includes an actuating member having a series of outer tapered surfaces and connected to the actuating shaft for longitudinally sliding movement relative to the arbor. A plurality of radially movable plungers each located in a spaced bore formed in the segment along its length. The plungers have tapered lower surfaces complementary to the tapered surfaces of the actuating member and interlocked therewith. A movable gripper is carried by the segment and urged outward relative to the plungers by springs. The movable gripper and the plungers have interconnected parts to restrict outward movement of the gripper. A stationary gripper is formed in the segment and has a strip gripping surface cooperative with a surface formed on the movable gripper between which a strip is contacted.

3,379,390
TENSION CONTROL FOR A MOVING WEB

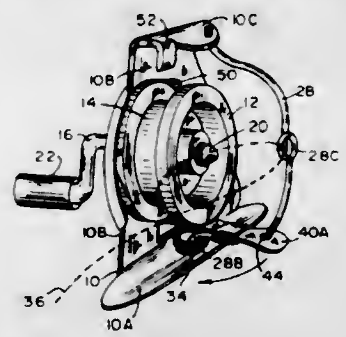
Peter de Hertel Eastcott, Peterborough, Ontario, Canada, assignor to Canadian General Electric Company Limited, Toronto, Ontario, Canada, a corporation of Canada
Filed Nov. 16, 1966, Ser. No. 594,721
7 Claims. (Cl. 242—75.44)



The tension in a rapidly moving web of a pliable material such as paper is controlled by the following means: (a) a shallow loop is sucked in the web by means of air at a constant, relatively low negative pressure; (b) the curvature of the loop is measured by means of light directed onto the loop at an acute angle to its surface so that light varying in amount with loop curvature is reflected from the surface onto light sensitive cells; and (c) the variable electric signal obtained from the cells is used for controlling web tension.

3,379,391
FISHING REEL

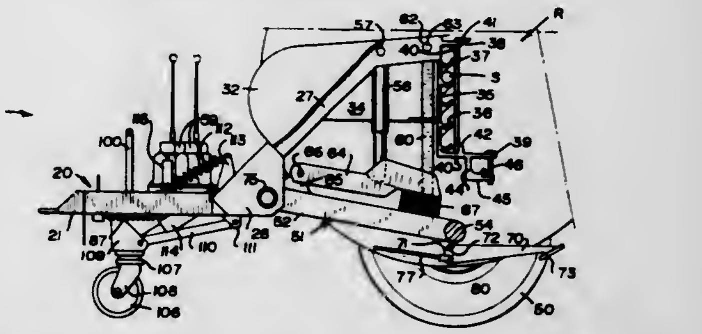
Lee L. Fincannon, 9520 E. 11th, Tulsa, Okla. 74112
Filed June 10, 1966, Ser. No. 556,624
4 Claims. (Cl. 242—84.2)



1. A fishing reel comprising:
a body member including a foot portion, the foot portion providing means of affixing the reel to a fishing rod;
a vertical spool rotatably supported by said body member having a peripheral recess adaptable to windably receive a fishing line thereon;
a crank means rotatably supported by said body for the rotation of said spool;
a vertical bail pivotally supported to said body adjacent said spool, said bail having a line receiving eyelet, said bail pivotal in one position, termed a rewind position, wherein said eyelet is in the plane of said spool and spaced from said peripheral recess and in a second position, termed a cast position, wherein said eyelet is substantially coincident with the axis of said spool and spaced therefrom;
resilient means normally urging said bail to said rewind position;
retaining means with said bail releasably retaining said bail in cast position against said resilient means; and
means on said spool for releasing said retaining means upon rotation of said spool whereby upon the rotation of said spool said resilient means pivots said bail to said rewind position.

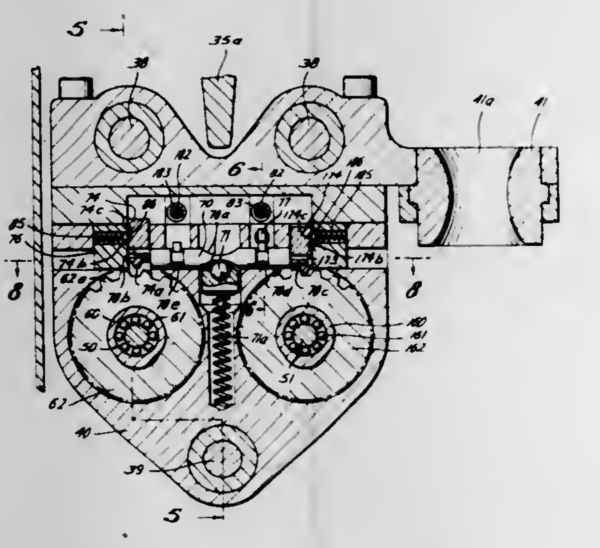
3,379,392
REEL TRAILER

Edward V. Garnett, Denver, Colo., assignor to Eaton Metal Products Company, Denver, Colo., a corporation of Nebraska
Filed June 13, 1966, Ser. No. 557,070
11 Claims. (Cl. 242—86.5)



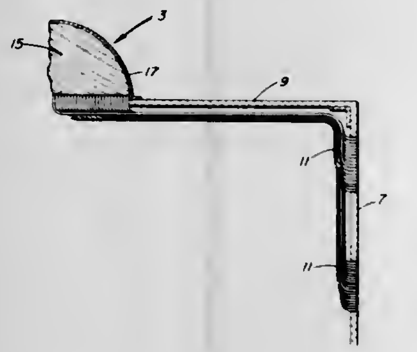
A cable reel trailer having a yoke-shaped main frame with spaced legs extending upwardly at the rear, a pivoted rocker beam at each side below the legs, a rear wheel on each rocker beam and an extension and retraction device, such as a hydraulic cylinder, for raising and lowering the rear end of the main frame, which carries a support at each side for the spindle bar of a cable reel. A pivoted arm, interposed between the leg and rocker beam at each side, receives the thrust of the hydraulic cylinder and bears against a coil spring on the rocker beam.

3,379,393
REEL-MOUNTED LEVEL WIND APPARATUS
Harold Pilcher, Houston, Tex., assignor to Bowen Tools, Inc., Houston, Tex., a corporation of Texas
Filed May 18, 1966, Ser. No. 551,067
10 Claims. (Cl. 242—158.4)



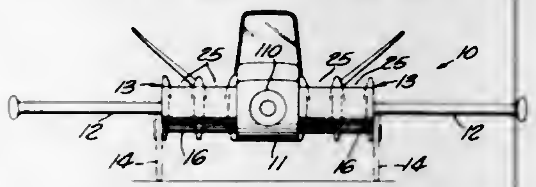
A level wind apparatus wherein a pair of lead screws are employed with a guide block thereon which is automatically reversed in direction at the end of each length of its lateral travel. Means are provided for a second reversing of the direction of movement of the guide block at each end of its lateral travel in the event the direction of feeding of the cable is changed while the guide block is at one end of its travel.

3,379,394
OPTICAL SOLAR ENERGY CONVERTER
Karol J. Bialy, Merritt Island, Fla., assignor to the United States of America as represented by the Secretary of the Navy
Filed Oct. 27, 1964, Ser. No. 406,950
11 Claims. (Cl. 244—1)



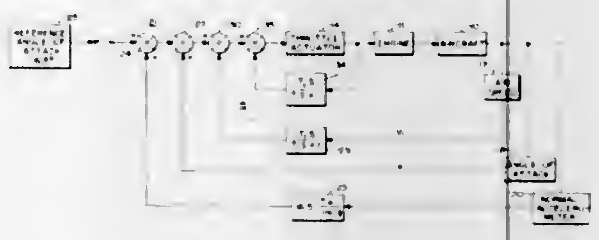
The present invention is an optical solar energy converter. By its use incident solar energy impinging on a plurality of surface areas, such as the walls of a space vehicle, may be collected by clusters of optical fibers and conducted to a common point for storage as thermal energy and subsequent conversion into electrical energy.

3,379,395
V/STOL AIRCRAFT
Gene W. Smith, 5008 La Canada Blvd., La Canada, Calif. 91011
Filed Aug. 9, 1965, Ser. No. 478,197
28 Claims. (Cl. 244—12)



14. A VTOL aircraft having a main body provided with elongated vertically disposed slots extending lengthwise thereof and providing a flow passage of substantially constant cross-sectional area under all operating conditions of the aircraft, said slots being of venturi shape transversely thereof and for substantially the full length of said slots in the transverse plane thereof and being substantially free of obstructions, means for generating pressurized gas and for discharging the same downwardly through said slots to induce air flow downwardly therethrough, said downward air flow and the reaction of pressurized gas flow cooperating to produce upward thrust on said main body adequate to lift the same from the ground, and means to vary the direction of induced air flow and of said pressurized gas downwardly through said slots to vary the direction of effective thrust on said aircraft.

3,379,396
CONTROL APPARATUS
Richard G. Patterson, St. Louis Park, Hennepin, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Sept. 30, 1966, Ser. No. 583,210
6 Claims. (Cl. 244—77)

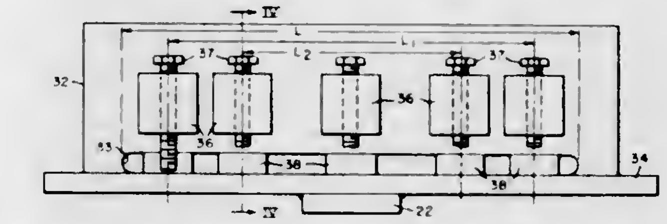


1. In power control apparatus for a propulsion engine of an aircraft, said aircraft having first means operating flight control surfaces thereof to increase normal acceleration of the craft, said apparatus including a sensor responsive to angle of attack changes; a sensor responsive to air speed changes; a reference selector for one of said first two sensors; and a normal accelerometer sensing changes in the normal acceleration of the craft resulting, for example, from operation of said first means; in combination: means for converting the sensed change in normal acceleration to an equivalent magnitude of a quantity of the type affecting said reference selector; and further means responsive to the first two sensors, said reference selector and to the converting means to provide an air speed error signal for controlling the power of said engine.

3,379,397
ADJUSTABLE FLEXIBLE MOUNTING FOR ROTATING EQUIPMENT
Richard J. Keady, Monroeville, and Sigrud R. Petersen, North Huntingdon Township, Irwin, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 26, 1966, Ser. No. 553,221
4 Claims. (Cl. 248—20)

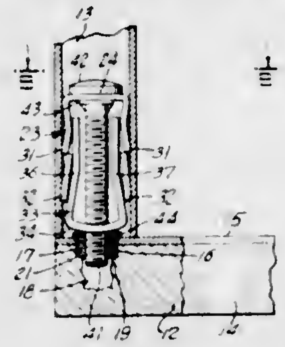
A means for detuning a rigid support structure supporting rotating equipment on mounting pads disposed on

a foundation structure. The detuning means includes slotted resilient steel pieces fixed in the rigid support structure at locations over the mounting pads so that the metal between the slot and the pads functions as a spring means. By inserting and removing blocks in and out of



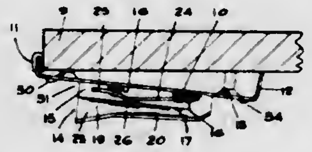
the slots, the spring constant of the steel piece, and consequently that of the support structure and associated system using the rotating equipment, is changed thereby isolating the rotating equipment from the natural frequencies of the system.

3,379,398
TABLE AND LEG ASSEMBLY DEVICE
Egido A. Boccone, Strong's Neck, Setauket, N.Y. 11785
Filed Aug. 12, 1966, Ser. No. 572,124
9 Claims. (Cl. 248—188)



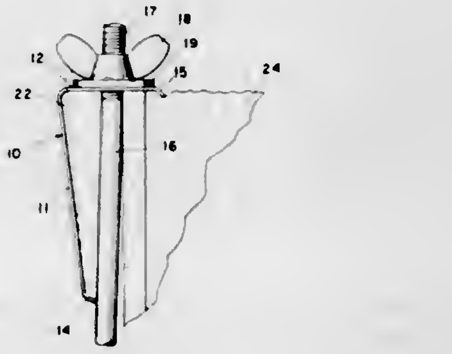
A device for joining a tubular leg to a table comprising a stationary threaded nut in the table and an expansion bolt assembly in the interior of the attaching end of the table leg. The expansion bolt assembly includes a threaded draw bolt, a wedge clip and a spur clip with the draw bolt non-rotatably secured to the spur clip. The expansion bolt assembly is rotatable with the table leg so that threaded engagement of the draw bolt with the nut causes the clips to become increasingly wedged and secured in the table leg and brings about the firm and rigid mounting of the leg to the table.

3,379,399
HOLDERS FOR STORAGE AND LIKE CONTAINERS
Jerome Francis Kennedy, 13 Ashworth Road, London W. 9, England
Filed Oct. 24, 1965, Ser. No. 505,065
Claims priority, application Great Britain, Nov. 9, 1964, 45,669/64
6 Claims. (Cl. 248—312)



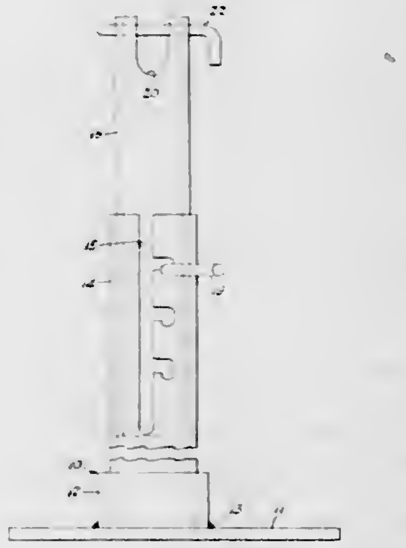
A holder for supporting storage and like containers of the kind having a lip or projecting flange below the mouth by means of which lip the container can be slidably supported on a pair of runners forming part of the holder and engaging on either side of the container under the lip when the container is inserted into the holder, the holder being adapted to be mounted to the underside of a shelf or like surface.

3,379,400
BATTERY HOLD DOWN CLIP
John H. Bauschard, 316 E. 28th St., Erie, Pa. 16504
Filed May 9, 1966, Ser. No. 548,699
3 Claims. (Cl. 248—361)



The invention disclosed herein is a battery hold down clip made of a single resilient sheet-like member. The sheet member is bent generally in L-shape with a flange and a shank extending at an acute angle of approximately seventy-five degrees to each other. The distal ends of both the shank and the flange are bent toward each other. A slot is formed in the flange, and a battery hold down rod extends through this slot. Thus, the bent distal end of the flange may engage the top of the battery and the bent distal end of the shank may engage the hold-down rod, so that the bent end of the shank engages the hold down rod and this holds the bent end of the flange in engagement with the battery.

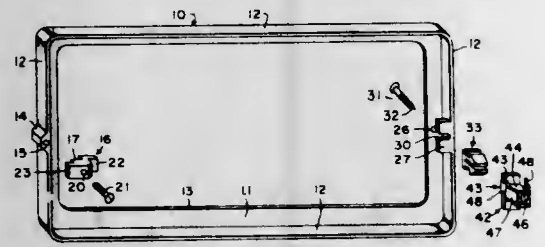
3,379,401
AUTOMOTIVE WHEEL LUG WRENCH SUPPORT
Frank Pellegrino, Gowanda, N.Y., assignor of one-half to Edward R. Sweda, Gowanda, N.Y.
Filed June 14, 1966, Ser. No. 557,543
1 Claim. (Cl. 248—407)



The combination of a vehicle wheel wrench with an adjustable support, the wheel wrench having crossed arms and socket wrench formations at the ends of the arms. The support comprises a base member having an upwardly extending tubular portion with a vertical slot in the wall of the tubular portion and vertically spaced lateral notches along such slot, and a vertically extending support member telescoping within the tubular portion and having a projecting arm adapted to engage any of the lateral notches to retain the support in adjusted vertical position. The support is recessed across its upper end to provide bearing support for a shank portion of the lug wrench.

3,379,402
VEHICLE LICENSE PLATE HOLDERS

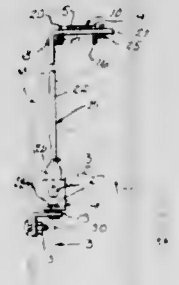
Earl M. Trammell, Jr., 39 Salem Estates Drive,
La Due, Mo. 64758
Filed Dec. 31, 1964, Ser. No. 422,799
7 Claims. (Cl. 248—488)



The holder includes a frame adapted to receive a license plate. The frame is provided with hook members which secure it to a support and in addition retain the plate within the frame. A puncture screw connects the plate to the frame and also serves to attach forked snap fasteners to the frame, the snap fasteners permitting the connection of the holder to a support member without the use of screws or bolts. The holder may be removed from the support member simply by squeezing the forked parts of the snap fastener together.

3,379,403
MOUNTING MEANS FOR PERIPHERAL VISION MIRRORS

David D. Meehan, 401 9th St.,
Manitowoc, Wis. 54220
Filed Aug. 8, 1966, Ser. No. 570,936
5 Claims. (Cl. 248—487)

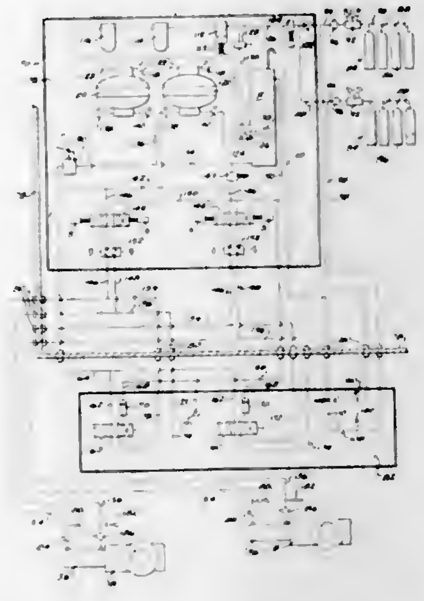


1. A mounting means for peripheral vision mirrors of the concavo-convex type including an L-shaped bracket arm one leg of which is substantially longer than the other leg, a mounting plate for securing said short leg to a supporting surface, a swivel bracket assembly pivotally secured to the outer end termination of said longer leg, said swivel bracket assembly including a pair of identically formed L-shaped leaf members, one leaf member being pivoted to the outer end termination of said longer bracket leg of said bracket arm and having its other leg pivotally secured to said second leaf member, said mirror being mounted at its axial center to the opposite leg of said second leaf member.

3,379,404
CONTROL SYSTEM

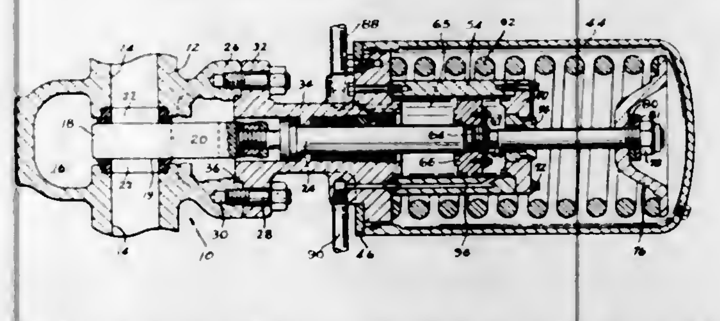
Clifford E. Anderson, Houston, Tex., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Sept. 18, 1964, Ser. No. 397,461
5 Claims. (Cl. 251—26)

1. Self-contained apparatus for controlling opening and closing of at least one valve having a movable valve member and a reciprocating stem connected to said valve member, said apparatus comprising a power operator having a cylinder, a piston disposed in the cylinder and dividing the cylinder into two compartments, said piston adapted to impart longitudinal movement to the stem for opening and closing the valve, a pair of pressure conduits extending one from each of said two compartments, a reservoir for storage of hydraulic fluid, fluid pump means connected to said reservoir, hydraulic supply lines interconnecting said pump means and said conduits for supplying hydraulic fluid from said pump means to said pressure conduits, compressed gas energized motor means for driving said fluid pump means, a self-contained source of compressed gas supplying compressed gas to said gas energized motor means, remotely controlled three-way valve means in said supply lines for controlling movement of hydraulic fluid from said pump to said cylinder means for energization of said piston to selectively open or close said valve means, manually controlled three-way valve means in communication with said supply lines for selectively controlling the flow of hydraulic fluid from said pump means to said cylinder means for controlling opening or closing of said valve means, manually operable pump means in said supply lines and being operable through said manually controlled three-way valve means for selectively supplying pressurized hydraulic fluid to said cylinder means for opening or closing said valve means.



3,379,405
VALVE

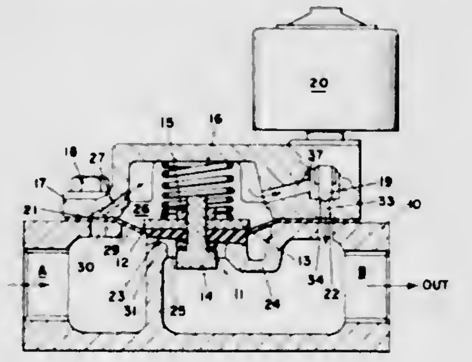
Paul J. Natho, Houston, Tex., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Jan. 3, 1966, Ser. No. 528,021
9 Claims. (Cl. 251—31)



6. A hydraulic operator comprising a base, a hydraulic cylinder having one extremity thereof fixed to said base in sealing relation therewith, a stem passage formed in said base, an operator stem extending through said stem passage into said cylinder, a closure for the other extremity of said cylinder, said stem extending through said closure in sealing relation therewith, a spring retainer carried by the stem exteriorly of the cylinder, said retainer having a larger diameter than the diameter of said cylinder, a compression spring surrounding said cylinder and being interposed between said retainer and said base and maintaining said stem under a directional bias, a piston disposed within the cylinder and dividing the cylinder into first and second fluid chambers, said piston being fixed to said stem, means for introducing fluid under pressure into and controlling the flow of fluid from said first and second fluid chambers for controlling movement of said piston, an internal shoulder defined in said stem passage, means defining a stem stop for limiting the travel of said stem in one direction, inner and outer packing means retained within said stem passage in sealing engagement with said stem and defining an annular fluid collection space therebetween, means between said inner and outer packing means communicating said annular fluid collection space with the atmosphere to vent fluid to the atmosphere should leakage occur at either of said packing means.

3,379,406
DIAPHRAGM VALVE WITH WATER HAMMER PREVENTER

Leonard S. Greer, Erie, Pa., assignor to Hays Manufacturing Company, Erie, Pa., a corporation of Pennsylvania
Filed Mar. 24, 1965, Ser. No. 442,456
1 Claim. (Cl. 251—45)

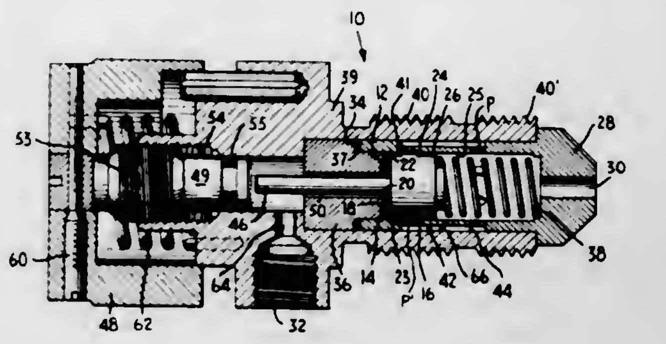


The present invention incorporates a diaphragm pilot controlled valve, which may be solenoid operated. The diaphragm has a relatively thick seating member, wedge-shaped in cross section, attached to its center and this seating member engages first one side and then the other of the orifice through the valve. Thus, a smoother shut-off of the valve is provided and no impact of the valve results when the valve closes, even under high pressure.

3,379,407
BLEEDER VALVE

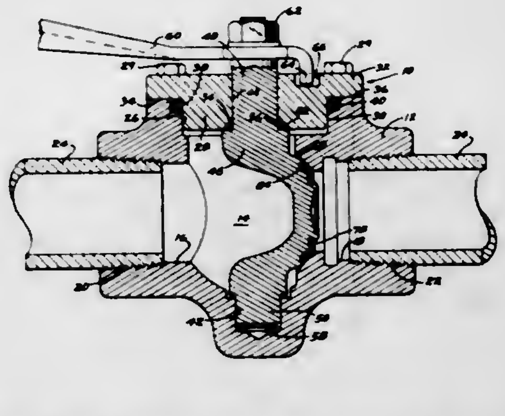
Pellegrino E. Napolitano, 1415 57th St.,
Brooklyn, N.Y. 11219
Original application Jan. 4, 1961, Ser. No. 80,692. Divided and this application Nov. 27, 1964, Ser. No. 414,131
1 Claim. (Cl. 251—210)

1. A bleeder valve comprising a body portion having a partly parallel-walled bore with an inlet and an outlet, a valve member mounted in said bore having a parallel-walled part complemental in shape to the parallel-walled part of said bore and fitting snugly within said part of said bore, said part of said bore including means defining a first valve seat, a second valve seat in said bore disposed with respect to said first valve seat longitudinally of said bore, said parallel-walled part of said bore having at least two ports therein spaced apart from each other longitudinally of said bore, said body portion forming a chamber extending between and communicating with said ports on the exterior of said bore, said valve member and said first valve seat being made of metal and making metal-to-metal contact when in the closed position to prevent passage of fluid through said ports and chamber and around said valve member, and said second valve seat including resilient sealing means, biasing means for continuously urging said valve member into sealing relation with said first and second valve seats, and biasing-means-overriding means for selectively separating said valve member from said first and second valve seats, said biasing-means-overriding means effecting separation of said valve member and said resilient sealing means prior to the separation of said valve member and said first valve seat and said biasing means effecting closing of said valve means and said first valve seat prior to closing of said valve means and said resilient sealing means, fluid being permitted to pass when said valve member is separated from both said resilient sealing means and said first valve seat through said ports and chamber and around said valve member, and means connected to said valve member within said bore and extending remotely therefrom for reducing the cross-sectional flow area of said fluid at a location remote from said resilient sealing means to minimize the maximum velocity of fluid flow adjacent to the locus of said resilient closure and prevent erosion of said resilient closure.



3,379,408
ECCENTRIC PLUG VALVE

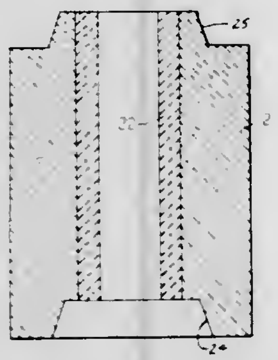
William E. Lowrey, Houston, Tex., assignor to ACF Industries Incorporated, New York, N.Y., a corporation of New Jersey
Filed Feb. 8, 1965, Ser. No. 430,846
8 Claims. (Cl. 251—298)



A rotary plug valve having a trunnioned plug member having a partially spherical surface which is generated eccentrically with respect to the trunnions of the plug and which engages a valve seat also generated eccentrically with respect to the trunnions. A sealing member of generally triangular cross section is retained with a groove in the plug member and is adapted to move directly into engagement with the valve seat upon closing of the valve.

3,379,409
COMPOSITE STOPPER ROD SLEEVE WITH INSULATING INNER PORTION

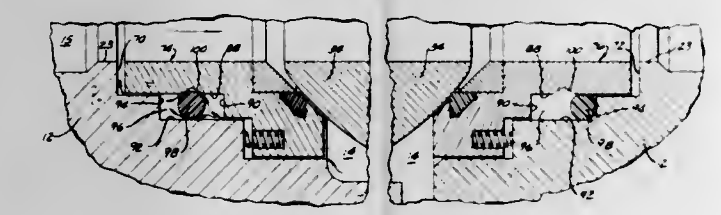
William D. Fitzpatrick, Mexico, Mo., assignor to A.P. Green Refractories Co., a corporation of Missouri
Filed Nov. 4, 1964, Ser. No. 408,912
4 Claims. (Cl. 251—319)



1. A sleeve segment for a stopper rod of a pouring ladle comprising a cylindrical outer portion of high refractory material having a thermal conductivity of about 10 to about 18 B.t.u./hr./sq. ft./° F. difference for one inch thickness, and a cylindrical inner portion of insulating refractory having a thermal conductivity of about 2 to about 4 B.t.u./hr./sq. ft./° F. difference for one inch thickness, bonded to the outer portion.

3,379,410
VALVE HAVING SEAT SEAL AND VENTING MEANS

Joseph T. Stewart, Jr., Houston, Tex., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Mar. 11, 1965, Ser. No. 438,999
9 Claims. (Cl. 251—359)

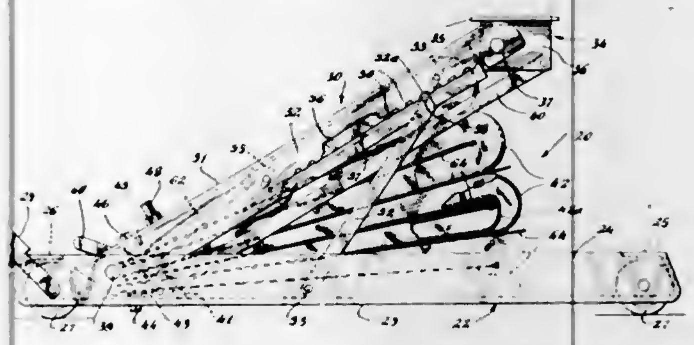


A pressure relieving seat construction for valves including movable seat assemblies and having parts of the seat assemblies arranged to vent body pressure into the upstream line in the event body pressure becomes higher than line pressure.

3,379,411
JACKS EMPLOYING ELONGATED, TUBULAR PNEUMATIC ELEMENTS

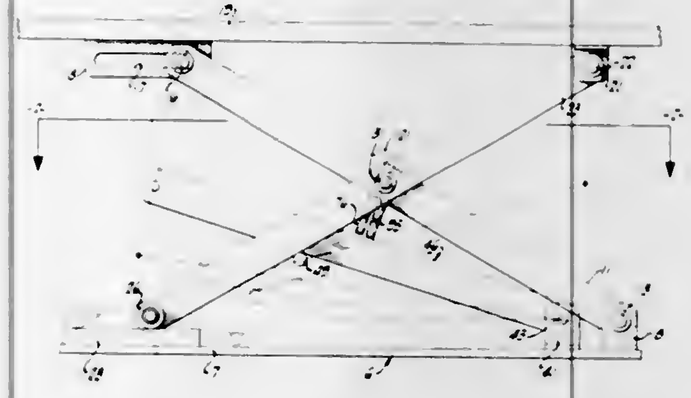
John A. Vanderjagt, Memphis, Tenn., assignor to Scienco, Inc., Memphis, Tenn.
Filed Mar. 17, 1967, Ser. No. 624,037
14 Claims. (Cl. 254—93)

The disclosed jacks utilize a length of hose folded several times on itself and disposed between a jack base and an interconnected lifting member. Both ends of the hose are sealed off to provide a single, expansible pneumatic chamber. A fitting communicating with the interior of the hose is connected to a source of air or other gas. Upon the introduction of compressed air, the folded hose expands and the expanding folds, pressing against each other, force the lifting member to move relative to the base, thereby achieving a lifting operation. Three embodiments are disclosed; one embodiment is in a heavy duty jack wherein the lifting member is pivotally connected at one end to the base; a second embodiment discloses a pneumatic jack suitable for permanent installation to the underside of an automobile chassis; and the third embodiment is a small, portable jack suitable for storage in a car trunk.



3,379,412
CHAIN COLUMN MECHANISM

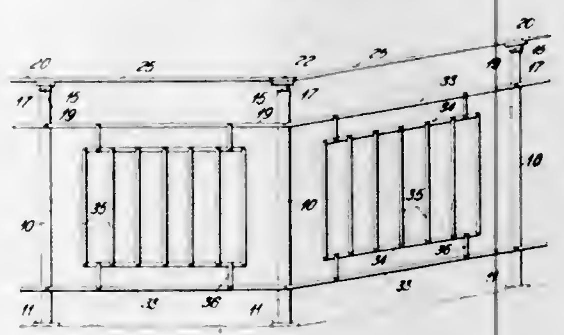
John H. Halstead, 414 Seaview Drive, Rio Del Mar, Calif.
Filed Jan. 26, 1967, Ser. No. 611,921
3 Claims. (Cl. 254—122)



Two separate, flexible link chains have hooks which interlock the chains together as they are forced through merging guides and form a rigid strut or column effective to raise a vehicle lift platform connected to a base by a scissors linkage.

3,379,413
BALUSTRADES

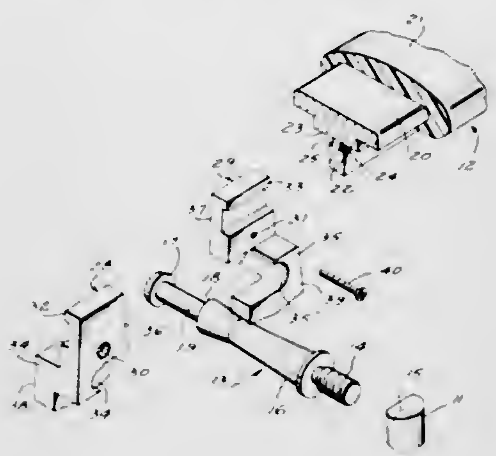
Charles Arthur Sprey, London, England, assignor to Sprey Architectural Metals Limited, London, England, a British company
Filed Sept. 22, 1965, Ser. No. 489,313
Claims priority, application Great Britain, Oct. 16, 1964, 42,276/64
7 Claims. (Cl. 256—65)



The balustrade includes upper elongated rail elements connected together by shorter rail elements secured to the upper end of vertically extending support members by connectors pivotally mounted on the upper end of the support members. The elongated rail elements may be pivotally connected to the shorter rail elements or the elongated rail elements may be secured directly to the connectors. Alternatively, the rail elements may have a sliding connection with the respective connector, means being provided for locking the rail elements against sliding movement. The support members may be hollow and have openings formed therein and include means for mounting a light source within the interior thereof. An infill structure forming a parallel linkage arrangement may be pivotally connected between adjacent support members.

3,379,414
HANDRAIL ASSEMBLY

William Thurnauer, West Englewood, N.J., assignor to Julius Blum & Co., Inc., Carlstadt, N.J., a corporation of New York
Filed Sept. 2, 1966, Ser. No. 576,926
6 Claims. (Cl. 256—68)

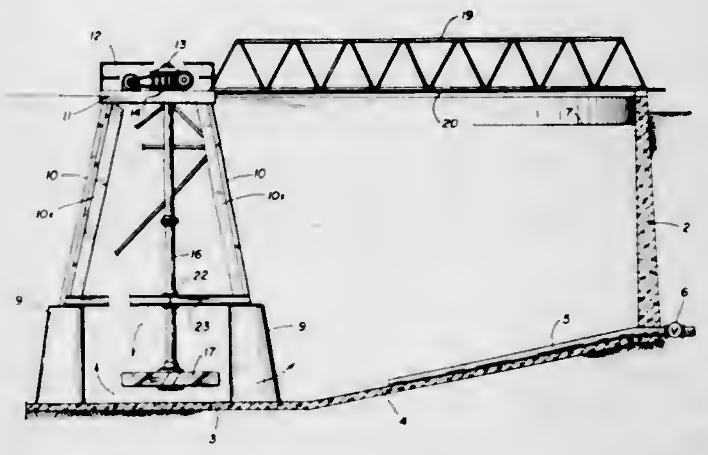


1. A handrail assembly for mounting an elongated handrail or the like to a support, said handrail comprising a track portion having inner and outer, longitudinally extended, spaced apart inner and outer support shoulders, a strut having an end fixed to said support and a free end in spaced relation to said track portion, said free end of said strut including inner and outer opposed shoulder portions connected by a reduced neck, a clamp member clampingly connecting said track portion and strut, said clamp member including first and second clamp portions slidably interfitting with each other and surrounding said neck by movement of said clamp portions longitudinally of said track toward said neck, each of said clamp portions including an upper and a lower clamp face, the upper clamp faces of said first and second clamp portions engaging an inner and an outer support shoulder of said rail, respectively, and the lower clamp faces of said first and second clamp portions engaging an outer and an inner shoulder portion of said strut, respectively, and fastener means connecting said clamp portions for moving said upper clamp faces toward each other in a direction at right angles to the longitudinal axis of said track portion, thereby to urge said upper clamp faces inwardly toward said support shoulders, and said lower clamp faces outwardly against said opposed strut shoulders.

3,379,415
CENTER TOWER AGITATOR FOR SLURRIES

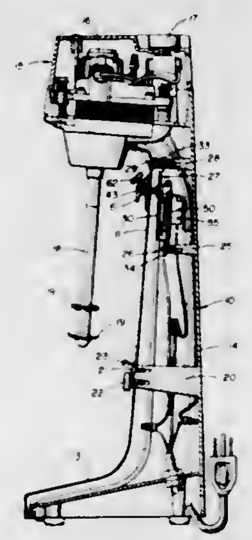
Leland H. Logue, Denver, Colo., assignor to Denver Equipment Company, Denver, Colo., a corporation of Colorado
Filed May 3, 1965, Ser. No. 452,698
15 Claims. (Cl. 259—44)

1. An agitator comprising a tank having a closed bottom portion and cylindrical side walls, means for discharging contained material from the tank, a tower assembly disposed in a central portion of the tank including a plurality of upright columns extending upwardly from a support position on the tank bottom to approximately the top of the tank, platform means supported at the top of said columns, drive means on said platform means, a rotary shaft supported in a depending position with a free end portion adjoining but in spaced relation to the bottom of the tank and in driven relation to the drive means, and an impeller carried on said shaft adjacent said free end portion for rotation therewith in proximity to the bottom of said tank, the tower assembly providing the sole structural support for said shaft and impeller.



3,379,416
DRINK MIXER SWITCH AND COLUMN CONSTRUCTION

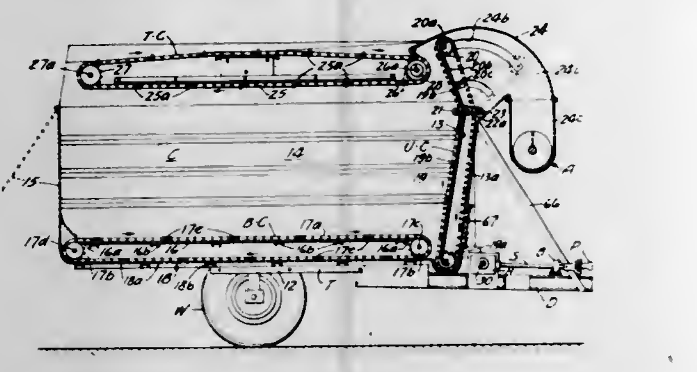
Charles L. Smader and Kenneth P. Bardell, Racine, Wis., assignors to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Dec. 30, 1966, Ser. No. 606,217
7 Claims. (Cl. 259—108)



A drink mixer provided with a switch which comprises a mounting bracket, slide plate, actuator shaft and casing enclosed switch mechanism assembled to form a unit which is mounted in the drink mixer column by fastening means which also serve to connect the front wall to the rear wall of the column. The switch assembly includes means for limiting the movement of the slide plate whereby operating forces are transmitted to the mounting bracket and the switch mechanism is free from strain. The column rear wall is provided with integral supports which serve the purposes of receiving fastening means for mounting the switch assembly in the column, mounting the column hardware on the front of the column and connecting the front to the rear wall of the column.

3,379,417
MIXING MACHINE FOR HEAVY FRAGMENTED MATERIALS SUCH AS SILAGE

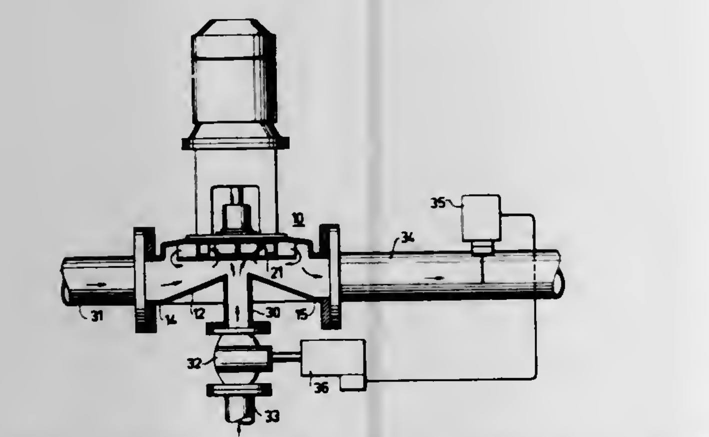
Arthur J. Luscombe, Rte. 1, Dolliver, Iowa 50531
Filed May 24, 1967, Ser. No. 640,916
8 Claims. (Cl. 259—6)



A high capacity feed mixing machine specially adapted for the intimate admixing of heavy, coarse feed material such as silage, with one or more granular, pelleted or fragmented feed materials varying substantially in shape, specific gravity and size from said heavier materials. This improved machine is characterized by a combination of closely cooperating conveyor sections or mechanisms disposed within the confines of a large rectangular body or container, with bottom, end and side walls, to the end that various feed materials may be put into the machine during operation or when idle, and will be generally supported upon a slow traveling bottom conveyor medium moving in one direction at slow speed, then tumbled and fluffed by an upstanding conveyor having elevating characteristics at one end of the body, and thereafter skimmed, toppled, fluffed and dropped by a relatively fast traveling upper, substantially horizontal conveyor section, all conveyor sections extending cumulatively throughout substantially the entire width of the container or body. The machine is preferably mobile and may operate and do its mixing and pickup of various feed materials while in operation. It is adapted at will to discharge thoroughly admixed feed materials of the nature heretofore specified, from desired discharge locations preferably at one side of the machine.

3,379,418
PIPE MIXER

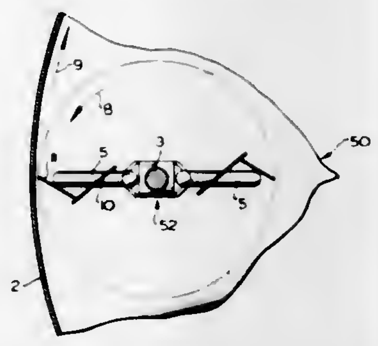
Gustaf Adolf Staaf, Navigatorgatan 6, Vasteras, Sweden
Filed Jan. 31, 1967, Ser. No. 613,007
Claims priority, application Sweden, Feb. 17, 1966, 2,061/66
2 Claims. (Cl. 259—8)



This invention relates to an arrangement for supplying mixing action to a plurality of components passing through a pipeline or conduit, comprising an impeller arranged in the pipeline opposite a convex section of the pipeline.

3,379,419
MATERIAL MIXING DEVICE

Wilhelm Eirich, Bahnhofstrasse 19, and Gustav Eirich, Walldurnerstrasse 40, both of Hardheim, Nordbaden, Germany
Continuation of application Ser. No. 434,486, Feb. 23, 1965. This application Oct. 14, 1966, Ser. No. 586,898
Claims priority, application Germany, Mar. 12, 1964, E 26,602
4 Claims. (Cl. 259—85)

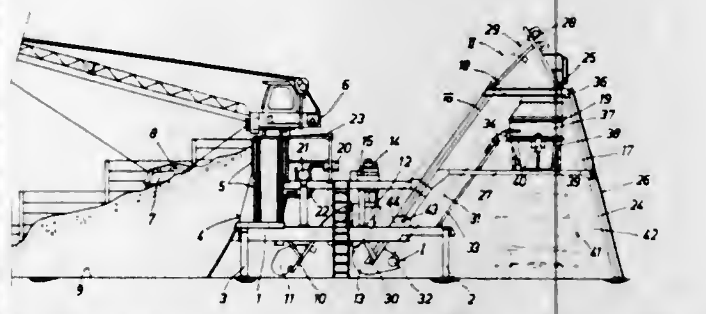


An auxiliary stirring device, for a mixing pan, is disclosed as including a rotatable upright shaft having rod mounting means secured thereto, with substantially rectilinear rods carried by the rod mounting means and extending downwardly into the mixing pan. The rods have upper fixed ends secured to the mounting means and lower free ends which are free of connection to each other.

In one embodiment of the invention, the rods diverge downwardly from a point at least substantially closer to the mounting means than to the lower free ends of the rods. In another embodiment of the invention, the rods are substantially upright and parallel to the shaft, and are disposed completely below the normal level of material in the mixing pan.

3,379,420
MOVABLE APPARATUS FOR THE MANUFACTURE OF CONCRETE

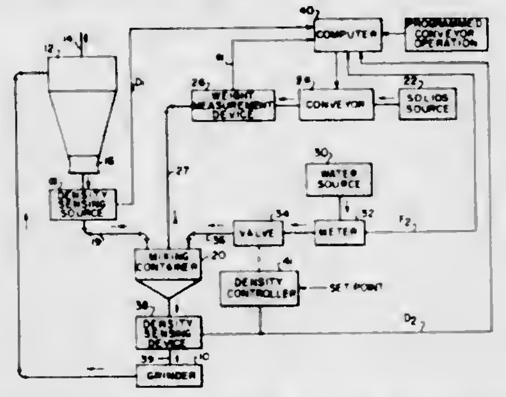
Eckhard Maier, Ettlingen, Baden, Germany, assignor to Elba-Werk Ettlinger Baumaschinen- und Hebezeugfabrik GmbH, Ettlingen, Baden, Germany, a corporation of Germany
Filed Mar. 14, 1966, Ser. No. 533,927
Claims priority, application Germany, Mar. 13, 1965, E 28,874
4 Claims. (Cl. 259—154)



A rollable apparatus for the manufacture of concrete, comprising a common frame and means for feeding, distributing, weighing and mixing of ingredients disposed on the common frame. An elevator means is provided for conveying the finished concrete and comprises an elevator container. A trestle-like base is disposed at one end of the frame and comprises two pairs of supports for increasing the conveying and releasing height. An elevator motor means carried by the base and the pair of supports are disposed behind the apparatus and constitute an elevator path for the elevator container, the elevator motor means for driving the elevator container along the elevator path; a storage silo capable of being emptied is disposed in the upper part of the base, the base having pivoting points, and one of the pairs of supports are connected with the frame by means of the pivoting points, and the base is capable of being lifted and lowered about the pivoting points and mounted releasably on the frame.

3,379,421
CONTROL OF MATERIAL PROCESSING DEVICE

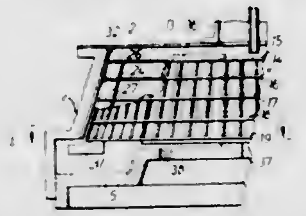
Richard E. J. Putman, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 14, 1966, Ser. No. 601,618
4 Claims. (Cl. 259—154)



The determination of a desired relationship involving an unknown condition of a fluid or a solid relative to a fluid in respect to an industrial process to be controlled, such as the illustrated operation of a grinder device, is described. A measurement of such unknown condition is accomplished through a sensed change in another condition of the process resulting from the effecting of a known quantity of additive material into the established process operation. Measurements are made of more readily measured conditions of the process to enable the establishment of the desired unknown condition.

3,379,422
APPARATUS FOR THE PURIFICATION OF GASES BY WET SEPARATION

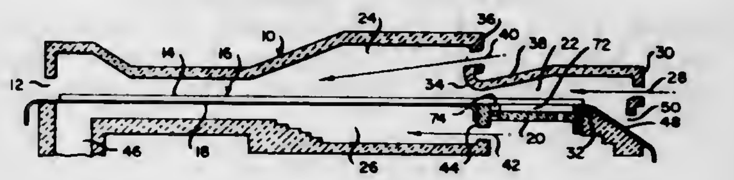
Paul Liesenhoff, Cologne-Braunsfeld, Germany, assignor to Artur Simon Maschinenbaugesellschaft mit beschrankter Haftung
Filed Nov. 23, 1964, Ser. No. 413,043
Claims priority, application Germany, Dec. 2, 1963, S 88,539
1 Claim. (Cl. 261—84)



1. An apparatus for wet dust separation comprising a rotational symmetrical housing jacket having an inlet side and an outlet side, a cover with a gas inlet connection and a liquid feed connection for the inlet side of the housing jacket, a base with at least one outlet connection for the outlet side of the housing jacket, a rotor rotatably supported within the housing jacket, a motor for driving the rotor at high speeds, the rotor constructed from a plurality of spaced apart discs each cooperating pair of which are separated by an annular partition, each annular partition mounted on the rotor in proximity to the housing jacket and being of lesser diameter than the housing jacket, vertical sharp edged flow obstructing blades mounted in spaced apart fashion on the periphery of the rotor between the spaced apart discs, the blades extending radially outward from the annular partitions to the peripheral edge of the rotor, the vertical blades engaging the annular partitions so as to partially define a plurality of outwardly open faced chambers arranged on the periphery of the rotor between cooperating pairs of spaced apart discs, wherein the vertical sharp edged blades form flow obstructions along flow paths thereby creating a vortex within the separate chambers during rotation of the rotor.

3,379,423
HEARTH FIRING APPARATUS

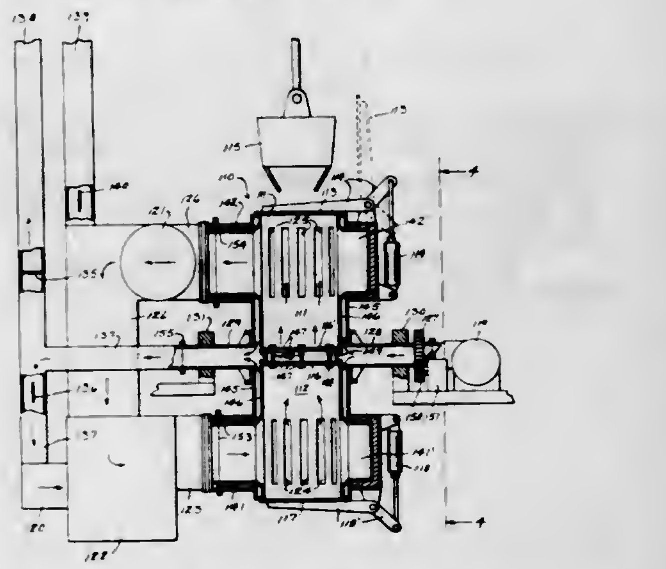
Frederick S. Bloom and Rolland L. Hoffman, both of Mount Lebanon Township, Allegheny County, Pa. (both % Bloom Engineering Co., Inc., Horning and Curry Roads, Pittsburgh, Pa. 15236)
Filed Mar. 21, 1966, Ser. No. 535,757
40 Claims. (Cl. 263—6)



Improved hearth firing apparatus is disclosed for use in the hearth structure of heat treating furnaces utilizing water cooled skid rails or the like. The skid rails leave cold streaks or skid marks on the undersides of steel slabs or the like moved thereover. Means are provided by the invention for controlling the temperature of the burners and firing troughs placed in the hearth structure and for removing scale and other debris from the troughs. The scale is removed by a series of jet structures located so as to move the scale longitudinally through the troughs to suitable clean out openings. Desirably, the temperature of the troughs is closely controlled to provide the correct amount of heat input to the skid mark areas and to prevent the melting of the loose scale.

3,379,424
SCRAP METAL PREHEATERS

David E. Dell'Agnese, Port Washington, Wis., and Townsend Tinker, Easton, Md., assignors to Modern Equipment Company, Port Washington, Wis., a corporation of Wisconsin
Continuation-in-part of application Ser. No. 538,391, Mar. 29, 1966. This application July 5, 1966, Ser. No. 562,678
10 Claims. (Cl. 263—7)

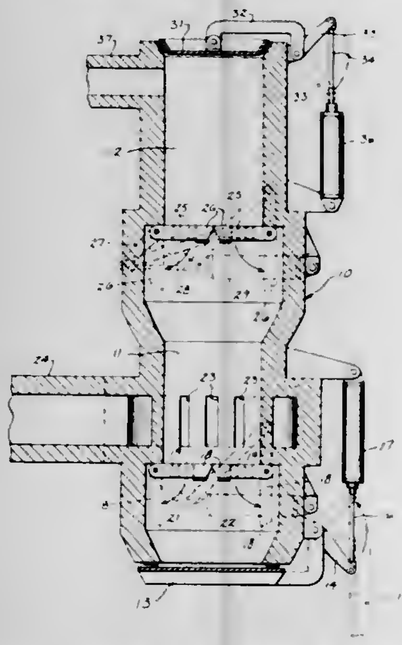


1. A scrap metal preheater, comprising: a furnace having a first scrap metal-holding compartment and having a second scrap-holding compartment thereabove; means rotatably supporting said furnace whereby it can be rotated substantially 180°; gas inlet means detachably connected to said furnace and adapted to permit the introduction of combustion gases from a source into the lower portion of said furnace to preheat a scrap charge therein, said combustion gases flowing upwardly from said lower furnace portion to partially preheat a scrap charge in the compartment thereabove; means for discharging a fully preheated scrap charge from said lower compartment; and means for rotating said furnace to shift said empty compartment to an upper position to receive a new charge of scrap metal while shifting said second compartment to a position therebelow to receive the hot combustion gases from said source, said gases heating said lower scrap charge to a desired temperature and flowing upwardly therefrom to partially preheat a charge in said upper compartment.

3,379,425
SCRAP METAL PREHEATER

David E. Dell'Agnese, Port Washington, Wis., and Townsend Tinker, Easton, Md., assignors to Modern Equipment Company, Port Washington, Wis., a corporation of Wisconsin

Filed Mar. 29, 1966, Ser. No. 538,391
2 Claims. (Cl. 263—17)

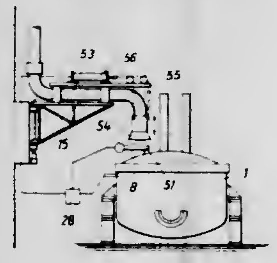


This invention relates to aligned upper and lower furnace compartments, which are a new innovation in a scrap metal preheater, with the hot gas inlet in the lower compartment only.

3,379,426
SUCTION DEVICE FOR AN ELECTRIC ARC FURNACE

Guido Reuter, Dusseldorf-Oberkassel, Walter Jesdinsky, Buderich, and Ewald Werthmoller, Strump (Lower Rhine, Germany, assignors, by mesne assignments, to Rheinstahl, ECO G.m.b.H., Hilden, Rhineland, Germany

Filed Mar. 18, 1965, Ser. No. 440,805
Claims priority, application Germany, May 21, 1964, G 40,649
14 Claims. (Cl. 266—31)

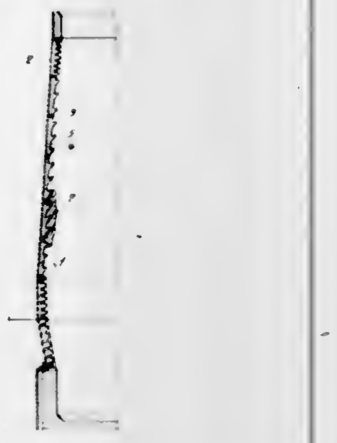


A suction device adapted for cooperating with the outlet of an electric arc furnace in which a suction pipe having adjustable nozzle means at an end thereof faces the outlet and wherein the nozzle means is displaced relative to the outlet in response to the pressure in the furnace to vary the suction force applied thereto by varying the amount of ambient air drawn into the nozzle means.

3,379,427
LINING OF THE INTERNAL SURFACE OF A BLAST FURNACE

Boris Nickolaevich Zherebin, Nickolai Vasiljevich Krepyshev, Vladimir Arsentievich Groshin, and Boris Sergeevich Berezkin, Novokuznetsk, U.S.S.R., assignors to Kuznetsky Metallurgichesky Kombinat, Novokuznetsk, U.S.S.R.

Filed Feb. 3, 1965, Ser. No. 430,023
4 Claims. (Cl. 266—32)

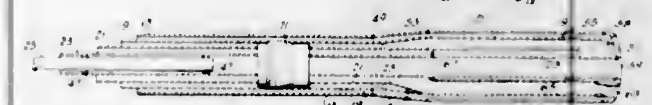


A lining for the internal surface of a blast furnace in which vertically arranged metal plates are installed in the shaft, body and boshes thereof with the plates being provided with alternate projections and recesses on the surfaces thereof facing the interior of the furnace for promoting the formation on such surfaces of a protective layer of hardened slag and cooling means within the plates.

3,379,428
LANCE APPARATUS FOR TREATING MOLTEN METALS

Alexander T. Dortenzo, Pittsburgh, and Floyd F. Standley, Beaver, Pa., assignors to Koppers Company, Inc., a corporation of Delaware

Filed Oct. 22, 1965, Ser. No. 501,692
4 Claims. (Cl. 266—34)



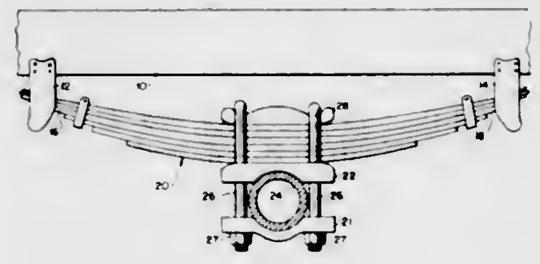
A lance for treating molten metal comprises a plurality of concentric tubular elements the innermost one of which is in fluid communication with a fixed tubular conduit that telescopes within the innermost conduit. Within the lance tip there are a plurality of individual nozzle conduits that communicate with a transition conduit in fluid communication with one of the other concentric tubular conduits.

3,379,429
AUXILIARY SPRING

Gus L. Poulos, Rochester, Mich., assignor to North American Rockwell-Standard Corporation, a corporation of Delaware

Filed July 6, 1965, Ser. No. 469,419
10 Claims. (Cl. 267—56)

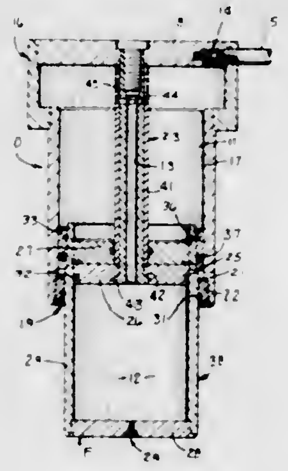
1. In a vehicle spring suspension system, a fixed member rigid with the frame of the vehicle, an axle, a resilient leaf spring member secured to said axle, said leaf spring member having an end extending below said fixed member, and an auxiliary spring leaf having a thicker end affixed to one of said members and a reducing cross section portion extending between said members to separate them and terminating in a flexible section slidably bearing on the other member, said auxiliary spring leaf being deformable to engage different portions of said members with changes in the vehicle loading.



3,379,430
TWIN PISTON PNEUMATIC SPRING

Ransom J. Hennells, Plymouth, Mich., assignor to W. E. Hennells Company, Inc., Belleville, Mich., a corporation of Michigan

Filed Jan. 17, 1966, Ser. No. 521,194
7 Claims. (Cl. 267—64)



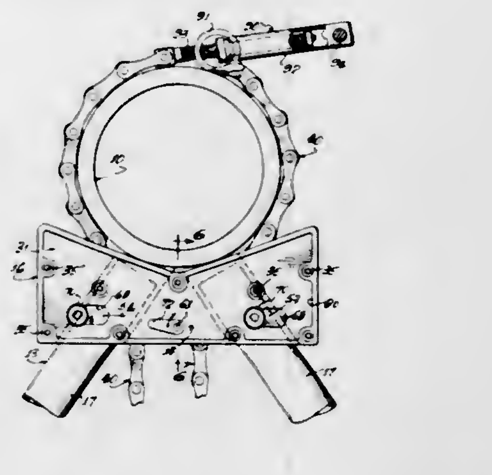
A pneumatic spring for cushioning loads having a main cylinder housing and two coaxial pistons connected together by means defining a movable piston unit slideably disposed in said main cylinder housing. Wall means are located internally of said piston unit dividing it into two interdependent fluid-tight chambers. The first of said fluid-tight chambers has means providing communication therefrom to the atmosphere. The second of said fluid-tight chambers has means providing communication therefrom to the main cylinder housing such that when the pressure fluid, such as air emanating from a single source is applied to both pistons simultaneously, the force applied to the piston unit is thereby doubled. Release of said mechanical load applied to the piston unit will permit said piston unit to automatically return to its original position due to the elasticity of the fluid contained therein.

3,379,431
WORK HORSE

John B. Gill, 2571 Via Campesina, Palos Verdes Estates, Calif. 90274

Filed Oct. 24, 1965, Ser. No. 504,940
12 Claims. (Cl. 269—130)

1. A work horse comprising:
(a) a strongback;
(b) first and second saddles affixed to the ends of said strongback;
(c) said first and second saddles being adapted for receiving support legs;
(d) each of said saddles being adapted to have a work piece mounted thereon; and,

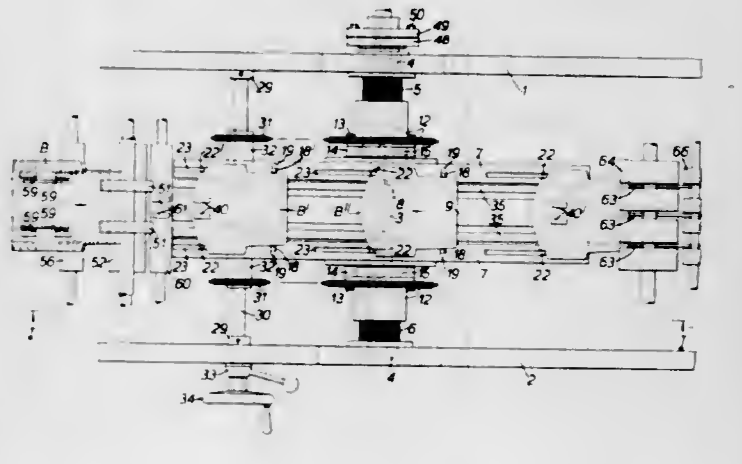


(e) chain binding means for holding a work piece to said saddles, said chain binding means being cooperatively incorporated into said first saddle, and said chain binding means comprising: first and second lengths of chains; screw feeding means for interconnecting said chain lengths; means for engaging links in the free ends of said chain lengths whereby work pieces may be held on said work horse; and means for barring said links from being engaged by said engaging means.

3,379,432
APPARATUS FOR ALIGNING ENVELOPE BLANKS AND THE LIKE

Ignaz Rüth, Gullesheim, Horhausen, Germany, assignor to Richard Winkler and Kurt Dunnebier, doing business as Winkler & Dunnebier Maschinenfabrik und Eisengiesserei, Neuwied (Rhine), Germany

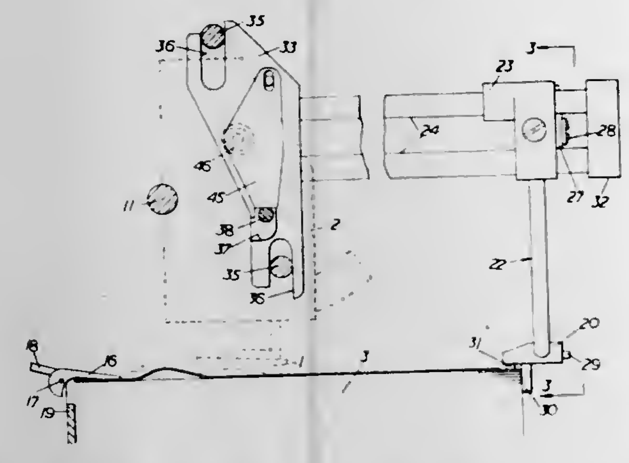
Filed June 2, 1966, Ser. No. 554,790
Claims priority, application Germany, Dec. 11, 1965, W 40,499
7 Claims. (Cl. 271—2)



Long cut-out envelope blanks are aligned by the use of pins which engage the rear cut-outs of an envelope blank and other pins which engage the front cut-outs of the envelope blank. These pins are rotated and moved toward and away from each other while other means are used to guide the envelope portions to and from these pins. The pins are moved toward each other to set the envelope portion and then are moved away from each other to release the envelope portion.

3,379,433
SHEET FEEDING MECHANISM

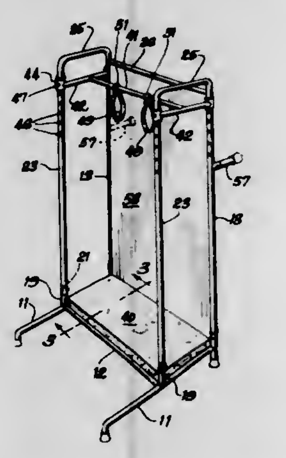
Albert George Ronald Gates, Edmonton, London, England, assignor to Gestetner Limited, London, England, a British company
Filed Feb. 15, 1966, Ser. No. 527,582
Claims priority, application Great Britain, Feb. 16, 1965, 6,643/65
10 Claims. (Cl. 271—42)



The invention provides, in a sheet feeding mechanism of the kind in which a feed element repetitively executes a movement having a forward stroke in which it advances the uppermost sheet of a stack of sheets to be fed and a rearward stroke in which it returns to its original position, a stack holding member located rearwardly of the feed element for engaging the rear end of the top of the stack and synchronised with the movement of the feed element so as to move into engaging position after the feed element has commenced each forward feeding stroke, but befor this stroke is completed, and to disengage from the stack before the next forward feeding stroke of the feed element occurs, the stack holding member being carried by a support structure and forming with the latter an attachment which fits on the mechanism by simply resting thereon under gravity so as to be readily removable from the mechanism by lifting, the stack holding member normally resting on the stack, but being lifted therefrom at the appropriate time by the interaction of means on the mechanism and attachment.

3,379,434
EXERCISING APPARATUS TO AID IN THE PRACTICE OF YOGA

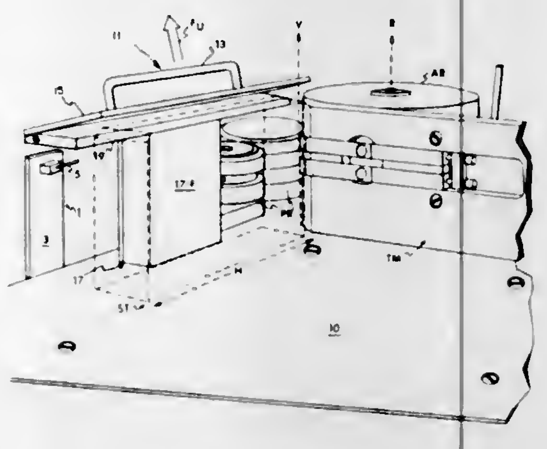
Peter J. Guzaldo, 3168 Patton Drive, Des Plaines, Ill. 60018
Filed Jan. 7, 1965, Ser. No. 424,007
3 Claims. (Cl. 272—60)



Exercise apparatus which consists of a self-supporting stand having a floor and vertical supports upstanding therefrom upon which a cross bar is adjustably arranged. The apparatus is particularly adapted for exercise wherein the user positions his body with the head down, as in certain Yoga postures.

3,379,435
DOCUMENT ALIGNMENT ARRANGEMENT

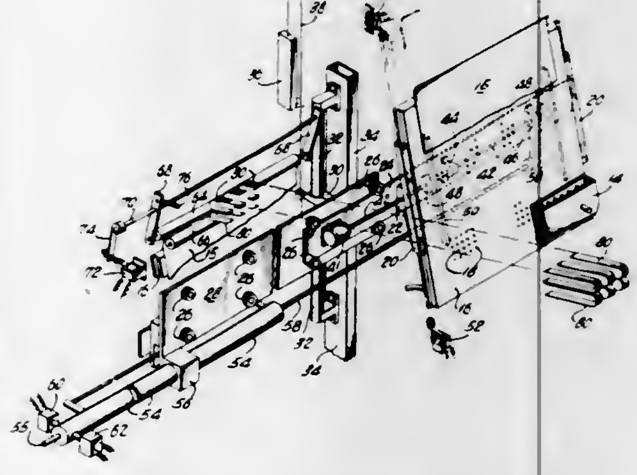
Baisel L. Eveland, Medfield, and Richard E. Seeger, Marblehead, Mass., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Dec. 23, 1965, Ser. No. 516,034
14 Claims. (Cl. 271—61)



A height-adjustable aligning assembly for referencing the top plane of a stack of cards in an "in-hopper" portion of a card handling apparatus, this assembly including a cover plate adapted to "tamp" the card stack, alignment, in the hopper, being mounted on a vertically-adjustable frame for manual height adjustment. According to embodiment features, the cover plate is made "self-clearing," away from the stack after aligning contact therewith and the frame is made "self-locating" to "hold" any selected height (such as for various card sizes) using a drag brake arrangement.

3,379,436
FILM TRANSFER AND DELIVERY APPARATUS FOR PHOTOMECHANICAL CAMERAS

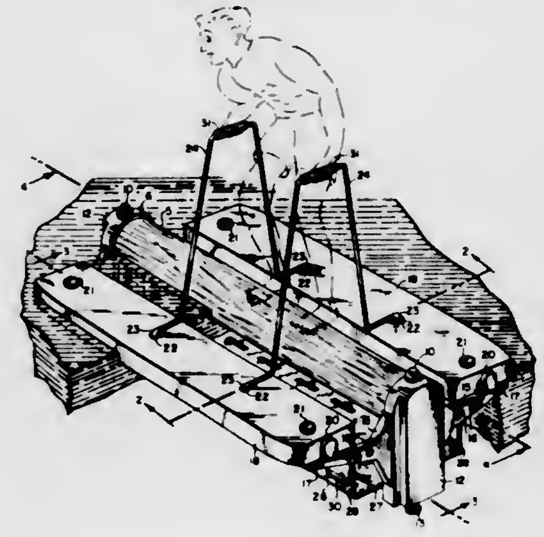
Floyd W. Flynn, Glen Cove, John L. Bjelland, Glen Head, and Norman C. Schutt, Glen Cove, N.Y., assignors to Powers Chemco, Inc., Glen Cove, N.Y., a corporation of New York
Filed Dec. 10, 1965, Ser. No. 512,897
5 Claims. (Cl. 271—74)



The invention provides apparatus for receiving a sheet of photographic film from the film holding member of a photomechanical camera, for moving the film and delivering it to a processing unit, all of the operations being carried out by remote control of the operator. The camera film holder and the film receiving member both preferably hold the film by vacuum and while the surfaces of the film holder and receiving member are closely adjacent and parallel to each other, the vacuum is discontinued to the film holder as it is applied to the film receiving member after which the film receiving member moves laterally to bring the upper edge of the film between two spaced feed rollers, which then engage the film and feed it out to the processing unit.

3,379,437
LOG ROLLING DEVICE INCORPORATING VERTICAL POSITIONING MEANS

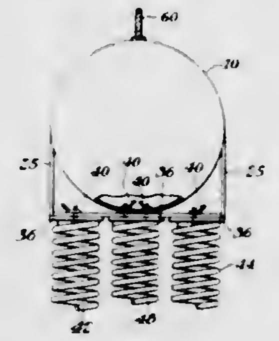
Harry A. Warner, 3842 Leafy Way, Miami, Fla. 33133
Filed Apr. 12, 1966, Ser. No. 542,020
5 Claims. (Cl. 272—1)



1. An amusement and exercise device of the character described that comprises an elongated cylindrical simulated log, the log being pivotally connected at its opposite ends to molded brackets whereby the log may be rotated in the water by the feet of an operator, the brackets being connected to elongated floats that are disposed upon opposite sides of the log and are parallel therewith, the floats being molded of flotation material, each float carrying an upstanding handle forming member and with the upper ends of the handle members being telescopic whereby to assist in maintaining the operator upon the surface of the log.

3,379,438
HOBBYHORSE

Roy A. Stewart, Newport, Nebr. 68759
Filed June 16, 1965, Ser. No. 464,415
4 Claims. (Cl. 272—52)



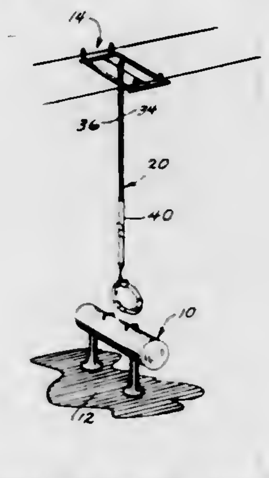
1. A hobbyhorse comprising a horizontal cylinder having a horizontal axis, a first vertical coil spring extending downward from the underside of said cylinder adjacent one end thereof, and second and third vertical coil springs extending downward from the underside of said cylinder adjacent the other end thereof, said second and third springs being positioned side by side and disposed symmetrically about said axis and means secured to said cylinder and the ends of said second and third coils adjacent said cylinder to adjust the horizontal separation between said second and third coils.

ERRATUM

For Class 272—60 see:
Patent No. 3,379,434

3,379,439
SIDE HORSE TRAINING DEVICE

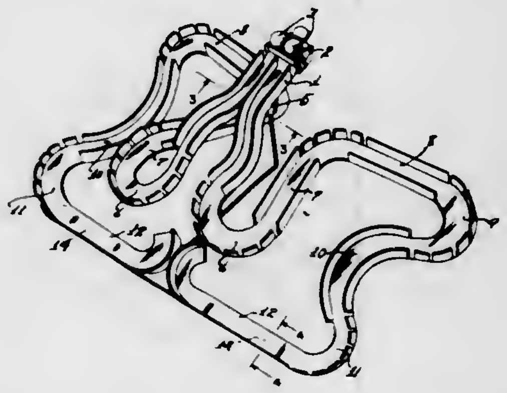
Bill W. Sorenson, Jefferson, Iowa, and Charles P. Pond, Urbana, Ill., assignors to The American Athletic Equipment Co., Jefferson, Iowa, a corporation of Iowa
Filed Apr. 2, 1965, Ser. No. 445,044
8 Claims. (Cl. 272—64)



A training device including an elongated side horse positioned on a supporting surface, a pair of spaced apart elongated track members suspended above the side horse, a carrier assembly movably connected to the track members and movable lengthwise thereof, a track element mounted on the carrier assembly and extending substantially at right angles to the track members, a suspension system movably connected to the track element and movable along its length, and a belt assembly connected to the suspension system and adapted to be secured to a gymnast. The suspension system may be elastic and therefore extendable under the weight of the gymnast.

3,379,440
COLLAPSIBLE PLASTIC MARBLE RACE GAME

Herbert Roy Jaffe, 7 Country Drive, Plainview, N.Y. 11803
Filed Feb. 3, 1965, Ser. No. 430,106
3 Claims. (Cl. 273—86)

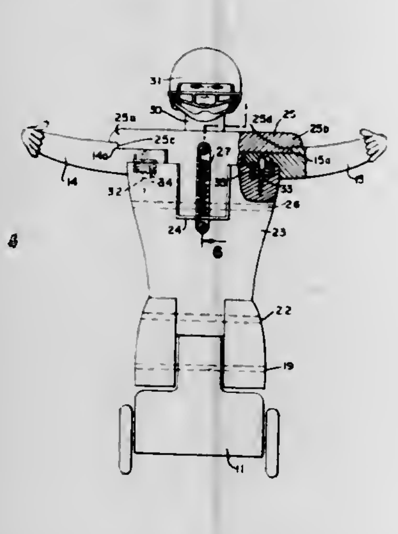


1. A raceway game, comprised of two side-by-side integrally molded raceways of flexible plastic material, one raceway being a substantial mirror image of the other, said raceway game having substantially straight juxtaposed entrance sections and raceway sections removable support means for elevating the entrance sections and raceways to cause spheres placed thereon to gravitate to low-

er ends of said raceways, the configuration of the raceway sections being such that the entrance sections and raceway sections may be made to lie co-planarly when said support means is removed, said plastic material having sufficient flexibility to allow said entrance sections to assume said elevated and co-planar positions.

3,379,441
FOOTBALL GAME WITH MOBILE PLAYERS

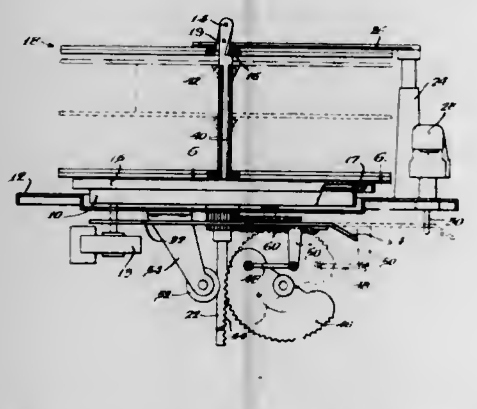
Franklin G. Feather, 331 Park Heights Blvd., and Stewart B. Millheim, R.D. 2, both of Hanover, Pa. 17331
Filed Apr. 25, 1966, Ser. No. 544,790
8 Claims. (Cl. 273—94)



1. In combination a pair of football players one of which is a substantially erect ball carrier and the other of which is a crouched tackler, mobile means supporting and moving the ball carrier over a game area, mobile means supporting and moving the tackler over the game area with his arms extended, and means associated with the head of the tackler and arms of the tackler so that upon the head of the tackler contacting the ball carrier, the arms of the tackler will close about the ball carrier and bring the ball carrier down.

3,379,442
RECORD CHANGER

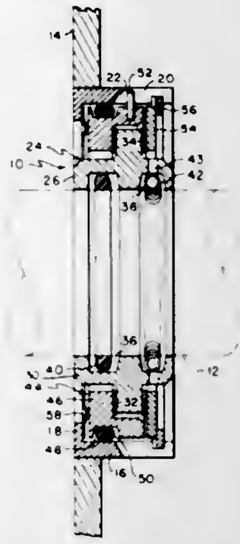
Ernest O. P. Tatter, Addison, and Paul W. Schaff, Arlington Heights, Ill., assignors to Warwick Electronics Inc., a corporation of Delaware
Filed Apr. 29, 1963, Ser. No. 276,253
15 Claims. (Cl. 274—10)



A record changer including record support structure movable relative to a spindle for lowering an ejected record in a horizontal position to a turntable structure. The turntable structure includes first and second superposed turntables, with brake means being provided to stop the uppermost of the turntables during record lowering.

3,379,443
LUBRICATING ARRANGEMENT FOR DYNAMIC SELF-CONTAINED MINIMUM ENVELOPE FACE-TYPE SEAL

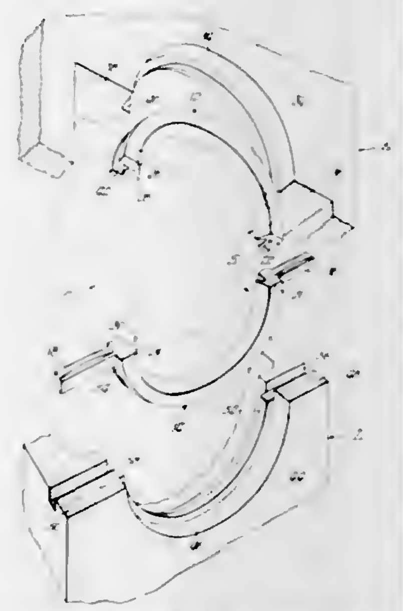
Jerald L. Park, Stratford, and Normand L. Lagasse, Bridgeport, Conn., assignors to Avco Corporation, Stratford, Conn., a corporation of Delaware
Filed Sept. 1, 1965, Ser. No. 484,319
4 Claims. (Cl. 277—40)



A face-type seal, having an axial length equivalent to that of a conventional lip seal, is lubricated by oil circulated through ports in the seal rotor and through slots in the seal casing, the slots and ports providing communications between the interior and exterior of the casing.

3,379,444
FLUID SEAL STRUCTURE

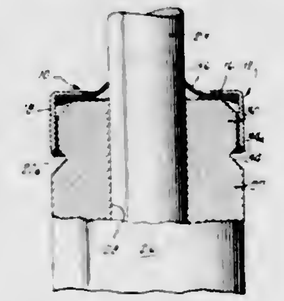
Olin Brummer and John Talamonti, Chicago Heights, Ill., assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Jan. 9, 1961, Ser. No. 81,472
5 Claims. (Cl. 277—58)



1. A liquid seal structure for use within a two-piece semi-circular shaped seal structure support having an upper parting face and a lower parting face including one of said parting faces providing a flat face and the other of said parting faces including a radially extending groove therein, two semi-circular ring-like shaft-seal portions, said shaft-seal portions having an integrally formed flexible oil retaining lip adapted to engage a rotatable shaft in liquid sealing relation therewith, said shaft-seal portions having terminal ends, a pair of oppositely extending spoke-like cross-seal portions molded integrally with and extending radially outwardly from said terminal ends of one of said shaft-seal portions, said spoke-like cross-seal portions each being adapted to be received in said groove formed in the parting face of said seal structure support, said spoke-like cross-seal portions having a raised portion of material equal to from about 2.5% to about 12.5% of the volume of said groove extending above said parting face in combination upon engagement of said upper parting face with said lower parting face, said flat face acting on said raised portion forces said spoke-like cross-seal downwardly and outwardly in said groove below said lower parting face to cause engagement of said spoke-like cross-seal with said groove at a point in said groove below said lower parting face to form a fluid-tight fit, said spoke-like cross-seal portions being adapted to prevent the passage of liquid between said parting faces in a zone between said semi-circular shaft-seal portion and said spoke-like cross-seal portions.

3,379,445
SEAL FOR AXIALLY MOVABLE ROD

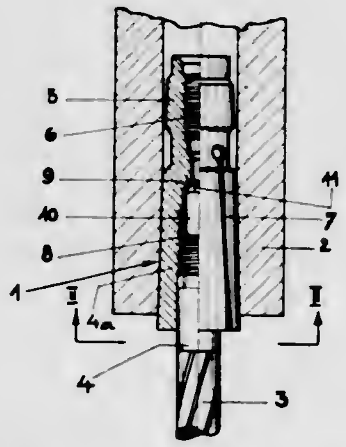
Edward W. Fisher, Palmyra, N.Y., assignor to Garlock Inc., Palmyra, N.Y., a corporation of New York
Filed Mar. 30, 1965, Ser. No. 443,827
1 Claim. (Cl. 277—178)



A rod, reciprocating within a rod-guide sleeve, is provided with a seal comprising a flexible, annular sealing element through which the rod sealingly slides, the sealing element being fixed within a cup-shaped shell at a central aperture in the bottom of the shell, and the shell being held upon a free end of said sleeve by a circumferentially continuous, resilient, marginal portion of a cylindrical wall of the shell, which portion has an inturned flange engaging within an annular groove in said sleeve.

3,379,446
COLLET CHUCK

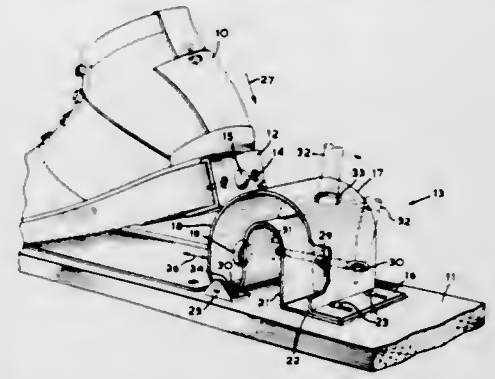
Edmo Bennati, Frasine di Mantova, Italy, assignor to Richard Glimpel, Lauf, Pegnitz, Germany
Filed May 13, 1965, Ser. No. 455,363
Claims priority, application Italy, May 15, 1964, 10,377/64
4 Claims. (Cl. 279—51)



In a collet of the type having spring fingers pulled into a tapered opening to move the fingers inwardly to clamp a tool, and provided with screw threads in its inner end to receive the threaded end of a tool to be held by the chuck, an arrester body is placed in the chuck to be engaged by the end of the tool when placed in the chuck, the arrester body bearing against an inwardly directed conical shoulder at the inner end of the chuck so that, upon release of the chuck so that, upon release of the chuck, the tool can be easily unscrewed and removed therefrom.

3,379,447
SKI SAFETY BINDING DEVICE

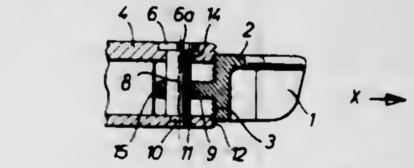
Gordon Ashton Webster, 37 Brentwood Drive, Dundas, Ontario, Canada
Continuation-in-part of application Ser. No. 459,759, May 28, 1965. This application May 19, 1966, Ser. No. 551,363
30 Claims. (Cl. 280—11.35)



1. A ski safety binding device for releasably locking a boot on a ski, the device comprising boot and ski members providing cooperating members lockably engageable with and releasably disengageable from one another upon the application between the said cooperating members of a force having a component in a plane generally transverse to the length of the ski greater than a predetermined value, the said ski member comprising a bracket portion for attaching the member to the upper face of a ski, a displaceable portion carrying the respective cooperating member and displaceable rearwardly generally parallel to the length of the ski by the said force between the boot and ski members, spring means comprising a flat non-planar spring member which is disposed with its flat surfaces extending generally longitudinally of the ski with part of the spring member extending in the direction generally parallel to the length of the ski and part of the spring member extending in the direction generally perpendicular to the said ski upper face, the spring means being so connected to the bracket portion and to the displaceable portion that the displaceable portion is displaced rearwardly by the said force against the opposition of the spring means, and constraining means operative with the displaceable member to constrain it for generally linear movement by the said force.

3,379,448
FIXING DEVICE FOR VERTICALLY ADJUSTABLE SOLE HOLDERS OF SKI BINDINGS

Günter Adam, Garmisch-Partenkirchen, Germany, assignor to Hannes Marker, Garmisch-Partenkirchen, Germany
Filed Oct. 11, 1966, Ser. No. 585,804
Claims priority, application Germany, Oct. 26, 1965, M 67,058
5 Claims. (Cl. 280—11.35)



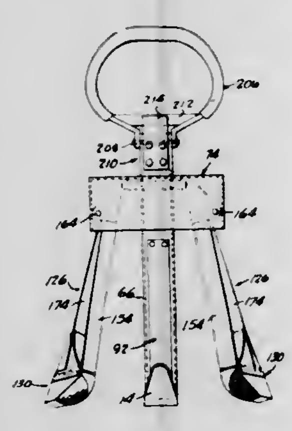
1. In a fixing device for vertically adjustable sole holders of ski bindings, in which the sole holder is provided with a series of transverse teeth on a backing sur-

face which is at right angles to the surface of the ski, with said teeth being adjustably interengageable with a mating series of transverse teeth of a retaining member, and fixing means by which the sole holder can be fixed in its vertically adjusted position against the teeth of the retaining member, the improvement comprising said fixing means comprising a clamping pin, which is rotatably and captively mounted in an eccentric position in the retaining member, and the sole holder including an extension which protrudes into an aperture of the retaining member and is embraced by the clamping pin in such a manner that the sole holder is held securely to the retaining member in one eccentric position of the clamping pin.

3,379,449

SKI

Hans A. Rass, 303 St. Lawrence Ave., Beloit, Wis. 53511
Filed Nov. 1, 1966, Ser. No. 591,296
9 Claims. (Cl. 280—12)



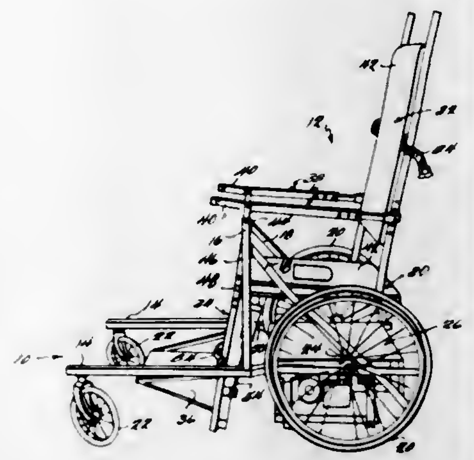
1. A ski comprising a runner having an upturned forward end portion, a ski boot fastening assembly secured upon the upper surface of the runner at a location intermediate the ends of the runner, a base secured to the runner at a location spaced between the forward end portion of the runner and said fastening assembly, said base extending above the runner, spaced upstanding front and rear standards pivoted at their lower ends on said base about substantially transverse axes, a saddle overlying the front standard, the rear standard rising above the saddle, the standards being pivoted to the saddle about substantially transverse axes, an upstanding handle connected to said saddle and standards, and outriggers extending downwardly from the saddle at opposite sides of the standards, said outriggers being pivoted adjacent to their upper ends to the saddle about substantially longitudinal axes, spring means acting between the outriggers at points above the pivotal points of the outriggers, said spring means serving to bias the lower ends of the outriggers laterally outwardly relative to the base, said outriggers normally occupying outwardly and downwardly angled positions relative to the base, and ground-engaging shoes on the lower ends of the outriggers.

3,379,450

ADJUSTABLE WHEELCHAIR DEVICE

Emerson Jones and Richard L. Large, Lincoln, Nebr., assignors to Technical Manufacturing Corporation, Lincoln, Nebr., a corporation of Nebraska
Filed Apr. 28, 1966, Ser. No. 545,960
9 Claims. (Cl. 280—36)

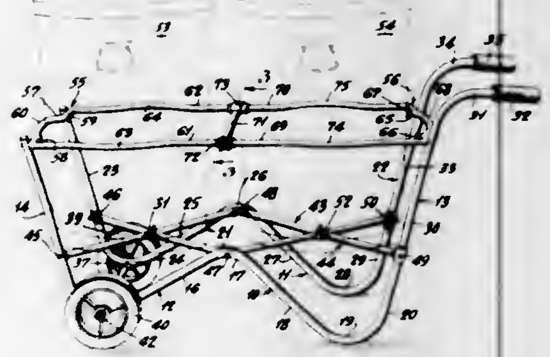
An adjustable wheelchair device is provided with a first actuating mechanism for adjusting a plurality of pivotally connected chair elements relative to one another so as to provide a range of sitting, standing or prone positions, and a second mechanism is provided for tilting the entire chair assembly about a horizontal axis of a base frame to which the chair assembly is connected. The second mechanism operates through hollow framing members of the base frame so as to provide a safer more stable operation of the chair device.



3,379,451

UTILITY CART

Thomas O. Marini, 1500 Prospect Blvd., Haddon Heights, N.J. 08035, and Louis G. Marini, 316 Springhouse Lane, Moorestown, N.J. 08057
Filed Oct. 19, 1965, Ser. No. 497,833
2 Claims. (Cl. 280—47.19)

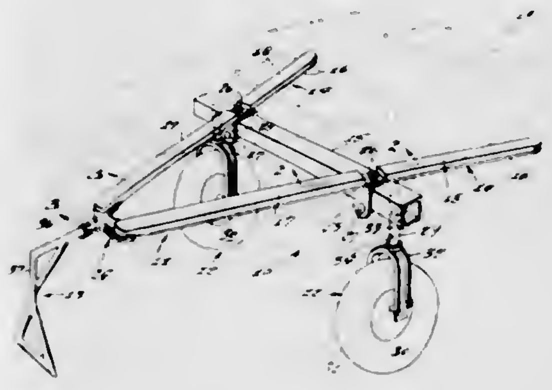


1. A utility cart formed of tubular structural elements which may be conveniently assembled and dis-assembled, said cart comprising a pair of spaced identical side frame members, each frame member comprising a body section and a handle section detachably secured together, said body section comprising an upwardly and forwardly disposed front member terminating at the lower end in a front curved portion merging into a rearwardly and upwardly inclined front side member, said front side member terminating in a central curved portion merging into a rearwardly and downwardly inclined rear side member, said rear side member terminating in a rear curved portion disposed below said front curved portion to provide ground engaging rear cart support means, said rear curved portion merging into a rearwardly and upwardly extending rear member terminating at the same height as said central curved portion, said handle section comprising a handle member detachably received on the upper end of said rear member and extending upwardly and rearwardly and terminating in a generally horizontal portion having a hand-grip thereon, said front curved portions having aligned apertures therein, an axle removably received in said apertures and projecting outwardly of said side frame members, said axle having spaced flattened areas inwardly of its respective outer ends to define enlarged portions on said axle engaging the inner sides of said side frame members to retain the same in spaced relations, ground engaging wheels mounted on said axle outwardly of said side frame members, friction caps received on the outer ends of said axle to removably retain said wheels thereon, a lower horizontal load supporting and bracing frame comprising a pair of identical tubular members detachably connected to said front members, to said central curved portions and to said rear members at the point of juncture with said handle members, said tubular members extending inwardly and being secured together intermediate said front members and said central curved portions and intermediate said central curved portions and said rear members to provide a double X structure, and an upper horizontal frame comprising front and rear generally U-shaped sections, said front section having a crossbar extending between and detachably secured to said front members adjacent the upper end, the legs of said front section extending rearwardly with at least a portion thereof projecting outwardly beyond the outer end of said axle, said rear section having a crossbar extending between and detachably secured to said handle members, the legs of said rear section extending forwardly and being detachably secured to the legs of said front section, a horizontal cross member detachably secured to the legs of said front and rear section at the point of juncture therebetween, and the legs of said front and rear section including portions which extend outwardly beyond the outer ends of the axle whereby said outer ends would not engage any gate or opening of a size to accommodate the transverse dimensions of the legs.

3,379,452

HAND-TOWABLE BOAT TRAILER

Carmelo Torrisi, 2103 62nd St., Brooklyn, N.Y. 11204
Filed June 16, 1966, Ser. No. 557,950
4 Claims. (Cl. 280—63)



A trailer for a boat comprising a horizontal A-frame having hinged legs connected to a crossbar mounted on wheels wherein the connection between the legs and the crossbar is adjustable to accommodate varying boat sizes.

This invention relates generally to boat trailers for the purpose of transporting boats by hand.

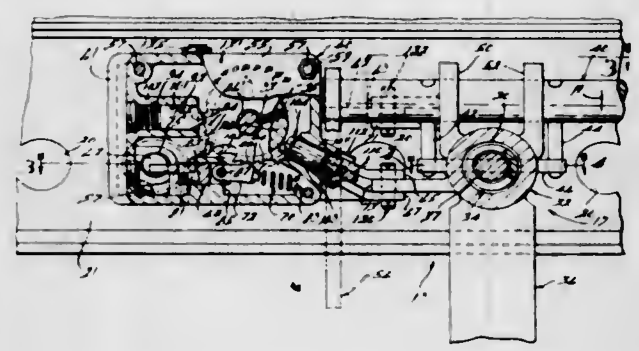
3,379,453

SYSTEM FOR INDEXING WHEEL BOGIES TO RAILS OF HEAVY-DUTY OVER-THE-ROAD SEMITRAILERS

Richard T. Fujioka, Oxford, Mich., assignor to Fruehauf Corporation, Detroit, Mich., a corporation of Michigan
Filed July 5, 1966, Ser. No. 562,834
10 Claims. (Cl. 280—81)

The disclosure relates to heavy-duty, over-the-road semitrailers and more particularly to a unique system for adjustably positioning a wheel suspension relative to a trailer body that is carried entirely by the wheel suspension.

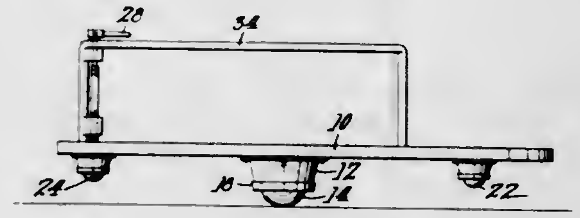
Broadly described, the present invention includes an adjusting device carried by a wheel bogie suspension unit and movable longitudinally relative to a rail fixed relative to a trailer body, said adjusting device comprising a locking mechanism having a movable pin cooperable with spaced openings in said rail for locking said wheel bogie in selected positions along said rail, means biasing said pin toward said openings, latch means for holding said pin out of locking relation with said openings, means for moving said latch means out of holding relation with said pin including an indexing mechanism movable with said locking mechanism along said rail, said indexing mechanism having a rotatable wheel, detent means cooperable with said spaced openings and adapted to effect rotation of said wheel, means movable in response to a predetermined angular position of said wheel and operatively engageable with said latch means whereby to withdraw said latch means and release said pin upon preselected movement of said adjusting device along said rail.



3,379,454

BALL SUPPORTED DEVICE

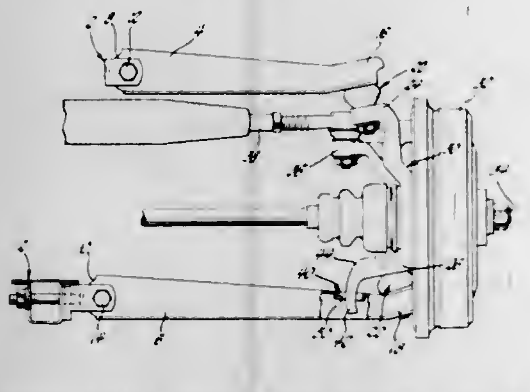
Willis M. Woodman, 27 New Vista Lane, Worcester, Mass. 01605
Filed Mar. 7, 1966, Ser. No. 532,185
3 Claims. (Cl. 280—87.04)



1. A device of the class described comprising a support, a ball, means holding the ball on the support, said ball forming means guiding the support during motion thereof relative to a supporting surface in any direction and providing for instantaneous changes of direction, the means holding the ball providing for free rolling action of the ball in any direction relative to the support, a bearing about the ball, the bearing being located in said ball holding means, the ball holding means forming an enclosure for a portion only of the ball, said bearing comprising an annular member extending about the ball closely adjacent but just above a diametrical position on the ball, bearing elements in the annular member, and a brake on the support adapted to engage the ball within the annular member.

3,379,455
INDEPENDENT DIRIGIBLE WHEEL SUSPENSION

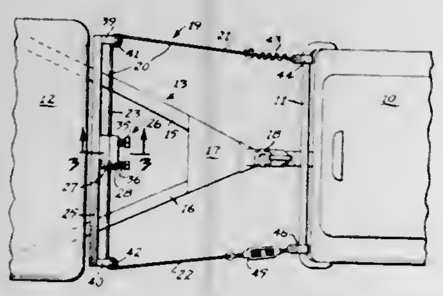
Sigurd C. Dahlstrom, deceased, late of Detroit, Mich., by Eleanor M. Dahlstrom, administratrix, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 1, 1966, Ser. No. 554,599
6 Claims. (Cl. 280—89)



1. Dirigible wheel suspension linkage for a vehicle comprising, a pair of vertically spaced generally transversely extending control arms pivotally connected at their inboard ends to said vehicle, a wheel spindle support extending vertically between and universally pivotally connected at its opposite ends to the outward ends of said control arms, means forming a cut-out portion near the outboard end of one of said arms, and projecting means on said spindle extending into said cut out and arcuately movable therein responsive to dirigible movement of said wheel, said cut-out being formed with extremities engageable by said projection means defining the limits of dirigible movement of said wheel.

3,379,456
TRAILER STABILIZER

Nelson H. Bogie, Gilbertsville, Ky. 42044
Filed July 13, 1967, Ser. No. 653,220
4 Claims. (Cl. 280—446)

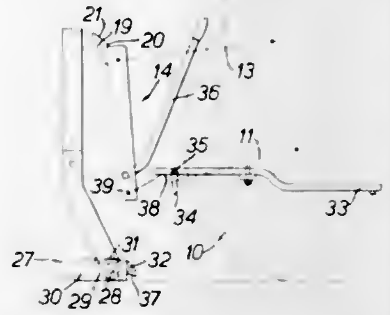


A trailer stabilizer including a flexible cable, the free ends of which are attached to one of the vehicles in a tractor-trailer vehicle tandem, a cable support mounted on the other vehicle including a cable retarding mechanism for resisting the longitudinal movement of the intermediate portion of the cable in either direction, and guide means mounted on the cable support to guide the cable from the retarding mechanism along opposite sides of and between the vehicles.

3,379,457
HITCH WITH WEIGHT-TRANSFERRING DRAWBAR COUPLING

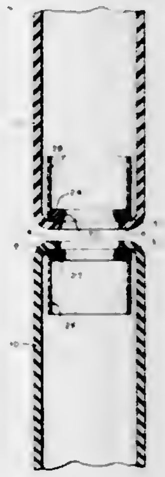
George Restall, Sutton Coldfield, and John Brian Inskip, Bilston, England, assignors to Rubery, Owen and Company, Darlaston, Wednesbury, England, a British company
Filed Mar. 16, 1966, Ser. No. 534,847
Claims priority, application Great Britain, Mar. 16, 1965, 11,095/65
7 Claims. (Cl. 280—479)

In hitching means for a tractor and an implement means are provided for transferring to the tractor at least that part of the weight of the implement normally taken by hydraulic power means on the tractor.



3,379,458
AXIALLY ALIGNED IDENTICAL HALF FLEXIBLE HOSE CONNECTING MEANS

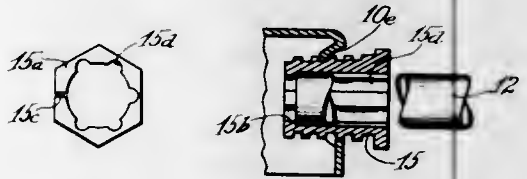
Nelson A. Frost, 232 Mill St., Byram, Conn. 10573
Filed Feb. 1, 1967, Ser. No. 613,196
4 Claims. (Cl. 285—70)



Where the end of one flexible hose is inserted into an identical end of another to form a connecting joint, one hose is constricted by the other and there is at the joint an increase in fluid velocity and a consequent decrease in fluid pressure. Increased fluid sealing is provided at the joint by co-axial internal sleeves which conduct static pressure upstream and/or downstream of the joint back to the joint to effect pressure sealing of the inter-engaged hose ends.

3,379,459
CONDUIT CLAMPING MEANS

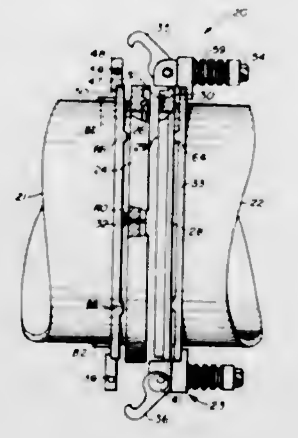
Rudolph Smid, 2844 Shakespeare Ave., Chicago, Ill. 60647
Filed Feb. 16, 1967, Ser. No. 616,657
2 Claims. (Cl. 285—158)



An electrical outlet box or the like in combination with a tubular, tapered, externally threaded, slotted clamp screw in which openings of the box are normally closed by knock-out blanks and which includes planar outer surfaces on the exterior walls facilitating assembling the boxes in gangs, the openings in the walls being surrounded by a planar surface and being formed by a rounded indentation for guiding the screw into the opening, and the rounded indentations terminating at the base of a complete pitch of a square thread formed by the edge of the opening and extending axially away from the indentation.

3,379,460
COUPLING AND SEAL FOR CONDUITS

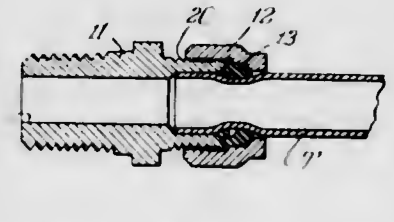
Richard J. Allyn, Bellevue, Wash., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Mar. 8, 1966, Ser. No. 534,977
9 Claims. (Cl. 285—312)



A coupling for maintaining a leak-tight seal between the flanged conduits of a vacuum system wherein the flexible collars apply uniform spring pressure to force the conduit flanges against a soft metal seal.

3,379,461
TUBE CONNECTOR

Robert F. Davis, Morton Grove, Ill., assignor to Imperial-Eastman Corporation, a corporation of Illinois
Filed Dec. 23, 1965, Ser. No. 515,938
9 Claims. (Cl. 285—341)

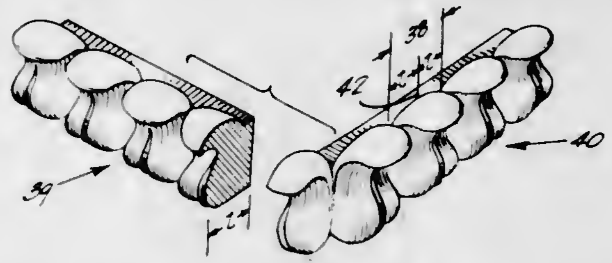


A connector for straight ended tubes including a body, a nut and a resilient sleeve which is folded from an original generally tubular configuration to define a pair of V-shaped portions extending generally transversely to the axis of the fitting to maintain an effective sealing of the tube to the fitting body against high vibration forces as well as forces tending to cause movement of the tube relative to the fitting and while effectively minimizing stresses in the tube as a result of such forces. The body includes a camming surface which guides the inner end of the sleeve into an inwardly pointed V-shaped configuration and the nut includes an outer surface which guides the outer end of the sleeve into an outwardly pointed V-shaped configuration.

3,379,462
MOLDING ASSEMBLY

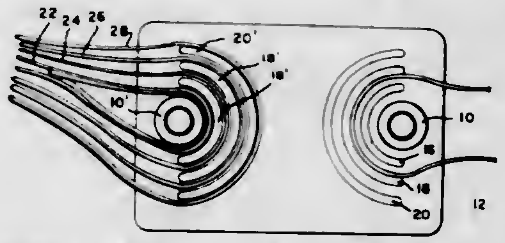
Jack D. Bortz, Beverly Hills, Calif., assignor to U.S. Polymatrix, Inc., Venice, Calif., a corporation of California
Filed Feb. 1, 1966, Ser. No. 524,232
3 Claims. (Cl. 287—20.92)

This is a juncture for a two-piece molding assembly which has a repetitive symmetrical pattern. The juncture is formed without mitering the molding but merely by cutting one of the pieces along the center line of the symmetrical pattern and abutting it to the end of the other piece which contains the other part of the symmetrical pattern.



3,379,463
BEARING MECHANISM FOR LOAD SUPPORTING MULTIPLE PLY CABLES

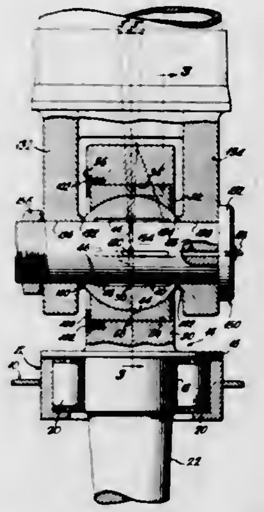
Clifton W. Marshall, 526 Driftwood Drive, and Henry J. Hunter, 1592 Desert Gardens Drive, both of El Centro, Calif. 92244
Filed Oct. 22, 1965, Ser. No. 502,744
5 Claims. (Cl. 287—63)



The elements of a multiple ply end loop of a load carrying cable are separated and separately supported by a single rigid bracket element comprising a pin and arcuate elements rigidly mounted on a plate and concentrically located with respect to the pin and to each other for dividing the load carried by the pin.

3,379,464
UNIVERSAL BOOM HEEL SUPPORT

William K. Bradshaw, Hampton, Va., assignor to Newport News Shipbuilding and Dry Dock Company, Newport News, Va., a corporation of Virginia
Filed Sept. 22, 1966, Ser. No. 581,228
1 Claim. (Cl. 287—88)

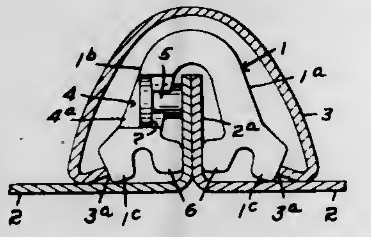


A boom heel support allows a boom to swing freely in one plane of movement and at the same time permits a limited amount of swinging movement in a perpendicular plane. A bearing means includes cooperating spherical surfaces to permit the desired swinging movement of the boom.

3,379,465

CLAMP FOR CAP MOLDINGS

Alain Raymond, Grenoble, Isere, France, assignor to A. Raymond, Lorrach, Baden, Germany, a firm
Filed Oct. 18, 1966, Ser. No. 587,511
Claims priority, application Germany, Nov. 5, 1965, R 41,917
1 Claim. (Cl. 287—189.35)

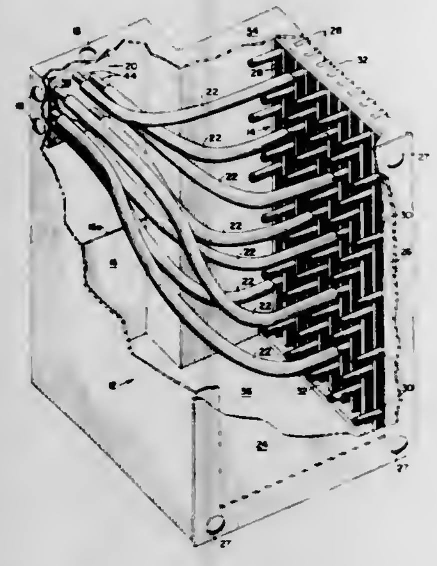


This invention is directed at a fastening device which is U-shaped in configuration having an arm with a keyhole slot adapted to engage a stud and having means of engaging a support within the area defined by the U.

3,379,466

PRESSURE-SENSITIVE LABEL RECEIVING AND APPLYING STATION

Thomas G. Hughes, Windber, Pa., assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed Sept. 7, 1966, Ser. No. 577,736
8 Claims. (Cl. 294—65)

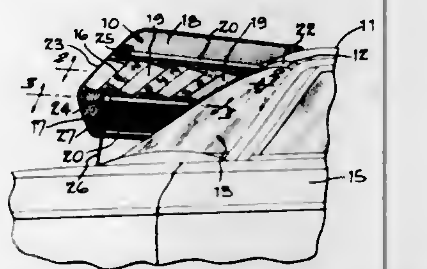


1. A label receiving and applying station comprising a vacuum housing in communication with means to maintain the air pressure therein below that of the ambient air, said vacuum housing having a grid on one side thereof formed of an open network of support members the outer surfaces of which are substantially coplanar, flexible tubing connecting means associated with said grid and comprising a multiplicity of connecting stations positioned intermediate adjacent support members, said stations each being open to the passage of ambient air therethrough when unconnected to a flexible tube, a multiplicity of lengths of flexible tubing each having one end in communication with a source of compressed air and the other end adapted to be removably attached to a said station, means for selectively controlling the flow of compressed air simultaneously into said lengths of flexible tubing, the number of said lengths of flexible tubing being substantially less than the number of said stations, whereby said other ends of said lengths of flexible tubing can be attached to an equal number of stations in varying patterns as to provide means to conveniently select the collective profile of compressed air emanating from the said other ends of said lengths of flexible tubing

3,379,467

WINDSHIELD VISOR

John B. Brush, 2 Beech Knoll Drive, Cincinnati, Ohio 45224
Filed Mar. 23, 1966, Ser. No. 536,701
7 Claims. (Cl. 296—95)



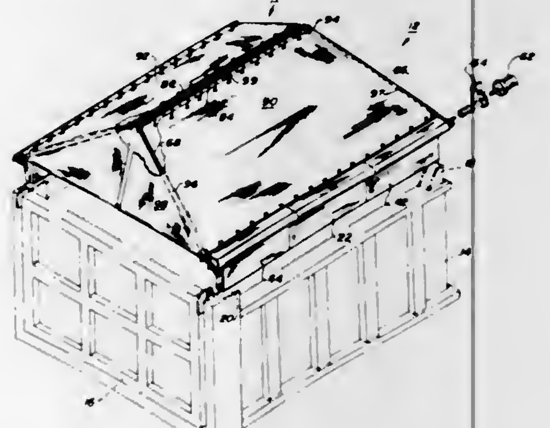
A visor structure for the windshield of a motor vehicle that includes, for example, an elongated visor extending forwardly over the windshield in a substantially horizontal manner from the top of the windshield to a point forward of the bottom of the windshield, at least two supports extending forwardly and substantially horizontally from the top of the windshield, the supports being permanently supported at one end to the vehicle and being pivotally mounted at the other end to the visor near its leading edge, a transparent plate window mounted in the visor and positioned to allow a driver of the vehicle to look upwardly and outwardly through the window, a plurality of louvers secured to the visor beneath the window in a manner that permits the driver of the vehicle to see outwardly and upwardly through the window and that prevents substantial reflection of light rays from the underside of the window into the driver's eyes.

Thus, as the vehicle moves forward at relatively substantial speeds the visor can pivot upwardly with its trailing edge being supported by the air slipstream passing between the trailing edge of the visor and the windshield and, regardless of the position of the visor, no light rays will be reflected into the driver's eyes because of the angularly disposed louvers.

3,379,468

TRUCK COVER

Cyril H. T. Woodward, 160 Howard Ave., Rochelle Park, N.J. 07662
Filed Jan. 11, 1967, Ser. No. 608,697
10 Claims. (Cl. 296—100)

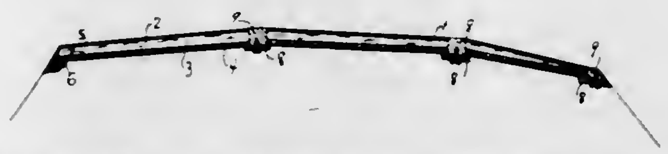


This invention pertains to a cover for dump truck bodies for hauling stone, gravel, and the like, and includes two main cover panels pivotally connected at the upper outer side of the truck body which panels at their upper or inner edge meet at an apex. Stop means is provided for limiting the inward rotational movement of the cover panels. Pivotally connected to the end members of the main cover frame are end flap members cammed into position to cover the ends of the loads as the main covers are swung to their inner covering position. The flap members are swung into alignment with the frame as the covers are swung to the side of the truck body. Rotation of the two main cover panels is by means of a hydraulic motor or the like.

3,379,469

DETACHABLE HEADLINER

Louis Elia, 11 E. Haven Drive, Scarborough, Ontario, Canada
Filed Feb. 21, 1966, Ser. No. 528,906
1 Claim. (Cl. 296—137)

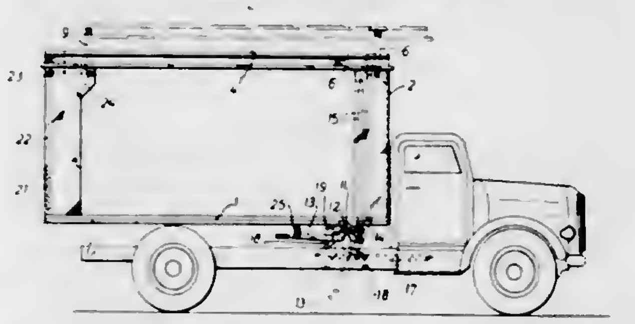


A laminated removable headliner for use in a convertible supported adjacent the convertible roof with brackets attached to the roof trusses.

3,379,470

SUPERSTRUCTURES FOR LOAD VEHICLES

Lars Börje Svante Herou, 24 Slatvarsgatan, Vastra Frolunda, Sweden
Filed July 26, 1966, Ser. No. 567,891
3 Claims. (Cl. 296—137)

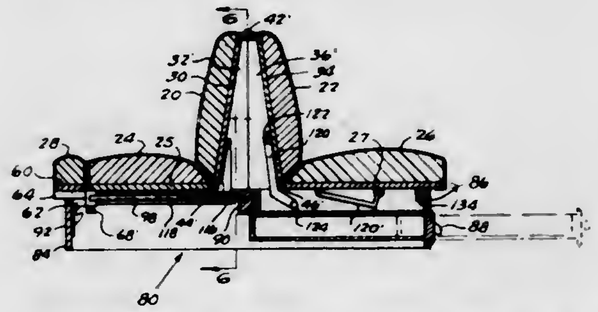


The present vehicle includes a storage compartment having a roof which can be vertically raised and lowered as desired and for this purpose includes a lever controlled shaft rotatably mounted beneath the storage compartment platform for operating links extending upwardly above said platform for pivoting arms pivotally mounted at one end on a superstructure mounted on said platform and which arms are pivotally connected to an end portion of said roof. Spring control means assist in raising said roof through connection to said shaft and also to further arms pivotally connected to said roof and superstructure at the opposite end of the superstructure.

3,379,471

PORTABLE, CONVERTIBLE CHAIR AND LOUNGE

Darrel R. Dalziel, 4208 Don Julio Blvd., North Highlands, Calif. 95660
Filed Feb. 16, 1967, Ser. No. 618,268
14 Claims. (Cl. 297—92)

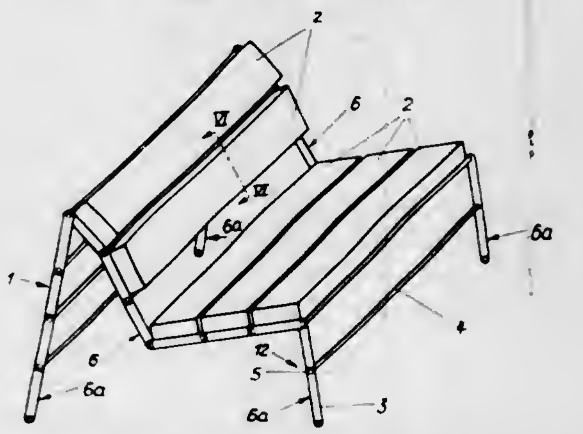


A pair of oppositely facing chair seats and backs are integrally interconnected, one of said seats being provided with an extensible member, and mounted on a support base and means are provided for linearly moving a lower end of one of the back members and pivotally moving the other of the back members to form a lounge from the seat and back members.

3,379,472

FURNITURE FOR SITTING OR LYING ON

Albert Hilfiker, 20 Poststrasse, 6300 Zug, Switzerland
Filed June 17, 1966, Ser. No. 558,453
6 Claims. (Cl. 297—118)

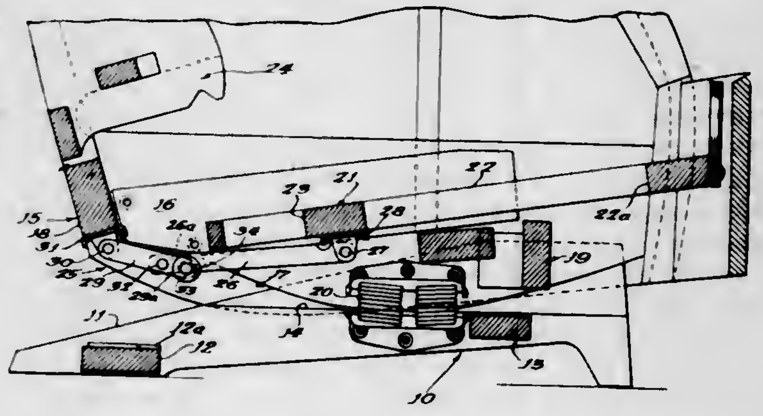


Piece of furniture with two or more stringers each composed of a multiplicity of short links with overlapping ends interconnected by cross-bars which tie the several stringers together, the overlapping ends being provided with confronting annular arrays of teeth which lockingly interengage in different relative angular positions whereby each stringer can be bent into a variety of shapes prior to final assembly. The stringers and their cross-bars form a frame supporting a set of cushioned planks which constitute a seating surface and/or a backrest.

3,379,473

ROCKER LOCK FOR RECLINING PLATFORM ROCKING CHAIR

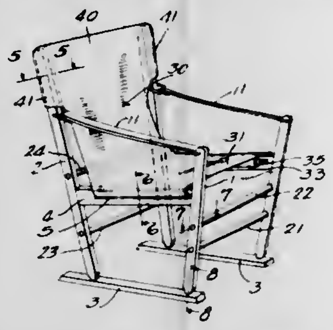
Ned W. Mizelle, High Point, N.C., assignor to General Steel Products, Inc., a corporation of North Carolina
Filed May 12, 1967, Ser. No. 638,033
4 Claims. (Cl. 297—270)



A rocker lock for reclining platform rocking chairs, in which a pair of links pivotally connected substantially end-to-end are pivotally mounted one on a movable seat and the other on the rear of the chair frame, with roller means on one of the links. The links in upright position of the chair are at a large obtuse angle, with the roller high enough that it permits normal rocking. As the chair reclines the seat approaches the rear of the chair frame and the angle of the links closes so as to move the roller onto a back bar of the platform and prevent rocking. With continued reclining the roller moves across the back bar.

3,379,474
COLLAPSIBLE CHAIR OF THE KNOCK-DOWN TYPE

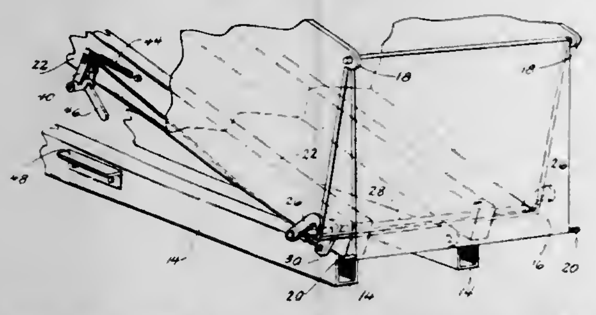
George M. Schwarz, Jr., Portland, Oreg., assignor to Gold Medal Folding Furniture Co., Racine, Wis., a corporation of Wisconsin
Filed Dec. 19, 1966, Ser. No. 602,636
4 Claims. (Cl. 297—440)



A collapsible chair having two separable side units which are held in spaced apart relationship by removable cross braces and are held on the cross braces by a unity seat and back member of canvas or other flexible fabric.

3,379,475
TAILGATE CONTROL DEVICE

Leonard E. Holland, 1907 5th Ave. S., Fort Dodge, Iowa 50501
Filed Nov. 26, 1965, Ser. No. 509,701
1 Claim. (Cl. 298—23)

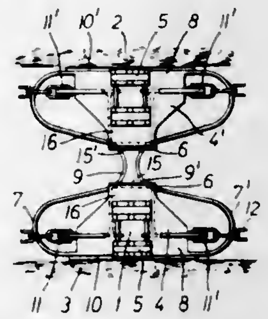


A vehicle having a frame, a box pivotally connected at one end to the rear end of the frame, a door pivoted to the rear end of the box and extending downwardly from the pivotal axis, means for pivotally raising and lowering the box, a shaft extending transversely of the rear end of the box and having hook elements secured thereto for releasably engaging laterally outwardly extending pins carried on the lower end of said door, a lever arm extending downwardly from the shaft and connected to a forwardly extending rod which is pivotally connected to an arm extending upwardly and connected to a rotatable sleeve, said sleeve having a second arm extending rearwardly of said frame for engagement with an abutment member when said box is in its lowered position, a spring means for normally biasing said second arm towards engagement with said abutment member and said latch means out of engagement with said door, and said hook elements being disengaged from said pins on said door upon raising said box and adapted to engage said pins upon lowering said box.

3,379,476
COAL-WINNING APPARATUS

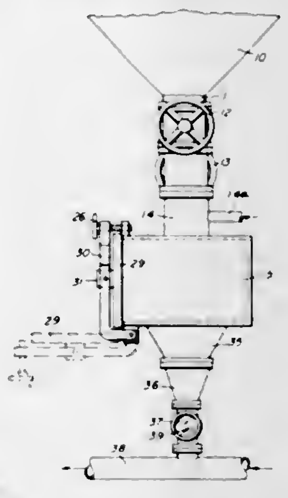
Helmut Erwien, Lunen, Westphalia, Rolf Altfelder, Lunen-Horstmar, and Ewald Bürger, Nordkirchen, Germany, assignors to Gewerkschaft Eisenhutte Westphalia, Wethmar, near Lunen, Westphalia, Germany, a corporation of Germany
Filed July 14, 1966, Ser. No. 565,153
Claims priority, application Germany, July 21, 1965, G 44,216
8 Claims. (Cl. 299—34)

1. A mineral winning apparatus which comprises a pair of planer bodies disposed for movement in unison back and forth along the length of a mine face in vertically superposed relation to each other between the mine roof and the mine floor, the lower of said planer bodies being disposed for movement in sliding contact engagement with the mine floor and for bearing a cutter means positioned for extractive engagement with the mine face to remove mineral therefrom along the lower portion thereof extending down to the mine floor, the upper of said planer bodies being disposed for movement in sliding contact engagement with the mine roof and for bearing a cutter means positioned for extractive engagement with the mine face to remove mineral therefrom along the upper portion thereof extending up to the mine roof, and spring means operatively connected to each of said planer bodies to urge them apart and into respective sliding engagement with the mine floor and mine roof for guidance thereby and to adjust continuously the vertical spacing between their associated cutter means to follow variations in the mine seam thickness.



3,379,477
FLOW CONTROL CARTRIDGE ARRANGEMENT

Charles Beckmeyer, South Magnolia, N.J., assignor to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 4, 1967, Ser. No. 628,381
10 Claims. (Cl. 302—17)

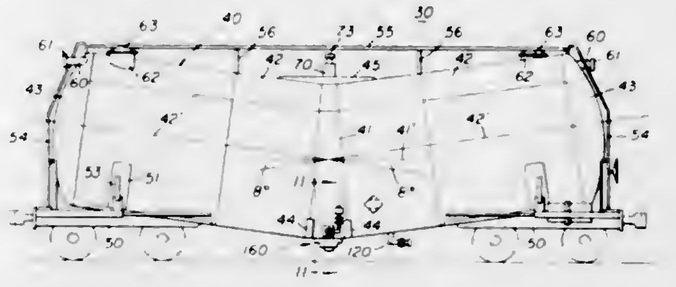


A flow control arrangement comprising an easily removable flow control cartridge which contains a strainer and orifice plate combination is provided for the continuous feeding of finely divided solids such as cracking catalysts to a solids circulation system in an essentially uninterrupted manner.

3,379,478
RAILWAY CARS FOR TRANSPORTING PULVERULENT MATERIAL LADINGS

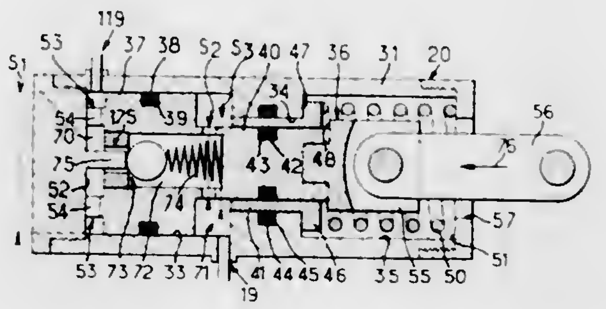
Edmund R. Aller, Gary, Ind., and Robert F. Loomis, Allentown, Pa., assignors to General American Transportation Corporation, Chicago, Ill., a corporation of New York
Filed Feb. 16, 1966, Ser. No. 527,966
29 Claims. (Cl. 302—52)

There is disclosed a railway car for transporting pulverulent material ladings, such as cement, including a body shell formed of three cylindrical sections with the two end sections inclined upwardly, stub draft sills connected to the undersides of the end sections so that the body shell carries the draft forces therethrough, aerating and fluidizing structure in the body shell for unloading the lading therefrom, and automatic valve mechanism associated with the unloading structure operable upon loss of air pressure in the body shell to close the material outlet therefrom thus positively to prevent the "bubble" effect and to prevent damage to the receiving bin.



3,379,479
DYNAMIC PRESSURE CONVERTER, ESPECIALLY APPLICABLE TO THE BRAKING SYSTEM OF AN AUTOMOBILE VEHICLE

Pierre André Georges Lepelletier, Chatou, France, assignor to Societe Anonyme Francaise du Ferodo, Paris, Seine, France, a corporation of France
Filed Jan. 4, 1967, Ser. No. 607,179
Claims priority, application France, Jan. 7, 1966, 45,143; Aug. 9, 1966, 72,515
18 Claims. (Cl. 303—22)



The present invention relates to a dynamic pressure-converter, especially applicable to braking systems of automobile vehicles, of the kind comprising a hollow body provided with at least two bores, and a piston of section S1 having an axial rod of section S2, said piston being arranged to slide in one of said bores and forming therein, on each side, a cylindrical chamber coupled to a utilization circuit such as a braking circuit. The annular chamber formed round the rod is coupled to a hydraulic control source such as a master-cylinder, while the rod slides in a second bore of the said hollow body. The piston rod is subjected to a variable orientated axial force F which is sometimes positive and sometimes negative, such as a force which is a function of the movements of the chassis of the vehicle with respect to a non-suspended point of the said vehicle. The piston comprises a controlled communication established between said chambers, said controlled communication being actuated in the direction of opening when the piston is in an extreme position of its sliding movement at which the volume of said cylindrical chamber is a minimum, said opening serving to equalize the pressure in the cylindrical chamber, known as the converted pressure, with the pressure in the annular chamber known as the control pressure. The controlled communication is actuated in the direction of closure as soon as the piston has moved by a predetermined amount from the said extreme position. A ring is slidably interposed between the piston rod and the second bore of the hollow body, the bore then having a section S3, greater than S2, and the ring is subjected to a predetermined calibration force f and is movable under the effect of the control pressure, acting against the calibration force between a first position in which it is firmly in abutment against a shoulder of the hollow body, and a second position in which it is fast in abutment against a shoulder of the piston rod, so that, when the controlled communication is closed, the rate of variation of the converted pressure is less than the rate of variation of the control pressure in a ratio equal to

$$\frac{S1-S2}{S1}$$

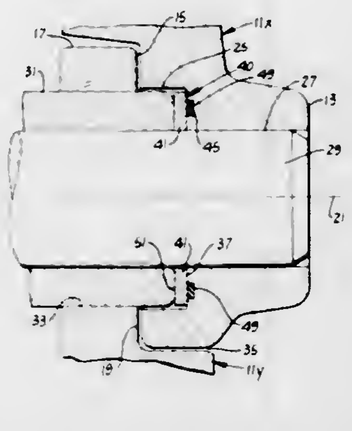
as long as the ring is fast against the hollow body, and equal to

$$\frac{S1-S3}{S1}$$

when the ring is fast in abutment with said piston rod.

3,379,480
TRACK LINK SEAL

Walter V. Storm, Rolling Hills, Calif., assignor to Westrac Company, Torrance, Calif., a corporation of California
Filed July 13, 1965, Ser. No. 471,533
6 Claims. (Cl. 305—11)

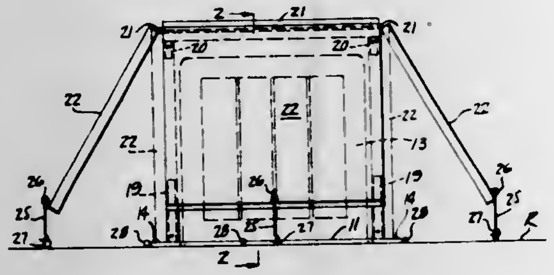


A tractor track link seal surrounds a conventional pivot pin and is located between the end of the bushing which receives the pin and the bottom of the counterbore into which the bushing projects. The seal comprises a metal washer which engages the end of the bushing and carries an annular resilient rim which fits into a circular groove in the counterbore. The depth of the groove is less than the thickness of the rim and hence the washer and bushing are biased into sealing engagement.

3,379,481
COVER FOR EXTERNAL AIR CONDITIONING APPARATUS

Jessie M. Fisher, 4724 Madison Ave., Space 63, Sacramento, Calif. 95841
Filed Oct. 20, 1965, Ser. No. 498,247
3 Claims. (Cl. 312—100)

An adjustable cover for air conditioning units which includes a rectangular base having corner studs protruding upwardly therefrom, corner posts received over the studs, a rectangular cover supported by downwardly extending studs received in the top of said posts, doors hingably secured to the sides of the cover and extending downwardly, hook and eye means for securing the covers outwardly away from the sides of the refrigeration unit or selective-

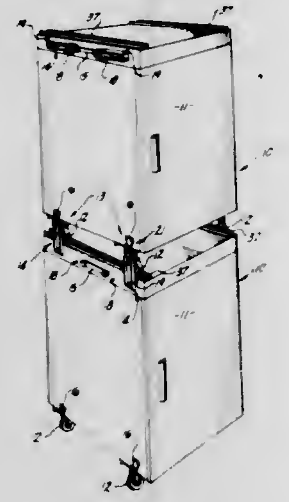


ly adjacent the sides of the refrigeration unit for permitting or excluding air in the vicinity of the refrigeration unit is disclosed.

3,379,482
LATCHING SYSTEM

George T. Baggott, Cleveland, Ohio, assignor to Crescent Metal Products, Inc., Cleveland, Ohio, a corporation of Ohio

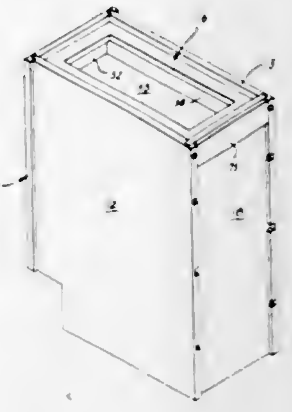
Filed July 29, 1966, Ser. No. 568,847
10 Claims. (Cl. 312—111)



1. In combination,
a pair of separate movable cabinets adapted for stacking one atop the other, and a plurality of laterally spaced latching means for positioning and releasably latching the cabinets in a stacked relationship and for limiting relative movement therebetween, each of said latching means comprising
  - a latch strike attached to one of said cabinets,
  - a latch arm storing bracket attached to the other of said cabinets,
  - a latch arm associated with said latch strike and pivotally connected to the other of said cabinets and swingable toward and away from said latch strike and said latch arm storing bracket when said cabinets are stacked, and
  - resilient tension means mounted on said latch arm for releasably connecting said latch arm to said latch strike in a resiliently-biased connection urging said latch strike toward the point of pivotal connection of said latch arm when directed toward said latch strike and restraining said separate movable cabinets against relative movement in their stacked relationship and for releasably connecting to said latch arm storing bracket for storing.

3,379,483
CABINET ASSEMBLY AND DRAWER THEREFOR

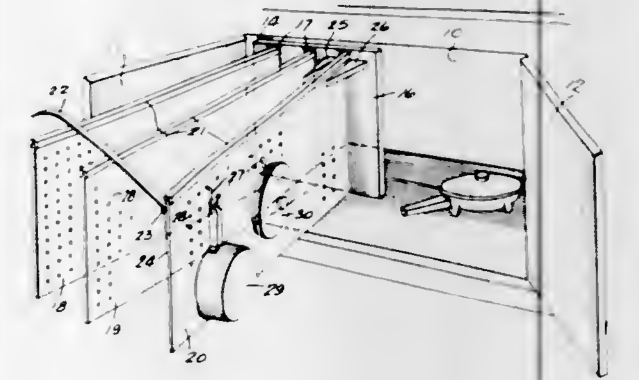
Morris V. Oldford, Chicago, Ill.
(1313 21st Ave. S., Apt. 812, Nashville, Tenn. 37212)
Filed June 1, 1966, Ser. No. 554,483
6 Claims. (Cl. 312—263)



Knockdown cabinet construction which can be assembled without the use of tools and in which the various parts interlock with each other to eliminate the need for fasteners such as nails.

3,379,484
PIVOTED RACK FOR UTENSILS AND THE LIKE

Ralph C. Kling, 4220 N. 42nd St.,
Milwaukee, Wis. 53216
Filed Aug. 5, 1966, Ser. No. 570,505
2 Claims. (Cl. 312—300)



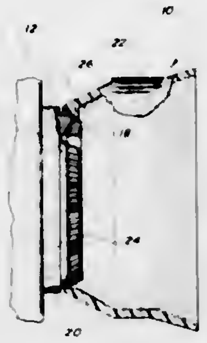
A pivoted rack for a cupboard including a vertical plate member pivoted on a vertical axis just within the front of an end wall of the cupboard and adapted to swing back inwardly against said end wall, and a plurality of pivoted vertical plate members spaced thereon and apertured to accommodate hanger hooks for utensils.

3,379,485
FLEXIBLE LENS HOOD WITH ANNULAR ATTACHING MEANS

Kurt Steisslinger, Stuttgart, Germany, assignor to Eastman Kodak Company, Rochester, N.Y.
Filed Nov. 29, 1963, Ser. No. 327,878
4 Claims. (Cl. 350—58)

1. A lens hood adapted to be detachably mounted on a photographic camera having a lens mount provided with a peripheral annular groove, comprising:
a hollow body formed of a flexible material, said body having an open ended generally cylindrical rear portion and an open ended front portion, said rear portion of said body being adapted to engage said lens mount when the lens hood is mounted thereon; and

a pair of inwardly projecting flanges substantially diametrically located on the rear portion of said body and adapted to be received in the annular groove of the lens mount to support said body coaxially thereon

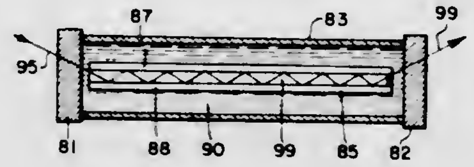


in engagement with the lens mount, said body being attachable and detachable to the lens mount by resilient flexure of said body to displace the flanges outwardly.

3,379,486
PLURAL INTERNAL REFLECTION POLARIZED LIGHT MODULATOR

Gabor Kalman Ujhelyi and Sergio Telles Ribeiro, Urbana, Ill., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

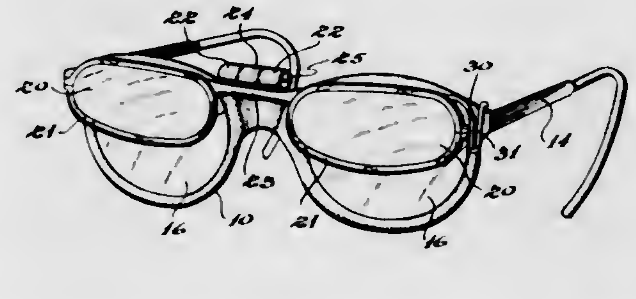
Filed Apr. 23, 1964, Ser. No. 362,214
4 Claims. (Cl. 350—150)



This invention relates to a light modulator wherein there is provided a light path in a glass medium having plane parallel internal reflecting surfaces, including a birefringent material adjacent said internally reflective surfaces and electrodes in said birefringent material to vary the index of refraction in response to the voltage applied to the electrodes thereby causing a light beam which has been passed through a light polarizer to be modulated.

3,379,487
PIVOTED AUXILIARY LENS FRAME FOR SPECTACLES WITH ADJUSTABLE WIRE BOW MEMBER SUPPORT MEANS

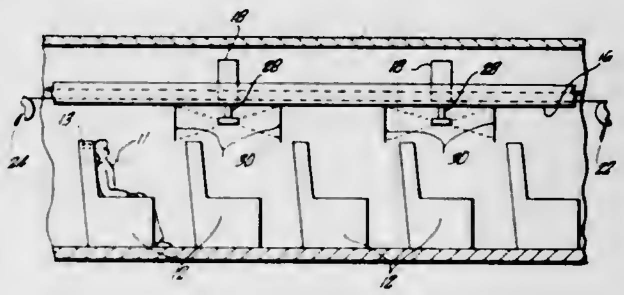
Paul D. Amundsen, Wonder Lake, Ill., assignor to Fendall Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 11, 1963, Ser. No. 329,829
1 Claim. (Cl. 351—58)



An auxiliary lens system detachably secured to conventional spectacle frames in a manner permitting pivotal movement of the auxiliary lenses about a horizontal axis adjacent the upper edge of the spectacle frame. The auxiliary system provides for pivotal motion of the lenses adjacent the center or nose bridge and provides deformable frictional attachment of the ends of the auxiliary system adjacent the flexible temple. Frictional adjustment means provide for the accurate positioning of the auxiliary lenses during use.

3,379,488
INFORMATION DISPLAY SYSTEM

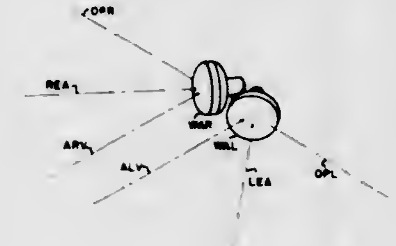
Joseph H. Lancor, Jr., Arcadia, Calif., assignor to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California
Continuation-in-part of application Ser. No. 429,091, Jan. 29, 1965. This application Sept. 8, 1965, Ser. No. 485,768
40 Claims. (Cl. 352—6)



Visually displaying information recorded on a film to a plurality of discrete audience units wherein a separate projection screen is associated with each unit and the film is serially directed through a plurality of projectors for projection onto the screens. Sound reproduction can be provided, synchronized for each unit.

3,379,489
STEREO-RAMA MOTION PICTURE MACHINE

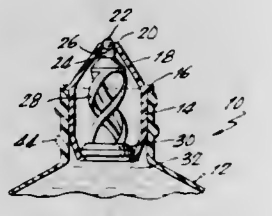
Harvey L. Ratliff, Jr., Oxon Hill, Md., assignor to Jetru Inc., Amarillo, Tex.
Filed Sept. 17, 1965, Ser. No. 488,053
16 Claims. (Cl. 352—60)



1. Stereo-rama apparatus comprising: means to project a first and second extremely wide-angle image recorded upon a film means, the up direction of said first image having a first angular disposition relative to an edge of said film and the up direction of said second image having a second angular disposition relative to said edge and a third angular disposition relative to the first said up direction, in beams with the paths of their central beams perpendicular to the plane of said first and second image, second means to divert the central beam path of the beams carrying said first image to a direction which is perpendicular to the direction of said first said up direction, third means to divert the central beam path of the beams carrying said second image to a direction which is perpendicular to the direction of the second said up direction, fourth means to divert the central beam path of the beams carrying said first image to a direction which is perpendicular to the plane of said first and second images, fifth means to divert the central beam path of the beams carrying said second image to a direction

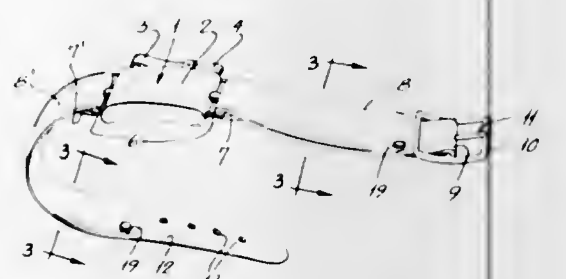
which is perpendicular to the plane of said first and second images and parallel to and laterally displaced from said corresponding central beam path of said beams carrying said first image as diverted by said fourth means, sixth means to divert the central beam path of said beams carrying said first image to a direction which is parallel to said first said up direction, whereby the resulting central beam is along the axis of a first extremely wide-angle ocular of a set of right and left eye view extremely wide-angle oculars, seventh means to divert the central beam path of said beams carrying said second image to a direction which is parallel to said second said up direction, whereby the resulting central beam is along the axis of a second extremely wide-angle ocular of said set of oculars, an eighth image forming means between said first means and said first ocular for re-forming said first image perpendicular to the central beam carrying said first image, a ninth image forming means between said first means and said second ocular for re-forming said second image perpendicular to the central beam carrying said second image, all of said means cooperating together such that said first and second images are re-formed at said eighth and ninth means image re-forming positions respectively and whereby the rays from said first and second images enter the eyes of viewing observers to create the naturally appearing sensation of stereo-peripheral re-construction greater than approximately 180° in the horizontal plane.

3,379,490
NARROW LINE APPLICATOR
Gilbert Schwartzman, 20 Wilmot Circle,
Scarsdale, N.Y. 10583
Filed Nov. 1, 1965, Ser. No. 505,791
1 Claim. (Cl. 401—214)



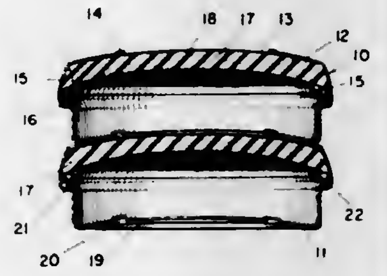
An applicator comprising a retaining ring including a hollow cylindrical body having an upwardly tapering neck terminating in an inwardly extending arcuate convex upper lip. The neck has an arcuate circular opening therein, with said lip surrounding said opening and forming a valve seat and having a ball valve member of synthetic plastic material, extending partially through said opening.

3,379,491
WRIST-LIGHTER
Hervé Houle, 55 Belanger St., Ste. Rose Station,
Laval, Quebec, Canada
Filed Feb. 11, 1966, Ser. No. 526,860
Claims priority, application Canada, Mar. 4, 1965,
924,739
2 Claims. (Cl. 431—343)



This invention concerns a wrist-lighter in which the lighter body is pivotally connected to a pair of double wall wrist straps containing, together with the lighter body, fuel-absorbing material and wick means extending from the absorbing material in the lighter body into the absorbing material in the wrist straps, whereby the wrist straps form an additional supply of fuel for the lighter.

3,379,492
POLISH CAN AND DAUBER
Charles L. Lovercheck, 632 W. 7th St.,
Erie, Pa. 16502
Filed June 11, 1965, Ser. No. 463,160
2 Claims. (Cl. 401—130)



This invention relates to shoe polish containers and, more particularly, to shoe polish containers with applicators which are fixed to and are a part of the cap of the container.

ERRATUM
For Class 431—343 see:
Patent No. 3,379,491

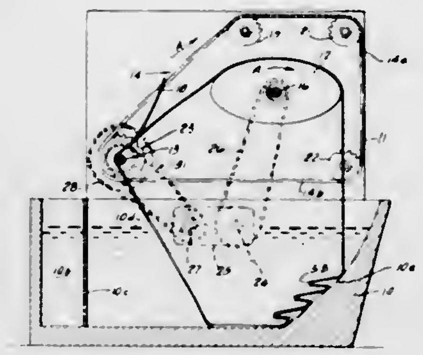
CHEMICAL

3,379,493
ACTIVATED INORGANIC BLEACHES
Karl Dithmar and Peter Koblischek, Frankfurt am Main, Germany, assignors to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany
No Drawing. Filed June 29, 1964, Ser. No. 379,025
Claims priority, application Germany, July 6, 1963,
D 41,924
5 Claims. (Cl. 8—111)

Bleaching process for textile fibers employing a peroxidic bleaching bath activated with an acylated phosphonic acid ester or an acylated phosphinic acid which contains at least one organic group bound directly to the phosphorus atom through a carbon atom and solid peroxidic bleaching compositions containing such activators.

3,379,494
METHOD FOR TREATING FABRICS IN ROPE FORM
George E. Ziegler, Balloch, Alexandria, and Gilbert I. Kilgour, Gartocharn, Scotland, assignors to United Merchants and Manufacturers, Inc., New York, N.Y., a corporation of Delaware
Original application Oct. 20, 1964, Ser. No. 405,888, now Patent No. 3,308,639, dated Mar. 14, 1967. Divided and this application Jan. 11, 1967, Ser. No. 630,154
Claims priority, application Great Britain, Jan. 24, 1964,
3,086/64
6 Claims. (Cl. 8—151.1)

This document describes a process and apparatus for treating fabric in rope form. The fabric is wound on a support in loops having a spaced side-by-side relation by conveying an end of the fabric rope around an end of the support and a convoluted guide member and with each conveyance moving a loop previously engaged in a convolution of the guide member away from the rope-end in question.



3,379,495
PRODUCTION OF SODIUM CARBONATE
Richard Brooks, Northwich, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Apr. 20, 1964, Ser. No. 361,247
Claims priority, application Great Britain, Apr. 29, 1963,
16,774/63
6 Claims. (Cl. 23—63)

1. A process for increasing the pouring density of light sodium carbonate having a pouring density of about 0.54 g./cc. comprising first absorbing an aqueous solution of caustic soda in and on particles of the light sodium carbonate to obtain a dry, free-flowing mixture of caustic soda absorbed in the light sodium carbonate, and thereafter contacting said dry mixture with an excess of carbon dioxide at about 75° C. to about 200° C. to carbonate all of the caustic soda within and upon the sodium carbonate particles of said mixture, the carbonate thus formed amounting to not more than about 10% by weight of the final product.

3,379,496
HIGH DENSITY AMMONIUM NITRATE GRANULES
Vincent J. Russo, Cincinnati, Ohio, assignor to The Chemical and Industrial Corp., Cincinnati, Ohio, a corporation of Ohio
No Drawing. Filed Oct. 8, 1965, Ser. No. 494,261
4 Claims. (Cl. 23—103)

High density, uncoated ammonium nitrate granules and prills having improved physical properties and low hygroscopicity, primarily useful as agricultural fertilizer, containing from 0.25% to 4.0% by weight of a nucleating agent uniformly dispersed therein, and not more than 0.25% by weight of water, the nucleating agent being added to molten ammonium nitrate prior to granulation or prilling and thoroughly mixed therein, the nucleating agent having an average particle size not greater than about 40 microns and being substantially insoluble in molten ammonium nitrate so as to promote the formation of small, unstressed crystals in the melt.

3,379,497
TRIPOLYPHOSPHATE PROCESSES
Edward L. Moore, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Dec. 22, 1964, Ser. No. 420,441
5 Claims. (Cl. 23—106)

A process for manufacturing an alkali metal tripolyphosphate comprising calcining a mixture of tetraalkali metal pyrophosphate, trialkali metal trimetaphosphate and ammonium nitrate at a conversion temperature below the melting point of the alkali metal tripolyphosphate, the mixture being substantially free of molecular hydrated phosphates and a similar calcining process wherein the assay of a sodium tripolyphosphate product contaminated with sodium pyrophosphate and sodium trimetaphosphates is improved by heating the product in the presence of ammonium nitrate.

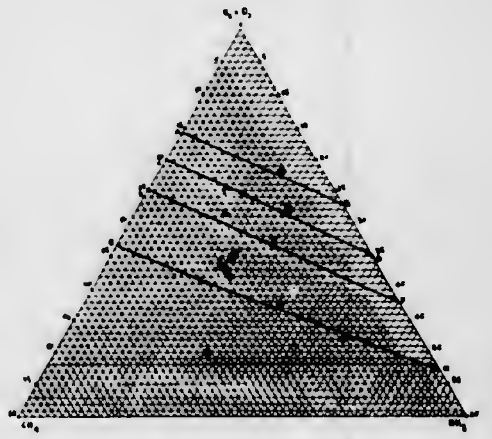
3,379,498
RECOVERY OF POTASSIUM FROM PHOSPHATES
Maria G. Dunseth, Phoenix, and Murrell L. Salutsky, Silver Spring, Md., assignors, by direct and mesne assignments, of one-half to W. R. Grace & Co., New York, N.Y., and one-half to the United States of America as represented by the Secretary of the Interior
No Drawing. Filed Apr. 19, 1965, Ser. No. 449,342
4 Claims. (Cl. 23—107)

Potassium is separated from magnesium potassium phosphate by digesting a slurry of the magnesium potassium phosphate in hot water whereby a potassium phosphate solution is formed.

3,379,499
PRODUCTION OF ATTRITION RESISTANT ALUMINA PARTICLES
Reno W. Moehl, Evanston, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Dec. 19, 1963, Ser. No. 331,934
8 Claims. (Cl. 23—141)

Preparation of attrition resistant alumina particles by spray drying of amorphous alumina precipitate having a crystallite size of about 25–30 Angstroms to form alumina particles in the pseudoboehmite state, followed by calcination to complete crystallite formation.

3,379,500
PROCESS FOR THE CATALYTIC PRODUCTION OF HYDROCYANIC ACID
Francesco Albanese, Enrico Padula, and Massimo Principi, Mestre, Venezia, Italy, assignors to Montecatini-Edison S.p.A., Milan, Italy
Filed Apr. 12, 1966, Ser. No. 542,045
Claims priority, application Italy, Apr. 14, 1965,
8,265/65
2 Claims. (Cl. 23—151)



A method for the preparation of hydrocyanic acid in good yield and with high conversions, which comprises passing a gaseous mixture comprising of ammonia, methane, nitrogen and oxygen over nets of a catalyst selected from the group consisting of metals of the platinum group and alloys based upon such metals, at temperatures ranging from between about 1100° C. and 1200° C., with the molar ratios of the respective components of the gaseous mixture being as follows:

$$\frac{O_2}{O_2+N_2} \text{ from 0.270 to 0.317;}$$

$$\frac{O_2+N_2}{NH_3} \text{ from 4.8 to 3.65;}$$

$$\frac{O_2+N_2}{CH_4} \text{ from 4.55 to 2.00;}$$

$$\frac{CH_4}{NH_3} \text{ from 1.4 to 1.05.}$$

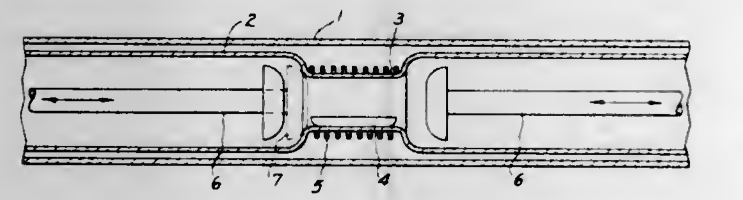
3,379,501
PHOSPHORIC ACID PURIFICATION

Theodore Leo Treitler, Millburn, and Donald S. Bunin, Metuchen, N.J., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Feb. 23, 1965, Ser. No. 434,631
5 Claims. (Cl. 23—165)

Wet acid derived phosphoric acid, obtained by acidulating a phosphatic ore with sulfuric acid, and having a concentration of from about 10 to about 30% by weight P_2O_5 is treated to remove substantial amounts of impurities by adjusting the calcium ion level of said phosphoric acid to from about 0.25 to about 3% (as CaO), adding hydrofluoric acid to said acid in amounts to react with all of the cation impurities therein, precipitating calcium fluoride along with magnesium, iron and aluminum insolubles, separating the precipitate from the supernatant phosphoric acid and recovering a phosphoric acid having substantially decreased amounts of cation impurities.

3,379,502
SINGLE CRYSTAL PHOSPHIDE PRODUCTION

Arrigo Addamiano, Willoughby, Ohio, assignor to General Electric Company, a corporation of New York
Filed Sept. 16, 1965, Ser. No. 487,829
4 Claims. (Cl. 23—204)



A method for the production of single crystal phosphides of gallium, aluminum or indium wherein a single continuous process is used to produce the phosphide and then to grow it into relatively large single crystals. The metal desired in the phosphide is reacted with zinc phosphide to produce metal phosphide, and zinc and any residual zinc phosphide are removed from the location of the reaction by volatilization. The metal desired in the phosphide is supplied in excess so that after volatilization of the zinc and zinc phosphide the reaction mixture can be taken to an elevated temperature for growth of the metal phosphide single crystals in a bath of the metal itself, thereby avoiding deleterious impurities.

The bath is then cooled and the excess metal removed such as by leaching.

3,379,503
PROCESS FOR PREPARING TUNGSTEN MONOCARBIDE

Philip Mowry McKenna, Greensburg, Pa., assignor to Kennametal Inc., Latrobe, Pa., a corporation of Pennsylvania
Filed Nov. 12, 1965, Ser. No. 507,476
10 Claims. (Cl. 23—208)

Tungsten monocarbide (WC) is produced by reaction of a charge of tungsten ore, metallic aluminum and calcium carbide meeting certain critical conditions. First, the charge contains a tungsten ore containing from about 24 to 80 weight percent of tungsten by analysis, from 0.2 to 0.4 pound of calcium carbide per pound of tungsten in the charge, from about 0.35 to 1.6 pounds of particulate metallic aluminum per pound of tungsten in the charge, and up to 3.5 pounds of iron oxide of average 30 percent oxygen content per pound of tungsten in the charge, and within those ranges the reactants are proportioned to develop a self-sustained exothermic reaction of at least about 4450° F. as determined by calculation based upon the high temperature heat contents of WC, the reactants and the reaction products, using standard thermochemical data. Second, the batch is divided into portions of substantially uniform weight which are charged progressively to bring the charge and the reaction products to and maintain them at that temperature. Third, loss of heat from the reaction body is minimized during the reaction, and fourth it is essential that a reducing condition exist at the completion of the reaction, i.e. there must remain an excess of calcium carbide and metallic aluminum. At the end of the reaction the mass is cooled and a lower, heavier layer of crystal mass is separated from an upper slag layer. The use of a small amount of elemental carbon may be desirable to insure complete conversion of W to WC. The crystal mass is crushed, washed with water to remove residual calcium carbide, and treated with solvents of free iron, manganese and aluminum with production of crystalline WC containing not over about 2 percent of iron, which can be lowered to about 0.2 percent by treating with an appropriate solvent.

3,379,504
START-UP PROCEDURE FOR FLUIDIZED PRODUCTION OF HYDROGEN USING A NICKEL-CONTAINING CATALYST

John C. Hayes, Palatine, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Mar. 26, 1965, Ser. No. 443,086
3 Claims. (Cl. 23—212)

In the production of hydrogen by the catalytic decomposition of methane utilizing a fluidized bed of Ni-Al_2O_3 catalyst, the improved start-up of the process operation to preclude nickel disassociation from the particles and clinker formation in the system which comprises, initially heating and thoroughly drying the catalyst particles prior to catalyst reduction, then subjecting the fluidized catalyst to a controlled mild reduction with a reducing atmosphere containing not more than about 25% free hydrogen.

3,379,505
PROCESS FOR REFORMING HYDROCARBONS EMPLOYING A NICKEL-SEPIOLITE CATALYST COMPOSITION

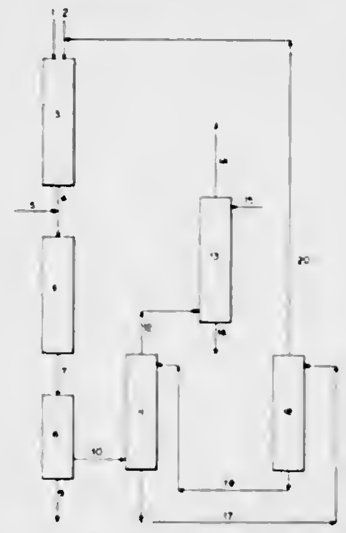
Peter Desmond Holmes, Old Greenwich, Conn., and Alan Richard Thornhill, Croydon, and Douglas Keith Nicholas, Hampton, England, assignors to the British Petroleum Company Limited, London, England, a company of England
No Drawing. Filed Apr. 22, 1965, Ser. No. 450,196
Claims priority, application Great Britain, May 12, 1964, 19,791/64
9 Claims. (Cl. 23—212)

Steam reforming of hydrocarbons and/or the further reaction of the reformed products by the shift reaction or the methanation reaction is carried out over a nickel-sepiolite catalyst. The reactions may be carried out at 250–1000° C., 0–700 p.s.i.g., 0.25–4.0 hydrocarbon space velocity, and 1.5:1–8:1 steam/carbon mole ratio. Production of hydrogen is increased by the use of temperatures of 600–1000° C.; production of methane is favored by temperatures of 250–600° C.

The feedstocks may be C_{10}–C_{20} aliphatic hydrocarbons with low sulphur contents of less than 3 p.p.m. The catalyst preferably contains 1–20% weight of nickel, more particularly, 2–10% weight.

3,379,506
BROMINE RECOVERY

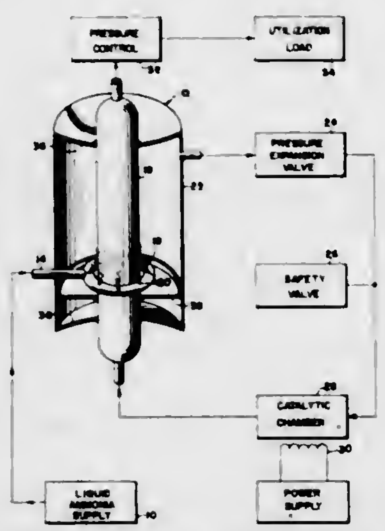
Joachim Massonne and Boris Meyer, Hannover, Germany, assignors to Kali-Chemie Aktiengesellschaft, Hannover, Germany
Filed July 1, 1965, Ser. No. 468,760
Claims priority, application Germany, July 6, 1964, K 53,394
4 Claims. (Cl. 23—216)



Hydrogen bromide in the bromination gases of fluorohydrocarbons is selectively oxidized and converted within such gases, without separation to bromine by passing the entire gas mixture over a Deacon catalyst.

3,379,507
AMMONIA VAPORIZER AND DISSOCIATOR SYSTEM

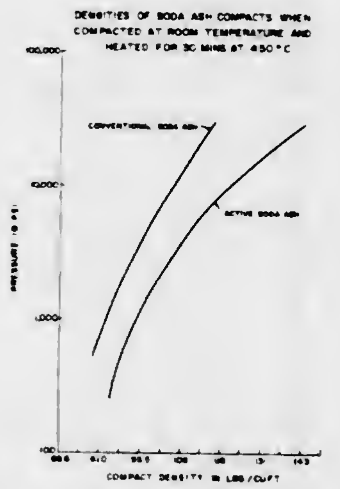
Patrick O. Becker, San Jose, Calif., and Homer M. Robey, Junction City, Oreg., assignors to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Apr. 1, 1964, Ser. No. 356,433
2 Claims. (Cl. 23—288)



In an ammonia dissociator, bell shaped or convex ends on the heat exchanger which operates under extreme temperature differentials of from 60–100° F. to 900–1000° F. have been found to eliminate most, if not all, premature structural failures caused by thermal shock. The shape of the ends causes the internal forces to work a compression rather than an expansion of the metal. Further, increased efficiency of vaporization is obtained by diffusing the liquid ammonia against a centrally disposed heating tube by means of an apertured ring surrounding the tube with holes inclined 87° from the horizontal. The elimination of thermal shock damage and efficiency is further enhanced by locating a drip pan below the diffuser ring which catches any residual cold liquid ammonia and vaporizes it.

3,379,508
ACTIVE SODA ASH COMPACTION

James A. Robertson, Levittown, Pa., assignor to FMC Corporation, New York, N.Y., a corporation of Delaware
Filed May 28, 1965, Ser. No. 459,853
6 Claims. (Cl. 23—293)



Highly dense, compact shapes of soda ash are formed from an "active soda ash," which have smaller crystallites and predominantly smaller pores than conventional soda ash, by pulverizing said "active soda ash" to about —200 mesh, compressing the pulverized "active soda ash" at substantially ambient temperatures under a pressure of at least about 200 p.s.i. into predetermined shapes and heating the compacted shapes to temperatures of at least about 350° C. until it converts to a more imporous coherent mass without melting.

3,379,509
IMINO BIS (SULFURYL HALIDE) PRODUCT AND PROCESS FOR PREPARING THE SAME

Rolf Appel, Heidelberg, Germany, assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
No Drawing. Filed Nov. 6, 1962, Ser. No. 235,829
Claims priority, application Germany, Dec. 9, 1961, A 38,991, A 38,992
5 Claims. (Cl. 23—357)

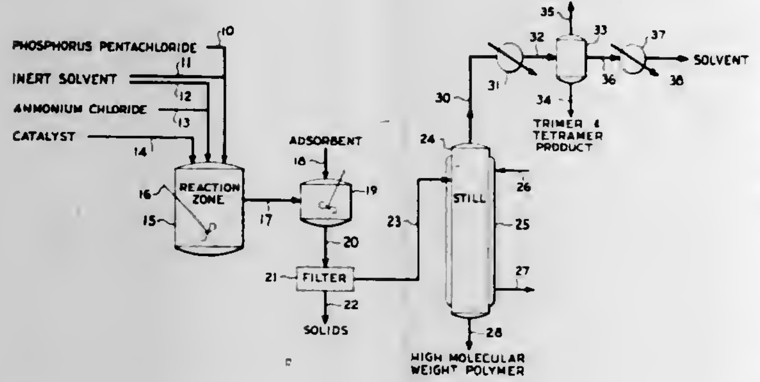
1. A composition of matter having the formula $HN(SO_2X)_2$ wherein X is selected from the group consisting of chlorine and fluorine.

3,379,510
PHOSPHONITRILIC CHLORIDE PROCESS

Daniel J. Jaszka, Tonawanda, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
Filed Aug. 14, 1962, Ser. No. 216,892
11 Claims. (Cl. 23—357)

3. The method for the preparation of mixtures of cyclic phosphonitrilic chloride trimer and tetramer which com-

prises (1) reacting phosphorus pentachloride with ammonium chloride in the presence of an inert solvent selected from the group consisting of halogenated hydrocarbons and phosphorus oxychloride, (2) forming a moving agitated film of the resulting product liquor, (3) heating said moving film, said heat being applied in an amount sufficient to form (a) a vapor phase comprising said trimer, tetramer and solvent and (b) a liquid phase comprising higher molecular weight phosphonitrilic chloride polymers, said heat being applied in amount sufficient to vaporize a substantial amount of said liquid phase, (4) separating said vapor and liquid phase, (5) passing said vapor phase to a cooling zone (6) condensing and separating the polymers from the solvent vapor, and (7) thereafter condensing the solvent vapor.



below the condensation temperature of each of said compounds.

3,379,511
PRODUCTION OF SODIUM BOROHYDRIDE

Helmut Knorre, Hainstadt am Main, Harry Kloepfer, Frankfurt am Main, and Günther Bretschneider, Gelnhausen, Germany, assignors to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

No Drawing. Filed Sept. 16, 1963, Ser. No. 309,279
Claims priority, application Germany, Sept. 25, 1962, D 39,908
7 Claims. (Cl. 23—361)

1. A process for the production of sodium borohydride which comprises heating an intimate mixture of (1) a finely divided borate composition selected from the group consisting of alkali metal borates, alkaline earth metal borates and mixtures thereof, the molar ratio of metal oxide B_2O_3 in said borate composition being less than 3:1 (2) finely divided Na_2O and (3) a finely divided reducing metal selected from the group consisting of silicon, aluminum and ferrosilicon under hydrogen at a pressure between atmospheric and about one atmosphere gauge pressure to a temperature sufficient to cause hydrogen to take up by the mixture and react therewith and maintaining a reaction temperature not exceeding about 550° C.

3,379,512
PERFLUOROBOROSILANES AND METHODS OF PREPARATION

John L. Margrave and Peter L. Timms, Houston, Tex., and Thomas C. Ehlert, Milwaukee, Wis., assignors to R. I. Patents, Inc., Houston, Tex., a corporation of Texas

No Drawing. Filed June 7, 1965, Ser. No. 462,099
7 Claims. (Cl. 23—367)

1. A perfluoroborosilane compound of the formula:

$$SiF_3—(SiF_2)_n—BF_2$$

wherein *n* is an integer greater than 0.

4. A process for preparing perfluoroborosilanes, comprising the step of condensing a mixture of gaseous boron trifluoride and gaseous silicon difluoride at a temperature below the condensation temperature of each of said compounds.

3,379,513
COMPOSITES OF BERYLLIUM-ALUMINUM-ZINC

Earl I. Larsen, Indianapolis, Ind., and Richard H. Krock, Peabody, and Clintford R. Jones, Arlington, Mass., assignors to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware

Filed May 15, 1967, Ser. No. 638,434
5 Claims. (Cl. 29—182.1)

A two phase composite material whose microstructure consists of beryllium dispersed in an aluminum-zinc-beryllium solid solution alloy matrix was produced by liquid phase sintering pressed powder mixtures of beryllium, aluminum and zinc or powder mixtures of beryllium and prealloyed aluminum-zinc.

3,379,514
COMPOSITES OF BERYLLIUM-MAGNESIUM-SILICON

Earl I. Larsen, Indianapolis, Ind., and Richard H. Krock, Peabody, and Clintford R. Jones, Arlington, Mass., assignors to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware

Filed May 16, 1967, Ser. No. 638,905
4 Claims. (Cl. 29—182.1)

A two phase composite material whose microstructure consists of beryllium dispersed in a magnesium-silicon-beryllium solid solution alloy matrix was produced by liquid phase sintering pressed powder mixtures of beryllium, magnesium and silicon or powder mixtures of beryllium and prealloyed magnesium-silicon.

3,379,515
HIGH MOLECULAR WEIGHT IMIDE SUBSTITUTED POLYMERS AS FUEL DETERGENTS

Eddie G. Lindstrom, 108 Gordon Way, Martinez, Calif. 94553, and Enver Mehmedbasich, 2061 Key Blvd., El Cerrito, Calif. 94530

No Drawing. Filed Apr. 9, 1965, Ser. No. 447,096
14 Claims. (Cl. 44—62)

Fuel detergents comprising succinimidyl substituted high molecular weight hydrocarbon polymers wherein the nitrogen substituent is a hydrocarbon group and the equivalent weight per succinimidyl group is from about 3,000 to 10,000.

3,379,516
HERBICIDAL COMPOSITIONS

James E. Esposito, Ambler, Pa., assignor to Amchem Products, Inc., Ambler, Pa., a corporation of Delaware

No Drawing. Original application Mar. 22, 1965, Ser. No. 441,881, now Patent No. 3,276,856, dated Oct. 4, 1966. Divided and this application Apr. 8, 1966, Ser. No. 541,089
3 Claims. (Cl. 71—94)

A concentrated herbicidal salt formulation of a dimethyl long-chain alkyl or alkenyl tertiary amine and 4-amino-3,5,6-trichloropicolinic acid wherein the picolinic acid is present in an amount of at least 17% over the stoichiometric amount required to form the amine salt.

3,379,517
METHOD OF MAKING METAL FOAM

Leslie G. Graper, Dallas, Tex., assignor to LOR Corporation, Enid, Okla., a corporation of Delaware

No Drawing. Filed Oct. 23, 1965, Ser. No. 504,132
3 Claims. (Cl. 75—20)

An improvement in making a metal foam body is provided which involves adding a particulate solid oxidizing agent, of which a preferred example is MnO_2, to the molten mixture from which the foam is made.

3,379,518
ALUMINUM ALLOY

Frederick John Kranich, Chicago, Ill., assignor to Alumalloy Company, Chicago, Ill., a partnership

No Drawing. Filed Mar. 8, 1966, Ser. No. 532,596
4 Claims. (Cl. 75—142)

1. An alloy consisting of about 0.05% to about 0.08% by weight beryllium, about 1.60% to about 1.68% by weight copper, about 0.10% to about 0.18% by weight silicon, about 0.42% to about 0.48% by weight nickel, about 0.20% to about 0.30% by weight silver, about 1.10% to about 1.18% by weight magnesium, about 0.15% to about 0.19% by weight titanium, and the balance being aluminum.

3,379,519
COLUMBIUM-BASE ALLOY

Gordon D. Gemmell, Wilmington, Del., assignor, by mesne assignments, to Union Carbide Corporation, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 72,846, Dec. 1, 1960. This application Dec. 11, 1961, Ser. No. 158,566
1 Claim. (Cl. 75—174)

1. A high-strength columbium-base alloy consisting essentially of, by weight, about 3% zirconium, about 5 to 18% tungsten, and up to about 0.2% in total of the elements selected from the group consisting of boron and carbon, the balance being essentially columbium.

3,379,520
TANTALUM-BASE ALLOYS

Winston H. Chang, Cincinnati, Jack W. Clark, Milford, and Gordon D. Oxx, Jr., Shaker Heights, Ohio, assignors to General Electric Company, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 359,514, Apr. 13, 1964. This application Mar. 23, 1967, Ser. No. 625,295
6 Claims. (Cl. 75—174)

Alloys of tantalum with certain ranges of rhenium and tungsten content can be provided with useful reversible precipitating phases by the addition of certain amounts of hafnium, zirconium, or both together, along with carbon and optionally also oxygen and nitrogen. This stabilizes the face-centered-cubic monometal carbide precipitates of tantalum as complex (Ta, Hf)C, (Ta, Zr)C, (Ta, Hf) (C, O, N) or their equivalents, which form very fine and efficiently strengthening precipitates, Ta_2C may also be present. These alloys have high strengths at elevated temperatures, substantial ductility at low temperatures, and can be fusion-welded without losing these characteristics.

3,379,521
COMPACTION PROCESSES

John William Butcher, Newbury, England, assignor to United Kingdom Atomic Energy Authority, London, England

Filed Apr. 4, 1966, Ser. No. 539,859
Claims priority, application Great Britain, Apr. 14, 1965, 16,125/65
6 Claims. (Cl. 75—201)

High-density beryllium compacts are made by hot-pressing beryllium powder particles which have an inert non-metallic surface layer which constitutes a barrier to the formation of beryllium-beryllium metal bonds between the particles. According to the process, a valency imbalance is caused in said surface layer by applying to the powder particles an activator element having a stable valency different from that of beryllium and having an interatomic distance not greater than permits atoms of the element to displace atoms of the metal in the lattice of the film. The element is provided in a quantity sufficient to promote diffusion of the metal through the film at the sintering temperature of the beryllium powder but is insufficient to form a distinct phase with the beryllium in the film. According to the present invention, the process is improved by hot-pressing at a temperature of below 1100° C. which prevents significant grain growth of the beryllium.

3,379,522
DISPERSOID TITANIUM AND TITANIUM-BASE ALLOYS

Milton B. Vordahl, Henderson, Nev., assignor to Titanium Metals Corporation of America, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 20, 1966, Ser. No. 558,589
7 Claims. (Cl. 75—201)

Production of titanium and titanium-base alloys embodying a submicron dispersion of a dispersoid selected from the group consisting of boron, cerium, sulphur and thorium and combinations and compounds thereof.

3,379,523
HOT-PRESSING OF DECOMPOSABLE COMPOUNDS TO FORM OXIDE-CONTAINING PRODUCTS

Asoke Chandra Das Chaklader, Vancouver, British Columbia, Canada, assignor to Canadian Patents and Development Limited, Ottawa, Ontario, Canada, a corporation of Canada

No Drawing. Filed Dec. 14, 1964, Ser. No. 418,282
8 Claims. (Cl. 75—206)

A process for producing dense hard oxide or cermet products from decomposable starting material which decomposes to yield an oxide when heated to a temperature between about 300 and 1000° C., which process includes heating said material to said decomposition temperature and at least while the decomposition is occurring, applying pressure to the material, the material being confined in a mold while it is being subjected to pressure.

3,379,524
PROCESS FOR PRODUCING CASTABLE ELECTRICAL DISCHARGE MACHINING ELECTRODE MATERIAL

Otto G. Koppius, Florence, Ky., assignor of eighty-five percent to Kopco Industries, Florence, Ky., a corporation of Kentucky, and fifteen percent to Michael Ebert, New York, N.Y.

Filed June 21, 1967, Ser. No. 647,870
5 Claims. (Cl. 75—213)

A castable electrical discharge machining electrode material fabricated by dispersing fine particles of a relatively hard, high melting insoluble element or compound in a fusible alloy to produce a castable alloy which is formed into the desired electrode shape in a heated die.

3,379,525
PRODUCTION OF METALLIC COMPACTS

John Eric Elliott and Alan Paylor Morrell, London, England, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Jan. 23, 1967, Ser. No. 610,890
3 Claims. (Cl. 75—221)

This invention provides for a method of manufacturing metallic compacts by presintering loose nickel-iron magnetic powder in a mold that has a base plate with a smooth inner surface of a refractory material of the group consisting of borosilicate glass and silica, then further sintering the formed compact in a furnace. The smooth inner surface of refractory material greatly reduces the friction between the compact and the mold thereby insuring that the metal compact would be crack free after the presintering operation is completed.

3,379,526

METHOD OF PRODUCING IMAGES BY USING ELECTROPHOTOGRAPHIC MATERIAL

Walter Limberger, Hamburg-Poppenbuttel, and Rudolph Wendt, Harksheide, Bezirk Hamburg, Germany, assignors to Lumoprint Zindler, KG., Hamburg, Germany, a corporation of Germany

Original application Mar. 5, 1963, Ser. No. 263,018, now Patent No. 3,190,200, dated June 22, 1965. Divided and this application Dec. 15, 1964, Ser. No. 425,993

Claims priority, application Germany, Mar. 3, 1962, L 41,418

6 Claims. (Cl. 96—1)

A method making a copy wherein a xerographic layer is charged electrostatically and exposed in juxtaposition with an original to form a latent image, and the latent-image carrier is formed into a composite laminate or stack with a further layer and a film of easily distillable oil; the laminate is subjected to radiant energy of an intensity and for a period sufficient to distill oil from this film onto the transfer surface (which may be a sheet of foil-like material), the oil pattern being subsequently transferred to a copy-receiving sheet which is treated with oleophilic or oleophobic coloring matter to develop an image thereon. The copy-receiving sheet can be ordinary paper.

3,379,527

PHOTOCONDUCTIVE INSULATORS COMPRISING ACTIVATED SULFIDES, SELENIDES, AND SULFOSELENIDES OF CADMIUM

Lester Corrsin, Penfield, and Arthur J. Behringer, Webster, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Sept. 18, 1963, Ser. No. 309,655

17 Claims. (Cl. 96—1.5)

16. A xerographic plate comprising a water washed, sintered layer of a compound selected from the group consisting of the sulfides, selenides and sulfoselenides of cadmium coactivated with activating proportions of a halide and a member selected from the group of copper, silver, gold and manganese, said layer having been heated to from about 20° C. to about 150° C. for a period of at least about one hour under a vacuum of from about 2.5×10^{-3} to about 10^{-5} mm. of mercury after washing, said sintered layer being deposited on a relatively conductive substrate.

3,379,528

ACTIVATOR SOLUTION REJUVENATION

Richard W. Henn and Nancy H. King, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed July 17, 1964, Ser. No. 383,517

4 Claims. (Cl. 96—28)

2. A method of photographic reproduction comprising developing an exposed substantially non-hardened gelatino silver halide emulsion layer on a support, said emulsion being not harder than a gelatin layer containing 0.7 gram of formaldehyde per pound of gelatin freshly coated, and containing a gelatin tanning silver halide developing agent and a substantially non-tanning silver halide developing agent and having on the reverse side of the support a coating containing at least 0.01 gram per square foot of lithium hydroxide, by activating the silver halide emulsion with an alkaline activating solution to obtain a hardened gelatin and silver image in the areas of the emulsion layer corresponding to the highlights of the subject and substantially unhardened gelatin, silver and silver halide in the areas of the emulsion layer corresponding to the shadows of the subject, said developing being such as to prevent any substantial tanning of the emulsion layer in said areas corresponding to the shadows of the subject, placing a sheet having an absorbent surface against said emulsion layer while said emulsion layer is moist to cause only the shadow areas of the emulsion layer to transfer only a stratum of said shadow areas of the emulsion layer to said sheet.

3,379,529

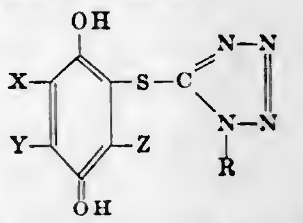
PHOTOGRAPHIC INHIBITOR-RELEASING DEVELOPERS

Ralph Frederick Porter, Judith A. Schwan, and John W. Gates, Jr., Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Feb. 28, 1963, Ser. No. 261,835

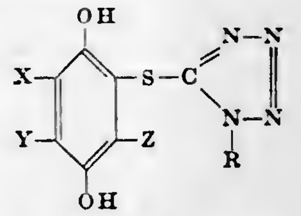
19 Claims. (Cl. 96—36)

1. A photographic element comprising a support and a photographic silver halide emulsion layer, and integral with said photographic element a water-permeable hydrophilic colloid layer containing a compound represented by the following general formula:



wherein X and Y represent a member selected from the class consisting of a hydrogen atom, alkyl groups having about 1 to 20 carbon atoms, OH, amine, an aryl group, a halogen atom, a heterocyclic group and members of a carbocyclic ring, Z represents a member selected from the class consisting of a hydrogen atom, alkyl groups having about 1 to 20 carbon atoms, OH, amine, an aryl group, a halogen atom and a heterocyclic group and R represents a member selected from the class consisting of an aryl group and a lower alkyl group.

18. A process for forming a photoresist comprising exposing a photographic silver halide emulsion layer containing a tanning silver halide developer and a compound selected from the class of compounds represented by the following general formula:



wherein X and Y represent a member selected from the class consisting of a hydrogen atom, alkyl groups having about 1 to 20 carbon atoms, OH, amine, an aryl group, a halogen atom, a heterocyclic group and members of a carbocyclic ring, Z represents a member selected from the class consisting of a hydrogen atom, alkyl groups having about 1 to 20 carbon atoms, OH, amine, an aryl group, a halogen atom and a heterocyclic group and R represents a member selected from the class consisting of an aryl group and a lower alkyl group, developing in an alkaline bath, and removing the untanned areas in warm water.

3,379,530

PROCESS FOR PROVIDING SIZE ADJUSTMENT IN VIEWING AZIMUTH DEFINING MEANS

Donald J. Howe, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Aug. 19, 1964, Ser. No. 390,698

15 Claims. (Cl. 96—40)

A process for producing a stereoscopic or changeable picture in which a lineiform photographic image is made by exposure through a lenticular screen of linearly varying pitch. A viewing screen is then superimposed over a picture made from the lineiform image, the viewing screen lenticules having a pitch which substantially matches that of the lines of the picture image.

3,379,531

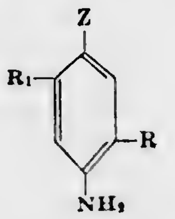
TWO-COMPONENT HEAT DEVELOPING DIAZOTYPES

Michael F. Mizianty, Binghamton, Walter J. Welch, Port Dickinson, and John J. McKinney, Binghamton, N.Y., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 30, 1965, Ser. No. 444,073

18 Claims. (Cl. 96—91)

1. Two-component diazotype photoprinting materials susceptible to development on heating, having on a surface of a support sheet a light-sensitive layer comprising an azo coupling component, a neutral to acid reacting reagent yielding an alkaline reacting compound on heating to a temperature 100 and 200° C., and a diazonium salt of a diamine having the structure



wherein Z is selected from the group consisting of piperazino, piperidino and morpholino; R and R_1 are selected from the group consisting of alkoxy, hydroxyalkoxy, and alkoxyalkoxy groups, at least one of which R and R_1 is hydroxyalkoxy.

3,379,532

IMAGE RECEIVING SHEET WITH A DOUBLE PVA-HYGROSCOPIC SALT LAYER COATING

Rudolf Wendt, Hamburg, Germany, assignor to Lumoprint Zindler K.G., Hamburg, Germany, a corporation of Germany

No Drawing. Filed July 5, 1963, Ser. No. 293,186

4 Claims. (Cl. 96—76)

In the dry production or unreversed positive prints using silver-salt diffusion, an exposed photographic silver-halide-emulsion layer is heated upon juxtaposition thereof with an image-receiving layer containing, in addition to a conventional diffused-silver-salt developer, a hygroscopic water-retentive salt from the group which consists of zinc chloride hemihydrate, lithium chloride monohydrate, potassium acetate, calcium chloride hexahydrate, zinc nitrate hexahydrate and potassium carbonate dihydrate for rendering uniform the developing step by ensuring the presence of a minimum quantity of water during this step. The image-receiving layer contains, therefore, the film former (e.g. a polyvinyl alcohol), the developer (e.g. hydroquinone), and the hygroscopic salt; an amino acid in a weight ratio to the salt of 1:40 and taken from the group of glycine, leucine and tyrosine is also preferentially included.

3,379,533

DYES DERIVED FROM 1,2 - DISUBSTITUTED - 3,5-PYRAZOLIDINEDIONES AND PHOTOGRAPHIC ELEMENTS CONTAINING SUCH DYES

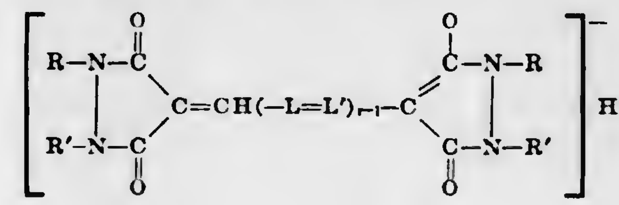
Philip W. Jenkins and Leslie G. S. Brooker, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed June 10, 1963, Ser. No. 286,449

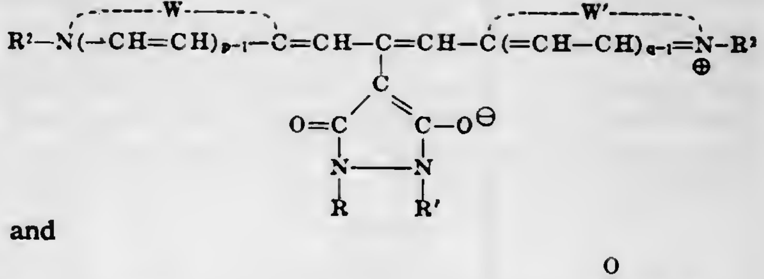
7 Claims. (Cl. 96—102)

5. A light-sensitive photographic emulsion comprising a hydrophilic colloid, silver halide and a dye selected from those having the formulas:

(I)

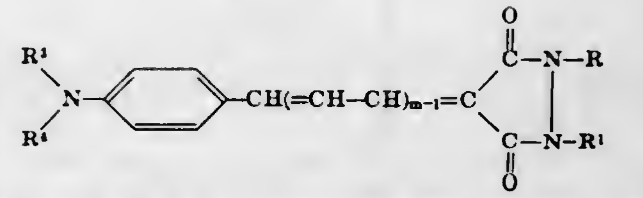


(II)



and

(III)



wherein R and R′ each represents a group selected from the class consisting of an alkyl group and an aryl group; R^2 represents a group selected from the class consisting of an alkyl group and an aryl group; L and L′ each represent a methine group; *r* represents an integer of from 1 to 3; and W and W′ each represent the nonmetallic atoms required to complete a 5 to 6 membered heterocyclic nucleus selected from nuclei of the class consisting of nuclei of the thiazole series, nuclei of the benzothiazole series, nuclei of the naphthothiazole series, nuclei of the thionaphtheno-7′,6′,4,5-thiazole series, nuclei of the oxazole series, nuclei of the benzoxazole series, nuclei of the naphthoxazole series, nuclei of the selenazole series, nuclei of the benzoselenazole series, nuclei of the naphthoselenazole series, nuclei of the thiazoline series, nuclei of the 2-quinoline series, nuclei of the 4-quinoline series, nuclei of the 1-isoquinoline series, nuclei of the 3-isoquinoline series, nuclei of the 3,3-dialkylindolenine series, nuclei of the pyridine series, and *q* represents an integer of 1–2; R^3 and R^4 represent alkyl groups and *m* represents an integer from 1 to 2.

3,379,534

PREPARATION OF A LOW DEXTRIN BEER BY USING AMYLOGLUCOSIDASE

Hersch Gablinger, Basel, Switzerland, assignor to Amylase A.G., Nidwalden, Switzerland, a corporation of Switzerland

No Drawing. Filed Aug. 17, 1965, Ser. No. 480,502

Claims priority, application Switzerland, Aug. 28, 1964, 11,271/64

9 Claims. (Cl. 99—31)

A process for preparing a beer which remains clear and substantially free from haze for at least about six months which comprises adding amyloglucosidase to the materials being brewed during the mash and/or fermentation period so as to reduce the amount of dextrins to below a major part of the dextrins which would otherwise remain in the beer, and a beer having from substantially no dextrins to less than a major part of dextrins normally present in beer.

3,379,535

MICRODISPERSIONS OF MONOGLYCERIDES AND PROCESS OF PREPARING AND USING SAME

Bert W. Landfried, Independence, Mo., and Robert M. Rapaport, Prairie Village, Kans., assignors to Top-Scor Products, Inc., Kansas City, Kans., a corporation of New York

No Drawing. Filed July 22, 1964, Ser. No. 384,538

3 Claims. (Cl. 99—91)

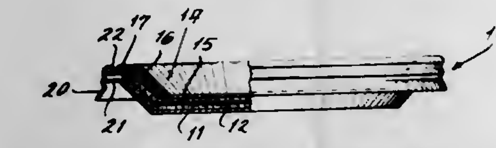
A plastic agent for incorporation into food products comprises a stable and uniform crystal dispersion of monoglyceride in water, the monoglyceride being derived from fully hydrogenated fats and characterized as having an average size of crystals of dispersion of less than approximately 20 microns, the monoglyceride to water ratio being about 1:4 by weight. The process for manufacturing such plastic agent includes mixing the water and monoglyceride at a temperature whereat a gel is formed, subjecting the gel to agitation and crystal size reducing stresses at a first transition temperature characterized by a phase change and decrease in viscosity, and rapidly cooling the mixture through a second transition temperature characterized in the absence of such cooling by water liberation and crystal agglomeration.

3,379,536
PIE CRUST PACKAGE

Gerald C. Foss, Norman D. Weaver, and William C. Hurley, Greenville, Ill., assignors to Pet Incorporated, a corporation of Delaware

Filed July 15, 1964, Ser. No. 382,784

5 Claims. (Cl. 99—172)



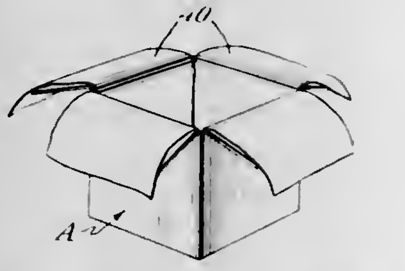
A pie crust package having a plurality of pie shells with crusts therein held in assembled relation by means of a clear plastic member dish-shaped to conform to the shape of the uppermost pie pan and having a downwardly depending flange with circular grooves to engage the peripheral edges of the pie shells and retain the pie shells in assembled spaced relation.

3,379,537
BULK BUTTER PACKAGE

Boyd W. Brandt, Minneapolis, and Walter H. Rasmussen, St. Paul, Minn., assignors to Waldorf Paper Products Company, St. Paul, Minn., a corporation of Minnesota

Filed Sept. 14, 1964, Ser. No. 396,261

2 Claims. (Cl. 99—179)



A corrugated tubular container having upper and lower closure flaps for use with a product such as bulk butter, the inner liner of the container having a moisture-proof film such as polyolefin thereon, at least the upper surfaces of the lower closure flaps having pinholes through the film and liner, the other liner being substantially imperforate.

3,379,538
TREATMENT OF DRIED FRUIT AND VEGETABLE POWDERS TO PREVENT FOAM FORMATION DURING RECONSTITUTION

Robert E. Berry and Owen W. Bissett, Winter Haven, Charles J. Wagner, Jr., Auburndale, and Matthew K. Veldhuis, Winter Haven, Fla., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Aug. 10, 1964, Ser. No. 388,733

23 Claims. (Cl. 99—199)

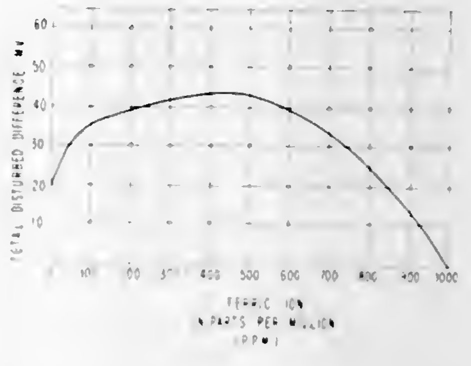
A vacuum treatment for "foam-mat" dehydrated food materials, ranging from about 1 mm. to about 5 mm. Hg absolute pressure, which treatment by virtue of effective removal of occluded air bubbles prevents the formation of air sols and the related cloudy or milky appearance characteristic of materials reconstituted without benefit of the vacuum treatment.

3,379,539
CHEMICAL PLATING

Richard S. McGrath, Hopewell Junction, and Norman W. Silcox, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 21, 1964, Ser. No. 419,669

11 Claims. (Cl. 106—1)



A process and plating bath for electrolessly plating a nickel-iron magnetic material comprising nickel ions, ferrous ions, hypophosphite ions, hydroxyl ions and ferric ions.

3,379,540
ADDITIVES TO SAND MOULDS AND CORES

Derek Priestley Helliwell, Birmingham, England, assignor to Foseco International Limited, Birmingham, England, a British company

No Drawing. Filed July 21, 1965, Ser. No. 473,851

Claims priority, application Great Britain, Aug. 20, 1964, 34,116/64; Nov. 24, 1964, 47,774/64; Dec. 31, 1964, 53,040/64

8 Claims. (Cl. 106—38.5)

Finning or veining produced on metal casting cast in sand moulds or around sand cores may be minimised by the incorporation into the sand mould or core of a proportion of colemanite or unexpanded perlite.

3,379,541
ALKALINE EARTH-METAL HYDROXYLAPATITES, PROCESSES FOR PREPARING THE SAME AND COMPOSITIONS CONTAINING THE SAME

Melvin E. Tuvell, St. Ann, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Feb. 18, 1964, Ser. No. 345,585

1. A process for preparing an alkaline earth metal hydroxylapatite having an alkaline earth metal oxide to phosphorus pentoxide molar ratio of between about 3.27:1 to about 3.37:1 and exhibiting improved mold dressing properties when dispersed in water which comprises reacting in substantially stoichiometric amounts a phosphoric acid and an alkaline earth metal source selected from the group consisting of inorganic alkaline earth metal salts, oxides, hydroxides and mixtures thereof contining moieties capable of being removed as gases under the conditions specified herein in an aqueous medium of from about 30% to about 95% by weight of the total reaction mixture under intense high shear agitation to produce an intermediate reaction product having a geometric weight mean particle diameter of less than 10 microns, and thereafter calcining said reaction product at product temperatures from about 700 to 1100° C. for a time sufficient to produce said hydroxylapatite.

6. An improved alkaline earth metal hydroxylapatite exhibiting when used as a mold dressing improved coating quality, said hydroxylapatite characterized by having an alkaline earth metal oxide to phosphorus pentoxide molar ratio of from about 3.27:1 to 3.37:1, a total ignition loss after treatment at 800° C. for one hour of less than about 1.1 weight percent, and a geometric weight

mean particle diameter of from about 1 to 10 microns with about 80 weight percent having a particle diameter of from about 1 micron to about 16 microns.

3,379,542
GLASS-CERAMICS

Peter William McMillan and Brian Purdam Hodgson, Stafford, England, assignors to The English Electric Company Limited, London, England, a British company

No Drawing. Filed May 27, 1963, Ser. No. 283,599

Claims priority, application Great Britain, Oct. 12, 1962, 38,700/62

3 Claims. (Cl. 106—39)

A glass-ceramic product consisting essentially of about 7 to 9 weight percent Li_2O, 11 to 13 weight percent ZnO, 47 to 60 weight percent SiO_2, 14 to 30 weight percent PbO, 2.4 to 2.7 weight percent P_2O_5 and 1.6 to 2 weight percent K_2O. It has been found that a glass-ceramic product of this novel composition has a very good dielectric strength and a low dielectric loss angle over a wide range of frequencies. It also has a high strength and a high thermal expansion coefficient compatible with that of copper, a low melting temperature and good working properties in the glass phase and a straight-line thermal expansion characteristic.

3,379,543
COMPOSITION AND METHOD FOR MAKING CERAMIC ARTICLES

Marshall H. Norwalk, Watkins Glen, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Mar. 27, 1964, Ser. No. 355,325

8 Claims. (Cl. 106—39)

A ceramic molding composition comprising ceramic particles, water and guar gum and a method of forming a ceramic article by mixing the above ingredients, aging the mixture and pressing the mixture at a temperature not to exceed 120° C.

3,379,544
REFRACTORY BONDING MORTAR

Richard O. Burhans, 17 Curry Hollow Road, Pittsburgh, Pa. 15236, and George H. Criss, 5939 Monogahela Ave., Bethel Park, Pa. 15102

No Drawing. Filed Mar. 7, 1966, Ser. No. 532,103

5 Claims. (Cl. 106—55)

An air setting, substantially dry, particulate mortar mixture consisting essentially of 2 to 12% of liquid phosphoric acid having a P_2O_5 content calculated as H_3PO_4 in excess of 100% and the balance at least one material selected from the group consisting of high alumina materials analyzing at least about 50% Al_2O_3, clay and zircon sands.

3,379,545
HIGH STRENGTH GYPSUM PLASTER

John D. Shull, Jr., Tonawanda, N.Y., assignor to National Gypsum Company, Buffalo, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 30, 1964, Ser. No. 355,953

10 Claims. (Cl. 106—110)

A gypsum plaster capable of providing compressive strengths in excess of 2,000 pounds per square inch within four hours after having been mixed with water and 4,000 pounds per square inch after drying consisting essentially of the following components in proper proportions: sand, a first atmospheric calcined gypsum hemihydrate having a particle size of between 3,000 and 7,000 square centimeters per gram, such as gauging plaster, board plant stucco, or moulding plaster, and a second atmospheric calcined gypsum hemihydrate having a particle size of between 8,000 and 16,000 square centimeters per gram, such as tube mill stucco.

3,379,546
PROCESS FOR IMPROVING THE SURFACE CHARACTERISTICS OF CELLULOSE HYDRATE FILMS

Erwin Debus, Wiesbaden-Biebrich, Germany, assignor to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

No Drawing. Filed Oct. 21, 1964, Ser. No. 405,600

Claims priority, application Germany, Nov. 2, 1963, D 42,847

4 Claims. (Cl. 106—193)

1. In a method of improving the surface characteristics of cellulose hydrate films in which such films are passed through an aqueous bath containing a cationically active film processing agent, the step of incorporating in such bath as an anti-blocking agent an effective amount of a stable aqueous suspension of pyrogenic silica aerogel having a particle size of less than 0.15μ obtained by intensively dispersing the silica aerogel in dry form in an aqueous solution of polyethylene imine in such proportions that the aqueous suspension contains 8 to 20% by weight of silica aerogel and 1.5 to 4% by weight of polyethylene imine, said bath also containing a softening agent for said cellulose hydrate film.

2. An antiblocking agent for use in baths employed for the processing of cellulose hydrate films consisting essentially of a stable aqueous dispersion containing 8 to 20% by weight of dispersed pyrogenic silica having a particle size of less than 0.15μ and 1.5 to 4% by weight of polyethylene imine dissolved in the aqueous phase of such dispersion.

3,379,547
DEXTRIN

John W. Huebschmann, Decatur, and Gerald F. Bramel, Niantic, Ill., assignors to A. E. Staley Manufacturing Company, Decatur, Ill., a corporation of Delaware

No Drawing. Filed Sept. 2, 1965, Ser. No. 484,757

10 Claims. (Cl. 106—210)

Acid dextrinization of a composition comprising cereal starch and a formaldehyde source and sludge free adhesive compositions comprising said dextrin and borax.

3,379,548
WATER-DISPERSIBLE ALKYDS AND ALKYD RESINS

Yun Jen, Anaheim, Calif., assignor to Chevron Research Company, a corporation of Delaware

No Drawing. Filed June 2, 1960, Ser. No. 33,366

16 Claims. (Cl. 106—245)

8. In the process for the preparation of a water-dispersible, oil-modified alkyd having an oil length up to 85 percent, which comprises condensing as reactants a material selected from the group consisting of the phthalic acids and phthalic anhydride and a glyceride oil fatty acid partial ester of a polyhydric alcohol selected from the group consisting of glycerol and pentaerithritol to a substantially low acid number, the steps of admixing with said reactants water-soluble adiphatic monoether derivative of polyethylene glycol of average molecular weight above about 300, in an amount of 5 to 30 percent, by weight, based on it and alkyd-forming reactants, and condensing the resulting mixture until a water-dispersible product is formed.

3,379,549
COMPOSITION FOR RESTORING SURFACE FINISHES

Malcolm L. Playfair, Portland, Oreg., assignor to Don Hall Laboratories, Inc., Portland, Oreg., a corporation of Oregon

No Drawing. Continuation-in-part of application Ser. No. 436,367, Mar. 1, 1965. This application Sept. 9, 1966, Ser. No. 578,148

3 Claims. (Cl. 106—265)

A substantially anhydrous liquid composition having a flash point exceeding 70° F. and consisting essentially of about 25 to 75 parts by volume volatile coating solvent which consists essentially of a mixture of about 55 to 80 parts by volume flammable solvent and about 20 to 45 parts by volume substantially non-flammable solvent, in admixture with about 75 to 25 parts by volume non-volatile liquid vehicle, functions to restore surface coatings of nitrocellulous lacquers and modified or unmodified drying oil varnishes by softening such coatings sufficiently to redistribute the latter to fill in and otherwise repair scratches and otherwise damaged or marred areas of the surface coating.

3,379,550

PARAFFIN-MICROCRYSTALLINE WAX COMPOSITION

John Podlipnik, Palos Heights, Ill., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed June 26, 1964, Ser. No. 378,449

5 Claims. (Cl. 106—270)

1. A wax composition consisting essentially of a straight chain paraffin wax having a melting point (ASTM D–87) of about 138 to 145° F.; a viscosity at 210° F. of about 38 to 42 SSU; a penetration at 77° F. (ASTM D–1321) of about 7 to 11; a refractive index at 80° C. of about 1.429 to 1.432 and a 10–90% distillation range at 760 mm. in the range of about 700 to 950° F., and about 5 to 10% by weight of a microcrystalline wax having a melting point (ASTM D–127) of about 180 to 200° F.; a penetration at 77° F. (ASTM D–1321) of about 2 to 8 and a viscosity at 210° F. of about 60 to 90 SSU.

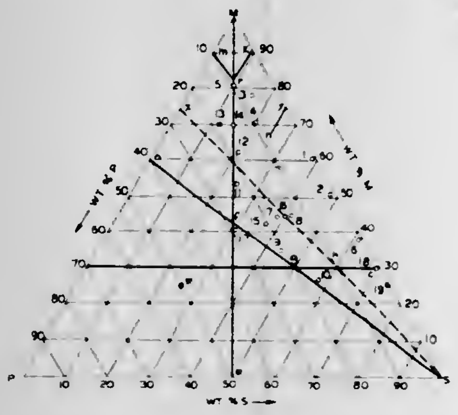
3,379,551

MORPHOLIDES OF MIXTURES OF EPOXIDIZED, SATURATED, AND POLYUNSATURATED FATTY ACIDS

Frank C. Magne, Evald L. Skau, and Robert R. Mod, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture

Original application Jan. 15, 1962, Ser. No. 166,742, now Patent No. 3,219,664, dated Nov. 23, 1965. Divided and this application Apr. 2, 1965, Ser. No. 445,284

1 Claim. (Cl. 106—316)



1. The morpholides of a mixture of epoxidized fatty acids, saturated fatty acids, and polyunsaturated fatty acids in which mixture of acids the weight proportions of saturated acids (S), epoxidized acids (E), and polyunsaturated acids (P), are such that all of the following conditions are satisfied: (1) that E/S+E is greater than about 50/100; (2) that E/P+E is greater than about 70/100; (3) that the saturated acids present in the mixture of acids are saturated acids containing from 12 to 18 carbon atoms; and (4) that the percentage of saturated acids containing at least 18 carbon atoms in said mixture of acids is less than about 17% of all the acids in the mixture.

3,379,552

IMPREGNATION OF STRETCHED MULTIFILAMENT POLYESTER SUTURE WITH POLYTETRAFLUOROETHYLENE

Leonard David Kurtz, Woodmere, N.Y., assignor to Sutures, Inc., Coventry, Conn., a corporation of New York

No Drawing. Continuation-in-part of applications Ser. No. 220,085, Aug. 28, 1962, and Ser. No. 230,284, Oct. 12, 1962. This application Nov. 15, 1963, Ser. No. 323,891

4 Claims. (Cl. 117—7)

A process for modifying polyester threads, primarily surgical sutures comprising first hot stretching the polyester thread, impregnating the stretched thread with particles of polytetrafluoroethylene, and removing excess polytetrafluoroethylene. The knotting characteristics of thread in this manner are considerably improved.

3,379,553

CONTINUOUS TONE DEVELOPMENT METHOD FOR XEROGRAPHIC PRINTING

Mark W. Dowley, San Jose, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Mar. 20, 1964, Ser. No. 353,440

1 Claim. (Cl. 117—17.5)

A method of continuous tone xerographic development wherein the phenomenon that toner attraction is governed by electrical field distribution is recognized and utilized such that the electrical field distribution of an insulating member is made to be essentially that of a free body in space by applying a very high potential to the conductive backing plate of the same polarity as the charge on the insulating surface.

3,379,554

SPRAY COATING OF PHARMACEUTICAL CORES WITH A CARBOXYLVINYL POLYMER AND POLYETHYLENE GLYCOL

Normand E. Brindamour, Worcester, Pa., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Apr. 21, 1964, Ser. No. 361,537

3 Claims. (Cl. 117—33)

Pharmaceutical tablet cores are sprayed with a solvent solution of one part by weight of a high molecular weight carboxyvinyl copolymer and 5 to 10 parts of polyethylene glycol of a molecular weight of 3,000–20,000.

3,379,555

VAPOR DEPOSITION OF PYROLYTIC GRAPHITE ON TUNGSTEN

Ralph L. Hough, Springfield, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force

No Drawing. Filed May 1, 1964, Ser. No. 364,338

1 Claim. (Cl. 117—46)

Synthesis of pyrolytic graphite on heated substrate within a chamber of temperature range 1200–3500° C. and containing hydrocarbon gas such as methane series, halides, methylamine, triethylamine, etc., on a tungsten wire of .0002 to .001 inch diameter for increasing the wire tensile strength 50 to 100% to the order of 66,400 pounds per square inch.

3,379,556

ELECTROLESS PLATING SYSTEM

Eraldo M. Chiecchi, Redwood City, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

No Drawing. Filed Feb. 24, 1965, Ser. No. 435,062

10 Claims. (Cl. 117—47)

1. In the method of electroless plating wherein a nonconducting substrate is sensitized, activated and plated with a metal in an electroless plating solution, the improvement comprising treating said substrate with a Werner-type complex of chromium and polymerizing the same prior to sensitization.

3,379,557

SUPPRESSION OF VISIBLE SPANGLE

George R. Hoover and Paul E. Schnedler, Middletown, Ohio, assignors to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio

Filed July 6, 1964, Ser. No. 380,533

12 Claims. (Cl. 117—64)

A method of suppressing visible spangle in non-alloy coatings on metallic strips by inducing substantially submacroscopic spangling. A water solution of an inorganic salt is applied to a freshly coated strip at a point where the temperature of the molten coating metal on the strip is above its solidification temperature. The inorganic salt is selected from the class consisting of inorganic salts which decompose in the range of 175° to 550° F. and those salts which will hydrolize when added to water to form inorganic salts capable of decomposing in the above stated temperature range.

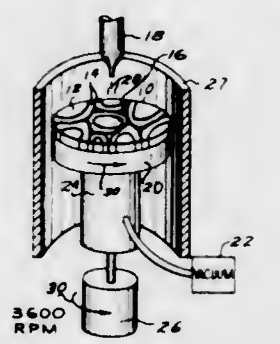
3,379,558

SEALING POROSITY OF FIBER FACE PLATES BY YTTRIUM RESINATE

Lee O. Upton, Sturbridge, Mass., assignor to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts

Filed Oct. 2, 1964, Ser. No. 401,029

2 Claims. (Cl. 117—66)



An improved method of sealing porosities in plate structures formed of a multiplicity of fused fiber elements by firing the fiber plates with a coating solution of yttrium resinate.

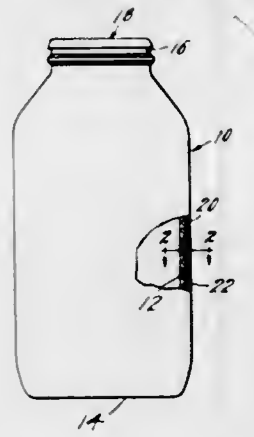
3,379,559

GLASS CONTAINER HAVING METAL OXIDE AND RESIN COATINGS

Robert Frank Gerhardt, Deer Park, N.Y., assignor to American Can Company, New York, N.Y., a corporation of New Jersey

Filed Dec. 20, 1963, Ser. No. 332,064

11 Claims. (Cl. 117—72)



A glass container having on its exterior surface an adherent coating of a metal oxide over which metal oxide coating is adhered a synthetic resin coating or decoration and a method of producing this article.

3,379,560

COLD EMBOSSABLE WEB

Inman D. Tharp, Scranton, Pa., assignor, by mesne assignments, to Fitchburg Coated Products, Inc., a corporation of Delaware

Filed Mar. 18, 1964, Ser. No. 352,856

1 Claim. (Cl. 117—121)

1. An embossable material comprising a base capable of cold flow embossment to provide permanently offset embossed portions on the upper surface thereof, a coating disposed in a plane overlying said surface of said base, said base having a rupture point substantially greater than the rupture point of said coating whereby said coating will rupture in the zone of said offset embossed portions, said coating being elastic up to its point of failure, said point of failure occurring at a predetermined point above said plane, said coating having sufficient elasticity so that said coating ruptures without fragmentation, the elastic limit of said coating being substantially greater than the elastic limit of said base, said coating having a color contrasting with the color of said base.

3,379,561

PROCESS OF PREPARING FILMY ADHESIVE

Kazuo Manaka, Kawasaki-shi, Japan, assignor to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan

No Drawing. Filed Mar. 19, 1964, Ser. No. 353,233

7 Claims. (Cl. 117—122)

A process for the manufacture of an adhesive film which comprises applying a solution of an epoxy resin to a film of a polyamide resin in the presence of a phenolic resin contained in either the polyamide resin or the epoxy resin, and drying the coated film.

3,379,562
SELF-ADHERING SHEET PRODUCT

Charles R. Freeman, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Filed Aug. 17, 1964, Ser. No. 390,181

6 Claims. (Cl. 117—122)

A self-adhering tape carrying a thin substantially nontacky substantially continuous barrier layer on one surface that prevents the convolutions of the tape in a storage roll from adhering. The barrier layer separates into small particles when the tape is stretched during application, so as to permit adhesion between adjacent convolutions.

3,379,563
IMPREGNATED DEGRADATION-RESISTANT CLOTH

Walter W. Abramitis, Downers Grove, Richard A. Reck, Hinsdale, and Charles S. Wilhelmy, Chicago, Ill., assignors to Armour and Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Sept. 8, 1964, Ser. No. 395,008

10 Claims. (Cl. 117—138.5)

A soil degradation-resistant cloth is prepared by impregnating the cloth with 0.1–5.0% by weight of a preserving agent selected from the group consisting of N-(1-methylalkyl) benzylamines, their double salts and metal complexes, and in which the alkyl group has from 7 to 21 carbon atoms. The preserving agent may be applied in a solvent and then the cloth may be dried.

3,379,564
METHOD OF COATING A SYNTHETIC POLYMERIC MATERIAL BY CROSS-LINKING A POLYSILOXANE CONTAINING 2-CYANOETHYL AND 2-CARBOXYETHYL GROUPS

Eckhard C. A. Schwarz, Grifton, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 7, 1965, Ser. No. 424,125

6 Claims. (Cl. 117—138.8)

1. The method of coating a surface composed of a synthetic polymeric material comprising applying to said surface a composition comprising a polysiloxane having 2-cyanoethyl groups on at least 90 percent of its silicon atoms and 2-carboxyethyl groups on at least about 1 percent of its silicon atoms, and about 2 to 20 percent, based on the weight of the polysiloxane, of an organic peroxide decomposing above about 100° C., and heating the coating to a temperature above about 100° C. but below the melting point of the synthetic polymeric material to cross-link the polysiloxane.

3,379,565
PROCESS FOR APPLYING ANTI-STATIC FINISH TO A TEXTILE MATERIAL

Chris A. Witcher, Jr., Pensacola, Fla., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 247,301, Dec. 26, 1962. This application July 10, 1964, Ser. No. 381,921

6 Claims. (Cl. 117—139.5)

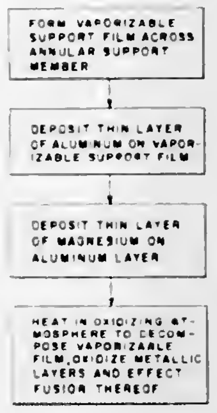
In a process for applying an anti-static finish to a textile material by dispersing the finish in water, applying the resulting dispersion to the textile material and drying the applied dispersion on the material, bacterial degradation of the finish can be inhibited by carrying out the dispersion of the finish in water between 42° and 48° C. and maintaining the temperature of the resulting dispersion in that range until the drying of the dispersion on the textile material.

3,379,566
METHOD OF MAKING A POLYCRYSTALLINE DUAL LAYERED ALUMINUM OXIDE-MAGNESIUM OXIDE STORAGE ELECTRODE

Herbert J. Hannam, Camillus, N.Y., assignor to General Electric Company, a corporation of New York

Original application May 19, 1960, Ser. No. 30,153, now Patent No. 3,207,937, dated Sept. 21, 1965. Divided and this application June 4, 1965, Ser. No. 461,239

4 Claims. (Cl. 117—210)


FORM VAPORIZABLE SUPPORT FILM ACROSS ANNULAR SUPPORT MEMBER
DEPOSIT THIN LAYER OF ALUMINUM ON VAPORIZABLE SUPPORT FILM
DEPOSIT THIN LAYER OF MAGNESIUM ON ALUMINUM LAYER
HEAT IN OXIDIZING ATMOSPHERE TO DECOMPOSE VAPORIZABLE FILM, OXIDIZE METALLIC LAYERS AND EFFECT FUSION THEREOF

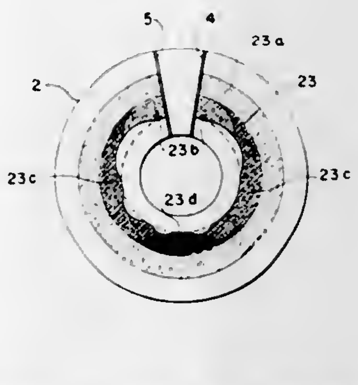
1. The method of manufacturing a storage electrode comprising the steps of forming a vaporizable support film across a support member, depositing on said film a first layer of a noble metal which does not readily react with the ingredients of said support film, depositing a layer of metallic magnesium on said first layer of metal, and heating the assembly in an oxidizing atmosphere to decompose and vaporize said vaporizable film and to convert said magnesium to a taut homogeneous polycrystalline magnesium oxide member supported by said support member, said heating step further results in coagulating said noble metal to provide a discontinuous layer constituted of a myriad of discrete noble metal islets fused to the surface of said magnesium oxide.

3,379,567
TAILORED VARIABLE ELECTRICAL RESISTANCE ELEMENT

Alan J. Wright, Orange, Calif., assignor to Beckman Instruments, Inc., a corporation of California

Filed June 12, 1964, Ser. No. 374,753

6 Claims. (Cl. 117—212)



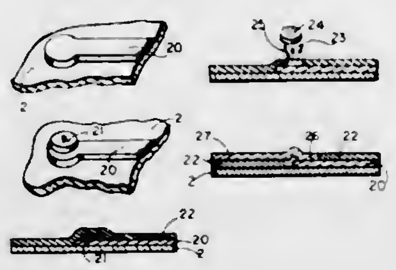
A deposited layer resistance element on a flat surface of a base member, the element being formed of at least two parallel tracks of different resistance materials applied to the base member, the tracks being in electrical contact throughout their length; one track providing a tailoring surface and the other track functioning solely as a path for a movable wiper which may be adapted to traverse the element.

3,379,568
PROCESS FOR FORMING HOLES AND MULTILAYER INTERCONNECTIONS THROUGH A DIELECTRIC

Robert E. Holmes, Riverside, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware

Continuation-in-part of application Ser. No. 401,392, Oct. 5, 1964. This application Dec. 21, 1964, Ser. No. 423,626

11 Claims. (Cl. 117—212)



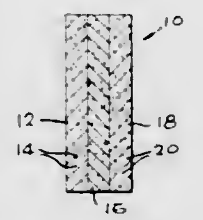
A process for producing openings in a dielectric film covering an electrically conductive pattern disposed on a dielectric substrate. The process comprises the steps of depositing a vaporizable material at predetermined locations on the conductive pattern; depositing a film of dielectric material atop the substrate, the circuit, and the vaporizable material; and heating the composite. Preferably, the dielectric material is deposited at a temperature below the vaporization temperature of the vaporizable material. Vaporization of the vaporizable material due to the heating forces openings through the deposited dielectric. A second pattern of electrical conductors may be provided atop the dielectric film and interconnected to the lower circuit by depositing metal in the openings produced by vaporization.

3,379,569
BATTERY HAVING AN INTEGRAL COMPOSITE ELECTRODE-SEPARATOR UNIT

Carl Berger, Santa Ana, and Frank C. Arrance, Costa Mesa, Calif., assignors, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland

Filed June 14, 1965, Ser. No. 463,607

15 Claims. (Cl. 136—6)



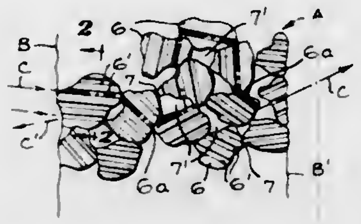
A rugged essentially one-piece battery construction, comprising a pair of active electrodes of opposite polarity, such as zinc and silver electrodes, and a porous inert inorganic separator between the electrodes for retaining electrolyte and permitting transfer of electrolyte ions, the electrodes and separator being compressed and sintered into an integral composite unit, the electrodes preferably being formed of a mixture of electrode material and of inorganic separator material to bond the separator material with the electrode material and to increase the strength and temperature resistance of the electrodes.

3,379,570
BATTERY CONTAINING A SINTERED ALUMINOSILICATE SEPARATOR

Carl Berger, Santa Ana, and Frank C. Arrance, Costa Mesa, Calif., assignors, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland

Continuation-in-part of application Ser. No. 378,858, June 29, 1964. This application Oct. 21, 1965, Ser. No. 499,294

12 Claims. (Cl. 136—6)



1. A battery including a battery separator, said battery separator comprising porous sintered aluminosilicate having a structure in the form of a multiplicity of discrete particles bonded together, with voids between said particles, said discrete particles having a plurality of microchannels therein, and providing a multiplicity of microchannels at least a portion of which are interconnected, and extend throughout the entire thickness of said separator from one surface of said separator to the opposite surface, said sintered aluminosilicate having a porosity ranging from about 5% to about 50%, said microchannels having a diameter of between about 1 and about 200 Angstrom units, said porosity being determined from the formula:

$$\frac{\text{Weight after water saturation} - \text{dry weight}}{\text{dry weight}} \times 100$$

3,379,571
FUEL CELL WITH ELECTROLYTE OF SOLID CRYSTALLINE SALT

Jean Piret, Watermael-Boitsfort, Belgium, assignor to Societe d'Etudes, de Recherches et d'Applications pour l'Industrie, S.E.R.A.I., Brussels, Belgium

No Drawing. Filed June 19, 1964, Ser. No. 376,566

Claims priority, application Great Britain, Mar. 13, 1964, 10,794/64

2 Claims. (Cl. 136—86)

A fuel cell comprising a pair of electrodes and a solid electrolyte in the form of a member comprising an inert carrier having admixed therewith crystalline grains of a salt selected from the class consisting of phosphates, vanadates, tungstates, phosphotungstates, molybdates and phosphomolybdates of titanium, zirconium, tin and niobium, the grains of salt having a particle size less than 50 microns. Preferably, the carrier is selected from the class consisting of asbestos, polyethylene, halogenated polyethylene, and silicones and the like.

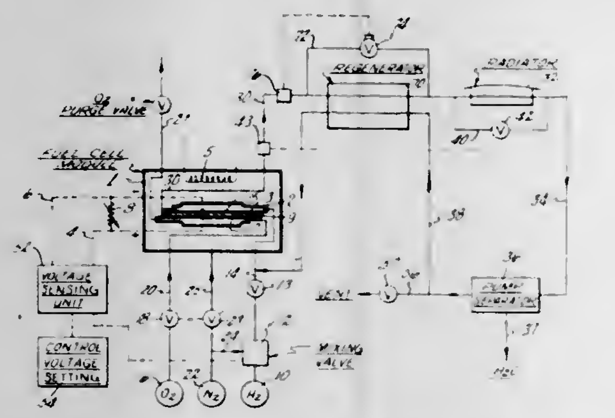
3,379,572
METHOD AND APPARATUS FOR LIMITING THE OUTPUT VOLTAGE OF A FUEL CELL

Martin A. Gay, Rockville, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Aug. 4, 1964, Ser. No. 387,432

8 Claims. (Cl. 136—86)

A fuel cell system utilizing inert gas injection into the fuel supplied to the cell, and the consequent dilution thereof, in response to a signal from a voltage sensor, to regulate the output voltage of the cell and maintain a

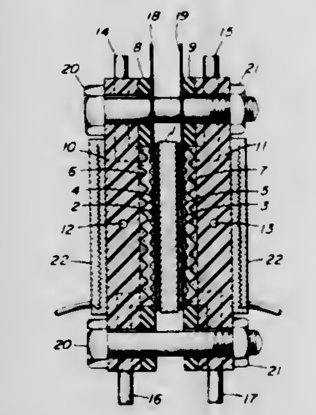


positive gas flow to the cell anode for by-product removal, particuarly at low cell power levels.

3,379,573
FLUORINATED POLYMER MATRIX WITH FLUORINATED SURFACTANT AND FUEL CELL THEREWITH

David Benedict Gershberg, Stamford, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

Filed May 6, 1965, Ser. No. 453,772
16 Claims. (Cl. 136—86)

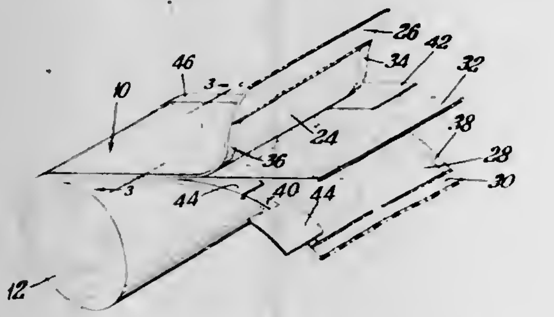


A porous polytetrafluoroethylene or polytrifluoromonchloroethylene matrix material saturated with an aqueous inorganic electrolyte containing a small amount of a water-soluble salt of a highly fluorinated aliphatic surfactant which may be between water-proofed electrodes in a fuel cell.

3,379,574
GALVANIC DRY-TAPE CELL CONSTRUCTION

Carl A. Grulke, Berea, and Robert A. Powers, Lakewood, Ohio, assignors to Union Carbide Corporation, a corporation of New York

Filed Apr. 22, 1965, Ser. No. 449,947
4 Claims. (Cl. 136—90)

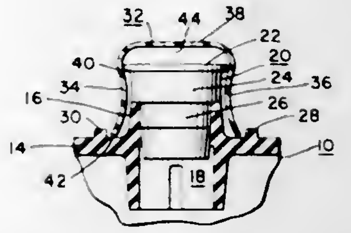


A galvanic primary cell construction in the form of a thin, flexible tape adapted to continuously feed past current collectors through which an external voltage may be derived, with all the active elements of the cell being enclosed from atmospheric contact by carrier sheets having sealed edges.

3,379,575
BATTERY HAVING A COVER MEMBER FOR A PLURALITY OF VENTED BATTERY CAPS

William E. Bell, Berkley, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Sept. 13, 1965, Ser. No. 486,737
2 Claims. (Cl. 136—170)

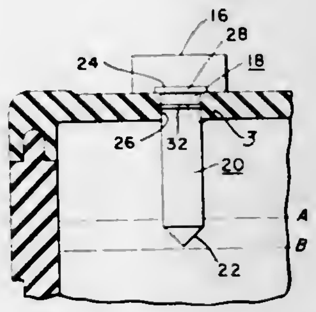


In a battery, a channel-like barrier adapted to grip the tops of a line of vented battery caps to facilitate the collection, and to control the direction of flow of acid mist emanating from the vents. The barrier comprises a top and resilient spaced-apart side walls. The spaced-apart side walls include inwardly curved portions adjacent the top and skirts flaring outwardly from the inwardly curved portion.

3,379,576
ELECTROLYTE LEVEL INDICATOR

Robert C. Matter, Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed July 21, 1965, Ser. No. 473,628
4 Claims. (Cl. 136—182)



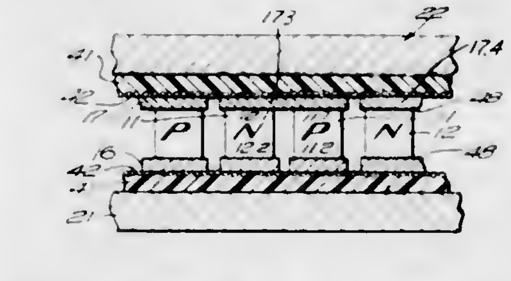
A press fit rod for signaling a drop in the electrolyte level of an electrochemical cell wherein the rod is permanently seated in an aperture in the cell's closure member by means of two axially spaced annular flanges, one of which is beveled. The elastic character of the closure member material causes filling of the valley between the flanges to effect seating and sealing.

3,379,577
THERMOELECTRIC JUNCTION ASSEMBLY WITH INSULATING IRREGULAR GRAINS BONDING INSULATING LAYER TO METALLIC THERMOJUNCTION MEMBER

Gordon S. Bird, Jr., Brighton, Mass., assignor to Cambridge Thermionic Corporation, Cambridge, Mass., a corporation of Massachusetts

Filed May 1, 1964, Ser. No. 364,101
4 Claims. (Cl. 136—205)

Thermoelectric junction assemblies are fabricated by coating a rigid supporting base means (such as metal or ceramic plates) with an initially tacky insulating cement (such as an epoxy type synthetic), and by forcibly applying insulating grains (such as alumina) to the cement, and then applying to the hardened cement coating a pattern

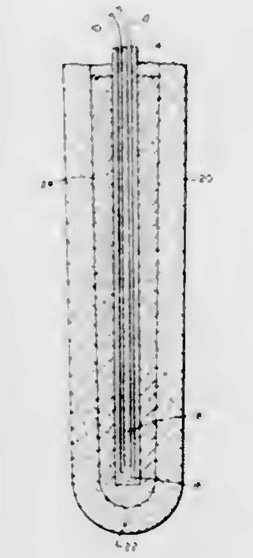


of conductive material (such as vapor deposited copper); the grains are partly embedded in the cement of the coating and partly anchored to the conductive material.

3,379,578
IMMERSION-TYPE THERMOCOUPLE HAVING A SHEATH COMPOSED OF A SINTERED CERAMIC REFRACTORY

George D. McTaggart and Emmerson K. Norman, Horseheads, N.Y., assignors to Corhart Refractories Company, Louisville, Ky., a corporation of Delaware

Filed Nov. 19, 1964, Ser. No. 415,559
9 Claims. (Cl. 136—234)



1. An immersion-type thermocouple unit comprising
(a) a refractory sheath comprising a tubular portion and a portion closing one end of said tubular portion, said sheath being composed of a sintered ceramic refractory:
  (1) analytically consisting essentially of, by weight, 3 to less than 15% TiO_2, 0.8 to 25% Cr_2O_3, 40 to less than 95% MgO, the sum of $TiO_2+Cr_2O_3+MgO$ being at least 75%, up to 15% Fe_2O_3, less than 7.5% Al_2O_3, less than 2% SiO_2 and less than 1% CaO.
  (2) having a homogeneous mineralogy on a macroscopic scale,
  (3) microscopically comprising essentially an intimate, intergrown mixture of periclase crystals and mixed magnesium-spinel crystals with substantial direct mineralogical bonding of these crystals to those adjacent thereto, and at least a major portion of the periclase crystals containing therein fine exsolved magnesium-spinel crystals and discontinuous microcracks,
(b) a thermocouple disposed inside the sheath with the thermocouple junction positioned adjacent said portion closing one end of said tubular portion, and
(c) a refractory buffer layer compactly filling the space between the sheath and the thermocouple, the buffer layer being composed of a basic refractory material analytically comprising essentially at least 90 weight percent MgO.

3,379,579
PROCESS OF FORMING PASSIVATING INTERNAL In_2O_3 BANDS IN SILVER-INDIUM ALLOYS

Robert A. Rapp, Westerville, and Darrell F. Frank, Springfield, Ohio, assignors to the United States of America as represented by the Secretary of the Air Force

Filed Oct. 30, 1963, Ser. No. 320,235
2 Claims. (Cl. 148—6.3)

Process forming continuous layer of corrosion impassible barrier of In_2O_3 below and parallel to the surface of refractory metals and alloys and the article produced by making a silver-indium alloy sample in the range of from 8.74 to 15 mol percent indium, welding thermocouple hot junctions to the opposite surfaces of the sample and holding the sample temperature at 500° C. in air for from 2 to 6 hours in forming the indium-oxide corrosion-passivating band below the surface of the sample used to arrest both mechanical and chemical deterioration of the matrix below the band.

3,379,580
METHOD OF HEAT TREATING AND FORMING AN ALUMINUM SHEET

Paul P. Zeigler, Spokane, Wash., assignor to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware

No Drawing. Filed Sept. 20, 1965, Ser. No. 488,715
4 Claims. (Cl. 148—11.5)

An alloy specially adapted to color anodizing by close control of composition and method of preparation. The alloy contains from 0.09–0.15% silicon, from 0.45–0.65% iron, from 0.03–0.07% copper, from 0.7–0.9% magnesium, from 0.05–0.1% chromium and a maximum of 0.04% manganese and 0.25% zinc.

The alloy is prepared by solution heating between 1100–1150° F., cooling to below 950° F. at a maximum rate of 30° F. per hour, cooling to below 250° F. at any rate, and reheated to a temperature below 950° F. for rolling.

3,379,581
DESULFURIZING COATING FOR FERROUS MATERIAL AND METHOD OF USING IT

Dale M. Kohler, Middletown, and Victor W. Carpenter, Franklin, Ohio, assignors to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio

No Drawing. Filed Dec. 21, 1964, Ser. No. 420,091
4 Claims. (Cl. 148—113)

An inorganic coating for desulfurizing ferrous materials consisting essentially of magnesium oxide and from about 2% to about 10% of calcium oxide by weight, and a method of desulfurization comprising the steps of annealing a strip of ferrous metal for several hours at a temperature of about 2000° F. to 2300° F. in a dry hydrogen-bearing atmosphere while the surfaces of the strip are covered with the above described coating.

3,379,582
LOW-ALLOY HIGH-STRENGTH STEEL

Harry J. Dickinson, 1116 S. 41st St.,
Birmingham, Ala. 35222

No Drawing. Continuation-in-part of application Ser. No. 402,613, Oct. 8, 1964. This application Feb. 15, 1967, Ser. No. 616,180
3 Claims. (Cl. 148—36)

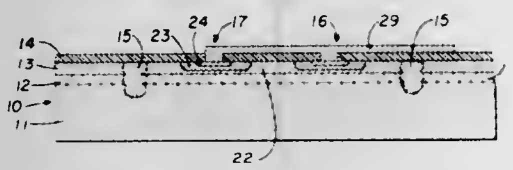
A low-alloy, high-strength steel cooled from an austenitizing temperature and having a martensitic microstructure, and comprising from .20 to .30% carbon,

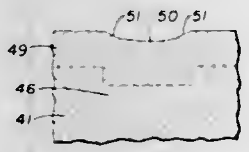
.80 to 1.2% manganese, 3.25 to 4.00% nickel, 1.25 to 2.00% chromium, .25 to .50% molybdenum, .20 to .50% silicon and balance iron and residual amounts of other elements.

3,379,583
HEAT TREATMENT OF ALUMINUM ALLOYS
Wolfgang Gruhl, Bad Godesberg, and Günther Scharf, Bonn, Germany, assignors to Vereinigte Aluminium-Werke Aktiengesellschaft, Bonn, Germany
No Drawing. Filed Mar. 26, 1965, Ser. No. 443,067
Claims priority, application Germany, Apr. 9, 1964, V 25,762; Feb. 5, 1965, V 27,691
9 Claims. (Cl. 148—11.5)

The hot deformability of aluminum alloy bodies of the type AlMgSi is improved by annealing such aluminum alloy body at a temperature between 500° and 590° C., and slowly cooling the thus-annealed aluminum alloy body at a rate of up to about 20° C. per hour at least down to a temperature of between about 450° C. and 300° C.

3,379,584
SEMICONDUCTOR WAFER WITH AT LEAST ONE EPITAXIAL LAYER AND METHODS OF MAKING SAME
Kenneth E. Bean, Richardson, and Walter R. Runyan, Dallas, Tex., assignors to Texas Instruments, Incorporated, Dallas, Tex., a corporation of Delaware
Filed Sept. 4, 1964, Ser. No. 394,408
22 Claims. (Cl. 148—175)





Disclosed is a method of aligning regions in epitaxial material deposited on a semiconductor substrate by forming the epitaxial layer on a patterned face of the substrate cut at an angle of between 0.5 and 10° from the (111) plane.

3,379,585
CAST EXPLOSIVES COMPRISING CYCLOTRIMETHYLENE TRINITRAMINE AND NITROTOLUENES
Clifford L. Miller, Los Alamos, N. Mex., and Joseph L. Stark, St. Paul, Minn., assignors to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed Jan. 12, 1951, Ser. No. 205,834
3 Claims. (Cl. 149—18)

1. A process of preparing a cast explosive composition which is resistant to thermal cracking which consists in heating a composition consisting of 60% cyclotrimethylene trinitramine and 40% trinitrotoluene to a molten condition but not in excess of about 90° C., adding thereto a mixture consisting of orthonitrotoluene and paranitrotoluene, said added mixture being in an amount equal to about .75% to 1% of the trinitrotoluene present in the composition, mixing the composition and added mixture, and casting the resulting melt into a desired shape.

3. A cast explosive composition comprising approximately 60% cyclotrimethylene trinitramine and 40% trinitrotoluene to which has been added a mixture of equal amounts of orthonitrotoluene and paranitrotoluene, said mixture being present in an amount equal to about 1% of the trinitrotoluene in the composition.

3,379,586
GELLED AMMONIUM NITRATE-NITROMETHANE - NITROPROPANE EXPLOSIVE COMPOSITION
James W. Francis, Marion, Ill., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland
No Drawing. Filed Dec. 12, 1966, Ser. No. 600,709
6 Claims. (Cl. 149—19)

Gelled, non-cap-sensitive explosive compositions consisting of an intimate admixture of ammonium nitrate of particle size sufficiently small to substantially completely pass through a 10 mesh screen, not more than 22% by weight of the ammoninm nitrate passing a 200 mesh screen, nitromethane, nitropropane and gelling agent for the said nitromethane and nitropropane, the weight ratio of nitromethane to nitropropane being in the range of from about 60:40 to about 45:55, the weight ratio of ammonium nitrate to the total of nitromethane and nitropropane being in the range of from about 85:15 to about 75:25, said compositions having high detonation rates. The explosive compositions are useful in seismic exploration for oil and gas.

3,379,587
INORGANIC OXIDIZER SALT BLASTING SLURRY COMPOSITION CONTAINING FORMAMIDE
Melvin A. Cook, Salt Lake City, Utah, assignor to Intermountain Research & Engineering Company, a corporation of Utah
No Drawing. Continuation-in-part of application Ser. No. 422,034, Dec. 29, 1964, which is a continuation-in-part of application Ser. No. 378,965, June 29, 1964. This application Mar. 22, 1966, Ser. No. 536,303
4 Claims. (Cl. 149—39)

1. A water bearing explosive composition in slurry or gel form which remains fluid at a low temperature, comprising a blend of (a) at least one water-soluble inorganic oxidizer salt, (b) at least one fuel capable of improving sensitivity of the composition, (c) water, and (d) a sufficient amount of formamide, up to 10% by weight of the total composition, to lower the freezing point of said composition, said formamide and water together forming a solvent for said oxidizing salt capable of dissolving at least its own weight of said salt thereby to form a substantially continuous liquid phase in said composition.

2. Composition according to claim **1** which contains a hydrophilic colloidal thickener.

3,379,588
MANUFACTURE OF PLASTIC HIGH - POWER BLASTING EXPLOSIVE COMPOSITIONS AND CHARGES
Giannino Corsi and Domenico Perfumo, Colleferro, Italy, assignors to Bombrini Parodi-Delfino S.p.A., Rome, Italy
No Drawing. Continuation-in-part of application Ser. No. 427,975, Jan. 25, 1965. This application May 5, 1967, Ser. No. 636,284
Claims priority, application Italy, Feb. 27, 1964, 4,067/64
2 Claims. (Cl. 149—98)

Plastic high-power blasting explosive compositions are provided comprising from

	Percent
Nitrocellulose	5–20
Nitroglycerine	33–40
Crystalline high-explosive selected from the group consisting of cyclotrimethylentrinitramine, cyclotetramethylentetranitramine and pentaerythritol tetranitrate	40–60
Non-explosive substance	To 5

The process for the manufacture of such materials is likewise provided. Such process comprises granulating under water and in the presence of a volatile water-immiscible solvent for nitrocellulose a mixture consisting of

	Percent
Nitrocellulose	8–25
Nitroglycerine	To 5
Inert plasticizer	To 3
Stabilizer	0.5–2
Solid crystalline finely divided high-power explosive selected from the group consisting of cyclotrimethylentrinitramine, cyclotetramethylentetranitramine and pentaerythritol tetranitrate	65–92

removing the solvent and water from the granules, drying the granulated material, pouring the granulated material into a container, impregnating said material in the container with a liquid containing up to

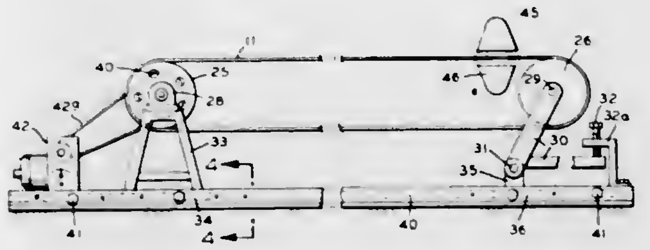
	Percent
Nitroglycerine	97
Inert plasticizer	To 3
Stabilizer	To 2.5
Accelerator	To 3

and then curing the resulting mixture in the container at a temperature of about 50–60° C. to obtain a consolidated plastic mass.

3,379,589
SOLUBILIZING HIGH ENERGY PROPELLANT POLYMERS
Edward A. Hunter, Westfield, and John Brooke Gardiner, Mountainside, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Dec. 12, 1960, Ser. No. 75,444
9 Claims. (Cl. 149—109)

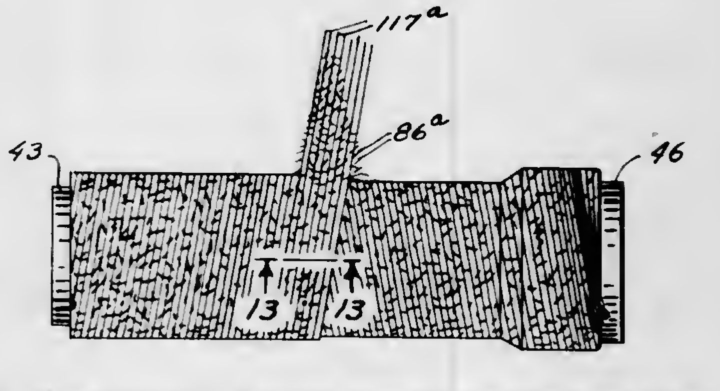
1. Method of solubilizing, decomposing, and making water-soluble organic polymeric gel material containing NF_2 groups, which comprises contacting, decomposing, and solubilizing said organic material with liquid polyamine containing 2 to 8 carbon atoms and at least 2 primary amino groups.

3,379,590
METHOD OF MAKING A WRINKLE-FREE ENDLESS FABRIC FILTER BELT
William R. Hrazanek, Wilton, Conn., assignor to Dorr-Oliver Incorporated, Stamford, Conn., a corporation of Delaware
Filed Apr. 7, 1965, Ser. No. 446,237
10 Claims. (Cl. 156—84)



A method of mechanically and thermally treating a thermoplastic fiber belt filter to remove wrinkles, to even out the dimensions, and to ease tracking. The belt filter is stretched over a set of rollers, heated to the glass transition temperature and cooled to the desired shape.

3,379,591
FILAMENT WINDING OF TUBULAR ARTICLES WITH INCORPORATION OF CUT LENGTHS OF ROVING DURING WINDING
Richard C. Bradley, 3501 NW. 9th Ave., Fort Lauderdale, Fla. 33309
Continuation-in-part of application Ser. No. 118,912, June 22, 1961. This application Dec. 18, 1963, Ser. No. 331,549
2 Claims. (Cl. 156—173)



2. The method of forming a matter carrying pipe upon a rotatable mandrel which includes the steps of rotating the mandrel, depositing a layer of material on the mandrel which is substantially impervious to, wear-resistant to, non-erodable by, and insoluble by the matter to be carried by the pipe and is capable of being deposited on the mandrel in an unsolidified tacky state; contemporaneously winding continuous strand means about the mandrel in a generally helical manner, directing and depositing on the rotating mandrel a spray of a promoted and catalyzed synthetic resin in an unsolidified plastic state so as to bond itself to the layer of material previously deposited and the layer of material previously deposited will bond itself to such synthetic resin, the spray being directed over the strand means for wetting the same with the spray prior to the winding of the strand means about the mandrel, and feeding cut lengths of roving into the spray in a manner to wet the cut lengths of roving with the spray and to spray deposit the wetted cut lengths of roving in a jackstraw fashion upon the mandrel in an intermingled relationship with the wetted strand means; compacting and arranging the substances applied to the mandrel in a cylindrical form about the mandrel; permitting the unsolidified substances on the mandrel to harden; and removing the thus formed article from the mandrel.

3,379,592
DECORATION OF THERMOSET PLASTICS
Joel Ostrowicz, Alagoas 475, Sao Paulo, Brazil
No Drawing. Filed Sept. 12, 1962, Ser. No. 223,276
10 Claims. (Cl. 156—232)

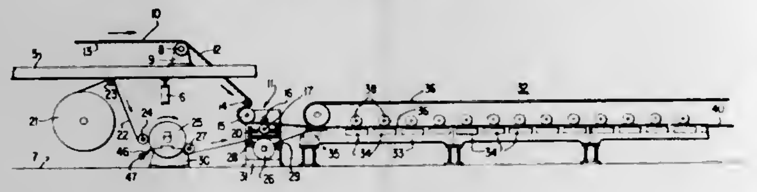
1. The process of producing decorated thermoset plastic dinnerware which comprises the steps of:
(1) forming into a desired dinnerware shape and partially curing a thermosetting molding compound selected from the group consisting of melamine-formaldehyde and urea - melamine - formaldehyde resins under conditions of heat and pressure in a mold;
(2) applying a thermosetting resin ink containing a resin selected from the group consisting of melamine-formaldehyde and urea - melamine - formaldehyde resins in a desired design to the surface of a non-impregnable film, which film is capable of withstanding being subjected to molding temperatures of from about 120° to about 160° C., and thereafter curing said applied ink to an intermediate stage of polymerization;
(3) placing the ink-bearing film surface in contact with a surface of the partially cured plastic dinnerware;

(4) completing the curing of said dinnerware and said applied resin ink in said mold whereby said applied resin is homogeneously and integrally bonded to said plastic dinnerware; and

(5) after opening the mold, stripping said film from the thermoset plastic dinnerware.

3,379,593
LUBRICATION METHOD AND APPARATUS FOR PAPERBOARD MACHINE

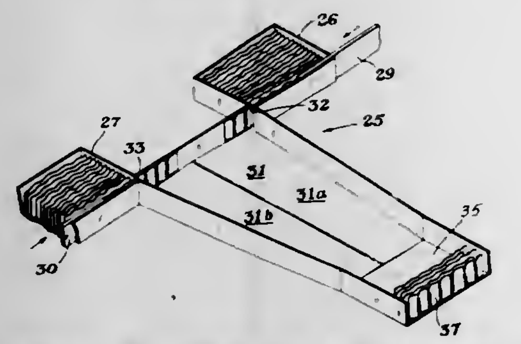
Glenn W. Maze and Alvin B. Walker, Toledo, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio
Filed Feb. 3, 1964, Ser. No. 342,169
10 Claims. (Cl. 156—278)



1. A laminating process including lubrication of the sliding surfaces in a double backer apparatus fed with a glue-treated web and a bottom liner which comprises the steps of
 passing said liner over a preheating roll prior to laminating,
 intermittently spraying upon said roll with a water emulsion of a wax-like material, said emulsion comprising of the order of 1% to 10% of said material to provide upon evaporation of water therefrom a deposit too thin for coating for impregnating said liner,
 transferring to only the outermost fibers of the lower side of said liner minute portions of said material,
 contacting the upper side of said liner with said glue-treated web to effect a preliminary bond,
 passing said web and liner over heated curing ovens in contact therewith, and
 continuously transferring some of said material to running surfaces of said ovens to effect a lubrication thereof.

3,379,594
HONEYCOMB FABRICATION

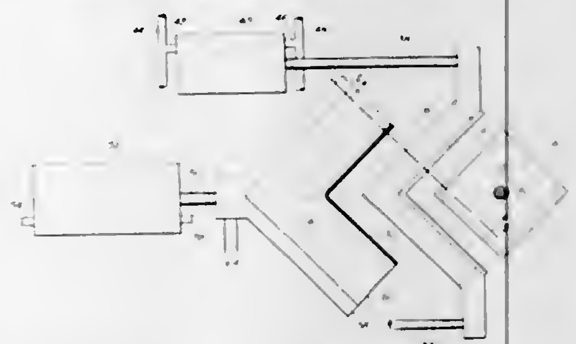
Wallace J. Bruder, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Oct. 24, 1963, Ser. No. 318,582
8 Claims. (Cl. 156—292)



1. A method of assembling a honeycomb structure comprising
 providing a package of a plurality of corrugated thermoplastic resinous strips, the strips having major faces, sides and ends, said strips being placed in generally parallel relationship with major faces of the strips generally adjacent, alternate strips positioned in such a manner that they differ from adjacent strips by one-half of a corrugation, subsequently arranging in adjacent relationship a desired number of strips,
 placing a strain on the ends of the strips forming the package and thereby
 forcing the corrugated strips into a configuration where at least one end of the group of strips there is a plane generally containing the adjacent ends of adjacent strips,
 maintaining the corrugated strips in generally closely adjacent relationship whereby a plurality of spaces are defined between adjacent strips and subsequently
 maintaining said strips in fixed relationship to each other by heating the edge portions of the strips to a temperature sufficiently high to permit plastic flow and joining of the strips and subsequently cooling the strips below the plastic flow temperature.

3,379,595
PROCESS AND APPARATUS FOR HEAT SEALING THERMOPLASTIC MATERIALS

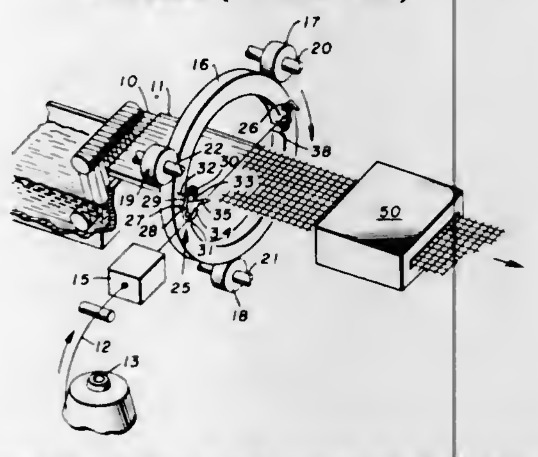
Frederick J. Bracey, Jr., Somers, Conn., assignor to Mobil Oil Corporation, a corporation of New York
Filed Jan. 26, 1965, Ser. No. 428,118
18 Claims. (Cl. 156—306)



Heat sealing or welding a seam in a plurality of layers of thermoplastic material while minimizing the formation of beads adjacent the seam by firmly clamping the borders only of a thin, resiliently deformable metal strip against the exterior face of assembled layers of plastic material using a slotted clamp and a flat anvil as a backing member, and then advancing the elongated edge of a heated press member through the open slot in the clamp to bear against the exposed central area of the thin metal strip under bonding pressure to establish a thermal gradient therein which heats areas of the thermoplastic material adjacent the seam to a graduated and lesser degree than the seam while the plastic layers are firmly clamped against movement and distortion.

3,379,596
APPARATUS FOR ARRANGING FIBERS IN GRID FORM

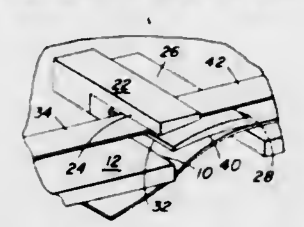
Frank Stutz, Pensacola, Fla., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed June 15, 1964, Ser. No. 374,938
4 Claims. (Cl. 156—434)



An apparatus for producing nonwoven grid-shaped fabrics comprising a rotatable propelling ring having fiber grips mounted thereon which act to lay weft fibers on warp fibers as the warp fibers pass through the propelling ring.

3,379,597
APPARATUS FOR SEVERING FILM AND TAPE FOR SECUREMENT OF A PORTION OF THE TAPE TO THE FILM

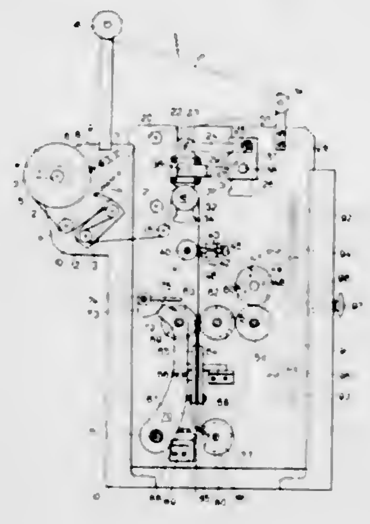
Alphonse B. Di Francesco, Penfield, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Apr. 5, 1965, Ser. No. 445,591
10 Claims. (Cl. 156—506)



An apparatus is disclosed to aid the photofinisher in securing together a plurality of film strips for processing. In daylight operation, the apparatus severs the end of an exposed film extending from a cassette and a predetermined length of tape while the film and tape are disposed in spaced overlapping relation. The severed portion of the tape extends over the severed end of the film for securement thereto when the two are pressed together. The remaining portion of the tape is secured in the dark to the trailing end of the previously exposed, but unprocessed film strip on a master roll.

3,379,598
CUTTING MECHANISM FOR MACHINES WHICH WRAP A PRISMATIC BOX INTO A CELLOPHANE COVER

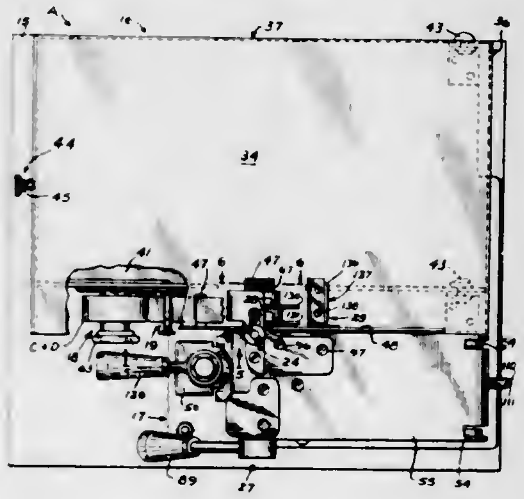
Karel Petrů, Prague, Czechoslovakia, assignor to Závody V.I. Lenina Plzeň, národní podnik, Plzen, Czechoslovakia
Filed June 10, 1964, Ser. No. 373,917
Claims priority, application Czechoslovakia, June 18, 1963, 3,532/63
4 Claims. (Cl. 156—510)



1. In a cutting mechanism for machines which wrap a prismatic box into a cellophane cover, cutting off cellophane blanks and ripping tape pieces to be connected or fused together with the cellophane piece forming the cellophane cover, the cellophane and ripping tape pieces being wound-off from a cellophane supply bobbin and a tape supply bobbin to the required length and shape, the said cutting mechanism comprising:
 means for providing a continuous movement of the cellophane band and ripping tape,
 means to periodically slow down the continuous movement of the cellophane band and ripping tape through the cutting mechanism, at the moment when the cutting-off should take place,
 a band placed around a rotary hub of the cellophane supply bobbin forming a band-brake,
 a spring for tensioning the said band,
 an adjustable spring holder for controlling the tensioning force of the said spring,
 a stationary pin for mounting said spring holder in the machine frame, and
 a twin-roller swinging out in one direction under the effect of the pull of the wound-off cellophane and a spring means pulling said twin-roller in the opposite direction for maintaining the cellophane under tension while it is continuously moved, said twin-roller and spring means acting on the cellophane and responding only to the periodic slow down in the continuous movement thereof without influencing the means for continuously moving and for periodically slowing down the movement of the cellophane.

3,379,599
PINKING MACHINE

Otto L. Kramer, 2491 Valley Drive, Hermosa Beach, Calif. 90254
Filed Oct. 13, 1965, Ser. No. 495,388
10 Claims. (Cl. 156—510)

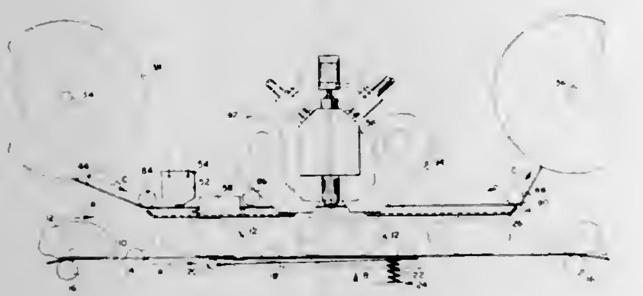


1. A pinking machine for pinking lengths of materials, said machine including walls defining a housing and a compartment, said walls including a top wall having an aperture therein, said top wall providing a slideway for one of said lengths movably extending over said aperture; support means carried by said housing for supporting a second of said lengths; rotatable pinking means within and carried by said housing below said aperture; rotatable advance means carried by said housing for advancing said second length over said top wall and said aperture and immediately below said one of said lengths upon said top wall; means extending into said compartment to rotate said rotatable means in synchronism; and anvil means disposed over said aperture for pressing said one and said second lengths together and against said pinking means to pink both lengths simultaneously.

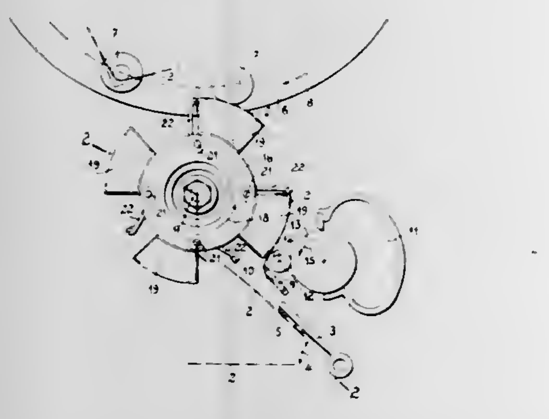
3,379,600
MEANS AND METHOD FOR LABELING EDIBLE ITEMS SUCH AS POTATOES, OTHER VEGETABLES AND FRUITS OR THE LIKE

Theodore F. Schwartz, 11660 St. Andrews Way, Scottsdale, Ariz. 85251
Filed Oct. 5, 1964, Ser. No. 401,435
10 Claims. (Cl. 156—521)

A means and method for labeling edible items such as potatoes, other vegetables and fruits or the like comprising means for shearing a label from a strip and pneumatically projecting the label together with hot wax onto said items as they are moved along a conveyor.



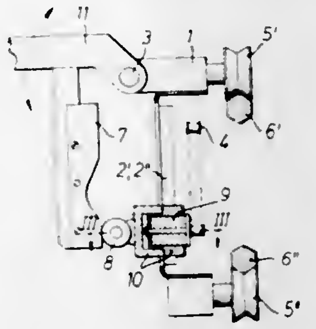
3,379,601
ARRANGEMENT FOR PASTING METAL FOILS ON BOTTLES IN TIN-FOILING MACHINES AND THE LIKE
Roger Pagay, Lyon, France, assignor to Societe Baele-Gangloff, Villeurbanne, France
Filed May 4, 1964, Ser. No. 365,858
Claims priority, application France, May 9, 1963, 43,624, Patent 1,376,512
6 Claims. (Cl. 156—568)



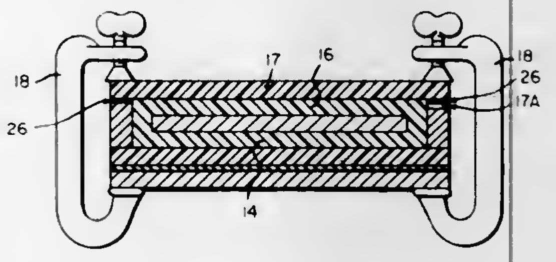
A device for applying metal foils onto bottles moving along a particular path, in which there is provided a fixed plate having a suction opening onto which the sheets of foil are placed one at a time, and a cylinder which is continually rotated and which carries a pincer which opens and closes automatically for gripping the free edge of the foil supported on the plate and conveying it towards the bottles while passing in its movement from the plate to the bottle in contact with a guiding cylinder.

3,379,602
APPARATUS FOR APPLYING FLAT SUPPORTS TO THE BACKS OF ADVERTISING POSTERS AND THE LIKE
Otwin Amtmann, Brunnthal, near Munich, and Helmut Eder, Munich, Germany, assignors to Firma OTA Amtmann & Co., Munich, Germany
Filed Dec. 20, 1965, Ser. No. 515,122
Claims priority, application Germany, June 4, 1965, A 49,414
5 Claims. (Cl. 156—572)

1. Device for the gluing of flat articles to other flat articles comprising an elevatable table on which flat articles can be stacked, a carriage movable transversely and to which is attached a suction device which can be raised and lowered and which can grasp and lift the uppermost flat article from a pile on said table, a carriage which can be moved transversely, and to which is attached a suction device which can be raised and lowered and whereby the uppermost flat article stacked on said table can be grasped and lifted, means for shifting said carriage, means for the lowering of said flat article, means for releasing the vacuum holding said flat article, means for pressing said lowered flat article upon a sheet located below said transferred flat article, means between said raising and lowering of said flat article whereby a glue-depositing-device applies glue to the surface of said flat article to be brought into contact with said sheet, means whereby said suction device is supported upon said carriage so that it may tilt around an axis which runs parallel to the direction of motion of the said carriage, whereby the driving of the said carriage occurs via a sliding block connected to a belt which runs across four change-of-direction rollers, whereby the sliding block is guided in a guide channel of the said carriage which runs perpendicular to the direction of motion of the said carriage.



3,379,603
CAST PLASTIC LAMINATES AND CAST PLASTIC ARTICLES OF MANUFACTURE
Stanley Ronald Barnette, 90 Cherokee St., Miami Springs, Fla. 33166
Original application Apr. 24, 1959, Ser. No. 808,599, now Patent No. 3,072,977, dated Apr. 15, 1963. Divided and this application Jan. 14, 1963, Ser. No. 251,420
11 Claims. (Cl. 161—5)

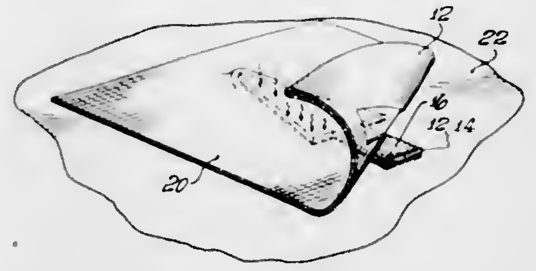


1. A substantially bulk rigid cast resinous plastic, structural core-reinforced panel comprising at least one inner substantialy rigid core and a cast resinous plastic body substantially enveloping and interlocking said core and being of substantially equal thickness on either side of said core wherein said core has a volume substantially greater than the resinous plastic body, said resinous plastic body comprising at least two layers of resinous plastic material, as least one of said layers comprising a masking means for said core, decorative media embedded in any one of said layers providing a deep-three-dimensional effect.

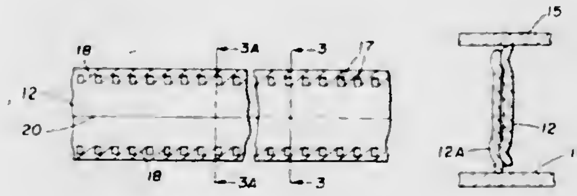
3,379,604
TRANSFER AND METHOD OF MAKING AND USING SAME
Albert Weber, Los Angeles, Calif. (4747 St. Clair, North Hollywood, Calif. 91607), and Joseph L. Greenberg, 4296 Don Luis Drive, Los Angeles, Calif. 90008
Filed June 18, 1964, Ser. No. 376,028
5 Claims. (Cl. 161—38)

A pattern of flocking is sandwiched between a release sheet and a carrier sheet. The sandwich also includes a

thermoplastic film which secures the edges of the flocked pattern to the carrier sheet when the release sheet is removed. The product is employed by laying the carrier sheet against a surface, such as a garment, and applying heat to cause the flock to be freed from the carrier sheet and to be bonded by adhesive to the garment.

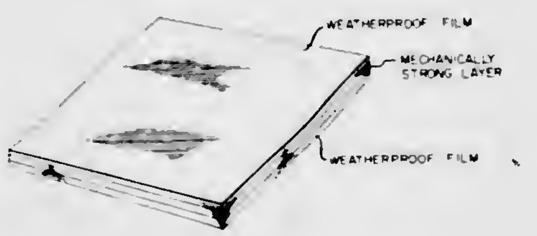


3,379,605
PHOTOGRAPHIC FILM REEL ARRANGEMENT
Hubert Nerwin, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 24, 1964, Ser. No. 377,587
3 Claims. (Cl. 161—126)



A film leader having slanted fluting disposed along the edges so that engagement of one layer of the deformed leader with the next adjacent layer of deformed leader causes lateral displacement therebetween to prevent edge fog of the enclosed film.

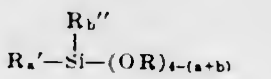
3,379,606
TRANSPARENT LAMINATED WEATHER RESISTANT MATERIAL
Francis H. Bratton, Northfield, and James M. Broz, Savage, Minn., assignors to G. T. Schjeldahl Company, Northfield, Minn., a corporation of Minnesota
Filed Oct. 8, 1964, Ser. No. 402,434
6 Claims. (Cl. 161—189)



An optically clear, mechanically sound weatherable laminate structure comprising a film of mechanically sound strength and a protective weatherable film adhesively bonded to the surface of the film of mechanically sound strength. The film of mechanically sound strength is preferably polyvinyl chloride, and the weatherable film bonded thereto is preferably a fluorinated hydrocarbon film selected from the class consisting of polychlorotrifluoroethylene and polyvinyl fluoride. The adhesive which bonds the films together contains an ultraviolet radiation absorber for excluding incident ultraviolet radiation.

3,379,607
PROCESS FOR BONDING SILICONE ELASTOMERS AND PRIMER COMPOSITIONS THEREFOR
William W. Foster, Grand Island, and Daniel Pittner, West Seneca, N.Y., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Oct. 21, 1963, Ser. No. 317,793
15 Claims. (Cl. 161—207)

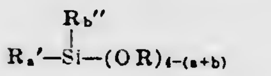
1. As a primer material suitable for bonding a silicon elastomer to a substrate, the polymer product obtained by contacting (A) at least one phosphorus containing compound having at least one oxygen atom directly bonded to phosphorus and devoid of any hydrogen atom directly attached to phosphorus with (B) at least one silane of the general formula:



$$\mathrm{R}_a'-\overset{\displaystyle \mathrm{R}_b''}{\overset{|}{\mathrm{Si}}}-(\mathrm{OR})_{4-(a+b)}$$

wherein R is a monovalent hydrocarbon radical free of aliphatic unsaturation; R′ is a monovalent radical containing at least one $CH_2{=}C$ group and containing only hydrogen, carbon and oxygen or hydrogen and carbon; said R′ being free of acetylenic unsaturation and being bonded to the silicon atom through a carbon to silicon bond; *a* is an integer having a value of 0 to 1 inclusive; R″ is a monovalent radical free of aliphatic unsaturation; *b* is an integer having a value of from 0 to 1 inclusive; with the further proviso that when the phosphorus compound of (A) is free of hydroxyl groups attached to phosphorus there is at least a sufficient amount of water present in the system to hydrolyze at least one —OR group on the silane compound of (B).

7. In a process for preparing a silicon elastomer coated substrate, said coating being bonded to the substrate through a primer material, the improvement which comprises employing a primer material consisting of the polymeric product obtained by contacting (A) at least one compound selected from the group consisting of boron containing compounds which contain at least one atom selected from the group consisting of oxygen and hydrogen directly bonded to boron, and phosphorus containing compounds having at least one oxygen atom directly attached to phosphorus and devoid of any hydrogen atom directly attached to phosphorus with (B) at least one silane of the general formula:

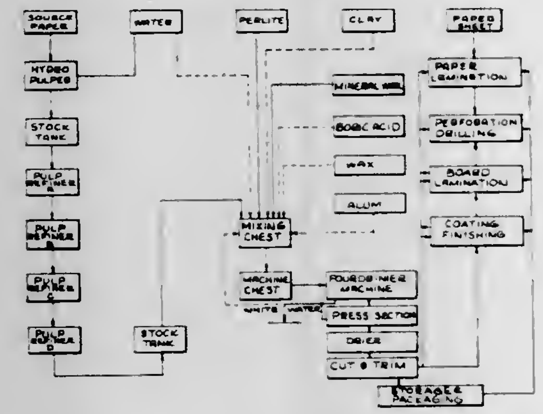


$$\mathrm{R}_a'-\overset{\displaystyle \mathrm{R}_b''}{\overset{|}{\mathrm{Si}}}-(\mathrm{OR})_{4-(a+b)}$$

wherein R is a monovalent hydrocarbon radical free of aliphatic unsaturation; R′ is a monovalent radical containing at least one $CH_2{=}C$ group and containing only hydrogen, carbon and oxygen or hydrogen and carbon; said R′ being free of acetylenic unsaturation and being bonded to the silicon atom through a carbon to silicon bond; *a* is an integer having a value of 0 to 1 inclusive; R″ is a monovalent radical free of aliphatic unsaturation; *b* is an integer having a value of from 0 to 1 inclusive; with the further proviso that when the boron or phosphorus compound of (A) is free of hydroxyl groups directly attached to boron and phosphorus respectively, there is at least a sufficient amount of water present in the system to hydrolyze at least one —OR group on the silane compound (B).

3,379,608
WATER-FELTED MINERAL WOOL BUILDING AND INSULATION PRODUCT INCLUDING NONFIBROUS CELLULOSE BINDER

James R. Roberts, Palatine, Ill., and Frank J. Wendt, Kenosha, Wis., assignors to United States Gypsum Company, a corporation of Delaware
Filed Jan. 16, 1964, Ser. No. 338,056
6 Claims. (Cl. 162—145)



A building and insulating product comprising mineral wool, expanded perlite, and a water-activated cellulose binder which is essentially nonfibrous in character.

3,379,609
WATER-FELTED BUILDING PRODUCT INCLUDING NONFIBROUS CELLULOSE BINDER

James R. Roberts, Palatine, Ill., assignor to United States Gypsum Company, a corporation of Delaware
Filed Jan. 16, 1964, Ser. No. 338,057
8 Claims. (Cl. 162—181)

A building product comprising expanded perlite, and a water-activated cellulose binder which is essentially nonfibrous in character.

3,379,610
COMPLEX METAL SALTS OF MANGANESE ETHYLENEBISDITHIOCARBAMATE

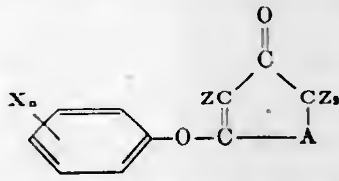
Channing Bruce Lyon, Abington, Joseph W. Nemec, Rydal, and Victor H. Unger, Willow Grove, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed May 9, 1961, Ser. No. 108,735
19 Claims. (Cl. 167—22)

1. A water-insoluble metal complexed manganese ethylenebisdithiocarbamate giving on analysis 38% to 57.4% of carbon disulfide, having an X-ray powder diffraction diagram with characterizing lines with relative intensities at 8.04 A. (strong), 6.91 A. (medium), 6.51 A. (medium), 4.46 A. (medium-strong) and 3.03 A. (strong), containing from 13.8% to 20.7% of manganese, and containing as the said metal at least one member from the class consisting of cobalt, copper, iron and zinc, the percentage by weight of cobalt being about 0.25%–9%, copper being about 0.2%–2.5%, iron being about 0.1%–33%, and zinc being about 0.1%–6.6%.

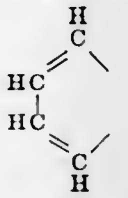
3,379,611
METHOD FOR INHIBITING THE GROWTH OF PATHOGENIC ORGANISMS WITH AROMATIC CYCLOALIPHATIC KETONE-ETHERS

Edward D. Weil, Lewiston, and Jerome Linder, Niagara Falls, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 233,873, Oct. 29, 1962. This application Nov. 26, 1965, Ser. No. 510,061
9 Claims. (Cl. 167—32)

1. A method for the control of pathogenic organisms selected from the group consisting of fungi and bacteria, comprising applying to the locus of said organisms a pesticidal amount of a compound of the formula



wherein Z is a halogen of atomic weight between 35 and 81; A is a (CZ_2) or a ($C{=}O$) group; and X is selected from the group consisting of a radical of the formula



joined to the benzene ring to form a naphthyl group therewith, halogen, nitro, alkyl of from 1 to 18 carbon atoms, phenyl, lower alkoxy, and carboxy; and *n* is from 0 to 5.

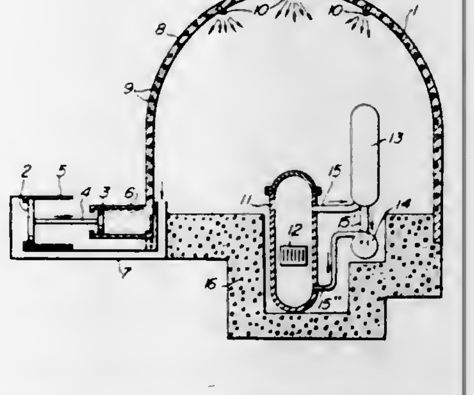
3,379,612
PHARMACEUTICAL COMPOSITIONS OF 6-CHLORO - 7 - SULFAMYL - 3,4 - DIHYDRO - 2H - [1,2,4]-BENZOTHIADIAZINE 1,1 - DIOXIDE AND AN INDOLE ALKALOID OF THE APOCYNACEAE FAMILY

George de Stevens and Lincoln Harvey Werner, Summit, N.J., assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Original application Sept. 12, 1963, Ser. No. 308,327, now Patent No. 3,288,678, dated Nov. 29, 1966. Divided and this application Mar. 18, 1966, Ser. No. 535,357
The portion of the term of the patent subsequent to Nov. 29, 1983, has been disclaimed
7 Claims. (Cl. 167—65)

Compositions (and methods for their preparation) useful in the treatment of hypertension and containing essentially (1) 6 - chloro - 7 - sulfamyl - 3,4 - dihydro - 2H-[1,2,4]-benzothiadiazine-1,1-dioxide and (2) an indole alkaloid of the Apocynaceae family, such as resperine.

3,379,613
POST-INCIDENT DEVICE FOR NUCLEAR REACTORS

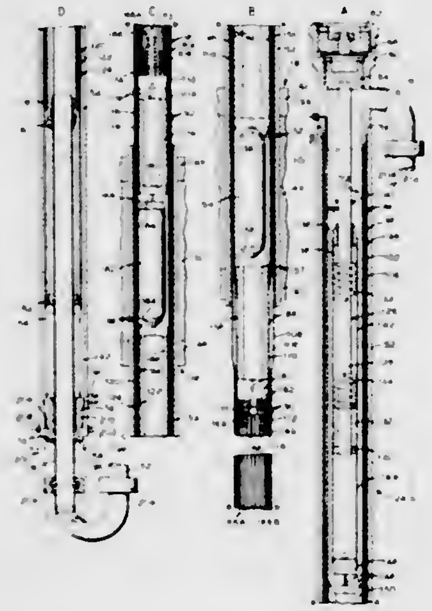
Takashi Tagami, Kokubunji-shi, and Kotaro Inoue, Tokyo, Japan, assignors to Hitachi, Ltd., Chiyoda-ku, Tokyo, Japan, a corporation of Japan
Filed Nov. 30, 1965, Ser. No. 510,539
Claims priority, application Japan, Dec. 15, 1964, 39/70,240
9 Claims. (Cl. 176—37)



The present disclosure relates to a nuclear reactor assembly comprising a nuclear reactor containing a primary coolant duct system disposed within a reactor container, said reactor container having associated therewith a pressure-safety device which is responsive to an increase in pressure on the inside of the reactor container. Thus, when an unusual pressure rise occurs within the container, this pressure rise is translated to the pressure-safety device which in turn triggers a cooling spray system within said container. The cooling spray reduces the pressure in the container and prevents leakage of the radioactive material, thus avoiding any possible disaster resulting therefrom.

3,379,614
NUCLEAR REACTOR FUEL CHANNEL ASSEMBLY

Carl Norman Drummond, Lynchburg, Va., assignor, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
Filed Jan. 21, 1966, Ser. No. 522,116
17 Claims. (Cl. 176—43)



This invention is a removable fuel channel assembly for carrying nuclear fuel and conducting a coolant through a nuclear reactor. The reactor includes an enclosed tank for carrying a moderator fluid. The tank has top and bottom nozzles forming openings thereinto that act as a mount for the fuel channel assembly which extends through the tank. The assembly includes a tube terminated at either end by members seal weldable to the nozzles so that the assembly may be endwise removed from the tank on breaking the seals. The invention may further include a device for containing the moderator within the tank while the assemblies are being inserted therein and removed therefrom.

3,379,615
NUCLEAR REACTORS

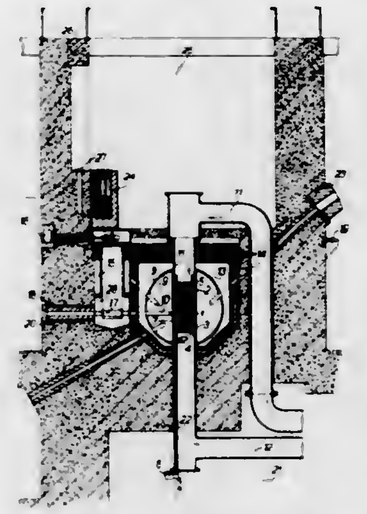
Dixon Brydson Halliday, Abingdon, England, assignor to United Kingdom Atomic Energy Authority, London, England
Filed Aug. 25, 1965, Ser. No. 482,387
Claims priority, application Great Britain, Aug. 28, 1964, 35,448/64
1 Claim. (Cl. 176—44)

1. A liquid cooled, moderated and reflected nuclear reactor comprising:

(a) a plurality of elongate fuel elements arranged in a spaced side by side relationship forming an undermoderated core,

(b) each element being individually located within a coolant channel formed through a core block,

(c) said core block being formed of an aluminum alloy and interposed between a coolant inlet duct and a coolant outlet duct,

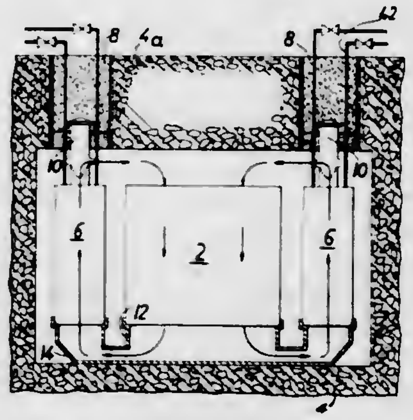


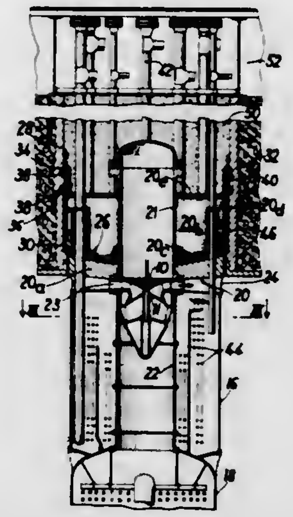
(d) said ducts and said core block defining the central void of a reflector containing vessel, said vessel being substantially annular in horizontal cross-section, and

(e) each channel being provided with a reduced diameter portion engagable with the lower end of a fuel element.

3,379,616
HEAT EXTRACTION DEVICE FOR NUCLEAR REACTOR

Pierre Vitry, Paris, France, assignor to Societe Indatom, Paris, France
Filed July 5, 1966, Ser. No. 562,630
Claims priority, application France, July 9, 1965, 24,234
8 Claims. (Cl. 176—60)

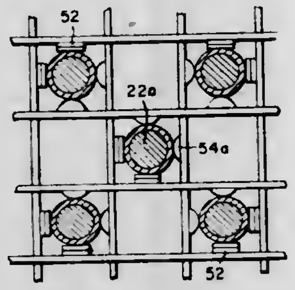




Each of a plurality of heat exchangers includes a support plug, a blower and a heat exchanger in spaced, axial alignment. The end of the heat exchanger, remote from the blower and plug, has a close sliding fit in an opening in the primary fluid circuit of the reactor. Headers for conducting the heat exchanger fluid extend through the plug from the exterior of the reactor vessel.

3,379,617
MEANS FOR SUPPORTING FUEL ELEMENTS IN A NUCLEAR REACTOR

Harry N. Andrews, Pitcairn, and Herbert W. Keller, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 25, 1965, Ser. No. 458,634
19 Claims. (Cl. 176—78)



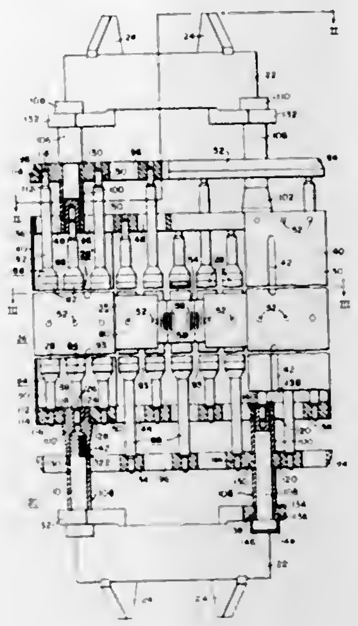
1. A grid structure for a nuclear reactor fuel assembly comprising a plurality of connecting members forming respective openings through which elongated elements are adapted to extend, at least two rigid spaced projections extending into each of at least some of said grid openings from at least one of said members, and at least one resilient means extending into each of said some openings from at least another of said members and disposed generally opposite to said two rigid projections with its innermost protrusion being positioned in alignment with the region intermediate said spaced projections.

14. A fuel arrangement for a nuclear reactor comprising a plurality of elongated fuel elements disposed in a generally parallel array, at least one grid member extending laterally across said fuel arrangement and having respective openings through which said fuel elements extend, said grid member having both resilient means and substantially rigid means extending into each of at least some of said openings for supporting said fuel elements against lateral displacement, and said resilient means being disposed generally opposite to said rigid means.

3,379,618
FUEL ARRANGEMENT FOR A NUCLEAR REACTOR

Erling Frisch, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 326,070, Nov. 26, 1963. This application Dec. 3, 1965, Ser. No. 513,655
27 Claims. (Cl. 176—78)

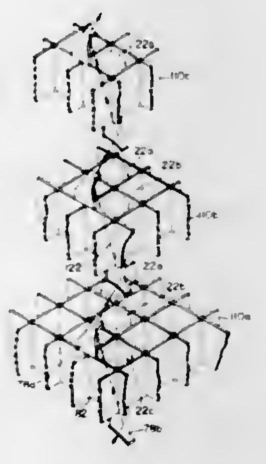
1. A fuel element arrangement for use in a nuclear reactor, said arrangement comprising a plurality of elongated fuel elements, an elongated frame member for supporting said elements generally in a lattice array, said frame member being substantially coextensive with said elements, first plate means mounted adjacent one end of said frame member and engaging the adjacent ends of some of said fuel elements, said first plate means having a plurality of flow apertures extending therethrough and disposed adjacent the nearer ends of the remainder of said fuel elements, and second plate means mounted adjacent the other end of said frame member and engaging the adjacent ends of said remainder fuel elements, said second plate means having a plurality of apertures formed therein and disposed adjacent the nearer ends of said some fuel elements.



16. A fuel arrangement for a nuclear reactor comprising a plurality of elongated fuel elements disposed in a generally parallel array, an elongated structural member coextending with at least a portion of said fuel elements, at least one grid member secured to and extending laterally from said structural member and having openings through which said fuel elements extend, said grid member having resilient means extending into at least some of said openings and resiliently engaging those fuel elements extending through said some openings respectively to position the last-mentioned fuel elements against lateral displacement.

3,379,619
FUEL ASSEMBLY FOR NUCLEAR REACTORS

Harry N. Andrews, Pitcairn, and Faust N. Vespa, Wilkins Township, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 25, 1966, Ser. No. 552,900
13 Claims. (Cl. 176—78)



This invention is directed to nuclear fuel element assemblies wherein the fuel elements are held in a closely packed, yet spaced, parallel array by one or more grid members which serve to laterally support and position the fuel elements in the array. Mixing vanes, formed integrally on the grid members, serve to deflect the coolant flowing longitudinally past the fuel elements in a predetermined direction (i.e. laterally or diagonally across the array) to promote mixing and even heating of the coolant.

3,379,620
PROCESS FOR PRODUCING 4-AMINOBENZYL ALCOHOL DERIVATIVES

Sydney Archer, Bethlehem, and David Rosi, East Greenbush, N.Y., assignors to Sterling Drug Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 1, 1965, Ser. No. 444,848
10 Claims. (Cl. 195—51)

1. The process for producing a 4-[amino(polycarbon-lower-alkyl) - amino]-2-halobenzyl alcohol which comprises subjecting a 4-[amino-(polycarbon-lower-alkyl)-amino]-2-halotoluene to the fermentative enzymatic action of an organism capable of effecting oxidation of the 1-methyl group to 1-hydroxymethyl, said organism being classified in the orders Moniliales, Mucorales, Sphaeriaeles, Sphaeropsidales, Melanconiales and Actinomycetales.

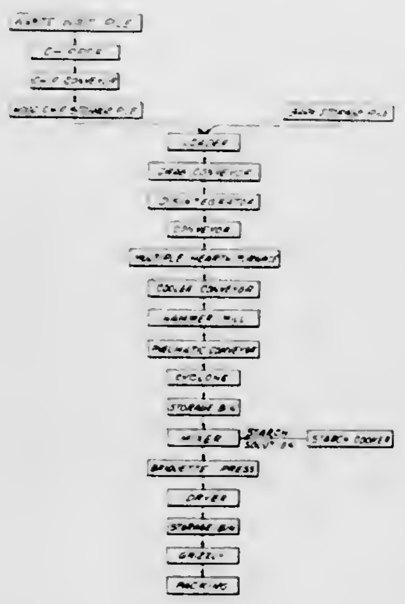
3,379,621
MICROBIOLOGICAL PREPARATION OF $\Delta^{1,3,5(10)}$-3-HYDROXY STEROIDS

Carlos Casas-Campillo, Mexico City, Mexico, assignor to Syntex Corporation, Panama, Panama, a corporation of Panama
No Drawing. Filed May 17, 1965, Ser. No. 456,492
Claims priority, application Mexico, June 12, 1964, 77,596
15 Claims. (Cl. 195—51)

Microbiological process for preparing $\Delta^{1,3,5(10)}$-3-hydroxy steriods by subjecting the corresponding Δ^5-3β,19-dihydroxy derivatives or the 3-monoacylates, 19-monoacylates, and 3,19-diacylates thereof to the action of a culture of *Mycobacterium phlei*, the ring A aromatic steroids thus produced having known pharmaceutical uses.

3,379,622
FORMING CHARCOAL IN AN AIR AMBIENT

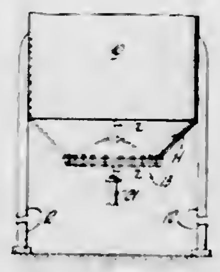
Charles F. von Dreusche, Jr., Cresskill, N.J., assignor to Nicholas Engineering & Research Corporation, New York, N.Y., a corporation of Delaware
Filed July 10, 1964, Ser. No. 381,774
5 Claims. (Cl. 201—8)



1. Process for treating wood material in the form of bark, wood chips, small tree branches or the like to form charcoal, which comprises introducing a continuing supply of same in the form of small pieces onto hearth areas within a furnace, periodically rabbling and advancing a substantial layer thereof over the hearth areas while maintaining temperatures above said areas sufficiently high to cause charring of the material, by introducing into the furnace spaces above said areas, distributed streams of air and therewith causing some burning and flames in the smoke and volatile gases present without substantial burning of the material, discharging the resulting hot charcoal from the furnace and advancing same by conveying means, while mixing therewith spray water sufficient to cause substantial cooling thereof, then milling same to finely divided particle size, and then conveying same through a pneumatic conveyor pipe through which the particles are advanced for a substantial distance in dispersed condition by a stream of air.

3,379,623
BOTTOM QUICK-OPENING DOOR FOR COKING TOWER OR CHAMBER

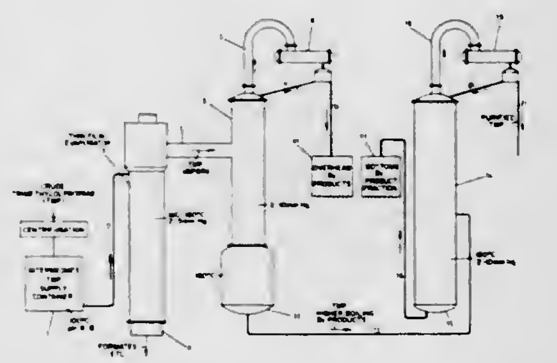
James M. Forsyth, P.O. Box 18602, Houston, Tex. 77023
Filed Apr. 16, 1964, Ser. No. 360,207
13 Claims. (Cl. 202—252)



The invention contemplates closure of the bottom opening in a coke-forming reactor tower by employment of a dished circular door presenting a domed or generally conical convex surface projecting into the inner volume of the reactor. The interfit of this door to the body of the reactor is such as to present only downwardly sloping smooth surfaces to the accumulating solid matter and to the solid matter being removed. The configuration is such as to mold the accumulated solid mass with a concave conical shape, centered on the reactor axis and uniquely adapted to align a de-coking or the like boring or drill bit for accurate self-centered boring into the solid mass.

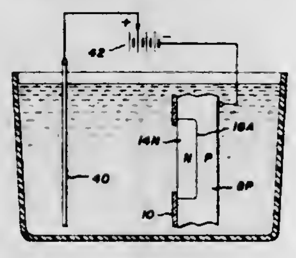
3,379,624
PROCESS AND EQUIPMENT FOR THE MANUFACTURE OF PURE POLYALCOHOLS

Eirik Lindkvist, Perstorp, Sweden, assignor to Perstorp Aktiebolag, Stockholm, Sweden
Filed July 10, 1964, Ser. No. 381,817
Claims priority, application Sweden, May 14, 1964, 5,885/64
10 Claims. (Cl. 203—77)



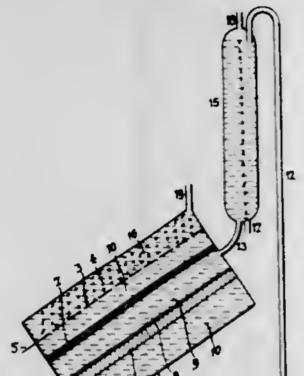
Polyalcohols prepared in alkaline solution are purified, and after neutralizing the solution, are passed through a thin film evaporator in which sodium formate and the like is separated from the bottom of the evaporator. The vapors from the evaporator are subjected to two distillation stages. In the first distillation stage, lower boiling byproducts are removed as overhead, and the polyalcohol and higher boiling byproducts are passed to the second distillation stage in which the polyalcohol is separated from higher boiling byproducts.

3,379,625
SEMICONDUCTOR TESTING
Menyhert Csabi, North Syracuse, N.Y., assignor to General Electric Company, a corporation of New York
Filed Mar. 30, 1964, Ser. No. 355,688
9 Claims. (Cl. 204—1)



A method of testing and revealing reverse bias breakdown of particular PN junctions in a wafer of semiconductor material having a plurality of pellets each containing at least one such junction. The wafer is immersed in an electrolytic solution so that a test surface on the wafer on one side of each said junction is exposed to the solution and a test potential is connected between the solution and another point on the wafer on the opposite side of each such junction so as to reverse bias each such junction. Failure of any such junction by reverse breakdown at the test potential initiates electrolytic action which transfers material between the solution and a portion of the wafer containing such failed junction, hereby altering the appearance of such test surface and revealing the failure.

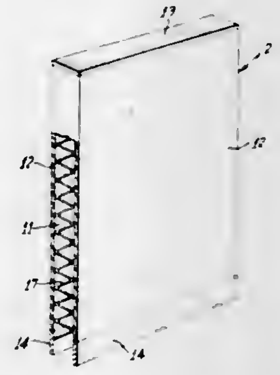
3,379,626
PROCESS AND APPARATUS FOR OXIDIZING OLEFINS
Otto Heuse, Kronberg, Taunus, Manfred Boldt, Kelkheim, Taunus, Rudolf Wirtz, Frankfurt am Main, and Gerhard Theilig, Lorsbach, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany
Filed May 18, 1964, Ser. No. 368,126
Claims priority, application Germany, May 21, 1963, F 39,805
15 Claims. (Cl. 204—80)



An apparatus for oxidizing olefins by electrolytic means has been provided. It consists of an inclined vessel containing the anode, the cathode and a permeable membrane for hydrogen ions and means for conveying the electrolyte through the anode and from the vessel to an external vessel in which an olefin is introduced, and the olefin oxidizing reaction takes place as well as from which the olefin is recovered. The electrolyte is thereafter reconveyed to the electrolytic vessel. The cathode is suitably perforated to allow the hydrogen to pass through and be collected. Other embodiments of the apparatus include using porous oxygen solvent electrode as the cathode and means by which oxygen or air is conveyed therethrough. A further embodiment of the apparatus includes providing for means by which olefin is conveyed through the anode directly.

The process aspect of the invention is based on the proper conveyance of the electrolyte through the anode and the reuse of the electrolyte, the contacting of the olefin with the electrolyte outside the electrolytic vessel as well as preventing the hydrogen ions from contacting catalyst metal ions, or if within the vessel, then by conveying the olefin through the anode and the proper conveying of the reaction products away from the vessel. Another process aspect involves the conveying of oxygen or air through the cathode and the conveyance of the electrolyte to the external reaction vessel. If slowly reacting olefins are involved, surfactants or solution promoters are employed.

3,379,627
PROCESS FOR THE MANUFACTURE OF OXYGEN-CONTAINING DERIVATIVES OF OLEFINS IN AN ELECTROCHEMICAL CELL
Joseph Adrien M. Leduc, Short Hills, N.J., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Continuation-in-part of application Ser. No. 299,519, Aug. 2, 1963, which is a continuation-in-part of application Ser. No. 244,991, Sept. 20, 1962. This application June 21, 1966, Ser. No. 559,271
9 Claims. (Cl. 204—80)

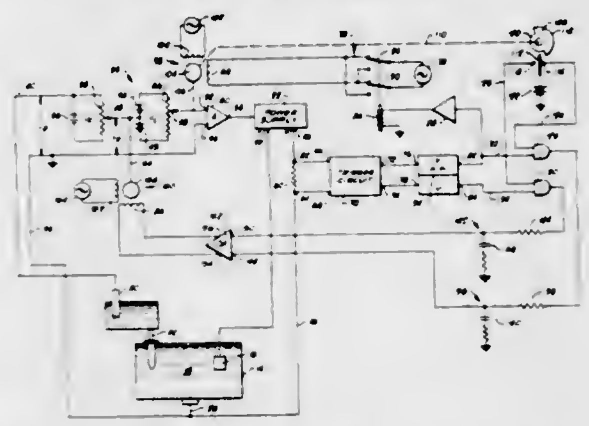


1. An improved method for converting an olefinic compound to an oxygen-containing derivative in an electrochemical cell which comprises subjecting an aqueous medium comprising a halide electrolyte and contained in an electrochemical cell to an electrolyzing current, reacting an olefinic compound in the aqueous medium in the vicinity of the anode of said cell, said anode comprising an outer layer of at least one platinum group metal on a substrate metal formed of at least one of the group consisting of titanium, tantalum, zirconium and niobium, to produce the corresponding halohydrin derivative of the olefin in the aqueous medium in the vicinity of the anode.

3,379,628
DECORATIVE ETCHING OF ALUMINUM
Glen M. Burdick, Wichita, Kans., and James R. Dafler and Richard L. Every, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
No Drawing. Filed Apr. 21, 1965, Ser. No. 449,887
9 Claims. (Cl. 204—141)

1. A method for decoratively etching the surface of an aluminum object which comprises anodically etching said object in an electrolyte consisting essentially of a homogeneous melt of an aluminum alkyl and a compound capable of forming a heat-stable complex therewith selected from the group consisting of alkali metal fluorides, alkali metal cyanides, alkali metal azides and tetraalkyl ammonium halides under an inert gas atmosphere to the extent that a bright decorative crystalline pattern is produced on the surface of the object.

3,379,629
METHOD AND APPARATUS FOR AUTOMATICALLY CONTROLLING CORROSION OF PROCESS VESSELS
William P. Banks, Norman L. Conger, and Carl E. Locke, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Feb. 8, 1965, Ser. No. 430,896
11 Claims. (Cl. 204—147)



1. In a method of maintaining passivity in a metallic vessel containing a corrosive, electrolytic solution wherein the potential of the vessel at which the minimum rate of corrosion occurs changes with time, comprising:

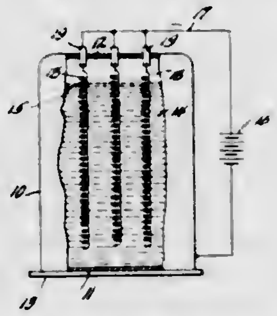
placing an inert electrode in the solution;

imposing a potential across the inert electrode as the cathode and the vessel as the anode;

sensing the rate of current flow between the vessel and the electrode;

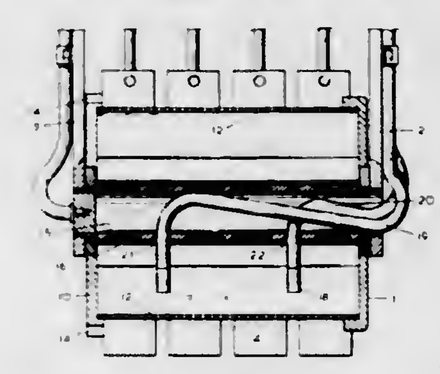
increasing the potential between the vessel and the electrode until the rate of current flow through the solution between the vessel and the electrode reaches a predetermined maximum, and, alternately, decreasing the potential between the vessel and the electrode until the rate of current flow through the solution between the vessel and the electrode again reaches said predetermined maximum, whereby the potential of the vessel will be maintained in a range of minimum corrosion.

3,379,630
METHOD AND APPARATUS FOR CATHODICALLY PROTECTING ALUMINUM ALLOYS AGAINST CORROSION BY ALKALI NITRATE SOLUTIONS
Harmon Brown Romans, Hanover County, and Howard Lee Craig, Jr., Henrico County, Va., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed May 7, 1965, Ser. No. 454,042
6 Claims. (Cl. 204—147)



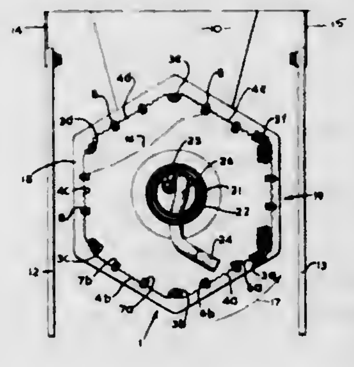
1. Method for the cathodic protection of aluminum alloy surfaces against the corrosive action of a concentrated alkali nitrate solution in contact therewith, comprising the steps of making said alloy the cathode, providing an anode immersed in the alkali metal nitrate solution, and passing direct current through the solution at a cathodic current density of at least about 0.5 milliampere per square foot to liberate alkali hydroxide at the cathode alloy surface and thereby inhibit attack on the alloy by said solution.

3,379,631
ELECTROLYTIC APPARATUS
Hans Henig, Sulzbacherstrasse 31, Nuremberg, Germany
Filed Feb. 26, 1964, Ser. No. 347,613
Claims priority, application Germany, Mar. 27, 1963, H 47,383
2 Claims. (Cl. 204—213)



1. Electrolytic apparatus comprising a container for plating electrolyte, a tubular anode fixedly supported in said container, a drum having end walls and a perforate non-conducting peripheral wall mounted to rotate on said tubular anode, said peripheral wall being spaced from said tubular anode, a stationary perforate non-conducting sleeve closely surrounding said tubular anode, at least one stationary soluble electrode located in said container outside of said drum, at least one stationary cathode extending into said tubular anode and through openings in the wall of said tubular anode and in said perforate sleeve into the space between said sleeve and said peripheral wall, and being insulated from said tubular anode, and electrical connections to all of said electrodes.

3,379,632
ELECTROLYTIC APPARATUS
Hans Henig, Sulzbacherstrasse 31, Nuremberg, Germany
Filed Mar. 10, 1964, Ser. No. 350,771
Claims priority, application Germany, Mar. 11, 1963, H 48,489
6 Claims. (Cl. 204—213)



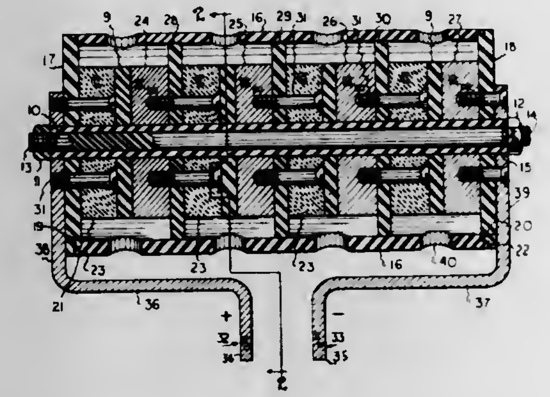
1. Electrolytic apparatus for bulk electroplating of a mass of small metal parts, comprising a container for plating electrolyte;

a generally cylindrical rotatable barrel for containing such mass of parts,

said barrel having two end plates disposed substantially normal to the barrel axis;

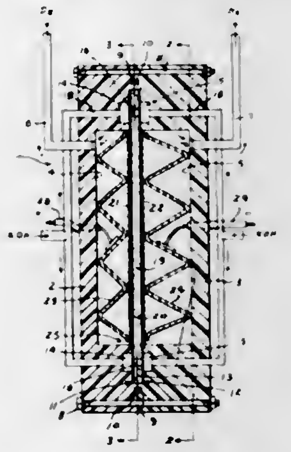
means for mounting said end plates for rotation about said axis;
a plurality of strut members extending between and fixedly mounted upon said end plates;
a foraminous external barrel wall mounted about said strut members and formed of a non-conductive woven-filament material;
means defining an opening in said barrel structure for loading and unloading the barrel;
a cover member detachably secured to close said opening;
a plurality of rib members disposed against said wall within said barrel and extending longitudinally thereof, so that upon rotation the barrel load adjacent the wall is held substantially at rest relative thereto;
at least one first electrode disposed within the barrel;
a perforate non-conducting sleeve closely surrounding said first electrode and shielding same from direct contact with said mass within said barrel;
at least one second electrode between said perforate nonconducting peripheral wall and said perforate nonconducting sleeve for contacting said mass within said barrel;
at least one soluble third electrode located in said container outside of said barrel; and
electrical connections to said electrodes.

3,379,633
ELECTRIC AND ION GENERATOR
William G. Green, 4925 Camellia Way S.,
St. Petersburg, Fla. 33705
Continuation-in-part of application Ser. No. 340,921, Jan. 29, 1964. This application Nov. 30, 1966, Ser. No. 614,378
3 Claims. (Cl. 204—248)



1. In a generator for production of chlorine gas, dissolved in water, the combination which comprises:
(a) means for production of metal ions for treatment of water, and,
(b) means for control of bacteria, algae, and marine organisms comprising:
(c) an insulating, chemically inert, casing,
(d) means for sealing the casing at the ends,
(e) said casing containing cells,
(f) sealed barriers positioned between the cells for insulating one cell from another,
(g) each cell containing a pair of dissimilar electrodes, electro positive and electro negative with respect to each other, at least one of said electrodes being metallic;
(h) the dissimilar electrodes of the adjoining cells being electrically connected in series, for addition of EMFs,
(i) each of the cells having a disc of insulating material between the electrodes thereof, and a space between said electrodes and said casing extending around the electrodes of each cell,
(j) said space to be filled with sea water when the generator is immersed therein,
(k) said casing having upper and lower sets of openings in the wall thereof and positioned opposite the spaces between the electrodes of each cell, for the escape of gases, causing the water charged with metal ions and chlorine to flow upward with the bubbles of gas for replacement of the charged water with fresh electrolyte through the openings in the lower part of the casing, the path for current leakage through the electrolyte being made purposely as long and as devious as practicable within the dimension limitations of the equipment for the production of the greatest amount of current and voltage for the dimensions used,
(l) electrical connection terminals at opposite ends of the casing connected to end electrodes of said series of cells and for attaching to control equipment for reducing the current and electrode consumption to the minimum amount required for maintaining the bactericidal conditions required.
(m) which generator, in combination with an electrolyte such as sea water or the like will generate sufficient electric current, at a sufficient voltage to liberate chlorine gas and metal ions, circulating the ions and gas throughout the area above the generator such as by means of the gas bubbles, thus maintaining an environment of Cl_2 gas and metal ions for the control of algae, bacteria, and marine organisms, above and adjacent to the generator, as described.

3,379,634
ZERO GRAVITY ELECTROLYSIS APPARATUS
Michael D. Rutkowski, Phoenixville, Pa., assignor to the United States of America as represented by the Secretary of the Air Force
Filed May 24, 1965, Ser. No. 458,520
19 Claims. (Cl. 204—258)



1. An electrolysis device for generating oxygen and hydrogen gases from an electrolyte under zero gravity conditions comprising, a closed casing, an electrolyte absorbent wick member extending across the interior of the casing dividing the same into closed oxygen and hydrogen collection and delivery chambers at opposite sides of said wick member, means for supplying an electrolyte to said wick member under pressure for capillary saturation of the wick member and the opposite sides thereof, metallic cathode and anode fine mesh screen electrode members in substantially entire surface contact with the opposite exposed sides of said wick member respectively in said oxygen and hydrogen collection and delivery chambers, a corrugated metallic electrical contact pressure plate in each of said chambers with the corrugations thereof alternately in electrical contact with the surface of the screen members throughout substantially the area thereof, and in contact with the bottom surfaces of the chambers for urging the screen members toward the wick member and holding the screen members flat in substantially complete surface contact with the opposite sides of the wick member and the electrolyte therein, means for supplying positive and negative electrical potentials to said anode and cathode screen members in said oxygen and hydrogen collection and delivery chambers, and oxygen and hydrogen delivery outlets in said oxygen and hydrogen collection and delivery chambers for the delivery of oxygen and hydrogen therefrom during the operation of the device.

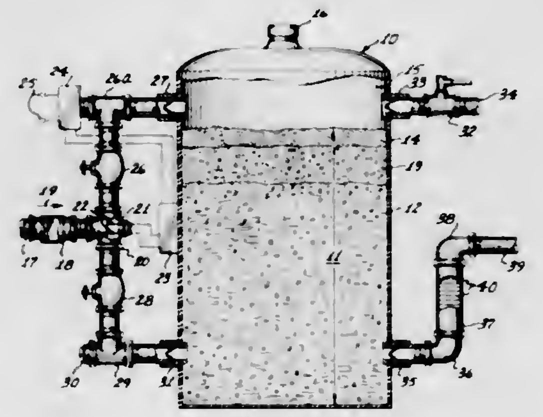
3,379,635
METHOD OF PRESERVING THE CATALYTIC ACTIVITY OF SENSITIVE CATALYSTS
Hans H. von Doehren, Frankfurt am Main, and Margarete Jüng, Nieder-Eschbach im Taunus, Germany, assignors to Varta Aktiengesellschaft, Hagen, Westphalia, Germany, a corporation of Germany
No Drawing. Continuation-in-part of application Ser. No. 327,501, Dec. 2, 1963. This application Jan. 15, 1965, Ser. No. 425,923
Claims priority, application Germany, Dec. 1, 1962, V 23,359
32 Claims. (Cl. 204—284)

Process for making a pyrophoric catalyst catalytically stable by contacting it with a specific alcohol and collecting a catalytically stable, superficially dry or wet catalyst.

3,379,636
INDIUM-GALLIUM-ALUMINUM ALLOYS AND GALVANIC ANODES MADE THEREFROM
John T. Reding and Charles F. Schrieber, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 384,796, July 23, 1964. This application May 9, 1967, Ser. No. 637,082
4 Claims. (Cl. 204—293)

An aluminum alloy having a high oxidation potential and comprising small, controlled quantities of indium and gallium alloyed with aluminum and a cast aluminum based sacrificial anode prepared from the alloy are disclosed.

3,379,637
ELECTROMAGNETIC WATER CONDITIONER
John P. O'Brien, Box 194, Arizona City, Ariz. 85223
Filed July 6, 1965, Ser. No. 469,675
4 Claims. (Cl. 204—309)

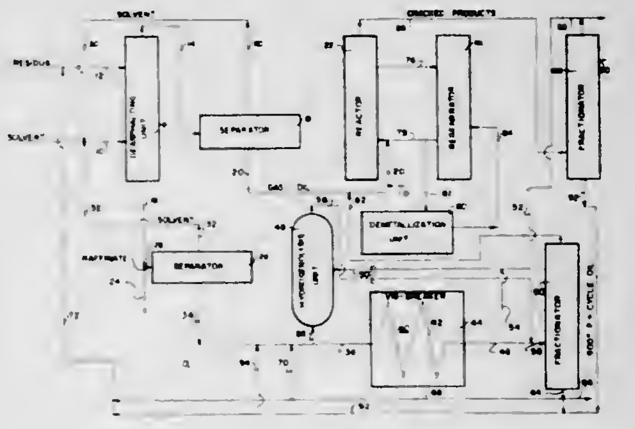


1. An electromagnetic water conditioner comprising in combination:
(A) a tank,
(B) a filter bed in said tank comprising,
(C) a lower section of quartz and graphite,
(D) an intermediate section of activated charcoal,
(E) and a top section of green sand,
(F) a gas chamber in said tank above said filter bed,
(G) an input port at the top of said tank communicating with said gas chamber,
(H) a raw water supply pipe,
(I) an electrode chamber connected between said raw water supply pipe and said input port,
(J) a filtered water discharge port at the bottom of said tank communicating with the bottom of said lower quartz and graphite section of said filter bed,
(K) a treated and purified water supply line,
(L) and a magnetic field chamber connected between said filtered water discharge port and said treated and purified water supply line.

3,379,638
COAL SOLVATION WITH NONHYDROGENATED SOLVENT IN THE ABSENCE OF ADDED HYDROGEN
Ward J. Bloomer, Westfield, N.J., and Samuel W. Martin, deceased, late of Oak Park, Ill., by Beverly B. Martin, administratrix, Oak Park, Ill., assignors to The Lummus Company, New York, N.Y., and Great Lakes Carbon Corporation, both corporations of Delaware
Continuation-in-part of application Ser. No. 831,310, Aug. 3, 1959. This application Jan. 25, 1965, Ser. No. 431,758
6 Claims. (Cl. 208—8)

1. A process for producing a substantially ash-free solution of carbonaceous matter from a coal selected from the group consisting of bituminous coal, subbituminous coal and lignite which are comprised of extractable carbonaceous matter, fusain and mineral matter, which comprises:
mixing the coal in crushed form with a non-hydrogenated, high boiling liquid solvent of high aromaticity having an initial boiling temperature, converted to one atmosphere, of from about 650° F. to about 850° F.;
heating said mixture in the absence of added hydrogen to a temperature of from about 600° F. to about 850° F. to form a solution of said extractable carbonaceous matter wherein solids including fusain and mineral matter are suspended; and
separating said suspended solids from said solutions.

3,379,639
RESIDUAL DEASPHALTING AND CRACKING WITH CATALYST DEMETALLIZATION
Barney Vallino, Jr., Chicago Heights, Ill., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
Continuation-in-part of application Ser. No. 101,955, Apr. 10, 1961. This application Oct. 9, 1964, Ser. No. 402,968
11 Claims. (Cl. 208—80)



1. In a process for treating a residual hydrocarbon oil boiling above the gasoline range containing at least about 15 parts per million of nickel and at least about 25 parts per million of vanadium, wherein the said hydrocarbon oil is contacted in a deasphalting zone with a low boiling, liquid hydrocarbon solvent to form a deasphalted gas oil phase and an asphalt phase, a hydrocarbon feedstock com-

prising at least about 10% of the resulting deasphalted gas oil phase is subjected to fluidized catalytic cracking with a synthetic gel, silica-based catalyst, the cracked products, including gasoline, are recovered from said cracking zone and carbon is burned from the catalyst to regenerate the catalyst, the improvements which comprise confining the amount of liquid hydrocarbon solvent to an amount lower than the solvent-to-oil ratio at which a minimum yield of gas oil is obtained, so that the deasphalted gas oil contains at least about 1.5 p.p.m. nickel and at least about 2 p.p.m. vanadium, providing a cracking feedstock containing about 1 to 30 p.p.m. nickel and about 2 to 60 p.p.m. vanadium and bleeding from the cracking system a portion of catalyst containing at least about 200 p.p.m. nickel and at least about 500 p.p.m. vanadium, demetallizing bled catalyst to remove at least about 50% of the nickel and at least about 15% of the vanadium, and returning demetallized catalyst to the cracking-regeneration system, said metal levels being measured as NiO and V_2O_5, respectively.

6. The process of claim **1** wherein the asphalt phase is conducted to a hydrogenolysis unit where the asphalt phase is subjected to hydrogenation at a temperature of 750 to 900° F. to produce a gas oil containing about 50 to 90% less of nickel and vanadium than in said asphalt phase and the gas oil is combined with the deasphalted gas oil feed to the catalytic cracking zone.

7. The process of claim **1** wherein the asphalt phase is conducted to a visbreaking unit where the asphalt phase is thermally cracked at a temperature of about 800 to 950° F. to produce a gas oil, and the gas oil is combined with the deasphalted gas oil feed to the catalytic cracking zone.

3,379,640
SELECTIVE CATALYTIC CONVERSION WITH A CRYSTALLINE ALUMINOSILICATE

Nai Yuen Chen, Cherry Hill, and William E. Garwood, Haddonfield, N.J., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Jan. 24, 1966, Ser. No. 522,368

9 Claims. (Cl. 208—111)

4. A novel shape-selective crystalline aluminosilicate having a pore size of about 5 angstrom units characterized by (*a*) a silicon to aluminum ratio of at least 3.0; (*b*) substantially free of hydrogenation/dehydrogenation activity on the exterior thereof; and (*c*) containing within the interior thereof at least one metal having hydrogenation/dehydrogenation activity in amounts of no more than 1.0 cation in a supercage.

9. A process for selectively hydrocracking normal paraffins and normal olefins from a recation mixture consisting of components of different molecular shapes which comprises contacting the reaction mixture with hydrogen at hydrocracking conditions over a crystalline aluminosilicate as defined in claim 4.

3,379,641
LOW PRESSURE REFORMING WITH A PLATINUM, HALOGEN, ALUMINA, SULFUR AND IRON CATALYST

John C. Hayes, Palatine, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Oct. 3, 1966, Ser. No. 583,963

9 Claims. (Cl. 208—139)

Low pressure reforming of a gasoline charge stock by contacting the charge stock in admixture with hydrogen and 1–25 p.p.m. by weight of an alkyl halide, at reforming conditions including a pressure of 50–200 p.s.i.g., with a sulfided Pt-Fe-halogen-Al_2O_3 catalyst, the iron content of the catalyst being 100–5000 p.p.m. and the iron being uniformly distributed throughout the catalytic composite.

3,379,642
EXTRUSION LUBRICANTS

Morris L. Nielsen, Dayton, and Roger M. Niemi, Hamilton, Ohio, assignors to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed July 7, 1967, Ser. No. 651,686

6 Claims. (Cl. 252—29)

An improvement in the process of metal extrusion in which a composition comprising a reaction product of melamine and a phosphorus (V) acid or anhydride is used as a lubricant. A laminar lubricant such as graphite may also be present.

3,379,643
FLEXIBLE MAGNETIC PLASTIC COMPOSITION

Richard R. Merkel, Hackensack, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Nov. 27, 1964, Ser. No. 414,433

6 Claims. (Cl. 252—62.54)

The invention more specifically relates to new and improved highly flexible high magnetic strength compositions comprising a highly specific high molecular weight chlorinated polyethylene having chlorine content between 33–55% by weight, less than 3% residual polyethylene crystallinity and intrinsic viscosity between 3 to 6 in o-dichlorobenzene at 100° C., together with at least 30 parts of normally liquid plasticizer per 100 parts of the chlorinated polyethylene, and at least about 90% by total weight of fine magnetic particles having size less than about 10 microns.

3,379,644
HYDRAULIC FLUID COMPOSITIONS

William Katzenstein, Broomal, Pa., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 16, 1966, Ser. No. 534,663

5 Claims. (Cl. 252—73)

1. A hydraulic fluid composition comprising (1) 75 to 92 parts by weight of an ethylene glycol-water mixture and (2) as a thickening agent, 25 to 8 parts by weight of an ethoxylated dinonyl phenol in which its polyoxethylene radical comprises 60 to 70% by weight of said ethoxylated dinonyl phenol; 100 parts of said ethylene glycol-water mixture consisting essentially of about 40 to 65 parts by weight of ethylene glycol and about 60–35 parts by weight of water.

3,379,645
PROCESS AND COMPOSITION FOR REMOVING PROTECTIVE PAINT FILMS

Earl W. Kendall, San Diego, Calif., assignor to Rohr Corporation, a corporation of California

No Drawing. Filed Nov. 15, 1965, Ser. No. 507,671

6 Claims. (Cl. 252—100)

An immersion or brush-on type paint film remover is used to remove protective paint films of highly polymerized resinous base materials such as epoxies, acrylics, vinyls, polyurethanes, polyamides, silicones, and zinc chromate and adhesive bonding primers from aluminum, ferrous metals and titanium without removing "Alodine" or the like protective films and without etching the underlying metallic surfaces. The composition of the remover, whether used for immersion or brush-on application consists of from 175–225 grams of sulfuric acid (specific gravity 1.84) and from 15–25 grams of chromic acid (CrO_3) and is prepared by slowly adding the chromic acid in finely divided state to the sulfuric acid while the same is vigorously agitated to form a brown colored suspension. Removal by immersion takes about 5 to 30 minutes in a non-aqueous solution of the composition material operated at ambient temperature. The solution composition is rendered thixotropic and suitable for brush-on application by the addition of from 0.5–5.0 grams of sub-microscopic pyrogenic silica ("Cabosil"). A two inch moisture barrier layer of carbon tetrachloride (CCl_4) is floated on the top of the immersion solution to prevent the influx of water.

3,379,646
SURFACE-ACTIVE AGENTS, PROCESS FOR THEIR PREPARATION AND THEIR USE

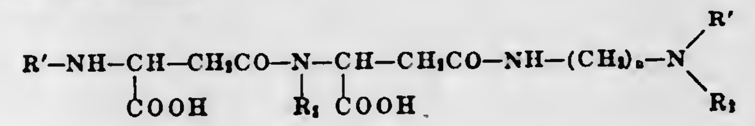
Grégoire Kalopissis and André Viout, Paris, and Guy Vanlerberghe, Mitry-Mory, France, assignors to Societe Anonyme dite: l'Oreal, a corporation of France

No Drawing. Original application Feb. 26, 1964, Ser. No. 347,397. Divided and this application Oct. 3, 1966, Ser. No. 611,485

Claims priority, application France, Mar. 1, 1963, 926,440, Patent 1,419,574

9 Claims. (Cl. 252—152)

A method of shampooing hair and shampoo compositions containing:



$$R'{-}NH{-}\underset{\displaystyle COOH}{CH}{-}CH_2CO{-}\underset{\displaystyle R_1}{N}{-}\underset{\displaystyle COOH}{CH}{-}CH_2CO{-}NH{-}(CH_2)_n{-}N\begin{matrix}R'\\R_2\end{matrix}$$

which prevent accumulations of electrostatic charges, impart a soft handle to hair and which do not irritate the mucous membrane of the eye.

3,379,647
METAL CARBIDE AND BORIDE PRODUCTION

Paul A. Smudski, Grand Island, N.Y., assignor to The Carborundum Company, Niagara Falls, N.Y., a corporation of Delaware

No Drawing. Filed May 4, 1966, Ser. No. 547,436

22 Claims. (Cl. 252—301.1)

An intimate reactive mixture suitable for the production of metal carbides by carbothermic reduction is prepared by forming a mutual solution of a suitable carbon source and a source of an oxide of a carbide-forming metal. An intimate reactive mixture suitable for the production of metal borides by carbothermic reduction is prepared by forming a mutual solution of a suitable carbon source and a boric oxide source, with a source of an oxide of a boride-forming metal slurried or dissolved therein. Such reactive mixtures may be heated to produce the corresponding metal carbide or boride.

3,379,648
SEPARATION OF TRIVALENT 4*f* RARE EARTHS FROM MOLTEN FLUORIDE COMPOSITIONS WITH UF_3

Harold F. McDuffie, Oak Ridge, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Dec. 7, 1966, Ser. No. 599,977

3 Claims. (Cl. 252—301.1)

Trivalent 4*f* rare earth fluorides are removed from molten fluoride by saturating the composition with UF_3 and collecting the resultant precipitated phase.

3,379,649
PREPARATION OF HALOPHOSPHATE PHOSPHOR

Ivie Lee Smith, Cleveland, Ohio, assignor to General Electric Company, a corporation of New York

No Drawing. Filed Dec. 17, 1964, Ser. No. 419,233

3 Claims. (Cl. 252—301.4)

In the manufacture of calcium halophosphate phosphors the use of calcium oxalate as a partial or complete substitute for calcium-fixing additives in the batch results in greatly decreased sintering of the phosphor materials. The effect is sufficient to allow the production of such phosphors with one firing in vessels open to the air, rather than the two firings which were required previously.

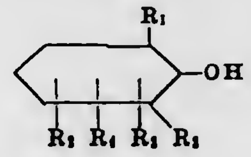
3,379,650
DISPERSION OF LONG CHAIN ALKYL AMMONIUM HUMATE IN ORGANIC LIQUID

Augustus Earl Beasley, Jr., Jack C. Cowan, and Hugh G. Gainey, Houston, Tex., assignors to National Lead Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Dec. 20, 1963, Ser. No. 332,279

2 Claims. (Cl. 252—308)

1. A composition of matter consisting essentially of an organic liquid vehicle chosen from the class consisting of petroleum oils and lacquer solvents, and containing a long chain alkyl ammonium humate and an effective dispersing amount of a substance chosen from the class consisting of:



where

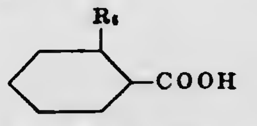
R_1 is chosen from the group consisting of C_nH_{2n+1} with *n* from 1–12; C_nH_{2n-1} with *n* from 1–12; OH, H, Cl, Br, COOH, NH_2;

R_2 is chosen from the group consisting of C_nH_{2n+1} with *n* from 1–12; C_nH_{2n-1} with *n* from 1–12; H, Cl, Br, phenyl, benzyl;

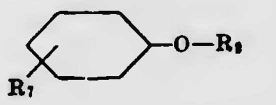
R_3 is chosen from the group consisting of OH, Cl, Br, H, NH_2, $CONH_2$, phenyl, benzyl;

R_4 is chosen from the group consisting of Cl, Br, H, $HOCH_{2-}$, methylol;

R_5 is chosen from the group consisting of Cl, Br, H, $HOCH_{2-}$, methylol;



where R_6 is chosen from the group consisting of H, OH, COOH;



where

R_7 is C_nH_{2n+1} with *n* between 7 and 11, inclusive; and

R_8 is $(CH_2CH_2O)_mH$ with *m* between 1 and 18, inclusive;

$$R_9COOH$$

where

$$R_{10}$$

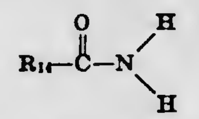
R_9 is chosen from the group consisting of C_nH_{2n+1} with *n* between 1 and 13, inclusive; C_nH_{2n-1} with *n* between 2 and 15, inclusive; C_nH_{2n-3} with *n* between 3 and 17, inclusive;

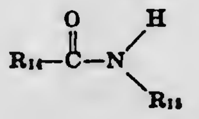
where R_{10} is C_nH_{2n-1} with *n* between 1 and 12, inclusive;

$$R_{11}R_{12}R_{13}N$$

where R_{11} is ethylol, and

R_{12} and R_{13} are chosen from the group consisting of H, ethylol;

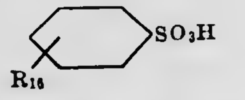




where

R_{14} is chosen from the group consisting of C_nH_{2n+1} with *n* between 12 and 17, inclusive; C_nH_{2n-1} with *n* between 12 and 17, inclusive;

R_{15} is $(CH_2)_mOH$ with *m* between 1 and 3, inclusive;



where R_{16} is C_nH_{2n-1} with *n* between 9 and 15, inclusive;

$$R_{17}(OCH_2CH_2)_mOH$$

where R_{17} is C_nH_{2n+1}

with *n* between 9 and 15, inclusive, and *m* is between 3 and 10, inclusive;
α-naphthol;
β-naphthol;
phenyl acetate;
diphenylamine;
phenyl propionate;
maleic acid;
malic acid;
glycolic acid;
phthalic acid;
monomethyl ether resorcinol;
monoethyl ether resorcinol;
piperidine;
mono-, di-, tri-oleic ester of sorbitan;
mono-, di-, tri-lauric ester of sorbitan;
2,6-dimethylol, 4-nonyl phenol;
octyl resorcinol;
nonyl resorcinol.

3,379,651

CONTACT AGENTS FOR CONVERTING ETHYLENICALLY UNSATURATED HYDROCARBONS TO CARBONYLIC COMPOUNDS

Charles Wesley Hargis and Howard Seth Young, both of P.O. Box 511, Kingsport, Tenn. 37662

No Drawing. Continuation-in-part of abandoned application Ser. No. 163,079, Dec. 29, 1961. This application Nov. 28, 1966, Ser. No. 597,211

10 Claims. (Cl. 252—437)

Process for converting ethylenically unsaturated hydrocarbons to carbonylic compounds in the presence of a novel catalyst composition comprising a titania or zirconia supported mixture of at least one of molybdenum trioxide, molybdenum heteropolyacid and a salt of molybdenum heteropolyacid together with a second component of platinum or palladium or compounds thereof. The process is useful for preparing products which are useable both for solvent extraction purposes and for the preparation of war gasses, resins, glycerin, polyurethane, polyester resins and the like.

3,379,652

ARSENOPHOSPHOMOLYBDIC ACID CATALYST COMPOSITIONS AND PROCESS FOR THEIR PREPARATION

Howard S. Young, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation of application Ser. No. 316,543, Oct. 16, 1963. This application Apr. 28, 1967, Ser. No. 634,772

10 Claims. (Cl. 252—437)

1. A catalytic calcined mixture consisting essentially of (1) 1 to 20 percent by weight of an oxide of arsenic, (2) 5 to 60 percent by weight of a phosphomolybdic acid and (3) a carrier, wherein said oxide of arsenic and said phosphomolybdic acid are supported on said carrier.

3,379,653

COLD-CURABLE MIXTURES OF CYCLOALIPHATIC POLYEPOXIDES AND CURING AGENTS

Otto Ernst, Pfeffingen, Basel, and Hans Lehmann, Basel, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Filed Oct. 6, 1964, Ser. No. 402,012

Claims priority, application Switzerland, Oct. 18, 1963, 12,793/63

10 Claims. (Cl. 260—2)

Cold-curing compositions comprising

(a) a cycloaliphatic polyepoxy compound containing at least one 1,2-epoxide group attached to a carbocyclic ring with at least 5 and at the most 6 members,
(b) a metal fluoborate, and
(c) a complex of boron trifluoride with a member selected from the group consisting of water, ammonia and organic compounds capable of forming a complex with boron trifluoride. The curable mixtures may be used as laminating resins, paints, lacquers, dipping resins, casting resins, coating compositions, pore fibers, putties, adhesives, moulding compositions, plastic foams, insulating compounds for the electrical industry and for manufacture of such products.

3,379,654

PROCESS FOR THE PREPARATION OF EPOXY-GROUP CONTAINING PREPOLYMERS FROM POLYEPOXY COMPOUNDS

Wolfgang Seiz, Basel, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a Swiss company

No Drawing. Filed Oct. 14, 1964, Ser. No. 403,904

Claims priority, application Switzerland, Oct. 18, 1963, 12,794/63

9 Claims. (Cl. 260—2)

Curable prepolymers are prepared by heating at elevated temperatures polyepoxides having a softening point not exceeding about 50° C. and a 1,2-epoxide equivalency greater than 1 in the presence of a titanic acid ester or aluminum alcoholate or of a complex or chelate compound of titanium or aluminum with a β-dicarbonyl compound.

3,379,655

POLYMERISATION OF CYCLIC ACETALS

Herbert May, Langley, Oldbury, near Birmingham, Brian John Kendall-Smith, Northfield, Birmingham, and Susannah Burr, Welland, England, assignors to British Industrial Plastics Limited, London, England, a corporation of the United Kingdom

No Drawing. Filed Aug. 27, 1965, Ser. No. 484,163

Claims priority, application Great Britain, Sept. 1, 1964, 35,826/64

19 Claims. (Cl. 260—2)

The cyclic compounds trioxan, tetroxan, 1,3-dioxolan, 1,3,5-trioxepan and 1,3-dioxepan are polymerised under substantially anhydrous conditions in the presence, as catalysts, of antimony pentafluoride or a coordination complex thereof. The catalysts used herein have advantages over catalysts used hitherto, the polymerisation rate being much higher, and a lower catalyst concentration being used to obtain equivalent percentage yields of polymer.

3,379,656

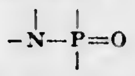
URETHANEPOLYMER COMPOSITIONS

Jacob Eichhorn, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed May 31, 1960, Ser. No. 32,621

22 Claims. (Cl. 260—2.5)

Self-extinguishing compositions are obtained from normally flammable materials such as cellular polyurethane resins in mixtures therewith of a compound having a plurality of bromine atoms in an aliphatic or cycloaliphatic radical and in amount of at least 45% by weight of the compound and a



$$-\overset{|}{N}-\underset{|}{\overset{|}{P}}=O$$

compound made by reacting anhydrous NH_3 with P_2O_5. In examples, the bromine compound is tris(2,3-dibromopropyl) phosphate, 1,2,3,4,5 - pentabromo - 6 - chlorocyclohexane, acetylene tetrabromide, or 1,2,3,4-tetrabromobutane, in amounts of 2–30 parts thereof with 1–20 parts of the nitrogen-phosphorus compound per 100 parts of the resin, by weight.

3,379,657

PROCESS FOR THE PRODUCTION OF FOAM PLASTIC USING THIOGLYCOLIC ACID-S-CARBOXYLIC ACID ANHYDRIDE

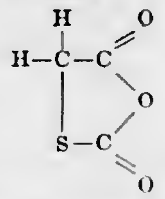
Karl Hamann, Stuttgart, and Franz Stürzenhofecker, Marl, Germany, assignors to Chemische Werke Huls Aktiengesellschaft, Marl, Kreis Recklinghausen, Germany, a corporation of Germany

No Drawing. Filed Sept. 28, 1964, Ser. No. 399,877

Claims priority, application Germany, Oct. 3, 1963, C 31,044

1 Claim. (Cl. 260—2.5)

This invention relates to the preparation of foam plastics by the reaction of thioglycolic acid-S-carboxylic acid anhydride having the formula



with a multi-ethylenically unsaturated compound and a polyol.

3,379,658

POROUS FILM AND METHOD OF MAKING

Charles R. Kemper, 500 Canterbury Drive, Dayton, Ohio 45429

No Drawing. Continuation-in-part of application Ser. No. 218,531, Aug. 22, 1962. This application May 25, 1964, Ser. No. 370,042

15 Claims. (Cl. 260—2.5)

Breathable polyvinyl chloride cellular sheets are formed from a plastisol mixture with polyvinyl chloride and a plasticizer, having dispersed therethrough particulate sodium tetraborate decahydrate (borax) capable of passing through a 100 U.S. Standard mesh screen, and a water soluble cell forming material such as sodium chloride. The plastisol mixture is formed into sheets and thereafter heated for release of water of hydration from the borax which forms small channels through the sheet as the latter is being cured. These channels permit access of a leaching medium to the anhydrous borax and water soluble cell forming material.

3,379,659

ORGANOPOLYSILOXANE FOAM-FORMING MATERIALS

Robert A. Murphy, Burnt Hills, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Jan. 4, 1965, Ser. No. 423,289

14 Claims. (Cl. 260—2.5)

Room temperature vulcanizing organopolysiloxane foam forming compositions and a method for making organopolysiloxane foams are provided. The foam forming organopolysiloxane compositions utilize a silicon hydride and an aminoxy-substituted organosilicon material. Foaming is achieved by the liberation of hydrogen from the silicon hydride, when the foam forming composition is contacted with a hydroxylated material such as atmospheric moisture.

3,379,660

ALKENE OXIDE POLYMERIZATION WITH A CATALYST COMPRISING AN ORGANOALUMINUM COMPOUND, AN ORGANOZINC COMPOUND AND WATER

Henry L. Hsieh, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed June 7, 1965, Ser. No. 462,104

4 Claims. (Cl. 260—2)

Alkene oxide compounds are polymerized with a catalyst system comprising (a) an organoaluminum compound, (b) an organozinc compound, and (c) water. The rubbery polymers, so produced, are useful in the automobile industry for fabricating hoses, tubing, and the like.

3,379,661

MOLDING COMPOSITION CONTAINING A SATURATED ALICYCLIC GUANAMINE AND CURED ARTICLES OF IMPROVED STAIN RESISTANCE AND LIGHT RESISTANCE THEREOF

Gilbert M. Gynn, Hilliard, and Palmer B. Stickney, Columbus, Ohio, assignors to Plastics Manufacturing Company, Dallas, Tex., a corporation of Texas

No Drawing. Filed Oct. 21, 1965, Ser. No. 500,180

6 Claims. (Cl. 260—17.3)

A thermosetting composition for molding light-fast tableware articles having improved coffee stain resistance, comprising cellulose impregnated with a co-condensation product of formaldehyde with melamine and a saturated alicyclic guanamine.

3,379,662

SEALING COMPOSITION COMPRISING BITUMEN RESIDUAL, ELASTOMER AND FILLER

Lloyd F. Bramble and Franklin C. Morrow, Houston, Tex., assignors to Gulf States Asphalt Co., Inc., a corporation of Texas

No Drawing. Continuation-in-part of application Ser. No. 233,928, Oct. 29, 1962. This application Oct. 26, 1964, Ser. No. 406,593

3 Claims. (Cl. 260—17.4)

1. A composition having substantially permanent sealing and adhesive properties, comprising:
  (a) from about 45% to about 95% of a base component,
  (b) said base component including:
    (1) from about 50% to about 99¾% of bitumen residual,
    (2) from about ¼% to about 25% of an elastomer selected from the group consisting of butadiene styrene and polybutene, and
    (3) from 0% to about 25% of oil, and
  (c) with essentially all of the remainder an additive selected from the group consisting of finely ground inorganic silicates, vegetable fibers, mineral fibers, rice hulls and mixtures thereof.

3,379,663

PETROLEUM RESIN AND SIZING COMPOSITION PREPARED FROM AN UNSATURATED DICARBOXYLIC ACID ADDUCT THEREOF

Koji Takei, Iwakuni-shi, Yamaguchi-ken, and Keiichi Miyamoto and Takeji Kenmotsu, Ohtake-shi, Hiroshima-ken, Japan, assignors to Mitsui Petrochemical Industries, Ltd., Tokyo, and Arakawa Rinsan Kagaku Kogyo Kabushiki Kaisha, Osaka, Japan, both corporations of Japan

No Drawing. Filed Mar. 31, 1964, Ser. No. 356,046

Claims priority, application Japan, Apr. 2, 1963, 38/16,260

2 Claims. (Cl. 260—23.7)

2. A sizing agent for making paper and paper board consisting essentially of an aqueous dispersed or solubilized product which was obtained by reacting 100 parts by weight of a hydrocarbon resin with 5 to 10 parts by

weight of a compound selected from the group consisting of an alpha,beta-unsaturated aliphatic dicarboxylic acid and acid anhydride thereof to form a partial addition reaction product thereof, mixing (1) the product thus obtined with (2) 10 to 50 parts by weight, based on 100 parts by weight of the hydrocarbon resin used, of at least a member selected from the group consisting of rosins, higher fatty acids, alpha,beta-unsaturated aliphatic dicarboxylic acid partial adducts of rosins, alpha,beta-unsaturated aliphatic dicarboxylic acid anhydride partial adducts of rosins, alpha,beta-unsaturated aliphatic dicarboxylic acid partial adducts of fatty acids and alpha,beta-unsaturated aliphatic dicarboxylic acid anhydride partial adducts of fatty acids and saponifying the mixture thus obtained with an aqueous alkali to disperse or solubilize it into water, the hydrocarbon resin being prepared by incorporating (a) a low-boiling hydrocarbon fraction boiling in a range of —15° C. to 15° C. which is aliphatic unsaturated hydrocarbon-rich into (b) an aromatic-rich hydrocarbon fraction boiling in a range of 130° C. to 300° C. which was obtained as by-product from the cracking or reforming of petroleum, in an amount of 0.1 to 1 part by weight of the low-boiling fraction per part by weight of the high-boiling fraction, polymerizing the mixture thus obtained at a temperature of —80° C. to 80° C. in the presence of a cationic type polymerization catalyst to form the hydrocarbon resin having a bromine value in a range of 37.2 to 82.8 and a softening point in a range of 55° C. to 75° C.

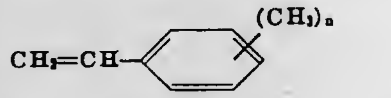
3,379,664
AQUEOUS DISPERSIONS OF POLYMERIC MATERIALS

Ralph M. Wiley, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 20, 1964, Ser. No. 361,238

9 Claims. (Cl. 260—28.5)

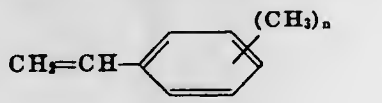
1. An aqueous dispersion of polymeric microspheres having an average diameter of from about 3 microns to about 40 microns having a reduced tendency to creaming or settling, said polymeric microspheres consisting essentially of the polymerization product of from about 65 percent to about 85 percent by weight of monomeric constituents having dissolved therein from about 15 percent to about 35 percent by weight of a wax having a specific gravity of less than about 0.95 and consisting essentially of hydrocarbon substances, said monomeric consituents consisting of at least 80 percent by weight of a monomer having the formula



where *n* is a cardinal number from 0 to 2, and the balance of the monomeric constituents consisting of emulsion-polymerizable hydrocarbon monomers; and said polymeric microspheres having about the same density as the aqueous portion of the dispersion.

6. A process for preparing an aqueous dispersion of polymeric microspheres having an average diameter of from about 3 microns to about 40 microns and having a reduced tendency to creaming or settling by the steps of

(1) preparing a solution of from about 15 percent to about 35 percent by weight of a wax having a specific gravity less than about 0.95 in from about 65 percent to about 85 percent by weight of a monomer composition consisting essentially of (a) at least 80 percent by weight of a monomer having the formula



where *n* is a cardinal number from 0 to 2; and (b) from 0 to about 20 percent of polymerizable ethylenic hydrocarbon monomers;

(2) preparing a dispersion of the resulting solution by mixing the solution with water, colloidal silica and a water-soluble protein; and

(3) heating and agitating the resulting dispersion with a free-radial catalyst until polymerization is substantially complete.

3,379,665
POLYMERIC COMPOSITIONS OF HIGH VINYLIDENE CHLORIDE CONTENT AND THEIR PREPARATION

Herbert R. Lyon and Harry W. Coover, Jr., Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation of application Ser. No. 303,435, Aug. 20, 1963. This application June 13, 1966, Ser. No. 557,318

11 Claims. (Cl. 260—29.6)

Preparation of improved acrylic-modified vinylidene chloride polymers by two stage emulsion polymerization process wherein a first stage monomer system in water consisting essentially of 70–90% by weight vinylidene chloride and 30–10% by weight acrylonitrile or acrylic acid ester is polymerized essentially to completeness and then adding a second stage monomer system consisting esentially of at least 85% by weight vinylidene chloride and 15% by weight of at least one other acrylonitrile or acrylic acid ester, the water and monomers in the two stages being about equal, the vinylidene chloride in the second stage being greater than the percent vinylidene chloride in the first stage and polymerizing the second stage monomer system to cause essentially complete polymerization thereof and to cause association of the second-stage polymer with the first stage polymer.

The process can also be similarly carried out in more than two stages.

3,379,666
PREPARATION OF STABLE COPOLYMERIC LATICES

Richard Oscar Becker, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 261,489, Feb. 27, 1963. This application Jan. 2, 1964, Ser. No. 335,407

2 Claims. (Cl. 260—29.7)

1. A method of preparing a stable latex of a water-insoluble, chain-saturated hydrocarbon copolymer selected from the group consisting of (1) ethylene/1,4-hexadiene copolymers, (2) ethylene/propylene/1,4-hexadiene copolymers, and (3) ethylene/propylene/dicyclopentadiene copolymers, which process comprises (I) forming a stable oil-in-water emulsion by mixing with high-shear agitation at a temperature between 15° and 75° C. (a) an inert organic solvent solution of said copolymer, said solution having a Brookfield viscosity at 25° C. below about 75,000 centipoise, with (b) water containing a colloidal stabilizer selected from the group consisting of ammonium caseinate, sodium and ammonium polyacrylates, methyl cellulose, alginates, starch and polyvinyl alcohol, in the presence of (c) an emulsifying agent in an amount of from about 1 to 10% based on the weight of said copolymer present, the volumetric ratio of (b) to (a) ranging from about 1:10 to 4:10 and wherein at least a part of said water (b) is introduced in the form of an aqueous polychloroprene latex; and (II) removing the solvent from the mixture at a temperature below about 75° C.

3,379,667
PROCESS OF EMULSIFYING POLYBUTADIENE LATICES WITH A MIXTURE OF ANIONIC/NONIONIC EMULSIFIERS

Gottfried Pampus and Nikolaus Schön, Leverkusen, and Josef Witte, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Feb. 18, 1964, Ser. No. 345,600

8 Claims. (Cl. 260—29.7)

A solution of a butadiene polymer in a hydrocarbon solvent is converted directly into a latex by mixing therewith an aqueous solution of an emulsifier mixture consisting of an anionic emulsifier and a nonionic dispersing agent, and then distilling off the solvent from the resulting emulsion. A catalyst-deactivator may be added to the polymer solution before it is emulsified.

3,379,668
POLYURETHANE COMPOSITIONS HAVING IMPROVED LOW-TEMPERATURE PROPERTIES AND INCREASED SOFTNESS

Edward J. Lui, Lorain, and Frederick L. Pittenger, Rocky River, Ohio, assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Mar. 25, 1965, Ser. No. 442,777

12 Claims. (Cl. 260—31.4)

Polyurethane elastomers having improved softness are prepared by mixing thermoplastic substantially uncross-linked polyesterurethanes and polyetherurethanes with minor proportions of diesters of triethylene glycol and saturated aliphatic monocarboxylic acids containing 8 to 10 carbon atoms.

3,379,669
COMPOSITION OF SYNTHETIC THERMOPLASTIC RESINS COMPRISED OF VINYL CHLORIDE AND ESTERS OF ALIPHATIC PHTHALATE PLASTICIZERS

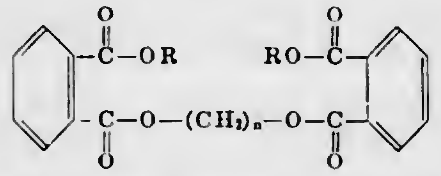
Fausto Bargellini, Porto Marghera, and Enzo Gagliardo, Peroga di Vegonza, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy

No Drawing. Filed Sept. 21, 1965, Ser. No. 489,072

Claims priority, application Italy, Sept. 28, 1964, 21,032/64

2 Claims. (Cl. 260—31.6)

A composition comprising a synthetic thermoplastic resin comprised of vinyl chloride and a plasticizer of the formula



wherein R is a straight branched chain hydrocarbon of from 6 to 12 carbon atoms and *n* is a whole number of from 2 to 10.

3,379,670
PROCESS FOR PREPARATION OF SPINNABLE SOLUTIONS OF ACRYLONITRILE POLYMERS OR COPOLYMERS HAVING A HIGH-ACRYLONITRILE CONTENT

Demetrio Corradi, Varedo, and Alberto Pasin, Cesano Maderno, Italy, assignors to Snia Viscosa Società Nazionale Industria Applicazioni Viscosa S.p.A., Milan, Italy, a company of Italy

No Drawing. Continuation-in-part of applications Ser. No. 456,832, May 18, 1965, and Ser. No. 457,174, May 19, 1965. This application Aug. 9, 1967, Ser. No. 659,330

Claims priority, application Italy, May 19, 1964, 11,062/64, Patent 778,106

9 Claims. (Cl. 260—32.6)

A spinnable solution of a polymer of acrylonitrile is produced by dissolving a monomeric mixture, containing acrylonitrile, in dimethylformamide with the monomers constituting between 50 and 60 percent by weight of the solution, heating the solution to between 60° and 65° C. under subatmospheric pressure, adding a peroxide catalyst, discontinuing the process when conversion of 30 to 40% of the monomers is attained. In a modification of the process, after the 30 to 40% conversion is attained, further dimethylformamide and catalyst are added, and the resulting mass is subjected to lower subatmospheric pressure and polymerization continued until conversion of 70 to 75% is achieved.

3,379,671
RUBBERY COPOLYMERS WITH IMPROVED TACK

David M. Coddington, Dunellen, N.J., and Arnold E. Lipson, Canton, Ohio, assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Sept. 1, 1965, Ser. No. 484,441

11 Claims. (Cl. 260—33.6)

Rubbery copolymers of ethylene and higher alpha olefins are blended with Butyl rubber or Vistanex and process oil. The blended rubber shows greatly improved building tack without adverse effect on cure state.

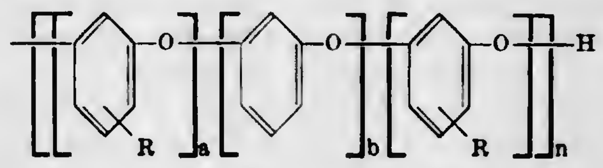
3,379,672
SUBSTITUTED POLYPHENYL ETHER

Samuel R. Breshears, Compton, Calif., assignor to Northrop Corporation, Beverly Hills, Calif., a corporation of California

No Drawing. Filed May 17, 1965, Ser. No. 456,555

7 Claims. (Cl. 260—37)

An amino substituted and hydroxy substituted meta linked polyphenyl ether having the following formula:



where *a* is one of the following, 0, 1; *b* is one of the following, 0 to approximately 20; and *n* is one of the following, 10 to approximately 200 and higher for very high molecular weight resins, and R is NH_2 or OH.

Adhesives are formulated by dissolving the aminated polyphenyl ether in a suitable solvent such as 1,4-dioxane, methyl ethyl ketone, toluene or dimethyl formamide, and mixing in aluminum powder and antimony pentasulfide. The adhesive is applied to at least one layer of solid material, bringing the layers together and setting at a temperature and time sufficient to effect crosslinking of the compound.

3,379,673
PIGMENTED COMPOSITIONS AND METHOD OF MANUFACTURE

Raymond P. Rossman, Wellesley Hills, Merrill E. Jordan, Walpole, and Eli M. Dannenberg, Waban, Mass., assignors to Cabot Corporation, Boston, Mass., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 637,621, Feb. 1, 1957. This application Feb. 28, 1963, Ser. No. 261,815

6 Claims. (Cl. 260—41)

1. A process for making superior articles from carbon black-filled polymeric compositions without the necessity for processing same at pressures substantially above atmospheric which comprises dispersing in a polymeric substance chosen from the group consisting of polyethylene, polypropylene, polybutene, copolymers thereof and mixtures thereof an oil furnace carbon black having an average particle diameter between about 20 and about 30 millimicrons, an oil absorption factor of between

about 110 lbs. and about 250 lbs./lb., a surface area between about 110 and about 220 m.^{2}/gram, and which has been heated to a temperature above about 500° C. in the absence of any substantial amounts of air and extruding the resulting dispersion into the final shape desired at about atmospheric pressure.

3,379,674

OPALESCENT VINYL COMPOSITIONS

John E. Jakob, Cranford, Robert P. Conger, Park Ridge, and Leon B. Palmer, Little Falls, N.J., assignors to Congoleum-Nairn Inc., Kearny, N.J., a corporation of New York

No Drawing. Filed July 28, 1964, Ser. No. 385,757

18 Claims. (Cl. 260—41)

This invention relates to a thermoplastic vinyl chloride polymer composition having a marked pearlescent appearance containing as the sole filler a talc of defined properties, to a process for preparing such a composition by calendering into a sheet between heated rolls and to the utilization of such sheet by converting it into granules and molding the granules together into a second sheet.

ERRATUM

For Class 260—45.8 see:
Patent No. 3,379,875

3,379,675

POLYETHER URETHANE STABILIZED WITH A BENZOTRIAZOLE AND A TRIS-PHENOL

Arnold William Jensen and Mara Ozolins, Waynesboro, Va., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 30, 1964, Ser. No. 386,451

10 Claims. (Cl. 260—45.8)

1. A polyether-based spandex fiber stabilized against ultraviolet light degradation by having incorporated therein a stabilizing quantity of (a) a 2-(o-hydroxyphenyl)-benzotriazole and (b) 1,3,5-trimethyl-2,4,6-tris(3,5-di-t-butyl-4-hydroxybenzyl)benzene.

3,379,676

CERTAIN TRIAZINES AS STABILIZERS FOR POLYAMIDES

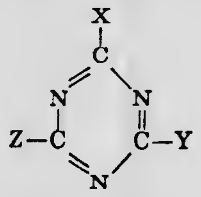
Stanley Ashton, Ronald James Hurlock, and Gerald Scott, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Sept. 27, 1965, Ser. No. 490,724

Claims priority, application Great Britain, Sept. 29, 1964, 39,586/64

12 Claims. (Cl. 260—45.8)

The heat stabilization of fibre-forming synthetic polyamides, such as the various nylons, is disclosed. The polyamides are stabilized by the addition of a stabilizing amount of a triazine compound of the formula:



Wherein Z is an arylene diamine radical joined to the triazine ring through a nitrogen atom, and X and Y are each chlorine, bromine, hydroxyl or Z.

3,379,677

ULTRAVIOLET LIGHT STABILIZERS FOR PLASTIC MATERIALS

Hans Dressler, Pitcairn, and Kenneth G. Reabe, Delmont, Pa., assignors to Koppers Company, Inc., a corporation of Delaware

No Drawing. Filed Feb. 28, 1966, Ser. No. 530,335

5 Claims. (Cl. 260—45.8)

Plastic materials such as polyester resins, polyvinyl chloride, polyvinyl acetate, polystyrene, copolymers of vinylidene and vinyl chloride, cellulose acetate, nitrocellulose and ethylcellulose stabilized against degradation caused by exposure to ultraviolet light, containing as the ultraviolet light stabilizer a 2-thiophene-alpha-(phenylsulfonyl)acrylonitrile derivative. The ultraviolet light stabilizer is generally present in an amount between 0.01 and 5 percent by weight of the plastic material.

3,379,678

OLEFIN POLYMER COMPOSITIONS CONTAINING THIAZOLINE POLYSULFIDE STABILIZING MATERIALS

Carl C. Greco, Bronx, and Walter Stamm, Tarrytown, N.Y., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 25, 1966, Ser. No. 596,816

7 Claims. (Cl. 260—45.8)

The present invention is directed to polyolefin polymer compositions containing a stabilizing quantity of thiazoline polysulfide material as stabilizer therefor. The preferred stabilizing compound is thiazoline disulfide used in an amount of from above 0.01% to about 5.0% by weight based on the weight of the polymer.

3,379,679

STABILIZING COMPOSITIONS

Michael M. Besso, New London, Conn., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed July 23, 1965, Ser. No. 474,475

13 Claims. (Cl. 260—45.75)

Halogen-containing resins stabilized by a mixture of an organotin maleate and a maleate ester, the molar ratio of maleate ester to organotin maleate being at least 1:1.

3,379,680

COMBINATIONS OF NICKEL AMINE THIOBISPHENOL COMPLEXES AND DITHIOBISPHENOLS FOR POLYOLEFINS

Thomas Robert O'Konski, Bridgewater Township, Somerset County, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Oct. 21, 1965, Ser. No. 500,241

6 Claims. (Cl. 260—45.75)

1. A composition of matter useful as a stabilizer for polymers which comprises a mixture of (a) a nickel amine complex of 2,2'-thiobis(p-alkylphenol) wherein the complex-forming amine is a member selected from the group consisting of ammonia, primary aliphatic amines, primary aromatic amines and cyclic secondary amines, and said alkyl groups, have up to eighteen carbons, said complex being characterized by a single nitrogen-to-nickel coordinate bond and a single nickel-to-sulfur coordinate bond, for each nickel atom in the complex molecule and (b) a 2,2'- or 4,4'-dithiobis(alkylphenol) wherein the alkyl group has up to eighteen carbon atoms, the proportion of said components being from 5 to 15 weight parts of (a) per part of (b).

4. A stabilized polyolefin composition comprising a polymer of a member selected from the group consisting of ethylene, propylene and butylene and 0.1 to 5 weight percent of the stabilizer of claim 1.

3,379,681

POLYMERIC COMPOSITIONS STABILIZED WITH A BIS(MONOSUBSTITUTED ALKYL)SULFONE

Adam F. Kopacki, Westwood, N.J., and Silvio L. Giolito, Whitestone, N.Y., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 19, 1965, Ser. No. 441,298

12 Claims. (Cl. 260—45.85)

Light stabilized polymer compositions comprising a normally solid hydrocarbon polymer formed from the polymerization of a hydrocarbon monomer containing an aliphatic group of from 2 to 10 carbon atoms and having at least one ethylenic center of unsaturation and a stabilizing quantity of a bis(monosubstituted alkyl) sulfone of the formula:

$$(R—Z—CH_2CH_2)_2SO_2$$

wherein R is selected from the class consisting of hydrocarbyl of from 1 to 20 carbon atoms, lower aliphatic acyl and $(R')_2P(S)$— wherein R' is hydrocarbyl as aforesaid and Z is an electronegative grouping selected from the class consisting of —O—, —S—, —SO— and —SO_2—.

3,379,682

POLYMER STABILIZATION

John H. Prichard, Millington, N.J., assignor to Celanese Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 287,764, June 14, 1963. This application Feb. 15, 1967, Ser. No. 616,198

10 Claims. (Cl. 260—45.85)

The present invention relates to oxymethylene polymers which have been improved as to light stability by incorporation into said polymers a stabilizing amount of at least one hydroxyphenyl ester of benzoic acid such as resorcinol monobenzoate.

ERRATUM

For Class 260—47 see:
Patent No. 3,379,801

3,379,683

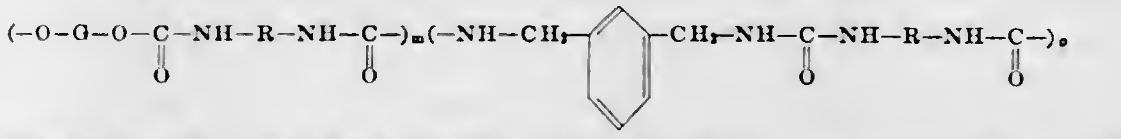
POLYURETHANES PREPARED FROM m-XYLYLENEDIAMINE

Max Howard Booth, Waynesboro, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 273,558, Apr. 17, 1963. This application Apr. 13, 1964, Ser. No. 359,458

4 Claims. (Cl. 260—47)

1. A segmented polymer of fiber-forming molecular weight comprising a plurality of intralinear structural units having the formula



wherein *m* and *n* are positive integers; G is a long-chain polymeric radical free from substituents reactive with an isocyanate and having a molecular weight above about 950 and which in its hydroxyl-terminated form,

$$HO—G—OH$$

has a melting point below about 70° C.; and R is a divalent radical containing an aromatic ring and selected from the group consisting of p,p'-methylenediphenyl, p,p'-isopropylidenediphenyl, p,p'-oxydiphenyl, p,p'-thiodiphenyl, and the foregoing radicals having methyl substituents on the rings.

3,379,684

METHOD OF PREPARING HIGH-MOLECULAR POLYHYDROXYETHERS

Ivo Wiesner, 8 Kosmonautu, Usti nad Labem, Czechoslovakia, and Vladimír Horák, 106 Jablonecka, Lucany nad Nisou, Czechoslovakia

No Drawing. Filed Apr. 20, 1965, Ser. No. 449,607

Claims priority, application Czechoslovakia, Apr. 29, 1964, 2,512/64

9 Claims. (Cl. 260—47)

The poly-addition product obtained by polymerization in the solid phase of (a) at least one diepoxide compound wherein the oxygen atom of the epoxy group is attached to two carbon atoms and, with said carbon atoms, forms a 3-membered ring and (b) an aromatic compound having two phenolic groups, the said product having a molecular weight of at least about 45,000.

3,379,685

CURABLE EPOXY COMPOUND COMPOSITION OF MATTER

Erich Preininger, Riehen, and Gustav Ott, Arlesheim, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company

No Drawing. Filed July 23, 1965, Ser. No. 474,515

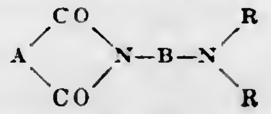
Claims priority, application Switzerland, Aug. 31, 1964, 11,376/64

4 Claims. (Cl. 260—47)

1. A curable composition of matter, comprising

(1) a 1,2-epoxy compound having a 1,2-epoxide equivalency greater than 1 and

(2) as curing agent, a tertiary amine of the formula



where A represents a bivalent hydrocarbon residue which contains at least 2 and at the most 20 carbon atoms and which is bound with the two CO-groups through vicinal carbon atoms, B represents an alkylene radical containing 2 to 6 carbon atoms, and R represents a lower alkyl group, with 1 to 4 carbon atoms.

3,379,686

PROCESS FOR PRODUCING HIGH MOLECULAR WEIGHT POLYBENZOXAZINE DIONES

Ludwig Bottenbruch, Krefeld-Bockum, and Hermann Schnell, Krefeld-Urdingen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Sept. 29, 1965, Ser. No. 491,435

6 Claims. (Cl. 260—47)

Production of polybenzoxazine diones by forming a polyamide by the reaction of an aromatic dicarboxylic acid with a diamine and then reacting the polyamide with a carbonic acid derivative.

3,379,687

PRODUCTION OF POLYURETHANES, POLYTHIOURETHANES, AND RELATED POLYMERS USING ALKALI METAL CYANATES AND THIOCYANATES

Richard C. Doss and James T. Edmonds, Jr., Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Dec. 14, 1965, Ser. No. 513,838

16 Claims. (Cl. 260—47)

1. Process of forming a polymer comprising reacting simultaneously together:

(A) a polyhalo organic compound, containing in the molecule at least two halogen atoms selected from the group consisting of chlorine, bromine, and iodine, each of said halogen atoms being attached to a saturated or unsaturated aliphatic or cycloaliphatic radical, or combination thereof, which radical may have aromatic substituents,

(B) a compound having at least two active hydrogen atoms, and

(C) an alkali metal cyanate or thiocyanate.

3,379,688

PROCESS FOR THE MANUFACTURE OF WATER-INSOLUBLE POLYSULFONIC ACIDS ON THE BASIS OF ACROLEIN POLYMERS AND COPOLYMERS

Robert Büning, Oberlar, Germany, assignor to Dynamit Nobel Aktiengesellschaft, Troisdorf, Bezirk Cologne, Germany, a corporation of Germany

No Drawing. Filed Apr. 7, 1965, Ser. No. 450,234

10 Claims. (Cl. 260—67)

There is disclosed a novel class of water-insoluble polysulfonic acids on the basis of acrolein polymers and copolymers. The aforesaid polysulfonic acid products are characterized by large interior surfaces and are suitable for use, for example, as acid catalysts, ion exchange materials, etc.

The water-insoluble polysulfonic acid products are prepared by reacting polyacrolein with hydrogen sulfide in a strongly acid aqueous medium and thereafter oxidizing the thusly produced sulfur-containing polymers in an aqueous medium at a temperature of between about 20–100° C.

3,379,689

PROCESS FOR THE MANUFACTURE OF ACROLEIN POLYMERS

Sanae Tanaka, Yoshio Nakamura, and Noboru Shimazaki, Tokyo, Japan, assignors to Mitsubishi Petrochemical Company Limited, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Feb. 23, 1965, Ser. No. 434,705

Claims priority, application Japan, Feb. 21, 1964, 39/9,060

9 Claims. (Cl. 260—67)

A process for the manufacture of soluble and fusible polyacrolein characterized in that acrolein is polymerized in the presence of a catalyst formed from the reaction of an organic metal compound of a metal of Groups II and III of the Periodic Table, such as zinc, cadmium and aluminium and at least one reactant selected from the group consisting of alkali metal, an alkali metal hydride such as lithium, sodium and potassium at a temperature below 0° C.

3,379,690

FIBER-FORMING LINEAR POLYESTERS

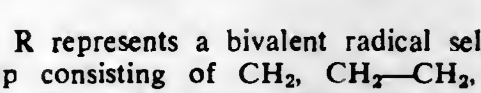
Adolf Hartman, Gessertshausen, near Augsburg, Germany; Armin Götz, deceased, late of Hurth, near Cologne, Germany, by Axel Armin Götz, Tubingen, and Elizabeth Götz, Bruhl, near Cologne, Germany, administratrix of Michael Heinrich Götz, Bruhl, near Cologne, Germany; said Axel Armin Götz and Michael Heinrich Götz, heirs, of Armin Götz; and Heinz Medem, Offenbach am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Continuation-in-part of application Ser. No. 121,848, July 5, 1961. This application Mar. 23, 1964, Ser. No. 357,005

Claims priority, application Germany, July 7, 1960, F 31,597

8 Claims. (Cl. 260—75)

1. A fiber-forming linear polyester of a mixture consisting essentially of 1,2-dimethylol cyclobutane and at least one aromatic dicarboxylic acid selected from the group consisting of terephthalic acid, 4,4′-diphenyl dicarboxylic acid, isophthalic acid, m-sulfo-isophthalic acid, 2,6-naphthalene dicarboxylic acid, 1,5-naphthalene dicarboxylic acid, 2,5-thiophene dicarboxylic acid and an aromatic dicarboxylic acid of the general formula



in which R represents a bivalent radical selected from the group consisting of CH_2, $CH_2—CH_2$, $CH=CH$, CH_2OCH_2, SO_2 and $CH_2SO_2CH_2$; the 1,2-dimethylolcyclobutane being used in an amount of 1–20% by weight, based on the weight of the copolyester.

3,379,691

POLYURETHANES CURED WITH THE REACTION PRODUCT OF 2-CHLOROANILINE; 2,5-DICHLOROANILINE; AND FORMALDEHYDE

Norman K. Sundholm, Middlebury, Conn., assignor to Uniroyal, Inc., a corporation of New Jersey

No Drawing. Filed Oct. 27, 1964, Ser. No. 406,878

1 Claim. (Cl. 260—75)

A composition having improved properties for curing polyurethane resins is made up of a mixture of 4,4′-methylenebis(2-chloroaniline); 2,5,3′-trichloro-4,4′-diaminodiphenylmethane; and 4,4′-methylenebis(2,5-dichloroaniline). The mixture may be prepared by reacting 2-chloroaniline, 2,5-dichloroaniline and formaldehyde in certain ratios in the presence of an acid.

3,379,692

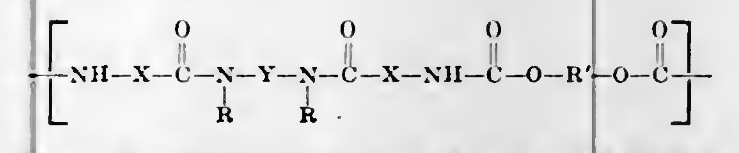
AMIDE-URETHANE COPOLYMERS

Jack Preston, Raleigh, N.C., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Aug. 8, 1963, Ser. No. 300,940

2 Claims. (Cl. 260—77.5)

1. A new composition of matter capable of forming films comprising an aromatic amide urethane copolymer having the formula



$$\left[-\mathrm{NH}-\mathrm{X}-\overset{\mathrm{O}}{\overset{\|}{\mathrm{C}}}-\underset{\mathrm{R}}{\underset{|}{\mathrm{N}}}-\mathrm{Y}-\underset{\mathrm{R}}{\underset{|}{\mathrm{N}}}-\overset{\mathrm{O}}{\overset{\|}{\mathrm{C}}}-\mathrm{X}-\mathrm{NH}-\overset{\mathrm{O}}{\overset{\|}{\mathrm{C}}}-\mathrm{O}-\mathrm{R}'-\mathrm{O}-\overset{\mathrm{O}}{\overset{\|}{\mathrm{C}}}-\right]$$

wherein X and Y are phenylene, R is selected from hydrogen, phenyl or lower alkyl and R′ is tetramethylene.

3,379,693

CARBONATE COMPOSITIONS

Fritz Hostettler and Eugene F. Cox, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed May 28, 1964, Ser. No. 371,073

24 Claims. (Cl. 260—77.5)

This specification discloses hydroxy products and a process for producing the same, which process comprises heating at least one cyclic carbonate, or an admixture containing a cyclic carbonate and a cyclic etser, with at least one organic functional initiator to a temperature in the range of from about 50° C. to about 225° C., the molar ration of said cyclic carbonate, or said admixture, to said initiator being at least about 2 to 1. Acylated or etherified products are suitable as plasticizers for vinyl resins and vinylidene resins. The hydroxy products may also be reacted with organic polyisocyanates to form urethane materials which are useful as printing ink rollers, cast solid urethane tires, mechanical goods such as seals, O-rings, gears or ladies' shoe heels.

3,379,694

SULFATED COPOLYMERS OF UREA AND DIOLEFINS AND PROCESS FOR PRODUCING SAME

Thomas Franklin Rutledge, Wilmington, Del., assignor to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 339,587, Jan. 23, 1964. This application Dec. 17, 1964, Ser. No. 419,201

11 Claims. (Cl. 260—77.5)

Sulfated copolymers of ureas and diolefins are prepared by reacting 1,3-butadiene, or a homologue thereof substituted in the 2-position with an n-alkyl radical containing up to 3 carbon atoms, with urea in the presence of sulfuric acid. Alternatively, part of the diolefin may be replaced by a compound reactive towards urea-NH_2 by alkylation or towards the double bonds of the formed intermediate urea-diolefin adducts. Typically, urea and concentrated aqueous sulfuric acid in mol proportions of 1:1.5 are suspended in an inert solvent and, under vigorous agitation, 1.5 molar proportion of diolefin are gradually introduced at 10 to 20° C. over a period of several hours. The recovered sulfated urea-butadiene copolymer, in the form of its sodium salt is a useful detergent component.

3,379,695

PROCESS FOR THE PREPARATION OF POLYAMIDES IN FINELY GRAINED FORM

Wolfgang Wolfes, Witten-Bommern, Gustav Renckhoff, Witten-Ruhr, and Hans-Leo Huelsmann, Witten-Rudinghausen, Germany, assignors to Chemische Werke Witten G.m.b.H., Witten-Ruhr, Germany

No Drawing. Filed Dec. 16, 1964, Ser. No. 418,883

Claims priority, application Germany, Dec. 17, 1963, C 31,683; Aug. 5, 1964, C 33,573

8 Claims. (Cl. 260—78)

A process for the preparation of polyamides in finely grained form which comprises reacting a diester of a terephthalic or isophthalic acid, or substituted derivative thereof, with a primary diamine in approximately equivalent amounts with intensive stirring in an inert solvent for the reactants at temperatures of from about 20° to 150° C. to give a preliminary condensate insoluble in said solvent and subsequently recondensing the preliminary condensate by heating it at about 170° to 350° C. The solvent may be replaced by a non-solvent for the polyamide during the recondensation by adding said non-solvent to the reaction mixture as the solvent distills off.

3,379,696

SOLID STATE PREPARATION OF POLYAMIDES

Fritz Wiloth, Erlenbach am Main, Germany, assignor to Vereinigte Glanzstoff-Fabriken A.G., Wuppertal-Elberfeld, Germany

No Drawing. Filed Mar. 16, 1964, Ser. No. 352,363

Claims priority, application Germany, Apr. 26, 1963, V 23,987

2 Claims. (Cl. 260—78)

1. In a process for the production of polyamides from dicarboxylic acids and diamines, from salts of dicarboxylic acids and diamines, and from aminocarboxylic acids, the improvement which comprises: maintaining the polyamide-forming monomers in a closed vessel under agitation and under a nitrogen atmosphere at a temperature below the melting point of the monomers until a maximum pressure of 15 atmospheres sets in and a precondensate is formed having a solution viscosity of from about 1.30 to about 1.50 measured in 1% solution in 90% formic acid at 25° C. and thereafter releasing the pressure built up in the closed vessel to a pressure slightly above atmospheric pressure while heating the precondensate to a temperature of from about 20 to about 60° C. below the melting temperature of the end condensation product and continuing the heating of said reaction mixture for from about 1 to about 5 hours while passing nitrogen through said reaction mixture.

3,379,697

PROCESS FOR THE IONOGENIC POLYMERIZATION OF ω-LACTAMS WITH OXY- OR THIO-ALKYNES AS ACTIVATORS

Johannes van Mourik, Geleen, and Johannes van Beveren, Sittard, Netherlands, assignors to Stamicarbon N.V., Heerlen, Netherlands

No Drawing. Filed Feb. 24, 1965, Ser. No. 435,035

Claims priority, application Netherlands, Feb. 28, 1964, 64—1,963

16 Claims. (Cl. 260—78)

The use of compounds of the formula:

$$R—C \equiv C—X—R'$$

wherein R is the hydrogen atom, an alkyl hydrocarbon group of up to about 8 carbon atoms, or an aryl hydrocarbon radical having 1 or 2 benzenoid rings, and R′ represents an alkyl hydrocarbon group of up to about 8 carbon atoms or an aryl hydrocarbon radical having from 1 to 2 benzenoid rings, and X represents an oxygen or a sulphur atom, as promoters in the ionogenic or anionic polymerization of lactams, is disclosed.

3,379,698

ANIONIC POLYMERIZATION OF LACTAMS

Johan A. Bigot, Beek, Limburg, Johannes van Mourik, Geleen, and Johannes van Beveren, Sittard, Netherlands, assignors to Stamicarbon N.V., Heerlen, Netherlands

No Drawing. Filed Mar. 26, 1965, Ser. No. 443,097

Claims priority, application Netherlands, Apr. 7, 1964, 64—3,653

16 Claims. (Cl. 260—78)

A process for the ionogenic or anionic polymerization of lactams in the presence of an alkali metal catalyst is described, wherein there is used, as a promoter, a 1.3-dialkyl-2-alkyloxy-cyclobut-2-ene-4-one.

3,379,699

DYEABLE, FLAME RESISTANT TETRAPOLYMER

Ernest F. Stroh, Decatur, Ala., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Oct. 5, 1964, Ser. No. 401,651

8 Claims. (Cl. 260—78.5)

A dyeable flame-resistant polymer capable of being formed into fibers containing at least about 60 percent acrylonitrile, between about 5 and about 35 percent of an α-haloalkylacrylonitrile, between about 2 and about 8 percent of a vinyl monomer being copolymerizable therewith, and between about 0.1 and about 3 percent by weight of a compound being receptive to basic dyes.

3,379,700

VULCANIZATION ACCELERATORS

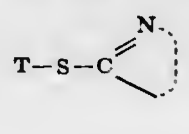
John J. D'Amico, Dunbar, W. Va., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Dec. 13, 1965, Ser. No. 513,558

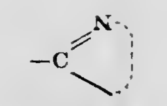
6 Claims. (Cl. 260—79.5)

1. The method of vulcanizing a sulfur-vulcanizable diene rubber which comprises:

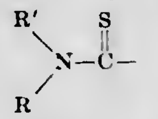
mixing with the rubber a sulfur containing vulcanizing agent and an accelerating amount of a compound of the formula



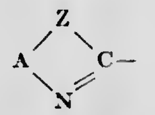
wherein



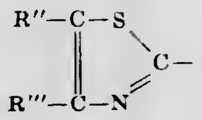
is 1H-1,2,4-triazol-5-yl or phthalazin-1-yl and wherein T is 4,6-di(lower alkyl)pyrimidin-2-yl;



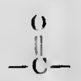
wherein R and R′ are independently lower alkyl, lower cycloalkyl, aryl or taken together are an open chain radical which with the nitrogen constitute a saturated carbon-nitrogen ring or a carbon-nitrogen-oxygen ring having at least five members of which at least four members are carbon and not more than one member is nitrogen;



wherein Z is oxygen, NH or sulfur and A is orthophenylene, chloroorthophenylene, lower alkylorthophenylene, or lower alkoxyorthophenylene; or



wherein R″ is lower alkyl



$$-\overset{O}{\overset{\|}{C}}-$$

carbamoyl, carbanilino, carboxy or hydrogen and R‴ is lower alkyl and heating the mixture at vulcanizing temperature.

3,379,701

COPOLYMERS OF ETHYLENE, ALPHA MONO-OLEFIN AND CYCLOPENTADIENE

Edward Karcher Gladding, New Castle, Del., and Herman Elbert Schroeder, Kennett Square, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 22, 1963, Ser. No. 282,227

6 Claims. (Cl. 260—80.7)

1. A random, amorphous, normally-solid, sulfur-curable copolymer containing from about 20 to 75 weight percent ethylene units, from about 0.1 to 2 gram-moles of cyclopentadiene units per kilogram of polymer, and the remainder being at least one α-monoolefin of the formula $CH_2=CH-R$ wherein R is an alkyl group of from about 1 to 10 carbon atoms, said copolymer being capable of reacting with at least about 0.3 gram-mole of bromine per kilogram of copolymer in a CCl_4 solution at 25° C. over a 2-hour period.

3,379,702

METHOD FOR PREPARING TERPOLYMERS OF ETHYLENE, ACRYLIC ACIDS AND SALTS OF ACRYLIC ACIDS

Ben Edward Spivey, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed June 14, 1965, Ser. No. 463,917

7 Claims. (Cl. 260—80.8)

A terpolymer of ethylene, acrylic acid or methacrylic acid, and a salt of the acid is produced by reacting ethylene, the acid, and the salt of the acid, in the presence of an organic solvent which is a solvent for the acid and the salt of the acid, and in the presence of a free radical-producing catalyst at a temperature of between 100° and 300° C. and a pressure of between 3000 and 50,000 p.s.i.

3,379,703

PROCESS FOR PREPARING POLYVINYL ALCOHOL IN THE PRESENCE OF DIALDEHYDES

Werner Ehmann and Siegfried Sommer, Frankfurt am Main, and Fritz Winkler, Kelkheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Dec. 15, 1964, Ser. No. 418,548

Claims priority, application Germany, Dec. 17, 1963, F 41,564

6 Claims. (Cl. 260—91.3)

1. In a process for the production of polyvinyl alcohol by acid hydrolysis of a polymeric polyvinyl ester wherein the acid moiety is derived from a saturated monocarboxylic acid having 1 to 18 carbon atoms, the improvement which comprises carrying out the hydrolysis in the presence of 0.01 to 0.3%, calculated on the weight of said polymer, of a dialdehyde the aldehyde groups of which are separated by at least one carbon atom selected from the group consisting of saturated hydrocarbon, aromatic or alicyclic dials having from 3 to 14 carbon atoms.

3,379,704

PROCESS FOR POLYMERIZING CONJUGATED DIOLEFINS AND NOVEL CATALYST SYSTEM USEFUL THEREIN

Hermann Winter and Heinrich Weber, Marl, Germany, assignors to Chemische Werke Huls, Aktiengesellschaft, Marl, Germany

No Drawing. Filed June 26, 1963, Ser. No. 290,650

Claims priority, application Germany, July 3, 1962, C 27,371

17 Claims. (Cl. 260—94.3)

A catalyst permitting a high degree of control of molecular weight characteristics in the polymerization of diolefins, such catalyst containing the following proportions of components:

- (a) 1000 grams of an inert hydrocarbon diluent;
- (b) 1–20 gram-millimols of aluminum compounds which consist essentially of:
  - (1) an aluminum hydrogen halide complex of the formula $AlH_mX_{3-m}\cdot Y$ wherein m is in the range of 0.1–2 inclusive; X is a halogen; and Y is an organic complex forming agent which contains a non-carbonaceous atom having at least one lone electron pair, and
  - (2) an aluminum trihalide, the molar ratio of the aluminum hydrogen halide complex to the aluminum halide being between 0.01 and 100;
- (c) a hydrocarbon-soluble compound of a first transition series metal selected from the group consisting of vanadium, cobalt and nickel, the mol ratio of the aluminum compounds to the first transition series metal compound being from 100:1 to 1:1.

3,379,705

BUTADIENE POLYMERIZATION PROCESS AND CATALYST

Alvin C. Rothlisberger, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Continuation-in-part of application Ser. No. 273,006, Apr. 15, 1963. This application June 17, 1964, Ser. No. 376,309

16 Claims. (Cl. 260—94.3)

1. A process for polymerizing 1,3-butadiene to produce a polymer containing a high percentage of cis-1,4-addition which comprises contacting 1,3-butadiene under polymerization conditions with a catalyst which forms on mixing components consisting essentially of (a) an organometal compound selected from the group consisting of compounds having the formula R_3Al and compounds having the formula R_2AlH, wherein R is selected from the group consisting of alkyl, cycloalkyl, aryl, and combinations of these radicals, (b) a titanium halide having the formula TiX_y, wherein X is selected from the group consisting of chlorine and bromine, and y is an interger from 2 to 4, inclusive, and (c) at least one preformed reaction product formed by reacting iodine with butadiene or iodine with isoprene, wherein said reaction product is formed by reacting iodine with 1,3-butadiene or iodine with isoprene at a temperature in the range of −100 to 250° F. for a period of time of from 0.1 second to 1 hour and wherein the mol ratio of 1,3-butadiene to iodine or isoprene to iodine is at least 1:1.

3,379,706

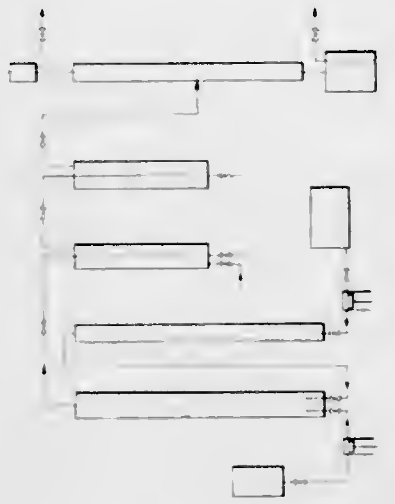
π-ALLYL METAL COMPOUNDS AND THEIR USE AS POLYMERIZATION, INCLUDING OLIGOMERIZATION, CATALYSTS

Günther Wilke, Mulheim (Ruhr), Germany, assignor to Studiengesellschaft m.b.H., Mulheim (Ruhr), Germany

Continuation-in-part of application Ser. No. 272,881, Apr. 15, 1963. This application Aug. 6, 1964, Ser. No. 387,826

Claims priority, application Germany, Aug. 10, 1963, St 20,976

31 Claims. (Cl. 260—943)



Polymerization and co-polymerization of mono- and diolefins using as the catalyst a π-allyl compound of a transition metal of groups IV to VIII, both inclusive, of the Periodic Table. Specifically, ethylene and propylene are polymerized. Preferred catalysts are substituted π-allyl nickel, π-allyl cobalt and complexes of π-allyl transition metal compounds with Lewis acids and/or electron donors.

3,379,707

CURING HALOGENATED POLYOLEFINS

Richard B. Lund, Whippany, Arleen C. Pierce, Belleville, Edith Turi, Livingston, and Hendrikus J. Oswald, Morristown, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Oct. 20, 1964, Ser. No. 405,253

18 Claims. (Cl. 260—94.9)

The invention provides as a curing agent for chlorinated polyethylene, a group of nitrogenous cyclic compounds including various heterocycles such as imidazoles, pyridines, triazines, etc.; aromatic amines, N-bromosuccinimide, triisopropanolamine borate, etc.

3,379,708

ESTERS OF TALL OIL PITCH AND POLYOXYETHYLENE COMPOUNDS AND THEIR USE AS DRILLING FLUID ADDITIVES

Dixon W. Peacock, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 330,586, Dec. 16, 1963. This application Nov. 23, 1964, Ser. No. 413,316

12 Claims. (Cl. 260—97.5)

Esters useful as drilling mud additives are formed by heating a mixture of tall oil pitch and a polyoxyethylene compound under conditions of reflux for about 1 to 3 hours or at a temperature in the range of about 130–280° C. for about 1 to 3 hours at about atmospheric pressure.

3,379,709

ORGANO-CHROMIUM COMPLEXES AND THEIR PREPARATION

William G. Louden, Erwinna, Pa. 18920

No Drawing. Filed Mar. 18, 1963, Ser. No. 266,080

9 Claims. (Cl. 260—103)

A fused chromium-monocarboxylic organic acid coordination compound is reacted with an aliphatic alcohol having at least four carbon atoms, other than tertiary butyl alcohol, to provide a water insoluble organochromium complex.

3,379,710

PROCESS OF PREPARING A NITRO-NITROSO DIMER FROM AN OLEFINIC HYDROCARBON AND A MIXTURE OF NO AND NO_2

Alan F. Ellis, Murrysville, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 517,790, Dec. 30, 1965. This application Nov. 29, 1966, Ser. No. 597,512

14 Claims. (Cl. 260—143)

A process is defined for the product of a nitro-nitroso dimer by the reaction of a monoolefin or a non-conjugated diolefin with a mixture of NO and NO_2 wherein the molar ratio of NO to NO_2 is at least 1:1. The temperature and pressure of reaction are such that the NO_2 is substantially entirely in the vapor phase and the stoichiometric ratio of the mixture of NO and NO_2 to the olefin is less than 0.5.

3,379,711

DISAZO-N-PHENYLTHIOMORPHOLINE DIOXIDE DYES

David J. Wallace and Max A. Weaver, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed May 19, 1965, Ser. No. 457,166

9 Claims. (Cl. 260—152)

Water-insoluble azobenzene-azo-phenylene compounds having an N-thiomorpholine-1,1-dioxide group attached to the phenylene coupling component are useful as dyes for hydrophobic textile materials.

3,379,712

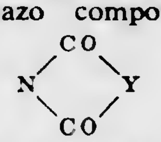
DISAZO DYES FOR HYDROPHOBIC FIBERS

Max A. Weaver and David J. Wallace, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Oct. 14, 1965, Ser. No. 496,131

8 Claims. (Cl. 260—157)

Water-insoluble disazo compounds containing the group



wherein Y represents a chain of carbon atoms and at least one oxygen, sulfur or nitrogen atom which are useful as dyes for textile fibers with fast shades with good fastness properties especially to light, washing, atmosphere fumes and sublimation.

3,379,713

BENZOTHIAZOLYL AZO DYESTUFFS

David J. Wallace and Max A. Weaver, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed May 24, 1965, Ser. No. 458,417
11 Claims. (Cl. 260—158)

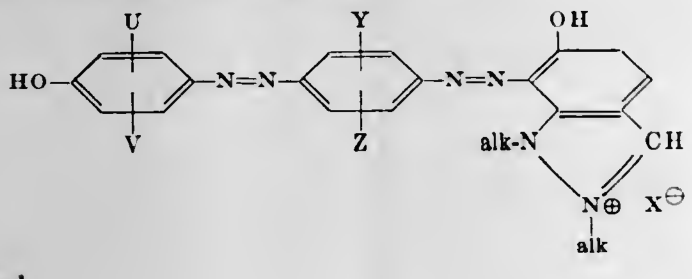
Benzothiazolyl-azo-aniline compounds containing a di(acyl)amidoalkyl group attached to the aniline nitrogen atom of the coupler component are useful as dyes for hydrophobic textile materials.

3,379,714

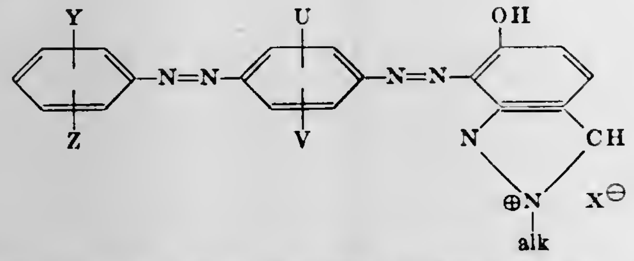
BASIC DISAZO INDAZOLIUM DYESTUFFS

Marie-Josephe Jeanne Alicot, Soisy-sous-Montmorency, and Robert Frederic Michel Sureau, Enghien-les-Bains, France, assignors to Etablissements Kuhlmann, Paris, France
No Drawing. Filed Nov. 18, 1964, Ser. No. 412,251
Claims priority, application France, Nov. 22, 1963, 954,661; Sept. 7, 1964, 987,296
11 Claims. (Cl. 260—160)

This invention concerns basic disazo dyestuffs having one of the general formulae:



and



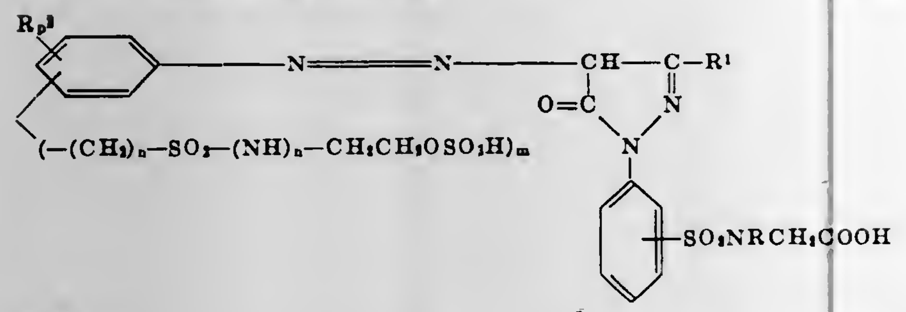
wherein U and V each represent a member selected from the group consisting of the hydrogen atom and the methyl and methoxy groups, Y and Z each represent a member selected from the group consisting of hydrogen and chlorine atoms and the methyl, methoxy and nitro groups, alk represents a member selected from the group consisting of the methyl and ethyl groups and X⊖ represents a monovalent anion.

3,379,715

MONOAZO PYRAZOLONE DYESTUFFS

Max E. Chiddix and Harlan B. Freyermuth, Easton, Pa., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 30, 1964, Ser. No. 422,397
6 Claims. (Cl. 260—163)

1. A dyestuff of the formula



wherein

R is selected from the group consisting of H, lower alkyl, and —CH_2COOH;

R^1 is selected from the group consisting of lower alkyl and —COOH;

R^2 is selected from the group consisting of H, lower alkyl, lower alkoxy, and halogen;

n has a value of 0 or 1;

m is an integer of 1 to 2;

and

p has a value of 0 to 2.

3,379,716

AROMATIC MONOAZO DYESTUFFS

David J. Wallace and Max A. Weaver, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed June 16, 1965, Ser. No. 464,547
10 Claims. (Cl. 260—207.1)

Phenyl-azo-aniline compounds having a di(acyl)amidoalkyl group attached to the aniline nitrogen atom are useful as dyes for hydrophobic textile materials.

3,379,717

BISMUTH SUBGLYCYRRHIZINATE AND METHOD OF PREPARING SAME

Cornelis Gerardus Koopman, Boekelo, and René Eugène J. M. Rutten, Hertogenbosch, Netherlands, assignors to Rabro Company N.V., Maastricht, Netherlands, a corporation of the Netherlands
No Drawing. Filed Mar. 27, 1964, Ser. No. 368,433
Claims priority, application Netherlands, Mar. 27, 1963, 290,768
(Filed under Rule 47(a) and 35 U.S.C. 116)
9 Claims. (Cl. 260—210)

1. Bismuth subglycyrrhizinate having the formula $C_{41}H_{61}O_{14}COOBi(OH)_2$, in the form of a brownish powder having a melting point of 158 to 162° C., said powder being tasteless, non-hydroscopic and insoluble in dilute acids, alcohol, ether, chloroform, acetone and carbon tetrachloride.

3,379,718

PROCESS FOR PREPARING COBALAMINE-SULPHONIC ACID

Otto Wagner, Wuppertal-Elberfeld, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Oct. 5, 1966, Ser. No. 584,340
Claims priority, application Germany, Oct. 27, 1965, F 47,523
9 Claims. (Cl. 260—211.5)

1. A process for preparing cobalamine-sulphonic acid which comprises adding an alkene-sulphite or alkyl sulphite to an ammoniacal or basic solution of a non-coenzyme-like cobalamine and recovering the cobalamine-sulphonic acid thus formed.

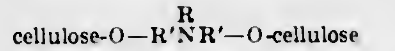
3,379,719

ION EXCHANGE FIBERS

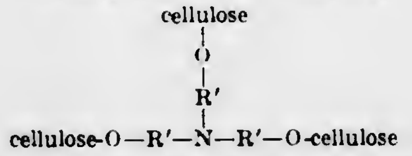
Richard N. Rulison, Gillette, N.J., assignor to Celanese Corporation of America, New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 29, 1964, Ser. No. 400,225
19 Claims. (Cl. 260—231)

1. A cross-linked cellulosic product, said cellulosic product having been cross-linked to a substantially insoluble state in a 1 molar aqueous solution of cupriethylenediamine and having an ion-exchange capacity of from about 0.1 to about 3 milliequivalents per gram of original cellulose, the molecules of which have a plurality

of bonds having a formula selected from the group consisting of



$$\text{cellulose-O}-R'\overset{R}{N}R'-\text{O-cellulose}$$



and cellulose-O—R'—S—R'—O-cellulose

where "cellulose" is the residue of a cellulose molecule, R' is alkylene containing at least 2 carbon atoms and R is alkyl.

3,379,720

WATER-SOLUBLE POLYMERS AND PROCESS OF PREPARING

Albert R. Reid, Wilmington, Del., assignor to Hercules Incorporated, a corporation of Delaware
No Drawing. Filed Oct. 12, 1964, Ser. No. 403,343
18 Claims. (Cl. 260—232)

1. Process of preparing modified polysaccharides selected from the group consisting of starch, natural gums and ethers and esters of cellulose, starch and natural gums having both hydroxyl and carboxyl groups which comprises slurrying water-soluble polysaccharide in an inert medium, acidifying said polysaccharide until the ratio range of the free acid form to the salt form of its carboxyl groups is about 0.07/1–3/1, removing excess acid from the acidified polysaccharide and drying same, the resulting modified polysaccharide being water soluble and yet capable of being insolubilized merely by curing.

3,379,721

PROCESS OF TREATING WATER-SOLUBLE ALKALI METAL SALTS OF CMC AND PRODUCT

Albert R. Reid, Wilmington, Del., assignor to Hercules Incorporated, a corporation of Delaware
No Drawing. Filed Oct. 12, 1964, Ser. No. 403,395
6 Claims. (Cl. 260—232)

1. Process for substantially increasing the thickening power of water-soluble alkali metal salts of carboxymethylcellulose having a D.S. of about 0.6–1.5 which comprises subjecting said alkali metal salts of carboxymethylcellulose in a substantially dry form to a temperature of about 100° C.–200° C. for up to about 24 hours.

3,379,722

17-CYCLIC KETALS OF 17-OXO-3-ALKOXYESTRAPOLYENES

Andrew John Manson and Donald K. Phillips, North Greenbush, N.Y., assignors to Sterling Drug Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed June 7, 1965, Ser. No. 462,044
7 Claims. (Cl. 260—239.55)

17-cyclic ketals of 17-oxo-3-lower-alkoxy-1,3,5(10),6-estratetraenes and -1,3,5(10),6,8-estrapentaenes, optionally halogenated in the 16-position, and having hypocholesteremic and estrogenic activities, are prepared by reacting the corresponding 17-oxo compounds with the appropriate alkylenediol or sulfur analog thereof.

3,379,723

CATIONIC SCARLET DYE FOR ACID-MODIFIED FIBERS

Ray Allen Clarke, Pitman, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Oct. 25, 1966, Ser. No. 589,197
1 Claim. (Cl. 260—240.9)

A cationic methine dye which dyes acid-modified acrylic fiber a bright reddish orange shade and acid-modified polyester fiber a brilliant scarlet shade.

3,379,724

3-(AMINOMETHYL)CYCLOBUTANONES

James C. Martin, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed July 23, 1965, Ser. No. 474,492

15 Claims. (Cl. 260—247.7)

Substituted 3-(aminomethyl)cyclobutanones are prepared by contacting a ketoketene with a substituted allylamine at a temperature of about 20° C. to about 200° C. The substituted 3-(aminomethyl)cyclobutanones are useful, for example, as bactericidal agents and as chemical intermediates for the production of useful chemical compounds such as plasticizers and emulsifying agents.

3,379,725

SUBSTITUTED HEXAHYDRO-1,3,5-TRIAZINES

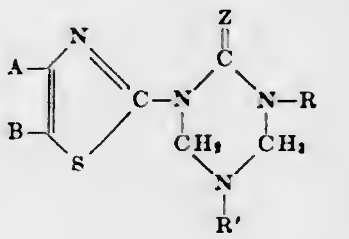
Werner Schäfer and Richard Wegler, Leverkusen, Ludwig Eue, Cologne-Stammheim, and Helmuth Hack, Opladen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Apr. 2, 1965, Ser. No. 445,233

Claims priority, application Germany, Apr. 9, 1964, F 42,564

27 Claims. (Cl. 260—248)

1. Hexahydro-1,3,5-triazine of the formula



in which Z is selected from the group consisting of oxygen and sulfur, R is selected from the group consisting of lower alkyl and lower alkenyl, R' is selected from the group consisting of lower alkyl, lower alkenyl, lower alkyl containing a hetero linking atom selected from the group consisting of oxygen, nitrogen, and sulfur, and lower alkenyl containing a hetero linking atom selected from the group consisting of oxygen, nitrogen and sulfur, and A and B are selected from the group consisting, when each is taken separately, of hydrogen, lower alkyl, and lower alkenyl, and, when both are taken together, of an unsaturated hydrocarbon bridge containing 3 to 5 carbon atoms.

3,379,726

TETRAHYDROPYRIDAZINES

Thomas Alfred Montzka, Manlius, and Nancy McMurry Cladel, Syracuse, N.Y., assignors to Bristol-Myers Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 4, 1964, Ser. No. 408,728

2 Claims. (Cl. 260—250)

1,3,6-trimethyl-1,4,5,6-tetrahydropyridazines are useful agents as monoamine oxidase inhibitors and antidepressant agents in animals, including man. In particular the compound 1,3,6-trimethyl-4-phenyl-1,4,5,6-tetrahydropyridazines and its pharmaceutically acceptable salts are claimed.

3,379,727

CYANINE DYESTUFFS

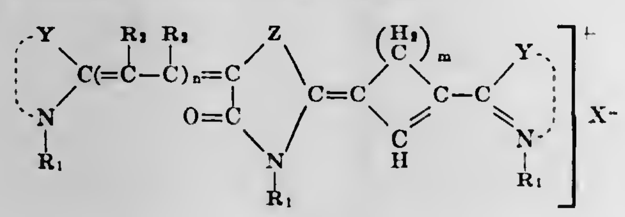
Oskar Riester, Leverkusen, Germany, assignor to Agfa Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

Filed Nov. 15, 1963, Ser. No. 324,037

Claims priority, application Germany, Nov. 23, 1962, A 41,696

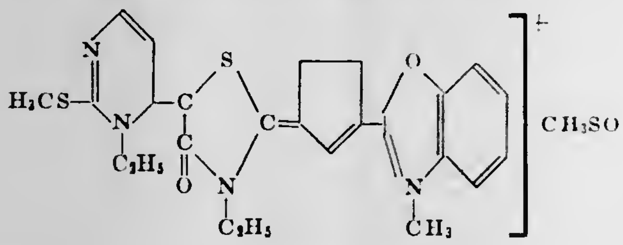
8 Claims. (Cl. 260—256.5)

1. A cyanine dyestuff of the formula:



wherein R_1 represents a radical of the group consisting of hydrogen, lower alkyl, lower alkenyl, lower alkyl substituted by a radical of the group consisting of carboxyl, sulfo, sulfonamide, hydroxy, and phenyl; R_2 represents a member selected from the group consisting of lower alkyl, lower alkyl substituted by phenyl, and phenyl; Y represents the ring members necessary to complete a heterocyclic ring selected from the group consisting of oxazole, benzoxazole, thiazole, benzthiazole, thiodiazole, pyrimidine, pyrroline, benzimidazole, tetrazole, azocycloheptamethylene, selenazole, benzselenazole, naphthoxazole, oxadiazole, pyridine, pyridiazine, quinoline, triazine, thiazine, triazole, triazoline, pyrazoline, and indoline; Z represents a bivalent radical of the group consisting of —S—, —O—, —Se— and $=NR_3$; R_3 is a substituent of the group consisting of hydrogen and lower alkyl; X^- is an anion; *n* is an integer from 0 to 2 and *m* is an integer from 1 to 3.

3. A cyanine dyestuff having the formula



3,379,728

PHENAZINE-1,4-DICARBOXYLIC ACIDS AND ESTERS THEREOF

Hans R. Schweizer, Herrliberg, Switzerland, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Sept. 12, 1966, Ser. No. 578,445

4 Claims. (Cl. 260—267)

Dialkylphenazine-1,4-dicarboxylates and dialkylphenazine-1,4-dicarboxylic acids which are useful as polymerization inhibitors and as intermediates in the production of other useful chemical compounds such as plasticizers are provided by the dehydrogenation or oxidation of the corresponding dialkyl-5,10 - dihydrophenazine-1,4-dicarboxylates.

3,379,729

PIPERAZINYLDIBENZOTHIEPINS

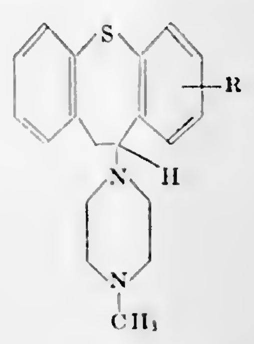
Miroslav Protiva, Ivo Jirkovský, Karel Pelz, Jiřina Metyšová and Ivan Ernest, Prague, Czechoslovakia, assignors to Spofa, Spojene podniky pro zdravotnickou výrobu, Prague, Czechoslovakia

No Drawing. Filed June 21, 1966, Ser. No. 559,078

Claims priority, application Czechoslovakia, June 22, 1965, 4,041/65

14 Claims. (Cl. 260—268)

A new composition of matter having therapeutic properties and consisting of a compound selected from the group consisting of heterocyclic compounds of the general formula:



wherein R is selected from the group consisting of alkyl, perfluoroalkyl, alkoxyl, alkylmercapto, alkanesulfonyl and dialkylsulfamyl with 1–4 carbon atoms, the nitro group, and salts thereof.

3,379,730

PRODUCTION OF 5,6,7 OR 8-HYDROXY-1,2,3,4-TETRAHYDRO AND DECAHYDRO-ISOQUINOLINES

Ian William Mathison, Memphis, Tenn., assignor to Marion Laboratories, Inc., Kansas City, Mo., a corporation of Delaware

No Drawing. Filed July 16, 1965, Ser. No. 472,660

8 Claims. (Cl. 260—286)

Disclosed is the production of 5,6,7 or 8-hydroxy-1,2,3,4-tetrahydro- and decahydro-isoquinolines and benzoyl derivatives thereof. The ring nitrogen of the isoquinoline group is unsubstituted or alkyl substituted. The compounds have biological activity. Some increase arterial blood flow in animals.

3,379,731

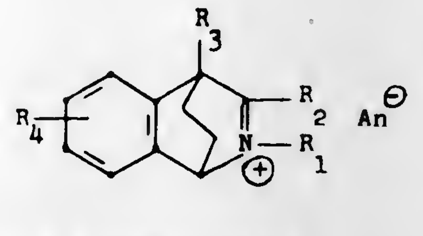
1,4-DIHYDRO-1,4-ETHANO-ISOQUINOLINES

Gordon Northrop Walker, Mount Kemble Lake, N.J., assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 388,690, Aug. 10, 1964. This application June 15, 1967, Ser. No. 646,181

17 Claims. (Cl. 260—286)

1,4-dihydro-1,4-ethano-isoquinolinium salts of the formula



$R_{1,2}$=aliphatic or araliphatic radical
R_3=H, aliphatic, araliphatic or aromatic radical
R_4=H, alkyl, alkoxy, halogeno, CF_3 or amino
$An^{\ominus}$=anion of an acid exhibit diuretic, natri- and chloriuretic effects.

3,379,732

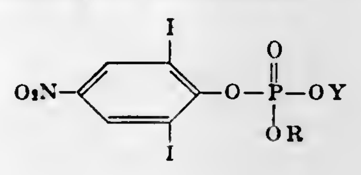
PHOSPHATE ESTERS OF 2,6-DIIODO-4-NITROPHENOL

Herman Eldridge Faith and Rodney D. Moss, Indianapolis, Ind., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Feb. 7, 1966, Ser. No. 525,350

7 Claims. (Cl. 260—297)

1. The compound selected from the group consisting of 2,6-diiodo-4-nitrophenyl phosphate and to the compounds corresponding to the formula



wherein R represents lower-alkyl and Y represents a member of the group consisting of hydrogen, alkali metal, 1-lower-alkyl-pyridinium and 2-(2-methoxyethyl)pyridinium.

3,379,733

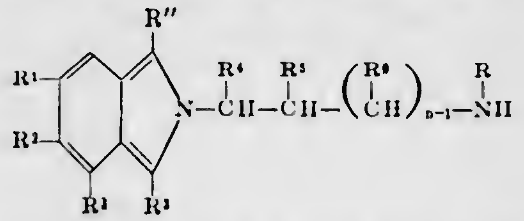
N-(ω-AMINOALKYL)ISOINDOLES AND METHOD FOR PREPARING SAME

William J. Houlihan, Mountain Lakes, N.J., assignor to Sandoz Inc., Hanover, N.J.

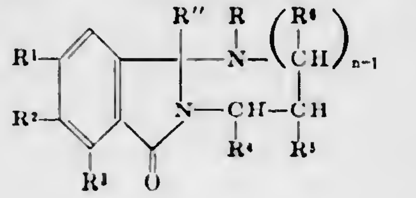
No Drawing. Filed Dec. 7, 1965, Ser. No. 512,224

8 Claims. (Cl. 260—326.1)

1. A process for preparing a compound of the formula



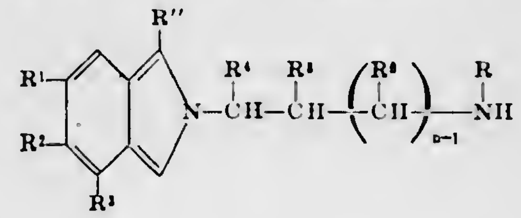
which comprises contacting a compound of the formula



wherein

- R is lower straight chain alkyl when *n* is 1 and is a member selected from the group consisting of a hydrogen atoms and lower straight chain alkyl when *n* is 2;
- each of R^1, R^2 and R^3 is, independently, a member selected from the group consisting of a hydrogen atom and lower straight chain alkyl;
- each of R^4, R^5 and R^6 is, independently, a member selected from the group consisting of a hydrogen atom and lower straight chain alkyl;
- R″ is a member selected from the group consisting of unsubstituted phenyl and phenyl substituted in at least one of the positions 3-, 4- and 5-, each substituent being independently selected from the group consisting of methyl, ethyl, propyl, a chlorine atom and a fluorine atom; and
- *n* is one of the integers 1 and 2, with lithium aluminum hydride in an inert ether solvent and at reflux temperature.

3. A pharmaceutically acceptable compound selected from the group consisting of compounds of the formula



wherein

- R is lower straight chain alkyl when *n* is 1 and is a member selected from the group consisting of a hydrogen atom and lower straight chain alkyl when *n* is 2;
- each of R^1, R^2 and R^3 is, independently, a member selected from the group consisting of a hydrogen atom and lower straight chain alkyl;
- each of R^4, R^5 and R^6 is, independently, a member selected from the group consisting of a hydrogen atom and lower straight chain alkyl;
- R″ is a member selected from the group consisting of unsubstituted phenyl and phenyl substituted in at least one of the positions 3-, 4- and 5-, each substituent being independently selected from the group consisting of methyl, ethyl, propyl, a chlorine atom and a fluorine atom and
- *n* is one of the integers 1 and 2, and the acid addition salts thereof.

3,379,734

N_1-(BENZENESULFONYL)-N_2-(TETRAHYDROTHIAPYRANYL)UREAS

Erich Haack, Heidelberg, Ruth Heerdt, Mannheim, Felix H. Schmidt, Mannheim-Neuostheim, and Kurt Stach, Mannheim, Germany, assignors to C. F. Boehringer & Soehne G.m.b.H., Mannheim-Waldhof, Germany, a corporation of Germany

No Drawing. Continuation of application Ser. No. 411.585, Nov. 16, 1964. This application June 5, 1967, Ser. No. 643,738

Claims priority, application Germany, Nov. 26, 1963. B 74,404

9 Claims. (Cl. 260—327)

The invention involves N_1 - (benzenesulfonyl) - N_2- (terahydro - thiaphranyl)ureas useful as oral antidiabetic activity.

3,379,735

SULFAMYL ANILINE DERIVATIVES

Karl Sturm and Rolf Geiger, Frankfurt am Main, Walter Siedel, Bad Soden, Taunus, and Franz Starey, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

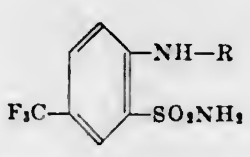
No Drawing. Filed Dec. 3, 1963, Ser. No. 327,838

Claims priority, application Germany, Dec. 7, 1962, F 38,487

11 Claims. (Cl. 260—340.5)

1. The compounds selected from the group consisting of

(a) 2 - sulfamyl - 4 - trifluoromethyl - anilines of the formula



in which R is a member selected from the group consisting of a straight-chain and branched alkyl of 1 to 10 carbon atoms, lower alkoxy-lower alkyl, lower alkyl-mercapto-lower alkyl, cycloalkyl of 5 to 7 carbon atoms, cycloalkylalkyl of 7 carbon atoms, hydroxy-lower alkyl, phenyl-lower alkyl, hydroxyphenyl-lower alkyl, chlorophenyl-lower alkyl, C_{1-3} alkyl-phenyl-lower alkyl, C_{1-3} alkoxy-phenyl-lower alkyl, piperonyl, furfuryl and 2-thenyl, and

(b) salts of said compounds with physiologically tolerated bases.

8. 3 - sulfamyl - 4 - piperonylamino-trifluoromethylbenzene.

3,379,736

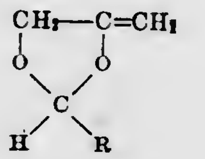
2-SUBSTITUTED-4-METHYLENE-1,3-DIOXOLANES AND PROCESS THEREFOR

Heinz J. Dietrich, Bethany, Robert J. Raynor, North Branford, and Joseph V. Karabinos, Orange, Conn., assignors to Olin Mathieson Chemical Corporation, New Haven, Conn., a corporation of Virginia

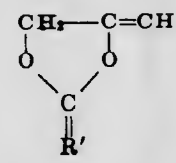
No Drawing. Filed June 28, 1965, Ser. No. 467,706

9 Claims. (Cl. 260—340.9)

1. 2 - substituted - 4 - methylene - 1,3 - dioxolanes selected from the class consisting of compounds having the formula

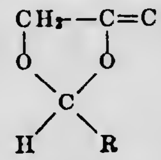


R being chlorinated methyl; and compounds having the formula



wherein R′ is chlorinated methylene.

8. A process for preparing 4-methylene-1,3-dioxolanes of the formula



wherein R represents chlorinated methyl, which comprises reacting an aldehyde of the formula RCHO with propargyl alcohol at a temperature of at least 75° C. in the presence of a catalytic amount of mercuric oxide.

3,379,737
EPOXIDE PRODUCTION

Anthony Rustin, Shawinigan, Quebec, and Jamshid Varjavandi and Ernest R. Hayes, Shawinigan South, Quebec, Canada, assignors to Shawinigan Chemicals Limited, Montreal, Quebec, Canada, a corporation of Canada

No Drawing. Continuation-in-part of application Ser. No. 249,135, Jan. 3, 1963. This application May 29, 1963, Ser. No. 284,001

4 Claims. (Cl. 260—348.5)

1. A process for the production of an olefin oxide having at least three carbon atoms which comprises contacting a liquid mixture containing acetaldehyde and an olefin having at least three carbon atoms at a temperature of from 50–200° C. with a gas containing molecular oxygen in the presence of a catalyst consisting of ferric chloride.

3,379,738
2-ANILINO-1,4-DIHYDROXYANTHRAQUINONES

David J. Wallace, and James M. Straley, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Jan. 21, 1965, Ser. No. 427,149

12 Claims. (Cl. 260—376)

1,4-dihydroxyanthraquinone compounds having an anilino group substituted at the 2-position, the anilino group containing a substituted alkyl or alkoxy group, are useful as dyes for hydrophobic textile materials.

3,379,739
PRODUCTION OF 2,5-DIARYLAMINO-1,4-BENZOQUINONE-3,6-DICARBOXYLIC ACIDS

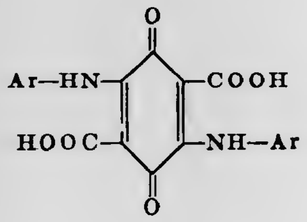
Rolf Mecke, Ludwigshafen (Rhine), Germany, assignor to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Apr. 3, 1964, Ser. No. 357,260

Claims priority, application Germany, Apr. 24, 1963, B 71,618; July 19, 1963, B 72,747

3 Claims. (Cl. 260—396)

1. A process for production of 2,5 - diarylamino - 1,4-benzoquinone - 3,6 - dicarboxylic acids having the general formula:



wherein each Ar is the same aromatic radical and constitutes the monovalent radical of an aromatic ring selected from the group consisting of (a) benzene and substituted benzene bearing a substituent from the group consisting of a halogen atom, lower molecular weight alkyl, nitro, methoxy, hydroxy, amino, and trifluoromethyl, said substituted benzene radical being unsubstituted in at least one position ortho to the amino group, which process comprises reacting 2,5-dihydroxyterephthalic acid in a solvent selected from the class consisting of water, organic solvents miscible with water, and mixtures of water and an organic solvent miscible with water in the presence of about a stoichiometric amount of an oxidizing agent selected from the class consisting of potassium ferricyanide, ferric chloride, hydrogen peroxide, sodium persulfate, potassium persulfate, ammonium persulfate, sodium bromate, potassium bromate, sodium chlorate and potassium chlorate with at least a stoichiometric amount of an amine of the formula Ar—NH_2 in which Ar has the same meaning as given above at a temperature in the range of 10–100° C.

3,379,740
PROCESS FOR PREPARING COBALTOCENE-p-CHLORANIL (1:2)

Yoshio Matsunaga, Stamford, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Nov. 2, 1964, Ser. No. 408,312

6 Claims. (Cl. 260—396)

A method of preparing cobaltocene-p-chloranil complex is provided by reacting in the presence of air a cobalticinium halide with an alkali metal salt of tetrachloro-p-benzosemiquinone in an aliphatic ketonic solvent whereby the so-formed complex finds utility in solid state semiconducting devices.

3,379,741
PROCESS FOR OBTAINING NAPHTHOQUINONE

Otto Tschamper, Liestal, Basel, and Willy Regenass, Neu-Allschwil, Switzerland, assignors to Ciba Limited and Schweizerische Teerindustrie AG., Basel and Pratteln, Switzerland, both companies of Switzerland

Filed Nov. 25, 1964, Ser. No. 413,845

Claims priority, application Switzerland, Dec. 9, 1963, 15,050/63

8 Claims. (Cl. 260—396)

A process is provided for separating the components of a hot gas current containing naphthoquinone, phthalic anhydride and naphthalene wherein the hot gas current is contacted with atomized water in a manner such that the temperature of the gas current is reduced to 30–70° C. Substantially all of the naphthalene in the gas current will remain in the gas current, while substantially all of the naphthoquinone and phthalic anhydride are retained by the water. The naphthoquinone is thereafter isolated from the aqueous medium.

3,379,742
PROCESS FOR PREPARING TRANSFORMED 1:1 COMPLEX OF 1,6 - DIAMINOPYRENE-p-CHLORANIL

Yoshio Matsunaga, Stamford, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed June 18, 1965, Ser. No. 465,192

4 Claims. (Cl. 260— 396)

1. An improved method for preparing an organic (1:1) molecular complex which comprises: admixing in an inert aromatic solvent 1 mole of 1,6-diaminopyrene and from 0.3 to 3 moles of p-chloranil to recover a high resistivity complex, thereafter wetting the complex with an aromatic organic menstruum selected from the class consisting of benzene, toluene, xylene, nitrobenzene, dimethylaniline and pyridine, compressing said wetted complex, and recovering a low resistivity complex.

3,379,743
17-ENOL ESTERS OF 3-OXY-17-HYDROXY-POLYUNSATURATED STEROIDS AND PREPARATION THEREOF

Andrew John Manson and Donald K. Phillips, North Greenbush, N.Y., assignors to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed June 7, 1965, Ser. No. 462,129

14 Claims. (Cl. 260—397.5)

17-enol esters of 3-oxy-17-hydroxy-polyunsaturated steroids, i.e., 3-alkoxy or -acyloxy-17-acyloxy-1,3,5(10), 16-estratetraenes having from one to three additional double bonds in positions selected from the 6,7-, 8,9- and 14,15-positions have hypocholesteremic and estrogenic activities. These enol esters, when higher than the acetate, are prepared by treating an oxo steroid with the appropriate acid halide in isopropenyl acetate solution in the presence of a strong acid.

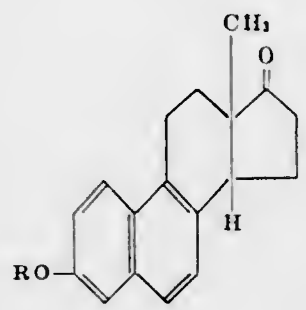
3,379,744
DEHYDROGENATION PROCESS FOR MANUFACTURE OF 3 - HYDROXY - 14β - ESTRA-1,3,5(10),6,8-PENTAEN-17-ONE AND ETHERS CORRESPONDING

Mike G. Scaros, Arlington Heights, and Roy H. Bible, Jr., Morton Grove, Ill., assignors to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

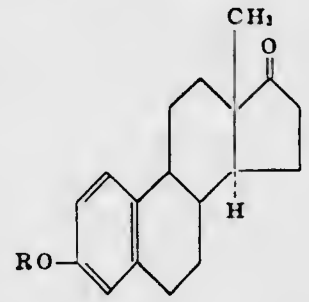
No Drawing. Filed Dec. 12, 1966, Ser. No. 600,731

5 Claims. (Cl. 260—397.45)

1. A process for the manufacture of a compound of the formula



wherein R is selected from the group consisting of hydrogen and a lower alkyl radical, which comprises heating a compound of the formula



wherein R is as above defined, in an inert organic solvent with a palladium catalyst at a temperature sufficient to effect dehydrogenation.

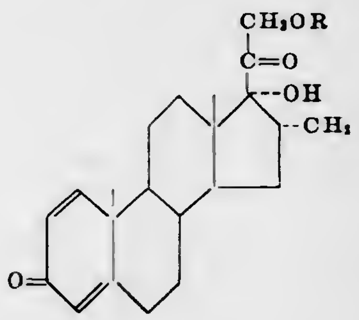
3,379,745
16-ALKYL-11-DESOXY STEROIDS

Eugene P. Oliveto, Glen Ridge, and Richard Rausser, Union, N.J., assignors to Schering Corporation, Bloomfield, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 733,843, May 8, 1958. This application Oct. 29, 1959, Ser. No. 849,456

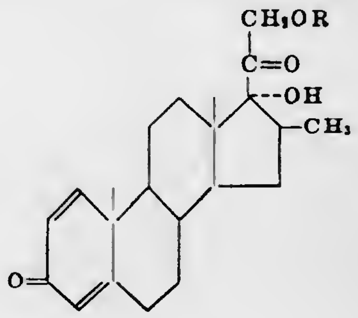
10 Claims. (Cl. 260—397.47)

8. A compound having the formula:



wherein R is selected from the group consisting of hydrogen and lower alkanoyl.

9. A compound having the formula:



wherein R is selected from the group consisting of hydrogen and lower alkanoyl.

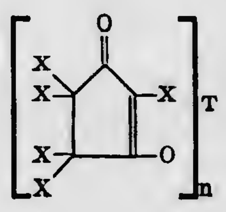
3,379,746
METAL SALTS OF 3-HYDROXY-PENTAHALO-2-CYCLOPENTENONE

Edward D. Weil, Lewiston, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 148,706, Oct. 30, 1961. This application Sept. 7, 1965 Ser. No. 485,555

11 Claims. (Cl. 260—429)

1. A compound of the formula:



wherein X is a halogen selected from the group consisting of chlorine and bromine, T is a metallic cation, and where *n* is the valency of the cation T.

3,379,747

METHOD OF MANUFACTURING ORGANOTIN HYDRIDES

Kazuo Itoi, Kurashiki, Japan, assignor to Kurashiki Rayon Company Limited, Kurashiki, Japan, a corporation of Japan

No Drawing. Filed Aug. 27, 1963, Ser. No. 304,980

Claims priority, application Japan, Sept. 5, 1962, 37/37,469

14 Claims. (Cl. 260—429.7)

1. A method of manufacturing organotin hydrides having the formula R_mSnH_{4-m} wherein *m* is an integer from 1 to 3 inclusive and R is a radical having up to 8 carbon atoms selected from the group consisting of alkyl, cycloalkyl and aryl, which comprises reacting an organotin compound selected from the group consisting of (A) compounds having the formula $R_mSn(OR')_{4-m}$ wherein R and *m* have the above meanings, and R′ is selected from the group consisting of hydrogen and alkyl, aryl, cycloalkyl and aralkyl, (B) compounds having the formula $R_mSn(OMeR''_3)_{4-m}$ wherein R and *m* have the above meanings, and Me is a metal selected from the group consisting of silicon, germanium and tin, R″ is selected from the group consisting of alkyl, aryl and cycloalkyl, and (C) a dialkyl tin oxide having the formula R_2SnO wherein R has the above meaning, with a silicon compound selected from the group consisting of (a) hydrogen silane compounds having the formula X_nSiH_{4-n} wherein X is selected from the group consisting of halogen atoms, hydrocarbon radicals and *n* is an integer of from 0 to 3 inclusive and (b) hydrogen siloxane compounds, to produce substantialy quantitatively a corresponding organotin hydride, and recovering said organotin hydride.

3,379,748

ORGANO-MERCURY DERIVATIVE

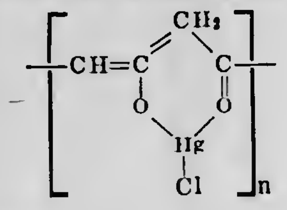
Norman Henry Pearce, Hull, England, assignor to The Distillers Company Limited, Edinburgh, Scotland, a British company

No Drawing. Filed Sept. 18, 1964, Ser. No. 397,644

Claims priority, application Great Britain, Oct. 19, 1963, 41,389/63; Mar. 11, 1964, 10,222/64

1 Claim. (Cl. 260—431)

The present invention provides for a process of producing an organo-mercury derivative which comprises reacting ketene with a mercuric salt which is in solution in a medium which is substantially inert to ketene under the reaction conditions. The invention also concerns organo-mercury derivatives having the formula



where *n* is an integer.

3,379,749

PREPARATION OF MONOISOCYANATES FROM ISOCYANATE DISTILLATION RESIDUES

Hans-Joachim Hennig, Cologne-Stammheim, and Otto Bayer, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed June 1, 1964, Ser. No. 371,795

Claims priority, application Germany, June 5, 1963, F 39,919

7 Claims. (Cl. 260—453)

The distillation residue obtained after distilling off the isocyanate formed in the phosgenation of the primary amine is reacted with a monosubstituted or disubstituted urea or a primary amine at a temperature of about 150 to about 300° C. in order to generate the isocyanate which is continuously removed from the reaction mixture.

3,379,750

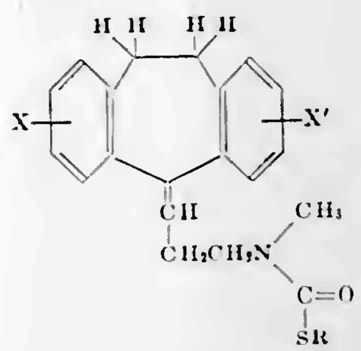
10,11 - DIHYDRO- OR -5 - [3 - (N - METHYL - N-THIOURETHANE AMINO)-PROPYLIDENE- OR -PROPYL-]5H-DIBENZO CYCLOHEPTENES

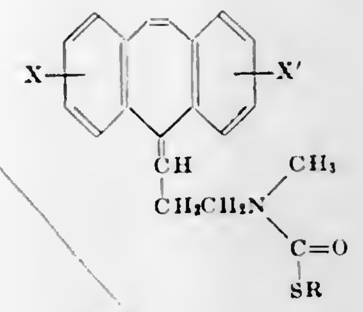
Janos Kollonitsch, Westfield, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

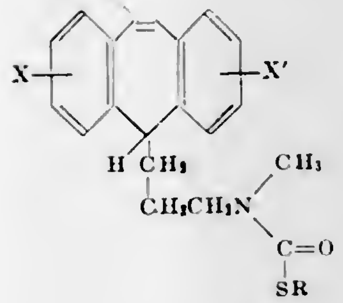
No Drawing. Continuation-in-part of application Ser. No. 194,660, May 14, 1962. This application Mar. 10, 1965, Ser. No. 438,780

17 Claims. (Cl. 260—455)

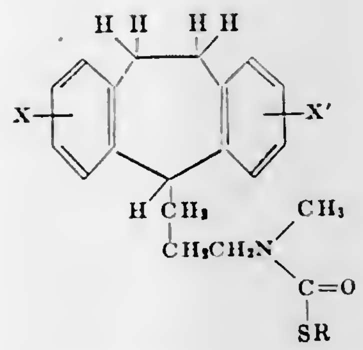
1. A compound selected from the group consisting of compounds having the formula:







and



wherein X and X′ are selected from the group consisting of hydrogen, halogen, loweralkyl, loweralkylsulfonyl, and diloweralkylsulfamyl and R is selected from the group consisting of lower alkyl having up to 6 carbon atoms, phenyl, tolyl, p-chlorophenyl and benzyl.

3,379,751

DI- AND TRICYANOCYCLOPENTADIENES AND THEIR SALTS AND FORMALDEHYDE COPOLYMERS

Owen Wright Webster, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington Del., a corporation of Delaware

No Drawing. Filed May 14, 1964, Ser. No. 367,590

18 Claims. (Cl. 260—464)

Di- and tricyanocylopentadienes produced by reaction of cyclopentadiene, cyanogen halide and sodium hydride and their salts and formaldehyde copolymers are claimed. The salts form colored complexes useful in copying devices. The formaldehyde polymers are useful as ion-exchange resins.

3,379,752

PHENOXY SUBSTITUTED 3-HYDROXYALKANOIC ACIDS AND A METHOD FOR THEIR PREPARATION

William A. Bolhofer, Frederick, Pa., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed May 20, 1964, Ser. No. 369,000

28 Claims. (Cl. 260—473)

Phenoxyalkanoic acids which are substituted at the 3-carbon of the alkanoic acid moiety by an hydroxy or an oxo radical. Also included are the acid addition salts and esters of the said products. The compounds are hypocholesterolemics useful in the treatment of atherosclerosis.

The 3-hydroxy(phenoxy)alkanoic acids are obtained by the reaction of a phenoxyalkanal with a 2-haloalkanoic acid ester in the presence of a zinc catalyst followed by the hydrolysis of the 3-hydroxy(phenoxy)alkanoic acid ester thus obtained to the corresponding carboxylic acid; and the 3-oxo(phenoxy)alkanoic acid products are synthesized via the oxidation of the aforementioned 3-hydroxy(phenoxy)alkanoic acid ester compounds to their corresponding 3-oxo(phenoxy)alkanoic acid esters which are then hydrolyzed to their carboxylic acid analogs.

3,379,753

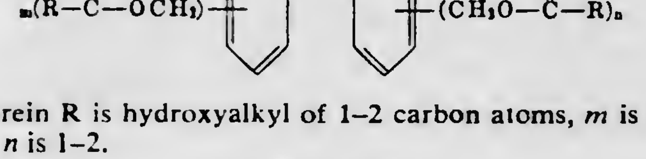
HYDROXYALKYLCARBOXYLIC ACID ESTERS OF HYDROXYMETHYLATED DIPHENYL ETHER

Bart J. Bremmer, Midland, and James P. Easterly, Bay City, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 18, 1965, Ser. No. 497,559

4 Claims. (Cl. 260—484)

1. A compound having the structure



wherein R is hydroxyalkyl of 1–2 carbon atoms, *m* is 0–2 and *n* is 1–2.

3,379,754

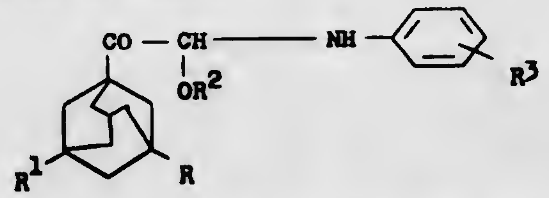
AMINOBENZOIC ACID DERIVATIVES OF ADAMANTYL GLYOXALS

Jack Bernstein, New Brunswick, N.J., assignor, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 15, 1965, Ser. No. 448,289

3 Claims. (Cl. 260—519)

This invention relates to derivatives of adamantyl glyoxals having the formula



wherein R and R^1 each is hydrogen, halo, lower alkyl, phenyl or lower alkoxy, R^2 is hydrogen or lower alkyl and R^3 is hydrogen, halo, lower alkyl, lower alkoxy or carboxy. They are useful as antiviral agents.

3,379,755

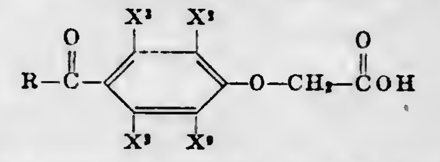
PREPARATION OF (4-ALKANOYLPHENOXY) ACETIC ACIDS BY OXIDATION

Everett M. Schultz, Ambler, and Norman P. Gould, Lansdale, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

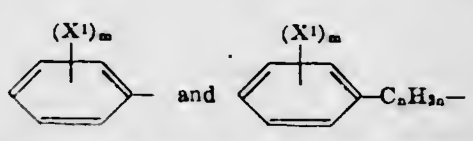
No Drawing. Filed June 4, 1964, Ser. No. 373,134

4 Claims. (Cl. 260—523)

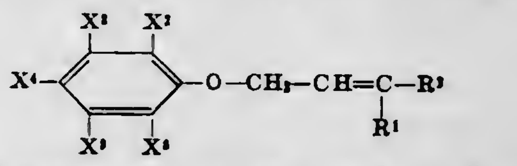
1. A process for preparing a compound of the formula:



wherein R is a member selected from the group consisting of hydrogen, lower alkyl, halo-lower alkyl, cycloalkyl,



wherein X^1, in each occurrence, is a member selected from the group consisting of hydrogen, halogen, lower alkyl and lower alkoxy and *m*, in each occurrence, represents an integer having a value of 1–5 and *n* represents an integer having a value of 1–4; X^2, X^3, X^5 and X^6 each represents similar or dissimilar radicals selected from the group consisting of hydrogen, halogen, lower alkyl, trihalomethyl, lower alkoxy and, taken together, two X radicals on adjacent carbon atoms of the benzene ring may be joined to form a 1,3-butadienylene linkage; which comprises the reaction of a compound of the formula:



wherein the radicals X^2, X^3, X^5 and X^6 are as defined above, R^1 and R^2 each represents similar or dissimilar radicals selected from the group consisting of hydrogen, lower alkyl and aryl and X^4 represents halogen; with magnesium in ether, followed by the reaction of the Grignard reagent thus formed with an aldehyde of the formula: RCHO, wherein R is as defined above and oxidizing the 4-(1-hydroxyalkyl)phenyl allyl ether to the corresponding 4-alkanoylphenyl allyl ether by treatment with chromium trioxide or sodium chromate followed by the oxidation of the said ether to the desired product by treatment with potassium permanganate.

3,379,756

MANUFACTURE OF MALIC ACID

Carl R. Ahlgren, East Aurora, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Oct. 15, 1964, Ser. No. 404,166

9 Claims. (Cl. 260—535)

Synthesis of malic acid from maleic and/or fumaric acid in a reaction zone whose surfaces exposed to the reaction mixture consist of titanium, zirconium or tantalum and alloys containing at least 90% of one of these metals.

3,379,757

MALIC ACID SYNTHESIS

Leon O. Winstrom, East Aurora, and John W. Frink, Buffalo, N.Y., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Dec. 30, 1964, Ser. No. 422,426

9 Claims. (Cl. 260—535)

An improved process for the preparation of malic acid from an aqueous solution of maleic acid obtained by scrubbing the converter effluent gases derived from the vapor phase catalytic oxidation of an organic compound. The improvement consists in ageing of aqueous maleic acid in the presence of air.

3,379,758

PHOSGENATION OF N-ARYLSULFONYL,N'-ALKYL-UREAS TO PRODUCE ARYLSULFONYL ISOCYANATES

Henri Ulrich, Northford, Conn., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 365,150, May 5, 1964. This application July 31, 1967, Ser. No. 657,724

6 Claims. (Cl. 260—545)

Arylsulfonyl monoisocyanates and arylsulfonyl diisocyanates are produced by a novel process which comprises mixing in the range 0° to 175° C., phosgene and an arylsulfonylurea of the formula $Ar(SO_2NHCONHR)_n$, wherein *n* is one or two, R is alkyl of one to 8 carbon atoms, inclusive, and Ar is phenyl or phenylene, unsubstituted or substituted with one or two substituents selected from the class consisting of alkyl of one to 8 carbon atoms, inclusive, cycloalkyl of 3 to 8 carbon atoms, inclusive, phenyl, naphthyl, aralkyl of 7 to 10 carbon atoms, inclusive, alkoxy of one to 8 carbon atoms, inclusive, halogen, nitro, cyano, sulfo, amino, dialkylamino of 2 to 12 carbon atoms, inclusive, and alkoxycarbonyl of 2 to 8 carbon atoms, inclusive.

3,379,759

SULFIDE-CHLORAMINE REACTION AND PROCESS FOR MAKING SAME

Joseph A. Cogliano, Baltimore, and George L. Braude, Linthicum, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Continuation-in-part of application Ser. No. 562,116, July 1, 1966, which is a continuation-in-part of application Ser. No. 306,683, Sept. 5, 1963. This application Feb. 1, 1967, Ser. No. 613,132

11 Claims. (Cl. 260—551)

A series of sulfur and nitrogen containing compounds prepared by reacting chloramine and an organic sulfide. The reaction is $R_2S+2NH_2Cl \rightarrow R_2SN_2H_2+2HCl$, wherein R can be the same or different alkyl groups containing 1 to 36 carbon atoms, aryl groups, and substituted allyl and aryl groups, useful, inter alia, as insecticides and fungicides.

3,379,760

2-BROMOACETAMIDO-4-NITROPHENOL

Merrill Burr, New York, and Daniel E. Koshland, Jr., Bellport, N.Y., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Aug. 5, 1965, Ser. No. 477,623

1 Claim. (Cl. 260—562)

This invention discloses a novel composition of matter, 2-bromoacetamido-4-nitrophenol which is useful in introducing environmental sensitive groups into proteins.

3,379,761

1-ISOPROPYL AMINE-2-HYDROXY-3-(o-PROPARGYLOXY-PHENOXY)-PROPANE AND SALTS THEREOF

Max Wilhelm, Allschwil, Switzerland, assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 1, 1965, Ser. No. 505,960

Claims priority, application Switzerland, Dec. 17, 1964, 16,313/64

2 Claims. (Cl. 260—570.7)

1-isopropylamino-2-hydroxy-3-(ortho-propargyloxyphenoxy)-propane and its acid addition salts. The compound and its therapeutically useful acid addition salts possess an inhibiting effect upon adrenergic β-receptors and can be used in the treatment of cardiac and/or circulatory diseases.

3,379,762

DESACETYLAMINO COLCHICINE DERIVATIVES

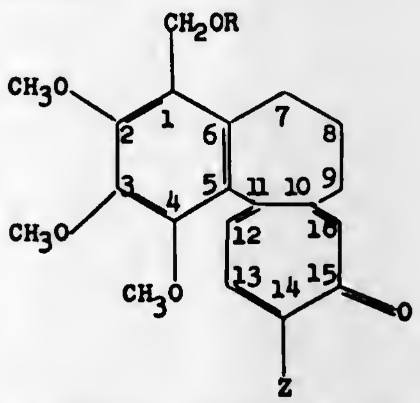
Georges Muller, Nogent-sur-Marne, Roland Bardoneschl. Le Vert-Galant, and André Poittevin, Les Lilas, France, assignors to Roussel-UCLAF, Paris, France, a corporation of France

No Drawing. Filed Nov. 7, 1963, Ser. No. 322,039

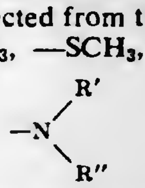
Claims priority, application France, Nov. 9, 1962, 914,928; Dec. 21, 1962, 919,491

6 Claims. (Cl. 260—571)

1-hydroxymethyl-desacetylamino colchicine compounds having the formula



wherein R is selected from the group consisting of hydrogen, an alkyl radical having 1 to 3 carbon atoms, an acyl radical of an organic carboxylic acid having 1 to 18 carbon atoms, an acyl radical of an organic carbonic acid having 1 to 18 carbon atoms and an anion of a mineral acid and Z is selected from the group consisting of $—OCH_3$, $—OCH_2—CH_3$, $—SCH_3$, $—SCH_2—CH_3$, and



$$—N\begin{matrix} R' \\ R'' \end{matrix}$$

wherein R' and R" are selected from the group consisting of hydrogen, an alkyl radical having 1 to 8 carbon atoms, an aryl radical and an aralkyl radical nd R' R" together with the nitrogen to form a heterocyclic radical. The invention also relates to novel processes for preparing the said colchicine compounds of Formula I and to novel intermediates formed therein.

3,379,763

PREPARATION OF PRIMARY AND SECONDARY AMINES FROM ALKYL SULFATES

Sydney H. Shapiro, Chicago, Ill., assignor to Armour and Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Sept. 1, 1964, Ser. No. 393,749

2 Claims. (Cl. 260—583)

An alkyl sulfate, in which the hydrocarbon radical has from 6–22 carbon atoms, is reacted directly and under pressure with ammonia or a primary amine in the presence of a strong base and at a temperature of about 150–250° C. to prepare primary and secondary amines.

3,379,764

AMINATION OF ALKYLBROMIDES

Glen R. Wyness, Cincinnati, and Douglas W. Jensen, Greenhills, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

Filed Sept. 1, 1965, Ser. No. 484,172

7 Claims. (Cl. 260—583)

Process for preparing trialkylamines from a mixture of alkylbromides containing alkyl groups of from 10 to 20 carbon atoms, dialkylamines containing from 1 to 3 carbon atoms, and water, the molar ratio of dialkylamines to

alkylbromides being in excess of about 8:1 by reacting the alkylbromides with the dialkylamines for 2 to 7 minutes at a temperature of from 100° F. to 190° F. and thereafter heating the reaction product to a temperature of from 275° F. to 375° F. for from 4.5 to 12 minutes.

3,379,765

PREPARATION OF PERFLUORINATED KETONES

Louis G. Anello, Basking Ridge, and Richard F. Sweeney, Dover, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Jan. 22, 1965, Ser. No. 427,484

19 Claims. (Cl. 260—586)

Certain chlorinated aliphatic ketones are perfluorinated with inorganic metal fluorides such as potassium fluoride. Novel perfluorocyclopentanediones and perfluorocyclohexanediones and hydrates thereof with utility as solvents for nylon-6 are prepared.

3,379,766

PROCESS FOR THE PRODUCTION OF HIGHER ALKANONES FROM LOWER ALKANONES

Yu-Tang Hwang and Walter J. Sandner, Crystal Lake, and William A. Krewer, Arlington Heights, Ill., assignors, by mesne assignments, to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed Dec. 31, 1964, Ser. No. 422,531

17 Claims. (Cl. 260—593)

Conversion of C_3–C_6 alkanones to higher alkanones by reaction with hydrogen over a fixed bed catalyst comprising palladium and chromium with an inert carrier.

3,379,767

PROCESS FOR THE HYDROGENATION OF OLEFIN POLYMERS IN CUMENE

Bernard A. Kreiter, Media, and John V. Ward, Oakmont, Pa., assignors to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed July 7, 1964, Ser. No. 380,938

8 Claims. (Cl. 260—593)

Impure cumene containing olefin polymers is passed through a palladium on alumina catalyst bed in the presence of hydrogen at 100° to 300° F. whereby said olefin polymers are saturated. The cumene thus produced is suitable for oxidation to acetone and phenol via decomposition of cumene hydroperoxide.

3,379,768

METHOD OF PRODUCING HYDRATROPIC ALDEHYDE

Ben B. Corson and William T. Gormley, Pittsburgh, Pa., assignors to Koppers Company, Inc., a corporation of Delaware

Filed June 1, 1965, Ser. No. 460,173

7 Claims. (Cl. 260—599)

Hydratropic aldehyde is prepared by ozonizing the linear dimer of styrene and decomposing the ozonide with a palladium catalyst in an aqueous medium containing suitable organic solvents. The hydratropic aldehyde is separated from benzaldehyde, which is also produced by the present process, in a pure state suitable for use in perfumes.

3,379,769

STABILIZED FORMALDEHYDE SOLUTIONS

Roy H. Prinz, Robstown, and Bob C. Kerr, Kingsville, Tex., assignors to Celanese Corporation, a corporation of Delaware

No Drawing. Continuation-in-part of applications Ser. No. 183,726, Mar. 30, 1962, and Ser. No. 360,137, Apr. 15, 1964. This application Apr. 8, 1966, Ser. No. 541,093

3 Claims. (Cl. 260—606)

Solutions of 30–80% of formaldehyde in water, stabilized against the formation of insoluble formaldehyde polymers therein by up to 1000 p.p.m. of a hydroxy ethyl cellulose or polyvinyl alcohol compound.

3,379,770

3-ALKOXYCYCLOBUTANOLS

Edward U. Elam and James C. Martin, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y a corporation of New Jersey

No Drawing. Filed Nov. 27, 1964, Ser. No. 414,474

5 Claims. (Cl. 260—611)

The chemical or catalytic reduction of 3-alkoxycyclobutanones provide the corresponding 3-alkoxycyclobutanols. The 3-alkoxycyclobutanols are useful as chemical intermediates for example, in the preparation of carboxylic ester derivatives of the 3-alkoxycyclobutanols, as well as solvents, plasticizers, hydraulic fluids, etc.

3,379,771

OXIDATION INHIBITED POLYPHENYL ETHER COMPOSITION

Gether Irick, Jr., and Gary F. Hawkins, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Jan. 15, 1964, Ser. No. 337,744

4 Claims. (Cl. 260—611.5)

An oxidation inhibited polyphenyl ether composition comprising a blended mixture of high purity polyphenyl ether having a halogen concentration less than 0.01% by weight and halogenated polyphenyl ether of at least three benzene rings per molecule having halogen substituents selected from the group consisting of chlorine, bromine and fluorine, the total halogen concentration of the composition being in the range of about 0.01% to 0.04% by weight.

3,379,772

PROCESS FOR THE PRODUCTION OF DIMETHYL CHLOROACETAL

Frederick Grosser, Midland Park, N.J., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 10, 1965, Ser. No. 507,227

5 Claims. (Cl. 260—615)

In the production of acetals of beta-haloaldehydes by the reaction of α,β-ethylenically unsaturated ether with an alkyl alcohol and chlorine or bromine in the presence of an alkaline agent, a substantial improvement in yield of purer product and reduction of byproduct formation, with a decrease in the amount of alkali and chlorine or bromine required, is obtained by employing as the alkaline agent calcium oxide having a particle size so that 100% thereof passes through a 150-mesh screen.

3,379,773

COPOLYMERS OF 1,1,2-TRIFLUOROBUTADIENE-1,3

John T. Barr, Neshaminy, Pa., assignor to Pennsalt Chemicals Corporation, a corporation of Pennsylvania

No Drawing. Filed Sept. 28, 1955, Ser. No. 537,291

10 Claims. (Cl. 260—615)

Copolymers of 1,1,2-trifluorobutadiene-1,3 and the method of preparing same are described, in particular, with the comonomers hexafluorobutadiene-1,3; 3,4-dichloro-3,4,4-trifluorobutene-1; 2,2,2-trifluoroethyl vinyl ether; vinyl chloride; styrene; 1,1,2-trifluorobutene-1; and 1,1,4,4-tetrafluorobutadiene-1,3.

3,379,774

PROCESS FOR THE PREPARATION OF PHENOL FROM BENZOIC ACID

Aldo Forni, Galliate, and Luigi Cavalli, Novara, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy

No Drawing. Filed May 15, 1964, Ser. No. 367,876

Claims priority, application Italy, May 16, 1963, 10,112/63

1 Claim. (Cl. 260—621)

1. In the process of preparing phenol from benzoic acid by oxidation in the liquid phase in the presence of 1–2% by weight of the reaction mixture of a copper oxide catalyst and 1–2% by weight of the reaction mixture of a magnesium oxide catalyst promoter, the improvement which comprises carrying out the reaction in the presence of 1–4% by weight of the reaction mixture of manganese oxide to reduce pitch formation.

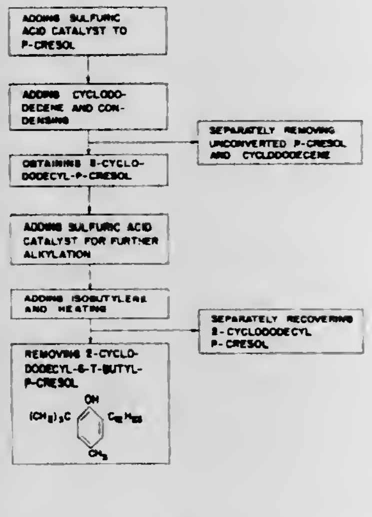
3,379,775

COMPOUND 2-CYCLODODECYL-6-t-BUTYL-p-CRESOL

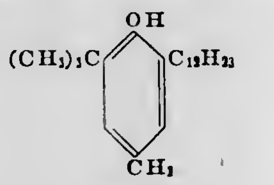
John E. Sheridan, Chesapeake, Va., and Eric B. Hotelling, Spring Valley, N.Y., assignors to Virginia Chemicals, a corporation of Maine

Filed Dec. 10, 1963, Ser. No. 329,512

1 Claim. (Cl. 260—624)


ADDING SULFURIC ACID CATALYST TO P-CRESOL
ADDING CYCLODODECENE AND CONDENSING
SEPARATELY REMOVING UNCONVERTED P-CRESOL AND CYCLODODECENE
OBTAINING 2-CYCLODODECYL-P-CRESOL
ADDING SULFURIC ACID CATALYST FOR FURTHER ALKYLATION
ADDING ISOBUTYLENE AND HEATING
SEPARATELY RECOVERING 2-CYCLODODECYL P-CRESOL
REMOVING 2-CYCLODODECYL-6-T-BUTYL-P-CRESOL
OH
(CH3)3C
C12H23
CH3

1. The compound 2-cyclododecyl-6-t-butyl-p-cresol



3,379,776

STABILIZATION OF CRUDE PHENOLIC ALKYLATES

Takeo Hokama, Chicago, Ill., and Mary J. Farquhar, McKeesport, Pa., assignors to Koppers Company, Inc., a corporation of Delaware

No Drawing. Filed Nov. 18, 1965, Ser. No. 508,558

6 Claims. (Cl. 260—624)

The formation of residues and the dealkylation of crude mixtures of acidic alkylated phenols, produced by a sulfuric acid alkylation process, are prevented by neutralizing the non-phenolic acidic constituents in the mixture with an aqueous solution of a water soluble inorganic basic salt of phosphoric acid. Sodium hydroxide may be used in conjunction with the inorganic basic salt of phosphoric acid for the neutralization.

3,379,777

ACETYLENIC CARBINOLS

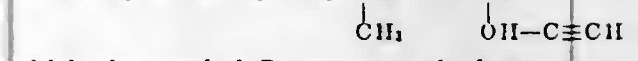
Roman Marbet, Riehen, Switzerland, assignor to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Mar. 4, 1965, Ser. No. 437,300

Claims priority, application Switzerland, Apr. 2, 1964, 4,159/64

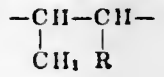
7 Claims. (Cl. 260—632)

Acetylenic carbinols having the formula



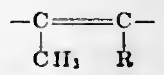
$$R-H_2C-Z-CH_2-CH_2-\underset{CH_3}{\underset{|}{CH}}-CH_2-\underset{OH-C\equiv CH}{\underset{|}{CH}}$$

in which the symbol R represents hydrogen or a lower alkyl group; and in which the symbol Z represents



$$-\underset{CH_3}{\underset{|}{CH}}-\underset{R}{\underset{|}{CH}}-$$

and



$$-\underset{CH_3}{\underset{|}{C}}=\underset{R}{\underset{|}{C}}-$$

the symbol R representing hydrogen or a lower alkyl group, are described.

The acetylenic carbinols are characterized by their fine fragrance and are used in the production of perfumes and other scented compositions.

3,379,778

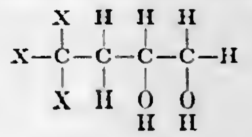
HALOGENATED 1,2-BUTANEDIOLS

Rostyslaw Dowbenko, Gibsonia, Pa., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Nov. 9, 1964, Ser. No. 409,926

3 Claims. (Cl. 260—633)

This invention relates to novel diols of the formula:



$$X-\overset{X}{\overset{|}{\underset{X}{\underset{|}{C}}}}-\overset{H}{\overset{|}{\underset{H}{\underset{|}{C}}}}-\overset{H}{\overset{|}{\underset{OH}{\underset{|}{C}}}}-\overset{H}{\overset{|}{\underset{OH}{\underset{|}{C}}}}-H$$

where X is selected from the group consisting of chlorine and bromine.

3,379,779

BIS-ARYL METHYLENE MALONONITRILES

Albert F. Strobel, Delmar, and Sigmund Catino, Castleton, N.Y., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 198,755, May 31, 1962. This application Jan. 23, 1967, Ser. No. 610,765

16 Claims. (Cl. 260—248)

Substantially colorless compounds which exhibit a prominent absorption peak between 250 mμ and 400 mμ and which are outstanding absorbents for ultra-violet radiation and as stabilizers for organic materials against the degradative effect of such radiation are characterized as monocyclicheterocyclic, aryl methylene malononitriles, said heterocyclics being of the group containing 5 and 6 members in the ring and wherein the hetero atom is at least one of the group of oxygen, nitrogen and sulfur.

3,379,780

FLUORINATION PROCESS

Robert E. Robinson, Cincinnati, Ohio, assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Apr. 2, 1964, Ser. No. 356,965

12 Claims. (Cl. 260—653.3)

1. A process for preparing fluorinated hydrocarbons which comprises reacting hydrogen fluoride, an oxygen-containing gas and an unsaturated organic compound having from 2 to 24 carbon atoms and selected from the group consisting of alkenes, alkadienes, alkatrienes, unsaturated monocyclic hydrocarbons, and partially fluorinated derivatives thereof at a temperature within the range of 125° to 325° C. in the presence of a catalyst selected from the group consisting of a Group VIII noble metal and a Group VIII noble metal salt.

3,379,781

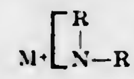
CONVERSION OF ACYCLIC TRIENE COMPOUNDS

Ernest A. Zuech, Donald L. Crain, and Roger F. Kleinschmidt, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed June 27, 1966, Ser. No. 560,818

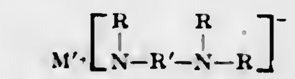
10 Claims. (Cl. 260—666)

1. A process for the conversion selected from cyclization and isomerization of an acyclic triene compound containing 7 to 12 carbon atoms per molecule, inclusive, to a compound containing the same number of carbon atoms per molecule as the acyclic triene compound starting material comprising contacting the acyclic triene compound under converting conditions in a conversion zone with a catalyst selected from the group consisting of amino alkali metal compounds characterized by the following structural formulas:



$$M^+\left[\overset{R}{\overset{|}{N}}-R\right]^-$$

I



$$M'^+\left[\overset{R}{\overset{|}{N}}-R'-\overset{R}{\overset{|}{N}}-R\right]^-$$

II

wherein M is an alkali metal selected from the group consisting of sodium and potassium and when M is potassium, the acyclic triene compound starting material contains hydrocarbon branches; M′ is an alkali metal selected from the group consisting of lithium, sodium, and potassium; each R can be the same or different and is selected from the group consisting of a hydrogen atom and alkyl, aralkyl, and cycloalkyl radicals containing 1 to 10 carbon atoms and which can form a heterocyclic ring with the nitrogen atom to which they are attached; R′ is selected from the group consisting of alkylene radicals having 2 to 12 carbon atoms, cycloalkylene radicals having 4 to 12 carbon atoms, and dialkylene substituted aromatic radicals having 8 to 20 carbon atoms; and recovering the compound containing the same number of carbon atoms per molecule as the acyclic starting material.

3,379,782

PROCESS FOR PREPARING POLYALKYLTETRAHYDRONAPHTHALENES

Samuel J. Kahn, Rutherford, N.J., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Aug. 27, 1965, Ser. No. 483,316

7 Claims. (Cl. 260—668)

Preparation of polyalkyltetrahydronaphthalene by reacting a 2,3-dimethylbutene with an alpha-methylstyrene in the presence of an activated clay catalyst at a temperature of 65°–120° C.

3,379,783

PROCESS FOR PREPARING POLYALKYLTETRAHYDRONAPHTHALENES

Samuel J. Kahn, Rutherford, N.J., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Sept. 20, 1965, Ser. No. 488,762

7 Claims. (Cl. 260—668)

Preparation of polyalkyltetrahydronaphthalene by reacting a 2,3-dimethylbutene with an alpha-methylstyrene in the presence of a cation exchange resin catalyst at a temperature of 65°–120° C.

3,379,784

PROCESS FOR PREPARING POLYALKYLTETRAHYDRONAPHTHALENES

Samuel J. Kahn, Rutherford, N.J., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Nov. 4, 1965, Ser. No. 506,403

10 Claims. (Cl. 260—668)

Preparation of polyalkyltetrahydronaphthalene by gradually adding an alpha-methylstyrene and a 2,3-dimethylbutene to a mixture of activated clay catalyst and an aromatic hydrocarbon solvent maintained at a temperature of 90°–120° C.

3,379,785

PROCESS FOR PREPARING POLYALKYLTETRAHYDRONAPHTHALENES

Samuel J. Kahn, Rutherford, N.J., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Nov. 24, 1965, Ser. No. 509,596

10 Claims. (Cl. 260—668)

Preparation of polyalkyltetrahydronaphthalene by gradually adding an alpha-methylstyrene and a 2,3-dimethylbutene to a mixture of cation exchange resin catalyst and a solvent maintained at a temperature of 90°–120° C.

3,379,786

CATALYTIC DEHYDROGENATION OF ALKYLAROMATIC HYDROCARBONS

Herman S. Bloch, Skokie, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed May 11, 1966, Ser. No. 549,141

10 Claims. (Cl. 260—669)

Dehydrogenation of an alkylaromatic hydrocarbon having at least two carbon atoms in the alkyl side-chain and both alpha and beta hydrogen by contacting the alkylaromatic hydrocarbon, at a temperature of 800°–1250° F. with a catalyst composed of Pt and As on lithiated alumina.

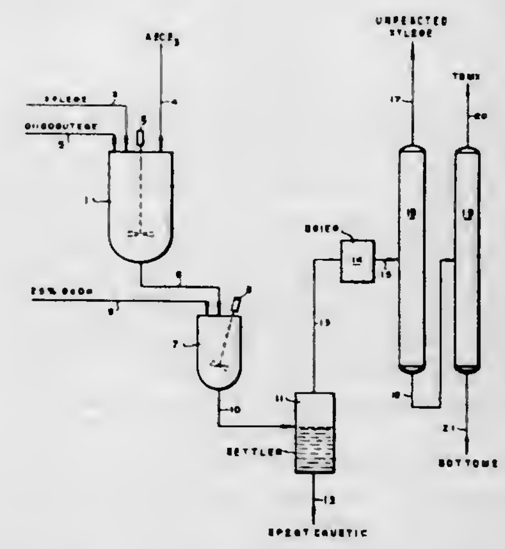
3,379,787

SYNTHESIS OF 5-t-BUTYL-m-XYLENE

Emanuel M. Amir, Baytown, Tex., assignor to Esso Research and Engineering Company

Filed Sept. 16, 1965, Ser. No. 487,811

9 Claims. (Cl. 260—671)

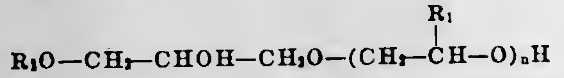


By alkylating a C_8 aromatic hydrocarbon fraction substantially free of ethylbenzene and containing m-xylene with diisobutene or triisobutene at 60° to 100° C. in the presence of anhydrous aluminum chloride, 5-t-butyl-m-xylene is selectively produced.

3,379,788
SELECTIVE SOLVENT FOR UNSATURATED HYDROCARBONS

Herman S. Bloch, Skokie, and Richard C. Wackher, Palatine, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Mar. 18, 1964, Ser. No. 352,986
9 Claims. (Cl. 260—674)

1. A process for separating a mixture of organic compounds of different degrees of saturation which comprises treating said mixture with a solvent comprising a diol of the general formula:



$$R_2O-CH_2-CHOH-CH_2O-(CH_2-\overset{R_1}{\overset{|}{C}}H-O)_nH$$

wherein R_1 is selected from the group consisting of hydrogen and methyl radical, R_2 is an aryl group and *n* is a number from one to three.

3,379,789
PROCESS FOR PREPARING BLOCK POLYMERS OF A POLYEPOXIDE AND POLYOXYMETHYLENE

Klaus Weissermel and Hans Dieter Hermann, Frankfurt am Main, and Siegfried Noetzel, Kelkheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed Aug. 4, 1964, Ser. No. 387,486
Claims priority, application Germany, Aug. 8, 1963, F 40,448
2 Claims. (Cl. 260—823)

1. A process for preparing, block polymer which comprises prepolymerizing an epoxide compound, selected from the group consisting of an alkylene oxide, epichlorohydrin, perfluoropropylene oxide, 1-chloro-3,4-epoxybutane, cyclohexane oxide, vinyl cyclohexene oxide, phenyl glycidyl ether, alkyl glycidyl ether, glycidyl acrylate, styrene oxide and butadiene dioxide in the presence of an organo-metal compound of aluminum as a catalyst in an inert solvent, introducing anhydrous formaldehyde into the mixture containing the polyepoxide and polymerizing the formaldehyde onto the prepolymerized epoxide compound, while stirring well and recovering said polymer having as the major component the polyepoxide blocks.

3,379,790
POLYCARBONATE-POLYSILOXANE COPOLYMERS

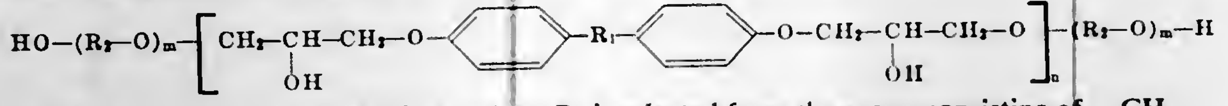
Walter Krauss, Cologne-Stammheim, and Reinhard Hebermehl, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Continuation of application Ser. No. 115,086, June 6, 1961. This application Aug. 19, 1966, Ser. No. 573,721
Claims priority, application Germany, June 10, 1960, F 31,409
12 Claims. (Cl. 260—824)

A transparent copolymer of a high polymeric polycarbonate and a hydrocarbon substituted polysiloxane having about 2–4% by weight silicon bonded OH groups. The copolymers are useful for production of pressed masses and in lacquers, and have good heat resistance. They are produced by condensation by heating for in excess of 1 hour; the proportion of polysiloxane by weight is at least 50% of the polysiloxane plus polycarbonate.

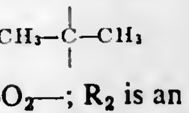
3,379,791
POLYEPOXIDE AND POLYETHER PREPARED FROM REACTING A POLYEPOXIDE AND A GLYCOL

Paul A. Larson and René J. Al, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich, a corporation of Delaware
No Drawing. Filed Mar. 29, 1965, Ser. No. 443,687
6 Claims. (Cl. 260—830)

This application discloses a thermosettable epoxy resin composition containing a small quantity of a modified epoxy resin so that the composition will hold solids in suspension and prevent the sedimentation of the solids into a cake which is difficult to redisperse, the composition consisting essentially of a polyepoxide resin and from about 0.03 to 5.0 parts per 100 parts resin of a polyhydric polyether having the formula



where R_1 is selected from the group consisting of $—CH_2—$,



$$CH_3-\underset{|}{\overset{|}{C}}-CH_3$$

$—S—$, $—S_2—$, and $—SO_2—$; R_2 is an alkylene group containing from two to about six carbon atoms; *m* is an integer from one to ten; and *n* is an integer from one to three.

3,379,792
POLYMER BLEND OF A POLYPHENYLENE OXIDE AND A POLYAMIDE

Robert W. Finholt, Riverside, Conn., assignor to General Electric Company, a corporation of New York
No Drawing. Filed Aug. 12, 1965, Ser. No. 479,330
9 Claims. (Cl. 260—857)

A polymer blend consisting of a polyphenylene oxide and from 0.1 to 25%, by weight, of a polyamide. The addition of the polyamide improves the flow properties of the polyphenylene oxide.

3,379,793
SOLID HOMOPOLYMERS AND COPOLYMERS OF HALOGEN - SUBSTITUTED OLEFINS AND A PROCESS FOR THE PREPARATION OF THE SAME

Edmund B. Davidson, Elizabeth, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Nov. 1, 1963, Ser. No. 320,931
6 Claims. (Cl. 260—87.5)

Solid homo and copolymers of halogen-containing allylic olefins are produced by polymerization in the presence of Friedel-Crafts catalysts at temperatures in excess of 100° C.

3,379,794
BLENDS OF FIBER FORMING ACRYLONITRILE POLYMERS AND POLYMERIC 2,2-DISUBSTITUTED PROPIOLACTONE

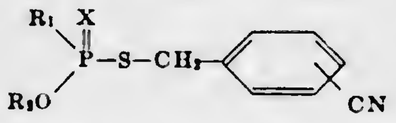
Charles King and Frederick Theodore Wallenberger, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Apr. 27, 1966, Ser. No. 545,545
7 Claims. (Cl. 260—898)

This invention relates to new polymeric compositions derived from acrylonitrile which are blends of a fiber forming acrylonitrile polymer and a polymeric 2,2-disubstituted propiolactone. The fibers exhibit enhanced recovery and improved modulus when hot and wet.

3,379,795
S-CYANOBENZYL THIO AND DITHIOPHOSPHONIC ACID ESTERS

Karl-Julius Schmidt, Wuppertal-Vohwindel, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Continuation-in-part of application Ser. No. 360,126, Apr. 15, 1964. This application Mar. 24, 1965, Ser. No. 442,508
Claims priority, application Germany, Dec. 3, 1964, F 42,461
15 Claims. (Cl. 260—940)

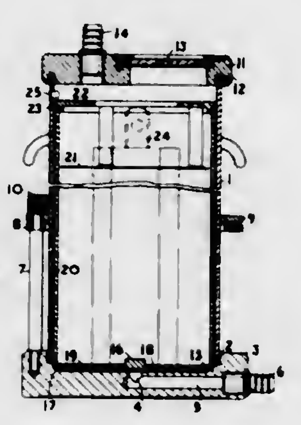
Thio- and dithiophosphonic acid esters of the formula



wherein R_1 is lower alkyl or aryl; R_2 is lower alkyl and X is oxygen or sulfur.

3,379,796
CASTING PROPELLANT CHARGES

Walter N. Hewson, Blackheath, London, and David V. Clifford, Waltham Abbey, England, assignors to the Minister of Supply in Her Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, London, England
Filed Apr. 8, 1954, Ser. No. 421,848
Claims priority, application Great Britain, Apr. 11, 1953, 9,922/53
2 Claims. (Cl. 264—3)



1. A process of making a double base propellant grain which comprises the steps of delivering a desired quantity of casting powder containing nitrocellulose to a tubular container, the inside of which defines the outside shape of the grain, placing said container in a closed chamber, reducing the pressure in the chamber below atmospheric pressure, the pressure inside the container being substantially the same as outside of the container to prevent its collapse, flowing a liquid containing a nitric ester and a plasticizer through the powder under the influence of the difference in pressure between the inside of the chamber and the atmosphere, and at a rate to completely saturate the powder before the powder and liquid coalesce into a solid mass, resuming atmospheric pressure on the mass after the powder has been completely saturated and prior to coalescence of same, thereby effecting collapse of occluded rarefied air pockets in the mass to negligible volume, and thereafter curing the grain at elevated temperature.

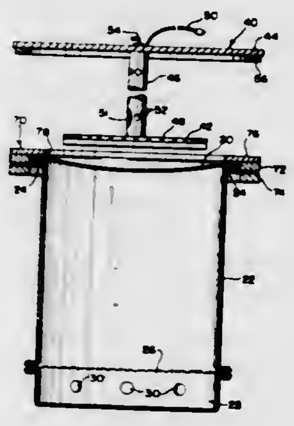
3,379,797
METHOD FOR MAKING HOLLOW SPHERICAL RESINOUS PARTICLES

John F. McHugh, Wayne, N.J., assignor to Interchemical Corporation, New York, N.Y., a corporation of Ohio
No Drawing. Filed Oct. 14, 1965, Ser. No. 496,146
5 Claims. (Cl. 264—9)

1. A method for producing hollow substantially spherical resinous particles which comprises emulsifying a solution of a film-forming resin dissolved in a volatile solvent in a liquid continuous phase which is a non-solvent for said resin, is immiscible with said solvent and is less volatile than said solvent and heating said emulsion at a maximum temperature of about 3° C. below the boiling point of said solvent to remove the solvent by evaporation while applying sufficient agitation to the emulsion to maintain the resin solution at a constant degree of emulsification during the evaporation whereby the dissolved resin comes out of solution as hollow substantially spherical particles.

3,379,798
METHOD FOR FORMING A PLASTIC LINER FOR A RECEPTACLE

Howard H. McNash, Cleveland, Ohio, assignor to Van Dorn Company, Cleveland, Ohio
Continuation-in-part of application Ser. No. 354,874, Mar. 26, 1964. This application Nov. 20, 1964, Ser. No. 414,506
5 Claims. (Cl. 264—25)



There is provided a method of deep drawing a plastic sheet into a liner for a drum. This method includes the steps of heating the sheet with an infra-red generator or burner developing a heat density of at least 7 kw./ft.^{2} and then stretching the sheet at least approximately 450% into a mold.

3,379,799
METHOD OF MAKING FOAMED PLASTICS

Conrad Goldman, Rochester, N.Y., assignor to Papex Corporation, Rochester, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 323,045, Nov. 12, 1963. This application Oct. 20, 1965, Ser. No. 499,096
2 Claims. (Cl. 264—26)

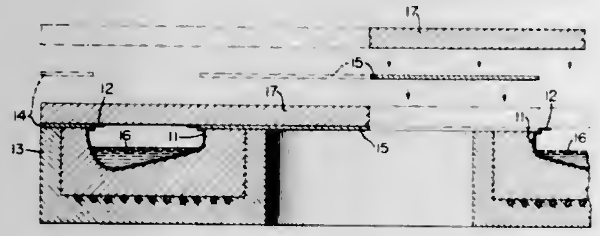
A foamed plastic is produced by providing a mass of particles, each of which has a core portion comprising a gelled non-polar blowing agent capable of forming a gas when heated, and a thermoplastic resin shell portion enveloping the core portion, the shell portion being more responsive to RF heat than the core portion. RF heat is applied to the particles to soften the shell portions sufficiently so they can expand without rupturing; then while the shell portions are at this softness, non-RF heat is applied to the particles to volatilize the blowing agent to expand the particles.

3,379,800
METHOD FOR MAKING CUSHION STRUCTURE

Clifford M. Wert, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Aug. 20, 1964, Ser. No. 390,933

3 Claims. (Cl. 264—45)



The method and product resulting therefrom in which a resilient cushioning element is formed by initially shaping an impervious skin material to the shape of the cushioning element which generally is in the form of an open-sided cavity with an inwardly extending lip formed around the periphery of the open side. The formed skin is positioned in a mold cavity and a predetermined amount of foamable cushioning material is placed in the cavity before positioning a top plate over the open side. The cushioning material expands against the top plate and urges the lip into sealing contact with the plate to prevent any overflow of the material to form a smooth exposed surface of the cushioning material with the lip extending around the peripheral edges.

3,379,801
INCREASED CRYSTALLIZABILITY OF POLYCARBONATES

André Jan Conix, Antwerp, and Lambert Gaston Jeurissen, Mortsel-Antwerp, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsel, Belgium, a Belgian company

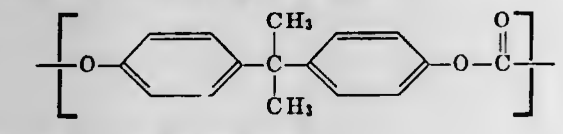
No Drawing. Filed Dec. 29, 1964, Ser. No. 422,000

Claims priority, application Great Britain, Jan. 2, 1964, 279/64

15 Claims. (Cl. 260—47)

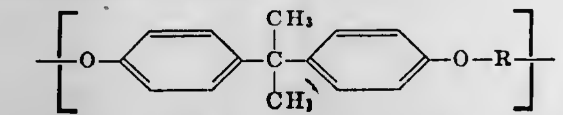
Polycarbonates of improved crystallizability consisting essentially of units of the formula:

(A)



and units of the formula:

(B)



in which R is free of aliphatic unsaturation and is the residue, after removal of the halogeno groups, of a bis (halogenoalkyl)-ester of a dibasic acid or of a halogenoalkylbenzoic acid diester of an aliphatic dihydroxy compound, the halogeno groups being chlorine or bromine, said polycarbonate containing at least about 0.5 but not more than about 20 mole percent units (B) with respect to the total number of the units (A) and (B).

3,379,802
FOAMED OLEFIN COPOLYMER BLENDS

Charles F. Raley and Richard E. Skochdopole, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Nov. 4, 1964, Ser. No. 408,727

15 Claims. (Cl. 264—53)

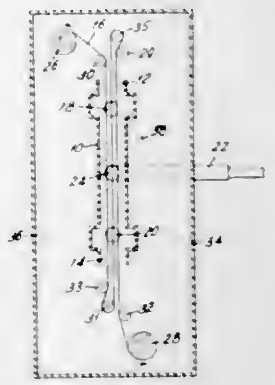
A flexible cellular product having resistance to oxidation and the effects of weather and improved stability to light is produced by passing a mixture of (1) a blend of an olefin polymer having a relative crystallinity of at least 30 percent and a high molecular weight saturated elastomer of at least one monoolefin and (2) a volatile organic foaming agent from a zone of elevated temperature and pressure to a zone of lower pressure, such as could occur during extrusion, to cause the mixture to expand and form the cellular product.

3,379,803
COATING METHOD AND APPARATUS FOR DEPOSITION OF POLYMER-FORMING VAPOR UNDER VACUUM

Frederick R. Tittmann, Plainfield, and William M. Jayne, Jr., Basking Ridge, N.J., assignors to Union Carbide Corporation, a corporation of New York

Filed May 4, 1964, Ser. No. 364,381

28 Claims. (Cl. 264—81)



A method and apparatus is provided for coating substrate surfaces with a polymer forming vapor. The substrate is coated in a vapor deposition zone having terminal differential pressure gaseous seals. The deposition zone and substrate handling means are confined within a housing adapted to provide a pressure envelope to aid in confining polymer forming vapors to the deposition zone.

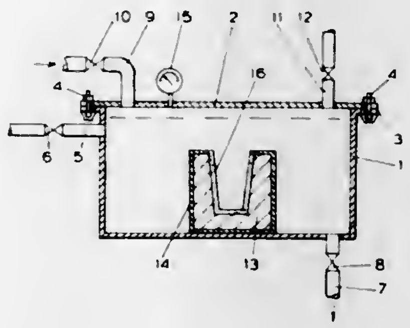
3,379,804
METHOD OF THE PRODUCTION OF A BODY FROM A SLIP IN A POROUS MOLD

Robert Loosjes, Maastricht, and Bernardus J. M. Maas, Heer, Netherlands, assignors to N.V. Koninklijke Sphinx-Ceramique v/h Petrus Regout, Maastricht, Netherlands, a Dutch limited-liability company

Filed June 7, 1965, Ser. No. 461,914

Claims priority, application Netherlands, June 10, 1964, 64—6,543

1 Claim. (Cl. 264—87)



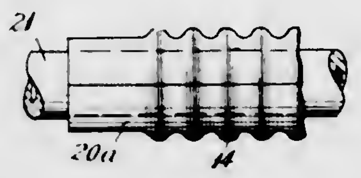
1. The method of producing a body from a slip in a porous mold, comprising providing a porous mold cavity having a mold portion conforming to the shape of the body to be produced, sealing the surfaces of said mold other than the surfaces of said cavity portion with a fluid impermeable layer, subjecting all surfaces of said mold to substantially uniform pressure including subjecting said mold portion to a slip under pressure to build up a body on said cavity portion surfaces conforming to the shape thereof and compressing air within the body of the mold, and releasing the pressure on said mold including withdrawing said slip to enable the compressed air within the body of the mold to expand toward the cavity portion surfaces to separate the built up body from the cavity portion surfaces.

3,379,805
METHOD OF MAKING CORRUGATED HOSE

Robert E. Roberts, Wilton, Conn., assignor to Fred T. Roberts & Company, Fairfield, Conn., a partnership

Filed Dec. 14, 1964, Ser. No. 418,198

18 Claims. (Cl. 264—94)



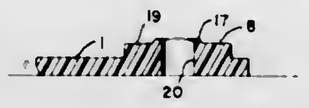
A method of making corrugated hose by extruding a strip having longitudinal corrugations therein, cutting the strip to form a blank having the corrugations running transversely of the longitudinal axis of the blank, folding the blank about said longitudinal axis to form an open-ended tube with the ends of the corrugations in the abutting side edges aligned to provide a helical or annularly corrugated hose, which basic method can be varied to provide the desired fabric or wire reinforcements and/or protective components in the hose.

3,379,806
METHOD OF PREPARING OR ATTACHING A REINFORCING ELEMENT TO A PLASTIC SHEET

Eric Jaanus, 126 Plymouth Road, Kitchener, Ontario, Canada

Filed Sept. 20, 1965, Ser. No. 488,380

6 Claims. (Cl. 264—154)



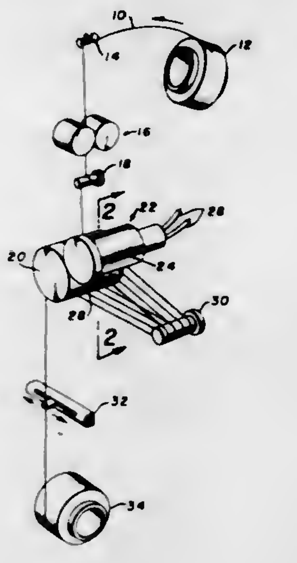
This invention relates to a method of preparing reinforced edges in openings provided in a plastic sheet used as a covering in the construction industry or such so that hook like members passed through the openings to secure the sheet in operating position will not cause tearing of the sheet. For the purpose of carrying out the method, male and female molding elements are used in the area where the openings are to be formed, a synthetic powder in the female element is heated to cause fusion, and the male element is forced through the fused material and the sheet to form the openings. The male portion is so shaped as to produce in the fused material the desired reinforced edges in the openings.

3,379,807
HIGH TEMPERATURE YARN FIBRILLATION METHOD

Euell K. McIntosh, Pensacola, Fla., and James R. Williams, Robertsdale, Ala., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed Dec. 14, 1964, Ser. No. 418,185

7 Claims. (Cl. 264—162)



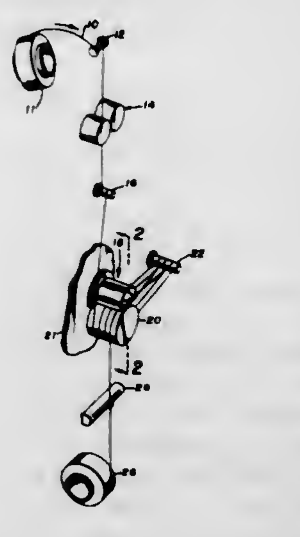
A method of texturing synthetic thermoplastic yarn by passing it under tension into and out of contact with the periphery of a molten-thermoplastic-wettable, heated roll. The surface of the yarn melts and adheres to the roll when in contact therewith. When the yarn pulls out of contact with the roll, small fibrils are formed on the yarn surface which, upon cooling, solidify to form permanent fibrils.

3,379,808
METHOD AND APPARATUS FOR FIBRILLATING SYNTHETIC THERMOPLASTIC YARN

Euell K. McIntosh, Pensacola, Fla., and James R. Williams, Robertsdale, Ala., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed Dec. 14, 1964, Ser. No. 418,186

7 Claims. (Cl. 264—162)



A method of texturing synthetic thermoplastic yarn by passing it under tension into and out of contact with the bristles of a molten-thermoplastic-wettable, heated, rotatable brush. The surface of the yarn melts and adheres to the bristles when in contact therewith. When the yarn pulls out of contact with the bristles, small fibrils are formed on the yarn surface which, upon cooling, solidify to form permanent fibrils.

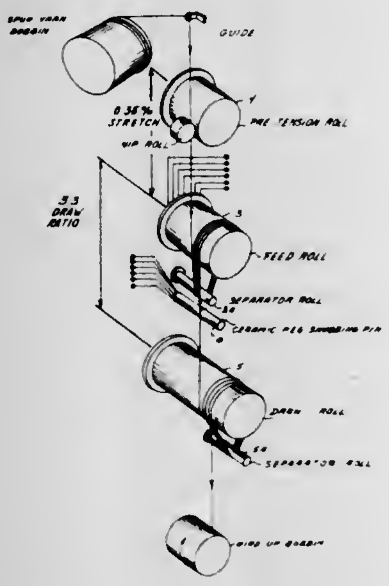
3,379,809
PROCESS FOR DRAWING AND CRIMPING YARN

Denis William Woods, Harrogate, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

Continuation-in-part of abandoned application Ser. No. 240,092, Nov. 26, 1962. This application Mar. 25, 1966, Ser. No. 537,553

Claims priority, application Great Britain, Nov. 24, 1961, 42,101/61

12 Claims. (Cl. 264—168)



1. A rapid integrated process for the manufacture of crimped filaments and fibers having low shrinkage and high crimp extension from undrawn melt spun polyester filaments having a natural draw ratio at room temperature making them capable of being elongated at least twice their length,

comprising drawing the filaments 2.5 to 6 times their length between feed rolls and draw rolls,

introducing a tension gradient and localizing the draw zone with a small snubbing pin interposed between said rolls,

heating the filaments in a first zone maintained close to and before the snubbing pin, at a temperature between 15° C.–45° C. above the second order transition temperature of the polymer from which the filaments are made,

passing the heated filaments without allowing them to cool substantially and so that stretching is limited to less than 20% and without drawing, to said snubbing pin, which is capable of being internally heated and maintained at a selected temperature, in close proximity to said first zone, maintaining said snubbing pin at a temperature between 85° C. above the second order transition temperature and 30° C. above the melting temperature of the filaments, said snubbing pin having a radius of curvature less than 6 mm. and as small as is consistent with mechanical requirements and providing a surface and an arc of contact capable of imparting a tension gradient such that substantially all the drawing takes place on the snubbing pin and between it and the draw rolls but close to the snubbing pin and without reaching the draw rolls and while the filaments are spread into a ribbon so that they become heated from the surface of the snubbing pin, when making an arc of contact of at least 180° and up to four turns around the pin,

passing the filaments to the draw rolls rotating at a speed to provide sufficient tension to draw the filaments to the required draw ratio and at a speed of at least 1,000 ft. per minute,

forwarding the filaments under a tension less than the drawing tension,

and subsequently relaxing the filaments at least 70% at room temperature, without any intermediate heating to a temperature above the second order transition temperature to show their full crimp of at least four crimps per inch and a crimp elongation of at least 70%, solely as a result of said drawing process.

3,379,810
PROCESS FOR THE MANUFACTURE OF HIGH TENACITY NYLON FILAMENTS

Terumichi Ono, Tsuneo Haga, and Rokuro Sakai, Okazaki-shi, Aichi-ken, Japan, assignors to Toyo Rayon Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

Filed July 30, 1964, Ser. No. 386,287

Claims priority, application Japan, Aug. 2, 1963, 38/40,317

4 Claims. (Cl. 264—210)

A method of obtaining high tenacity nylon filaments by subjecting nylon filaments which have been melt-spun, cooled and solidified to a drawing operation in at least two stages immediately after solidification and wherein the following conditions are satisfied:

(i) The solidified filaments to be subjected to a first stage drawing operation should have a birefringence of not more than 0.008 as measured after the filaments have been left to stand for 10 to 20 minutes at a temperature of 20° C. and RH of 65%, and

(ii) The first stage drawing should be carried out at a draw ratio in the range of 1.25 to 2.40.

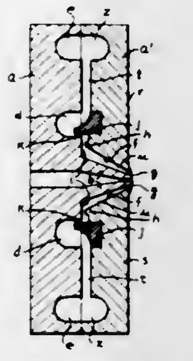
3,379,811
APPARATUS AND PROCESS FOR PRODUCTION OF FILAMENTS

Ludwig Hartmann, Oberflockenbach, Walter Riedmüller, Heppenheim, and Gerhard Müller, Morlenbach, Germany, assignors to Carl Freudenberg, Weinheim an der Bergstrasse, Germany, a corporation of Germany

Filed Feb. 3, 1965, Ser. No. 430,092

Claims priority, application Germany, Feb. 22, 1964, F 42,095

9 Claims. (Cl. 264—210)



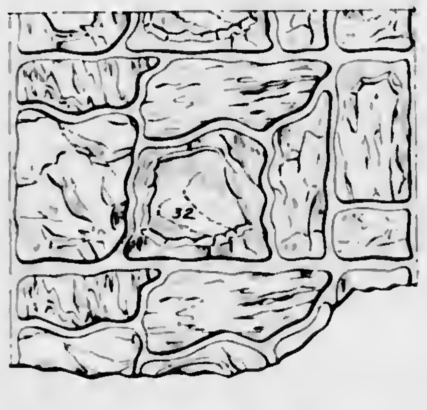
Filament-spinning apparatus and process including a substantially coplanar row of spinning orifices adapted to spin a substantially coplanar row of filaments therethrough and means on each side of the row of orifices and filaments for impinging a fluid, preferably air, onto the filaments as spun, whereby to draw the filaments wherein the impinging air emerges from slits. Means are provided for rendering the air emerging from the slits, both non-turbulent and substantially uniform in velocity from one end of the slit to the other. These means include two successive channels connected to each other through conduit means with one of the channels being connected to each slit with the air being introduced into the channel furthest from the slit in order to permit the air to pass through both channels, the conduit means therebetween and the conduit means between one channel and the slit discharge opening in such manner as to emerge substantially non-turbulent and with substantially uniform velocity.

3,379,812
METHOD OF MAKING FASHIONED FIELDSTONE

John Yakovou, 3 Pert Place, East Northport, N.Y. 11768

Filed Nov. 13, 1964, Ser. No. 410,873

6 Claims. (Cl. 264—227)



An artificial fieldstone is produced by forming a female mold from an original fieldstone, forming a duplicate of the original stone utilizing the female mold, shaping the edge of the duplicates to a predetermined configuration so that a plurality of such duplicates of different outline, respectively, may be assembled side by side to form a pattern of predetermined configuration, forming a finished female mold utilizing the shaped duplicate, and forming a finished artificial fieldstone utilizing the finished female mold.

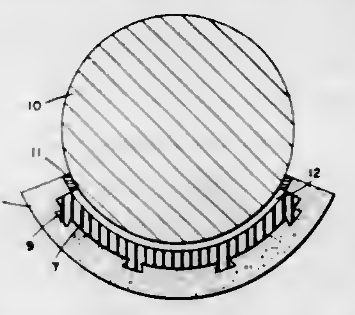
3,379,813
PROCESS FOR FORMING ARCUATE RIGID PLASTIC PLATE

Arthur C. Austin, Kenmore, N.Y., assignor to National Gypsum Company, Buffalo, N.Y., a corporation of Delaware

Filed Mar. 1, 1965, Ser. No. 436,252

17 Claims. (Cl. 264—227)

A process, and the resultant product, wherein an arcuate, rigid plastic punching plate is molded within a flexible female mold, while the flexible mold is held with a desired curvature during the hardening and curing of the rigid plastic plate, and applying a high density plating material to the face of the plate. In particular, a mineral wool acoustical tile is first routed out to the desired design to be ultimately produced by the arcuate, rigid punching plate, on which tile there is produced a low melting alloy male pattern, from which pattern the flexible female mold is formed, in a flat form.

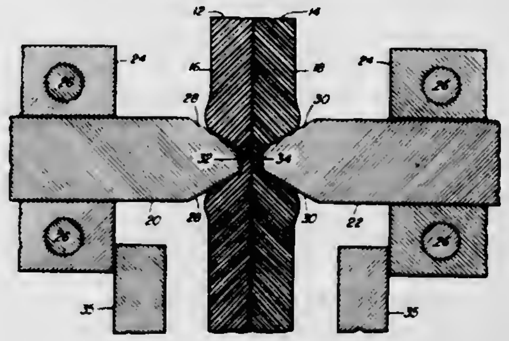


3,379,814
SCORING THERMOPLASTIC MATERIALS

Frederick J. Bracey, Jr., Somers, Conn., assignor to Mobil Oil Corporation, a corporation of New York

Filed Mar. 30, 1965, Ser. No. 443,909

10 Claims. (Cl. 264—322)



Thin thermoplastic sheet materials, such as polymeric styrene compositions, are scored with the scoring blade or the sheet material or both heated to temperatures which are correlated according to the temperature diagram of the accompanying FIG. 1 and with the stroke of the scoring blade restricted to maintain a minimum clearance between the scoring blade in its advanced position and the backing member which supports the sheet material. Scored grooves of uniform depth are produced without the fracturing or splitting commonly encountered. The scoring operaiton is particularly suitable for producing tear strips for containers or other articles.

ELECTRICAL

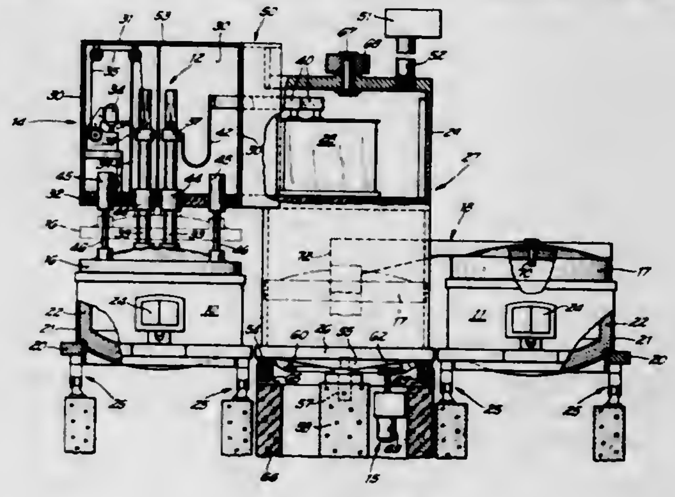
3,379,815
ELECTRIC ARC FURNACE HAVING TWO HEARTHS AND INTERCHANGEABLE ROOFS THEREFOR

William B. Parker, Pittsburgh, Pa., assignor, by mesne assignments, to Lectromelt Corporation, Pittsburgh, Pa., a corporation of Delaware

Filed Sept. 8, 1965, Ser. No. 485,697

7 Claims. (Cl. 13—2)

1. In an electric arc furnace the combination of first and second spaced apart furnace bodies, a sealed enclosure mounted for rotation about a first vertical axis disposed equidistantly from each of said furnace bodies, a plurality of electrodes extending downwardly through said enclosure, electrode positioning means disposed within said enclosure and including an electrode clamp engageable with each of said electrodes and means for raising and lowering said electrode clamps relative to said enclosure, transformer means disposed within said enclosure and being electrically connected to said electrodes for providing energizing current thereto, a first furnace cover, means for suspending said first furnace cover below said enclosure and for moving said first cover vertically, said electrodes extending through said first furnace cover, a second furnace cover, heater means disposed in said second furnace cover, and means for moving said second furnace cover vertically and for swinging said second furnace cover horizontally about a second vertical axis

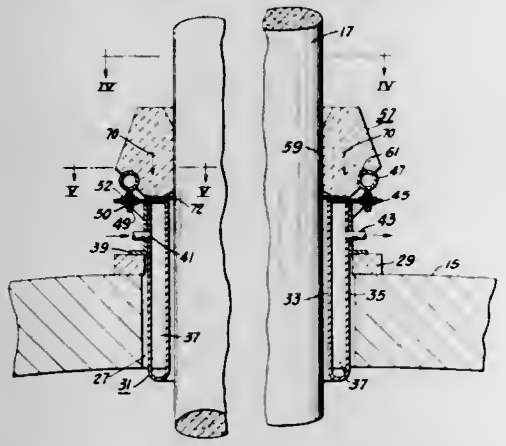


equally spaced from each of said furnace bodies and spaced from said first vertical axis so that each of said first and second furnace covers may be alternately swung from positions above one of said furnace bodies to a position above the other of said furnace bodies and subsequently lowered into position on said furnace bodies.

3,379,816
ELECTRODE SEALING DEVICE

Albert Hozven, Matanzas-Estado Bolivar, Venezuela, assignor to Koppers Company, Inc., a corporation of Delaware

Filed Jan. 6, 1966, Ser. No. 519,115
8 Claims. (Cl. 13—9)



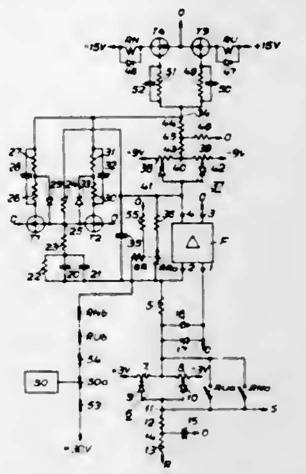
1. An electric arc furnace comprising:
(a) a refractory lined shell adapted to contain metal;
(b) a roof covering said shell and having therein a plurality of apertures;
(c) a plurality of electrodes passing through said apertures and forming annular spaces between said electrodes and the walls of said apertures;
(d) means supporting said electrodes substantially in axial relation to said apertures;
(e) means to raise and lower said electrodes with respect to said refractory lined shell;
(f) a base ring surrounding each said aperture and mounted to said roof;
(g) a water jacket surrounding each said electrode and disposed in each said annular space;
(h) means fixing said water jackets relative to said apertures;
(i) a platform mounted to each said water jacket and extending outwardly therefrom;
(j) a plurality of tubular members adjustably mounted to each said platform;
(k) conduit means connecting said tubular members whereby cooling fluid flows in the tubular members surrounding each said electrode; and
(l) a plurality of refractory elements disposed around each said electrode in abutting relation, said elements being pivotally mounted on said tubular members whereby each refractory element individually pivotally gravitates against said electrode and such elements collectively seal the annular space between each electrode and the aperture through which said electrode passes.

3,379,817
ELECTRODE CONTROL DEVICE

Sigvard Sundell, Vasteras, Sweden, assignor to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden

Filed May 24, 1965, Ser. No. 458,165
11 Claims. (Cl. 13—13)

1. Electrode control device for electrode furnaces for producing quiet working but also quick control upon the occurrence of strong disturbances, comprising an amplifier, means to supply to the input of the amplifier a signal dependent on the electrode current, an electrode control means, means connecting the output of the amplifier to said electrode control means, an integration device

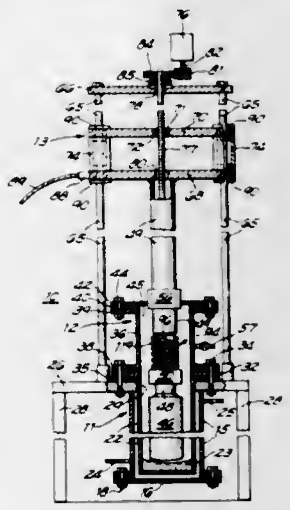


connected to the input of the amplifier for integrating the signal supplied to the amplifier, and connection means controlled by the output signal of the amplifier to disconnect said integration device as soon as said output signal rises above a predetermined value and to connect the amplifier to said electrode control means.

3,379,818
ELECTRIC ARC FURNACE

Peter J. Wynne, Pittsburgh, Pa., assignor, by mesne assignments, to Lectromelt Corporation, Pittsburgh, Pa., a corporation of Delaware

Filed May 31, 1966, Ser. No. 554,647
13 Claims. (Cl. 13—14)



1. In an electric arc furnace, the combination of, a sealed furnace body, a consumable electrode extending into said furnace body, electrode drive means coupled to said electrode for moving the same relative to said furnace body, weighing means having a maximum capacity which is a fraction of the initial weight of said electrode, sad weighing means being coupled between said drive means and said electrode so that the weight of said electrode may be determined, and first means for supporting said electrode when its weight is in excess of the capacity of said weighing means.

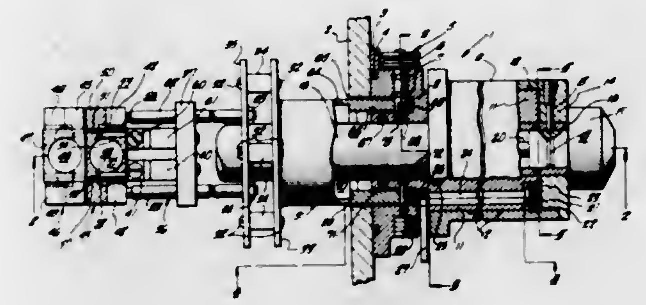
3,379,819
ELECTRON GUN FOR EVAPORATING OR SUBLIMATING MATERIAL IN A VACUUM ENVIRONMENT

Adelore L. Houde, Garden Grove, Calif., assignor to Filmtech Associates, Inc., Garden Grove, Calif., a corporation of California

Filed Sept. 15, 1966, Ser. No. 579,678
12 Claims. (Cl. 13—31)

1. An electron gun for use in evaporating material in a vacuum chamber comprising:

(a) a body adapted to be mounted on the outside of the vacuum chamber;
(b) at least one electron source assembly carried by the body for placement within the vacuum chamber, each electron source assembly having at least one filament capable of emitting electrons upon the passage of electric current through the filament;

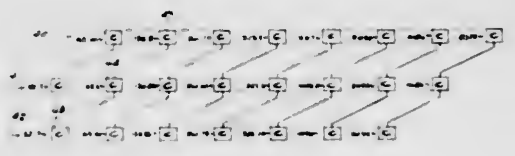


(c) an evaporant assembly carried by the body for placement within the vacuum chamber and adapted to mount a plurality of spaced-apart evaporant materials, the evaporant assembly being capable of cooperating with the filament of each electron source assembly to expose a selected one of the evaporant materials to such filament for evaporation; and
(d) means for selectively positioning the evaporant assembly with respect to each of the electron source assemblies to expose any selected one of the evaporant materials to the filament of such assembly.

3,379,820
ELECTRONIC MUSICAL INSTRUMENT

David G. Olson, W219 S7216 Crowbar Lane, Muskego, Wis. 53150

Filed Dec. 2, 1964, Ser. No. 415,290
7 Claims. (Cl. 84—1.24)



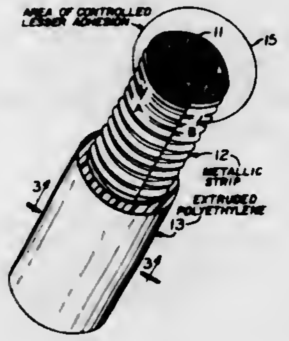
A means of obtaining two or more independent frequency sources for a substantial portion of the total frequency range of an electronic organ through the use of independent tunable oscillators for one frequency source, and individual frequency dividers or multipliers, each of which is driven by one of the independent oscillators, as a second frequency source. Additional sets of frequency dividers or multipliers may be employed, a second set which would be driven by the first set of frequency dividers, a third set which would be driven by the second set to provide even further sources of frequency.

3,379,821
SHIELDED ELECTRICAL CABLE

Oscar G. Garner, Westfield, N.J., assignor to General Cable Corporation, New York, N.Y., a corporation of New Jersey

Filed Jan. 22, 1965, Ser. No. 427,435
12 Claims. (Cl. 174—36)

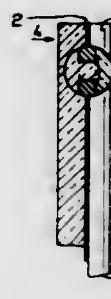
1. A shielded electrical cable comprising at least one insulated conductor of indefinite length, a metallic strip which is coextensive in length with the conductor and which is folded about the insulated conductor with its edges overlapping each other to provide a tubular metallic shielding layer completely enclosing the insulated conductor, an outer jacket of plastic insulating material surrounding and closely enclosing the tubular shielding layer, the plastic jacket being firmly adhered to the shielding layer along its overlapping edges and for a limited peripheral distance on both sides thereof to seal the overlap, the plastic jacket having a controlled lesser adhesion to the shielding layer around the rest of its periphery to facilitate stripping the plastic from the shielding layer in a region removed from the sealed overlapped region.



3,379,822
ELECTRIC CONDUCTOR SUITABLE FOR BEING SEALED IN THE WALL OF AN ELECTRIC DISCHARGE TUBE

Petrus Franciscus Antonius Haans, Theodoor Peter Johannes Botden, and Hendrik Roelofs, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed July 2, 1965, Ser. No. 469,228
Claims priority, application Netherlands, July 18, 1964, 64—8,262
5 Claims. (Cl. 174—50.57)



An electric conductor comprising a glass rod having a metal layer thereon less than 1 micron in thickness covered with glass which is sealed through the metal layer to the glass rod.

3,379,823
HERMETIC ENCLOSURE FOR ELECTRONIC DEVICES

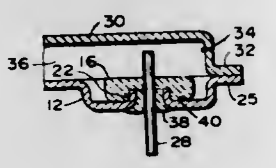
Guenter H. Loose, Bradford, Pa., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Apr. 29, 1965, Ser. No. 451,941
4 Claims. (Cl. 174—50.61)

1. A hermetic enclosure comprising:
(a) a thin, apertured, sheet metal header plate having flanged sidewalls defining at least one shallow cavity therein, said apertures defined by collets extruded from said header plate and protuding within said cavity;

(b) an apertured header body, made from a non-conductive, fusible material, incorporating a plurality of bushing-like protrusions extending from one surface thereof and coaxially aligned with said apertures, said header body disposed within said header plate cavity and fusion sealed thereto, said bushing-like protrusions disposed within said header plate apertures;

(c) compression seals between said bushing-like protrusions and said collets whereby said protrusions are under compressive forces, said protrusion forming rivet-like portions which lock said header plate to said header body;



(d) a plurality of conductive leads disposed within said header body apertures and fusion sealed thereto, said leads extending through and enveloped by said rivet-like portions, and terminating externally said header plate;

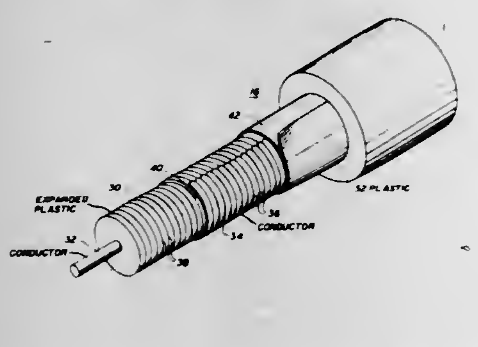
(e) a thin, sheet metal cover plate having flanged sidewalls defining a shallow cavity, said cover plate flanges disposed on said header plate flanges in mutually continuous, hermetic contact therewith.

3,379,824
COAXIAL CABLES

Raymond A. Kempf, Baltimore, Md., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed June 25, 1965, Ser. No. 466,999

10 Claims. (Cl. 174—105)



Expanded polyethylene surrounding an inner copper conductor supports an outer corrugated conductor coaxially about the inner conductor at all points along a coaxial cable. The expanded polyethylene insulation is protected from dielectric-disturbing solder fluxes by forming a bare overlapped longitudinal seam on the outer conductor, and is protected from impregnation of ambient vapor by surrounding it with a sheet composed of aluminum foil laminated between an inner polypropylene sheet and an outer Mylar sheet. A seam is formed in the sheath by welding the longitudinal polypropylene edges together as the sheet surrounds the outer conductor.

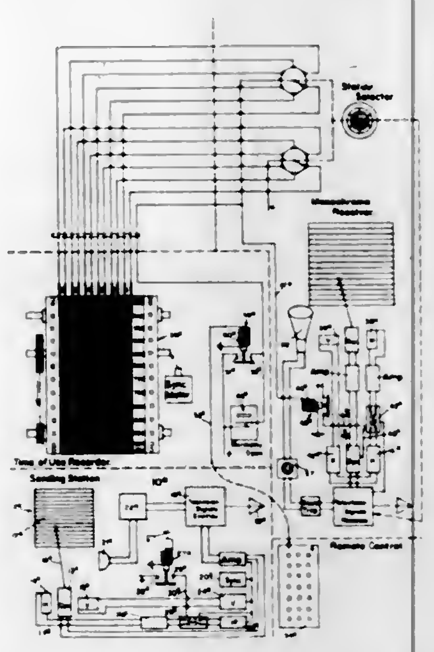
3,379,825
SUBSCRIPTION TELEVISION SYSTEM HAVING RASTER DISTORTION

Thomas A. Banning, Jr., 5500–5520 S. Shore Drive, Apt. 1408, Chicago, Ill. 60637

Filed July 16, 1964, Ser. No. 383,144

9 Claims. (Cl. 178—5.1)

This case discloses a television system whereby the program may be emitted and received with improper lateral shifts of the scans, producing an intelligible but less than perfect translation in conventional receivers; or such emitted program signals may be received by pay or subscriber receivers, with correction of such lateral shifts of the scans, to produce a superior aesthetic quality translation of the program; the former less than perfect reception and translation, being a free program—the latter, corrected program, being a pay or charge received program.

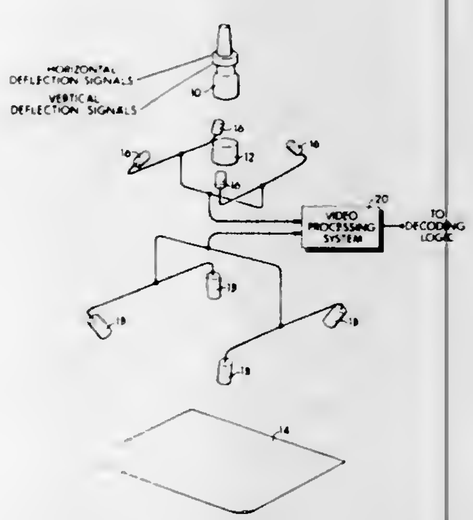


3,379,826
VIDEO PROCESSING SYSTEM PROVIDING CORRECTION FOR CHANGES IN THE LIGHT SOURCE INTENSITY AND FOR LIGHT FLUCTUATIONS DUE TO DIFFERENT PAGE REFLECTIVITIES

Stephen B. Gray, Newton, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed May 5, 1965, Ser. No. 453,414

4 Claims. (Cl. 178—6)



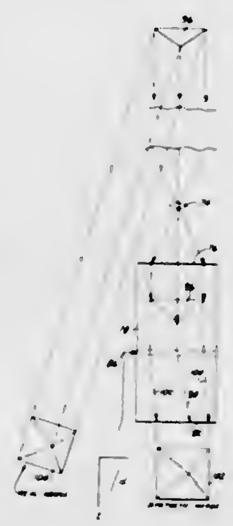
1. In an electro-optical character recognition system including a flying spot scanner, at least one first photodetector operative to produce a first signal in response to light received by reflection from a page being scanned, and at least one second photodetector operative to produce a second signal in response to light received from said scanner, a video processing system for eliminating unwanted variations in the level of said first signal comprising, means for dividing said first signal by said second signal to produce a partially corrected signal, means for peak detecting said partially corrected signal, and means for dividing said partially corrected signal by said peak detected signal.

3,379,827
SYNTHETIC STEREOSCOPIC BINOCULAR

Arthur L. Rossoff, Huntington Station, N.Y., assignor to General Instrument Corporation, Newark, N.J., a corporation of New Jersey

Filed July 26, 1963, Ser. No. 297,864

22 Claims. (Cl. 178—6.5)



1. A synthetic stereoscopic binocular comprising means to transmit a pulsed beam of wave energy, and a receiver for wave energy reflected from the observed scene, said receiver including an image intensifier to receive the image on its input face and to reproduce it on its output face, means to produce a field between the input and the output faces and transverse to the axis of the image intensifier, which field serves to deflect the electrons moving through the image intensifier, and means to so vary the field strength in synchronism with the transmitted pulses that the amount of deflection varies in inverse sense to the distance of the parts of the viewed scene from the receiver.

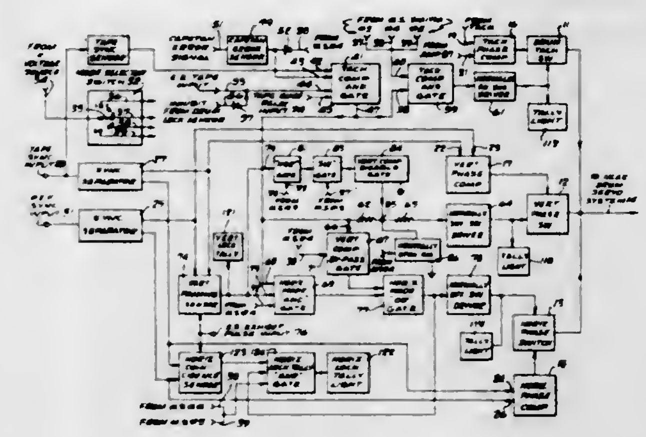
3,379,828
PROGRAMMED SWITCHING OF SERVO ERROR SIGNALS IN TAPE APPARATUS SYNCHRONIZING SYSTEMS

Grant M. Smith, Cupertino, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Mar. 29, 1965, Ser. No. 443,400

11 Claims. (Cl. 178—6.6)

1. In a tape apparatus synchronzing system having means for generating a plurality of error signals, and servo means for controlling the angular velocity of a rotary magnetic transducer head drum in accordance with an error signal applied to the input of the servo means, the combination comprising a plurality of electronically controlled switches respectively coupled in receiving relation to said error signals and coupled in common to the input of said servo means, each of said switches having a control input for actuating the switch between open and closed conditions in response to a control signal at the control input, selector switch means having a plurality of selectable operational mode positions, and logic circuitry connected between said selector switch means and the control inputs of said electronically controlled switches for delivering control signals thereto generated in accordance with predetermined logic programs of said logic circuitry respectively selected by said selector switch means in different ones of said positions.

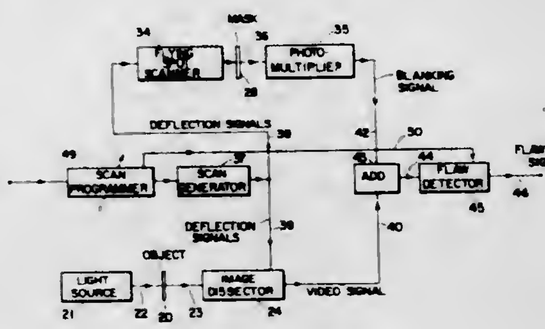


3,379,829
FLAW DETECTION APPARATUS

Vernon C. Gambrell, Columbia City, and Robert H. Lawburgh and Louis E. Wuellner, Fort Wayne, Ind., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Continuation of application Ser. No. 359,722, Apr. 14, 1964. This application Dec. 11, 1964, Ser. No. 417,545

19 Claims. (Cl. 178—6.8)

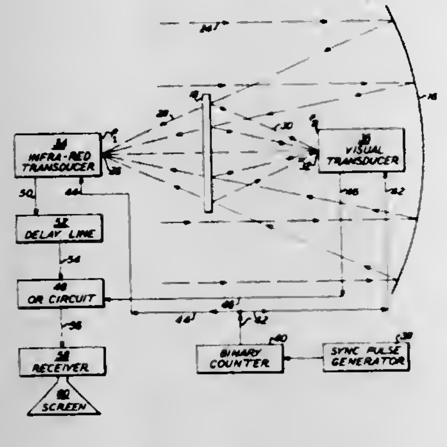


1. Apparatus for detecting flaws in an object comprising: first means for illuminating and receiving an optical image of said object in which flaws are to be detected and including first deflection means for providing a time-based video signal in response to said image; a mask having contrasting areas thereon corresponding to areas of said object which will provide wanted and unwanted video signals, respectively; second means for illuminating said mask and including second deflection means for providing a time-based blanking signal in response to the areas corresponding to said unwanted video signals; scan generating means coupled to both of said deflection means for simultaneously applying identical deflection signals thereto; program means coupled to said scan generating means for providing different predetermined line scan spacing for different predetermined areas of said object and mask; and means for blanking said video signals in response to said blanking signal thereby to provide output video signals responsive to said wanted video signals only.

3,379,830

DECAMOUFLAGING APPARATUS BY SEQUENTIAL OVERLAY OF DIFFERENT SPECTRAL PICTURES OF A SINGLE RADIATING BODY

Joseph F. Menke, Heidelberg, Germany, assignor to Eltro G.m.b.H., Heidelberg, Germany
Continuation-in-part of application Ser. No. 69,765, Nov. 16, 1960. This application May 4, 1964, Ser. No. 365,239
Claims priority, application Germany, Nov. 16, 1959
1 Claim. (Cl. 178—6.8)

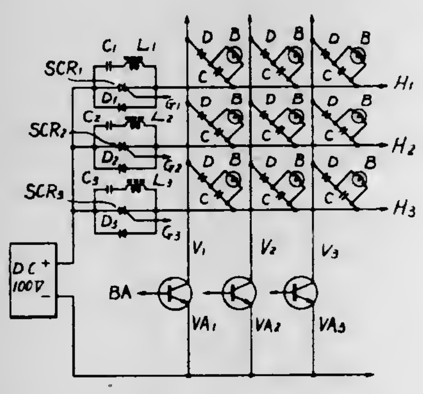


A camouflage device is provided which optically divides a view into two spectral parts which are alternately projected on a screen.

3,379,831

FLAT SCREEN TELEVISION DISPLAY APPARATUS

Ken Hashimoto, Tokyo, Japan, assignor to Fuji Neon Kabushiki Kaisha, Setagaya-ku, Tokyo, Japan
Filed Mar. 4, 1965, Ser. No. 437,174
Claims priority, application Japan, Mar. 19, 1964, 39/14,982
3 Claims. (Cl. 178—7.3)

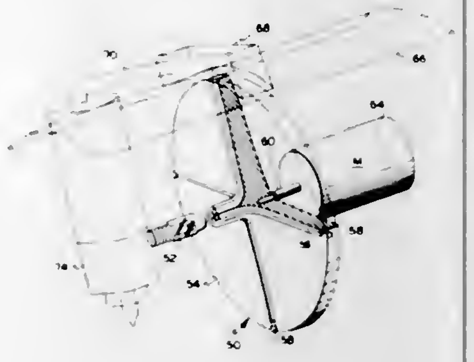


A wall television device comprising a picture screen consisting of a plurality of picture elements positioned side by side in a plurality of horizontal rows forming elementary horizontal picture lines, the corresponding picture elements in the horizontal rows being vertically aligned in a plurality of side by side vertical rows equal in number to the number of horizontal rows and forming elementary vertical picture lines, said picture elements each comprising a parallel connected electric illumination element and a condenser, and a diode connected in series with the parallel connected illumination element and condenser; an SCR switching device for switching power from horizontal row to horizontal row for scanning, a D.C. power source, a plurality of horizontal and vertical lead wires equal in number to the number of horizontal and vertical rows of picture elements, and a video distribution amplifying circuit, one end of each said picture elements being connected to a horizontal lead wire for the corresponding horizontal row, which in turn is connected to one end of said D.C. power source through said SCR switching device, the other end of each of said picture elements being connected to a vertical lead wire for the corresponding vertical row, which in turn is connected to the video distribution amplifying circuit; said video distribution amplifying circuit being connected to the D.C. power source and including means for retaining a voltage during each horizontal scanning period in accordance with the strength of the video signal.

3,379,832

MICRO-OPTICAL SCANNING APPARATUS

Herbert Judin, R.F.D. 6, Dix Hills, Huntington, N.Y. 11743
Filed Dec. 18, 1964, Ser. No. 419,512
11 Claims. (Cl. 178—7.6)



A high speed, diffraction limited point or line forming apparatus utilizing imperfect, uncorrected converging lens elements substantially hemispherical, spherical or cylindrical in shape, in conjunction with electromagnetic radiation incident upon said lens elements with limited beam divergence angles.

By virtue of the incident rays passing through small optical paths, the diffraction limited effect takes place with imperfect uncorrected optical elements of appropriate dimensions.

A scanning apparatus comprising such uncorrected converging lens elements (singly or in multiple array), an optical fiber bundle or single fiber as a light pipe radiation source, and means of rotating or translating the fiber and spherical lens combination to trace a focused radiation point across a surface. Application of the above phenomenon over the electromagnetic range encompassed by ultraviolet, infrared and visible light and extending into millimeter waves using broadband (thermal) or monochromatic (laser, diode emitter or other spectral) sources of radiation.

3,379,833

CONTROLLABLE TELEVISION RASTER GENERATOR

Klaus J. Hecker, Oberursel, Taunus, and Hans Staeudle, Heidenheim-Schnaitheim, Germany, and Werner G. Hueber, Riverside, Calif., assignors to the United States of America as represented by the Secretary of the Navy
Filed July 8, 1965, Ser. No. 470,649
4 Claims. (Cl. 178—7.7)

1. A deflection generator system for providing fast electronic control of size, shape and position of a television raster as a function of external signals, comprising:

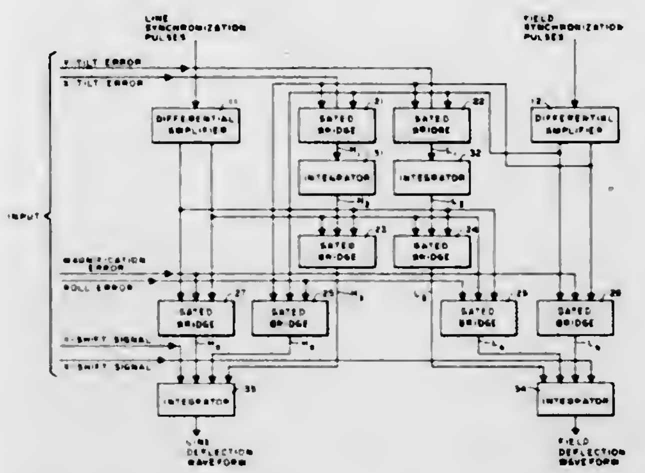
(a) a line deflection waveform channel and a field deflection waveform channel,

(b) a line channel differential amplifier and a field channel differential amplifier to which line synchronization pulses and field synchronization pulses are fed respectively, each of said differential amplifiers producing amplified forms of the respective synchronization pulses applied thereto and also inverted forms thereof,

(c) first, second, third and fourth line channel gated bridge circuits, and first, second, third and fourth field channel gated bridge circuits,

(d) the output of said line channel differential amplifier being fed to said second and fourth line channel gated circuits and said second and third field channel gated circuits,

(e) the output of said field channel differential amplifier being fed to said first and fourth field channel gated circuits and said first and third line channel gated circuits,



(f) first and second line channel integrators, and first and second field channel integrators which produce sawtooth waveforms from pulse waveforms fed thereto,

(g) the output of said first line channel gated circuit being fed to said first line channel integrator, and the output of said first field channel gated circuit being fed to said first field channel integrator, the outputs of said first integrators in turn being fed to said second gated bridge circuits of said line and field channels respectively,

(h) means for applying a first external signal to said first line channel gated bridge circuit, a second external signal to said first field channel gated bridge circuit, a third external signal to said third line channel and field channel gated bridge circuits, a fourth external signal to said fourth line channel and field channel gated bridge circuits, a fifth external signal to said second line channel integrator, and a sixth external signal to said second field channel integrator circuit,

(i) the outputs of said second, third, and fourth line channel gated bridge circuits being fed to said second line channel integrator, and the outputs of said second, third, and fourth field channel gated bridge circuits being fed to said second field channel integrator,

(j) the output of said second line channel and field channel integrators being the line deflection and field deflection waveforms respectively,

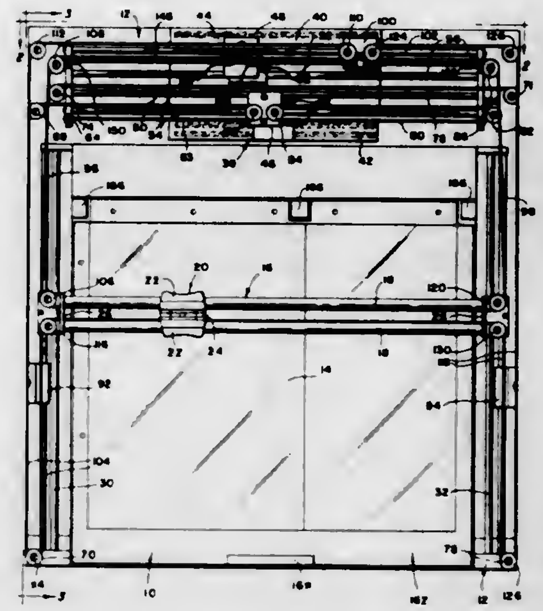
(k) said fourth line channel and field channel gated bridge circuits being biased to produce output pulses corresponding to said line and said field synchronization pulses respectively even when the said fourth external signal is zero, for causing a normal raster to be produced when no external signals are present,

whereby all possible combinations of raster size, shape, and position can be generated with high linearity of the deflection waveforms.

3,379,834

DATA CODER AND INPUT DEVICE

Patrick F. Conners, Huntington Beach, Calif., assignor to Bolt Beranek and Newman Inc., Cambridge, Mass.
Filed June 5, 1967, Ser. No. 643,421
10 Claims. (Cl. 178—18)

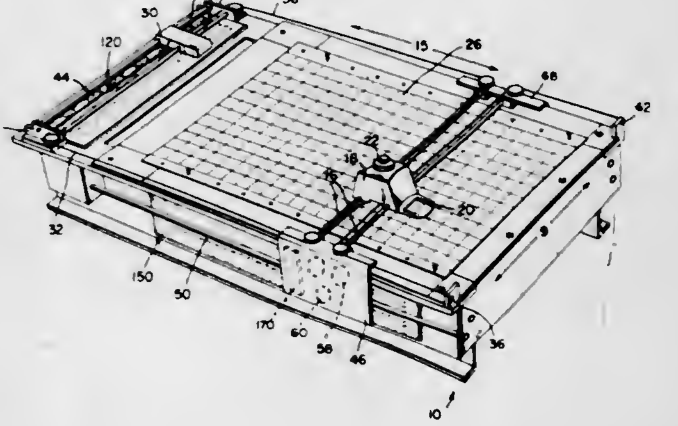


A device for converting the X–Y coordinates of a cursor into electrical signals. Movement of the cursor is transmitted by cables to transducers having brush carriers which move over code cards at half the rate of the corresponding cursor movement.

3,379,835

DATA CODER AND INPUT DEVICE

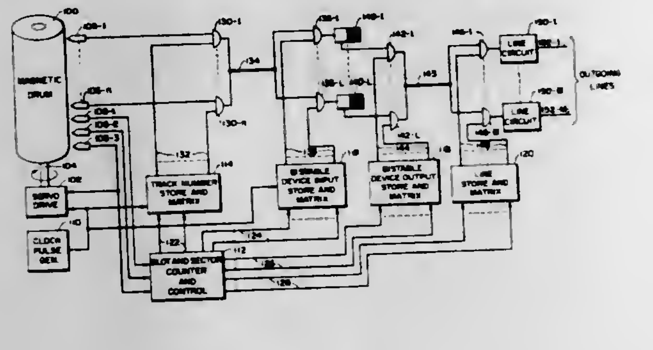
Ernest E. Gilbert, Garden Grove, Calif., assignor to Bolt Beranek and Newman Inc., Cambridge, Mass.
Filed Mar. 30, 1966, Ser. No. 538,843
4 Claims. (Cl. 178—18)



The disclosed data encoding apparatus encodes the position of a cursor with respect to two coordinates of a table. The cursor is supported upon a track for movement along one coordinate, and the track is supported for movement along the other coordinate. The movement of the cursor is transmitted to sets of brushes which cooperate with code cards, one set of brushes being coupled to the cursor by cables, other cables being employed to stabilize the movement of the track. A drum coupled to one of the last-mentioned cables takes up slack in an electrical lead wire trailing from the cursor and connected to a push botton thereon for producing an output.

3,379,836
TIME DIVISION MULTIPLEX TELEGRAPH MESSAGE SWITCHING CENTER EMPLOYING TIME SLOT MULTIPLICATION

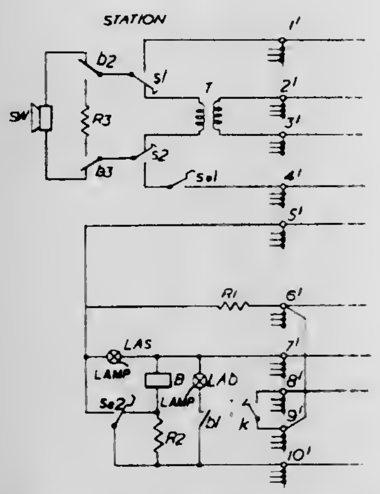
Barrie Brightman, Webster, and David S. J. Smith, Ontario, N.Y., assignors to General Dynamics Corporation, a corporation of Delaware
Continuation of application Ser. No. 361,954, Apr. 23, 1964. This application Apr. 18, 1967, Ser. No. 631,840
8 Claims. (Cl. 178—50)



In a switching system for applying a stored message to a plurality of outgoing lines during a single readout, the system including a first time division multiplex highway link between a magnetic storage drum and individual ones of a plurality of bistable devices. Each bistable device successively receiving a single bit from an individual readout message during each time frame. The system also includes a second time-divided multiplex highway link which connects the output of the bistable devices to the outgoing lines, so that by selecting different outgoing lines in different time slots, the output of a bistable device during various time slots of an individual message may be extended to more than one outgoing line.

3,379,837
CENTRAL ENERGY SIMPLEX INTERCOMMUNICATION SYSTEM CAPABLE OF PAGING AND CONFERENCE CALLS

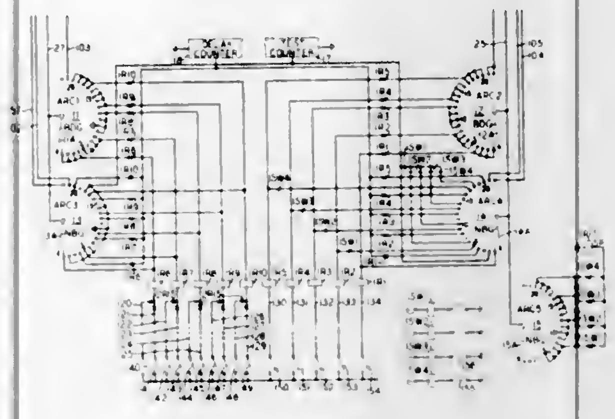
Rudolf Welhser, Graz, Styria, Austria, assignor to International Standard Electric Corporation
Filed Sept. 29, 1964, Ser. No. 400,056
3 Claims. (Cl. 179—40)



A central energy simplex intercommunication system capable of paging and conference calls. Each of the plurality of stations utilizes a single blocking relay that disconnects the talking transducer of the station responsive to the testing relay at the central control if the engaging key at the station is not operated. The central control circuit uses three relays. The energizing relay is responsive to the engaging key to energize the common amplifier. The auxiliary relay is responsive to the inhibiting circuit at the stations to actuate the testing relay.

3,379,838
TELEPHONE DIAL TONE DELAY MEASURING CIRCUIT

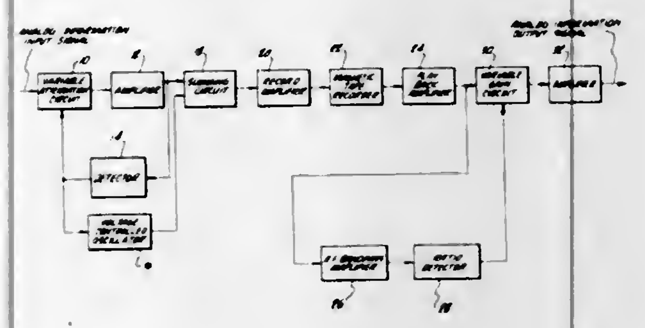
James W. Watkins, Jr., Pittsburgh, Pa., assignor to American Telephone and Telegraph Company, New York, N.Y., a corporation of New York
Filed Oct. 20, 1964, Ser. No. 405,088
9 Claims. (Cl. 179—175)



A telephone service observing system is disclosed wherein grade of service indicia are obtained by scanning equipment common to all lines of a central office. Since a call, attempted during a period when all such common equipment is busy, will not be served as long as that busy condition persists, each time the system scans and finds that all common equipment is busy, and that condition persists beyond some predetermined time interval, that test of the system is considered a failure indicative of a "lost" call. By maintaining counts of the number of tests attempted and the number of "lost" calls occurring, an indication of the grade of service being provided may be readily determined.

3,379,839
MAGNETIC RECORDING DYNAMIC RANGE COMPRESSOR/EXPANDER SYSTEM

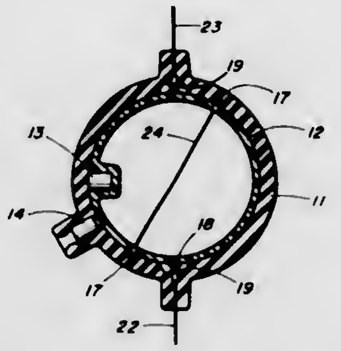
John Hughes Bennett, Granada Hills, Calif., assignor to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California
Filed Dec. 7, 1964, Ser. No. 416,315
1 Claim. (Cl. 179—100.2)



There is described a magnetic tape recorder in which the amplitude of the signal being recorded is compressed to reduce its dynamic range. A high frequency carrier is simultaneously recorded on the same channel of tape. It is modulated in frequency according to variations in the amount of amplitude compression. This carrier is above the normal recording frequency range of the recorder so that it does not affect the normal recording band width of the recorder. On playback, the carrier is demodulated and the gain of the playback amplifier is expanded by an amount controlled by the demodulated signal.

3,379,840
VACUUM ACTIVATED, MAGNETIC DRIVE SWITCH

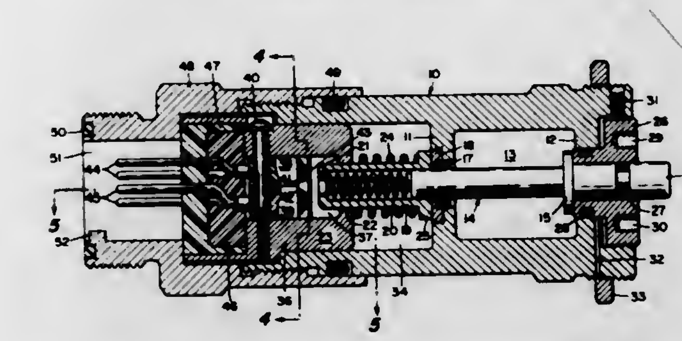
Frank H. Swaim, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Oct. 24, 1966, Ser. No. 589,140
6 Claims. (Cl. 200—81)



1. An omnidirectional, vacuum activated switch having a closed position in atmospheric pressure environments and an open position in a vacuum comprising,
- an external hollow spherical member composed of an elastomeric material and having input and output signal switching elements connected thereto;
- an internal hollow spherical member composed of a non-elastomeric material concentric with and movably contained within said external spherical member, having at least one interconnecting switching means; and
- switch actuating means connected to said spherical members for moving said interconnecting switch element between said input and output signal elements in response to the expansion of said external spherical member when subjected to a vacuum.

3,379,841
HYDRAULIC ACTUATED SWITCH CONSTRUCTION

Sherman O. Lombard, Campbell, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Oct. 22, 1965, Ser. No. 502,697
7 Claims. (Cl. 200—82)

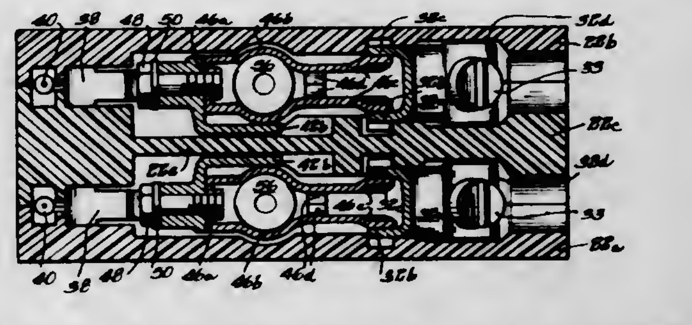


An electric switch assembly comprising an electrical section and a hydraulic section wherein the electric elements are segregated from the hydraulic pressure.

3,379,842
CARTRIDGE FUSE PULL-OUT SWITCH

Harold H. Downs and Harris I. Stanback, Lexington, Ky., assignors to Square D Company, Park Ridge, Ill., a corporation of Michigan
Filed Sept. 23, 1964, Ser. No. 398,637
5 Claims. (Cl. 200—114)

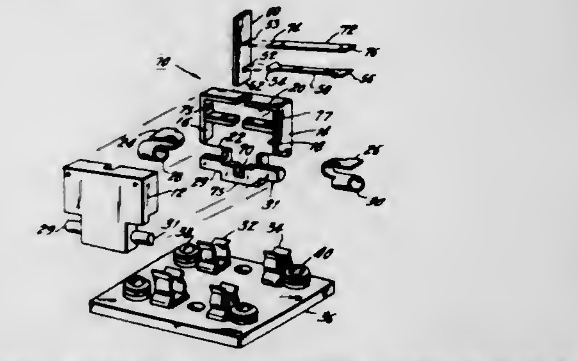
1. A cartridge fuse pull-out switch comprising a casing formed of electrically insulating material and having a bottom wall portion, a first pair of stationary contact jaws in said casing adjacent one end thereof and adjacent said bottom wall portion, a second pair of stationary contact jaws in said casing adjacent the other end thereof and remote from said bottom wall portion, and a fuse holder removably insertable in said casing selectively in ON and OFF positions with respect thereto, said fuse holder having first and second oppositely extending plug-in terminal portions respectively engageable with said first



and second pairs of stationary contact jaws in the ON position of said fuse holder, and the jaws of said second pair of stationary contact jaws being more widely spaced apart from each other than the jaws of said first pair, whereby said first terminal portion of said fuse holder passes relatively freely between the jaws of said second pair when said fuse holder is being inserted in said casing in the OFF position thereof.

3,379,843
SIMPLIFIED CIRCUIT BREAKER DEVICE WITH MANUAL ON-OFF CONTROL AND MANUAL RESET

Howard R. Shaffer, Glenside, Pa., and Carl E. Gryctko, Haddon Heights, N.J., assignors to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Sept. 7, 1966, Ser. No. 577,772
5 Claims. (Cl. 200—138)



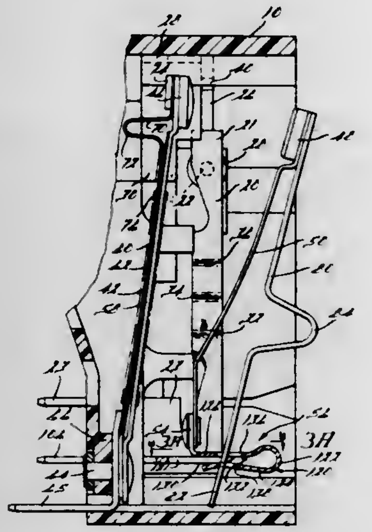
A minimum number of inexpensive components are utilized to provide a compact circuit breaker device which includes a manual operator for moving between the contact ON and contact OFF positions, and an automatic trip means with reset being provided by the manual operator.

3,379,844
SWITCH CALIBRATION MEANS

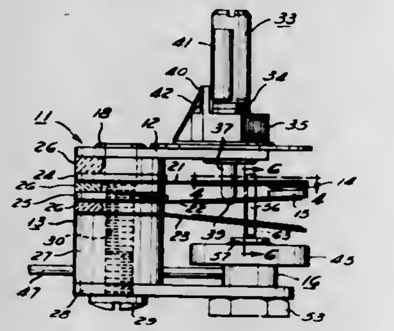
Samuel A. Morgan, Ann Arbor, Mich., assignor to King-Seeley Thermos Co., Ann Arbor, Mich., a corporation of Michigan
Filed Mar. 11, 1966, Ser. No. 533,535
9 Claims. (Cl. 200—139)

1. A condition responsive switch comprising a pair of relatively movable contacts, first support means for supporting one of said contacts, second support means for supporting the other of said contacts, said first support means including deflectable blade means and condition responsive means for causing deflection of said blade means and control of the position of the respective one of said contacts in response to a condition, and calibration means coupled to one of said first and second support

means for initially calibrating the relative positions of said contacts including support tab means fixedly supported relative to the other of said first and second support means and calibrating clip means slidably supported on said support tab means, and means controlled by the movement of said clip means and fixed to the one of said first and second support means for moving said one support means relative to said other support means in response to sliding movement of said clip means on said support tab means.



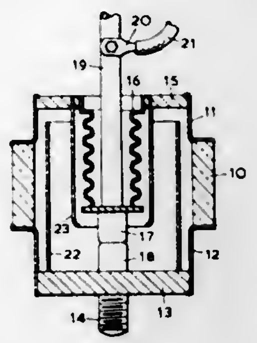
3,379,845
FLUID OPERATED THERMOSTAT
Charles S. Mertler, Mansfield, Ohio, assignor, by mesne assignments, to Essex Wire Corporation, Fort Wayne, Ind., a corporation of Michigan
Filed Oct. 22, 1965, Ser. No. 500,980
10 Claims. (Cl. 200—140)



The invention relates to a fluid operated thermostat of the stack type wherein an expansible fluid acts on a diaphragm which in turn acts through a link guided by a cantilever blade in a plural blade stack type of thermostat. The link is guided and supported for only line contact to minimize friction and hence the inertia and thermal and physical mass is minimized for a minimum temperature differential.

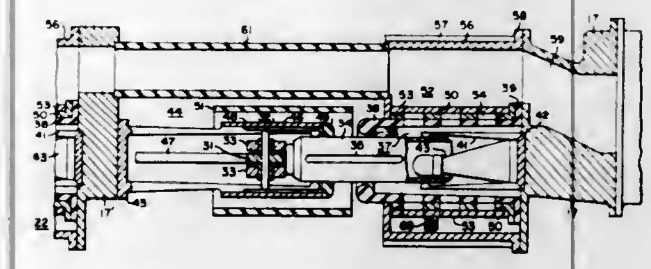
3,379,846
ELECTRODES FOR ELECTRIC DEVICES OPERABLE IN A VACUUM
Allan John Wood and Kenneth William Brown, Stafford, England, assignors to The English Electric Company Limited, London, England, a British company
Filed Apr. 14, 1965, Ser. No. 448,219
Claims priority, application Great Britain, Apr. 21, 1964, 16,529/64
8 Claims. (Cl. 200—144)

An electrode for use as a contact of a vacuum circuit interrupter or as an electrode of a vacuum spark gap device has an arcing tip and an integral body part which may be attached to a copper, silver or gold stem. The arcing tip comprises a sintered compact of nickel plated tungsten particles infiltrated with a copper zirconium alloy and the integral body part consists of copper zirconium alloy. An alternative refractory metal, such as molybdenum, rhenium, niobium, or tantalum may be used instead of tungsten to form the sintered compact; any other reactive metal (e.g. titanium or thorium), that is a metal which provides a gettering action, may be alloyed with copper in place of zirconium, and gold or silver may be substituted for the copper component of the alloy.



A process for producing such an electrode is also disclosed.

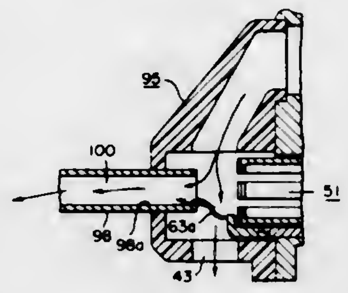
3,379,847
COMPRESSED-GAS CIRCUIT BREAKER WITH ROTARY BLAST VALVE SURROUNDING THE ARCING CHAMBER
Frederick A. Azinger, Jr., Churchill, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 29, 1965, Ser. No. 428,907
12 Claims. (Cl. 200—148)



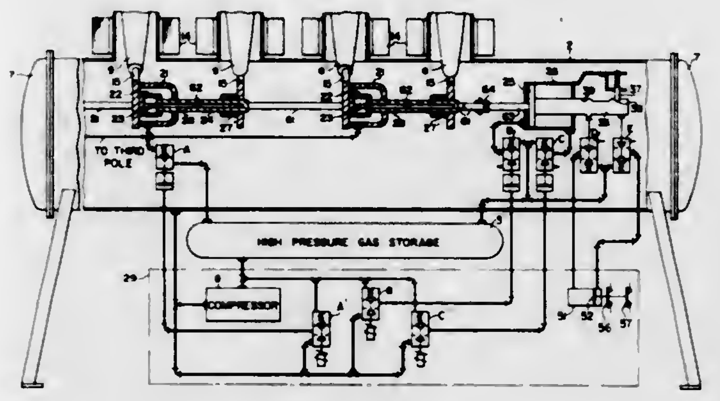
A compressed-gas circuit breaker has one or more arcing chambers surrounding the separable contacts to direct the gas flow during interruption. A rotary blast valve, surrounding the one or more arcing chambers, is synchronously actuated by the contact-operating mechanism for an immediately-available high-pressure gas flow. In one arrangement, separate manifolds for the several series breaks are sequentially filled with compressed gas for ensuring simultaneous gas flow at the several breaks. In another arrangement, two such arcing chambers are carried at the ends of a hollow rotating contact arm rotatably mounted on a bearing portion of a high-pressure reservoir.

3,379,848
GAS-BLAST CIRCUIT BREAKER HAVING A MOVABLE TUBULAR VENTING CONTACT AND A LATERALLY ARRANGED EXHAUST VENT IN THE INTERRUPTING CHAMBER
Robert G. Colclaser, Jr., Franklin Township, Delmont, and Frank L. Reese, Wilkinsburg, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 26, 1965, Ser. No. 428,077
3 Claims. (Cl. 200—148)

A gas-blast circuit breaker has a fixed arcing chamber enclosing a stationary contact structure and having an orifice opening leading therefrom together with a laterally arranged exhaust vent. A movable tubular venting contact cooperates with the stationary contact structure to establish an arc, and the gas flow carries the arc interiorly of the movable tubular venting contact. The provision of a laterally arranged exhaust vent provides an additional transverse cross-blasting action of the gas across the established arc for additional arc extinguishing effectiveness.



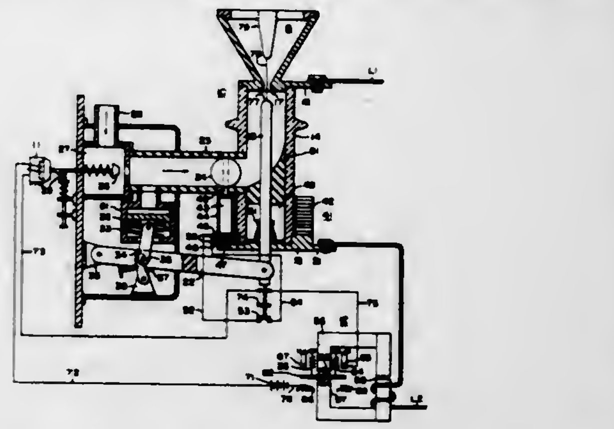
3,379,849
DUAL-PRESSURE GAS-BLAST CIRCUIT BREAKER WITH PISTON MEANS AND INTERRUPTING UNIT IN CLOSED TANK
Gilbert J. Easley, Edgewood, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 17, 1964, Ser. No. 419,044
10 Claims. (Cl. 200—148)



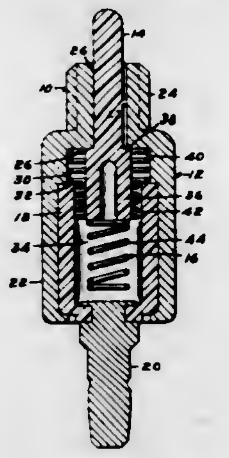
An interrupting unit is mounted within a main tank filled with an arc-extinguishing gas at relatively low pressure, such as sulfur hexafluoride (SF_6) gas. An operating cylinder and reciprocating piston are also mounted within the tank and effect contact separation within the interrupting unit. A high-pressure reservoir, containing the same arc-extinguishing gas, such as sulfur hexafluoride (SF_6) gas at a higher pressure, is used to blast the established arc at the separated contact structure and also to effect opening and closing movement of the reciprocating piston. An extension of the piston rod is latched in both the open and closed-circuit positions and also mechanically effects operation of the auxiliary switches. The tank and the high-pressure rseervoir constitute a dual-pressure closed gaseous system for conserving and reusing the blasted (SF_6) gas.

3,379,850
GAS-BLAST CIRCUIT BREAKER SYSTEM WITH CURRENT-RESPONSIVE INITIATING SYNCHRONOUS RELAY
Frederick A. Azinger, Jr., Churchill Boro, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 17, 1964, Ser. No. 419,045
7 Claims. (Cl. 200—148)

A gas-blast circuit interrupter has a synchronous operator to effect opening of a blast valve close to a current zero. A current-responsive synchronous relay functions only upon predetermined overcurrent conditions to initiate opening of the contact structure and also to initiate operation of the synchronous operator.

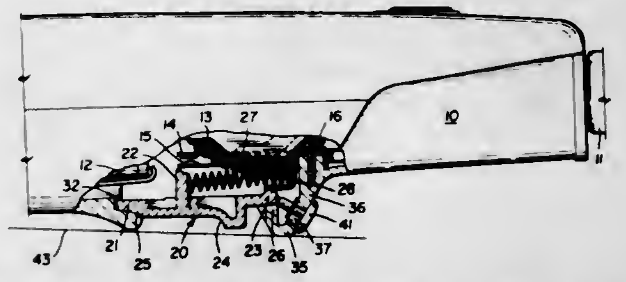


3,379,851
PUSHBUTTON USING THREE STAGE UNITARY SPRING AS A CONTACTOR MEANS
Frederick J. Weremey, Mattapan, Mass., assignor to United-Carr Incorporated, Boston, Mass., a corporation of Delaware
Filed Feb. 9, 1966, Ser. No. 526,255
1 Claim. (Cl. 200—159)



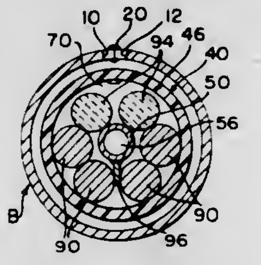
A pushbutton switch is disclosed to provide switching means wherein a unitary stepped spring is utilized as a contact and also to mechanically return the plunger to the normally open position.

3,379,852
POWER OPERATED KNIFE SWITCH TRIGGER LOCKING MEANS
Harvey Korshak, Skokie, Ill., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Mar. 2, 1966, Ser. No. 531,163
5 Claims. (Cl. 200—157)



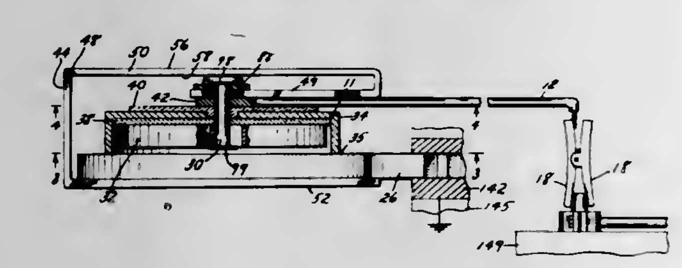
Switch trigger locking means for a power operated knife or other tool provided with normally open switch contacts, comprising a switch actuating trigger having contact engaging means, and locking means mounted on the knife or tool housing in such position that an exposed part of the locking means is raised to or above the plane of the lowermost part of the housing when in trigger locking position and must be manually lowered to a plane below the trigger when it is desired to unlock the trigger and permit trigger operation and closing of the switch contacts. The locking means is a button headed pin slidable in directions transverse to the axis of the pin, the button being exposed externally of the housing. The housing includes a stop or abutment so positioned that the trigger must be moved slightly longitudinally of the trigger before the trigger can be depressed to move one of the switch contacts toward the other. Thus the trigger is protected against accidental actuation by the positive locking means which prevents longitudinal movement and depression of the trigger, and by the trigger mounting which prevents depression of the trigger until it has been moved slightly longitudinally out of engagement with the stop or abutment in the housing.

3,379,853
IMPEDOR FOR A TUBE MILL
Dante J. Domizi, Parma, Ohio, assignor to Park-Ohio Industries, Inc., a corporation of Ohio
Filed May 22, 1964, Ser. No. 369,570
14 Claims. (Cl. 219—8.5)



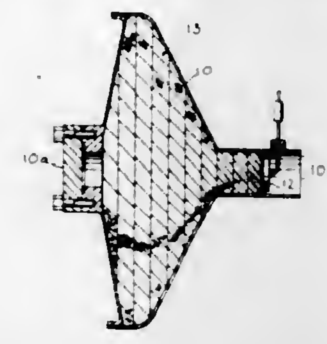
There is provided an impedor for a tube mill for forming a longitudinally moving skelp having spaced edges into a continuous seam welded tube. The impedor includes a sleeve of electrical insulation material extending in the skelp and below the point at which the skelp is seam welded into a tube. Within the sleeve there are provided a plurality of circumferentially positioned rod-like elements with the element or elements opposite the welding point having a low permeability and the elements radially remote from the welding point having high permeability.

3,379,854
AUTO LOCK DE-ICING
Arthur Jovis, New York, N.Y.
(1501 Undercliff Ave., Bronx, N.Y. 10453)
Substituted for abandoned application Ser. No. 449,743, Apr. 21, 1965. This application Aug. 25, 1967, Ser. No. 671,905
3 Claims. (Cl. 219—201)



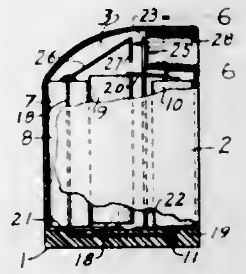
An electric heating device for de-icing automobile locks by heating the key therefor, using an automible storage battery as a current source. The device consists of a resilient, non-conductive holder, a conductive housing in the holder and an electric resistance element supported by the housing. The key is disposed in the holder in heat exchange relationship to the heating element.

3,379,855
FLUID FEED SYSTEM
Alvin T. Forrester, Los Angeles, and Frank A. Barcatta, Pasadena, Calif., assignors to Electro-Optical Systems, Inc., Pasadena, Calif., a corporation of California
Filed May 13, 1963, Ser. No. 279,750
4 Claims. (Cl. 219—274)



1. A propellant feed system comprising: a hollow vessel having an exit port at one end and a fill cap through which propellant may be fed at the other end thereof; a metal sponge of graduated porosity mounted in and filling said vessel between said exit port and said fill cap, said sponge being made up of a plurality of wafers having capillary-sized pores therein and therethrough of respectively different pore sizes with the wafer having the finest pore size positioned in said exit port and the wafer having the coarsest pore size positioned adjacent said fill cap; and means mounted in said exit port for sufficiently heating the face of said wafer or finest porosity to vaporize any propellant therein.

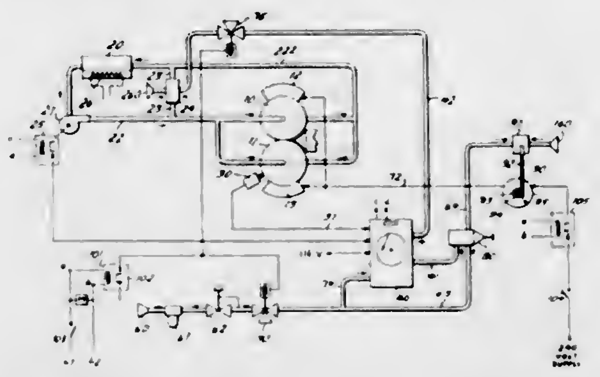
3,379,856
LIGHTER DEVICE FOR CIGARETTES, ETC.
Richard F. Hirsch, 1012 E. Acacia St., Apt. 8, Glendale, Calif. 91205
Filed Oct. 8, 1965, Ser. No. 494,102
5 Claims. (Cl. 219—268)



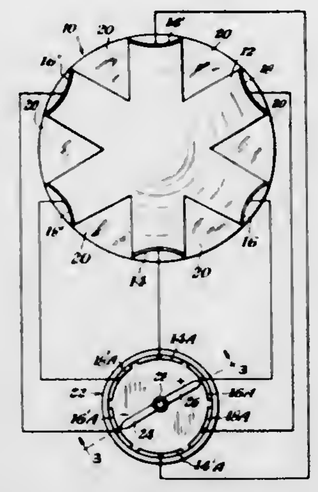
Cigarette lighter provided with a cylindrical chamber having a shiftable electric burner that is lighted when pressed by the light end of a cigarette. The lighter is provided with rechargeable batteries.

3,379,857
METHOD AND APPARATUS FOR CONTROLLING DIAMETER OF PRESSURE ROLLS
Nathan Rosenstein, West Hartford, Conn., assignor to Spunize Company of America, Inc., Unionville, Conn., a corporation of Connecticut
Filed Mar. 10, 1966, Ser. No. 533,154
6 Claims. (Cl. 219—469)

1. A method of maintaining uniform the diameter of a hollow cylindrical heated roll used in the processing of material having a lower temperature than the surface of the roll, said method comprising the steps of: heating the interior of the roll by circulating hot fluid therethrough; applying electric heat to the external surface of the roll; sensing continuously the temperature of the surface of the roll; developing an electrical signal in response to the temperature sensed; utilizing the developed electric signal to develop a pneumatic pressure signal which varies according to the variations in the electric signal; utilizing the developed pneumatic pressure signal to vary in a corresponding manner the amount of electric heat applied to the roll surface; and also utilizing the developed pneumatic pressure signal to vary the quantity of hot fluid circulated through the interior of the roll.



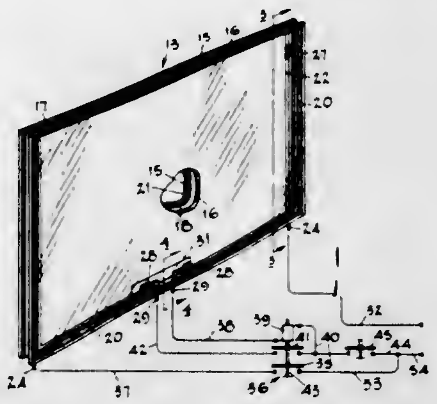
3,379,858
ELECTRICALLY HEATED ARTICLE
Carroll E. Peters, Painted Post, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Oct. 7, 1965, Ser. No. 493,688
9 Claims. (Cl. 219—522)



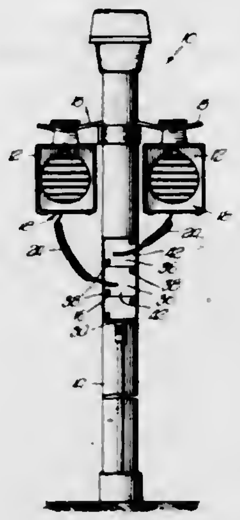
1. An electrically conducting article comprising a base, a plurality of undependent pairs of spaced bus bars, an electrically-conducting coating upon said base extending between the two bus bars within each said pair of bus bars and in electrical contact therewith, said bus bars being of higher electrical conductivity than said coating, and means for sequentially passing electrical currents between said bus bars and the other bus bars of the same pairs.

3,379,859
ELECTRICALLY HEATED TRANSPARENT PANEL AND PROTECTIVE CIRCUIT THEREFOR
James G. Marriott, Perrysburg, Ohio, assignor to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
Filed May 26, 1966, Ser. No. 553,171
14 Claims. (Cl. 219—522)

1. In a connection for conducting electrical energy from a source of said energy to an electrically conductive coating on a surface of a non-conductive panel, first means connecting one edge of said coating to one side of said source of electrical energy, second means connecting an opposite edge of said coating through a first relay to the other side of said source, and a protective circuit connected between said edges of said coating, said protective circuit containing means operable to open said relay in response to any interruption of current flow through said first and second connecting means and coating to thereby disconnect said panel from said source of electrical energy.



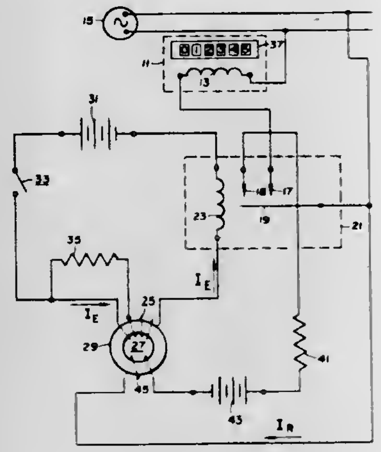
3,379,860
HEATER INSTALLATION
Joseph E. Stancher, Chicago, Ill., assignor to Essaness Theatres Corporation, Chicago, Ill., a corporation of Illinois
Filed Aug. 11, 1965, Ser. No. 478,892
1 Claim. (Cl. 219—533)



An automobile electrical heater system for outdoor drive-in movie theaters including an integral heater assembly removably secured to standards. The assembly includes a standard "in car" heater, a cover module and a connecting electrical cable. The cover module provides the only needed connection with the standard and contains fuses for the protection of the heater clamped therein. The cover module may be readily removed to visually inspect or replace the fuses or to remove the entire heater assembly. The electrical connection to the heater is automatically interrupted by the removal of the cover module.

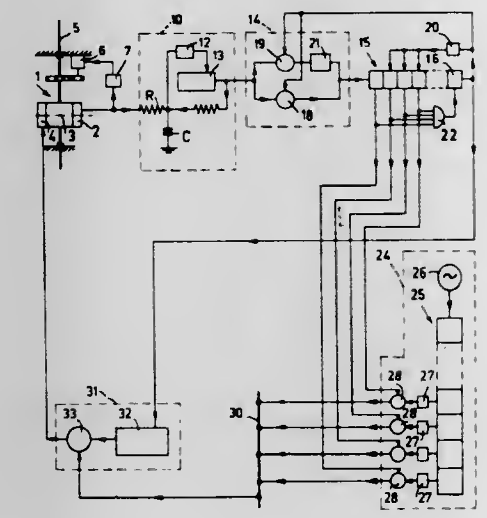
3,379,861
SATURABLE-CORE COUNTING APPARATUS
William A. Geyger, Takoma Park, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Apr. 16, 1964, Ser. No. 360,463
1 Claim. (Cl. 235—92)

A counting circuit including a saturable core counting device in which the saturable core is provided with a winding which is connected to a source of electrical voltage pulses. The field coil of an electromagnetic relay is connected in series with the source of pulses and the winding. On the tenth successive pulse applied to the core, the core saturates and the relay is energized. The contacts of the relay are connected to an electromagnetic counter for counting the pulses.



3,379,862
DEVICE FOR INDICATING THE ANGULAR VELOCITY OF A SYSTEM

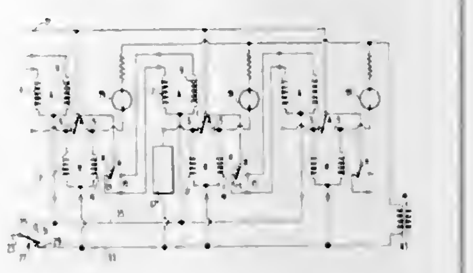
Nils Folke Hector, Solna, Sweden, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 28, 1964, Ser. No. 407,041
Claims priority, application Sweden, Oct. 30, 1963, 11,958/63
12 Claims. (Cl. 235—92)



An inertial navigation system having provision for digital output of integrated acceleration signals is provided with a gyroscope having an input axis and an output axis. A signal generator responds to output axis deviations in accordance with acceleration about the input axis to produce an electrical magnitude. The magnitude is converted to an integrated pulse series having a frequency proportional to the signal magnitude. The pulses are accumulated in a multistage counter with provision within the counter for indicating which direction the stored count represents in terms of gyroscopic acceleration. A digital to analog conversion device connected to the counter continuously provides an analog magnitude of the stored count. The analog magnitude is fed to the torque generator of the gyroscope for producing a torque countering the displacement of the output axis to restore equilibrium.

3,379,863
REED SWITCH CIRCUITS

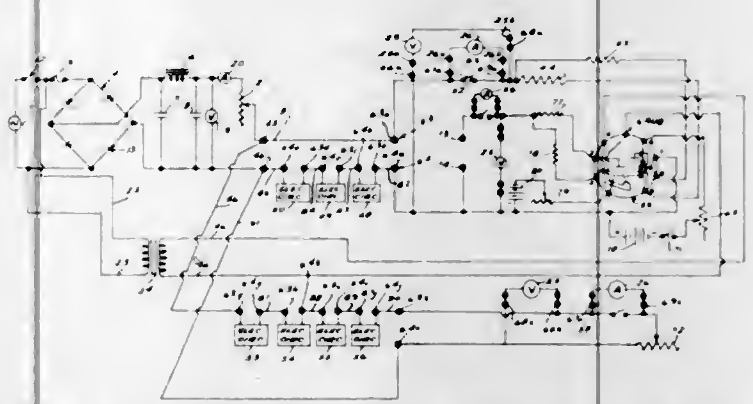
Everett W. Werts, Normal, Ill., assignor to General Electric Company, a corporation of New York
Filed Dec. 30, 1964, Ser. No. 422,317
24 Claims. (Cl. 235—92)



Shift register and counting circuits in which each stage includes two latch-type double-throw reed switches. In each stage of the shift register the fixed contacts of one switch are connected to the control windings of the other switch. The fixed contacts of the other switch in one stage are connected to the control windings of the one switch in the next succeeding stage. In a binary counter the fixed contacts of the other switch are connected to the control windings of the one switch in the same stage with the connections transposed. Selected fixed contacts of the switches in one stage are connected to the movable contacts of switches in the next stage.

3,379,864
EDUCATIONAL ELECTRIC FLUID FLOW ANALYZER

Pieter N. Petersen, Pompano Beach, Fla., assignor to Scott-Engineering Sciences Corporation, Pompano Beach, Fla., a corporation of Florida
Filed June 7, 1963, Ser. No. 286,419
9 Claims. (Cl. 235—151.34)



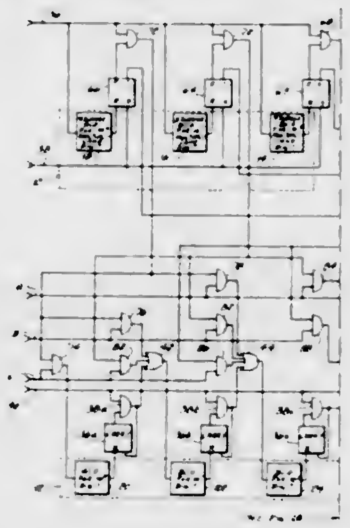
1. A fluid circuit demonstration apparatus for educational purposes comprising

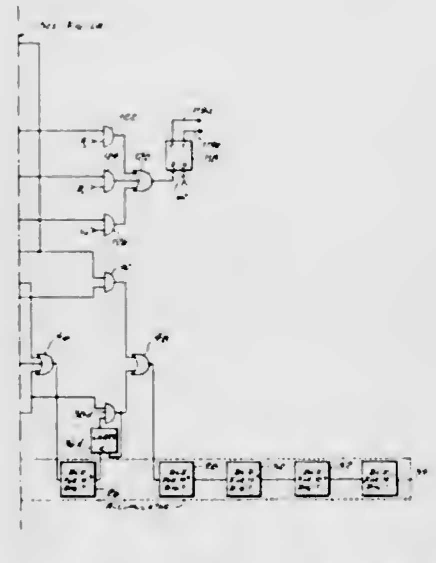
(a) a panel having voltage and current indicating meters mounted thereon and comprising a series of subpanels each for simulating at least one element of a fluid circuit,
(b) said subpanels having respective sets of electric input terminals and having respective fluid conduit simulating electric circuits electrically connected with said input terminals,
(c) said fluid conduit simulating electric circuits each providing a head loss simulating voltage E and a volume of flow simulating current I related substantially in accordance with the equation E equals CI^2,
(d) certain of said fluid conduit simulating electric circuits having variable length fluid conduit simulating means therein selectively adjustable for varying said head loss simulating voltage E and said volume of flow simulating current I by effectively changing the value of the constant C in the equation E equals CI^2,

(e) said variable length fluid conduit simulating means each having a manually operable control providing for manual adjustment thereof and mounted at the associated subpanel,
(f) means for selectively connecting said input terminals of the respective subpanels in an electric circuit to simulate a corresponding arrangement of fluid conduits, and
(g) means for selectively connecting said voltage and current indicating meters with the electric circuits of any of a plurality of said subpanels to register the values of voltage E and current I at such subpanels.

3,379,865
DIGITAL SQUARER FOR SUMMING THE SQUARES OF SEVERAL NUMBERS BY ITERATIVE ADDITION

Joseph O. Sinniger, Pennington, N.J., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Oct. 5, 1965, Ser. No. 493,282
1 Claim. (Cl. 235—168)

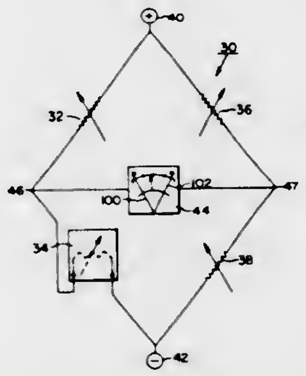


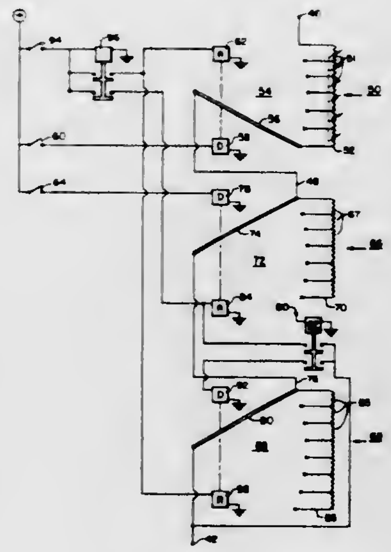


Squaring any one or two or three digit decimal numbers is effected by storing the digits of that number, hereinafter designated multiplicand, in binary coded decimal units for the units, tens, and hundreds digits respectively of the multiplicand. An accumulation having six binary coded decimal units stores the units, tens, hundreds, thousands, ten-thousands and hundred thousands digits respectively of the multiplicand squared. When the square circuit is activated a clock operated timer circuit controls the transfer of the multiplicand to the ten-thousands, thousands, and hundreds binary coded decimal units respectively that number of times equal to the hundreds digit of the multiplicand, for iterative addition. Carry function is performed as needed. Then the timer circuit controls the transfer of the multiplicand to the thousands, hundreds, and tens binary coded decimal units respectively that number of times equal to the tens digit of the multiplicand and after that the transfer of the multiplicand to the hundreds, tens, and units binary coded decimal units respectively that number of times equal to the units digit of the multiplicand. Then the squarer circuit is deactivated. Additional binary coded decimal units are included in the accumulator for higher order digits than the hundred thousand digit to enable the summing of successively squared multiplicands.

3,379,866
ANALYZING COMPUTER USING BRIDGE UNBALANCE TECHNIQUES

Louis B. Williams, Jr., Pensacola, Fla., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Continuation-in-part of application Ser. No. 253,217, Jan. 22, 1963. This application June 3, 1963, Ser. No. 285,015
11 Claims. (Cl. 235—179)





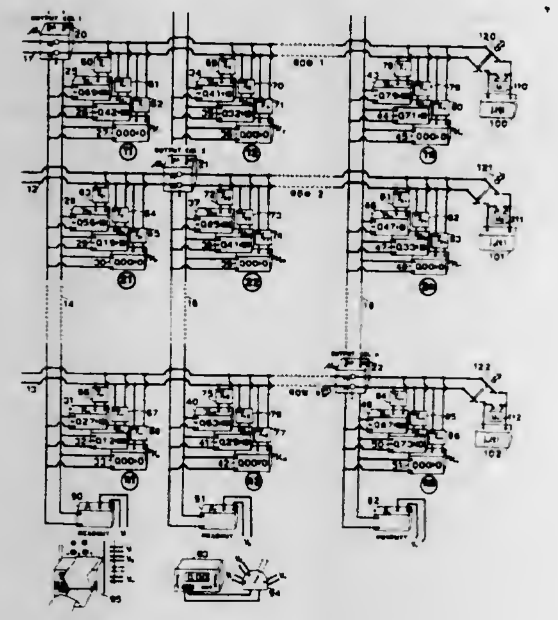
1. A circuit comprising in combination:

(a) first, second, third and fourth impedances connected to form a bridge, said first impedance having an intial reset value,
(b) a power supply connected across a first diagonal of said bridge,
(c) first control means for increasing the value of said first impedance by a given increment in response to each ocurrence of a first signal,
(d) second control means for decreasing the value of said first impedance a different increment in response to each occurrence of a second signal,
(e) and a load connected across the second diagonal of said bridge, said load including means responsive to an increase in the value of said first impedance beyond a preset given amount in excess of said reset

value, and responsive to a decrease in the value of said first impedance beyond a different given preset amount less than said reset value.

3,379,867
ELECTRONIC NETWORK SYNTHESIS OF MATHEMATICAL MATRIC EQUATIONS

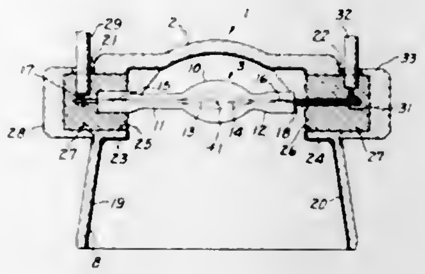
Pierre M. Honnell, 908 Wild Cherry Lane,
University City, Mo. 63130
Filed June 11, 1963, Ser. No. 287,014
14 Claims. (Cl. 235—180)



1. Apparatus for simulating and solving mathematical matric equations having an ordered array of rows and columns of entries including a column of unknown dependent variables to be determined and a column of known prescribed functions, comprising a number of high-gain amplifiers each having two input and two output terminals, a multiplicity of pairs of identical two-terminal electric network components each pair adapted to represent an entry in a mathmetical matrix with the values and type of the components corresponding to the numerical magnitude and mathematical type of the matric entry, a multiplicity of isolating amplifiers having two input and two output terminals each being associated with one of the pairs of identical two-terminal electric network components, the first pair of identical two-terminal electric network components having one terminal of one component connected to one of the inputs of the first high-gain amplifier and one terminal of the other component of this pair connected to the other input terminal of the first high-gain amplifier, this pair being adapted to represent the first entry in the first row and column of the mathematical matrix, other pairs of identical two-terminal electric network components connected similarly with each pair adapted to represent one of the remaining entries in the first row of the mathematical matrix, other pairs of identical two-terminal electric network components connected in like manner to the input of the second high-gain amplifier and adapted to represent respectively the entries in the second row of the mathematical matrix, and so on with other pairs of identical two-terminal electric network components, the pairs connected to the input of the last high-gain amplifier being adapted to represent the entries in the last row of the mathematical matrix, the first pair of identical two-terminal electric network components having their other terminals connected to the output terminals of their associated isolating amplifier which in turn has its input terminals connected to the output terminals of the first high-gain amplifier, other of the pairs of identical two-terminal electric network components having their other terminals connected to their associated isolating amplifiers whose inputs are similarly connected to the output terminals of the first high-gain amplifier and adapted respectively to represent the remaining entries in the first column of the mathematical matrix, other of the pairs of identical two-terminal electric network components having their other terminals connected to the output terminals of their associated isolating amplifiers which in turn have their input terminals connected to the output terminals of the second-gain amplifier and these pairs adapted respectively to represent entries in the second column of the mathematical matrix, and so on with the other pairs of identical two-terminal electric network components and associated isolating amplifiers, the last pair of network components being adapted to represent the last entry in the last column of the mathematical matrix, a number of current sources, the first current source being connected to the input of the first high-gain amplifier, the second current source being connected to the input of the second high-gain amplifier, and so on, the last current source being connected to the input of the last high-gain amplifier, each current source output being adapted to correspond in magnitude and type to its respective entry in the column of prescribed functions in the matric equation, a plurality of translating devices connected to the outputs of the high-gain amplifiers adapted to respond to the solution of the matric equation.

3,379,868
ELECTRIC DISCHARGE PROJECTION LAMP

John K. Taillon, Cleveland, Ohio, assignor to General Electric Company, a corporation of New York
Filed Dec. 10, 1965, Ser. No. 513,026
8 Claims. (Cl. 240—11.4)

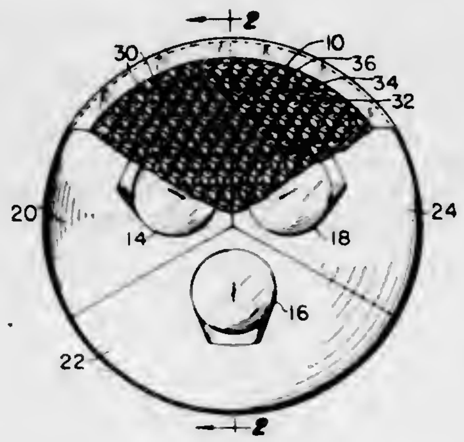


A projection lamp unit comprising a light concentrating reflector having a locating flange at its rim and wherein an arc tube is transversely mounted with the interelectrode gap located at one focus. The arc tube inleads project through apertures in the reflector wall on a line transverse to the optical axis. One end of the arc tube is fixed to the reflector, preferably being set in cement. At the other end, a slidable sleeve is provided around the inlead and is cemented to the reflector.

3,379,869
VARIABLE INTENSITY LAMP

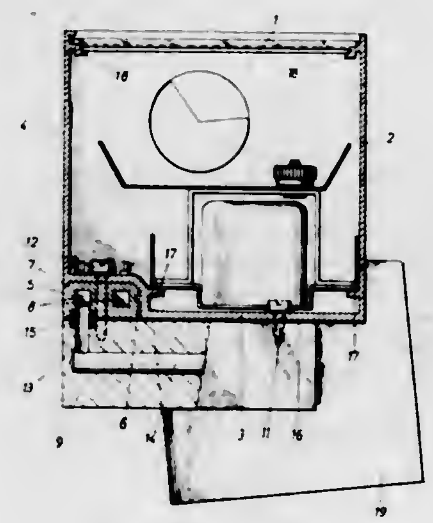
William H. Dorman, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Mar. 23, 1966, Ser. No. 536,674
9 Claims. (Cl. 240—41.3)

A lamp wherein variations in the color or intensity of the output light may be instantaneously effected by electrical means and wherein light is emitted in substantially the same pattern regardless of such variation. This is accomplished by the provision of means for producing a plurality of beams of light and a lens located to intercept such beams and having at least one surface in the form of a large number of polyhedra having faces at angles to permit the rays of the respective beams to be intercepted by one of the faces of each of the polyhedra.



3,379,870
LIGHTING FIXTURE FOR ATTACHMENT TO A WALL OF A SICK-ROOM

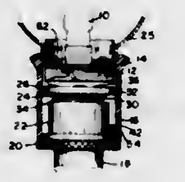
Josef Müller and Harald Riegler, Neheim-Husten, Germany, assignors to Trilux-Lenze K.G., Neheim-Husten, Germany
Filed Sept. 23, 1965, Ser. No. 489,602
Claims priority, application Germany, Sept. 23, 1964, T 27,062; Oct. 8, 1964, T 27,166; Apr. 20, 1965, T 28,427, T 28,428; May 28, 1965, T 28,676
10 Claims. (Cl. 240—73)



A lighting fixture for attachment to a wall of a sick room, containing an elongated U-shaped casing extending over several beds or across the entire width of the room, with a lighting fixture within the U-shaped casing, a continuous longitudinal recess formed in the lower rear edge of the casing externally of the lighting fixture, a longitudinal strip within the recess extending throughout the entire length of the casing, and gas channels positioned within the longitudinal strip so that gas can be introduced into the gas channels at any desired place from connections on the side of the building and gas can be removed from the gas channels at any desired place through supporting members attached beneath the bottom of the casing. The U-shaped casing also contains electrical cables for telephone connections and the like.

3,379,871
INCANDESCENT LAMP WITH DIMMER

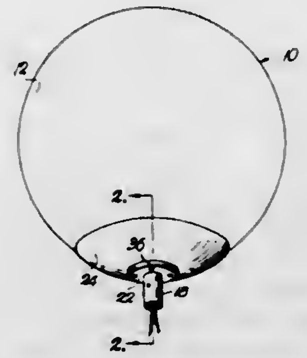
Sandford C. Peek, Jr., Ipswich, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Jan. 3, 1966, Ser. No. 520,038
4 Claims. (Cl. 240—123)



A dimming device utilizing a single-ended high intensity lamp wherein the lamp is electrically connected by way of a commutator and conductive ring to an internally potted dimmer circuit. An outer cannister surrounds the dimmer apparatus and is physically connected to the commutator, whereby rotation of the cannister will produce variation of light intensities of the lamp.

3,379,872
LIGHTING FIXTURE

Harry C. Devine, Jr., Kansas City, Mo., assignor to Devine Lighting Incorporated, Kansas City, Mo., a corporation of Missouri
Filed Sept. 27, 1966, Ser. No. 582,406
3 Claims. (Cl. 240—137)

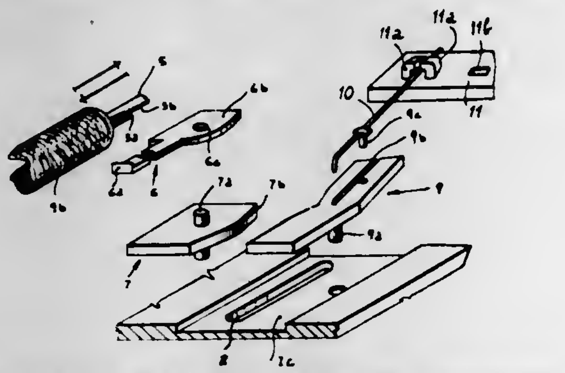


A lighting fixture for supporting a hollow globe, the fixture having a base assembly extending through an opening into the globe and receiving a light bulb, there being an externally threaded element secured to the base assembly and an internally threaded ring threaded on the element, the ring having a collar and a shoulder which receive therebetween the lip of the opening to support the globe, and an escutcheon attached to the base assembly and covering the opening, the shoulder and a part of the outer surface of the globe.

3,379,873
ELECTRO-MAGNETICALLY ACTUATED SWITCH FOR TOYS FORMING ELECTRICAL TRAINS

Pietro Casadio, Via Jacopo di Paolo 43, Bologna, Italy
Filed Oct. 21, 1965, Ser. No. 499,732
Claims priority, application Italy, Nov. 13, 1964, 24,348/64, Patent 753,868; Aug. 27, 1965, 19,107/65
5 Claims. (Cl. 246—415)

This invention relates to a toy railroad track switch comprising a cross bar connected with the movable switch tracks, a two position solenoid relay, an armature actuated by said solenoid and transmission means connected with

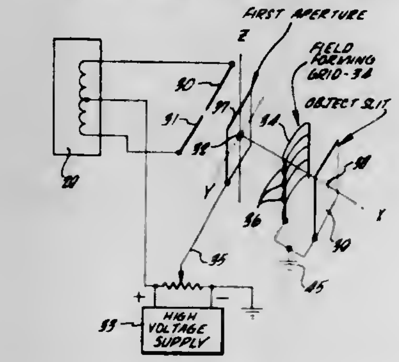


said armature and the said cross bar for transmitting motion from said armature to said switch tracks.

3,379,874
ION SOURCE FOR A MASS SPECTROMETER WITH SPECIFIC ELECTRODE STRUCTURE TO ACCELERATE AND FOCUS IONS

Clarence William Baker, Monrovia, Calif., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois

Filed June 29, 1964, Ser. No. 378,910
4 Claims. (Cl. 250—41.9)



1. In a mass analyzer the combination comprising:
an ionization chamber,
means for producing ions within the chamber,
a first electrode with an aperture provided therein located adjacent the ion producing means,
a third electrode with an elongated vertical slit provided therein located on the side of the first electrode opposite the ion producing means, the slit being aligned with the aperture in the first electrode,
a second electrode mounted on the third electrode on the side thereof adjacent the first electrode, the second electrode comprising a framework of horizontal curved, parallel conductors, each of said conductors being arranged traveresly with respect to the vertical slit in the third electrode and in a convex relation with respect to the first electrode and a concave relation with respect to the third electrode, and
means for imposing a potential difference between the first and second electrodes whereby an electric field is created between the first and second electrodes, and ions passing through the aperture in the first electrode are accelerated by the difference of potential between the first and second electrodes and focused on the slit in the third electrode by means of the electric field.

3,379,875
STABILIZED POLYPHENYLENE OXIDE COMPOSITION

Klaus E. Holoch, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York

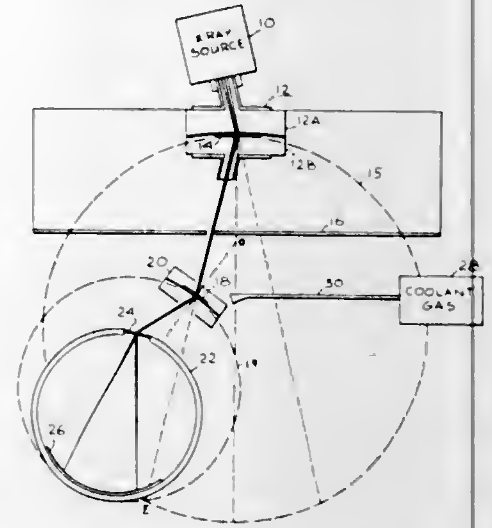
No Drawing. Filed Feb. 21, 1966, Ser. No. 528,784
6 Claims. (Cl. 260—45.8)

A stabilized polyphenylene oxide composition consisting a polyphenylene oxide and a member selected from the group consisting of the benzoates of 2-mercaptobenzimidazole, 2-mercaptobenzoxazole, and 2-mercaptobenzothiazole.

3,379,876
X-RAY DIFFRACTION CAMERA EMPLOYING TWO CURVED CRYSTAL TRANSMISSION TYPE MONOCHROMATORS

Kamalaksha Das Gupta, Pasadena, Calif., assignor, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

Filed May 12, 1965, Ser. No. 455,214
6 Claims. (Cl. 250—51.5)

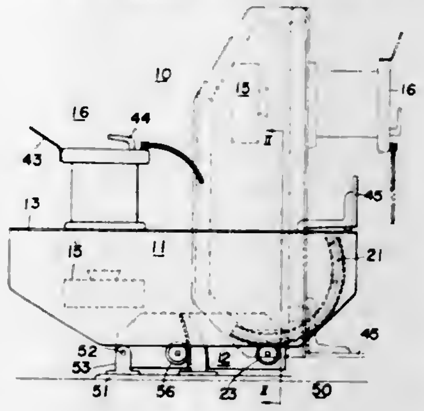


An X-ray diffraction camera is provided which employs two bent crystal monochromators. X-rays from a source are directed at the first one of these curved monochromators. The second monochromator whose curvature is greater than the first is placed in the path of the deflected X-rays from the first monochromator at a predetermined location. The specimen is placed in the path of the X-rays which are passed through the second monochromator. A photograph is made of the diffraction pattern caused by the specimen.

3,379,877
TILTABLE TABLE FOR RADIO-FLUOROSCOPIC APPARATUS

Sumio Makino, Yokohama-shi, and Masayosi Endo, Kawasaki-shi, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan

Filed Apr. 2, 1965, Ser. No. 444,961
Claims priority, application Japan, Apr. 24, 1964, 39/23,222
4 Claims. (Cl. 250—57)

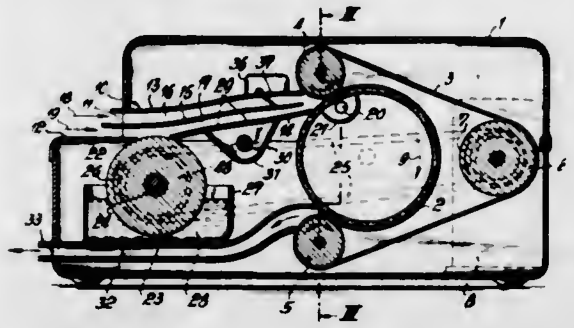


A table, adapted to support a patient, is supported by a casing located under said table. The casing, and with it the table, are tilted by a first driving motor around one end, in a direction to elevate the other; and a second driving motor tilts the table only and with respect to the casing, around the other end of said table and about an axis adjacent to the opposite end of said casing.

3,379,878
THERMOGRAPHIC REPRODUCTION APPARATUS WITH MEANS TO APPLY THE RADIATION SENSITIVE MATERIAL JUST PRIOR TO EXPOSURE

Walter Limberger, Hamburg-Poppenbuttel, Germany, assignor to Lumoprint Zindler KG., Hamburg, Germany, a corporation of Germany

Continuation of application Ser. No. 254,951, Jan. 30, 1963. This application Mar. 9, 1966, Ser. No. 533,097
Claims priority, application Germany, Feb. 15, 1962, L 41,223
10 Claims. (Cl. 250—65)

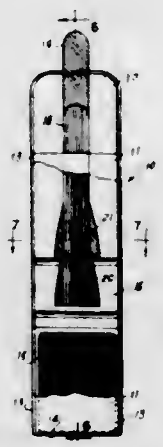


Contact copier wherein a master and a copy sheet move in contact with each other past a source of activating radiation, specifically an infrared radiator, the copy sheet being moistened on its way to the source with a sensitive fluid forming a coating thereon which is dried before the master contacts the copy sheet; the two sheets travel around the radiation source along a curved path with the sensitive layer on the concave side of the copy sheet.

3,379,879
FILM UNIT FOR DENTAL X-RAY PHOTOGRAPHY HAVING A SELF-CONTAINED DEVELOPER MEANS

Edward T. Dicker and Albert P. Dicker, both of 2600 Fairmount, Dallas, Tex. 75201

Filed Apr. 4, 1966, Ser. No. 539,849
4 Claims. (Cl. 250—65)

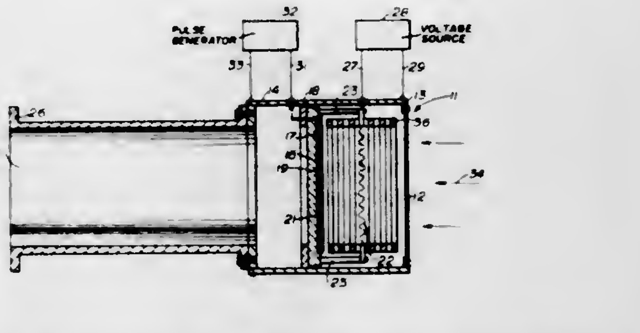


1. In a film unit for use in X-ray photography having self-contained means for developing a photosensitive film after it has been exposed, the combination of an elongated flexible envelope, open at one end, the material of which is opaque to ordinary light and at least one side of which is permeable to X-rays and other radioactive rays; a photosensitive film, relatively smaller than said envelope, received therein, in spaced apart relation to its open end; a plurality of rupturable containers, each containing a liquid for the treatment of said photosensitive film, after it has been exposed, supported in said envelope, between said photosensitive film and the open end of said envelope and a plurality of pull tabs connected respectively to said containers and extending from said envelope for rupturing said containers.

3,379,880
DEVICE FOR FORMING REPLICA IMAGES OF PARTICLE DISTRIBUTIONS IN A PLASMA STREAM

Frederic H. Coensgen, Pleasanton, and William F. Cummins and William E. Nexsen, Jr., Livermore, Calif., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Feb. 24, 1965, Ser. No. 435,101
5 Claims. (Cl. 250—71.5)

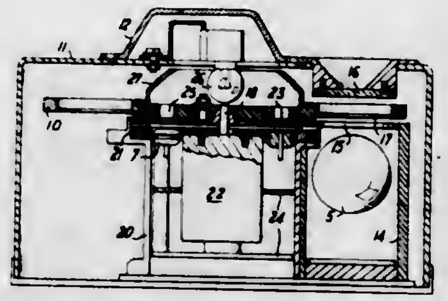


Device for forming visible replica images indicative of instantaneous particle distributions in a plasma stream, including a semi-transmissive element for attenuating the plasma stream, and having an electrically polarized grid arranged to repel undesired charged particles from the attenuated stream and converting selected particles impinging thereon into a replica stream of electrons emerging therefrom. A scintillator screen is arranged to intercept portions of the replica electron stream, which are accelerated through light excluding means by means of an electrostatic field applied between said grid and scintillator to provide said replica image.

3,379,881
DEVICE FOR THE REPRESENTATION IN DIFFERENT COLORS OF DIFFERENT RADIATION INTENSITIES EMITTED BY AN OBJECT

Marcel Leroy, Le Perreux-sur-Marne, France, assignor to Commissariat à l'Energie Atomique, Paris, France

Filed Nov. 8, 1965, Ser. No. 507,994
Claims priority, application France, Nov. 10, 1964, 994,554
5 Claims. (Cl. 250—71.5)



Radiation emitted by an object is represented by different colors for different ranges of intensity using a radiation detector to a source of scintillations providing a luminous image on a screen with filters of different colors interposed between the source and the screen with synchronization of the scintillations to coincide with the transition of a filter as a function of the intensity of the detected radiation.

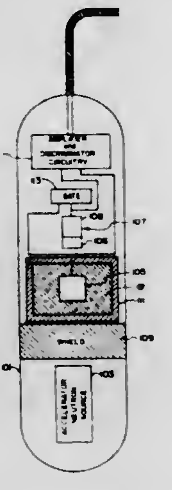
3,379,882

METHOD AND APPARATUS FOR NEUTRON WELL LOGGING BASED ON THE LIFETIME OF NEUTRONS IN THE FORMATIONS

Arthur H. Youmans, Houston, Tex., assignor, by mesne assignments, to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

Continuation of application Ser. No. 292,927, July 5, 1963, which is a continuation-in-part of application Ser. No. 435,698, June 10, 1954. This application Mar. 16, 1967, Ser. No. 623,778

44 Claims. (Cl. 250—71.5)



42. Apparatus for well logging comprising
a source of neutrons;
radiation detection means spaced from said source of neutrons and including
  a phosphor,
  a photomultiplier optically connected to said phosphor, and
  a boron shield disposed about said phosphor;
means for operating said source and detection means to produce a discrete burst of neutrons and to measure the rate of decline of radiations occasioned in a medium by said burst of neutrons; and
recording means interconnected with said detection means.

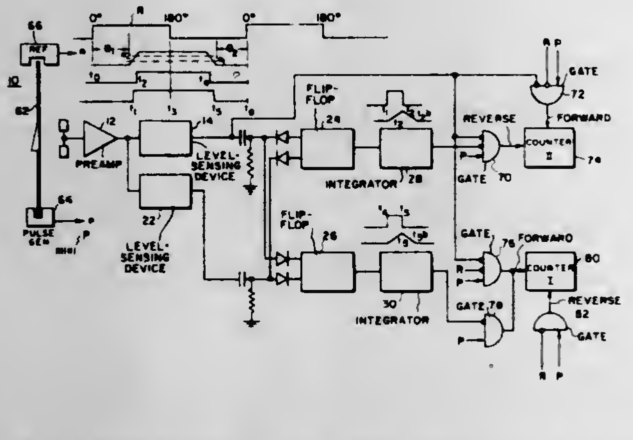
3,379,883

HIGH ACCURACY CIRCUITRY FOR CORRECTING EDGE ERRORS IN SCANNING RADIOMETERS

Kenneth A. Ward, Greenwich, Thomas Falk, Norwalk, and Frank Schwarz, Stamford, Conn., assignors to Barnes Engineering Company, Stamford, Conn., a corporation of Delaware

Filed June 1, 1964, Ser. No. 371,684

9 Claims. (Cl. 250—83.3)



7. A system for correcting edge errors in a scanning radiometer comprising
(a) an infrared detector which is adapted to scan to detect thermal discontinuities,
(b) a first bistable level-sensitive means connected to said detector for receiving detector output,
(c) a second bistable level-sensitive means connected to said detector for receiving detector output,
(d) modulation means connected to said first bistable level-sensitive means for modulating output of said first bistable level-sensitive means with a reference signal,
(e) first integration means for integrating the output of said modulation means,
(f) first and second pulse generating means coupled to said first and second level-sensitive means for generating pulses having pulse widths corresponding to time intervals between the levels of said first and second level-sensitive means and polarities depending on whether the detector output is increasing or decreasing between the levels set by the first and second level-sensitive means,
(g) second integration means for integrating the pulses from said first and second pulse generating means, and
(h) means for combining the outputs of said first and second integrating means to produce an error signal which may be used for compensating the edge errors.

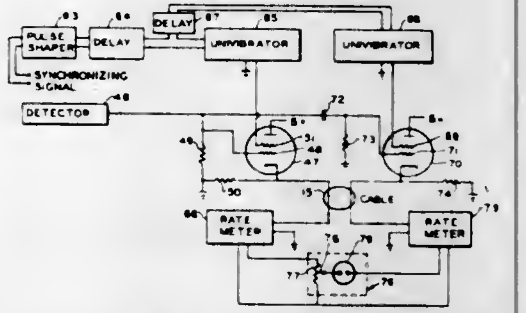
3,379,884

METHOD AND APPARATUS FOR NEUTRON LIFETIME WELL LOGGING

Arthur H. Youmans, Tulsa, Okla., assignor, by mesne assignments, to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

Filed June 10, 1954, Ser. No. 435,698

64 Claims. (Cl. 250—83.3)



1. A method of geophysical prospecting that comprises irradiating the formations surrounding a well with neutrons, periodically substantially interrupting the neutron irradiation, and measuring the rate of decerase in neutron population during the time said neutron irradiation is interrupted.

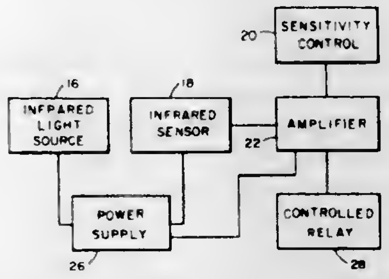
3,379,885

SIGHT SWITCH USING AN INFRARED SOURCE AND SENSOR

Charles L. Nork, Huntsville, Ala., assignor, by mesne assignments, to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Mar. 1, 1966, Ser. No. 530,958

8 Claims. (Cl. 250—83.3)



A control switch consisting of an infrared source and an infrared sensor mounted on a frame beside the wearer's eye. The device senses the level of reflected light from the corner of the wearer's eye. When the wearer rotates his eyeball by looking toward the light source, the level of reflected light changes and a switching action occurs.

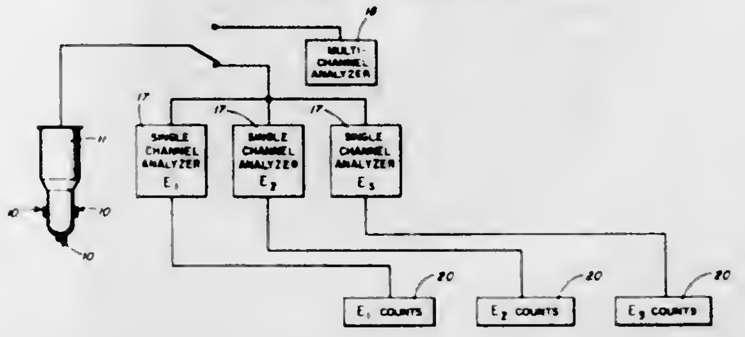
3,379,886

SINGLE RADIATION DETECTOR CAPABLE OF SIMULTANEOUSLY MEASURING SEVERAL VARIABLE CONDITIONS

Gordon K. Riel, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Nov. 30, 1964, Ser. No. 414,925

8 Claims. (Cl. 250—106)


MULTI-CHANNEL ANALYZER
SINGLE CHANNEL ANALYZER E_1
SINGLE CHANNEL ANALYZER E_2
SINGLE CHANNEL ANALYZER E_3
E_1 COUNTS
E_2 COUNTS
E_3 COUNTS

A system wherein a plurality of sources having different energy levels are mounted on their respective sensors. All of the sensors are monitored by a single radiation detector whose function is to detect the variations of intensity of the radiation received from individual sources as the counting efficiency changes in accordance with changes in temperature, pressure, density or other variables. Single channel analyzers and/or multi-channel analyzers can be used to monitor the variations that occur in the different energy ranges.

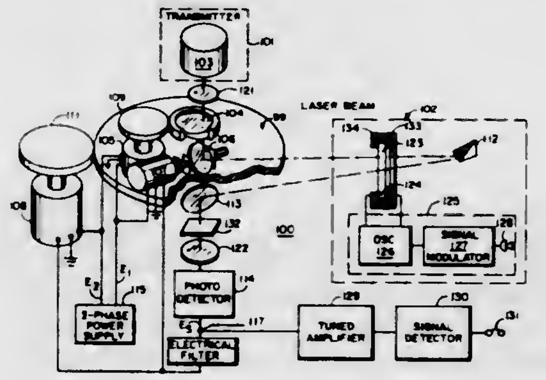
3,379,887

ELECTRO-OPTICAL MODULATOR

Joseph F. Stephany, Rochester, N.Y., assignor to General Dynamics Corporation, a corporation of Delaware

Filed Dec. 1, 1965, Ser. No. 510,798

3 Claims. (Cl. 250—199)



Described herein is a modulator for light beams, especially laser beams. The modulator includes a pair of crossed light polarizers, a bi-refringent plate disposed between the pair of polarizers and a transducer which is connected to the plate along one edge thereof for vibrating the plate in its thickness mode. Connected to the transducer is an oscillator which produces signals having a frequency equal to the resonant frequency of the plate for vibration in its thickness mode. The oscillations need only be modulated with relatively low power modulating signals in order to obtain good modulation of the light beam. Also described is a retroreflective optical communication system wherein the light polarizers are mounted at a transmission station and the plate is located at a transponder station which contains the retroreflector.

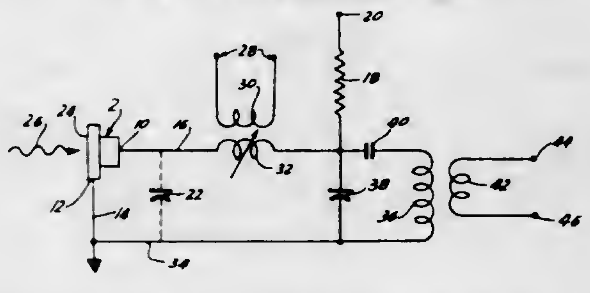
3,379,888

PHOTODIODE MIXING IN MULTIPLICATION REGION

Arthur L. Rossoff, Huntington Station, N.Y., assignor to General Instrument Corporation, Newark, N.J., a corporation of New Jersey

Filed June 28, 1966, Ser. No. 561,237

10 Claims. (Cl. 250—199)



A photodiode mixer in which the diode has a voltage-current characteristic with a multiplication region, the diode being biased to operate in the multiplication region, the diode while thus biased being subjected to an electrical input and a light input, each at a different frequency, thereby to cause frequency mixing to occur in a resistance fashion.

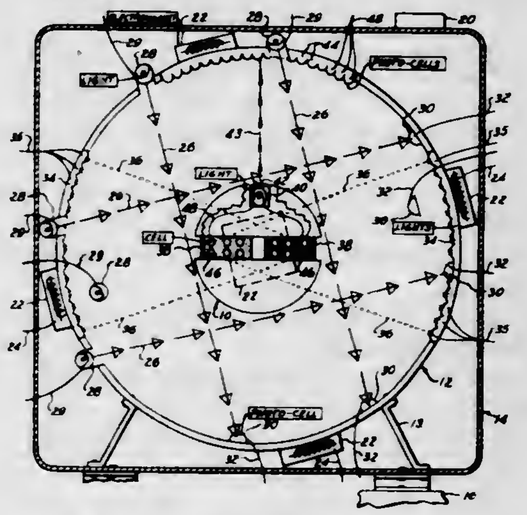
3,379,889

BEAM-DRIVEN GYROSCOPE DEVICE

Eugene R. Barnett and Willard L. Barnett, both of 6268 Windsor Drive, Indianapolis, Ind. 47906

Filed Apr. 5, 1963, Ser. No. 270,942

10 Claims. (Cl. 250—215)



4. A control means, comprising:
a stator means and a movable means;
magnetic locating means for locating said movable means in a certain location with respect to said stator means;
first energy means, including a photo-electric system, and responsive to movement of said movable means away from said certain location, for energizing said locating means;
the said movable means being gyroscopically rotatable in response to light energy from a second energy means by radiometer effect;
second energy means for imparting rotation to said movable means;
third energy means carried by the movable means, and including means for converting a portion of said light from said second energy means to electric energy; also including an electrically actuated light which projects a light beam axially of the movable means and toward the stator means;
indicating means carried by the stator means, responsive to light energy of said third energy means, to indicate relative movement of the axis of the movable means with respect to the stator means;

first control means which sense the amount of energy, expended by said locating means in maintaining the movable means in said certain location; and

second control means, responsive to said indicating means, to control the orientation of said stator means with respect to the axis of said movable means.

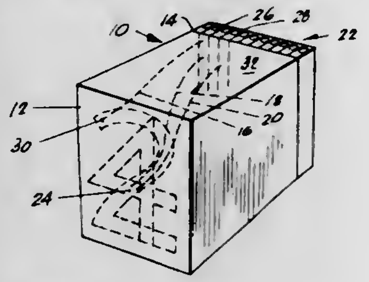
3,379,890

FIBER OPTIC READOUT DEVICE AND METHOD FOR MAKING IT

John E. Krieter, Torrance, Calif., assignor, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland

Filed Aug. 21, 1964, Ser. No. 391,257

9 Claims. (Cl. 250—227)



1. A readout device comprising:

a plurality of groups of optic fibers, each fiber having first and second ends remote from each other;

said first ends of each group of said fibers terminating at a respective portion of a light receiving surface;

said second ends of said fibers terminating at a common display surface, the second ends of said fibers of each of said groups defining a visual character area at said display surface and the second ends of a group of fibers defining one visual character area interspersed with the second ends of another group of fibers defining a different visual character area whereby the visual character areas defined by different ones of said groups of fibers overlap; and

a plurality of light sources each illuminating, when energized, a respective portion of said light receiving surface.

6. A method for producing a fiber optic readout device and which comprises:

establishing a plurality of separator means for defining a plurality of separate light receiving areas;

repeatedly laying a continuous optic fiber strand so that fiber portions thereof lie in rows of fiber portions which extend through a display surface plane spaced from said light receiving areas, each fiber portion of said rows being generally laid adjacent the next preceding laid fiber portion;

extending said fiber strand selectively between said separator means between the laying of each of said fiber portions at said display surface;

severing said fiber portions across a surface which passes through said light receiving areas;

severing said fiber portions along said display surface plane; and

establishing light sources in illuminating relationship with said light receiving areas.

3,379,891

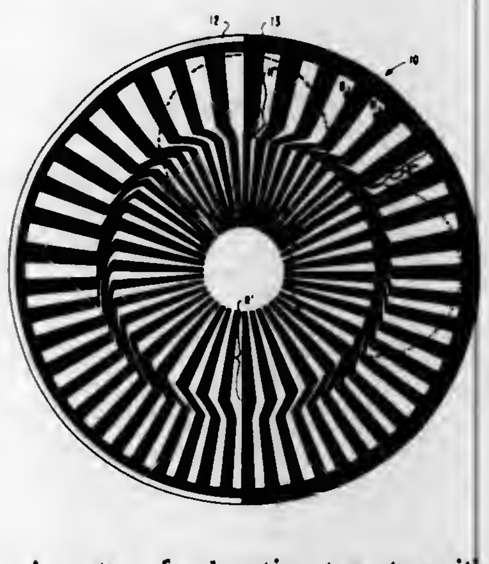
VARIABLE FREQUENCY MODULATING RETICLE AND SYSTEM

George F. Aroyan, Woodland Hills, Calif., assignor to Theodore R. Whitney, doing business as Pacific Infrared Systems Company, Reseda, Calif.

Filed Aug. 25, 1965, Ser. No. 482,543

10 Claims. (Cl. 250—233)

The reticle for frequency modulating a target image has a spoke pattern extending radially outward in which the angular widths of the spoke segments varies regularly in the circumferential direction between maximum and minimum limits in opposite directions on either side of a center line at a given radial distance, so that the frequency deviation of the modulated target image is directly indicative of its radial displacement from the center line. A system for locating target position in two orthogonal directions in a field of view focuses the field of view on the reticle at two different positions, with the mutually orthogonal axes of the field appropriately aligned with the center line.



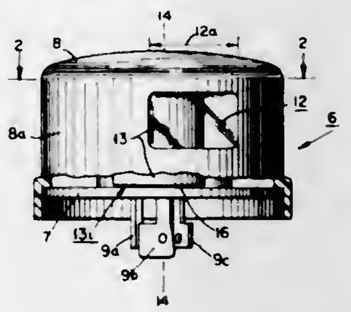
3,379,892

PHOTOELECTRIC CONTROLLER HAVING A SHUTTER WHICH IS ANGULARLY MOVABLE FROM OUTSIDE THE ENCLOSURE FOR ADJUSTING SENSITIVITY

Philip A. Neagle, Braintree, Mass., assignor to Sigma Instruments, Inc., South Braintree, Mass., a corporation of Massachusetts

Filed Jan. 12, 1965, Ser. No. 425,016

10 Claims. (Cl. 250—237)



1. Photoelectric control apparatus comprising first and second members mated together to form a light-shielding protective enclosure for control circuit elements including a light-responsive device and electrical relay, said enclosure having a relatively small light-transmitting portion therethrough at one position, and a shutter mechanism including a light masking member disposed within said enclosure in proximity with the light-transmitting portion thereof, a pivot member mounted for angular movements about an axis on one of said members, means securing said light masking member with said pivot member for angular movements therewith about said axis, and means frictionally restraining angular movements of said masking member in relation to said enclosure, said mechanism including means projecting through said enclosure and angularly movable from outside said enclosure to apply turning torques to said mechanism about said axis, whereby turning of said mechanism against restraint of said restraining means is effective to adjust the positions of said masking member in relation to said light-transmitting portion of said enclosure and to regulate the light reaching said light-responsive device.

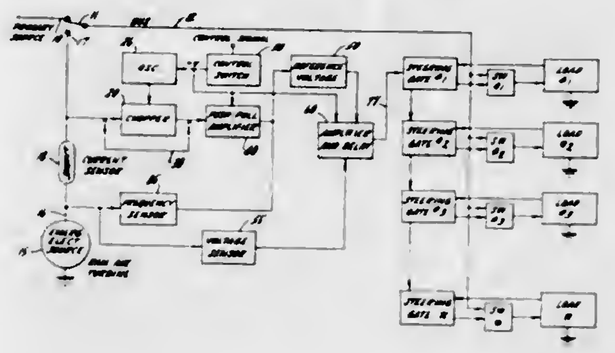
3,379,893

ELECTRICAL BUS MONITORING SYSTEM FOR AIRCRAFT

Marion E. Cavanaugh, Dallas, Tex., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Apr. 8, 1965, Ser. No. 446,751

9 Claims. (Cl. 307—41)



An aircraft single electrical supply bus to a plurality of electrical loads having steering gates and switches coupled in conjunction with load sensing and voltage supply sensing circuits to automatically switch "off" load circuits in succession in accordance with a prearranged priority until the electrical source capability balances the load demand.

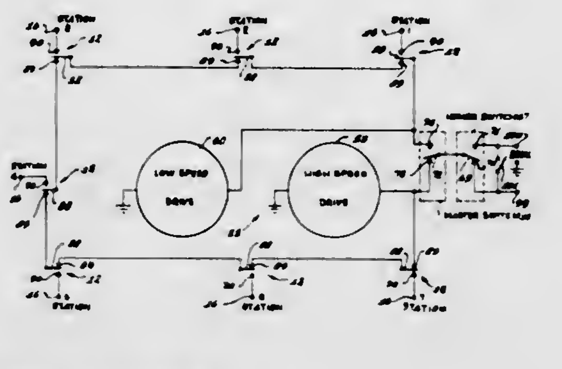
3,379,894

ADJUSTABLE TIMER FOR A PLURALITY OF STATIONS

Paul W. Carsten, P.O. Box 428, Malibu, Calif. 90265

Filed June 22, 1965, Ser. No. 465,958

20 Claims. (Cl. 307—41)



2. A timer, comprising:

a plurality of output terminals;

a master switch;

a plurality of station switches conected in a series loop with said master switch, said station switches being spaced from each other and from said master switch and each opening said series loop and connecting to a different output terminal upon operation;

means for applying electrical power to said master switch;

first moving means for successively operating said master switch for predetermined periods of time to apply electrical power to said series loop;

second moving means synchronous with said first moving means for operating each of said plurality of station switches in succession for predetermined periods of time;

and means for individually adjusting the spacing between each of said station switches and said master switch to selectively control the time duration for which said master switch and each station switch are simultaneously operating to apply electrical energy to the output terminal associated with said station switch.

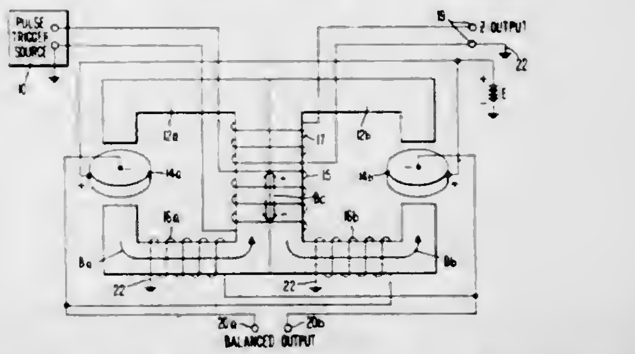
3,379,895

MAGNETO-RESISTIVE TRIGGER CIRCUIT

Milton Green, Broomall, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Apr. 24, 1964, Ser. No. 362,254

12 Claims. (Cl. 307—88)



The present application discloses a magneto-resistive bistable circuit which is triggerable between its states by the application of a bipolar trigger signal. The preferred embodiment disclosed is a circuit which employs a pair of Corbino discs of indium antimonide cross-positioned in a pair of electro-magnetic fields. The proposed circuit envisions operation in a very low temperature environment. Each of the discs is cross-coupled to an opposite electro-magnetic coil to achieve the required feedback action of the usual trigger circuit. A trigger coil commonly coupled to both of the electromagnets provides the circuit initiation.

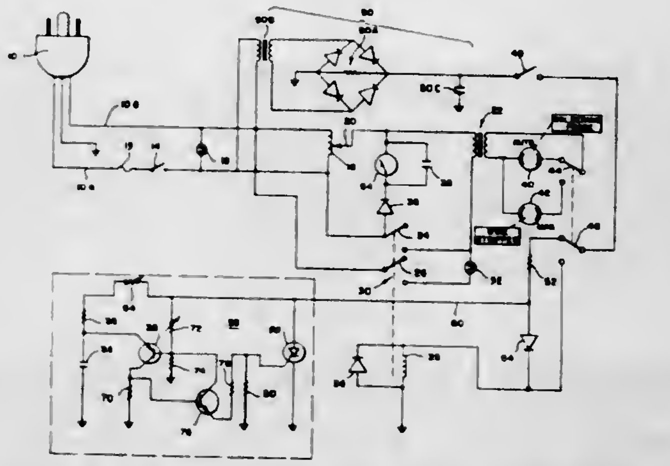
3,379,896

AUTOMATIC RESISTANCE SOLDERING APPARATUS AND THE LIKE

Robert E. Wolfe, Los Angeles, Calif., assignor to Electro-Miniatures Corporation, New York, N.Y., a corporation of New York

Filed Sept. 3, 1964, Ser. No. 394,293

22 Claims. (Cl. 307—141)



Apparatus for operating a resistance soldering tool, wire stripper, or other device automatically or manually, in which an electric supply is connected to a selected electrical output by a control relay which is energized manually and deenergized manually or by a timer. The timer employs a transistor amplifier which senses the charge on a capacitor and fires an SCR to cause blocking of a rectifier supplying the control relay.

3,379,897

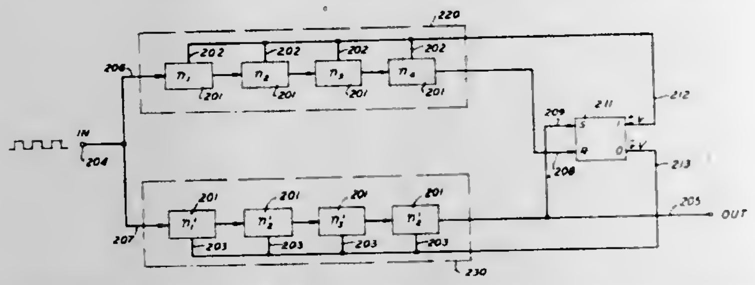
FREQUENCY DIVISION BY SEQUENTIAL COUNT-DOWN OF PARALLELED CHAIN COUNTERS

William Kaminski, West Portal, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Apr. 22, 1965, Ser. No. 450,120

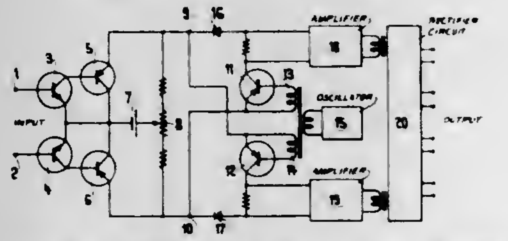
4 Claims. (Cl. 307—225)

A frequency dividing system sequentially energizes a plurality of cascaded frequency divider chains comprising relaxation type frequency dividers to obtain an over-all divisor ratio equalling the sum of the individual divisor ratios of each of the cascaded frequency divider chains. Each individual cascaded frequency divider chain is enabled or inhibited by the application of an energizing or inhibiting signal to each relaxation type frequency divider in the chain. The energizing and inhibiting signals are supplied by a multistate circuit responsive to the frequency divided output of the individual cascaded frequency divider chains.



3,379,898
ELECTRONIC CURRENT REVERSER HAVING SINGLE INPUT CONTROLLING PLURAL OUTPUTS

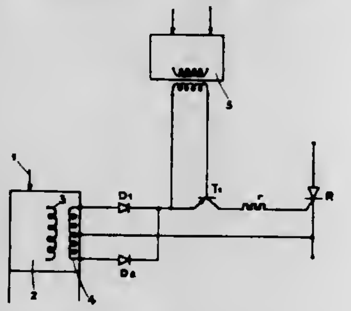
Karl Adler, Grenchen, and Georges Ducommun, Feldbrunnen, Switzerland, assignors to Biviator S.A., Geneva, Switzerland
Filed Oct. 28, 1964, Ser. No. 407,182
Claims priority, application Switzerland, Nov. 2, 1963, 13,479/63
9 Claims. (Cl. 307—244)



A static current reverser, wherein four transistors in a bridge are controlled each by an independent direct-current control potential produced by rectifying output signals of two alternating current sources having each a modulating input controlled each by a transistor of a pair of transistors controllable in complementary sense by a single direct-current input signal.

3,379,899
DISTRIBUTOR CIRCUIT FOR A CONTROL RECTIFIER INCLUDING A PULSE GENERATOR

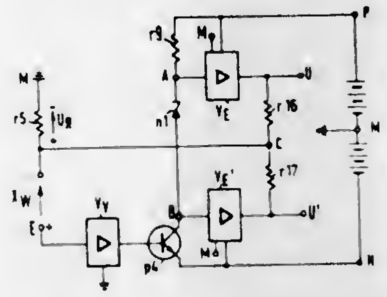
Robert Chauprade, Puteaux, France, assignor to Le Materiel Electrique S.W., Paris, France, a French company
Filed Nov. 17, 1964, Ser. No. 411,886
Claims priority, application France, Nov. 19, 1963, 954,225
3 Claims. (Cl. 307—284)



A controlled rectifier has a pulse generator and distributor circuit including a transistor the emitter of which is connected through a rectifier to a power inverter circuit, the base of the transistor being connected to an ignition circuit and the collector of the transistor being connected to the control electrode of the controlled rectifier.

3,379,900
TRISTABLE FLIP-FLOP AMPLIFIER CONTROL SYSTEM

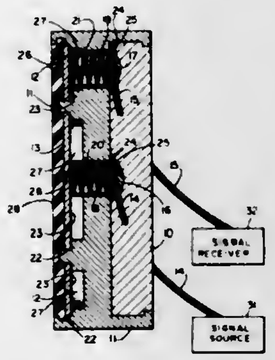
Karl Lang, Munich, Germany, assignor to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany
Filed Apr. 28, 1965, Ser. No. 451,555
Claims priority, application Germany, Apr. 30, 1964, 590,861/64
12 Claims. (Cl. 307—296)



1. A tristable flip-flop network, comprising direct-voltage supply means having a positive and a negative source terminal and a midtap, two complementary amplifier end stages having respective input terminals and respective output terminals and having means connecting said stages to said midtap to afford controlling both stages by respective voltages relative to that of said midtap, a Zener diode connected between said respective input terminals of said two amplifier stages, a resistor connecting one of said input terminals with one of said source terminals, a transistor havng an emitter-collector path connecting said other input terminal with said other source terminal, a pre-amplifier having an output connected to the base of said transistor for controlling said path, a voltage divider connected between said output terminals of said respective end stages, and control means connected to said pre-amplifier and comprising a tap connection at said voltage divider for controlling said pre-amplifier in dependence upon feedback voltage from said voltage divider.

3,379,901
FETAL HEART TRANSDUCER AND METHOD OF MANUFACTURE

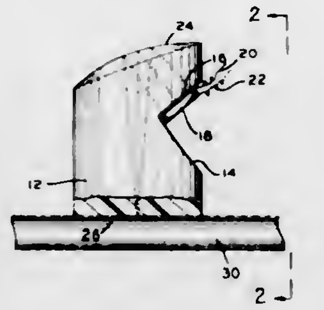
James R. Richards, 2813 63rd Ave., Cheverly, Md. 20785
Filed Jan. 8, 1965, Ser. No. 424,446
11 Claims. (Cl. 310—8.2)



An ultrasonic Doppler transducer of extremely high sensitivity for use in fetal heat detection and for use in the detection of minute movements or changes of position of a subject. The extremely high sensitivity of the transducer is due to the relatively complete isolation between the transmit and receive channels of the transducers.

3,379,902
ULTRASONIC TESTING APPARATUS

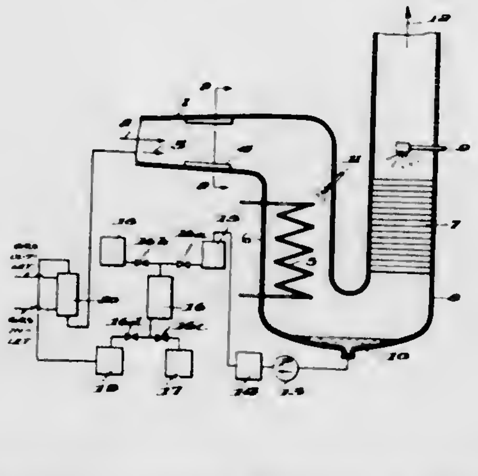
Robert V. Harris, Darien, and Henry G. Biagini, Stamford, Conn., assignors to Branson Instruments, Inc., Stamford, Conn., a corporation of Delaware
Filed Dec. 30, 1965, Ser. No. 517,547
5 Claims. (Cl. 310—8.5)



A solid coupling means made of polymeric plastic material is interposed between an electro-acoustic transducer and a workpiece and is adapted to provide a focused beam of ultrasonic energy to the workpiece. The coupling means has a notch for receiving therein the transducer, a cylindrical or spherical reflecting surface for reflecting the acoustic energy, and a further surface at which the reflected ultrasonic energy, brought substantially to a focused beam, leaves the coupling means and enters a workpiece to be tested.

3,379,903
MAGNETOHYDRODYNAMIC GENERATOR WITH SULPHUR CONTAINING FUEL

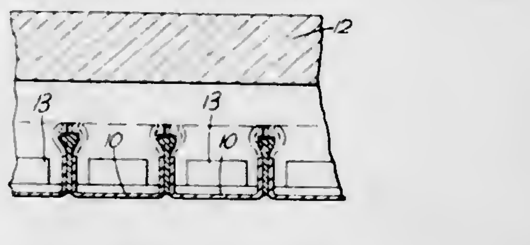
Manfred Rosner, Wettingen, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie., Baden, Switzerland, a joint-stock company
Filed Nov. 9, 1964, Ser. No. 409,854
Claims priority, application Switzerland, Nov. 29, 1963, 14,639/63
2 Claims. (Cl. 310—11)



A magnetohydrodynamic generator is operated on an open cycle with discharge to atmosphere and utilizing fuels having a relatively high sulphur content and an additive seeding material such as potash to augment ionization of the working gas and thereby increase its electrical conductivity. To prevent undesirable discharge of sulphur oxides in the gases exhausted to atmosphere, the amount of the additive utilized is at least sufficient to bind in as a compound any sulphur oxides which may be present. These compounds are recovered prior to discharge of the gas to atmosphere which is thus rendered relatively pure and sulphur-free, are then chemically transformed to remove sulphur, and the additive re-introduced into the generator.

3,379,904
MAGNETOHYDRODYNAMIC APPARATUS

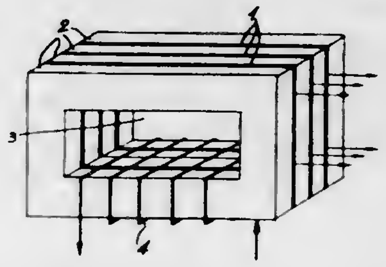
Peter Trevor Wallis, Beckenham, and Ralph George Gaunt, Sanderstead, England, assignors to Central Electricity Generating Board, London, England, a British body corporate
Filed Oct. 6, 1965, Ser. No. 493,467
13 Claims. (Cl. 310—11)



1. A wall for a duct for magnetohydrodynamic apparatus comprising a number of metal modules of hollow form open on the face towards the outer side of the duct wall, the modules being assembled together with insulating material between them and with insulating elements each extending across at least a number of modules, the insulating elements and modules being shaped to engage one another leaving a fluid channel between the insulating element and module leading from the corresponding channel of an adjacent module over the inside face of the module facing the duct to the fluid channel of another adjacent module.

3,379,905
MAGNETOSTRICTIVE TRANSDUCER

Sylvain Jean Janssen, Paris, France, assignor to Compagnie des Compteurs, Paris, France, a company of France
Filed Dec. 30, 1965, Ser. No. 517,536
Claims priority, application France, Jan. 13, 1965, 1,772
7 Claims. (Cl. 310—26)



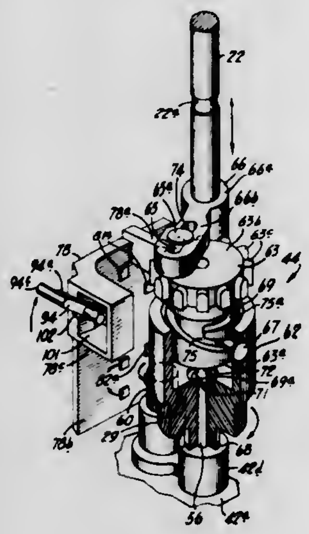
1. A magnetostrictive transducer comprising a set of relatively thin apertured plates of a magnetostrictive material and a set of apertured plates of non-magnetostrictive material having a thickness greater than that of said magnetostrictive plates, said plates of magnetostrictive and non-magnetostrictive materials being alternately disposed in a piled arrangement and connected rigidly together, and a magnetizing field producing element cooperative with said plates for producing the magnetostrictive effect thereby to generate and effect a wave propagation from said transducer.

3,379,906
ELECTRIC APPLIANCE WITH SELECTIVE MOTION CONVERSION MEANS

Albert R. Spohr, Park Ridge, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed Aug. 27, 1965, Ser. No. 483,061
18 Claims. (Cl. 310—50)

8. In a power unit for a cordless electric toothbrush the combination of a casing, a battery operated electric motor mounted within said casing and having a rotatable armature shaft selectively rotatable in either direc-

tion, a rechargeable battery for supplying electric energy to said motor mounted within said casing, an output shaft projecting from said casing and mounted for both reciprocating motion along its longitudinal axis and oscillating motion about said axis, drive means interconnecting said shafts and causing oscillating motion of said output shaft in response to rotation of said armature shaft in one direction and reciprocating motion of said output shaft in response to rotation of said armature shaft in the opposite direction, control means movable between a plurality of positions for selectively controlling the direction of rotation of said armature shaft, and means included in said control means for restraining a portion of said drive means in a predetermined manner when said control means is in one of said plurality of positions.

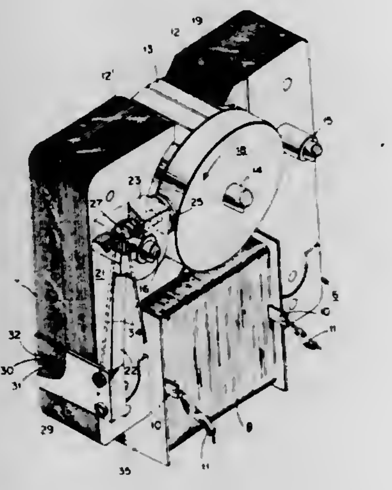


3,379,907
BRAKE MECHANISM FOR SMALL INDUCTION MOTORS

John L. Hollinger, Binghamton, N.Y., assignor to Endicott Coil Company, Inc., Binghamton, N.Y., a corporation of New York

Filed Mar. 15, 1966, Ser. No. 534,349

1 Claim. (Cl. 310—77)



1. An automatic brake mechanism for small induction motors, particularly of the shaded pole type which, upon de-energizing the flux-producing winding, is automatically released and caused to engage a portion of the rotor, said mechanism comprising in combination:

(a) a brake lever arm having a head portion carrying a brake shoe and a tail portion extending along the stator frame of said motor and terminating in a ferromagnetic plate,

(b) a stud extending from said stator frame over which said brake lever is fulcrumed for movement of said head portion toward said rotor for engagement with a portion thereof,

(c) a spring biasing said lever arm in a direction to cause movement of said arm upon expansion of said spring toward and into engagement of the brake shoe with said portion of the rotor,

(d) said portion of the rotor comprising a disk of resilient material forming an extension of said rotor, the outer surface thereof facing said brake shoe,

(e) a gap in said stator frame defining secondary magnetic pole pieces placed opposite said ferromagnetic plate for attracting said plate while said motor is energized, thereby holding said lever arm against the force of said spring in a position preventing said brake shoe from engagement with said resilient surface of said rotor portion and releasing said plate upon collapse of the magnetic field when said motor is de-energized, and

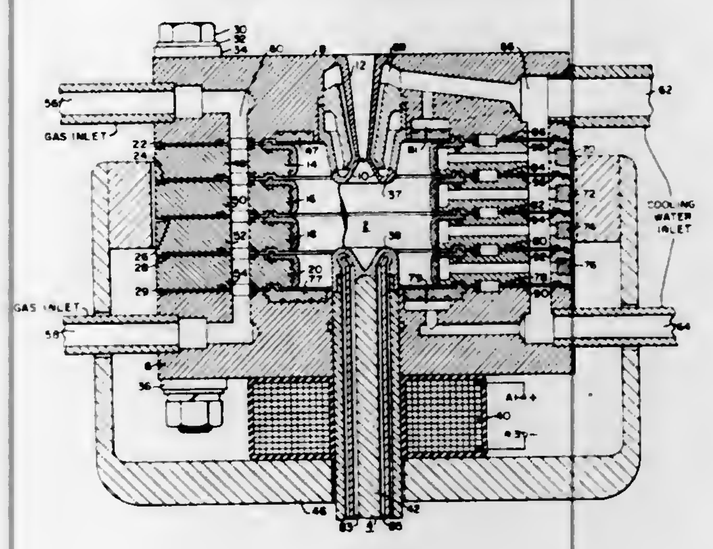
(f) said brake shoe having such configuration and angular movement as to cause progressively greater force of engagement with the resilient surface of the rotor due to the kinetic energy of the momentum of said rotor, thereby effecting substantially instant stopping of said rotor.

3,379,908
ARC-HEATER APPARATUS WITH MAGNETIC YOKE

George A. Kemeny, Export, and Charles B. Wolf, Irwin, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Continuation of application Ser. No. 241,639, Dec. 3, 1962. This application Jan. 13, 1965, Ser. No. 428,599

8 Claims. (Cl. 313—19)



1. In arc-heating apparatus for increasing the enthalpy of a gas, the combination of: a first electrode; a second electrode comprising a magnetic material spaced from and substantially aligned with the first electrode whereby an arc path substantially parallel to the axes of the first and second electrodes is formed between the first and second electrodes; means including a plurality of substantially axially aligned pressure rings disposed between said first and second electrodes to form an arc chamber, the inner diameter of the rings being greater than the outer diameters of the first and second electrodes; gas inlet means for admitting gas into said arc chamber; means for sustaining an arc between said first and second electrodes within said arc chamber; and a magnetic circuit including said second electrode, a yoke comprising a magnetic material extending from said second electrode to the outer peripheries of said pressure rings, and magnetic field producing means at a preselected position in the magnetic circuit to provide a magnetic field in said arc chamber, the magnetic lines of force extending from the yoke surface adjacent the pressure rings to the adjacent surface of the second electrode thereby producing a magnetic field substantially transverse to the arc between said electrodes.

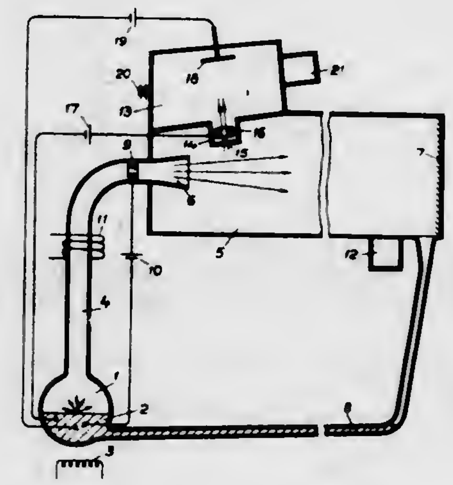
3,379,909
ELECTRON BEAM GENERATOR INCLUDING A PLASMA BEAM IN A CONDENSING CHAMBER

Bo Breitholtz and Clas Jacobsen, Vasteras, Sweden, assignors to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation

Filed May 25, 1966, Ser. No. 552,791

Claims priority, application Sweden, May 25, 1965, 6,827/65

7 Claims. (Cl. 313—34)



A device for generating an electron beam includes means for generating a plasma beam in a condensing chamber. At the side of condensing chamber is an electron chamber having an annular anode and a catch anode. A source of voltage is connected between a plasma emitting cathode and the two anodes. The direction of the voltage between said two anodes is substantially perpendicular to the direction of the plasma beam.

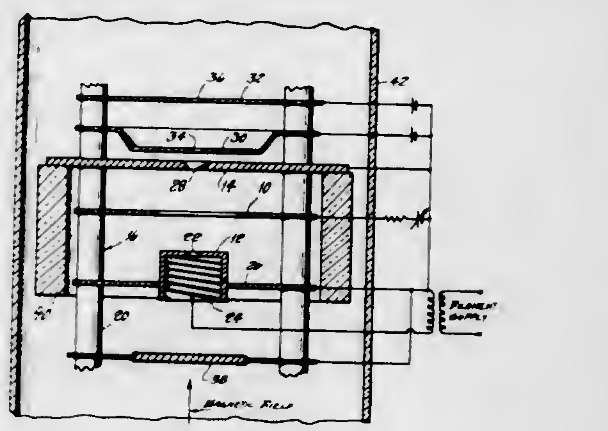
3,379,910
PLASMA EXTRACTION GUNS AND APPLICATIONS THEREFOR

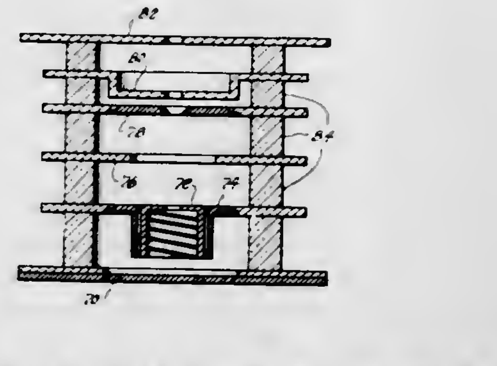
Paul Chorney, Norwood, and John Valun, Framingham, Mass., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed July 9, 1965, Ser. No. 470,944

5 Claims. (Cl. 313—63)

A plasma is created and a high perveance beam is extracted from the plasma reliably and stably over long periods of time. Three stacked parallel flat electrodes supported in an atmosphere of 1-100 microns and normal to a unidirectional constant magnetic field generate the plasma. The two outer electrodes are connected in common and have one or more in-line perforation pairs. The intermediate electrode is at about fifteen volts positive relative to the other two electrodes. One of the other two electrodes is of nickel cermat thermionic emissive material and has a skirt directed away from the intermediate electrode and supports a heater therein. The intermediate electrode has a hole slightly larger than the outside dimension of the emitter electrode. At least one extraction anode is supported parallel with but beyond the repeller electrode and has a perforation in-line with perforations in the commonly-connected electrodes and at a high positive potential relative to the three plasma forming electrodes. A collector electrode is supported beyond the extraction anode or beyond the emitter electrode in the line of particles that issue from the perforation in the adjacent electrode.



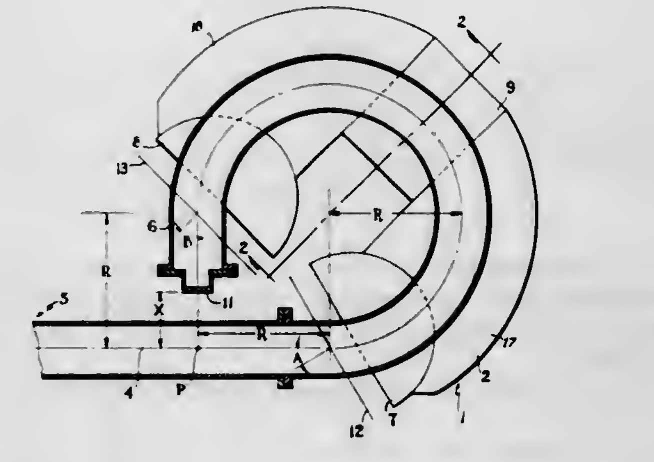


3,379,911
PARTICLE ACCELERATOR PROVIDED WITH AN ADJUSTABLE 270° NON-DISPERSIVE MAGNETIC CHARGED-PARTICLE BEAM BENDER

Harald A. Enge, Winchester, Mass., assignor to High Voltage Engineering Corporation, Burlington, Mass., a corporation of Massachusetts

Filed June 11, 1965, Ser. No. 463,186

4 Claims. (Cl. 313—75)

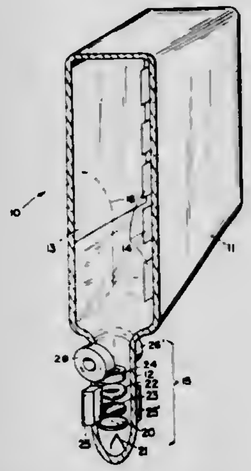


A uniform magnetic field is produced between poles of a magnet. The poles include shim pole pieces which permit variation of the field boundaries and also introduction of a nonuniformity into the field, so as to minimize dispersion of the beam. In this way, the beam from a charged-particle accelerator may be deflected to a variety of beam-utilization areas without altering the position of the accelerator itself.

3,379,912

BEAM AND RASTER LOCATING MEANS FOR THIN CATHODE RAY TUBE

Leo A. Shanafelt, Woodland Hills, Calif.
(416 Carnation Ave., Corona Del Mar, Calif. 92625)
Filed Oct. 19, 1965, Ser. No. 497,850
8 Claims. (Cl. 313—76)

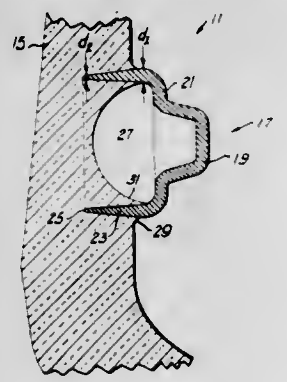


1. In a thin cathode ray tube having a single envelope, a target screen, an electron gun and an array of vertical deflection plates to provide for vertical sweep, with said gun located to produce a beam which sweeps in a plane parallel to and spaced apart from said screen, a necked portion of said envelope extending outwardly from said envelope and containing therein a beam emitting cathode, at least one beam attracting anode, a beam focusing ring and a control grid, said necked portion having adjacent the outer surface thereof a pair of positionally adjustable magnets to control lateral location of the raster and to control positioning of the beam between said screen and said array.

3,379,913

CRT FACE PANEL HAVING ARTICLE SUPPORTING STUDS THEREIN

Thomas Earl Gannoe, Warren, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed June 6, 1966, Ser. No. 555,339
3 Claims. (Cl. 313—85)



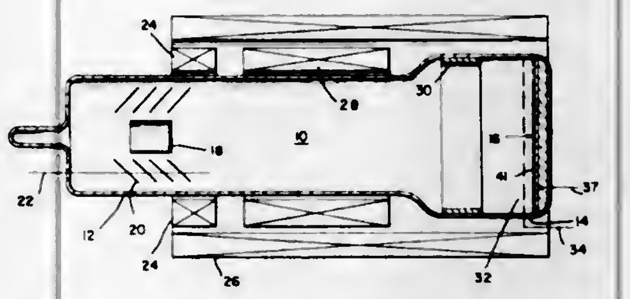
1. A cathode ray tube face panel having a substantially upstanding wall therearound with a spaced plurality of article supporting studs retained therein, said studs comprising:

- a head portion of substantially uniform material thickness;
- a transition portion integrally extending from the periphery of the base of said head portion having a substantially uniform material thickness substantially equalling that of said head portion; and
- a skirt portion integrally extending from said transition portion, said skirt portion having a decrease in material thickness from said transition portion to an extremital edge portion therearound, said skirt portion being attached to said panel wall portion by sealed embedment therein.

3,379,914

CATHODE RAY STORAGE TUBE HAVING STORAGE TARGET WITH SURFACE GROOVES AND DIELECTRIC FILM OVERLYING THE GROOVES

Nobuo J. Koda, Vista, and Leon S. Yaggy, North Carlsbad, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Feb. 1, 1966, Ser. No. 524,298
8 Claims. (Cl. 313—89)

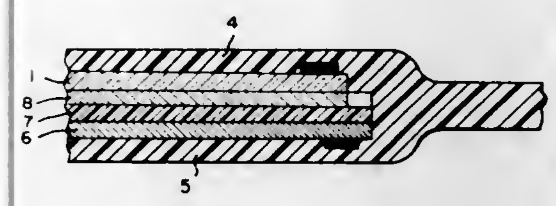


A cathode ray storage tube is provided having a target comprising an imperforate metallic backing plate having high count grate-like grooves formed in a surface thereof. A dielectric material capable of accepting an electric charge pattern is positioned on the plate surface and supported thereon by the projecting tips of the grooves. Capacitance is significantly lowered, higher resolution is provided and an improved charging and erasing rate results.

3,379,915

CONDUCTIVE MEDIA FOR ELECTROLUMINESCENT DEVICES, AND ELECTROLUMINESCENT DEVICE

Thomas J. Sentementes, Wakefield, and Eric L. Mager, Beverly, Mass., assignors to Sylvania Electric Products Inc., Beverly, Mass., a corporation of Delaware
Filed July 8, 1965, Ser. No. 470,414
1 Claim. (Cl. 313—108)



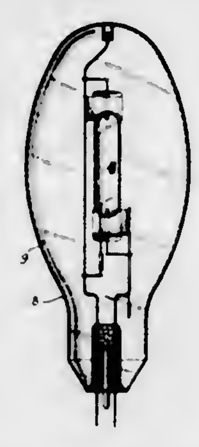
1. An electroluminescent device comprising: an electrically conductive base member; a layer of light emitting material including an electroluminescent phosphor disposed above said base member; an electrically conductive lacquer disposed above said layer of light emitting material, said electrically conductive lacquer including indium oxide doped with a member selected from the group consisting of tin plus cadmium and tin plus cadmium plus antimony, said cadmium being divalent, said dopant being present in quantities of 0.05 to 0.5 gram atoms per mole of indium oxide.

3,379,916

HIGH-PRESSURE VAPOUR LAMP CONTAINING INDIUM, THALLIUM AND GALLIUM HALIDES

Pierre Delrieu, Paris, and André Taxil, Rueil-Malmaison, France, assignors to Claude Paz et Visseaux
Filed Oct. 11, 1965, Ser. No. 494,547
Claims priority, application France, Sept. 21, 1965, 32,083, Patent 1,423,911; Nov. 25, 1965, 996,238, Patent 88,772
8 Claims. (Cl. 313—109)

An electric discharge lamp of the high pressure mercury vapour type, containing rare gas, mercury and halides of indium, thallium and gallium. The electrical loading of the lamp is comprised between 10 and 20 watts per square centimeter of the internal wall of the discharge tube. Preferably, the halides are iodides and their respective proportions by weight are:

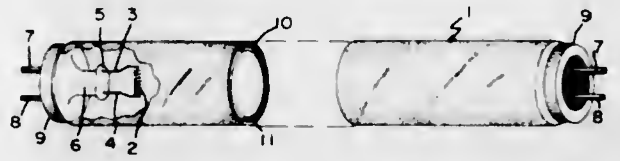


	Percent
Indium monoiodide	20–50
Thalium monoiodide	20–40
Gallium triiodide	10–50

3,379,917

FLUORESCENT LAMP WITH A REFLECTIVE COATING CONTAINING TiO_2 AND Sb OR ITS OXIDE

Richard A. Menelly, Danvers, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Oct. 27, 1965, Ser. No. 505,354
3 Claims. (Cl. 313—109)

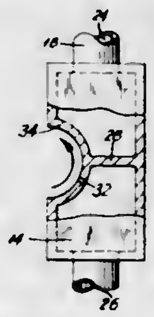


A fluorescent lamp having on the inside surface of its envelope a reflective coating of titanium dioxide containing a small amount of antimony or its oxide, the amount being less than one percent.

3,379,918

METHOD FOR PRODUCING HIGH BRIGHTNESS AND LOWER ELECTRODE CONSUMPTION RATE IN CARBON ARCS

Roger E. Harrington, Lakewood, Ohio, assignor to Union Carbide Corporation, a corporation of New York
Filed July 27, 1964, Ser. No. 385,120
7 Claims. (Cl. 314—29)

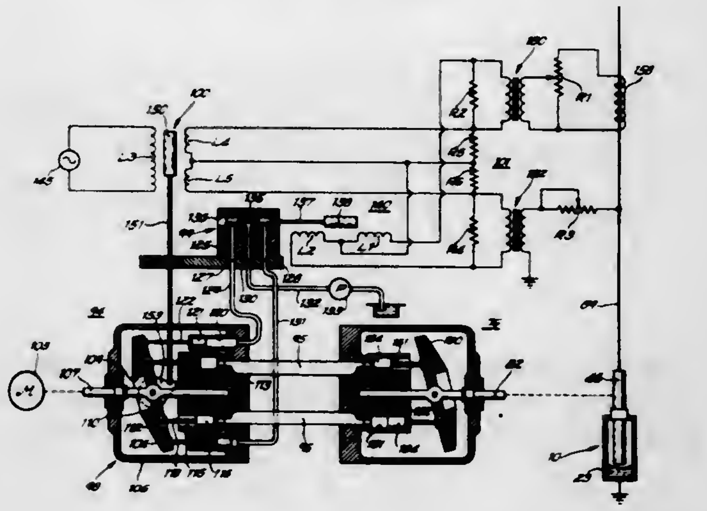


A method of improving the performance of a high intensity light source which includes dispersing a liquid such as water into the contacting area between the positive electrode and the jaws holding it in place. Providing a hole in the wall of the electrode jaws and passing a liquid therethorugh is the preferred embodiment of the invention.

3,379,919

HYDRAULIC ELECTRODE POSITIONING MEANS FOR AN ELECTRIC ARC FURNACE

Peter J. Wynne, Pittsburgh, Pa., assignor, by mesne assignments, to Lectromelt Corporation, Pittsburgh, Pa., a corporation of Delaware
Filed May 17, 1965, Ser. No. 456,157
10 Claims. (Cl. 314—61)

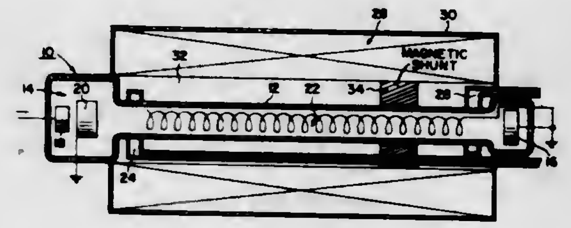


1. In an electric arc furnace having an electrode and a container for receiving work material heated as a result of an electric current flowing in said electrode, the combination of, circuit means for deriving an electric signal representative of the electric conditions in said electrode, reversible hydraulic motor means coupled to said electrode for positioning the same relative to said work material, variable output hydraulic pump means having output means variable in direction and degree and coupled to said motor for providing hydraulic fluid to said motor at a rate determined by the degree and in a direction governed by the direction of the variation of said output means, feedback means coupled to said pump output means for providing an electrical feedback signal functionally related to the degree and direction of the variation of said pump output means, and servo means coupled to receive said electrode condition representative signal and the feedback signal and operative to vary the degree and direction of said output means in a manner to cause said electrode to be moved relative to said work material in a direction and at a speed functionally related to the relative magnitudes of said signals.

3,379,920

TRAVELING-WAVE TUBE WITH EFFICIENCY-ENHANCING FOCUS-FIELD JUMP

Frederick L. Washburn, Jr., Severna Park, Md., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 14, 1964, Ser. No. 403,811
11 Claims. (Cl. 315—3.5)

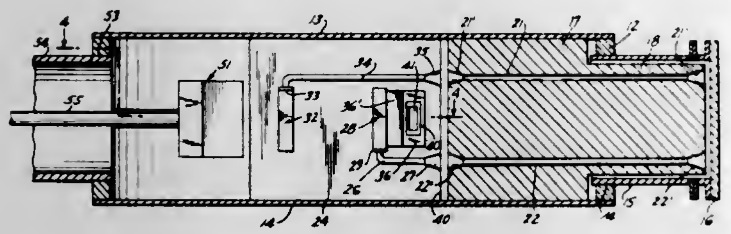


The present invention relates to a traveling-wave tube in which a focus field jump section is provided in the focusing system. The provision of the focus field jump section provides means of extracting low energy electrons from the electron beam which are incapable of interacting with the RF wave on the slow wave structure to give up energy to the slow wave structure.

3,379,921

CROSSED FIELD ELECTRON TUBE HAVING INPUT AND OUTPUT CAVITIES AND DRIFT REGION DEFINED BY A PAIR OF HIGH CONDUCTIVITY NON-MAGNETIC PLATES

Craig M. Garretson, 59 Allan Drive,
East Norwich, N.Y. 13815
Filed Apr. 6, 1964, Ser. No. 357,549
4 Claims. (Cl. 315—5.35)

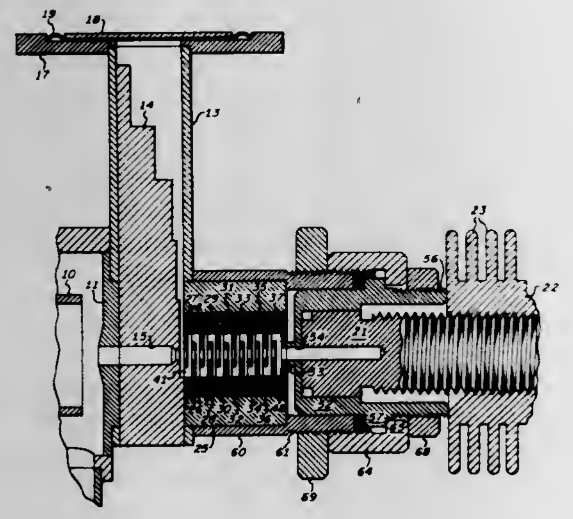


This invention relates to the art of electron tubes, more particularly of the type capable of generating relatively great power in the ultra high frequency range. The electron tube imparts energy to an electron beam in a launch region and then causes the electron beam to move to an interaction region where the electron beam by the application of a small amount of RF energy converts the DC energy to a substantial amount of RF energy.

3,379,922

TUNABLE COUPLED CAVITY EXTENDED INTERACTION ELECTRONIC TUBE HAVING DEFORMABLE END WALL

Walter R. Day, Jr., and Lars H. Sandstrom, Gainesville, Fla., assignors to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Apr. 7, 1965, Ser. No. 446,194
7 Claims. (Cl. 315—5.38)



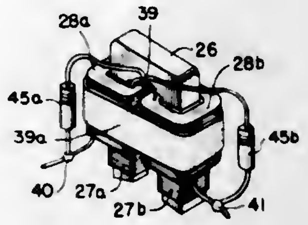
An extended interaction type of electron tube in which the entire interaction circuit structure comprised of apertured discs closely spaced to form a series of closely coupled cavities along the beam axis is tunable by deforming the end disc terminating the circuit nearest to the collector.

3,379,923

CONVERGENCE CORRECTION

James F. Chandler, Chicago, and John L. Rennick, Elmwood Park, Ill., assignors to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware
Filed Feb. 9, 1965, Ser. No. 431,410
11 Claims. (Cl. 315—13)

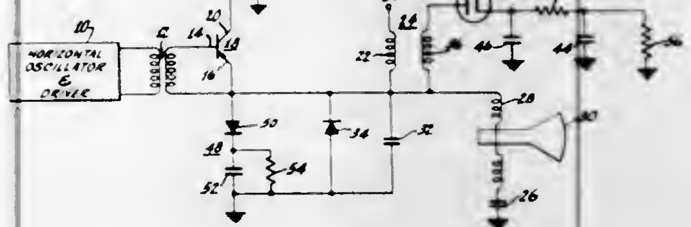
Convergence correction apparatus for multibeam color picture tubes includes an electromagnetic structure comprising a U-shaped core of magnetic material and a pair of coils individually disposed on assigned ones of the core legs. The coils respond to dynamic convergence signals of a predetermined frequency to develop a convergence magnetic field between the free ends of the core legs. Each of the coils has an effective inductive reactance and a distributed capacitance constituting a parallel circuit resonant at a second predetermined frequency. Energy dissipating means is coupled individually to each of the coils to reduce the current flow therein at the second predetermined frequency.



3,379,924

TELEVISION DEFLECTION CIRCUITS

Loren R. Kirkwood and Chi-sheng Liu, Indianapolis, Ind., assignors to Radio Corporation of America, a corporation of Delaware
Filed Apr. 26, 1965, Ser. No. 450,894
6 Claims. (Cl. 315—22)



1. In a television receiver, a horizontal deflection and high voltage supply circuit for an image reproducing device, comprising:

a horizontal deflection winding,

switching means coupled to said deflection winding to provide a substantially linearly increasing deflection current flow through said winding during the trace portion of the horizontal deflection cycle of the receiver,

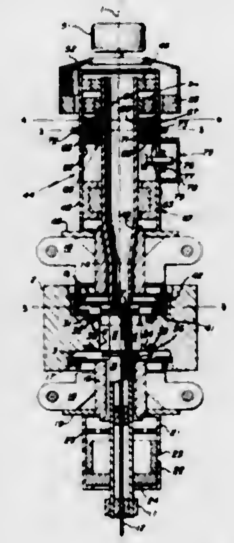
a high voltage transformer coupled to said switching means for developing high voltage pulses during the retrace portion of the horizontal deflection cycle,

high voltage supply means including a rectifier and a filter capacitor coupled in series relation across said transformer and responsive to said high voltage pulses for developing a high direct voltage, said high voltage supply means further including a current limiting means connected in series between said rectifier and said filter capacitor and a second capacitor of substantially smaller capacitance than said filter capacitor coupled from the junction of said rectifier and said current limiting means to said transformer, whereby upon the occurrence of undesired arcing in said rectifier, the relatively low energy stored in said second capacitor discharges rapidly through said transformer while the relatively high energy stored in said filter capacitor is partially dissipated and discharges slowly through said transformer.

3,379,925

TUNABLE MAGNETRON HAVING A CAPACITIVE TRANSDUCER MAGNETICALLY COUPLED TO THE TUNING MEMBER

Robert E. Edwards, Lexington, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware
Original application Dec. 24, 1962, Ser. No. 248,179. Divided and this application Jan. 27, 1965, Ser. No. 428,392
2 Claims. (Cl. 315—39.59)

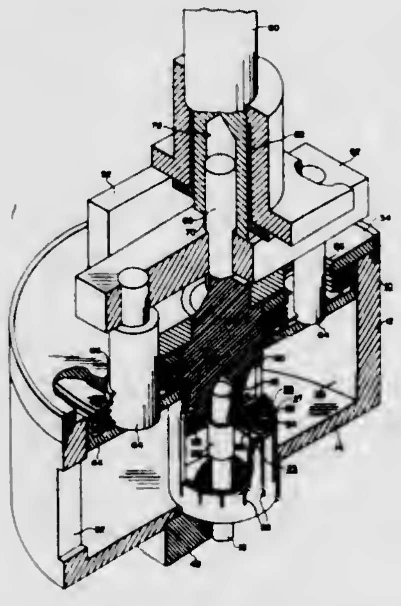


A tunable magnetron oscillator including a capacitive transducer coupled to a continuously rotatable member to indicate the position of the tuning means relative to the anode resonator structure.

3,379,926

COAXIAL MAGNETRON HAVING SLOT MODE SUPPRESSING LOSSY MATERIAL IN ANODE RESONATORS

John Symes, Elmira, N.Y., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 18, 1964, Ser. No. 412,059
8 Claims. (Cl. 315—39.75)

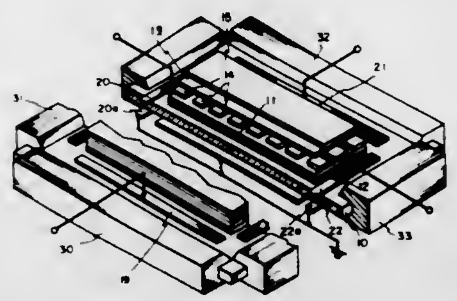


The present invention is directed to a coaxial magnetron in whch a first group of inner anode resonators with coupling slots to provide coupling through a cavity resonator is provided and a second group of inner anode resonators is provided without coupling slots and a lossy material is provided within the second group of inner anode resonators to damp the slot modes.

3,379,927

PIEZOELECTRIC-ELECTROLUMINESCENT DISPLAY DEVICE CONTAINING NONLINEAR RESISTANCE LAYER

Stephen Yando, Huntington, N.Y., assignor to General Telephone and Electronics Laboratories, Inc., a corporation of Delaware
Filed Sept. 2, 1964, Ser. No. 393,953
10 Claims. (Cl. 315—55)

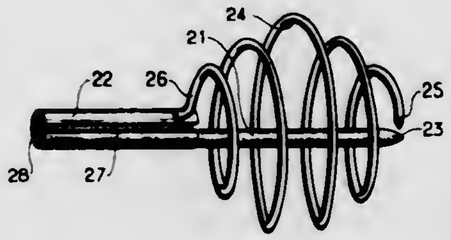


An electroluminescent display device in which a piezoelectric sheet is electrically coupled by a thin film to one surface of a nonlinear resistance layer and an electroluminescent layer is affixed to the other surface of the resistance layer. Input signals are coupled to the piezoelectric sheet by electrodes secured to the edge thereof. The resulting display exhibits a high contrast ratio as compared to previous devices of this type.

3,379,928

TRIGGERING DEVICE FOR SPARK GENERATORS

Spartacus Barbini, Chaville, France, assignor to Compagnie Generale d'Electricite, Paris, France, a corporation of France
Filed Mar. 8, 1966, Ser. No. 532,680
Claims priority, application France, Mar. 12, 1965, 9,010
10 Claims. (Cl. 315—57)



1. In a spark generator of the type including two electrodes provided with free ends to define a spark gap, the improvement comprising triggering means integral with at least one of said electrodes, said triggering means including an auxiliary spark gap defined by the end portions of two spaced and electrically interconnected conducting parts of said electrode, at least one of said parts forming at least part of a loop, means for generating a magnetic field adapted to pass through said loop for inducing an electromotive force therein to generate an ionizing spark in said auxiliary gap for triggering a spark between said free ends of said electrodes.

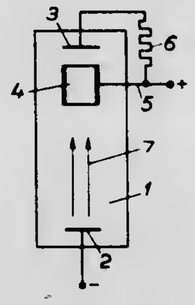
3,379,929

D.C. CIRCUIT BREAKER DEVICE INCLUDING ONE OR MORE AUXILIARY ANODES

Bo Breitholtz, Vasteras, Sweden, assignor to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation
Filed May 25, 1966, Ser. No. 552,790
Claims priority, application Sweden, May 26, 1965, 6,918/65
3 Claims. (Cl. 315—59)

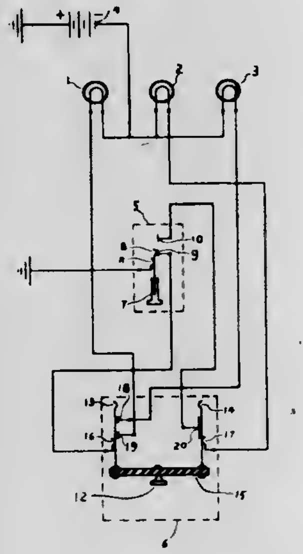
1. Circuit breaker device for a DC circuit having high voltage and great power, which device comprises a dis-

charging tube with an electron-emitting cathode connected to the negative pole of the circuit, one anode and at least one ring-shaped auxiliary electrode arranged in the dis-



charge path between anode and cathode, and a resistor connected between the anode and the auxiliary electrode, the positive pole of the circuit being connected to the auxiliary electrode.

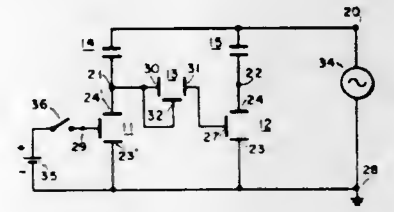
3,379,930
AUTOMOTIVE LIGHTING SYSTEM
William O. Young, Jr., 116 Marlin Drive, Spartanburg, S.C. 29302
Filed Mar. 21, 1966, Ser. No. 536,067
1 Claim. (Cl. 315—82)



An automotive lighting system provided with a three position hand operated switch for selectively energizing the bright headlights, dim headlights and parking lights. A double pole switch is electrically connected to the hand operated switch for selectively energizing the parking lights and the dim headlights when the hand operated switch is in one position, and for selectively energizing said bright headlights and said dim headlights when said hand operated switch is in another position.

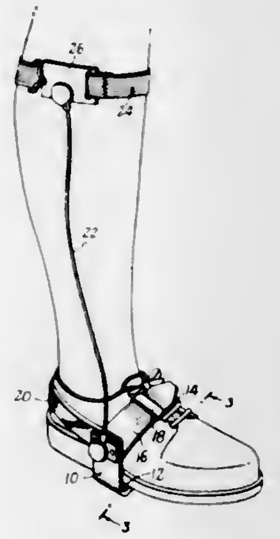
3,379,931
ELECTROLUMINESCENT TRANSLATOR UTILIZING THIN FILM TRANSISTORS
Anthony J. Soldano, Valley Stream, N.Y., assignor to General Telephone and Electronics Laboratories, Inc., a corporation of Delaware
Filed Dec. 1, 1964, Ser. No. 415,089
4 Claims. (Cl. 315—169)

An electroluminescent translator is described wherein first and second thin film transistors are connected in series with corresponding lamps and an energizing voltage is applied across the parallel combination thereof. The gate of the second transistor is coupled by a diode to an electrode of the first transistor. The application of a signal to the gate of the first transistor energizes the correspond-



ing lamp and the absence of a signal results in the application of a voltage to the gate of the second transistor and energizes the corresponding lamp.

3,379,932
FOOT GROUNDING DEVICE
Walter G. Legge, Brooklyn, N.Y. (101 Park Ave., New York, N.Y. 10017)
Filed July 8, 1966, Ser. No. 563,730
1 Claim. (Cl. 317—2)

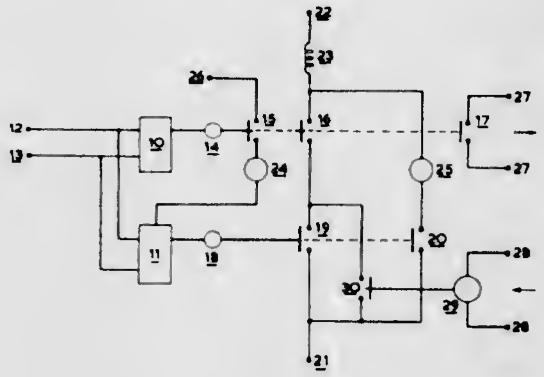


The subject of the application for patent is a grounding device for wear on the user's foot. It comprises a conductive tread member worn over the instep of the shoe, there being a resilient pad between the member and the sole of the shoe. The member is held in place by a plastic band which is inelastic and protected from erosion caused, for example, by fumes and other injurious substances with which it may come in contact. A conductor connects the tread member to a plate which contacts the leg of the user.

3,379,933
ELECTRICAL PROTECTIVE RELAYS
Hans Hoel, Oslo, Norway, assignor to The English Electric Company Limited, London, England, a British company
Filed Dec. 21, 1964, Ser. No. 419,840
Claims priority, application Great Britain, Jan. 1, 1964, 35/64
5 Claims. (Cl. 317—36)

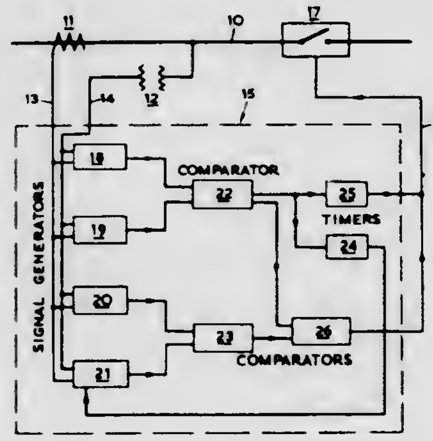
1. A protective relay arrangement for protecting an electrical system, comprising

first and second electrical relays spaced apart from one another within said system, said first relay comprising two elements for receiving an input signal indicative of conditions in said electrical system, one said element being operable to develop an output signal upon the input being indicative of a fault occurring within a first distance extending unidirectionally from said first relay and overlapping a section of said system extending between the first and second relays, the other element being operable to develop an output signal upon the input being indicative of a fault occurring within a second distance consisting of a first zone embracing a first part of the first distance within said section and another zone extending in the opposite direction from the relay, and



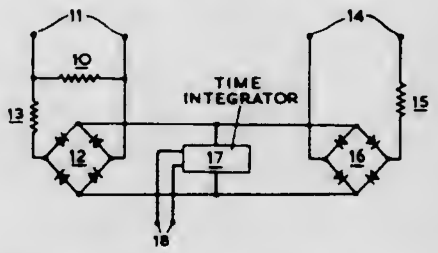
control means connected to said two elements and operable instantaneously to effect a protective function in response to both output signal occurring together, whereby to protect the system from faults occurring within said first zone, and operable at predetermined instants following an output signal from either one of said first and second elements only whereby to protect the system from faults occurring within a second zone of said first distance and said other zone extending in the opposite direction, respectively, said second zone being contiguous with the first zone and overlapping said section.

3,379,934
ELECTRICAL PROTECTIVE RELAYS
Hans Hoel, Oslo, Norway, and William Derek Humpage, Glossop, England, assignors to The English Electric Company Limited, London, England, a British company
Filed Apr. 26, 1965, Ser. No. 450,606
Claims priority, application Great Britain, Apr. 29, 1964, 17,653/64
5 Claims. (Cl. 317—36)



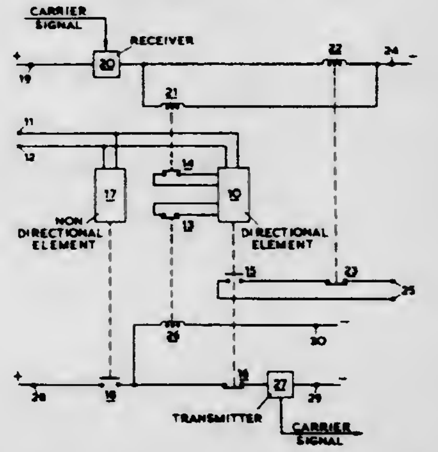
This invention relates to an electrical protective relay designed to combine in a simple manner a number of preselected vector quantities in different ways so as to produce a wide variety of operating characteristics defining any number of desired shapes. The relay employs a first comparator for comparing two input signals of a specified type and operable in response thereto to actuate a protective device after a predetermined time delay (the response characteristic being a mho circle), a second comparator for comparing two other input signals and a third comparator for comparing outputs from the first and second comparators and itself actuating a protective device in response to a certain relationship between its compared signals. The response characteristic resulting from actuation by the third comparator is a modified mho circle and further modification to the response characteristics is effected by modifying the input signal to the second comparator after another time delay.

3,379,935
ELECTRICAL RELAYS
Hans Hoel, Oslo, Norway, and Eric Paddison, Stafford, England, assignors to The English Electric Company Limited, London, England, a British company
Filed Mar. 19, 1965, Ser. No. 441,242
Claims priority, application Great Britain, Mar. 25, 1964, 12,593/64
5 Claims. (Cl. 317—36)



This invention relates to a protective relay for an electrical system and comprises two rectifying networks for receiving two different alternating signals dependent on line conditions and producing unsmoothed unidirectional signals therefrom. These unsmoothed signals are combined and applied to an integrator which develops an output dependent on the difference between the instantaneous amplitudes of the alternating signals only when this difference signal has a predetermined sense for a duration which exceeds a predetermined proportion of the period of this signal.

3,379,936
PROTECTIVE DISTANCE RELAY SYSTEM FOR POWER TRANSMISSION LINES
Hans Hoel, Oslo, Norway, assignor to The English Electric Company Limited, London, England, a British company
Filed Feb. 26, 1965, Ser. No. 435,598
Claims priority, application Great Britain, Mar. 2, 1964, 8,628/64
7 Claims. (Cl. 317—36)



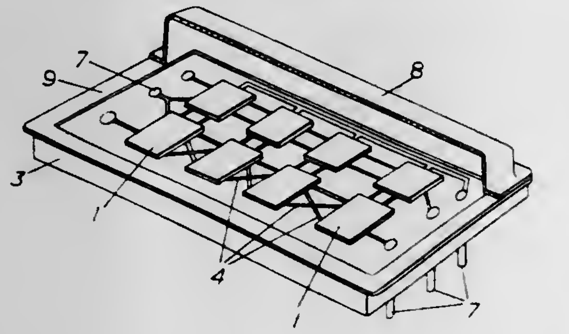
1. A protective relay system comprising first and second distance relays connected to opposite ends of a section of power line and each operative to actuate a switch for tripping a line circuit breaker adjacent its end of the section, each relay including

a non-directional element for transmitting a control signal to the other relay upon a fault occurring within a distance which embraces all of a number of zones of protection extending from both relays, the zones of each relay being unidirectional and together extending over the whole of said section,

circuit means at each relay for both extending the initial zone of the relay and inhibiting said breaker from tripping upon receipt of said signal by that relay, and

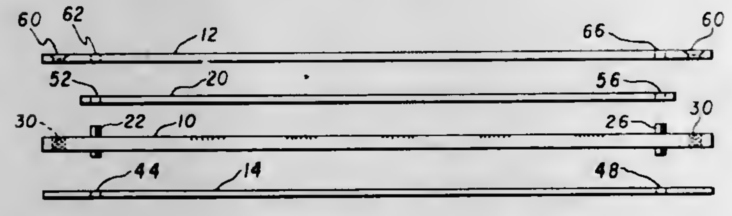
a directional element in each relay for both interrupting the transmission of said signal and actuating said switch upon detection by that relay of a fault within any of its zones of protection, the arrangement being such that said interruption of transmission at one relay uninhibits the breaker at the other relay whereby to permit said directional element of said other relay to cause its breaker to trip upon detection of a fault in any of its zones.

3,379,937
SEMICONDUCTOR CIRCUIT ASSEMBLIES
Alan Arthur Shepherd, Bramhall, England, assignor to Ferranti, Limited, Hollinwood, Lancashire, England, a company of Great Britain and Northern Ireland
Filed Apr. 24, 1963, Ser. No. 275,412
Claims priority, application Great Britain, Apr. 27, 1962, 16,085/62
12 Claims. (Cl. 317—101)



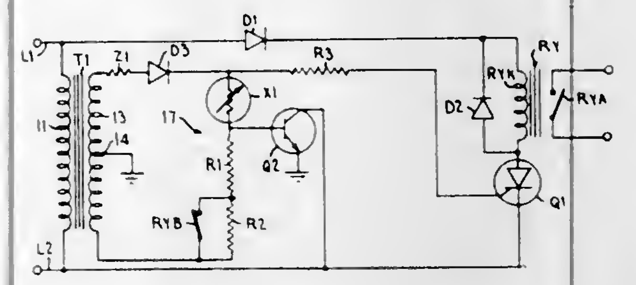
1. A semiconductor circuit assembly including a plurality of slices of semiconductor material each having an electrical circuit formed thereon and having the circuit terminations on one face, and a block of electrically nonconductive material having deposited on one face a plurality of electrically conductive strips for interconnecting the circuits of said semiconductor slices, said slices being disposed with said one face of each slice in close proximity to said one face of said block, said circuits being connected to said conductive strips by means of metallic particles bonded to said strips and to said circuit terminations.

3,379,938
ALIGNMENT DEVICE FOR SEMICONDUCTOR APPARATUS
Richard P. Bywaters, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Aug. 27, 1965, Ser. No. 483,269
8 Claims. (Cl. 317—101)



An alignment device is disclosed for aligning semiconductor networks to a printed circuit board. The alignment device comprises an alignment frame having alternate arrays of ribs and hollow bays with the ribs having a groove running longitudinally to accommodate the semiconductor networks. The ribs further include slots which hold in alignment the leads of the semiconductor networks. A pressure plate is used to insure contact between the network leads and the etch pads of the printed circuit board.

3,379,939
FAIL SAFE CONTROLLER
Robert E. Obenhaus, South Easton, Mass., assignor to Texas Instruments, Incorporated, Dallas, Tex., a corporation of Delaware
Filed Oct. 21, 1965, Ser. No. 499,982
11 Claims. (Cl. 317—148.5)



1. A fail safe controller which is responsive to changes in the impedance of a sensor for selectively energizing a load, said controller comprising:

a power circuit including a silicon controlled rectifier and means for interconnecting the anode-cathode circuit of said rectifier with said load for selectively switching the flow of electric power thereto;

means for connecting said power circuit to an A.C. source;

a voltage divider including a sensing impedance serially connected with a reference impedance;

a transformer including a primary winding connected to said source and a secondary winding having an intermediate tap;

a secondary winding circuit including said secondary winding for applying A.C. to said divider in phase with the A.C. applied to said power circuit, said secondary winding circuit including substantial source impedance in series with said divider;

a transistor the emitter terminal of which is connected to said intermediate tap and the base terminal of which is connected to said voltage divider at a junction between said reference impedance and said sensing impedance, conduction in the collector-emitter circuit of said transistor thereby being a function of the relative impedance values of said reference impedance and said sensing impedance; and

circuit means connecting the gate-cathode circuit of said silicon controlled rectifier between the end of said sensing impedance which is opposite said junction and the collector terminal of said transistor for providing triggering current to said silicon controlled rectifier under control of said transistor whereby shorting of said sensing impedance shunts the gate-cathode circuit of said silicon controlled rectifier thereby deenergizing said load.

3,379,940
INTEGRATED SYMMETRICAL CONDUCTION DEVICE
Hideo Nakao, Tokyo, Japan, assignor to Nippon Electric Company Limited, Tokyo, Japan, a corporation of Japan
Filed Jan. 21, 1965, Ser. No. 426,872
Claims priority, application Japan, Feb. 11, 1964, 39/7,243
4 Claims. (Cl. 317—235)

1. A symmetrical transistor device comprising

a semiconductor wafer having a first conductivity type,

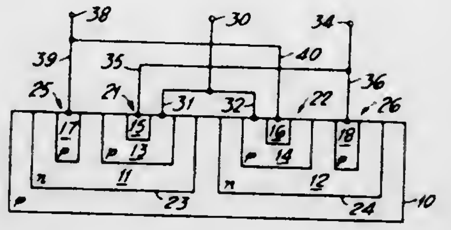
first and second transistors of the same conductivity type formed in said wafer and spaced from each other therein,

each of said transistors having a collector region of a second conductivity type, a base region of said first conductivity type and an emitter region of said second conductivity type,

a first diode region of said first conductivity type formed in the collector region of said first transistor,

said first diode region forming a first diode with the collector region in which it is formed,

a second diode region also of said first conductivity type formed in the collector region of said second transistor,



said second diode region forming a second diode with the collector region in which it is formed,

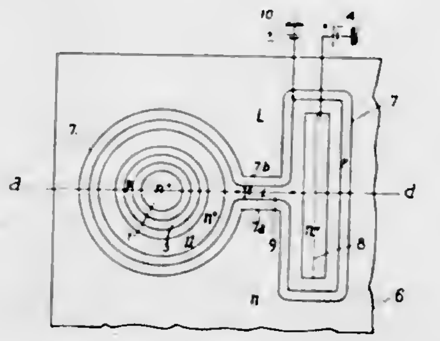
said device having first, second and third terminals,

conductive means connecting the emitter region of said first transistor to said second diode region and also to said first terminal,

conductive means connecting the base regions of each transistor together and also to said second terminal,

and conductive means connecting the emitter region of said second transistor to said first diode region and also to said third terminal, whereby upon the application of suitable potentials to said terminals one of said transistors will be in the conductive state while the other of said transistors is in the non-conductive state.

3,379,941
INTEGRATED FIELD EFFECT CIRCUITRY
Jack Blanluet, Paris, France, assignor to CSF—Compagnie Generale de Telegraphie Sans Fil, a corporation of France
Filed Mar. 5, 1964, Ser. No. 349,710
Claims priority, application France, Mar. 6, 1963, 926,978
2 Claims. (Cl. 317—235)



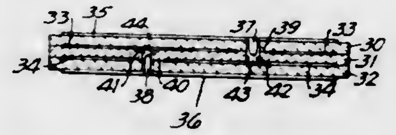
An integrated circuit comprises a substrate and over said substrate, a plurality of electric components, each connecting one point of the circuit to another. Each component is enclosed in the channel of a field effect structure comprising a source, a drain and two gates. The channel is pinched off by applying to the gates, source and drain, a convenient D.C. potential, and insulates this component from the other parts of the circuit.

3,379,942
DIELECTRIC GLASSES AND CAPACITORS EMPLOYING SUCH GLASSES
Earl K. Davis, Monroeville, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 13, 1964, Ser. No. 410,910
12 Claims. (Cl. 317—258)

5. An electronic capacitor comprising a plurality of metal plates having confronting surfaces separated by a dielectric layer of glass, the dielectric glass consisting essentially of the following constituents in about the indicated proportions:

Constituents:	Weight percent
BaO	25–35
B_2O_3	17–24
ZnO	5–15
K_2O	4–10
SiO_2	5–11
TiO_2	1–8
Al_2O_3	1–7
Na_2O	1–5
Li_2O	0.5–3.0
F	0.5–3.0
CdO	1–10
CaO	0.5–5

3,379,943
MULTILAYERED ELECTRICAL CAPACITOR
James G. Breedlove, Signal Mountain, Tenn., assignor to American Lava Corporation, Chattanooga, Tenn., a corporation of Tennessee
Filed Jan. 17, 1966, Ser. No. 521,183
17 Claims. (Cl. 317—258)

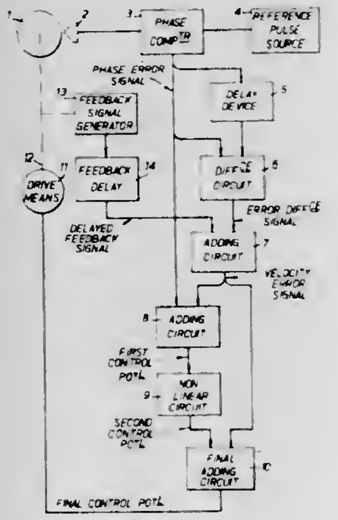


Specification discloses new monolithic sinter-unified electronic articles having at least two electrically-insulative layers of ceramic, usually three or more of such layers, with interleaved electrically-conductive material between various and selected electrically-insulative layers, and with specialized shapes or configurations for positive electrode connection between interleaved electrically-conductive material and outer terminal electrode material. An edge overlap structure or hole is shown for the positive electrical connection.

3,379,944
MOVEMENT CONTROL SERVOMECHANISM
Thomas Cayton Nuttall, Croydon, and Gerald Hamilton Askew, London, England, assignors to Rank-Bush Murphy Limited
Filed Apr. 26, 1965, Ser. No. 450,700
Claims priority, application Great Britain, Apr. 29, 1964, 17,691/64
10 Claims. (Cl. 318—18)

1. A movement control servomechanism comprising in combination: a movable member; electrically controllable drive means; means connecting said drive means to exert a force on said member to produce movement thereof; a source of reference impulses of predetermined periodicity; a source of control impulses of periodicity related to the movement of said member; phase error means deriving a signal representing a phase difference between applied signals; circuit means applying said reference impulses and said control impulses to said phase error means to develop a phase error signal; signal delay means operable to delay applied signals by one period

of said reference impulses; circuit means applying said phase error signal to said signal delay means; difference means yielding output signals representing differences between applied signals; circuit means applying said phase error signals and said delayed phase error signals to said difference means to develop a phase error difference signal; first adding means developing a velocity error signal proportional to the sum of one applied signal and of one-half a second applied signal; circuit means connecting said phase error difference signal to said first adding means as said one signal; second adding means developing a first control potential proportional to the sum of one-half a first applied signal and of a second signal; circuit means applying said velocity error signal to said second adding means as said first signal; circuit means applying said phase error signal to said second adding means as said second signal; nonlinear means yielding in response to an applied potential a second control potential linearly related to said applied potential within a predetermined amplitude range and related less than linearly to applied potentials exceeding said range; circuit means applying said first control potential to said nonlinear means; final adding means yielding a final control potential proportional to the sum of two applied signals; circuit means applying said second control potential and said velocity error signal to said final adding means; circuit means applying said final control potential to control said drive means; feedback means generating a signal proportional to said force exerted by said drive means; feedback delay means operating to delay an applied signal by one period of said reference impulses; circuit means applying said feedback signal to said feedback delay means and circuit means applying said delayed feedback signal to said first adding means as said other signal.



3,379,945
ALTERNATING CURRENT ELECTRIC MOTORS

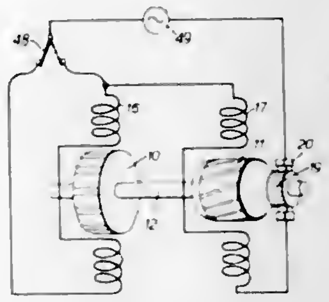
John Henry Mitchell, Rickmansworth, and Walter William Ralph Searle, Beaconsfield, England, assignors to The Hoover Company, North Canton, Ohio, a corporation of Ohio

Filed Nov. 2, 1964, Ser. No. 408,275

Claims priority, application Great Britain, Nov. 4, 1963, 43,495/63

20 Claims. (Cl. 318—46)

1. An alternating current electric motor assembly for driving a driven member, at two substantially different working speeds, including two motors both coupled to the driven member, whereof one, referred to as the high-speed motor, is constructed and coupled to the driven member to drive it at its high working speed, whilst the other is an induction motor constructed and coupled to the driven member so that its synchronous speed will correspond to a speed of the driven member in the region of its lower working speed, means for electrically connecting the motors in series, the motors being so designed that the maximum braking torque exerted on the driven member by the induction motor at supersynchronous speeds, added to the minimum load torque, exceeds the driving torque exerted on it by the high-speed motor at the corresponding speed to give a stable lower speed, and switch means for altering the circuit connections so as to remove or reduce the said braking torque to allow the high-speed motor to drive the driven member at its substantially higher working speed.



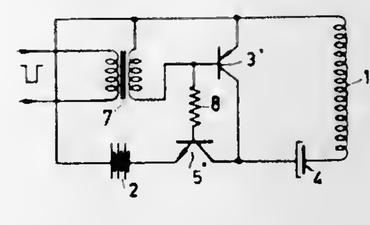
3,379,946
DEVICE INCLUDING AN ELECTRIC MOTOR WHEREIN A CAPACITOR IS CHARGED AND DISCHARGED THROUGH A MOTOR WINDING

Jacques Johannes Hendrik Croymans, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Feb. 10, 1965, Ser. No. 431,636

Claims priority, application Netherlands, Feb. 21, 1964, 64—1,622

4 Claims. (Cl. 318—138)



A stepping motor having a single energizing winding is provided with a pulsing circuit having a single pole double throw automatically returning to rest switch which, in first position pulses the energizing winding and charges a capacitor, and in second position, allows the capacitor to discharge through the energizing winding. The double pulsing allows the motor to take two steps for each switching operation.

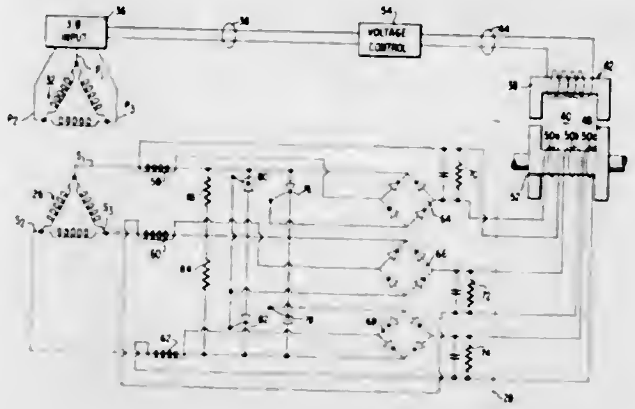
3,379,947
SPEED CONTROLLED WOUND ROTOR MOTOR HAVING CONTROL CIRCUIT MOUNTED ON ROTOR SHAFT

Earl E. Lalonde, 145 W. Sussex Ave., Missoula, Mont. 59801

Continuation-in-part of application Ser. No. 398,371, Sept. 22, 1964. This application June 28, 1967, Ser. No. 649,630

4 Claims. (Cl. 318—237)

A polyphase wound rotor motor which fully eliminates slip rings and their electronic equivalents. The polyphase wound rotor, the secondary of a speed transducer and the electronic control circuit are all mounted on the same rotating shaft. The stator and the primary of the speed transducer are mounted in the motor housing and are inductively coupled to the rotating components. The magnitude of the A.C. applied to the speed transducer controls the impedance across the rotor windings, and booster windings sense current changes in the rotor windings to maintain constant speed despite load variations.

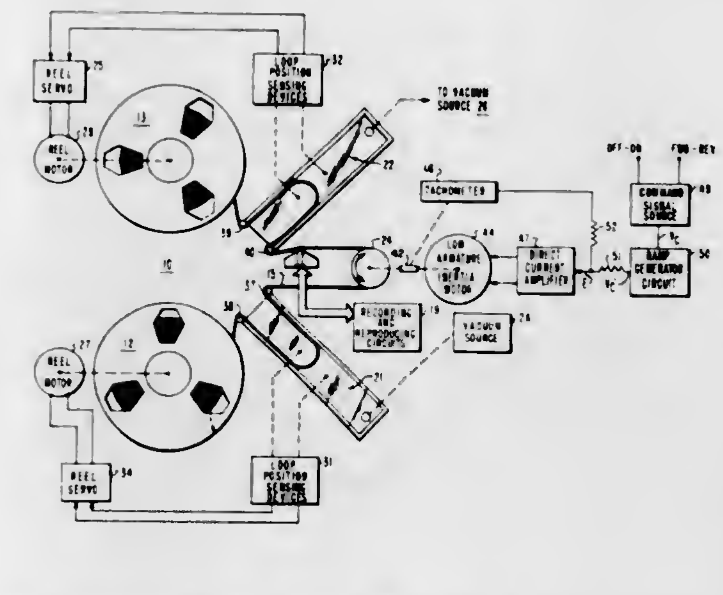


3,379,948
TAPE TRANSPORT DRIVE SYSTEM

Martyn A. Lewis, Culver City, Ben C. Wang, Los Angeles, and Robert A. Kleist, Woodland Hills, Calif., assignors to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Sept. 6, 1963, Ser. No. 307,161

12 Claims. (Cl. 318—253)



An electrical motor drive system for a motor having an output torque proportional to applied driving current which driving current is provided by a servo amplifier. The input signals to said servo being in the form of a ramp function responsive to the difference between desired motor speed and actual motor speed, and the slope of which is selected in accordance with desired acceleration and deceleration.

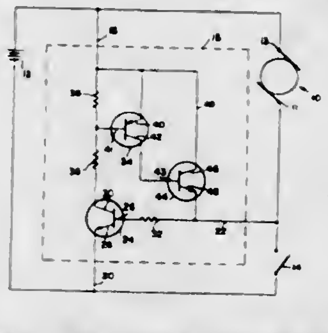
3,379,949
ELECTRONIC BRAKING CIRCUIT FOR ELECTRIC MOTOR

Carl D. Todd, Costa Mesa, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Apr. 26, 1965, Ser. No. 450,862

3 Claims. (Cl. 318—380)

A braking circuit for an electric motor comprising a switching circuit of solid-state components and associated current limiting resistors coupled in parallel with the terminals of the electric motor and with the power supply for the motor. An operating switch is secured in series between the power supply and one of the motor terminals. The circuit functions by sensing the interruption, when the switch is opened, of the electric power supplied to the motor for automatically providing a short circuit between the motor terminals. The motor with its terminals shorted produces a back EMF and the current developed thereby flows through the switching circuit to develop a magnetic field of a potential sufficient to retard the rotation of the motor. The parallel circuits are so provided that, when the switch is open, the motor will be shorted even when the motor armature has come to rest.

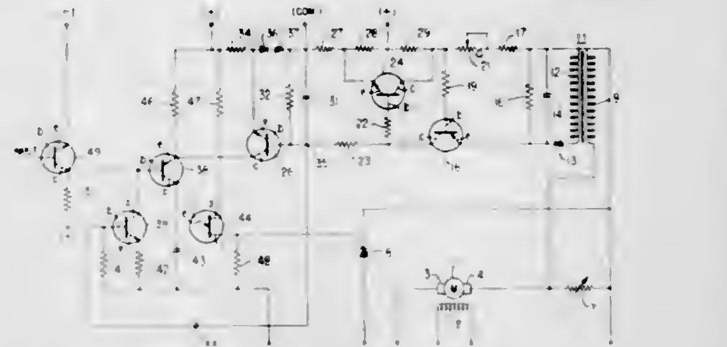


3,379,950
LOAD CONTROL CIRCUIT INCLUDING MEANS RESPONSIVE TO LOAD CURRENT IN EXCESS OF A PREDETERMINED AMOUNT FOR INCREASING SAID LOAD CURRENT

Leslie E. Friedline, Mentor, Ohio, assignor to Bailey Meter Company, a corporation of Delaware

Filed July 6, 1965, Ser. No. 469,558

9 Claims. (Cl. 318—434)



1. A current control system, comprising:
an electric load;
means connected to said load and responsive to the flow of current through said load;
a switch electrically coupled to said current responsive means and producing an output signal proportional to the current flow through said load in excess of a predetermined value;
current control means connected to said switch and responsive to the output therefrom to increase the current flow in said electric load; and
current limiting means connected to said switch and responsive to the output therefrom to cut back the current through said load after it has exceeded a predetermined value for a predetermined period of time.

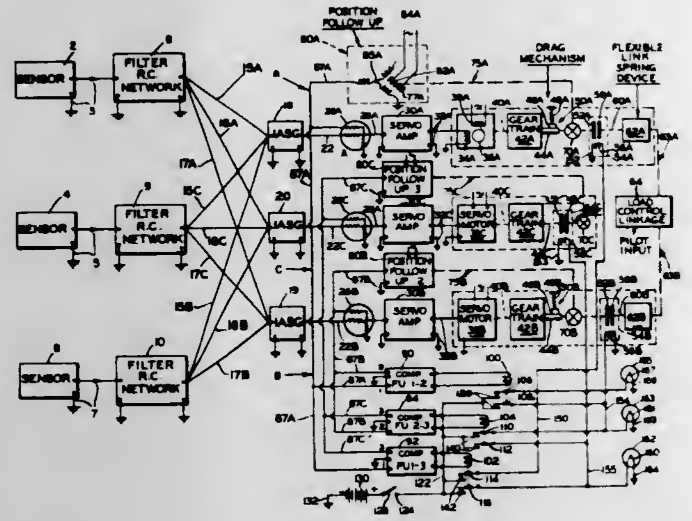
3,379,951
FAIL OPERABLE SERVOMECHANISM FOR AN AUTOMATIC FLIGHT CONTROL SYSTEM

Louis J. Franchi, Cresskill, Ralph Sellite, Montvale, and James E. Bulloch, Lake Hiawatha, N.J., assignors to Bendix Corporation, Teterboro, N.J., a corporation of Delaware

Filed Nov. 30, 1964, Ser. No. 414,564

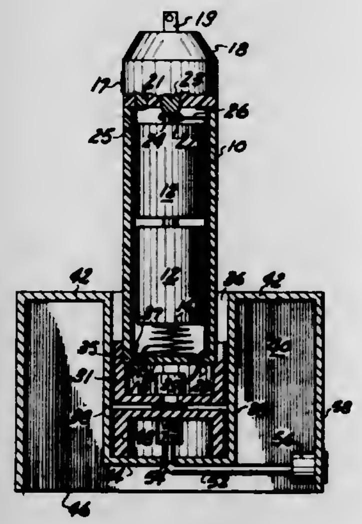
10 Claims. (Cl. 318—489)

A fail operative apparatus for an automatic flight control system including a plurality of redundant servomechanisms operatively coupled to the flight control system, together with comparison means operable by the servomechanisms, and means operable by the comparison means



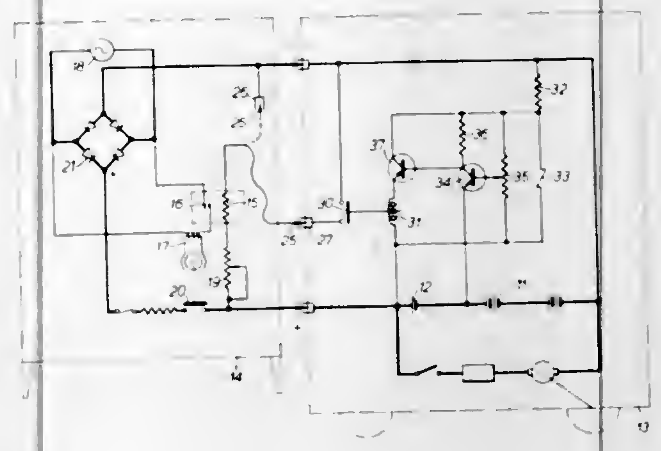
for disconnecting one of the servomechanisms from the control system upon a failure to operate while other of said servomechanisms remain operatively coupled to the flight control system.

3,379,952
ELECTRIC TOOTHBRUSH WHICH IS RECHARGEABLE WITH OR WITHOUT A RECHARGING STAND
Emanuel B. Tarrson, Highland Park, Ill.
(540 N. Lake Shore Drive, Chicago, Ill. 60611)
Filed Aug. 24, 1965, Ser. No. 482,252
8 Claims. (Cl. 320—2)



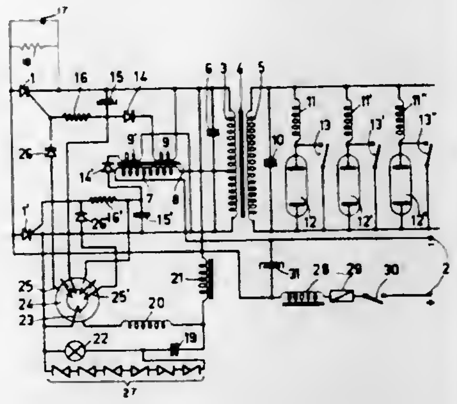
An electric toothbrush having a handle with a self-contained rechargeable low voltage power unit, a stand in which the handle may be stored when the toothbrush is not in use, and a low voltage cord adapted to be connected either into the toothbrush handle or into the stand. The low voltage cord has a low voltage power pack at one end with a plug adapted to be inserted into a conventional electrical outlet. When the low voltage cord is connected directly to the handle of the toothbrush, it furnishes power for operating the toothbrush and recharging the power unit. When connected to the stand, the cord supplies electrical power for recharging the power unit when the handle is in the stand.

3,379,953
AUTOMATIC BATTERY CHARGING SYSTEMS
Braham Rowley Field, Redditch, England, assignor to Alkaline Batteries Limited, Redditch, England, a company of Great Britain
Filed May 12, 1965, Ser. No. 455,138
Claims priority, application Great Britain, May 19, 1964, 20,641/64
6 Claims. (Cl. 320—34)



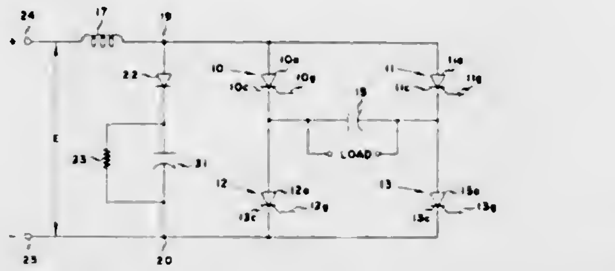
An automatic battery charging system is described for charging a plurality of nickel-iron cells in series with at least one nickel-cadmium cell. The characteristic sharp voltage increase towards the end of the charging period in a nickel-cadmium battery serves, by means of an amplifier which compares this voltage against a standard voltage, to actuate a timing device. The timing device in turn, after a preselected period of time, operates a switch to shut off the charging apparatus. Automatic charging of nickel-iron batteries without the nickel-cadmium battery is not possible since there is no characteristic voltage increase a short time before complete charging of the batteries.

3,379,954
DEVICE COMPRISING AN INVERTER AND AN INPUT FILTER FOR THE SAID INVERTER
Theodorus Hehenkamp, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Aug. 10, 1965, Ser. No. 478,589
Claims priority, application Netherlands, Aug. 11, 1964, 64—9,205
3 Claims. (Cl. 321—14)



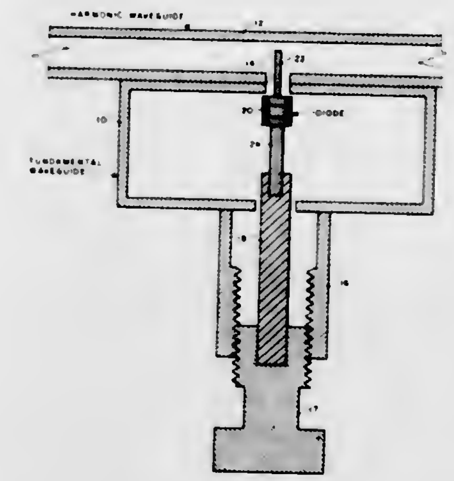
A device for turning off an inverter circuit in response to a power line disturbance before the line fuse is triggered is constructed with a resonant circuit connected between the supply and the inverter circuit. The inductance of the resonant circuit is set so as to be at least 4.62 times the input inductance of the inverter circuit.

3,379,955
APPARATUS FOR PROTECTING THE SWITCHING ELEMENTS OF STATIC INVERTERS FROM TRANSIENT VOLTAGES
Philip W. Koetsch, Marietta, Ga., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Nov. 17, 1964, Ser. No. 411,806
6 Claims. (Cl. 321—45)



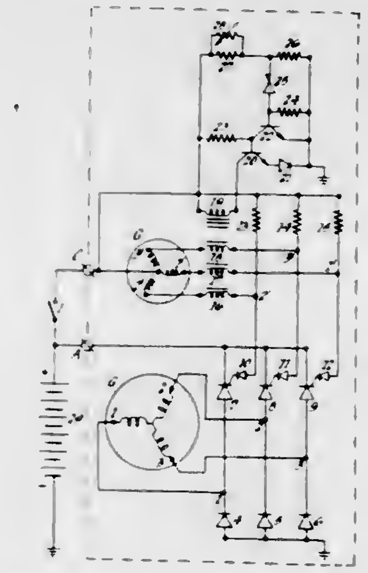
A static inverter of the type using controlled rectifier switching elements subject to damage by the application of an excessive voltage to the switching elements while in a non-conductive state. The input side of the switching bridge is shunted by a series circuit including a capacitance and a diode. During steady-state operation of the inverter the capacitance becomes charged approximately to the input voltage. The occurrence across the bridge input of a transient voltage in excess of the normal voltage across the capacitance causes the diode to conduct so that the transient voltage is shunted by the series circuit. After steady-state conditions return, the charge added to the capacitance is removed either by dissipation in a resistance or by being selectively gated into the bridge input circuit.

3,379,956
FLOATING DIODE HARMONIC MULTIPLIER
James W. Battles, Riverside, Delbert E. Crane, Norco, Robert W. Yancey, Riverside, and John R. Alday, Corona, Calif., assignors to the United States of America as represented by the Secretary of the Navy
Filed Aug. 26, 1966, Ser. No. 576,184
6 Claims. (Cl. 321—69)



1. A harmonic generator for waveguide frequencies comprising:
- (a) a first section of waveguide for covering fundamental input frequencies,
- (b) a second section of waveguide for covering output harmonic frequencies,
- (c) said first and second sections of waveguide being joined together along adjacent sides thereof with a coupling aperture between common sides,
- (d) a microwave diode assembly having a crystal diode and at least one harmonic probe extending therefrom,
- (e) adjustable positioning means including a dielectric support being mounted on an outside wall of said first waveguide section for adjustably supporting said diode assembly on said dielectric support within said first section of waveguide,
- (f) said at least one harmonic probe extending through said coupling aperture into said second section of waveguide, wherein fundamental energy fed into said first section of waveguide is coupled into said diode and converted into a harmonic of the fundamental, and said harmonic then coupled into said second section of waveguide by said at least one probe.

3,379,957
A.C. BATTERY-CHARGING GENERATOR WITH REGULATING SYSTEM
Antonio Guglielmi, Bologna, Italy, assignor to Ducati Elettrotecnica S.p.A., Bologna, Italy
Filed July 6, 1965, Ser. No. 469,787
Claims priority, application Italy, July 6, 1964, 15,371/64
7 Claims. (Cl. 322—29)

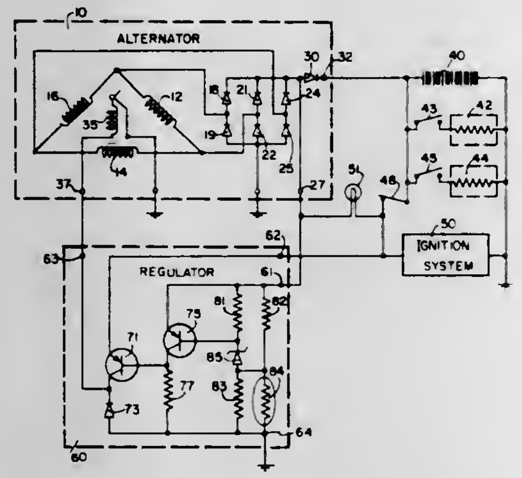


1. An electric three-phase A.C. generator in combination with a regulator for battery recharging, comprising a rotor containing permanent magnets and a stator having three principal power windings Y-connected to each other and three auxiliary windings Y-connected to each other; the said principal windings being connected to a three-phase bridge formed by three rectifier diodes and three controlled diodes, and means for connecting said three Y-connected auxiliary windings to said three controlled diodes with each controlled diode connected respectively to one of said auxiliary windings.

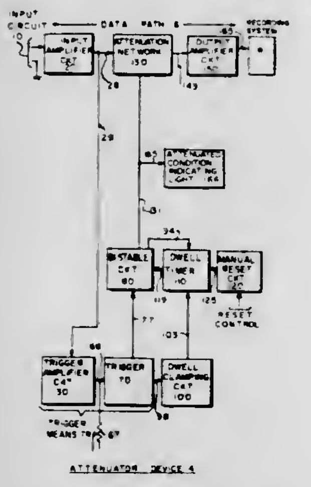
3,379,958
TRANSISTORIZED VOLTAGE REGULATOR PROVIDING REVERSE BIAS FOR OUTPUT TRANSISTOR
Jerome P. Frysztak, Glendale Heights, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed June 25, 1964, Ser. No. 377,847
2 Claims. (Cl. 322—59)

Transistorized voltage regulator for alternator-rectifier DC generator having output connected through isolation diode to the battery for charging the same. The output transistor of the regulator controls the current to the field of the alternator in accordance with the output voltage.

When the output transistor is cut off, the voltage drop across the isolation diode is applied to reverse bias the output transistor so that it cuts off rapidly and leakage current therethrough at high temperatures is prevented.



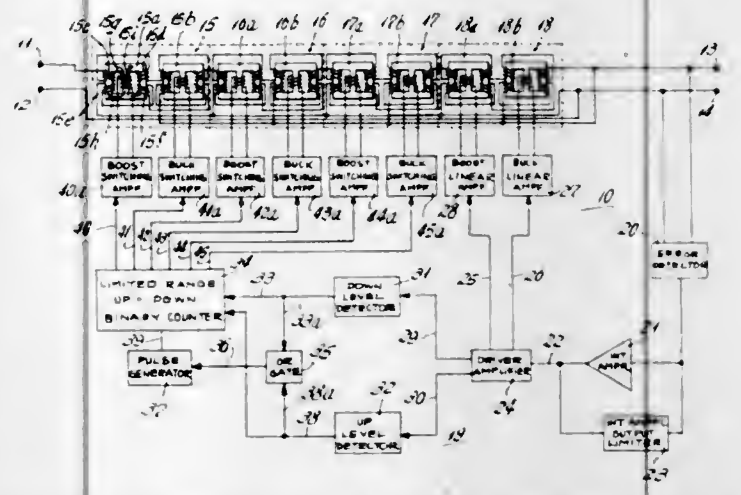
3,379,959
AUTOMATIC ATTENUATOR DEVICE
Thomas J. Kruszka, Woodson Terrace, Mo., assignor to Sangamo Electric Company, Springfield, Ill., a corporation of Delaware
Filed Apr. 30, 1965, Ser. No. 452,254
6 Claims. (Cl. 323—22)



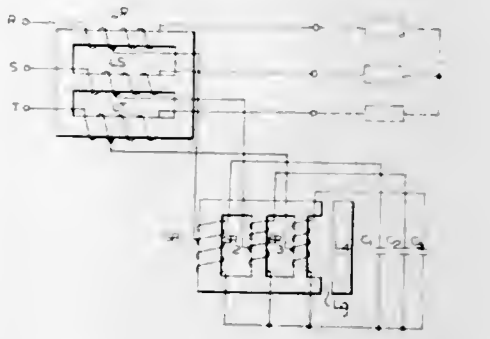
An automatic signal attenuator having high speed switching characteristics in the order of one microsecond for reducing the signal level in a data channel as a step function whenever a predetermined level is exceeded, and including dwell timer means to permit selection of a dwell period for which attenuation is maintained subsequent to input signal decrease below the preset level. Manual reset is used with an indefinite dwell time.

3,379,960
AUTOMATIC VOLTAGE REGULATOR WITH BUCK-BOOST TRANSFORMERS
Joseph C. May, Cheshire, Conn., assignor to The Superior Electric Company, Bristol, Conn., a corporation of Connecticut
Filed Jan. 19, 1966, Ser. No. 521,723
9 Claims. (Cl. 323—45)

1. An automatic voltage regulator comprising input terminals connectible to a source of A.C.; output terminals at which a desired value of output voltage is maintained substantially constant; a digital unit for supplying a corrective voltage of a set value and having at least a first condition wherein its corrective voltage is additive and a second condition wherein its corrective voltage is subtractive; an analog unit for providing an adjustable value of corrective voltage; means serially interconnecting the two units between the input and output terminals; means for providing a deviation signal related to the deviation of the output voltage from a desired value; switch means connected to said digital unit and responsive to a signal for causing said unit to change from one of its conditions to the other; adjusting means connected to the analog unit and connected to receive said deviation signal and to adjust its value of corrective voltage within its maximum corrective voltage range in response to the value of the deviation signal: means for supplying said deviation signal continuously to said adjusting means; and means for supplying a signal to the switch means whenever the deviation signal to said adjusting means is greater than the value required to provide substantially the maximum corrective voltage of the analog unit.

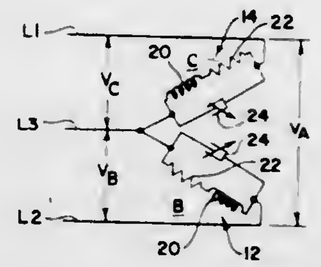


3,379,961
THREE-PHASE LINE VOLTAGE REGULATOR
Hiroshi Kobayashi, Kawasaki, Eijiro Miyazawa, Mitaka and Kiyoshi Hisano, Tokyo, Japan, assignors to Yawata Iron & Steel Co., Ltd., Tokyo, Japan, a corporation of Japan
Filed Nov. 25, 1964, Ser. No. 413,924
3 Claims. (Cl. 323—76)



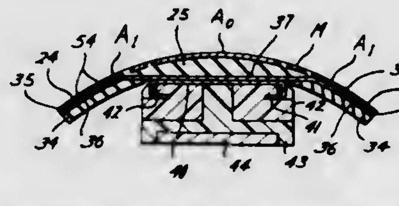
A ferro-resonance type three-phase line voltage regulator, comprising three linear reactors adapted to be inserted between three input terminals of a three-phase alternating current source and three load terminals respectively, a tap on each of the windings of said linear reactors intermediate the ends of the respective reactor on which the tap is located, a four leg type magnetic core consisting of three saturation reactors, one on each one of three legs of said four leg type magnetic core and the fourth leg having no winding on it, said fourth leg parallel to and having the ends thereof spaced from said three legs by an air gap and three condensers, the three windings of said saturation reactors connected in parallel with the three condensers respectively, with each reactor and condenser together forming a ferro-resonance tank circuit, the respective one ends of the tank circuits being Y-connected and the other ends being connected to said taps on the windings of the linear reactors respectively, whereby the output voltage at the load terminals is kept constant.

3,379,962
METHOD OF BALANCING A THREE-PHASE SYSTEM FOR AN INDUCTION HEATING INSTALLATION
Robert J. Kasper, Seven Hills, Ohio, assignor to Park-Ohio Industries, Inc., a corporation of Ohio
Filed Sept. 20, 1965, Ser. No. 488,500
4 Claims. (Cl. 323—128)



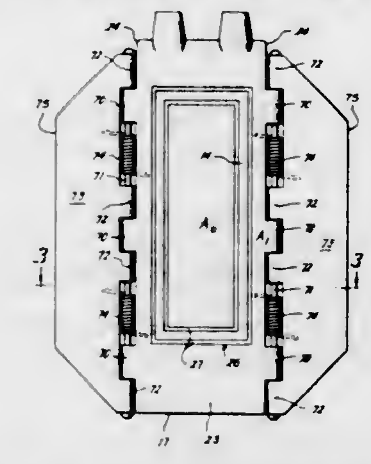
1. A method of balancing a three phase electrical system connected in delta and having successive phases A, B, and C, said system being used to energize two induction heating stations, each station including resistance, inductive reactance and capacitive reactance, one of said stations being connected across phase B, and the other of said stations being connected across phase C, and phase A being unloaded, said system including lead-in lines L1, L2, and L3 with L1 connected at the junction of phases C and A, L2 connected at the junction of phases A and B, and L3 connected at the junction of B and C whereby the current in L1 equals the vector sum of the currents in phases C and A, the current in L2 equals the vector sum of the currents in phases A and B and the current in L3 equals the vector sum of the currents in phases B and C, said method comprising the step of: adjusting the reactance in phases B and C so that the currents in theses phases are displaced from each other by approximately 60°.

3,379,963
WELL LOGGING PAD MEMBER CONSTRUCTED TO CONFORM TO BOREHOLE WALL CURVATURE
Dean F. Saurenman, Friendswood, Tex., assignor, by mesne assignments, to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas
Filed Apr. 2, 1965, Ser. No. 445,087
13 Claims. (Cl. 324—10)



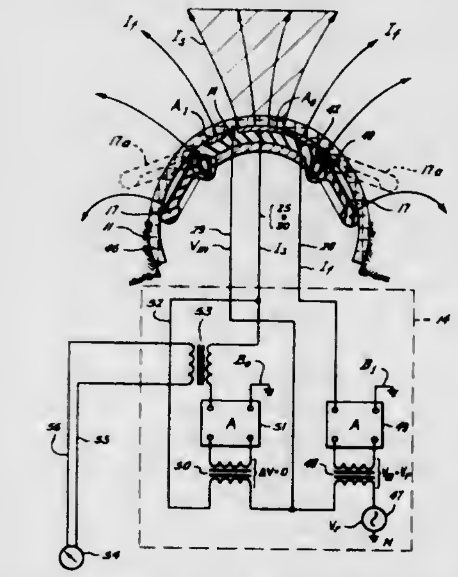
This disclosure shows a borehole wall-engaging pad member having electrodes which can be utilized to investigate earth formations traversed by a borehole. The pad member has a central relatively stiff portion and two adjacent pad portions which are constructed to flex or bend with respect to the central portion. To accomplish this, a metal sheet, which may be perforated is embedded in an elastomeric material which is of a conductive nature on the borehole wall-engaging face of the adjacent pad portions. The metal sheet provides rigidity and springiness to the adjacent pad portions as well as providing an equal potential distribution to the conductive elastomeric material.

3,379,964
WELL LOGGING PAD STRUCTURE HAVING PIVOTALLY INTERCONNECTED MEMBERS
Francis F. Segesman, Ridgefield, Conn., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas
Filed Apr. 2, 1965, Ser. No. 445,190
12 Claims. (Cl. 324—10)



This disclosure shows a borehole wall-engaging pad structure having earth formation exploring means which can be utilized to investigate earth formations traversed by a borehole. The pad structure comprises a central pad member and separate auxiliary pad members adjacent to the central pad members, the pad members having electrodes on the forward borehole wall-engaging faces thereof. The auxiliary pad members are hinged to the central pad member for rotation with respect thereto, and spring biased to be urged toward the borehole wall so that the pad structure, as a whole, may more nearly conform to the curvature of the borehole wall.

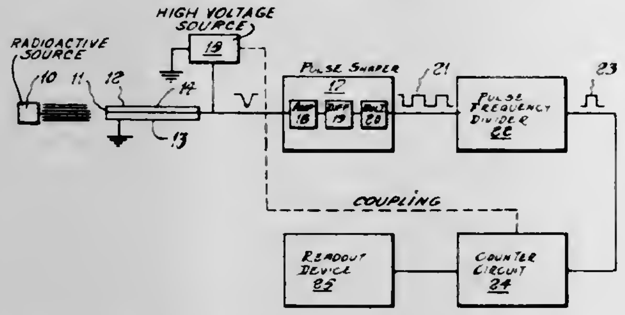
3,379,965
APPARATUS FOR INVESTIGATING EARTH FORMATIONS INCLUDING A FLEXIBLE PAD MEMBER HAVING AN INVESTIGATING MEANS AND LONGITUDINALLY EXTENDIBLE HINGING MEANS FOR ROTATING PORTIONS OF THE PAD MEMBER
Denis R. Tanguy, Houston, Dean F. Saurenman, Friendswood, and John E. Key, Houston, Tex., assignors to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas
Continuation of application Ser. No. 461,392, June 4, 1965. This application June 28, 1967, Ser. No. 649,746
14 Claims. (Cl. 324—10)



In accordance with an illustrative embodiment of the invention, a wall-engaging pad member having earth formation exploring means is constructed in a manner that adjacent portions of the pad member can bend with respect to the central portion thereof. To accomplish this, a fluid-filled bladder is situated in a hollow chamber located between the different portions of the pad member. This fluid-filled bladder acts to maintain the adjacent pad portions in an outward position with respect to the central pad portion, but is displaceable in response to force being applied to the adjacent pad portions so that the pad member as a whole may more nearly conform to the radius of curvature of the borehole wall.

3,379,966
APPARATUS FOR THE MEASUREMENT OF PLATEAU SLOPE OF GEIGER-MÜLLER TUBES

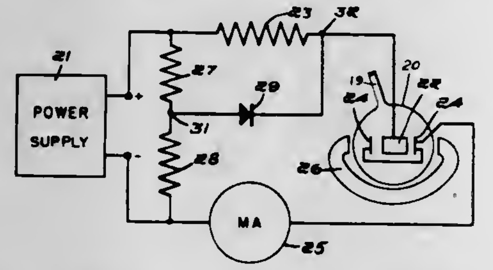
Robert M. Decker, West Hempstead, Robert Jehle, Jackson Heights, and Selam K. Veisel, Brooklyn, N.Y., assignors to the United States of America as represented by the Secretary of the Navy
Filed Nov. 3, 1964, Ser. No. 408,705
4 Claims. (Cl. 324—24)



An apparatus for plateau slope measurement of G-M tubes which includes a source of radioactive radiation directed toward a G-M tube to which is applied a selective high potential. The output pulses of said tube are applied to a pulse shaper and then divided down before application to a counter circuit and a readout indicator. The frequency counter is provided with a combination of resistors which alter the time constant thereof and when the switch for these resistors is coupled or coacted with the selectale tube potential for two values, the output indicator will show directly whether the G-M tube is operating (slope) properly and is within any desired specification limits.

3,379,967
VACUUM GAUGE INCLUDING A COLD CATHODE IONIZATION TUBE

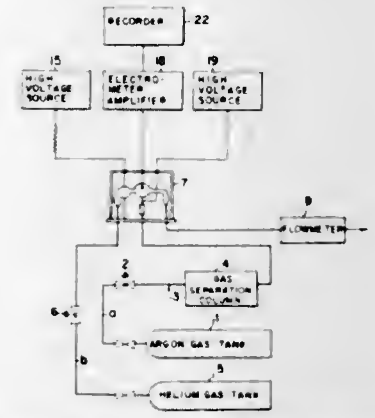
Peter Herrwerth, Walscheid, and Günter Reich, Cologne-Zollstock, Germany, assignors to Leybold Holding AG, a joint-stock company of Switzerland
Filed June 17, 1964, Ser. No. 376,307
9 Claims. (Cl. 324—33)



A vacuum gauge includes a cold cathode ionization tube having a protective resistor connected in series with the anode and a micro-ammeter connected in series with the cathode for measuring the tube current. The above series combination is connected across a voltage source, the positive terminal of the voltage source being connected to the anode circuit and the negative terminal to the cathode circuit. A voltage divider circuit is connected in parallel with the series combination and with the voltage source. A rectifier is connected between an intermediate point of the voltage divider circuit and a junction between the protective resistor and the anode, permitting current flow only when the potential at the junction is lower than that at the intermediate point on the voltage divider circuit. When the current through the tube increases to a certain value current flows through the rectifier circuit in parallel with the protective resistor. In a second embodiment, a second rectifier circuit is connected between a different intermediate point in the voltage divider circuit and an intermediate point on the protective resistor. In a third embodiment, a second voltage divider circuit is connected in parallel with the series combination and the first voltage divider circuit; and a second rectifier is connected between an intermediate point on the second voltage divider circuit and the junction between the protective resistor and the tube anode.

3,379,968
METHOD AND MEANS FOR DETECTION OF GASES AND VAPORS

Mikiya Yamane, 27 of 201 Kunitachi, Kunitachi-machi, Kitatama-gun, Tokyo-to, Japan
Continuation of application Ser. No. 315,011, Oct. 9, 1963. This application Aug. 7, 1967, Ser. No. 658,949
Claims priority, application Japan, Oct. 13, 1962, 37/45,419
4 Claims. (Cl. 324—33)

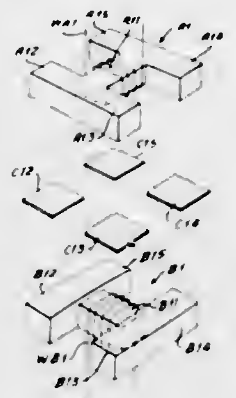


1. A device for detecting gases and vapors by ionization due to irradiation of primary electrons generated by the ionization action of an electric discharge, comprising a discharge chamber; a sensing chamber connected to said discharge chamber by a constricted and concentrically aligned connector; a pair of discharge electrodes disposed in said discharge chamber in mutually opposed position facing in the direction of said connector; a first power source; one of said electrodes being connected to the negative terminal of said first power source; the other electrode being grounded; a discharge gas inlet leading into said discharge chamber in the direction of its center axis; a carrier gas inlet leading in the direction of the center axis of said sensing chamber for the introduction of a sample gas therein; an anode and an opposing cathode disposed in said sensing chamber; a second power source; said anode being connected to the positive terminal of said second power source; said cathode being connected to a circuit for measuring electric current due to ionization of said sample gas; and gas outlet means from said discharge chamber and said sensing chamber.

3,379,969
MAGNETIC BRIDGE MEANS FOR DETECTING THE ELECTRICAL PROPERTIES OF SUBSTANCES

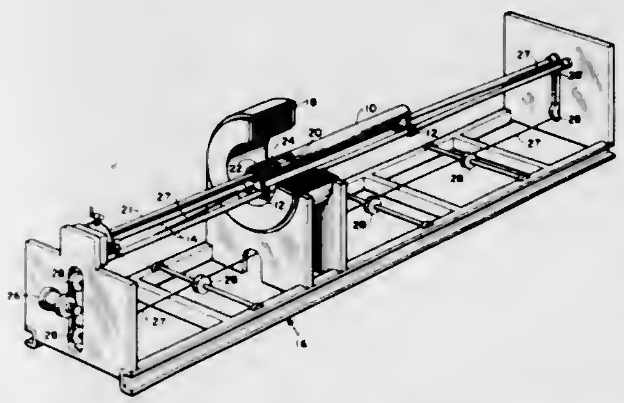
Otto Henry Zinke, 817 N. Jackson Drive, Fayetteville, Ark. 72701
Continuation of application Ser. No. 301,133, Aug. 9, 1963. This application Nov. 25, 1966, Ser. No. 597,167
9 Claims. (Cl. 324—34)

A magnetic device for detecting and measuring the electrical properties of substances including a magnetic bridge circuit defined by similar parallel magnetic paths each having at least one air gap therein for positioning a member having predominately electrical characteristics to be measured, means for establishing varying magnetic flux in said parallel magnetic paths, other means connected between intermediate points of said parallel paths including a shunt flux path and means for detecting the flux in said shunt path, and a specimen having predominately electrical characteristics positioned in an air gap in each parallel flux paths whereby eddy currents are induced therein by the varying flux, differences in the electrical characteristics of the specimens in said paths causing detectable flux to be produced in the shunt flux path.



3,379,970
MAGNETIC CRACK DETECTOR FOR FERROMAGNETIC TUBING

Felix N. Kusenberger, Herman F. Barsun, and Joseph W. Fogwell, San Antonio, Tex., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed May 10, 1965, Ser. No. 454,756
1 Claim. (Cl. 324—37)

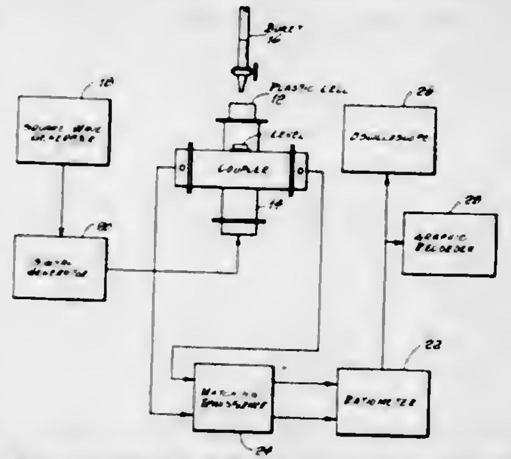


A magnetic device for nondestructive inspection of metal tubing to detect fatigue cracks, voids, and defects by moving tubing over a stationary magnetic coil that is vibrated by an ultrasonic transducer.

3,379,971
MICROWAVE MEANS AND METHOD FOR MEASURING THE ELECTROLYTIC CONTENT OF SOLUTIONS

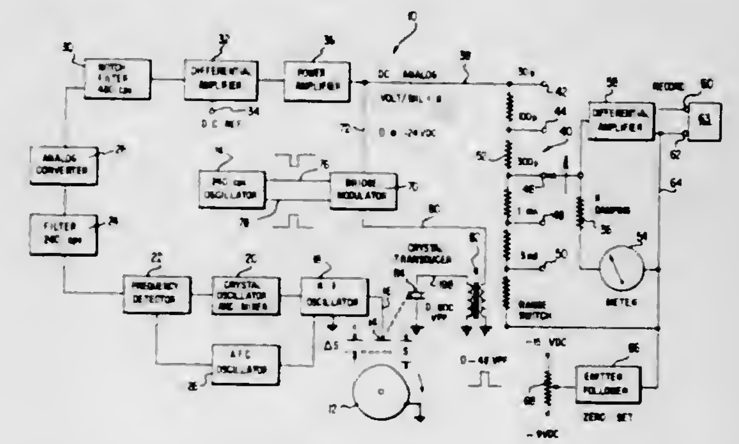
Anthony A. Albanese, Harrison, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Mar. 16, 1965, Ser. No. 440,335
2 Claims. (Cl. 324—58.5)

Microwave reflection analysis is applied to measure the dielectric constant and thus the water content of liquid biologic samples wherein the frequency of the microwave generator is set at 3000 megacycles while the liquid level is varied to obtain a minimum reflectance value for the liquid sample. From the minima established, the dielectric constant of the liquid and the water content of the sample are derived through matching with known samples.



3,379,972
NON-CONTACTING DISPLACEMENT GAUGE HAVING A FEEDBACK MEANS FOR CONTROLLING THE VIBRATION AMPLITUDE OF THE PROBE

George B. Foster, Worthington, and Kenneth A. Ostrander and Hall Cary, Columbus, Ohio, assignors, by mesne assignments, to Reliance Electric and Engineering Company, Cleveland, Ohio, a corporation of Ohio
Filed Dec. 26, 1963, Ser. No. 333,335
14 Claims. (Cl. 324—61)



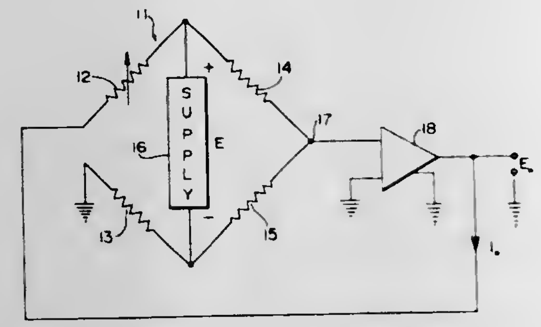
A non-contact transducer system is described having a non-contact probe element which responds to the distance from an object under inspection, a driver to impart a controlled calibrating vibration to the probe, signal processing circuitry including a feedback circuit for adjusting the calibrating vibration so that the probe output is maintained constant, and measurement circuitry for measuring the value of the feedback signal whereby there is obtained an output analog linearly related to the distance between the probe and object under inspection. The driver disclosed is a piezoelectric crystal device having a number of layers of piezoelectric material separated by conductive layers. Electrical oscillation is coupled to the driver by electrode layers overlying the crystal layers.

3,379,973
IMPEDANCE MEASURING CIRCUIT HAVING THE UNKNOWN IMPEDANCE IN THE FEEDBACK PATH OF AN AMPLIFIER

John F. Walton, McLean, Va., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware
Continuation-in-part of application Ser. No. 255,044, Jan. 30, 1963. This application Jan. 10, 1966, Ser. No. 519,633
21 Claims. (Cl. 324—62)

1. An impedance measuring circuit comprising an impedance bridge having an impedance to be measured

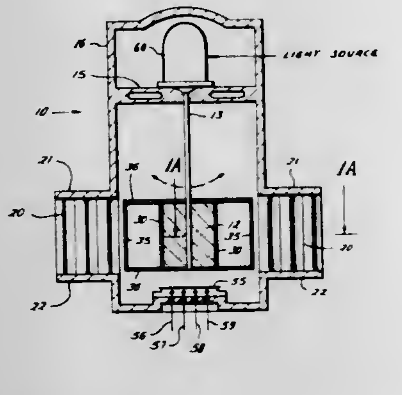
connected in one arm of said bridge, and means for maintaining a constant current in said one arm of said bridge so as to maintain said bridge in a balanced condition despite variations in said impedance to be measured.



said means for maintaining including means for deriving an error voltage indicative of the degree of bridge imbalance, and means for applying said error voltage in series with said impedance to be measured.

3,379,974
PARTICLE DETECTION APPARATUS INCLUDING A BALLISTIC PENDULUM

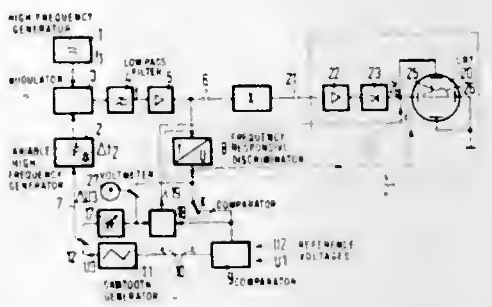
Hugh L. Dryden, Deputy Administrator of the National Aeronautics and Space Administration, with respect to an invention of Leonard M. Snyder, Pasadena, Calif.
Filed Nov. 10, 1965, Ser. No. 507,254
8 Claims. (Cl. 324—70)



1. A micrometeorite detection system, said system comprising a ballistic pendulum;
- a housing for enclosing and supporting said pendulum, said pendulum comprising a pendulous mass adapted to absorb impacting micrometeoritic particles by inelastic collision, and a spring means supporting said particle-absorbing pendulous mass within said housing and providing a restoring force for said pendulum;
- means limiting entry into said housing to only those micrometeorites which are traveling substantially perpendicular with respect to the axis of the pendulum and are on a collision course with said particle-absorbing pendulous mass;
- means for producing electrical signals representative of the direction and magnitude of pendulum deflection produced by a micrometeoritic impact with the particle-absorbing mass; and
- means for producing electrical signals indicative of the time of flight of a micrometeorite between two points on the pendulum prior to its impact with the particle-absorbing mass.

3,379,975
SWEEP FREQUENCY LIMIT ADJUSTING CIRCUITS FOR SWEEP GENERATOR TESTING APPARATUS

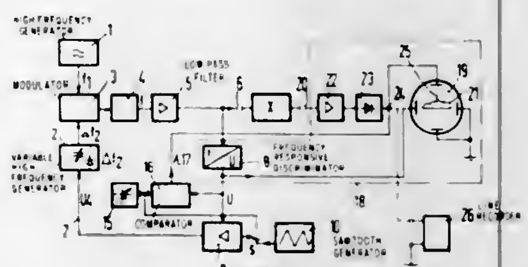
Martin Niedereder, Munich-Solln, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany
Filed Sept. 29, 1965, Ser. No. 491,245
Claims priority, application Germany, Sept. 30, 1964, S 93,510
7 Claims. (Cl. 325—131)



A wobble transmitter with electronic frequency control having a frequency-determining circuit element controllable in its characteristic values by a period wobble voltage with predetermined time sequence and with ascending and descending flanks, the wobble transmitter comprising, means for producing a transmitting frequency, discriminator means for deriving a direct current voltage from the transmitting frequency, comparator means for producing an output pulse in response to the amplitude of the instantaneous value of the direct current voltage and a first adjustable reference voltage, and wobble voltage generator means responsive to the output pulse within the period of the wobble voltage to produce a first or a second reversal point of the wobble voltage.

3,379,976
SWEEP GENERATOR WITH SWEEP LINEARITY CONTROL

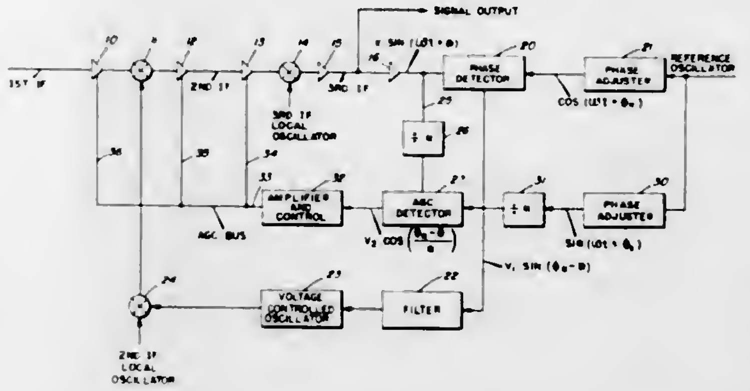
Martin Niedereder, Munich-Solln, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany
Filed Sept. 29, 1965, Ser. No. 491,281
Claims priority, application Germany, Sept. 30, 1964, S 93,511
6 Claims. (Cl. 325—131)



A wobble transmitter with electronic frequency control including a frequency-determining circuit element that is controllable in its characteristic values by means of a periodic wobble voltage with predetermined time sequence, comprising means for producing a variable transmitting frequency, discriminator means for deriving a voltage from the transmitting frequency, means for rectifying the voltage, a sawtooth voltage generator for generating a sawtooth voltage, a differential amplifier responsive to the sawtooth voltage and the rectified voltage for supplying the wobble voltage to the frequency determining circuit element, an adjustable DC source, comparator means responsive to the rectified voltage and the adjustable DC source for generating a marking pulse and an allocated evaluating device responsive to said marking pulse for producing a frequency marker.

3,379,977
EXTENDED RANGE AGC

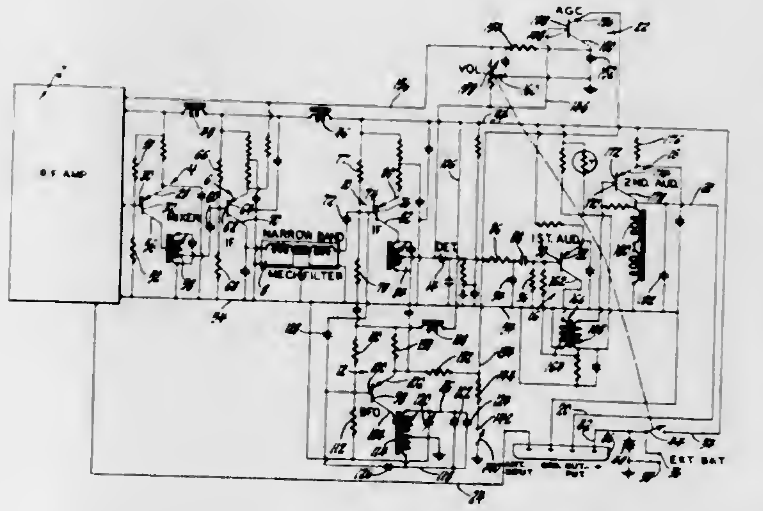
Eugene F. Osborne and Leslie D. Thomas, Baltimore, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed June 10, 1964, Ser. No. 374,211
13 Claims. (Cl. 325—399)



This disclosure is directed to a phase-lock tracking receiver with AGC detection. In this device an IF signal is received and fed through mixers and amplifiers to a first phase detector where it is compared with a reference signal. A difference signal is fed from the detector to a local oscillator and thence to one of the mixers to adjust the phase of the IF signal. The output of the amplifiers is also connected to a frequency divider and a detector. A reference signal is also connected to the detector. The output of the detector, which is a function of the amplitude of the IF signal and the phase difference between the IF signal and the reference signal is fed to the AGC where it is modified. The output of the AGC is connected to adjust the gain of the amplifiers and consequently the amplitude of the IF signal. This system is advantageous because it provides excellent stabilization of receiver gain in the presence of larger phase error.

3,379,978
COMBINATION AGC DELAY AND BFO DISABLING CIRCUIT FOR RADIO RECEIVER

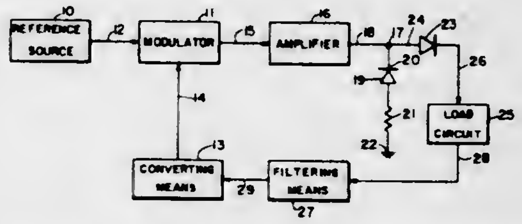
Richard L. Jenkins and Charles A. Harmon, Kokomo, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 10, 1964, Ser. No. 417,427
3 Claims. (Cl. 325—399)



A radio receiver adapted for coded CW or voice signal reception. Selection is made by a switch which oppositely affects a beat frequency oscillator and an AGC circuit.

3,379,979
CONTROL APPARATUS FOR PRODUCING CONSTANT ENERGY PULSES

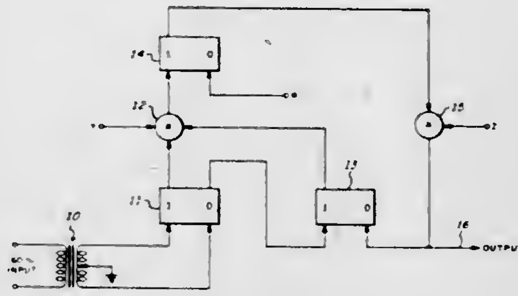
Vernon H. Aske, Hopkins, Minn., assignor to Honeywell Inc., a corporation of Delaware
Filed Dec. 23, 1963, Ser. No. 332,723
6 Claims. (Cl. 328—59)



1. Apparatus for producing constant energy pulses comprising: a reference source providing an output signal having a substantially constant magnitude; converting means for converting a varying magnitude input signal to an output signal having a frequency which varies relative to the magnitude of said input signal; modulator means connected to receive said output signal from said reference source and said output signal from said converting means and providing a signal the magnitude of which is dependent upon said output from said reference source and the frequency of which is dependent upon the output signal from said converting means; a load circuit connected to receive said signal provided by said modulator means; filtering means connected to receive the signal applied to said load circuit and providing a signal indicative of the average energy content of the signal applied to said load circuit means connecting said signal provided by said filtering means to said converting means.

3,379,980
PULSE GENERATOR OF LOW FREQUENCY PULSE TRAIN SYNCHRONOUS TO HIGH FREQUENCY CLOCK PULSE SOURCE

John J. King, Jericho, N.Y., assignor to Sperry Rand Corporation, a corporation of Delaware
Filed Nov. 30, 1965, Ser. No. 510,517
3 Claims. (Cl. 328—63)



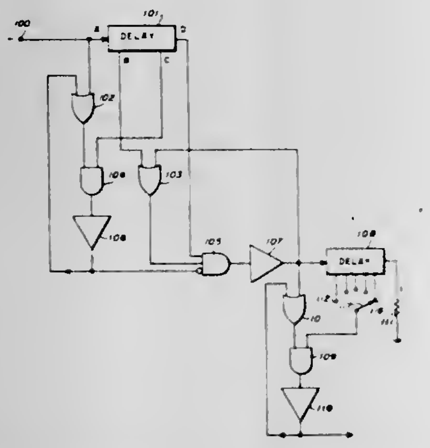
1. A pulse generator comprising
- (1) first flip flop means having first and second input terminals adapted to be responsive to a low frequency reference sinusoid signal for providing binary one and zero signals at first and second output terminals respectively in accordance with positive and negative excursions of said reference sinusoid signal;
- (2) second flip flop means having a first input terminal connected to said second output terminal of said first flip flop, a second input terminal, and an output terminal for providing a binary one signal;
- (3) AND gate means having a first input terminal connected to said first output terminal of said first flip flop and another input terminal connected to said output terminal of said second flip flop and another input terminal responsive to the Y-phase of a high frequency three-phase clock source and also having an output terminal,

(4) third flip flop means having a first input terminal connected to said output terminal of said AND gate and a second input terminal responsive to the W-phase of said high frequency three-phase clock source and having an output terminal for providing a binary one signal; and

(5) another AND gate means having a first input terminal connected to said output terminal of said third flip flop and another input terminal responsive to the Z-phase of said high frequency three-phase clock source and having an output terminal connected to said second input terminal of said second flip flop and also adapted to provide an output signal for each cycle of said low frequency reference sinusoid signal.

3,379,981
PULSE WIDTH DISCRIMINATOR

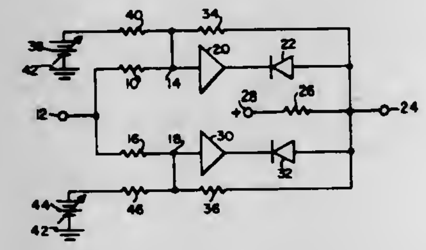
Bernarr H. Humpherys, Escondido, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Feb. 4, 1965, Ser. No. 430,505
5 Claims. (Cl. 328—112)



A pulse width discriminating device for examining the duration of pulse signals and passing them only when of a certain predetermined width. By using a regenerative loop, the device produces output pulses which are accurate representations of those at its input. Two stages of discrimination are used to prevent pairs of properly spaced pulse spikes from appearing as a pulse of the same duration as the spike spacing. Each stage includes a delay line and associated coincidence detecting circuitry.

3,379,982
CONTROL APPARATUS

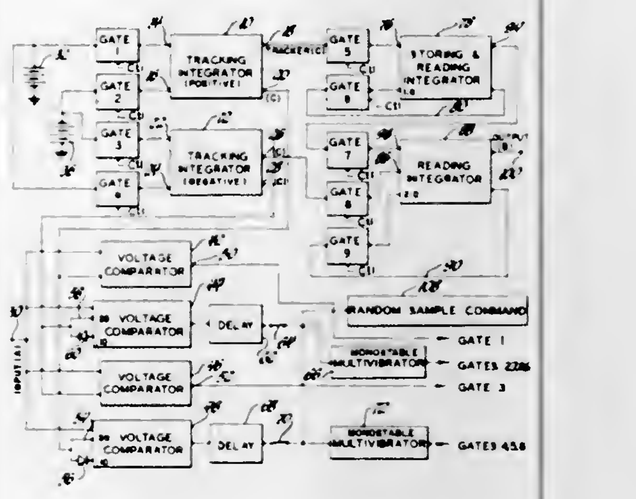
Gerhard A. Kladde, Rochester, N.Y., and Jackie, R. Meyer, Minneapolis, Minn., assignors to Honeywell Inc., a corporation of Delaware
Filed Jan. 25, 1965, Ser. No. 427,878
2 Claims. (Cl. 328—143)



A function generator for providing an output which corresponds to a signal having the greatest potential difference from a biasing means wherein the signal being compared is obtained from different gain amplifiers.

3,379,983
PEAK READING VOLTMETER

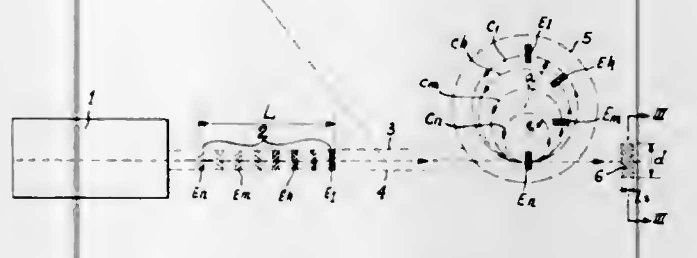
Thomas Albert Harris, Brighton, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 24, 1964, Ser. No. 420,888
10 Claims. (Cl. 328—151)



A peak-to-peak amplitude meter for a time-varying voltage. First and second integrators track and store voltage during positive going and negative going portions, respectively. Gated transfer to storage and combining means is controlled by voltage comparators which sense the positive and negative peak conditions.

3,379,984
SHORTENING DEVICE FOR RELATIVISTIC ELECTRON PULSES DOWNSTREAM OF AN ACCELERATOR

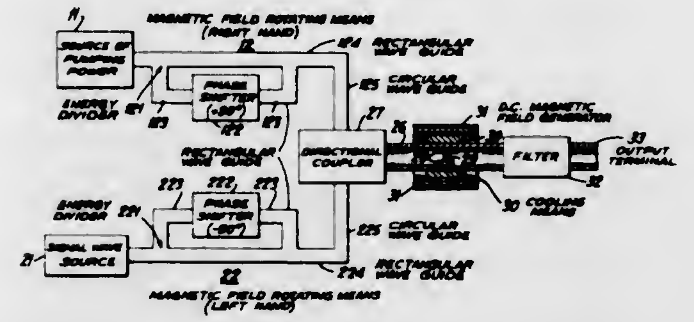
Jacques Pinel, Paris, France, assignor to CSF—Compagnie Generale de Telegraphie Sans Fil, Paris, France
Filed Mar. 10, 1965, Ser. No. 438,656
Claims priority, application France, Mar. 13, 1964, 967,260
16 Claims. (Cl. 328—230)



An electron accelerator installation comprising an accelerator for accelerating electrons to relativistic velocities and for delivering pulses containing a spatial sequence of bunched electrons having successively decreasing energies, and a magnet positioned on the path of said electrons downstream of the output of the accelerator for shortening the duration of each of said pulses. The accelerated electrons propagate in the gap between the two pole pieces of the magnet. The induction in the gap is so chosen that after describing their orbit the bunches reach simultaneously the same point in space and are extracted from the gap at said common point.

3,379,985
HIGH FREQUENCY MAGNETIC AMPLIFIER EMPLOYING "ATTRACTIVE EXCHANGE INTERACTION" BETWEEN SPIN WAVES

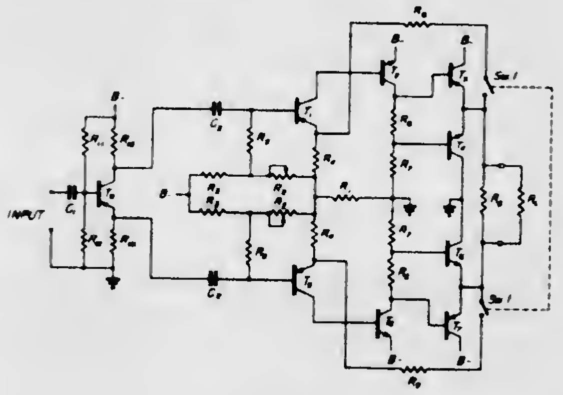
Koichiro Matsuno, Tokyo, Japan, assignor to Nippon Electric Company Limited, Tokyo, Japan, a corporation of Japan
Filed Nov. 7, 1966, Ser. No. 592,536
Claims priority, application Japan, Feb. 9, 1966, 41/7,604
7 Claims. (Cl. 330—4)



A microwave amplifier including a plate of ferrimagnetic material or antiferromagnetic material in a waveguide, and means for supplying to the plate both a pumping wave and the signal wave to be amplified after subjecting the waves to mutually inverse rotation of their respective magnetic field components, whereby amplification is achieved through energy transfer from the pumping wave to the signal wave by means of the principle of attractive exchange interaction between spin waves.

3,379,986
DIRECT COUPLED TRANSISTORIZED CLASS "B" POWER AMPLIFIER

Charles B. Leslie, 1106 Brantford Ave., Silver Spring, Md. 20904
Filed Oct. 30, 1964, Ser. No. 407,939
9 Claims. (Cl. 330—15)



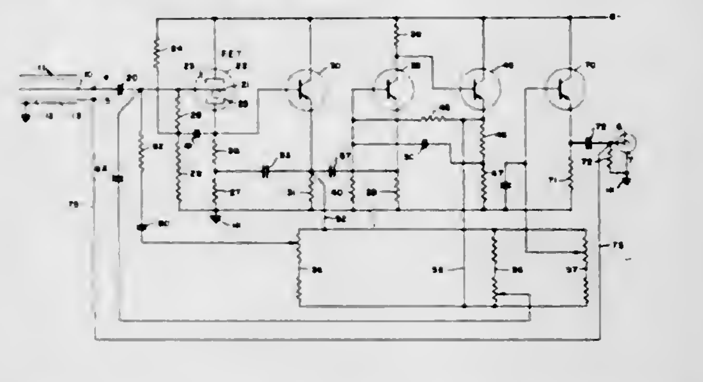
An input push-pull driver stage receives an audio signal to be amplified and is connected to an intermediate current amplifier stage. The latter stage is connected to a full-wave transistor bridge output stage which directly drives a load without transformers or coupling capacitors. To reduce distortion the output stage is biased to provide slight conduction in the absence of a signal and negative feedback further reduces distortion.

3,379,987
ADMITTANCE NEUTRALIZER

Walter K. Volkers, Sands Point, N.Y., assignor to Micronia Amplifier Corp., Sands Point, N.Y., a corporation of New York
Filed Jan. 29, 1964, Ser. No. 340,906
10 Claims. (Cl. 330—17)

6. An admittance neutralizer circuit for presenting a low input admittance to an input signal comprising: amplifying means having a normal relatively high input impedance, said amplifying means also including; input means for receiving said input signal, output means, and at least one biasing means,

first and second amplifier means, means connecting said first and second amplifier means in series with said output means so that one of said first and second amplifier means produces a less than unity gain version of said input signal and the other amplifier means produces a greater than unity gain version of said input signal,



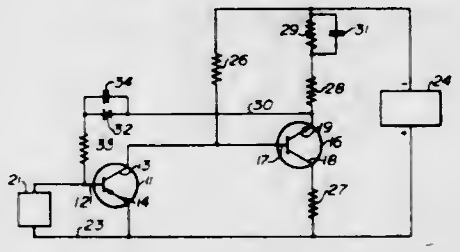
first means connected to said first and second amplifier means and to said input means for feeding back a regenerative version of the signal current of said input signal to said input means,

impedance converter means,

and second means connected to said first means and to said impedance converter means for applying said signal at said first means to said impedance converter means.

3,379,988
COMPLEMENTARY PAIR FEEDBACK AMPLIFIER

Richard H. Graham, Glastonbury, Conn., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Dec. 4, 1964, Ser. No. 416,170
10 Claims. (Cl. 330—17)



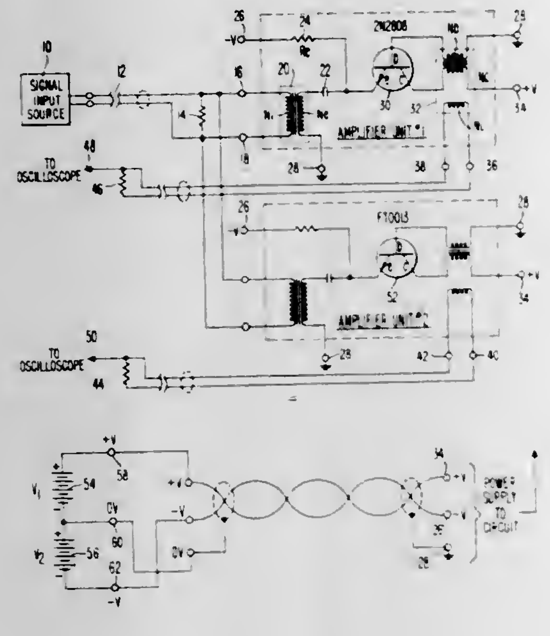
Transistor amplifier, including a complementary pair of direct coupled NPN and PNP transistors are provided with a negative feedback network interconnecting the respective base and emitter electrodes of the transistors to form a high frequency, wide-band pulse amplifier. The feedback loop includes serially connected resistive and Zener diode elements with a bypass capacitor arranged in parallel with the diode to provide, together with the negative feedback element, a constant biased potential at the base electrodes.

3,379,989
RADIATION-TOLERANT TRANSISTOR SENSE PREAMPLIFIER

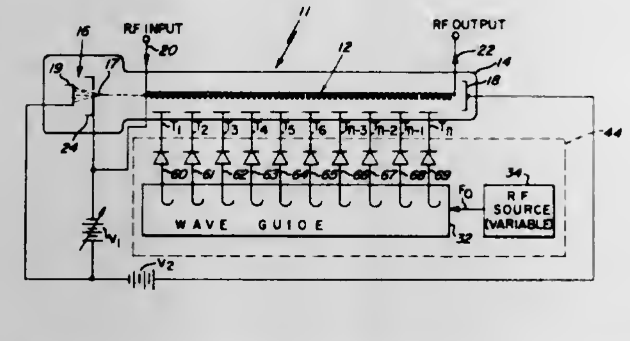
Philip E. Shafer, Holmes, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Feb. 17, 1964, Ser. No. 345,321
4 Claims. (Cl. 330—28)

2. A preamplifier comprising a transistor having a base, emitter, and collector electrode, an input coupling trans-

former with a primary and a secondary winding, a capacitor connected between the secondary winding of the input transformer and the emitter electrode, a resistor connected therefrom to a first potential source, an output coupling transformer having a primary winding and a first and second secondary winding, said collector electrode connected through the primary winding of said output transformer to a second potential source, said first secondary winding connected to supply the preamplifier signal output, said second secondary winding connected to said base electrode whereby a degenerative feedback signal is applied thereto, causing a reduction in collector current corresponding to an increase in base current.

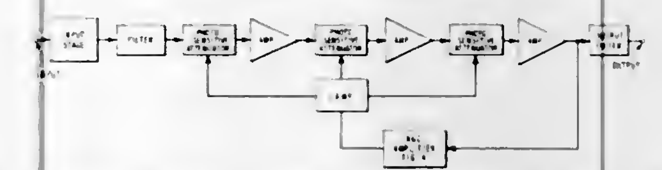


3,379,990
TRAVELING WAVE TUBE PHASE SHIFTER
Howard Scharfman, Lexington, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware
Filed Mar. 9, 1964, Ser. No. 350,435
4 Claims. (Cl. 330—43)



The invention pertains to a traveling wave interaction device having a plurality of individually energized collector electrodes extending along the interaction path. Precise phase control of propagating electromagnetic signals is realized by means of the control of the electrical length of the slow wave propagating structure before the electron beam is completely collected. The energizing means for the individual collector electrodes may comprise a system of preprogrammed digitalized voltages from a computer. Numerous embodiments including circumferentially and longitudinally staggered electrodes adjacent to the slow wave propagating structure as well as split electron beam devices are described.

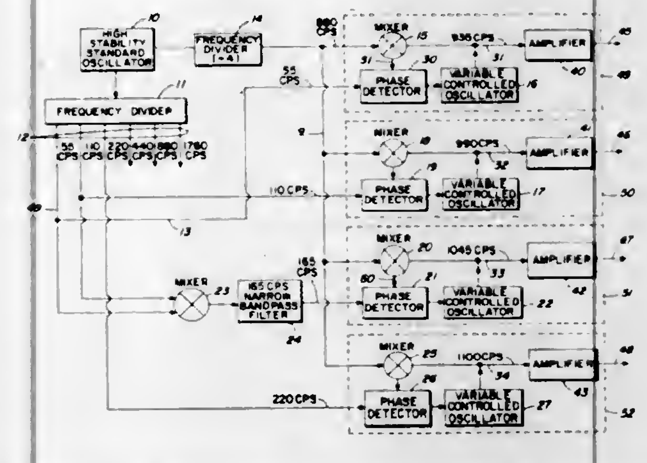
3,379,991
AUTOMATIC GAIN CONTROL EMPLOYING PHOTORESISTORS
Milton C. Clerc, Weequahic Park Tower, 455 Elizabeth Ave., Apt. L-5, Newark, N.J. 07112, and Paul E. Carroll, 7102 Leader, Houston, Tex. 77036
Continuation of application Ser. No. 491,361, Sept. 29, 1965. This application May 15, 1967, Ser. No. 638,667
1 Claim. (Cl. 330—59)



1. Automatic gain control apparatus for a seismic amplifier system comprising:

(a) a plurality of cascaded seismic amplifier stages each having an input and an output,
(b) a source of low frequency signals connected to the input of the first of the amplifier stages,
(c) gain control voltage generating means having an input connected to the output of the last of the amplifier stages for providing a voltage which increases as a function of the magnitude of the low frequency signals appearing on such output after such magnitude exceeds a preselected threshold level,
(d) amplifying means having an input connected to the output of the gain control voltage generating means,
(e) radiation source means connected to the output of the amplifying means to be energized according to the magnitude of the gain control voltage,
(f) a plurality of radiation sensitive resistive elements positioned to be illuminated by the radiation source means a different one of said elements being connected in the input of each amplifier stage to attenuate the signals applied to such input in response to the radiation from said radiation source means which impinges on such element, and
(g) a radiation sensitive resistor positioned to be illuminated by the radiation source means and connected in the input of the amplifying means to attenuate the gain control voltage applied thereto in an inverse relation to the magnitude of the radiation from said radiation source means which impinges upon the resistor.

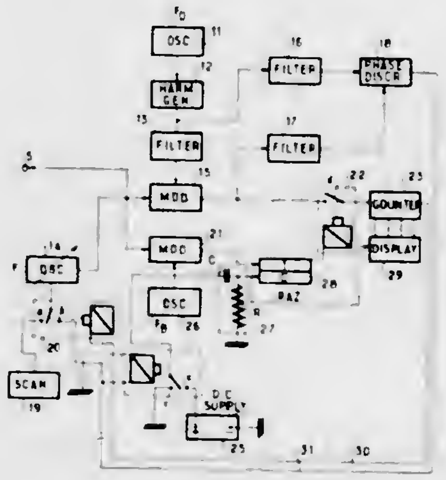
3,379,992
MULTIPLE FREQUENCY SIGNAL GENERATOR
Eugene Hoo, Costa Mesa, Calif., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Oct. 18, 1965, Ser. No. 496,929
7 Claims. (Cl. 331—2)



A means for simultaneously generating a plurality of equally spaced tones in which a frequency divider produces from a signal of frequency f_b, a plurality of signals

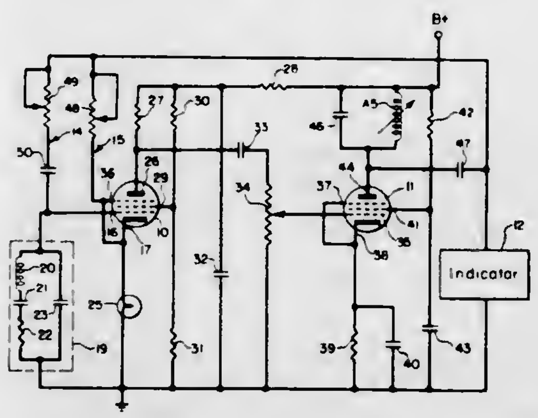
of frequencies $f_1, f_2, f_3 \ldots f_n$, each bearing a ratio $1/2^x$ to frequency f_b, where x is an integer. Each of a series of signal generating circuits, all arranged in parallel, respond to the signal of frequency f_b and to a predetermined one of the signals of frequency $f_1, f_2, f_3 \ldots f_n$ to produce an output signal of frequency (f_b+f_d), where f_d is the frequency of said predetermined signal and is equal to one of the frequencies $f_1, f_2, f_3 \ldots f_n$.

3,379,993
FREQUENCY SYNTHESIZER USING FREQUENCY CONTROL BASED ON A NARROW BAND WITHIN SPECTRUM OF HARMONICS
Léon Berman, Asnieres, Hauts-de-Seine, France, assignor to C.I.T.—Compagnie Industrielle des Telecommunications, Paris, France
Filed Dec. 8, 1966, Ser. No. 600,166
Claims priority, application France, Dec. 8, 1965, 41,449
8 Claims. (Cl. 331—4)



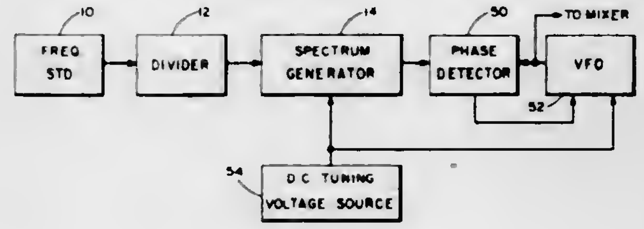
This application discloses a frequency synthesizer wherein the means for generating an error control signal for regulating the output frequency of the synthesizer is operated at a fixed frequency due to connection in both input lines of the discriminator of a narrow-band filter having a pass band centered about the fixed frequency.

3,379,994
ACOUSTIC INTRUDER DETECTION SYSTEMS
Leigh Curtis Foster, Atherton, Calif., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware
Filed Jan. 31, 1967, Ser. No. 612,893
11 Claims. (Cl. 331—65)



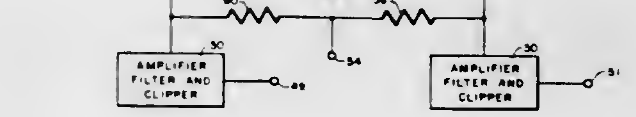
A linear amplifier includes both regenative and degenerative feedback paths. A power-sensitive element in the degenerative path stabilizes the normal oscillation of the amplifier. A resonant microphone is coupled to the regenerative path and radiates the oscillatory energy outwardly with some of the same energy being received back by the microphone. Movement of an intruder in the field of the microphone causes a perturbation of the oscillations with a resultant burst-like increase in the oscillatory amplitude. That effect is utilized to actuate an alarm indicator.

3,379,995
SPECTRUM CONTROLLED FREQUENCY SYNTHESIZER SYSTEM
Floyd A. Koontz and Thomas B. Michaels, Monroe, N.Y., assignors to General Dynamics Corporation, a corporation of Delaware
Filed Apr. 3, 1964, Ser. No. 357,062
8 Claims. (Cl. 331—19)



Described herein is a system for controlling the frequency of a spectrum generator so that it and a variable frequency oscillator are locked both in frequency and phase. A variable direct current signal is applied to the tuning networks of both the spectrum generator and the oscillator and the outputs of the generator and oscillator are compared in a phase detector which provides an error signal which locks the oscillator to the desired spectrum component.

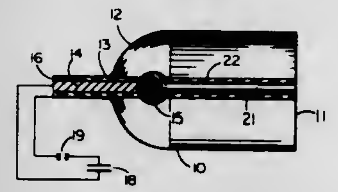
3,379,996
LOW FREQUENCY NOISE GENERATOR
Clifford G. Dorn, Riverside, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Dec. 6, 1966, Ser. No. 600,002
5 Claims. (Cl. 331—78)



An apparatus for producing low frequency noise which is composed of continuous frequency components from DC to one kHz. The apparatus consists of a slowly rotating container partially filled with ball bearings which provides a randomly varying resistance path to a voltage applied to conducting shafts in contact with the ball bearings.

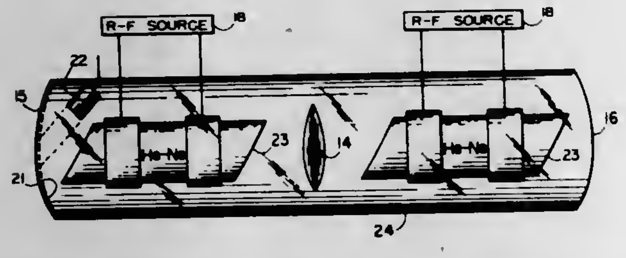
3,379,997
MAGNETOHYDRODYNAMIC LIGHT SOURCE EXCITED LASER
Leonard J. Melhart, 6511 Abbington Drive, Oxon Hill, Md. 20021
Filed Mar. 19, 1964, Ser. No. 353,306
8 Claims. (Cl. 331—94.5)

The device of this invention makes use of a magnetohydrodynamic type light source for exciting a laser etalon. The device includes a cylindrical envelope with a concave end and a flat end. Electrodes secured to the concave end and connected electrically to a capacitor source produces a light source upon discharge of the capacitor source.



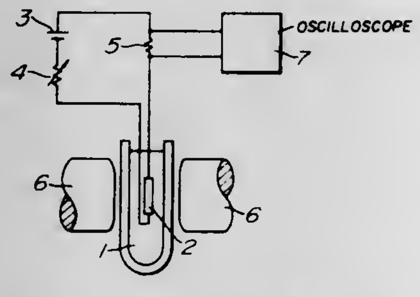
The light is directed over a laser element secured within the envelope. Light produced by the laser element is directed out through an aperture within the envelope.

3,379,998
LASER IMAGE AMPLIFYING SYSTEM
Jack A. Soules, Box 1615, University Park, N. Mex. 88070, and Francis T. Byrne, 123 Hamilton Ave., Silver Spring, Md. 20901
Filed July 9, 1964, Ser. No. 381,591
5 Claims. (Cl. 331—94.5)



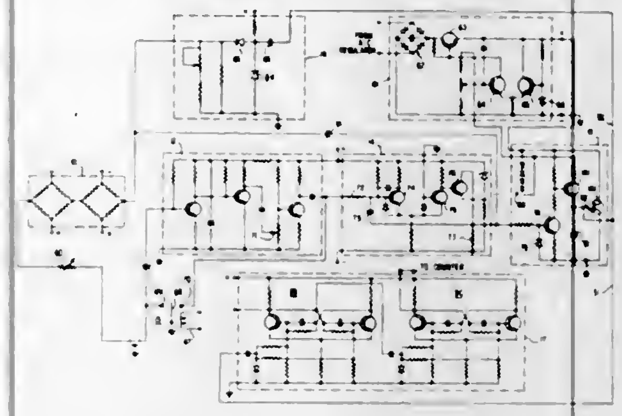
This invention is directed to a laser amplifying system including axially aligned laser oscillators which are operative between reflective mirrors and with a lens between the oscillators. A desired picture or image is projected onto the fully reflective mirror. The image changes the reflectivity in the areas of the image, thus, oscillations cease corresponding to those areas covered by the image. Therefore, light passing through the partially reflective mirror will present an outline of the image on the fully reflective mirror.

3,379,999
SOLID STATE OSCILLATOR OPERATIVE IN THE QUANTUM LIMIT REGION
Kiichi Komatsubara, Kodaira-shi, Japan, assignor to Hitachi, Ltd., Marunouchi, Chiyoda-ku, Japan, a corporation of Japan
Filed Sept. 20, 1966, Ser. No. 580,647
Claims priority, application Japan, Sept. 27, 1965, 40/58,691
7 Claims. (Cl. 331—107)



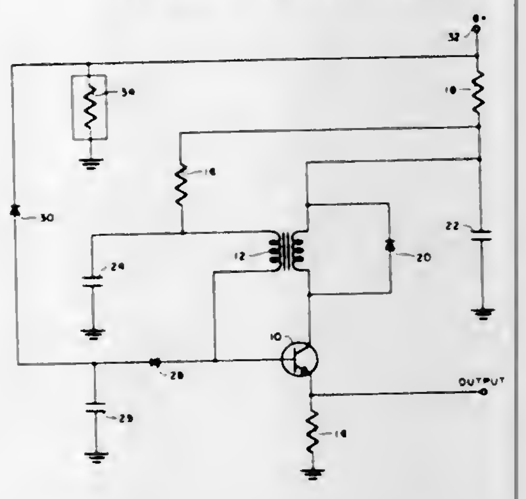
A solid state oscillator including a semiconductor element operating in an environment where it is subjected simultaneously to a magnetic field and a crossed electric field at a low temperature. The oscillation is generated in the region where all of the carriers in the semiconductor element energized by the electric field are allowed to be populated in the lowest quantum state of the quantized discrete states established by the application of the magnetic field.

3,380,000
VOLTAGE CONTROLLED RELAXATION OSCILLATOR
Donald G. Morrison, Rock Island, Ill., assignor, by mesne assignments, to Fairbanks Morse Inc., New York, N.Y., a corporation of Delaware
Original application Feb. 14, 1964, Ser. No. 344,985, now Patent No. 3,324,962, dated June 13, 1967. Divided and this application Aug. 10, 1966, Ser. No. 555,945
4 Claims. (Cl. 331—109)



A voltage controlled oscillator having a first transistor connected in series with a charging capacitor to a source of potential and a unijunction transistor having a predetermined breakdown voltage characteristic connected to and controlled by said charging capacitor, with means for compensating for the non-linear characteristic of the load and variation in operation thereof with variation in ambient temperature.

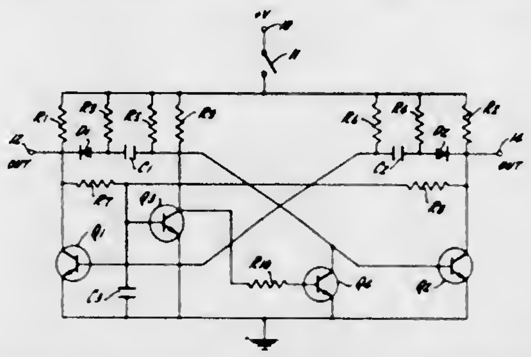
3,380.001
TIME DELAYED BLOCKING OSCILLATOR
Howard M. Forrester, Corona, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Oct. 31, 1966, Ser. No. 591,384
1 Claim. (Cl. 331—112)



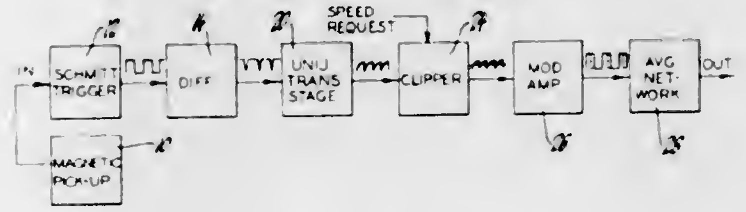
A circuit for delaying the start of oscillations of a blocking oscillator to permit associated circuitry to stabilize after the application of power by delaying the rise of voltage on the base of the oscillator transistor.

3,380,002
SURE-STARTING ASTABLE MULTIVIBRATOR CIRCUIT
Clifford E. Hogue, Indianapolis, Ind., assignor to the United States of America as represented by the Secretary of the Navy
Filed Sept. 7, 1965, Ser. No. 485,651
7 Claims. (Cl. 331—113)

A solid state astable multivibrator circuit having a novel semiconductor network adapted to immediately decrease the bias voltage presented to the control electrode of one of the two alternately conducting multivibrator transistors at the time the multivibrator is initially switched on. This initial control of the bias voltage of one of the two multivibrator transistors prevents it from attempting to commence conduction simultaneously with the other multivibrator transistor, thereby allowing the other to always conduct first thus insuring rapid, sure starting of the multivibrator oscillations.

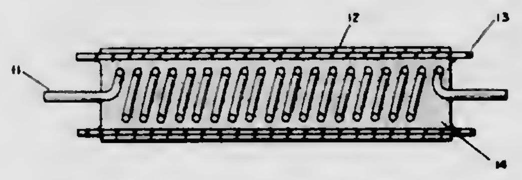


3,380,003
SIGNAL FREQUENCY TO PULSE WIDTH MODULATION CONVERTER
Richard W. Bemmann, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 25, 1965, Ser. No. 435,315
5 Claims. (Cl. 332—9)



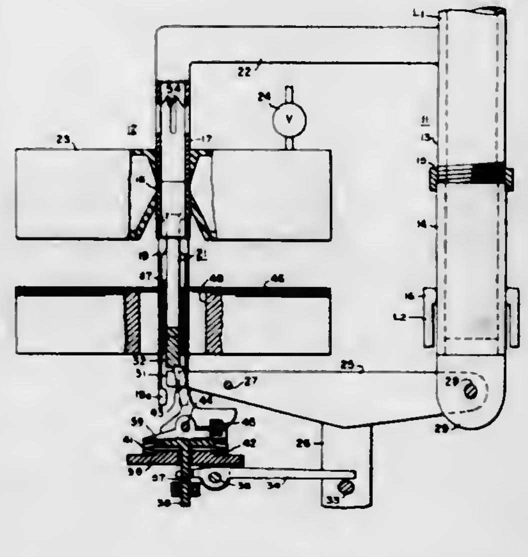
A frequency to amplitude converter including a sawtooth waveform generator the output of which is reset to a minimum value at the frequency of an input signal, and a clipper circuit which responds to the portion of the sawtooth which exceeds a predetermined value. A filter may be added to smooth the output of the clipper.

3,380,004
APERIODIC LOW-PASS FILTER
Frithjof N. Hansen, Beverly Farms, Mass., assignor to The McMillan Corporation of North Carolina, Raleigh, N.C., a corporation of North Carolina
Continuation-in-part of application Ser. No. 787,885, Jan. 20, 1959. This application Jan. 29, 1962, Ser. No. 177,131
13 Claims. (Cl. 333—79)



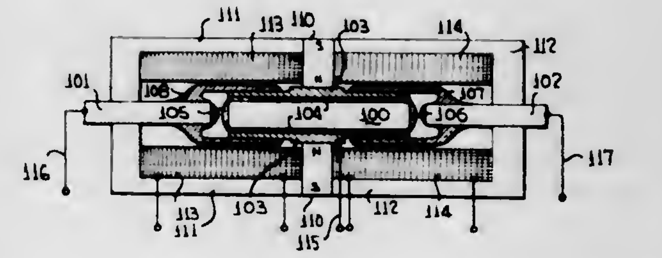
1. A low-pass filter comprising: an elongated electrically conductive sleeve member, said sleeve member when said filter is in operation, being grounded, a power conductor extending longitudinally of said sleeve member, said conductor being spaced from and enclosed within said sleeve member, a quantity of lossy magnetic material substantially filling the space within said sleeve member, said lossy material consisting essentially of a mixture of finely divided electrically conductive magnetic material and a resin, the electrical conductivity of said mixture rendering said filter aperiodic in its performance, and insulating means insulating said conductor electrically from said sleeve member, the thickness of said insulating means being of the order of not exceeding three one-thousandths of an inch.

3,380,005
CIRCUIT BREAKER WITH HIGH SPEED INTERRUPTER
Roswell C. Van Sickle, Wilkinsburg, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 16, 1965, Ser. No. 432,984
14 Claims. (Cl. 335—19)



An alternating-current circuit interrupter has a main current path and an auxiliary electrically-parallel current path, the latter being open in the closed position of the interrupter. A synchronous operator opens the auxiliary current path at a current zero while the main current path has already been opened due to the operating linkage construction. A linearly-movable armature with two oppositely-extending closed loop portions and carrying the movable auxiliary contact, moves through a diametrical air gap in the magnet structure, which encircles the auxiliary current path. Shading coils or a conducting plate in the magnetic air gap assists in reducing the leakage inductance of the closed loop in the armature closed loop circuit.

3,380,006
LOGIC CIRCUITS
Erwin Donath, Princeton, N.J., assignor to Fifth Dimension Inc., Princeton, N.J., a corporation of New Jersey
Filed Aug. 11, 1964, Ser. No. 388,891
2 Claims. (Cl. 335—56)

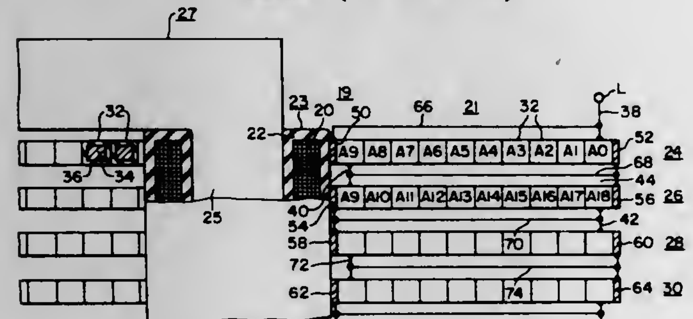


1. A magnetic mercury relay, comprising a free magnetic armature having mercury wettable ends, stationary magnetic mercury wettable contacts adjacent to said ends, an enclosure for said armature and said ends, a layer of mercury within said enclosure, said armature being freely movable in said layer of mercury, a first substantially complete magnetic path including approximately half of said armature and one of said contacts, a second magnetic path

extending about approximately the other half of said armature and the other one of said contacts, said first and second paths at their juncture approximately midway of said armature including a high permeability portion which constitutes a joint element of said paths and separate electromagnetic coils for separately inducing magnetic flux in said first and second magnetic paths.

3,380,007
SHIELDED ARRANGEMENTS FOR ELECTRICAL TRANSFORMERS

Thomas E. Alverson, Masury, and Stephen G. Vargo, Campbell, Ohio, assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 27, 1966, Ser. No. 604,967
7 Claims. (Cl. 336—70)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A9 A8 A7 A6 A5 A4 A3 A2 A1 A0
A9 A10 A11 A12 A13 A14 A15 A16 A17 A18
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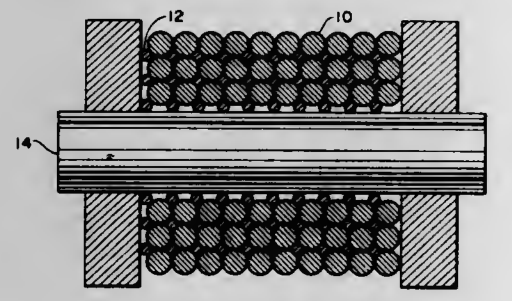
This invention relates to new and improved shielding arrangements for pancake coils of the type used to form the high voltage winding of core-form power transformers. Electrically conductive shielding members are disposed radially adjacent the inner and outer conductor turns of the pancake coils, and they are electrically connected to the outer and inner conductor turns, respectively, of their associated pancake coil.

3,380,008
INDUCTIVE-KICK SUPPRESSION SOLENOID

Wilbur B. Lunt, Riverside, and Robert E. Kraft, Corona, Calif., assignors to the United States of America as represented by the Secretary of the Navy
Filed Dec. 2, 1965, Ser. No. 511,566
2 Claims. (Cl. 336—73)

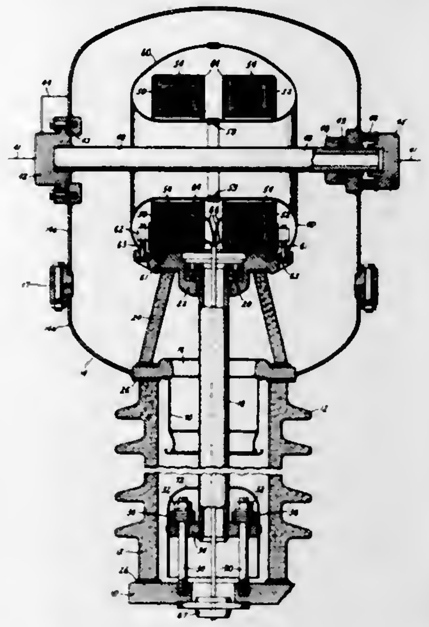


A solenoid having inductive-kick suppression by use of a permanently shorted secondary winding of smaller wire size simultaneously wound in the interstices of the larger wire size primary winding and which also allows the windings to be very closely coupled and better withstand environs of vibration and temperature.

3,380,009
HIGH VOLTAGE CURRENT TRANSFORMER

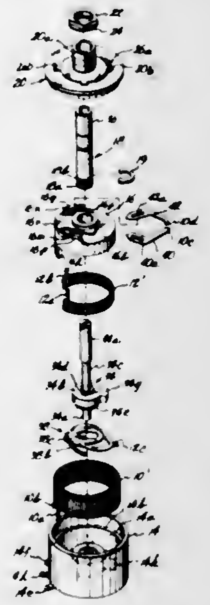
Richard H. Miller, Berwyn, Pa., assignor to General Electric Company, a corporation of New York
Filed Mar. 10, 1967, Ser. No. 622,204
7 Claims. (Cl. 336—92)

A high voltage current transformer comprising an insulating column, a high voltage tank mounted on the insulating column, and low voltage secondary windings mounted on a tubular insulator within the tank. A metal tension member extends through the column and through the tubular insulator. Tensile forces applied to the tension member are transmitted to the insulator and the insulating column as compressive forces, which strengthen the insulating column and improve its ability to withstand high loads.



3,380,010
ROTARY VARIABLE ELECTRICAL RESISTANCE DEVICE

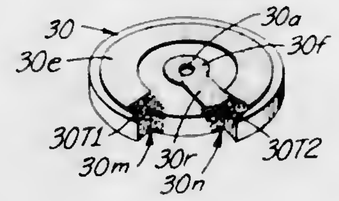
Malcolm W. De Young, Edmonds, and Elmer T. Johnson, Seattle, Wash., assignors to John Fluke Mfg. Co., Inc., Mountlake Terrace, Wash., a corporation of Washington
Filed Apr. 1, 1966, Ser. No. 539,427
8 Claims. (Cl. 338—122)



The successively adjustable coarse and fine resistance cards of this variable electrical resistance device are coaxially mounted in generally cylindrical cup-like supports, one facing into and protectively surrounded by the other and incorporating stops defining their limits of relative rotation. Elongated resilient strips supporting the coarse winding wipers are respectively connected to the circumferentially adjacent ends of the fine resistance elements by conductors extending through the fine resistance element support wall. With this physical and electrical arrangement the fine resistance element may be long in its angular extent without necessity for cross-over of said conductors, while permitting adjustive rotation of the fine and coarse resistance wipers to their respective upper and lower extremes by movement thereof in the same direction.

3,380,011
ADJUSTABLE RESISTOR

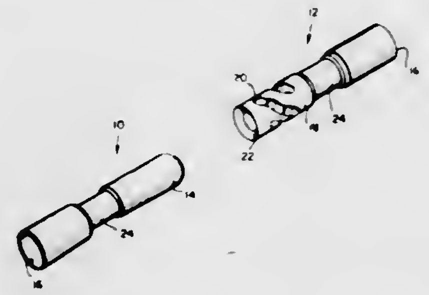
John R. Baskett, Riverside, Calif., assignor to Bourns, Inc., a corporation of California
Filed Apr. 6, 1967, Ser. No. 628,890
9 Claims. (Cl. 338—162)



A resistor structure characterized by being adjustable, adapted to be plugged into apertures in an electronic circuit board, capable of being very accurately and permanently set at a particular desired resistance value while incorporated in an electronic circuit, proof against catastrophic failure by contact burn-out, inexpensive to manufacture and hence expendable, proof against malfunction during setting or adjustment, and adapted for semi-automatić assembly, further characterized by having a contact movable along a resistive element during adjustment of the resistance value of the resistor but so arranged that only a portion of the electric current carried by the resistor courses through the contact, the remainder of the current passing through a resistive element, and characterized by ability to incorporate a measure of correction of temperature coefficient of resistivity.

3,380,012
BUTT TYPE ELECTRICAL CONTACT

Norbert L. Moulin, Placentia, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Mar. 3, 1966, Ser. No. 531,428
4 Claims. (Cl. 339—95)

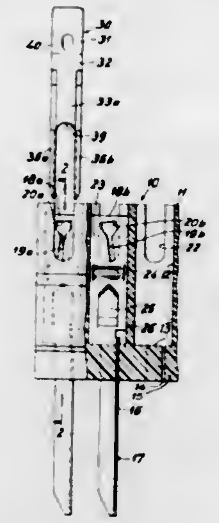


In the disclosed electrical connector, the female member has a tubular portion which, where contact is to be made with the male member, defines a plurality of spiral slots. A recession on the end of the tubular portion, having a shape complementary to that of the tip of the male member, receives the male member as it is inserted within the female member. The spiral slots permit both a compression and a rotation of the tubular portion as it is deformed by the coupling force.

3,380,013
CLIP CONNECTOR TERMINAL FOR INSULATED CONDUCTORS

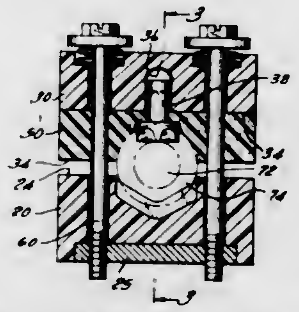
Gustav Krone, Berlin-Dahlem, and Horst Forberg, Berlin, Germany, assignors to Krone Kommanditgesellschaft, Berlin, Germany, a German company
Filed Jan. 14, 1966, Ser. No. 520,600
5 Claims. (Cl. 339—97)

A connector device which comprises a support, a pair of parallel spaced clips disposed in the support; each clip is provided with a slot that is in registry with the other at its upper end but diverges downwardly with respect to one another, a pusher slide adapted to be inserted in said support and force an insulated electric wire that extends through the registering portions of said slots, downwardly, whereby the edges of the diverging slots cut through the insulation and establish an electrical connection with said wire; said pusher slide locks with said clips in its fully inserted positon.



3,380,014
RUN AND TAP CONNECTOR

Henry Schenker, Fairfield, and Walter Reischer, Darien, Conn., assignors to Burndy Corporation, a corporation of New York
Filed July 27, 1966, Ser. No. 568,197
11 Claims. (Cl. 339—97)

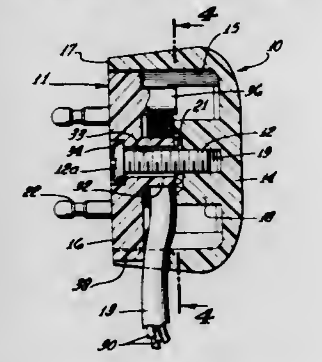


1. An electrical connector for coupling a tap conductor to a run conductor, comprising:
- a tap conductor support member having a tap conductor seat portion therein, a given face thereon, and an opening extending from said given face into said tap conductor seat portion;
- a run conductor support member having a given face thereon disposed substantially opposite the given face of said tap conductor support member, the given face of said run conductor support member having a conductor seat portion thereon;
- a double ended contact member of electrically conductive material disposed between the given faces of said support members, said contact member having a first contact end portion adapted to pass through the opening in said tap conductor support member so as to engage a conductor in said tap conductor seat portion, and further having a second contact end portion adapted to electrically engage the conductive surface of a conductor disposed in the seat portion of said run conductor support member;
- support means of resilient material for maintaining said first and second contact end portions in alignment with said opening in the tap conductor support member and with said seat portion in the run conductor support member, respectively, and for permitting flexible relative movement of said contact between the given faces of said support members;

and selectively operable force applying means for urging the given faces of said support members toward each other, whereby conductors seated in the seat portions of said tap conductor support member and said run conductor support member will be clamped respectively, against the first and second contact end portions of said contact member.

3,380,015
TELEPHONE JACK PLUG

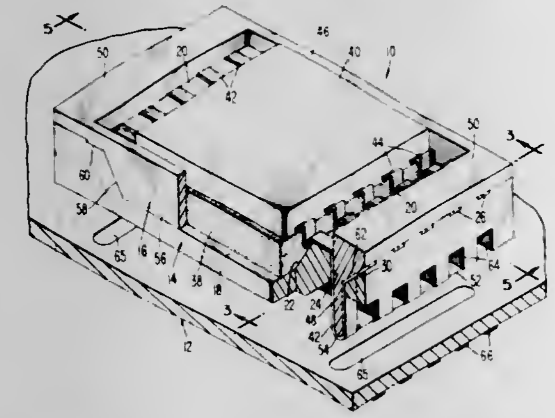
Jack H. Gaines, Seal Beach, and Francis K. Bourbenne, Lawndale, Calif., assignors to Sierra Electric Corporation, Gardena, Calif., a corporation of California
Filed Oct. 10, 1966, Ser. No. 585,510
10 Claims. (Cl. 339—107)



1. A telephone jack plug comprising a nonconductive hollow knob cap having an outer closed end and an inner open end, a non-conductive insert received within said open end of the cap, two pairs of differentially spaced contact prongs carried within and projecting outwardly from said insert, means at the inside of said insert for connecting respectively to said prongs the bared terminals of each of four insulated wires extending from an insulated conductor led into the cap through an opening in a side thereof, means for confining looped terminal ends of the insulated wires to the inside area of said insert between said connecting means and a central opening in the insert, retaining means carried by the inside of the closed end of the cap and engageable against said looped terminal ends, and means interconnecting the cap and insert through said insert opening.

3,380,016
ELECTRONIC CIRCUIT PACKAGE STORAGE, FORMING AND HANDLING APPARATUS

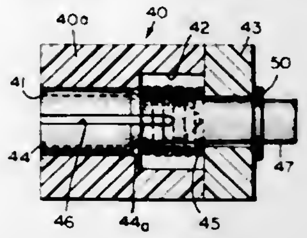
Robert Samson, Wayne, and George J. Sprenkle, Phoenixville, Pa., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed May 3, 1965, Ser. No. 452,807
9 Claims. (Cl. 339—174)



The present invention provides a pair of box-like interfitting, internestable rigid structural members forming a container adapted to receive a miniature electronic circuit flat-pack therein and having integral oppositely disposed members engageable with the circuit connecting ribbon leads of the flat-pack effective to bend and form the ribbon leads into substantially rigid contact prongs or projections for pluggable reception within and electrical contact to printed wiring circuit assemblies or other similar utilization devices with which the flat-pack circuit may be operably associated.

3,380,017
CONNECTOR

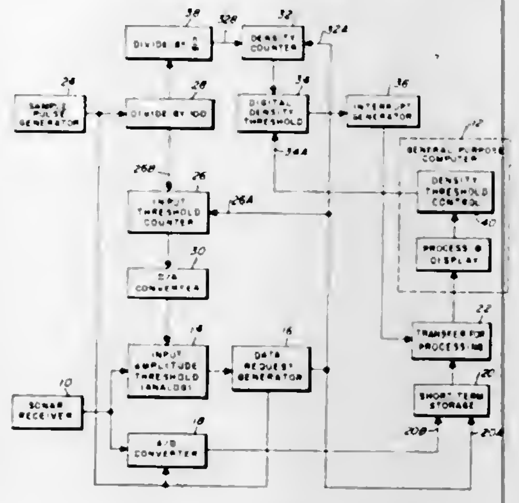
William Gomulka, 149 Ormond St., Mattapan, Mass. 02126
Filed July 9, 1965, Ser. No. 470,761
4 Claims. (Cl. 339—207)



A coupling device is provided wherein a constant diameter coil spring is mounted within a two-part insulating housing and restrained from movement along its axis. The spring is allowed to expand radially but not move in any axial direction whereby positive locking of a contact can be made. In an alternate embodiment, a slideable sleeve member having two diameters with a surrounding coil spring is employed to provide for locking an electrical connection of a contact.

3,380,018
DIGITAL DENSITY THRESHOLD FOR SONAR

Woodrow H. Littrell, Robert D. Isaak, William E. Klund, and Ronald K. Betsworth, San Diego, Calif., assignors to the United States of America as represented by the Secretary of the Navy
Filed Mar. 20, 1967, Ser. No. 624,618
4 Claims. (Cl. 340—3)

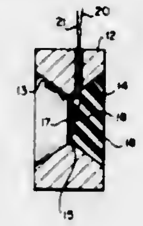


In active sonar, a target usually returns a "bunch" or cluster of echo signals. By comparing the spatial density of signals with a threshold number, the signal cluster can be recognized and distinguished from random noise.

3,380,019
PRESSURE-GRADIENT HYDROPHONE

Claude C. Sims, Orlando, Fla., assignor to the United States of America as represented by the Secretary of the Navy
Filed Jan. 27, 1967, Ser. No. 612,767
1 Claim. (Cl. 340—10)

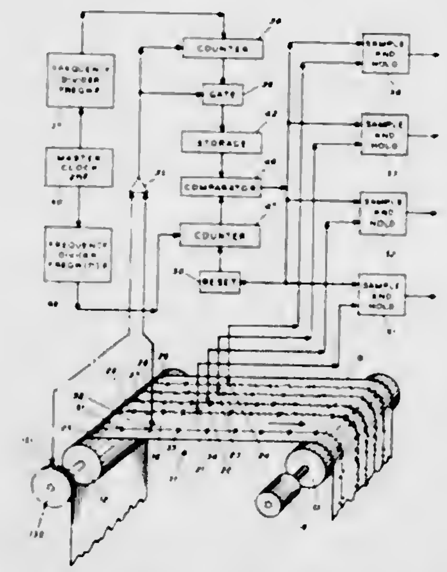
A pressure gradient hydrophone including a single flexure element which is used where measurements are made in the presence of boundaries at low frequencies, for measuring pressure gradients in near field and absorption measurements. Such a hydrophone may be used at great depths since it is suitable for operation at extreme pressures. As such, the device is applicable for generation, reception or translation of sound wave energy in water.



The invention described herein may be manufactured and used by or for the Government of the United States of America for governmental purposes without the payment of any royalties thereon or therefor.

3,380,020
METHOD AND APPARATUS FOR DIVIDING MEASURABLE VARIABLE INTERVALS INTO AN EXACT NUMBER OF SUBINTERVALS

Calvin M. Clark, Fullerton, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
Filed May 20, 1966, Ser. No. 551,669
10 Claims. (Cl. 340—15.5)

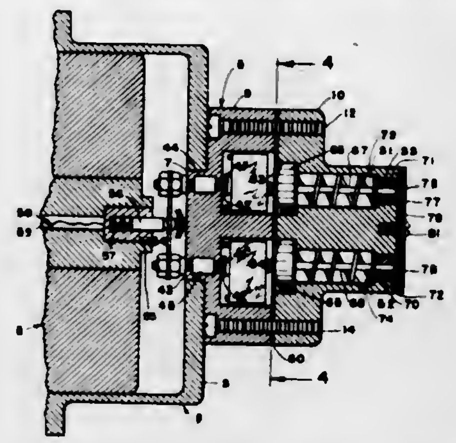


A method and apparatus is disclosed for dividing measurable but variable intervals into a predetermined exact number of subintervals. The method is accomplished by measuring at one time scale the period between the measurable intervals so as to accumulate a count at that time scale. The total count is then used to identify the subintervals by recounting the accumulated count of the first time scale at a higher time rate. The established ratio between the higher time rate and the original counting rate determines the number of subintervals produced during the measured interval. Each time a total is accumulated at the higher time rate equalling the accumulated count of the first time scale, a subinterval is identified.

3,380,021
TIRE PRESSURE AND WHEEL BEARING TEMPERATURE INDICATOR

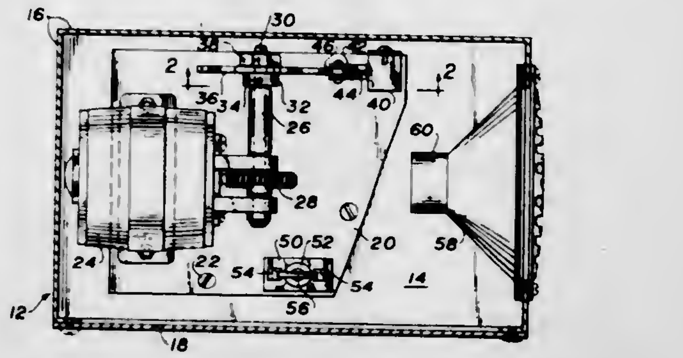
Walter H. Dudar, Dallas, Tex., assignor to Tel-Air Corporation, Dallas, Tex., a corporation of Texas
Filed Jan. 28, 1965, Ser. No. 428,692
5 Claims. (Cl. 340—58)

A warning device including a split housing mounted on the hub of a vehicular wheel and having a pair of internal cavities which are divided by a diaphragm. One side of each cavity contains a pressure-responsive switch connected to a tire, while the other side contains a shiftable plug which is urged against the diaphragm by a spring acting in opposition to the force exerted by the pressurized air thereon. Adjusting screws bear against the opposite ends of the springs so that the force exerted by the spring on the diaphragm can be altered. Rod-like elements extend from the plugs through the adjusting screws so that the pressure-responsive switch can be manually operated. A contactor plate is mounted on the housing adjacent the end face of the spindle and a bi-metallic blade is mounted on it for grounding the contactor plate to the housing at a predetermined temperature. An axially extending brush projects centrally from the spindle and bears against the plate and the brush is connected to a light in the cab to indicate when either the pressure-responive switch or blade is closed.



3,380,022
VEHICLE BACK-UP WARNING DEVICE

Herbert A. Raschke, Greenbrae, Calif., assignor to E. D. Bullard Company, Sausalito, Calif.
Filed Feb. 23, 1966, Ser. No. 529,553
6 Claims. (Cl. 340—70)

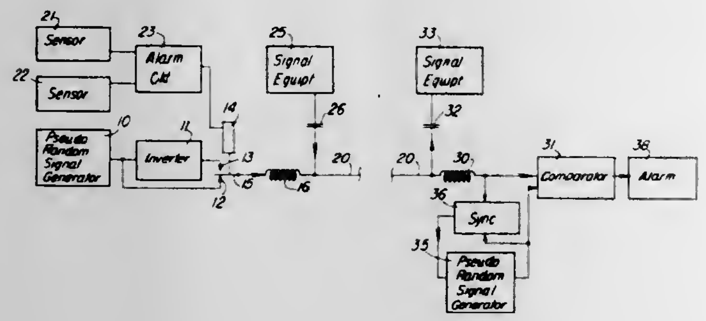


A back-up alarm sounder comprising an electric horn, a switch for establishing or disconnecting power to the horn and a code wheel having an irregular periphery for opening and closing the switch in accordance with the particular shape of the periphery. The code wheel is driven by a small motor which is energized only when the vehicle on which the system is mounted is moved in the reverse direction so that an irregular tone is produced when the vehicle is backed up. The code wheel is attached by a quickly disconnectable joint so that code wheels having different shaped peripheries can be readily substituted.

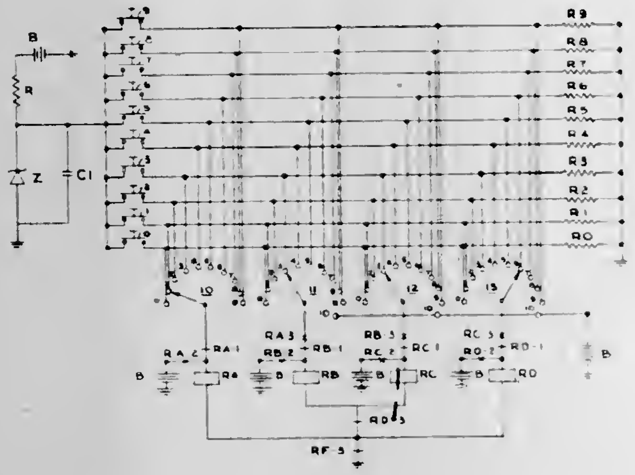
3,380,023
ELECTRONIC ALARM SYSTEM

Henry Magnuski, Glenview, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Jan. 21, 1964, Ser. No. 339,144
9 Claims. (Cl. 340—147)

An automatic electronic system for indicating interference or malfunction of a signal line provides for the transmission of a pseudo random pulse train over the signal line in addition to the information signal. The pseudo random pulse train is compared at the receiver with a similar pseudo random pulse train and any deviation between the two pulse trains, which may be due to line failure or a malfunction, causes an alarm signal to be generated.



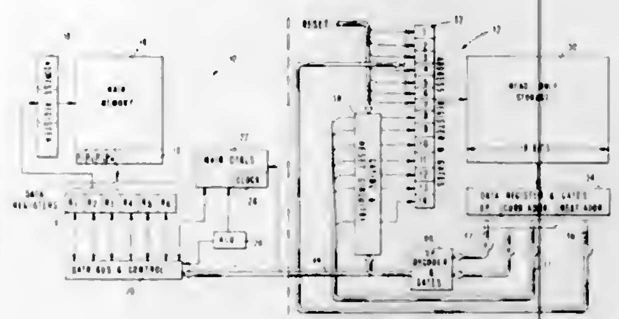
3,380,024
MULTI-DIGIT ELECTRICAL COMBINATION LOCK
Brian G. Watkinson, Lasalle, Quebec, Canada, assignor to Northern Electric Company, Limited, Montreal, Quebec, Canada
Filed Apr. 16, 1964, Ser. No. 360,398
10 Claims. (Cl. 340—164)



This invention relates to a circuit for actuating an electrical door lock in response to a preselected *m* digit code selected from a choice of *n* digits for a maximum of n^m codes. The circuit comprises *n* individual key circuits connected in parallel, each key circuit including a digit key and a resistor connected in series. Each digit key is connected to associated contacts of *m* rotary switches. The wiper of each rotary switch is connected to a relay. The relays are energizable in sequence to open the lock when all the digits of a preset code are correctly keyed within a predetermined interval.

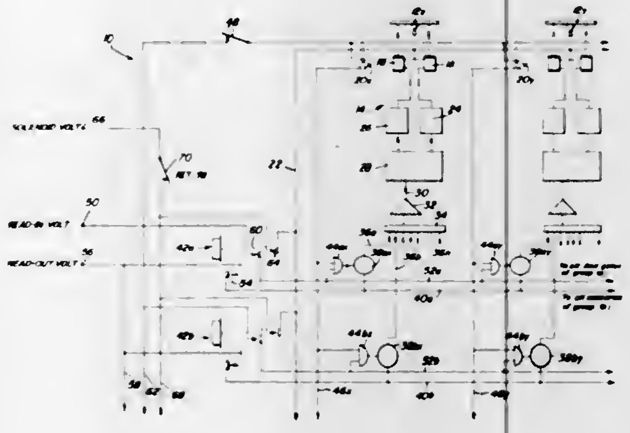
The source of potential for operating the relays is a capacitor which is charged by a battery. The capacitor stores enough energy for operating a single relay at the time. This feature permits the utilization of the maximum number of codes because the combinations having two identical adjacent digits are available (e.g. 6113). In code 6113, for example the capacitor will not have enough energy to operate the relay associated with the second digit 1 in response to depression of the digit key 1. The digit key 1 will have to be released to recharge the capacitor before the relay associated with second digit 1 can be energized.

3,380,025
MICROPROGRAMMED ADDRESSING CONTROL SYSTEM FOR A DIGITAL COMPUTER
Thomas Ragland, Fishkill, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 4, 1964, Ser. No. 415,887
13 Claims. (Cl. 340—172.5)



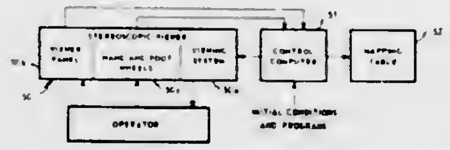
A microprogrammed digital computer is provided with a fixed-width read-only memory microinstruction storage system wherein the memory word length is shorter than the longest possible combination of bits resulting from a combination of a current microinstruction and a next microinstruction address. Certain microinstructions have a long next microinstruction address, thereby providing a wide range of addressable storage positions from which to access the next microinstruction, but constraining the number of bit positions allocated to the current instruction portion so that its ability to control various operations within the data processing system is relatively small. For other microinstructions which require considerable control capability and therefore require the maximum number of current instruction bits, the number of bits allocated to the next microinstruction address is accordingly limited.

3,380,026
PROGRAM CONTROL SYSTEM FOR ORGANS OR THE LIKE
Robert F. Cooper, Homer, and Douglas E. Powell, North Syracuse, N.Y., assignors to Homertronics, Inc., a corporation of New York
Filed Jan. 6, 1965, Ser. No. 423,739
20 Claims. (Cl. 340—172.5)



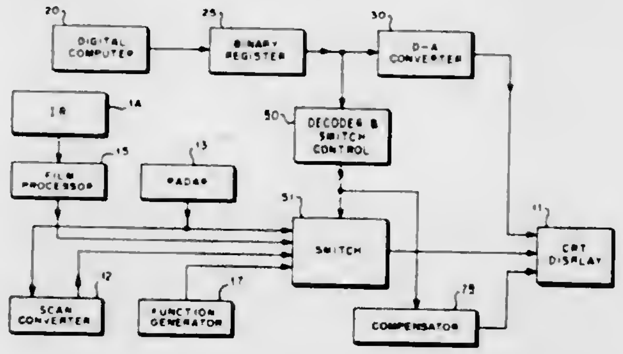
Individually operated stops or couplers of an organ are solenoid operated in selected groups, each group being controlled through a selector switch that sequentially controls read out of memory devices, energization of the solenoids and read in of operating signals to the memory devices associated with the solenoids of the selected group. The signals stored in the memory devices may be cleared and a new selection made by simultaneous manual actuation of a group of stops or couplers and the selector switch.

3,380,027
ELECTRONIC COMPUTER SYSTEM
Vernon C. Kamm, Farmington, John R. Van Andel, Dearborn, and Arliss E. Whiteside, Royal Oak, Mich., assignors to The Bendix Corporation, Southfield, Mich., a corporation of Delaware
Filed Feb. 1, 1965, Ser. No. 429,371
3 Claims. (Cl. 340—172.5)



A computer for receiving and processing outputs from a plurality of quantizers which emit pairs of square waveforms alternating between two levels depending upon the rate and direction of motion of the quantizer input. More particularly a computer to sample the outputs of these quantizers on a time-shared basis at a frequency of sampling which allows no more than two changes of each quantizer output.

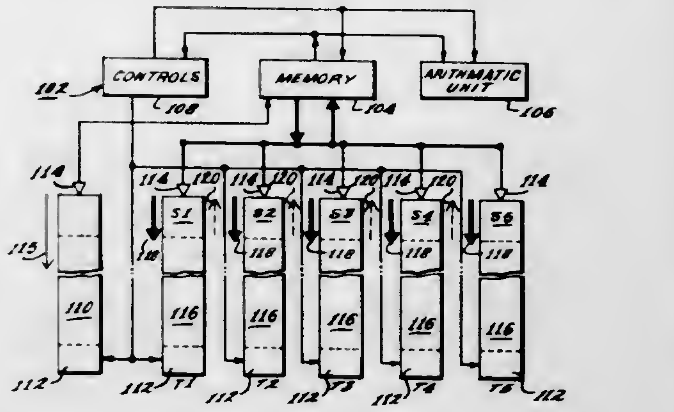
3,380,028
MULTI-SENSOR DISPLAY APPARATUS
Walter R. Gustafson, Furlong, and William H. McMillen, Levittown, Pa., assignors to the United States of America as represented by the Secretary of the Navy
Filed Mar. 25, 1965, Ser. No. 442,842
9 Claims. (Cl. 340—172.5)



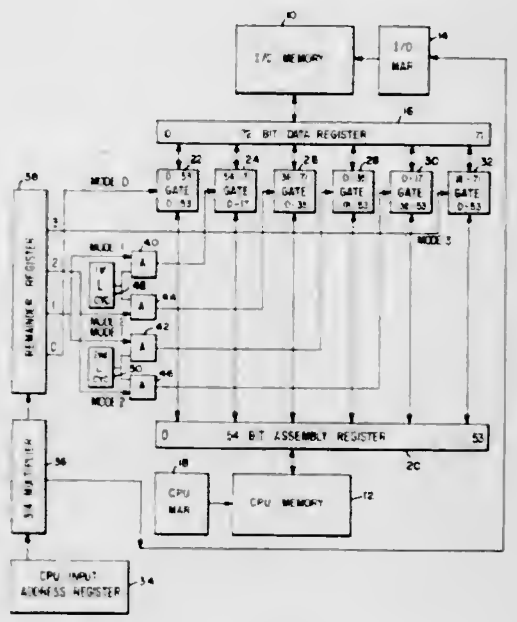
A binary coded multiplexing system for producing a composite CRT display of various information formats such as infrared, radar, scan converters and function generators. Each format has a corresponding digitally encoded word for X and Y displacement coordinates and format identification. The displacement coordinates are converted into analog signals for combining with the format deflection coordinates, and the format identification portion selects one of the plurality of formats for display. Thus, various formats of information may be multiplexed for simultaneous display about different points on the display irrespective of the sequence in which they are multiplexed. Compensation for respective formats is also provided.

3,380,029
SORTING SYSTEM
Martin A. Goetz, Princeton, N.J., assignor to Applied Data Research, Inc., a corporation of New Jersey
Filed Apr. 9, 1965, Ser. No. 447,002
2 Claims. (Cl. 340—172.5)

In a data processing system employing a computer and a plurality of magnetic tape units, a control system for sorting data is made up of three iterative control-signal loops. A first such loop successively develops sets of data signal combinations into sorted strings of the first order which are successively written on the tape units. Each tape unit is rewound while a successive one of the tape units is receiving its sorted string. A second such loop performs a merge on all of these first-order strings except one, and the resultant second-order merged string is written on the remaining tape unit. When all of the tape units have merged strings of the same higher order, the second loop performs an additional merge of all but one of these strings and writes the string of the next higher order on the remaining tape. A third loop directs the alternating operation of the first and second control loops.



3,380,030
APPARATUS FOR MATING DIFFERENT WORD LENGTH MEMORIES
Robert F. McMahon, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed July 29, 1965, Ser. No. 475,691
4 Claims. (Cl. 340—172.5)

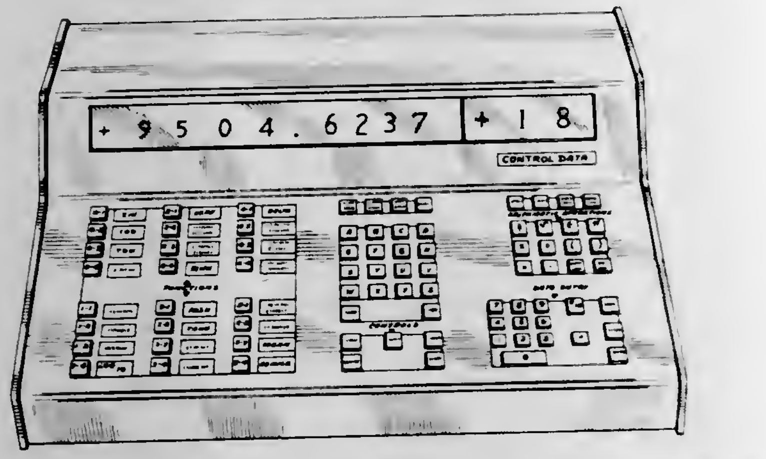


An apparatus for mating together two word organized memories having different word lengths to facilitate bidirectional communication between them in a manner which enables maximum data packing. If two such memories A and B have effective word lengths *a* and *b*, respectively, a data word address compatible with memory A is multiplied by a/b and memory B is addressed with the whole number product of the multiplication. Predetermined bit groups of data are then transferred between memories A and B in response to the fractional remainder of the multiplication.

3,380,031
REMOTE CALCULATOR

Billy Burke Clayton and Robert Ernest Fagen, Los Angeles, Wilbur Wood Marshman, Gardena, and Horace Milton Wolbrecht, Long Beach, Calif., assignors to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota

Filed Aug. 10, 1965, Ser. No. 478,543
4 Claims. (Cl. 340—172.5)

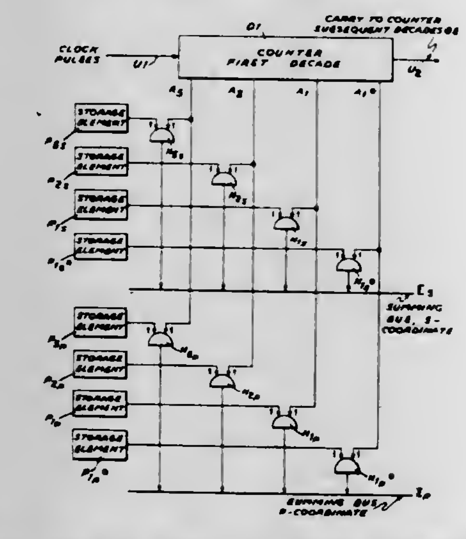


A data processing system where many input/output devices communicate with a central processor is disclosed. Each remote input/output device has a manual keyboard, a first display for lighting the particular key depressed to indicate the reception of the key actuation by the central processor, and a second display for indicating the result of a computation by the central processor. The keyboard includes alpha-numeric keys and functional keys such as keys calling for the execution of arithmetic operations. A preferred embodiment of a remote input/output device and its interaction with the central processor are explained.

3,380,032
STORAGE AND LOGIC NETWORKS

Antonin Rokos, Prague, and Jaroslav Matejka, Rakovnik, Czechoslovakia, assignors to Vyzkumny ustav matematickych stroju, Prague, Czechoslovakia

Filed Aug. 13, 1965, Ser. No. 479,463
10 Claims. (Cl. 340—172.5)

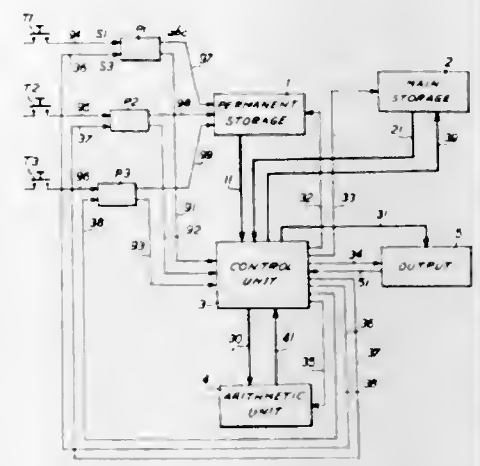


Storage circuits have an input connection to record information signals applied thereto, a non-destructive readout connection to deliver information stored therein, and an interrogation input connection effective to obtain an output at the readout connection and to cause restorage of the information in the storage circuit. A dual storage combiner includes a first coincidence stage which combines the outputs from the readout connections of the storage circuits of the same weight to form a composite output. The dual stage combiner includes a second coincidence stage which combines the composite outputs to a single output signal.

3,380,033
COMPUTER APPARATUS

Václav Černý, Prague, Czechoslovakia, assignor to Výzkumný ústav matematických strojů, Prague, Czechoslovakia

Filed Sept. 2, 1965, Ser. No. 484,529
Claims priority, application Czechoslovakia, July 17, 1963, 4,141/63
6 Claims. (Cl. 340—172.5)

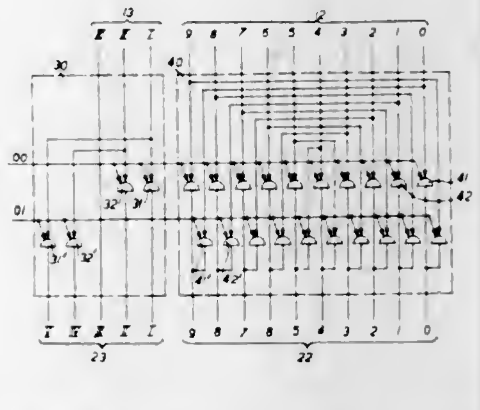


A main data memory, an auxiliary storage and a control unit are connected in parallel with each other. The auxiliary storage permanently stores a plurality of predetermined programs. An actuating circuit for actuating the auxiliary storage enables read out from the auxiliary storage to the control unit for a time sufficient to read-out an entire predetermined program. A manually controlled keyboard controls the actuating circuit to control the direct transfer of a program from the auxiliary storage to the control unit.

3,380,034
ADDRESSING SYSTEM FOR COMPUTER MEMORIES

Václav Černý, Prague, Czechoslovakia, assignor to Výzkumný ústav matematických strojů, Prague, Czechoslovakia

Filed Sept. 2, 1965, Ser. No. 484,611
Claims priority, application Czechoslovakia, July 17, 1963, 4,139/63
9 Claims. (Cl. 340—172.5)

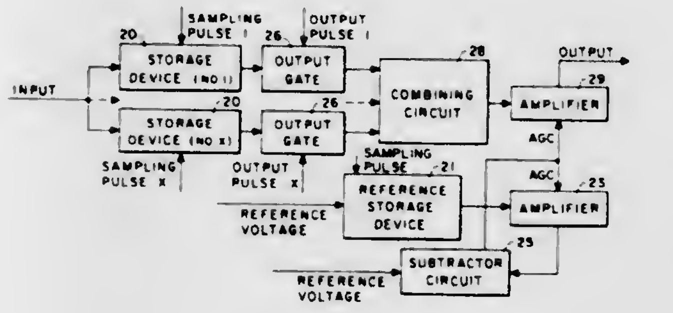


In an address system for computer memories, in which the word length capacity is half a complete word length and the complete words are addressed by a pair of addresses, the first address is directly retrieved from the pair of addresses. The other address is obtained from the pair of addresses by a change in value of the digit of the highest decimal order only of the first address if the highest possible digit of the respective decimal order is an even digit and by a change in value of digits of the two highest decimal orders of the first address if the highest possible digit in the highest decimal order of any address number is an uneven digit. A selectively operable control arrangement provides retrieval and read-out of address words directly for the one address of the pair and provides retrieval and read-out of changed values of address words for the other address of the pair.

3,380,035
MULTIPLE ELEMENT ANALOG STORAGE SYSTEM

Klaus J. Hecker, Riverside, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed Aug. 24, 1964, Ser. No. 391,815
18 Claims. (Cl. 340—173)



1. A multiple channel analog storage system for storing a multiplicity of electronic voltage levels and which permits the use of a signal even after a substantial change in the stored voltage level, comprising:

(a) a plurality of storage devices, each of which will store a signal voltage level for a period of time,

(b) one of said storage devices being used as a reference storage device,

(c) all of the storage devices being charged with a voltage level at substantially the same time, said reference storage device being charged with a reference voltage and the other of said storage devices being charged with an input signal,

(d) first and second identical variable gain amplifying means,

(e) said first variable gain amplifying means for amplifying the output of said reference storage device,

(f) automatic gain control means to which the output of said first amplifying means is fed and compared to said reference voltage, the result of this comparison being fed to and used to control the gain of both of said amplifying means,

(g) the output of said first amplifying means always being substantially equal to said reference voltage by automatic gain adjustment of said first amplifying means by said automatic gain control means,

(h) an output gating means for each of the other of said storage devices,

(i) a combining circuit,

(j) the outputs of the other of said storage devices being individually gated out through said output gating means into said combining circuit as desired,

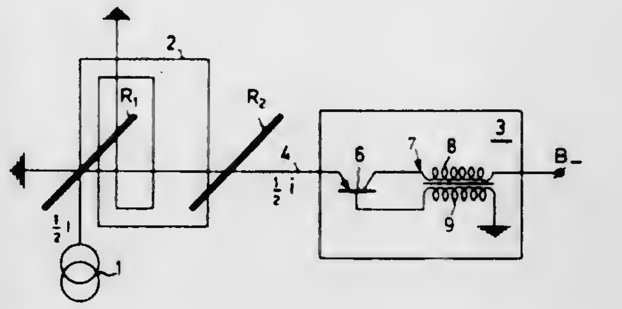
(k) said combining circuit in turn connecting certain outputs from said gates to said second amplifying means which always has the same gain as said first amplifier means since both amplifiers are controlled by said automatic gain control means,

(l) the output of said second amplifier thus being at substantially the original level stored into a particular signal storage device connected to the second amplifier at a particular time.

3,380,036
SHIFT REGISTER OF THE KIND COMPOSED OF STORAGE CORES

Johannes Hermanus Maria Scholten, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Nov. 4, 1963, Ser. No. 321,700
Claims priority, application Netherlands, Nov. 2, 1962, 285,016
5 Claims. (Cl. 340—174)

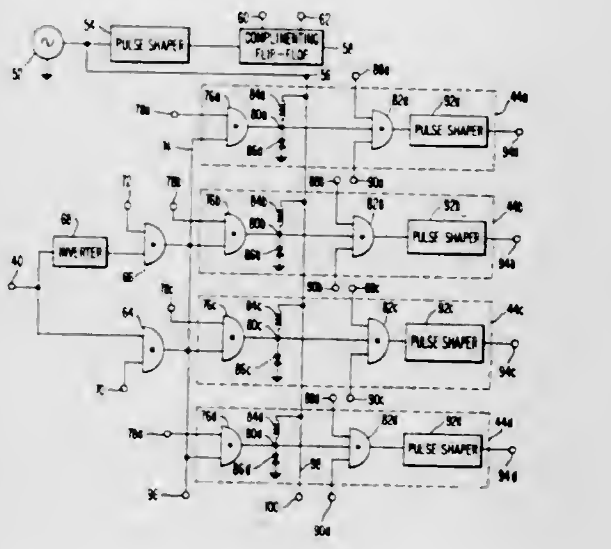


A shift register composed of magnetic cores wherein information is transferred from a first core to an adjacent core by generating in the first core a magnetic field one and one half times that necessary to reset the core, simultaneously generating in the adjacent core a magnetic field of one half the magnitude necessary to set the adjacent core, sensing the state change of the first core in a winding common to both cores and generating in the common winding by the use of a blocking oscillator a field which when added to the field initially generated in the adjacent core changes the state of that core.

3,380,037
BISTABLE DEVICE

Donald R. Zacharda, West Chester, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

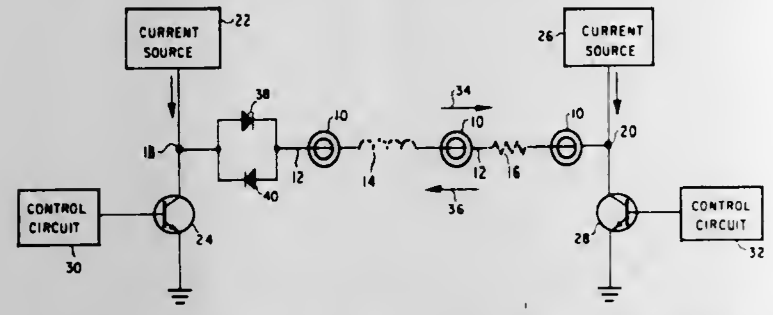
Filed Dec. 27, 1963, Ser. No. 333,847
18 Claims. (Cl. 340—174)



A novel bistable device, and memory apparatus incorporating the same, including energy storage means electrically coupled to valve means which conducts during only a portion of the cycles of an AC voltage impressed across them as may be observed on an output terminal electrically connected between them.

3,380,038
ELECTRONIC SWITCHING CIRCUITS

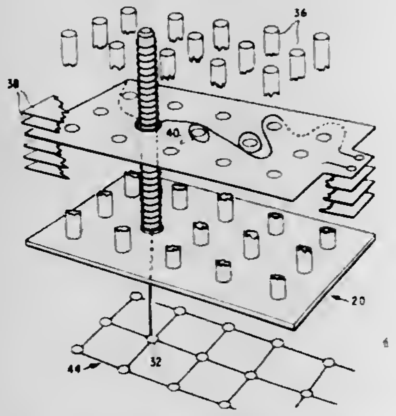
Edmund U. Cohler, Brookline, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Continuation of application Ser. No. 60,613, Oct. 5, 1960. This application Feb. 14, 1964, Ser. No. 346,370
3 Claims. (Cl. 340—174)



To actuate rows of ferrite cores, a drive circuit employs two series combinations each having a current source and a transistor. A conductor is connected between common junctions of each of the series combinations and passes through the cores to be driven. Current can be driven in either direction between a source and a transistor at opposite ends of the conductor.

3,380,039
READ ONLY MAGNETIC MEMORY MATRIX

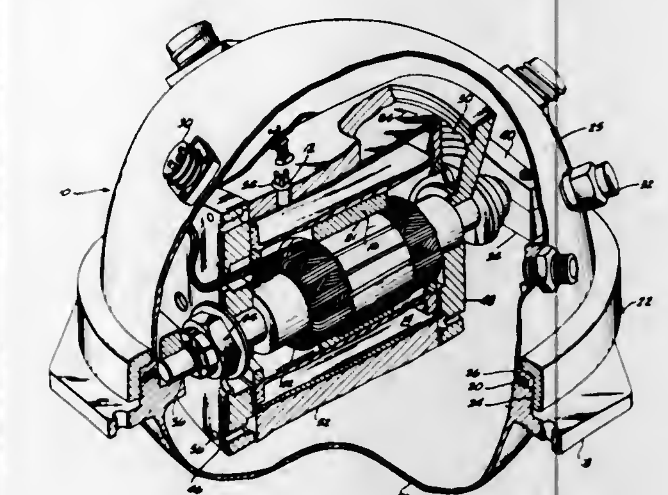
George G. Pick, Waltham, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Continuation of application Ser. No. 163,451, Jan. 2, 1962. This application July 3, 1967, Ser. No. 651,047
6 Claims. (Cl. 340—174)



1. A read only memory system comprising:
a first plurality of electrically insulative sheets each having a second plurality of holes therein arranged in a common pattern, said sheets being arranged in a stacked configuration with the pattern of holes in respective sheets being in registration to provide aligned openings through all of said sheets;
a plurality of solenoids each capable of providing a substantially uniform magnetic field throughout its length, each solenoid extending through a respective aligned opening;
a conductive pattern disposed on each sheet in a unique physical configuration representing data, the conductive pattern on each sheet having portions, each portion being in inductive coupling relationship to a predetermined degree with a respective one of said solenoid;
means coupled to said solenoids and operative to energize selected ones thereof to cause signals of predetermined magnitudes to be inductively coupled to respective conductive patterns; and
means coupled to each of said conductive patterns and operative to compare the magnitudes of the signals induced in respective conductive patterns.

3,380,040
HYDRODYNAMIC BEARING SUPPORT FOR A MAGNETIC DRUM

William H. Liggett, Redondo Beach, and Alvin L. Frankel, Los Angeles, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Apr. 1, 1964, Ser. No. 356,439
6 Claims. (Cl. 340—174.1)

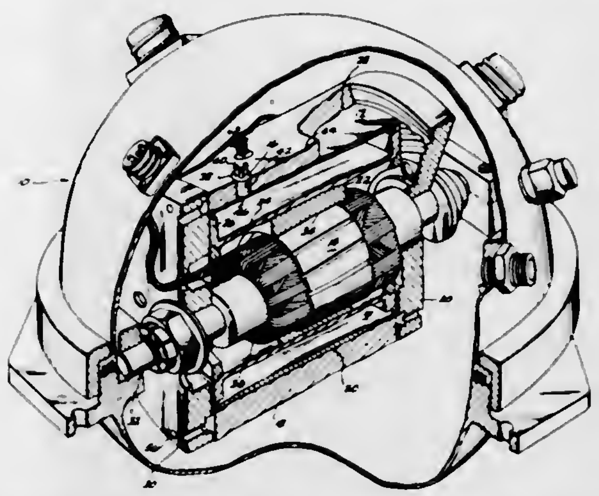


An information storage device includes a rotatable magnetic drum which is journaled by air bearings in both a radial and axial manner within a stationary structure which supports electromagnetic transducers. The axial and radial support is effected by hydrodynamic means which is aroused only when the drum rotates with respect to the support structure. Axial support is provided by means of a pair of end thrust plates which are secured to the support structure. Grooves are formed in the end thrust plates and face the end surfaces of the rotating drum. Ports are placed in the thrust plates to permit flow of the axial support fluid. Radial support is effected by placing the peripheral surface of the drum very close to the inner surface of the support structure so that a hydrodynamic fluid lubricant is produced upon rotation of the drum. The drum comprises a thin outer surface and a thin inner surface which are joined at their ends by flanges and the drum has a through opening so that it has the appearance of an enclosed annular chamber. The flanges act as the end surfaces of this drum which coact with the grooves in the thrust plates to provide the axial support of the drum. A rotor is secured to the inner surface of the drum and a stator is coaxially positioned within the rotor.

3,380,041
MAGNETIC TRANSDUCER ASSEMBLY SUPPORT STRUCTURE

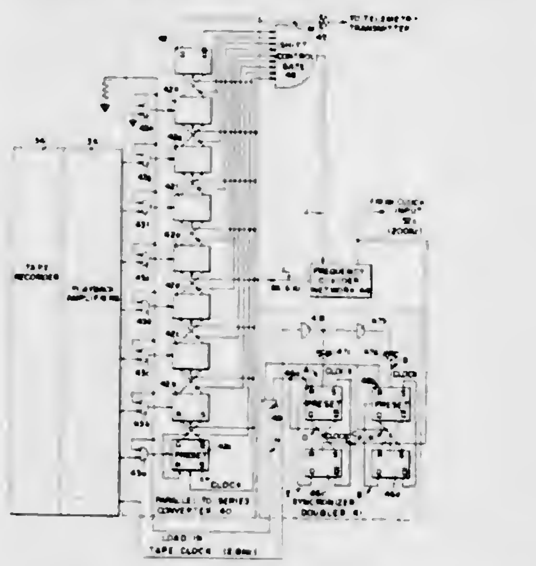
William H. Liggett, Redondo Beach, and Alvin L. Frankel, Los Angeles, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Apr. 1, 1964, Ser. No. 356,453
6 Claims. (Cl. 340—174.1)

An electromagnetic transducer assembly is rigidly supported in and by a fixed structure of an information storage device. The assembly and structure are closely spaced from a rotating drum having magnetically sensitive material for storage of information. The support structure includes a plurality of cylindrical bores which extend from the outer periphery of the structure to substantially the inner periphery of the structure to provide a flat end wall. A rectangular opening in the end wall opens the bores to the interior of the support structure. The transducer assembly has a core which has a pair of steps at the pole pieces thereof and these steps are adapted to contact the end wall of the structure when the transducer is placed within the bore. The pole pieces of the transducer will then extend through the opening in the end wall so that it will be closely spaced from the magnetic sensitive surface. The transducer assembly also includes a material which has a thermal coefficient of expansion which is substantially similar to the thermal coefficient of expansion of the material of the support structure so that any change of temperature will not vary the distance by which the transducer pole piece extends within the opening in the end wall.



3,380 042
DIGITAL TELEMETRY SYSTEM

Marjorie R. Townsend, Washington, D.C., and Paul M. Feinberg, Silver Spring, Md., assignors to the United States of America as represented by the Administrator of National Aeronautics and Space Administration
Filed Aug. 28, 1964, Ser. No. 392,973
14 Claims. (Cl. 340—174.1)

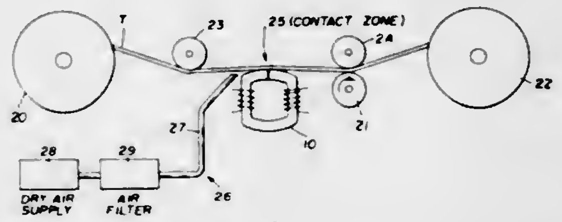


Apparatus to compensate for wow and flutter induced in telemetry systems that utilize a storage medium such as a tape recorder. Digital words are converted into a serial pulse train which is transmitted at a constant bit rate. A variable number of digital bits is added at the end of the serial pulse train associated with each word to result in a constant output bit rate thus compensating for tape recorder speed variations.

3,380,043
MAGNETIC RECORDING SYSTEM HAVING AN OPERATIONAL ENVIRONMENT OF LOW RELATIVE HUMIDITY

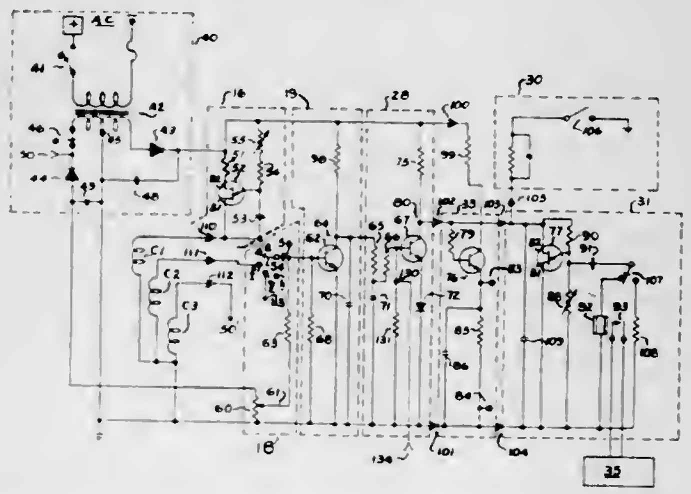
John F. Carroll, Jr., and Robert C. Gotham, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Mar. 25, 1965, Ser. No. 442,685
9 Claims. (Cl. 340—174.1)

A magnetic recording and reproducing system comprising a transducing head and means for moving a magnetic record member in operative relationship past the transducing head wherein means is provided to maintain the relative humidity at the transducing head at about 20% to minimize wear of the transducer head.



3,380 044
UNIVERSAL-SENSOR CONTROL SYSTEM

George Mordwinkin, Norwalk, Conn., assignor to Sensor Corporation, Greenwich, Conn., a corporation of Connecticut
Filed Sept. 4, 1964, Ser. No. 394,589
23 Claims. (Cl. 340—213)

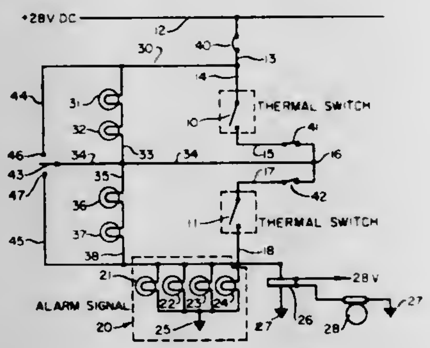


15. A detection and control device for providing a detection output in response to actuation of a sensor detector head including:
a free running oscillator for driving a sensor head,
a sensor head including a first winding, a second winding and a third winding in close relation with each other,
said first winding coupled to said oscillator so as to be a part thereof for driving said sensor head and for changing the amplitude of the oscillator output upon actuation of said sensor head,
an amplifier detector for detecting an amplitude change of the oscillator and for providing an output representing such amplitude change,
said second winding coupled to said amplifier detector for applying the output of said oscillator to said amplifier detector,
a threshold control coupled to said amplifier detector for controlling the sensitivity of said amplifier detector,
means for coupling said third winding to said threshold for maintaining the sensitivity of said amplifier detector substantially constant over a wide range of temperature affecting said sensor head,
a rectifier coupled to said amplifier for providing a direct current signal in response to the output of said amplifier detector, said direct current signal being proportional to the amplitude change so detected, and
output means coupled for receiving said direct current signal and for providing a detection output representing actuation of said sensor head.

3,380,045

REDUNDANT FIRE DETECTION CIRCUIT

John E. Lindberg, 1211 Upper Happy Valley Road, Lafayette, Calif. 94549
Filed Apr. 26, 1965, Ser. No. 450,645
16 Claims. (Cl. 340—227)

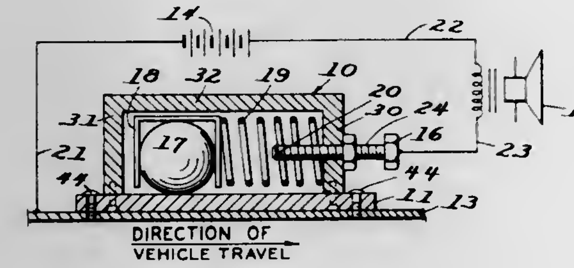


This so-called "redundant-type" of fire detector circuit combines a source of power with two fire detector switches which are in series with each other and with the power source, and an alarm signal also in series with the fire detector switches. The alarm signal may comprise a parallel network of signal lamps with power return means on the opposite side of the network from the fire detector switches. A circuit breaker lies between the power source and the fire detector switches. A caution signal in parallel with each fire detector switch comprises a plurality of signal lamps in series having a higher total resistance than alarm network, so that one, but not both of the caution signals will light if only one of the fire detector switches is closed, while the alarm signal will light instead of the caution signal if both fire detector switches are closed. A low-resistance shunt path parallel to each fire-detector switch and to its caution signal has a normally open manually operable switch for closing the shunt path. Other test switches are also provided in preferred forms.

3,380,046

WARNING SYSTEM AND SWITCHES THEREFOR

Thomas A. Paonessa, 18065 Albion Ave., Detroit, Mich. 48234
Filed Aug. 23, 1965, Ser. No. 481,808
5 Claims. (Cl. 340—262)



1. A vehicle deceleration warning system comprising a warning device, an electrical circuit including said warning device, and a normally open switch in said circuit which closes upon deceleration of the vehicle to energize said warning device; said switch comprising
  a case having a horizontal axis;
  said case being made of electrically non-conductive material;
  said case having opposite first and second ends, intermediate side walls, and a top wall defining an internal chamber;
  a metal electrically conductive bottom plate on said case connected in one side of said circuit;
  a metal ball in said case chamber in electrical contact with said metal plate;
  a metal cage over said metal ball in electrical contact with said ball;
  a spring lying between said cage and a first end wall of said case normally locating said cage and ball at the second end of said case chamber;
  a terminal connected to the other side of said circuit extending through said case first end wall internally of and out of contact with said spring;
  said case axis being aligned with the vehicle axis with said first wall and terminal facing forwardly in the vehicle;
  said ball and cage upon deceleration of the vehicle compressing said spring to contact said terminal thereby closing the circuit to energize said warning device.

3,380,047

DIGITAL COMPLEMENT GENERATOR

Allen E. Gordon, Fairfield, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Oct. 6, 1964, Ser. No. 401,912
5 Claims. (Cl. 340—347)

A digital complement generator which permits a check of the circuitry of a noncontacting encoder in which a sensor mounted for movement with relation to spaced elements disposed along a track is energized by a reversible phase or alternating current signal so as to produce an output signal having one phase when the sensor registers with an element and having an opposite phase when the sensor registers with an interelement space. First phase-sensitive detecting means responsive to the signal and to the source provides an output only when the signals are in phase and second phase-sensitive means responsive to the signal and to the source provides an output only when the signals are out of phase. An exclusive OR circuit responsive to the two detecting means permits a check of the operation of the circuitry.

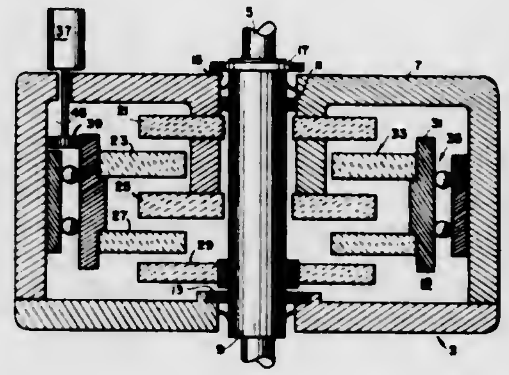
3,380,048

PRECISION ANGLE ENCODER TRANSDUCER

William S. Sepich, Cinnaminson, and Harry Langer, Willingboro, N.J., assignors to the United States of America as represented by the Secretary of the Navy
Filed Mar. 18, 1965, Ser. No. 440,961
4 Claims. (Cl. 340—347)

1. A precision transducer sensitive to the angular disposition of a rotatable member, said transducer comprising:
  (a) a first electrically non-conductive disk secured to the rotatable member for rotation therewith;
  (b) second and third electrically non-conductive disks fixedly mounted in separale planes parallel to the plane of the first disk;
  (c) a fourth electrically non-conductive disk positioned in a plane parallel to and between the second and third disks;
  (d) a fifth electrically non-conductive disk positioned in a plane parallel to and between the first and third disks, each of the five recited disks having a common axis of symmetry;

  (e) means for rotating the fourth and fifth disks in unison at a predetermined constant angular velocity;
  (f) means providing both sides of the peripheral surface of the third disk with a layer of an electrically conductive material;
  (g) means providing the surfaces of the fourth and fifth disks adjacent the third disk with a layer of an electrically conductive material;
  (h) means electrically connecting the layer of material on the third disk to ground;
  (i) means providing a first pattern of electrically conductive material on the surface of the first disk adjacent the fifth disk, said first pattern including 1024 identical equally spaced bars each connected to a first circular band;
  (j) a source of D.C. potential connected to first circular band;
  (k) means providing a second pattern of electrically conductive material on the said surface of the first disks, said second pattern including 25 identical bars each connected to a second circular band which is concentric with the first circular band, the said 25 bars being so spaced about the second circular band that when a pattern identical to the second pattern is provided on the adjacent surface of the fifth disk, the 25 bars of the juxtaposed patterns are directly opposite one another in one and only one rotational position;



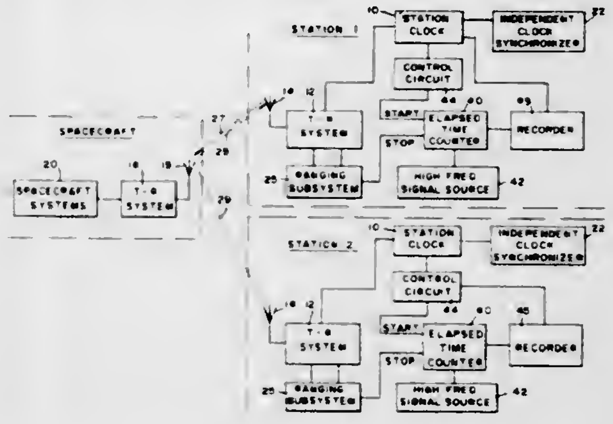
  (l) means for connecting the source of D.C. potential to the second circular band;
  (m) means providing a first and second pattern of electrically conductive material on the surface of the second disk adjacent the fourth disk, similar to the patterns on the first disk;
  (n) means providing a pair of patterns of electrically conductive material on the surface of the fourth disk adjacent the second disk, the corresponding component bars of the patterns on the second and fourth disks being directly opposite one another when the second and fourth disks occupy predetermined relative rotational positions;
  (o) and means providing a pair of patterns of electrically conductive material on the surface of the fifth disk adjacent the first disk, the corresponding component bars of the patterns on the first and fifth disks being directly opposite one another when the first and fifth disks occupy predetermined relative rotational positions.

3,380,049

METHOD OF RESOLVING CLOCK SYNCHRONIZATION ERROR AND MEANS THEREFOR

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Carl W. Johnson, Covina, and Warren L. Martin, La Canada, Calif.
Filed May 17, 1967, Ser. No. 640,455
16 Claims. (Cl. 343—6.5)

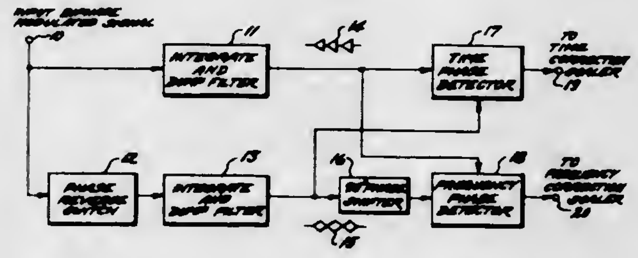
The method and means for resolving the synchronization error of clocks in a plurality of stations tracking a spacecraft or satellite. It includes sources of high frequency signals, accurately counted in the stations between start pulses produced in the stations from clocks, independently synchronized to within several milliseconds, and stop pulses produced in response to a signal received from the spacecraft. The count in each station represents an accurate time interval. The difference between the measured intervals equals the time period related to the range difference between the stations and the spacecraft, a time period representing known system errors, and the clock synchronization error. Knowing the range differences and the system errors the clock synchronization error is easily computed.



3,380,050

DOPPLER FREQUENCY-TIME ERROR DETECTOR

Ronald E. Hileman, Clarence, N.Y., assignor to the United States of America as represented by the Secretary of the Air Force
Filed May 1, 1967, Ser. No. 635,969
2 Claims. (Cl. 343—8)


INPUT BIPHASE MODULATED SIGNAL
10
11
INTEGRATE AND DUMP FILTER
14
17
TIME PHASE DETECTOR
TO TIME CORRECTION SCALER
19
12
PHASE REVERSE SWITCH
13
INTEGRATE AND DUMP FILTER
16
90° PHASE SHIFTER
18
FREQUENCY PHASE DETECTOR
TO FREQUENCY CORRECTION SCALER
20
15

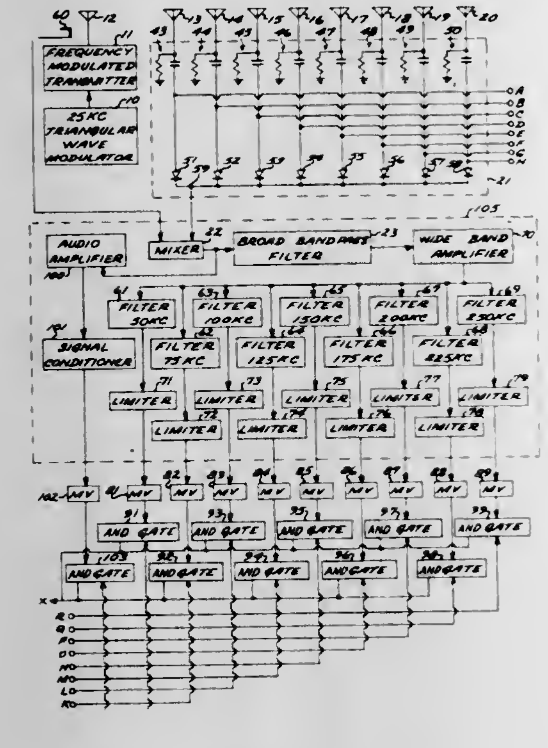
A Doppler frequency-time error detector which includes a combination of two conventional integrate and dump filters and two phase detectors wherein the output of the first of the integrate and dump filters provides a reference signal to both phase detectors and the second integrate and dump filter is preceded by phase reversing means. The phase of output of the second integrate and dump filter is compared to the first for a time error signal and the output phase of the second is phase shifted 90° and then compared to the output phase of the first for a frequency error signal thus providing orthogonal time and frequency error signals.

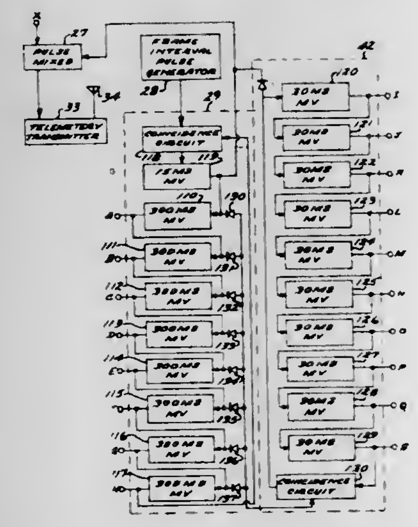
3,380,051

RANGE AND ANGLE MEASURING SYSTEM

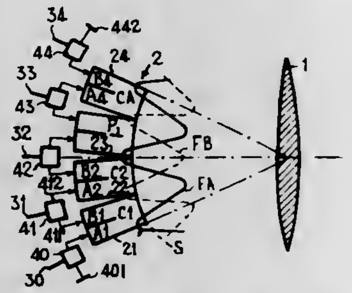
Victor F. Cartwright, Fullerton, Calif., assignor to Babcock Electronics Corporation, Costa Mesa, Calif., a corporation of California
Filed Apr. 28, 1966, Ser. No. 545,930
14 Claims. (Cl. 343—10)

The range and angle measuring system is disclosed in the specification. It includes a frequency modulated transmitter, a receiver of signals from the transmitter both directly and after reflection from an object whose range is to be indicated, and an apparatus for indicating direction and range to the object. The receiver has multiple outputs each effective to pass signals reflected from a difference range. Multiple antennas are provided one for each relative direction from which reflections are to be received. The indicating apparatus provides a separate indication for each antenna and the antennas, receiver outputs and indicators are switched coordinately.



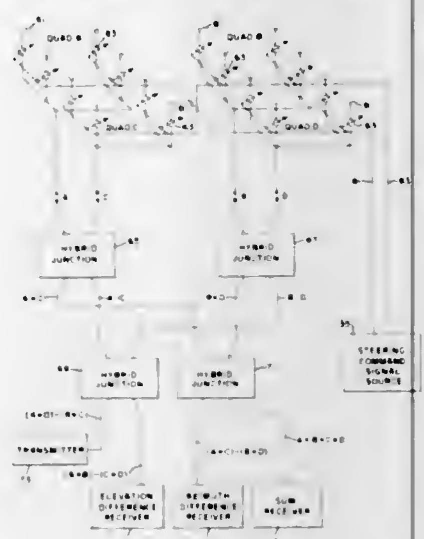


3,380,052
MULTIBEAM ANTENNA SYSTEM
Serge V. Drabowitch, Chatenay-Malabry, and Michel Morlon, Massy, France, assignors to Compagnie Francaise Thomson Houston-Hotchkiss Brandt, Paris, France, a corporation of France
Filed Oct. 17, 1966, Ser. No. 587,067
Claims priority, application France, Oct. 15, 1965, 35,191
19 Claims. (Cl. 343—16)



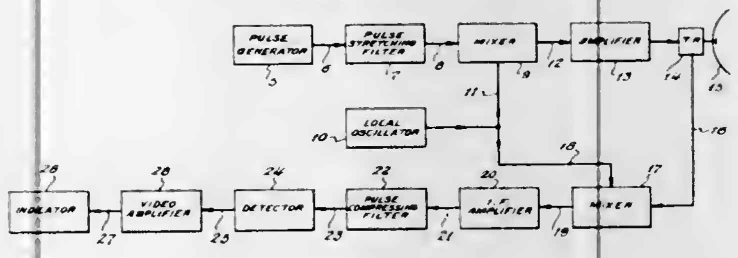
This invention teaches a new principle for the construction of multibeam antenna systems more especially in regard to the antenna arrays constituting the primary radiating sources in such systems.

3,380,053
DUPLEXING MEANS FOR MICROWAVE SYSTEMS UTILIZING PHASED ARRAY ANTENNAS
Terrence E. Connolly, Baldwinsville, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 22, 1966, Ser. No. 603,988
6 Claims. (Cl. 343—16)


QUAD
HYBRID JUNCTION
TRANSMITTER
STEERING COMMAND SIGNAL SOURCE
ELEVATION DIFFERENCE RECEIVER
AZIMUTH DIFFERENCE RECEIVER
SUM RECEIVER

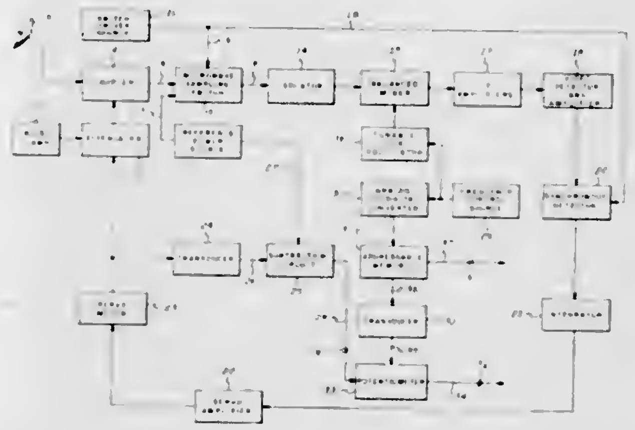
This invention is directed to the provision of duplexing between transmitter and receiver in radar and communications systems. It has application to systems utilizing phased array antennas in which adjustable phase shifters in the feed lines to each of the radiating elements of the array provide beam forming and steering control for the transmit and receive beams, and in which two opposite sides of the array connect to 3 db terminals of a hybrid junction also providing sum and difference terminals to which the transmitter and receiver connect. In such systems transmit-receive duplexing may be accomplished without need for discrete duplexing devices by providing control signals to the phase shifters on each side of the array effective to establish a phase relation between them during transmission intervals which differs by approximately 180° from that maintained during reception intervals, to thus commutate the sum and difference terminals of the hybrid in a way such that on transmit the sum terminal connects to the transmitter and on receive it connects to the receiver.

3,380.054
PULSE-TYPE RADAR SYSTEM
Charles E. Cook, Farmingdale, and Charles E. Brockner, Amityville, N.Y., assignors to Sperry Rand Corporation, a corporation of Delaware
Filed July 25, 1955, Ser. No. 524,054
7 Claims. (Cl. 343—17.2)



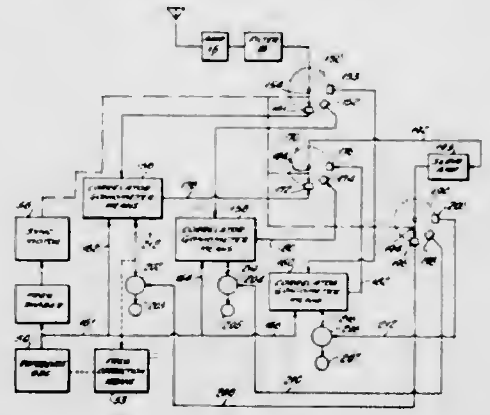
7. A radar system comprising a source of short duration pulses of radio frequency waves, a first filter having a transfer characteristic whose phase response is a function of frequency for extending the durations of said short duration pulses, a transmitter coupled to said filter for amplifying said extended pulses and transmitting the same, means for receiving an echo of said transmitted pulses, a second filter having a transfer characteristic which is inverse to that of said first filter coupled to the output of said receiving means for shortening the durations of said received pulses, and means coupled to said source and to the output of said second filter for comparing the initial short pulses and the shortened received pulses.

3,380,055
MILLIMETER WAVE RADIOMETER SYSTEM FOR MEASURING AIR TEMPERATURE
Benjamin R. Fow, Waltham, Richard F. Hazel, Marlborough, and Wayne D. Mount, South Lincoln, Mass, assignors to Sperry Rand Corporation, a corporation of Delaware
Filed Jan. 7, 1966, Ser. No. 519,354
6 Claims. (Cl. 343—100)



Temperature of a conical volume of air is measured by a directive radiometer in the band 60–120 kmc. using radiation from oxygen molecules. The length of the volume measured may be varied by varying the frequency of the radiometer because of its known relationship to the absorption coefficient. By measuring power level at different frequencies the weighted mean air temperature can be determined for different depths. Stored calibration corrections (variation of apex angle with frequency, etc.) are applied.

3,380,056
SIMPLIFIED OMEGA RECEIVER UTILIZING PHOTO-RESPONSIVE CORRELATOR
Robert T. Adams, Short Hills, and Raymond O. Schildknecht, Clifton, N.J., assignors, by mesne assignments, to Communication Systems, Incorporated, Carson City, Nev., a corporation of Nevada
Filed Feb. 17, 1964, Ser. No. 345,304
39 Claims. (Cl. 343—105)



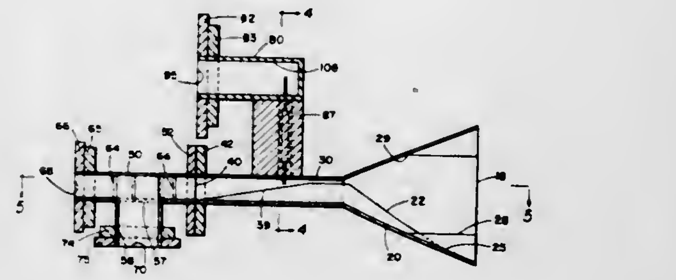
14. A receiver for determining the position of a craft by measuring the phase difference between pairs of synchronized low frequency signals of the same frequency produced at different time intervals by at least three fixed, spaced apart transmitting stations, said receiver comprising

- input means for receiving said low frequency signals,
- a plurality of electromechanical correlating means having two inputs and an output and operable to produce an output signal indicative of the phase difference between signals applied to the inputs thereof,
- one input of said correlating means being coupled to said input means to receive said low frequency signals,
- reference oscillator means operable to produce a reference signal which comprises the other input to said correlator means,
- first commutator means operable selectively to apply said low-frequency signals to said correlating means at discrete time intervals synchronized with the time intervals at which respective low frequency signals are received, and
- means coupled to the output of said correlator means to indicate the phase difference between each of said low frequency signals and said reference signal, thereby indicating the position of said craft.

19. The combination defined in claim **14** in which said correlating means comprises

- a plurality of light bulbs,
- means to apply at least one of said two inputs to said light bulbs to selectively vary the illumination produced by each lamp in accordance with the phase of said one input signal,
- a plurality of photoresponsive elements adapted to be illuminated by said light bulbs,
- means to apply said other input to said photoresponsive elements,
- said photoresponsive elements being connected together to produce an output signal indicative of the phase difference between said input signals,
- and output means coupled to said photoresponsive elements to alter the relative position of said lamps to said photoresponsive elements.

3,380,057
DUAL BAND RIDGED FEED HORN
Jimmy Dean Osborn, Phoenix, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed July 20, 1965, Ser. No. 473,302
7 Claims. (Cl. 343—779)



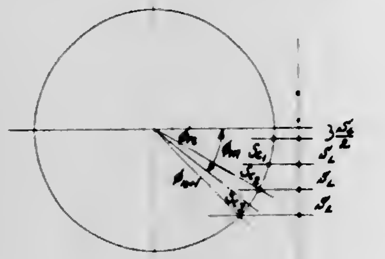
1. A multiple frequency antenna and feed assembly including in combination, ridged horn means, first ridged waveguide means coupled to said ridged horn means, a hybrid junction coupled to said first ridged waveguide means, said ridged waveguide means having transition means for coupling electromagnetic energy of one polarization and in one frequency band between said ridged waveguide means and said hybrid junction, a second waveguide, coupling means for coupling the electromagnetic energy of said one polarization and in another frequency band between said first ridged waveguide means and said second waveguide.

3,380,058
NEAR SIDELOBE SUPPRESSION IN A SINGLE-RING DIRECTIONAL ARRAY WITH HORIZONTAL BEAM DIRECTION

Klaus G. Schroeder, Dallas, Tex., assignor to the United States of America as represented by the Secretary of the Air Force

Filed Nov. 10, 1965, Ser. No. 507,261

2 Claims. (Cl. 343—844)



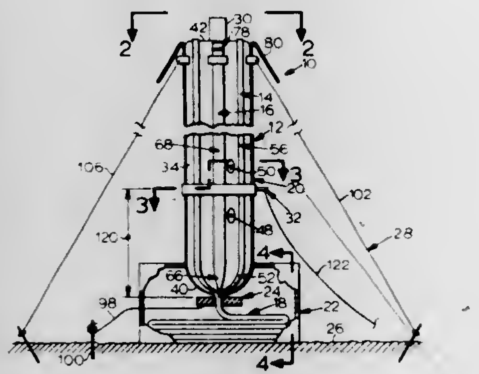
1. A single-ring circular array comprising
a series of radiating elements arranged in a single plane to form a circle,
the spacing of said radiators being such that the projection of their separations on a line tend to produce substantially uniform spacing along the line, and
means for equally and cophasally exciting said radiators.

3,380,059
VERTICAL ANTENNA WITH INFLATABLE SUPPORT AND TRANSMISSION LINE FEED

Lester S. Pearlman, Bethel, Conn., assignor to General Precision Inc., Little Falls, N.J., a corporation of Delaware

Filed Feb. 11, 1965, Ser. No. 431,839

1 Claim. (Cl. 343—829)



An inflatable elongated vertical cylindrical structural mast with a multiplicity of peripheral conductor strips longitudinally spaced about the mast axis held in position by a base support and guy means. The strips are connected in parallel to form conductors and so arranged that the parallel strips of the same polarity, i.e., of the same conductor are alternately spaced in a peripheral direction.

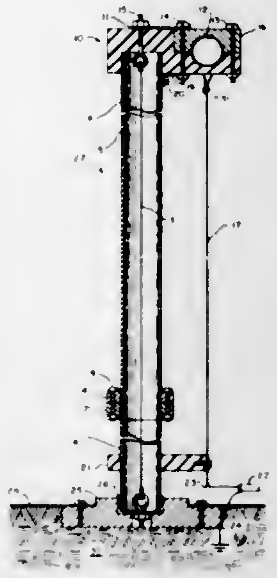
3,380,060
FOLDED MONOPOLE ANTENNA

Watson P. Czerwinski, Shrewsbury, N.J., assignor to the United States of America as represented by the Secretary of the Army

Filed Jan. 12, 1966, Ser. No. 520,830

6 Claims. (Cl. 343—830)

4. A broadbanded folded monopole antenna comprising, a vertical coaxial line having its lower end short-circuited and connected to ground, a bracket atop said coaxial line for centrally supporting a metallic horizontal boom, a triangular metallic screen having its base attached to said boom and its apex extending nearly to said ground, means to feed said antenna between said apex and ground, the length of said base being approximately one half the height of said coaxial line, a conductive connection between said boom and the center conductor of said coaxial line, and a removable conductive connection between said boom and the upper end of the outer conductor of said coaxial line.

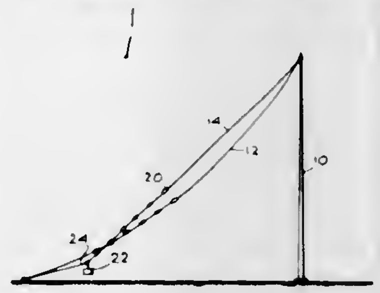


3,380,061
TOP LOADED MONOPOLE ANTENNA WITH GUY WIRE LINE TIGHTENER

Marvin A. Larson, Redwood City, and Robert L. Tanner, Menlo Park, Calif., assignors to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota

Filed Mar. 4, 1965, Ser. No. 437,120

9 Claims. (Cl. 343—874)



Means are provided for maintaining taut the guy wires of a top loaded monopole antenna by coupling a concentrated weight by means of a shackle to the end of top loaded conductor which is near the bottom, with provision being made to damp out or eliminate any lateral swinging of the weight. Furthermore, the lower end of each top loaded conductor is bent back upon itself for a portion of its length to reduce the field gradient at the lower end of the top loaded conductor.

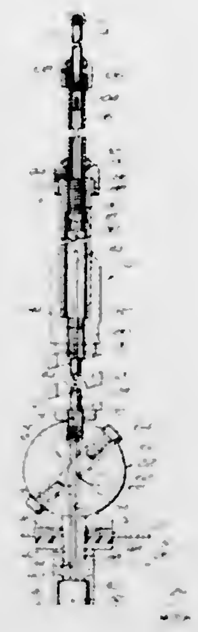
3,380,062
TELESCOPIC ANTENNA

Michael P. George, deceased, late of Lexington, Mass., by Jeanette S. George, executrix, 55 Jacqueline Road, Waltham, Mass.

Continuation-in-part of application Ser. No. 378,176, June 26, 1964. This application Apr. 26, 1967, Ser. No. 642,992

5 Claims. (Cl. 343—903)

A telescopic radio antenna is provided with conductive coil spring elements connecting adjacent telescopic sections, forming part of the antenna circuit and maintaining electrical contact between antenna sections regardless of telescopic extent or antenna position.



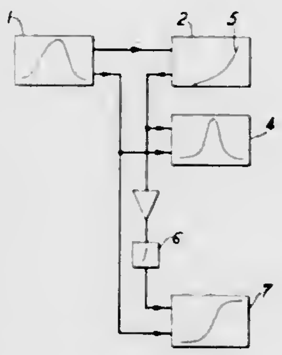
3,380,063
AUXILIARY INSTRUMENT FOR THE ANALYSIS OF SPECTRAL PLATES

Lothar Becker, Frankfurt, Germany, and Hans Werner Drawin, Ville-d'Avray, France, assignors to Commissariat à l'Energie Atomique, Paris, France

Filed Nov. 25, 1966, Ser. No. 597,097

Claims priority, application France, Dec. 16, 1965, 42,647

4 Claims. (Cl. 346—13)



Spectral plates are analyzed by an instrument directly connected to a recording microdensitometer, the instrument measuring the blackening of the plate, as a function of its position thereon, as an electric signal. Instrument is an electric curve follower containing the calibration curve prepared with electrically conductive ink. An XY recorder is used receiving a signal corresponding to the movement of the microdensitometer along the spectral plate and supplies a curve of the intensity of the image on the plate.

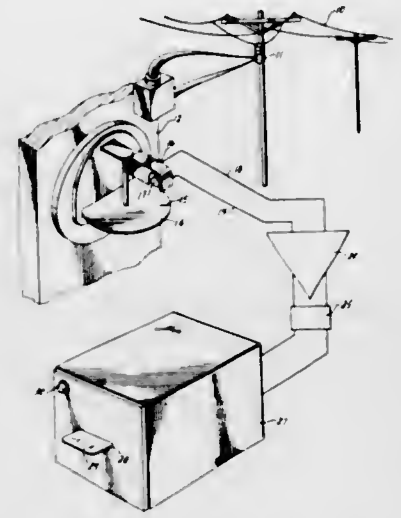
3,380,064
AUTOMATIC UTILITIES BILLING SYSTEM

Claude R. Norris, 8226 E. Clinton St., Scottsdale, Ariz. 85251, and Norman F. Pratt, Scottsdale, Ariz.; said Pratt assignor to said Norris

Filed Oct. 7, 1965, Ser. No. 493,683

3 Claims. (Cl. 346—17)

1. An automatic utilities billing system comprising: a utility meter stationed at a utilities user's location for continuously measuring units of the utility being consumed by the user; means integral with said utility meter responsive to each unit measured by said utility meter for generating an electrical signal; storage means comprising an electronic counter having a plurality of stages, stationed in said utilities user's location and connected to said utility meter, responsive to said electrical signal for storing an indication of the receipt of said electrical signal; a decoding matrix connected to said storage means for changing said indication of the receipt of the electrical signal to an indication of the monetary value of said electrical signal; timing means, stationed at said utilities user's location, for generating a timing signal at predetermined intervals; printing means, stationed at said utilities user's location and connected to said storage means, responsive to said timing signal for printing the monetary value the indication of which is stored in said storage means.

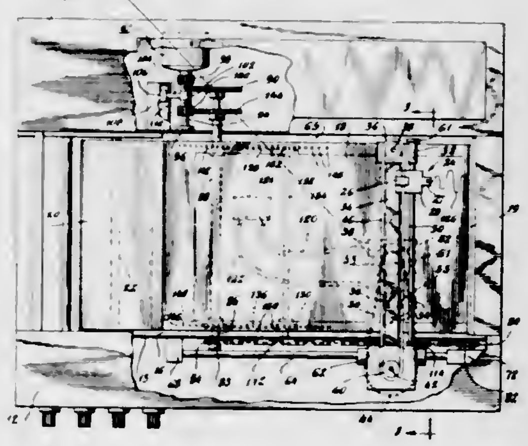


3,380,065
RECORDER USING EITHER A STATIONARY OR MOVING CHART

Nelson Leigh Alpert, Fairfield, Edward Sherwood Gillette, Easton, John Michael Roche, West Redding, and Abraham Savitzky, Norwalk, Conn., assignors to The Perkin-Elmer Corporation, Norwalk, Conn., a corporation of New York

Filed Mar. 30, 1966, Ser. No. 538,822

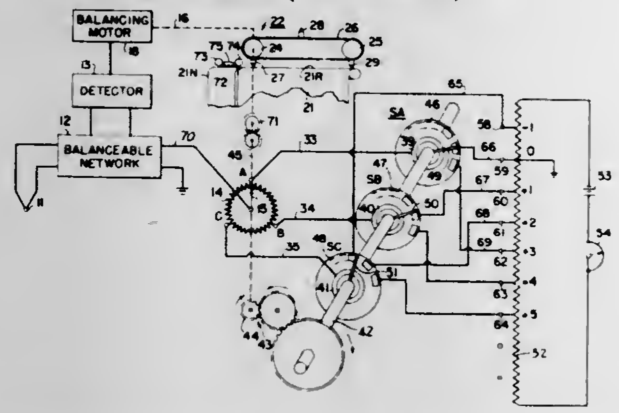
2 Claims. (Cl. 346—29)



This chart recorder may use either a stationary cut chart or a moving continuous strip chart. When a cut chart is used, the pen carriage, on which the pen is mounted for transverse movement, is moved longitudinally above the stationary chart. For continuous strip chart use the pen carriage is stationary and the long uncut strip is continuously moved.

3,380,066
EXTENDED RANGE RECORDER

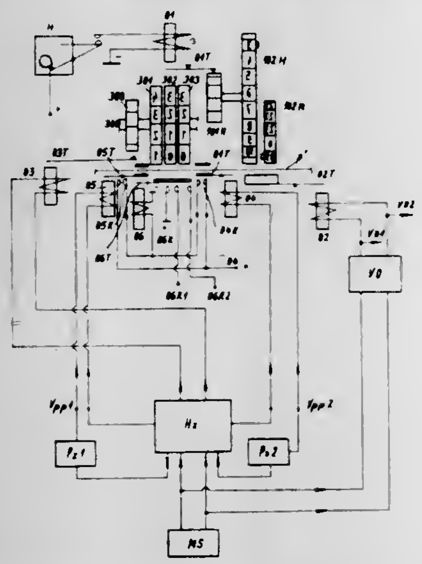
Rowland G. Lex, Jr., Ambler, Pa., assignor to Leeds & Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Dec. 22, 1966, Ser. No. 603,799
12 Claims. (Cl. 346—32)



An extended range recorder having continuous marking means associated with the movable element of a circular slidewire in the measuring circuit of the recorder, the slidewire being provided with three or more equally spaced taps, and continuous range switching means for applying different potentials across the tapped portions of the slidewire in a manner to effect a change in range at a time when the tapped portion being switched is not actively employed in the measuring circuit.

3,380,067
REGISTERING RECORDER OF HOT-RUNNING AXLE BEARINGS OF RAILROAD CARS

Miloš Červenka, Pardubice, Czechoslovakia, assignor to Tesla, národní podnik, Prague, Czechoslovakia
Filed Apr. 21, 1966, Ser. No. 544,265
5 Claims. (Cl. 346—33)

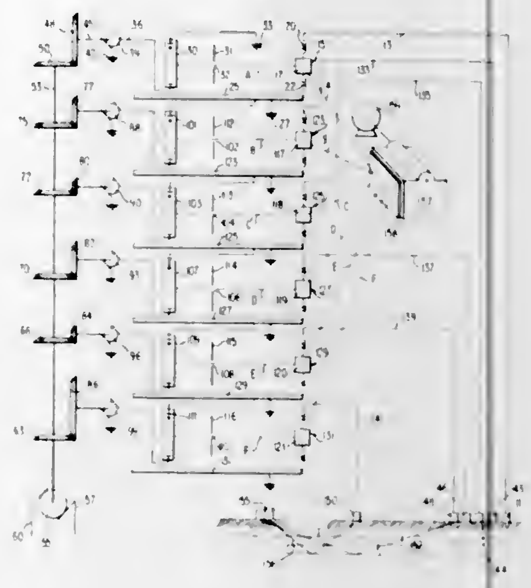


Timer arrangement, axle detector, infrared detector and control circuit electromechanically control printing by a counter of the time and number of axle bearings of railway cars moving on a railroad track and each time a hot running axle bearing is detected, an alarm is set off. The control circuit controls the resetting of the counter after completion of a printing operation.

3,380,068
MULTIPLE TRACE RECORDER

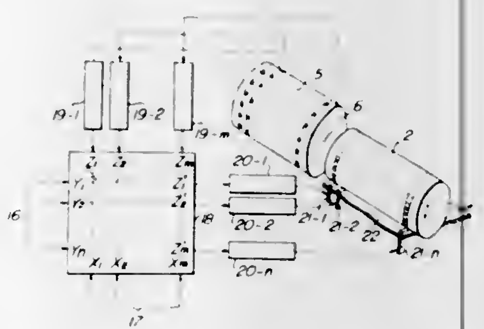
Glen R. Davis, Tulsa, Okla., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
Continuation of application Ser. No. 430,880, Feb. 8, 1965. This application June 26, 1967, Ser. No. 649,051
2 Claims. (Cl. 346—49)

1. A system for simultaneously producing a photographic record of the variations in a plurality of electric impulses comprising photosensitive tape means, an individual source of flickering light for each of said electric impulses, galvanometer means for each of said electric impulses having a rotatable mirror for converting the variations in the respective electric impulse into variations in the rotational position of the mirror, means for operating the light sources to produce flickering light beams including means supplying electrical power to said light sources having different frequencies for the light sources providing adjacent beams on said tape means, the light beam from each source being reflected by the corresponding mirror to impinge upon said tape means and produce thereon a visible trace for the respective electric impulse, at least the adjacent light beams on said tape means having different frequencies of flicker, and means for moving said photosensitive tape means at a speed sufficient to produce dashed traces corresponding to each of the plurality of electric impulses, the dashes of which are characteristic of the frequency of flicker of the light source.



3,380,069
LINE PRINTER EMPLOYING SELECTABLE ELECTRODE MATRICES ARRAYED ON A ROTATING DRUM

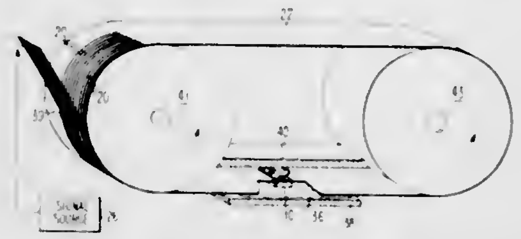
Toku Hojo and Hirofumi Takeya, Yokohama, Japan, assignors to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan
Filed June 18, 1963, Ser. No. 288,712
Claims priority, application Japan, June 19, 1962, 37/24,722
5 Claims. (Cl. 346—74)



A high speed printing apparatus for printing wherein a rotary printing drum is provided carrying needle-like elementary type electrodes set out in a predetermined order. Fixed selector electrodes are provided opposing the rotary drum and an electrostatic recording sheet passes through, at which time the needle-like electrodes scan the recording sheet. High voltage pulses representative of a character to be recorded are applied between the needle-like elementary type electrodes and the fixed selector electrodes whereby characters each consisting of dots are printed on the recording sheet.

3,380,070
ELECTROSTATIC HEAD

Peter Betts and Everett T. Eiselen, San Jose, Calif., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Feb. 19, 1964, Ser. No. 345,912
7 Claims. (Cl. 346—74)

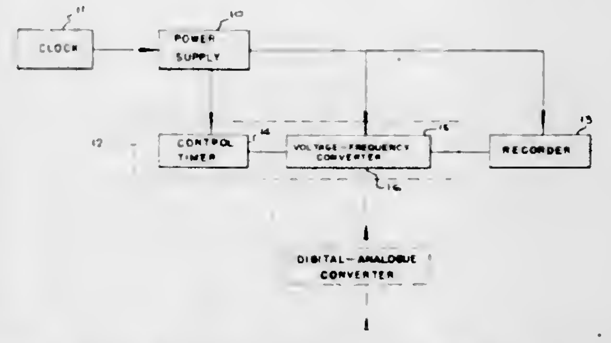


An electrostatic head consisting of a plastic block in which wire electrodes are embedded, the electrodes being positioned in ten groups of four, the groups being energized selectively according to the information to be printed and the members of the groups being energized equally and simultaneously. The head is bolted to a moving belt having conductive strips for connection to the electrodes and fastened opposite the head is a U-shaped spring which presses it against the paper at the print station.

3,380,071
INTERMITTENTLY ACTUATED MAGNETIC RECORDING APPARATUS

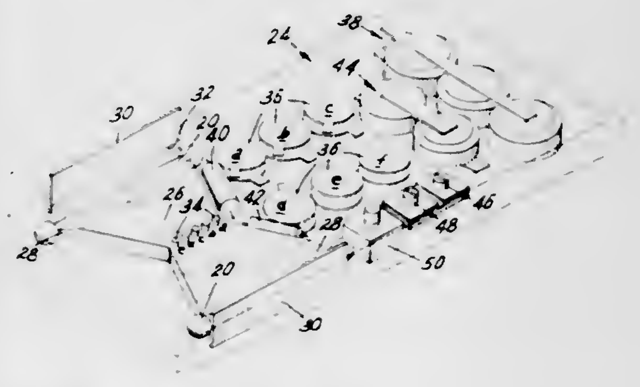
Archibald Raymond Boyle and Paul McNeill Dunachie, Glasgow, Scotland, assignors to D-Mac Limited, Glasgow, Scotland
Filed Jan. 4, 1965, Ser. No. 423,016
Claims priority, application Great Britain, Jan. 4, 1964, 462/64
4 Claims. (Cl. 346—74)

Recording apparatus for intermittently recording parameters over a long period. An analogue signal representing a parameter is supplied through an analogue digital converter to a tape recorder, energization of the converter and recorder being controlled by a clock. Typically a recording may be taken once every fifteen minutes.



3,380,072
RECORDING COULOMETER

Stanley E. Groothius, Oak Ridge, Tenn., assignor to Union Carbide Corporation, a corporation of New York
Filed Mar. 21, 1966, Ser. No. 535,907
3 Claims. (Cl. 346—107)



A recording device for providing a permanent photographic record of data, e.g. temperature variations, employing a coulometer and an arrangement of light sources controlled by sensing means.

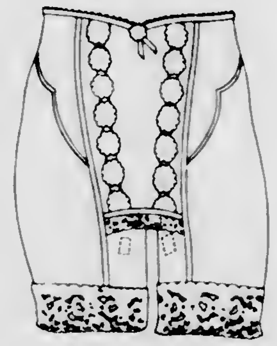
DESIGNS

APRIL 23, 1968

210,815

PANTY GIRDLE

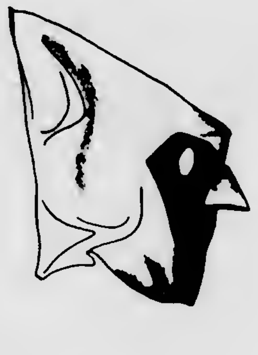
Dennis Montague Brigham, Twilfit House Grove Road, Farlington, Portmouth, England
Filed May 12, 1967, Ser. No. 7,082
Claims priority, application Great Britain Dec. 12, 1966
Term of patent 3½ years
(Cl. D2—4)



210,816

COSTUME HOOD

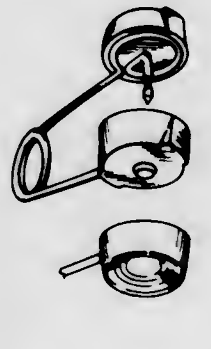
Celeste E. Aach, 790 Dielman Road, Olivette, Mo. 63132, and Raquel Parnas, 7156 Princeton, University City, Mo. 63130
Filed Jan. 3, 1967, Ser. No. 5,300
Term of patent 14 years
(Cl. D2—250)



210,817

SAFETY PIN OR THE LIKE

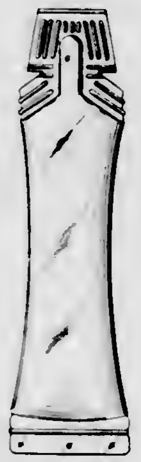
Eugene S. Drake, 2836 Kansas Ave., Southgate, Calif. 90280
Filed Oct. 14, 1966, Ser. No. 4,284
Term of patent 14 years
(Cl. D2—413)



210,818

COLLAPSIBLE TUBELIKE CONTAINER

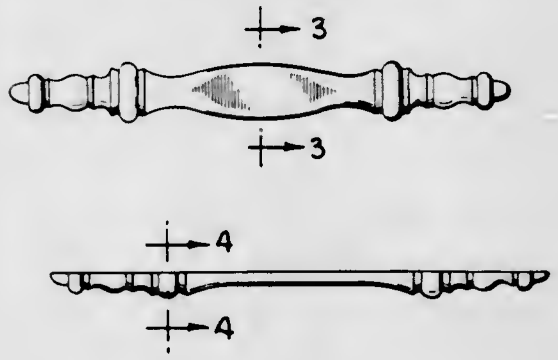
Monte C. Caliman, Jr., Livingston, N.J., assignor to Unette Corporation, Livingston, N.J., a corporation of Delaware
Filed Mar. 22, 1967, Ser. No. 6,332
Term of patent 14 years
(Cl. D9—194)



210,819

ESCUTCHEON PLATE

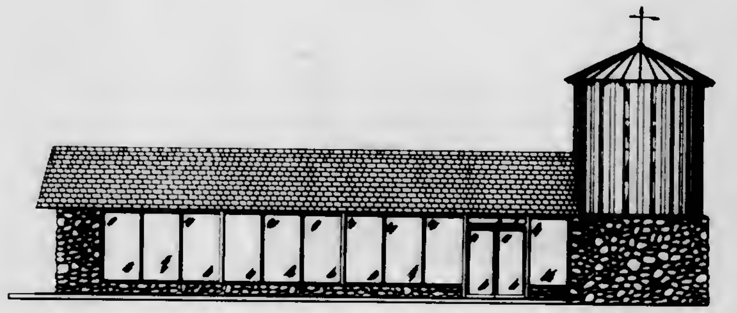
Leland George Stone, Mundelein, Ill., assignor to Amerock Corporation, Rockford, Ill., a corporation of Connecticut
Original design application Feb. 7, 1967, Ser. No. 5,743, now Patent No. 208,971, dated Oct. 24, 1967. Divided and this application Aug. 17, 1967, Ser. No. 8,298
Term of patent 14 years
(Cl. D10—8)



210,820

BUILDING

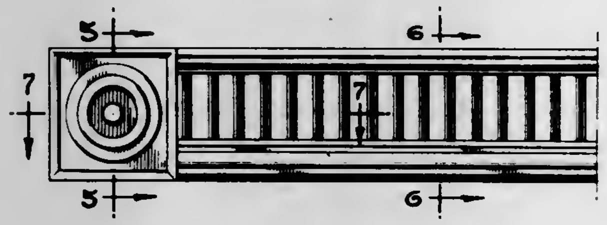
Ralph Robert Knapp, Evansville, Ind., assignor, by mesne assignments, to Burger Farms of America, Inc., Evansville, Ind., a corporation of Indiana
Filed Oct. 7, 1966, Ser. No. 4,193
Term of patent 14 years
(Cl. D13—1)



210,821

DECORATIVE MOLDING STRIP

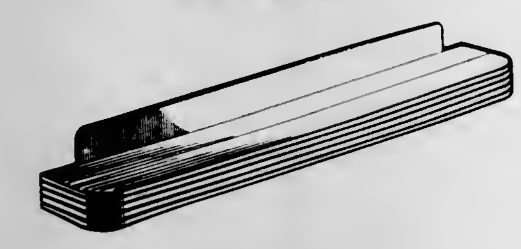
Leland George Stone, Mundelein, Ill., assignor to Amerock Corporation, Rockford, Ill., a corporation of Connecticut
Filed Feb. 9, 1967, Ser. No. 5,744
Term of patent 14 years
(Cl. D13—6)



210,822

COMBINATION BUMPER AND STEP FOR A PICK-UP TRUCK

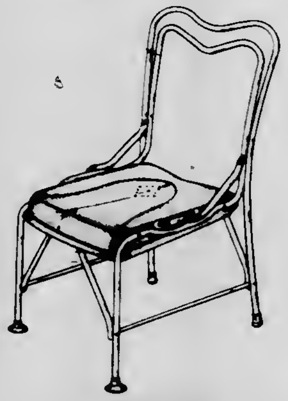
Francis L. Struben, 8301 Philadelphia Road,
Baltimore, Md. 21206
Filed June 21, 1967, Ser. No. 7,536
Term of Patent 14 years
(Cl. D14—6)



210,823

CHAIR FOR USE IN A SHOWER BATH

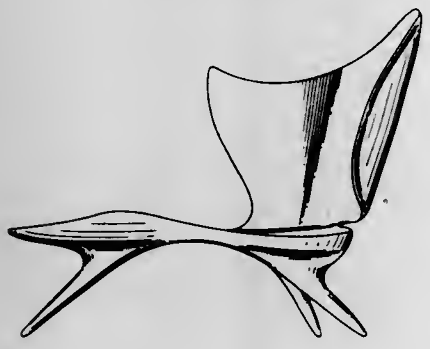
Lucille Nelson, 3011 Frances Ave.,
La Crescenta, Calif. 91041
Filed Mar. 27, 1967, Ser. No. 6,398
Term of patent 14 years
(Cl. D15—1)



210,824

CHAIR

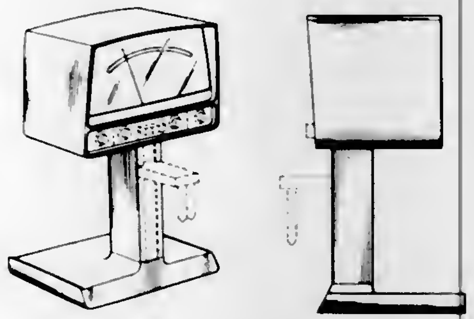
Weltzin B. Blix III, 507 Hawthorne Ave.,
South Milwaukee, Wis. 53172
Filed Feb. 10, 1967, Ser. No. 5,767
Term of patent 7 years
(Cl. D15—11)



210,825

METER FOR ELECTROCHEMICAL ANALYSIS

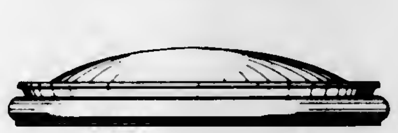
David J. Malk, La Habra, and Robert L. Greene, Diamond Bar, Calif., assignors to Beckman Instruments, Inc., a corporation of California
Filed Feb. 20, 1967, Ser. No. 5,885
Term of patent 14 years
(Cl. D16—2)



210,826

COMBINED PIPE CLOSURE DISK AND SEALING RING

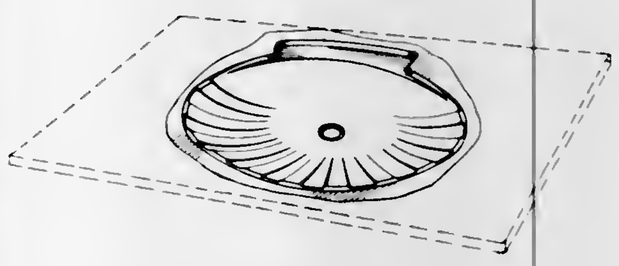
Arthur E. Kaiser, Seattle, and Jefferson M. Fluke, Kirkland, Wash., assignors to Kaiser Seal Company, Inc., Bothell, Wash., a corporation of Washington
Filed May 15, 1967, Ser. No. 7,119
Term of patent 14 years
(Cl. D23—41)



210,827

INTEGRAL SINK AND VANITY TOP OR SIMILAR ARTICLE

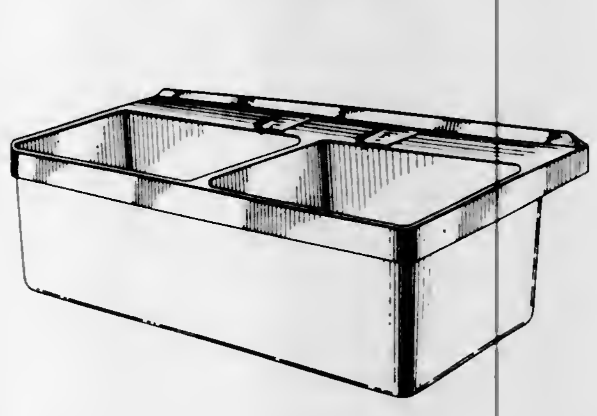
Kay L. Ruggles, Salt Lake City, Utah, assignor, by mesne assignments, to American Standard Inc., New York, N.Y., a corporation of Delaware
Filed July 29, 1966, Ser. No. 3,256
Term of patent 14 years
(Cl. D23—58)



210,828

DOUBLE LAUNDRY TUB

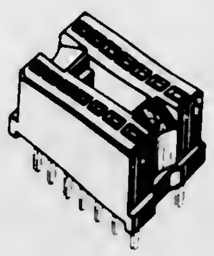
Bernard E. Mustee, Fairview Park, Ohio, assignor to E. L. Mustee & Sons, Inc.
Filed Sept. 15, 1966, Ser. No. 3,885
Term of patent 14 years
(Cl. D23—62)



210,829

INTEGRATED CIRCUIT SOCKET

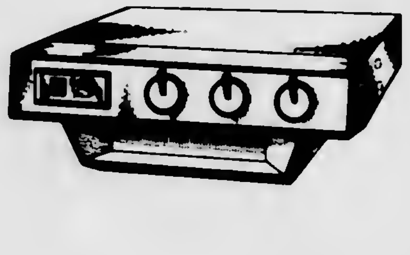
Richard J. Hanlon and Herbert G. Yeo, Attleboro, Mass., and Richard M. Grubb, Cumberland, R.I., assignors to Augat, Inc., Attleboro, Mass., a corporation of Massachusetts
Filed Jan. 23, 1967, Ser. No. 5,512
Term of patent 14 years
(Cl. D26—1)



210,830

CARTRIDGE TYPE TAPE REPRODUCER

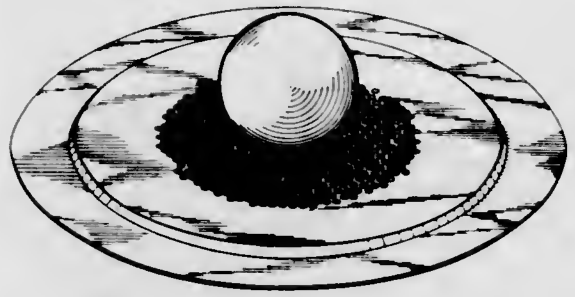
Teisuke Kurosu, Tokyo, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Apr. 18, 1967, Ser. No. 6,742
Claims priority, application Japan Oct. 24, 1966
Term of patent 14 years
(Cl. D26—14)



210,831

SOUND DIFFUSING SPEAKER BAFFLE

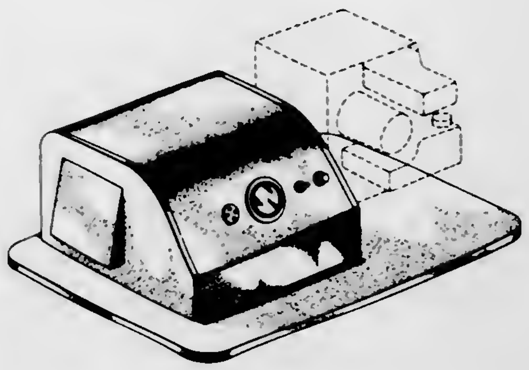
Aston L. Moore, 220 Hammond Place,
South Bend, Ind. 46601
Filed Dec. 4, 1967, Ser. No. 9,631
Term of patent 14 years
(Cl. D26—14)



210,832

ENGINE-DRIVEN GENERATOR FOR CHARGING BATTERIES

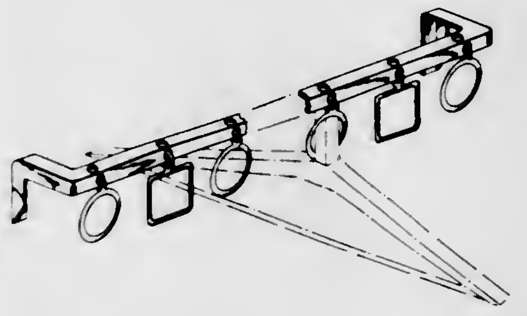
Howard C. Napier, 909 S. Gilbert,
Anaheim, Calif. 92804
Filed Apr. 7, 1967, Ser. No. 6,589
Term of patent 14 years
(Cl. D26—15)



210,833

WALL MOUNTED BAR FOR SUPPORTING CLOTHES HANGERS

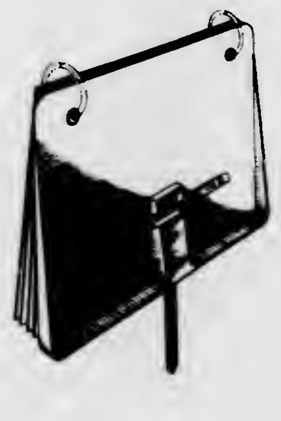
Gino Cura, 77—09 45th Ave.,
Elmhurst, N.Y. 11373
Filed July 6, 1966, Ser. No. 2,953
Term of patent 14 years
(Cl. D33—8)



210,834

MUSIC HOLDER FOR ATTACHMENT TO MUSICAL INSTRUMENTS

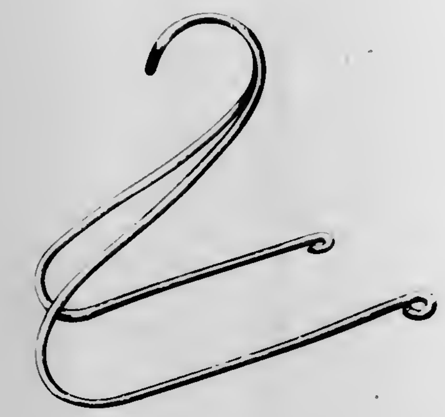
Charles T. Urban, La Grange, and John Defauw, Chicago, Ill., assignors to American Plating and Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed July 25, 1966, Ser. No. 3,206
Term of patent 14 years
(Cl. D33—10)



210,835

TOWEL HANGER

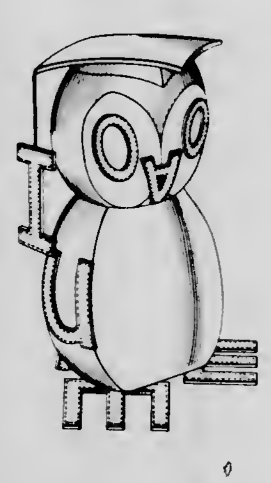
Harold S. Rogers, 28 Clyde St.,
Poland, Ohio 44514
Filed May 19, 1967, Ser. No. 7,467
Term of patent 14 years
(Cl. D33—32)



210,836

STUFFED TOY ANIMAL FIGURE

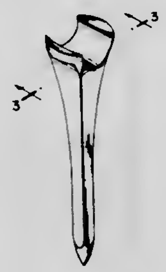
Anne C. Delaney, Waltham, Mass.
(6308 Aztec Road, El Paso, Tex. 79925)
Filed Feb. 14, 1967, Ser. No. 5,806
Term of patent 14 years
(Cl. D34—2)



210,837

GOLF TEE

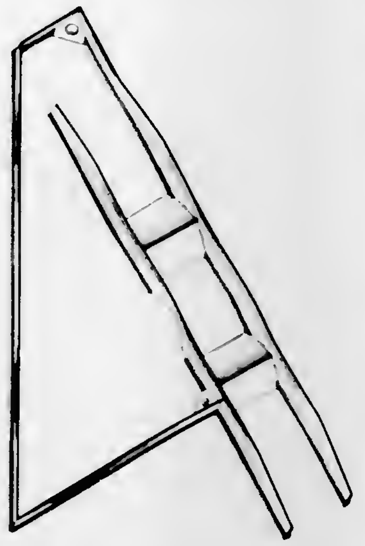
Daniel S. Warner, 16010 37th NE.,
Seattle, Wash. 98155
Filed July 29, 1966, Ser. No. 3,254
Term of patent 14 years
(Cl. D34—5)



210,838

GOLF GAME PUTTING COURSE UNIT

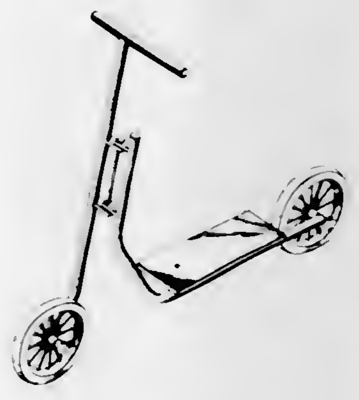
Walter L. Cox, Baltimore County, Md. (8000 Ridgely Oak Road, Baltimore, Md. 21234), and Walter S. Cox, Baltimore County, Md. (3207 Sperl Court, Baltimore, Md. 21234)
Filed June 6, 1967, Ser. No. 7,376
Term of patent 14 years
(Cl. D34—5)



210,839

CHILD'S SCOOTER

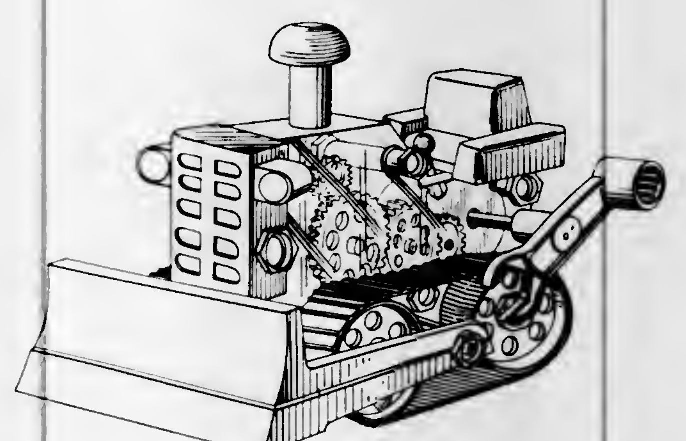
Alexander Charles Jones, 76 Kings Road,
Swanage, Dorset, England
Filed Feb. 27, 1967, Ser. No. 5,966
Claims priority, application Great Britain Jan. 31, 1967
Term of patent 14 years
(Cl. D34—15)



210,840

TOY BULLDOZER

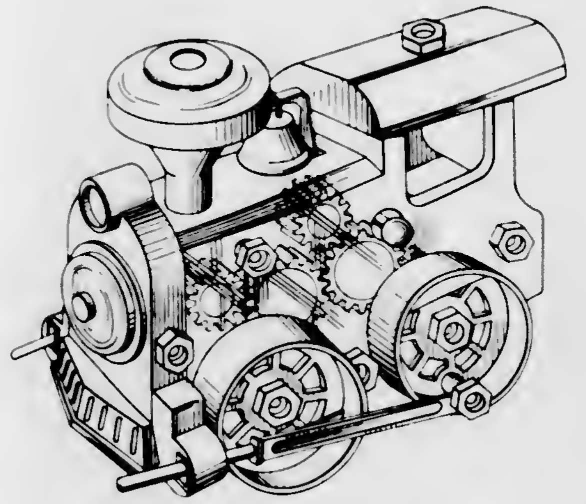
Robert Genin, Scarsdale, N.Y., assignor to Child Guidance Toys, Inc., New York, N.Y., a corporation of New York
Filed Apr. 5, 1967, Ser. No. 6,530
Term of patent 14 years
(Cl. D34—15)



210,841

TOY LOCOMOTIVE

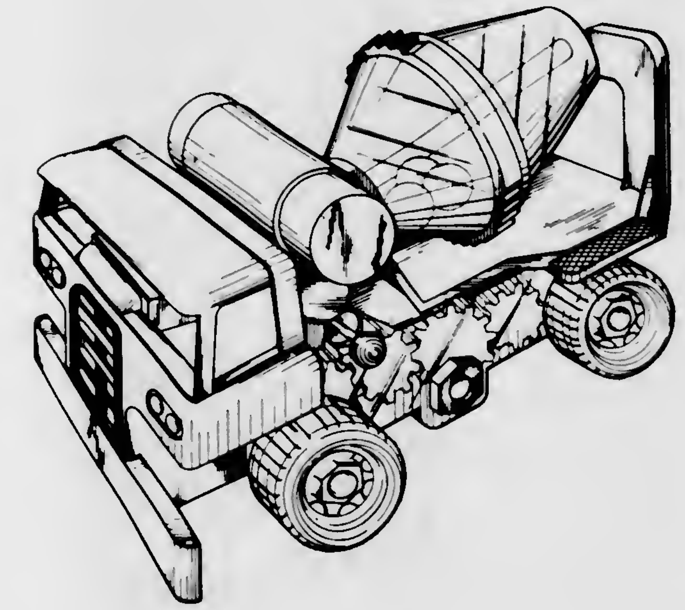
Robert Genin, Scarsdale, N.Y., assignor to Child Guidance Toys, Inc., New York, N.Y., a corporation of New York
Filed Apr. 5, 1967, Ser. No. 6,531
Term of patent 14 years
(Cl. D34—15)



210,842

TOY CEMENT MIXER

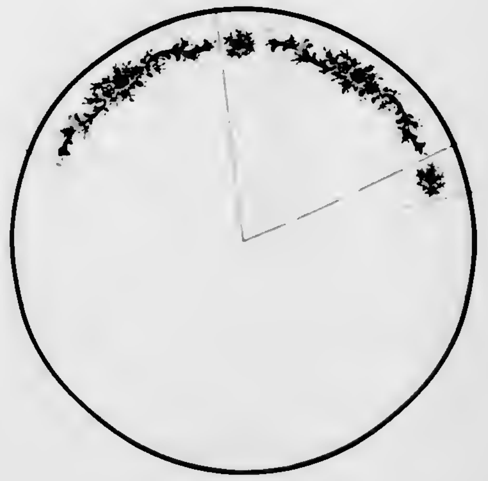
Robert Genin, Scarsdale, N.Y., assignor to Child Guidance Toys, Inc., New York, N.Y., a corporation of New York
Filed Apr. 5, 1967, Ser. No. 6,532
Term of patent 14 years
(Cl. D34—15)



210,843

PLATE OR SIMILAR ARTICLE

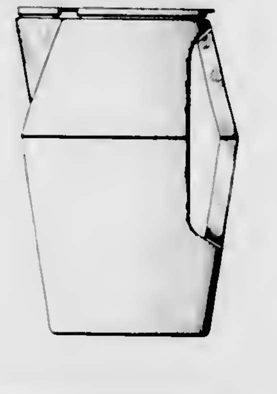
Ryotaro Takeoka, Nishikasugai-gun, Japan, assignor to Noritake Co., Inc., New York, N.Y., a corporation of New York
Filed June 26, 1967, Ser. No. 7,609
Claims priority, application Japan Mar. 20, 1967
Term of patent 7 years
(Cl. D44—15)



210,844

PITCHER

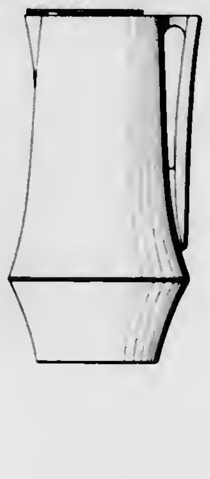
Victor F. Anderson, 13 W. Mantua Ave.,
Wenonah, N.J. 08090
Filed Sept. 21, 1967, Ser. No. 8,678
Term of patent 14 years
(Cl. D44—21)



210,845

PITCHER

Victor F. Anderson, 13 W. Mantua Ave.,
Wenonah, N.J. 08090
Filed Sept. 21, 1967, Ser. No. 8,702
Term of patent 14 years
(Cl. D44—21)



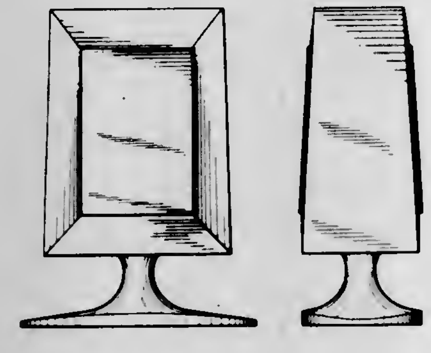
210,846
CONDIMENT SHAKER

Mel Appel, 9 Nottingham Road, Livingston, N.J. 07039, and Martin Schnur, 220 St. Cloud Ave., West Orange, N.J. 07052

Original design application Nov. 2, 1966, Ser. No. 4,513, now Patent No. 209,314, dated Nov. 21, 1967. Divided and this application July 24, 1967, Ser. No. 8,561

Term of patent 14 years

(Cl. D44—22)



210,847
MEDICINAL DISPENSING DEVICE OR THE LIKE

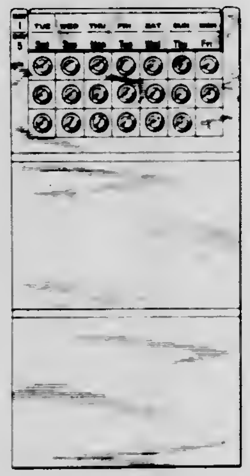
Ray Aron, West Orange, N.J., assignor to Organon, Inc., West Orange, N.J., a corporation of New Jersey

Filed Feb. 27, 1967, Ser. No. 5,970

Claims priority, application Canada Oct. 14, 1966

Term of patent 14 years

(Cl. D52—2)



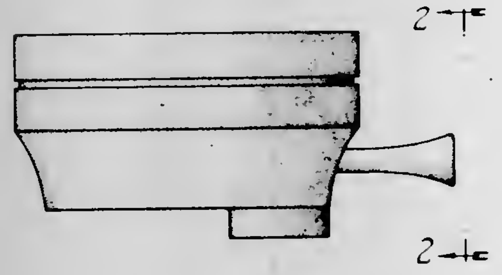
210,848
DISPENSER

Harvey V. Robb, 33750 Newport Drive, Warren, Mich. 48092

Filed July 11, 1967, Ser. No. 7,755

Term of patent 14 years

(Cl. D52—2)



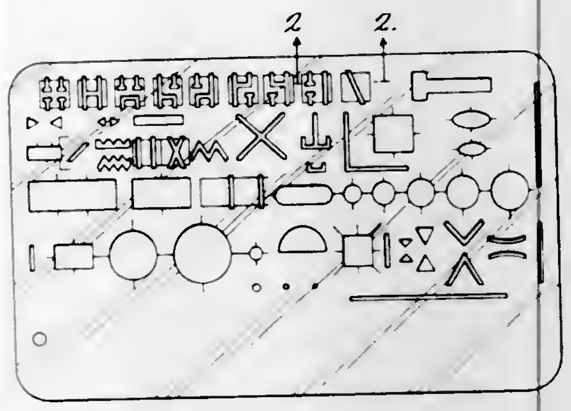
210,849
SYMBOL GUIDE

Donald E. Froemming, Brookfield, Wis., assignor to Racine Hydraulics, Inc., a corporation of Wisconsin

Filed Oct. 17, 1967, Ser. No. 9,025

Term of patent 14 years

(Cl. D52—6)



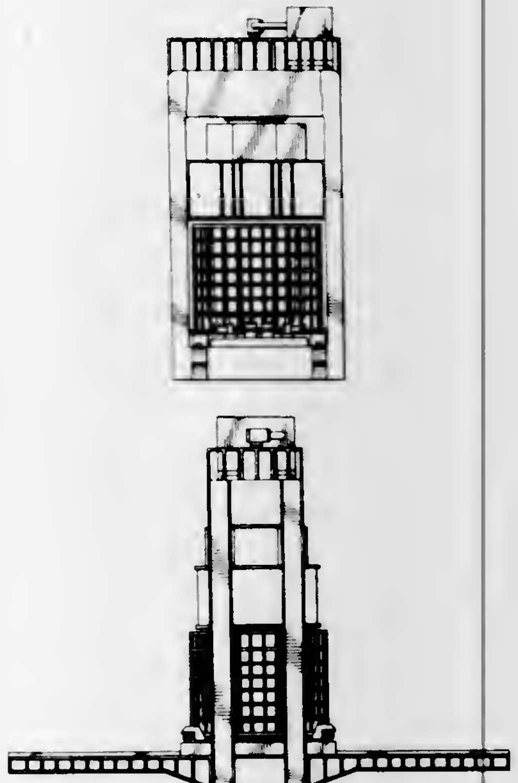
210,850
SCRAP COMPRESSING APPARATUS FOR AN ELECTRIC FURNACE

Kunitoshi Tezuka, 347 Minami Sunamachi, Kato-ku, Tokyo-to, Japan

Filed Sept. 21, 1966, Ser. No. 3,945

Term of patent 14 years

(Cl. D55—1)



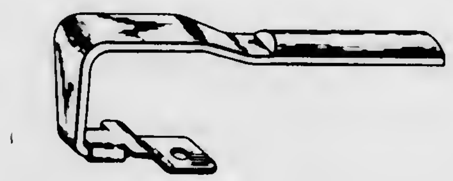
210,851
HANDREST FOR GUITARS OR SIMILAR ARTICLE

Willie J. Wallace, 873 Marshall Ave., St. Paul, Minn. 55104

Filed Apr. 13, 1967, Ser. No. 6,673

Term of patent 14 years

(Cl. D56—1)



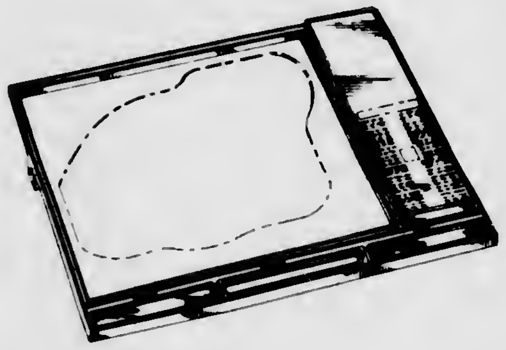
210,852
COMBINED MOUNT AND HANDLE FOR A PHONOGRAPH OR SIMILAR ARTICLE

Richard S. Hart, Wheaton, Ill., assignor to V-M Corporation, Benton Harbor, Mich., a corporation of Michigan

Filed June 6, 1966, Ser. No. 2,576

Term of patent 14 years

(Cl. D56—4)



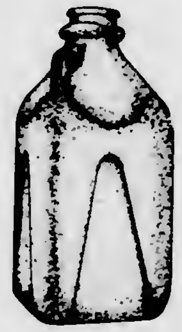
210,853
JUG

Victor F. Anderson, 13 W. Mantua Ave., Wenonah, N.J. 08090

Filed Aug. 4, 1966, Ser. No. 3,336

Term of patent 3½ years

(Cl. D58—5)



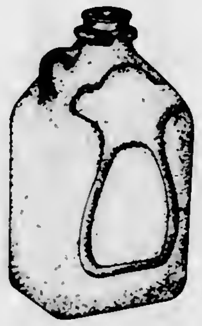
210,854
JUG

Victor F. Anderson, 13 W. Mantua Ave., Wenonah, N.J. 08090

Filed Aug. 4, 1966, Ser. No. 3,344

Term of patent 3½ years

(Cl. D58—5)



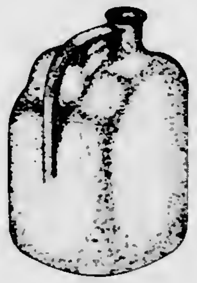
210,855
JUG

Victor F. Anderson, 13 W. Mantua Ave., Wenonah, N.J. 08090, and Gerald W. Spotts, 503 Jefferson Drive, Blackwood, N.J. 08012

Filed Sept. 1, 1966, Ser. No. 3,674

Term of patent 14 years

(Cl. D58—5)



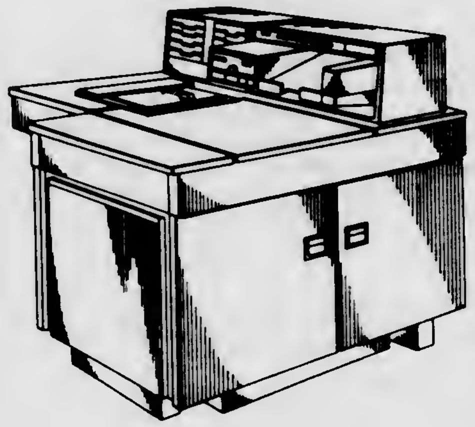
210,856
DOCUMENT REPRODUCING APPARATUS

James G. Balmer, Jr., Bloomfield Hills, Mich., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

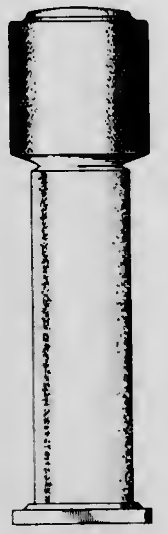
Filed Mar. 28, 1966, Ser. No. 1,658

Term of patent 14 years

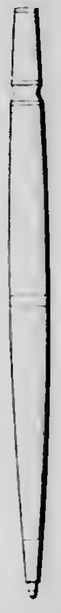
(Cl. D61—1)



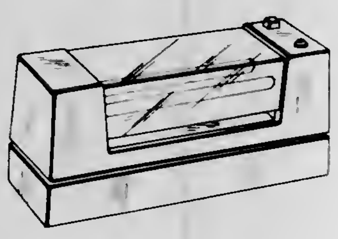
210,857
ELECTRIC HIGHWAY SIGNAL FLARE
John K. Lawlor, 19122 Bridwell St.,
Glendora, Calif. 91740
Filed July 19, 1967, Ser. No. 7,872
Term of patent 14 years
(Cl. D72—1)



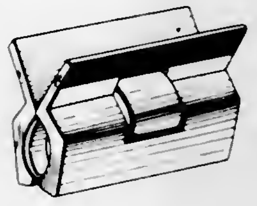
210,858
WRITING INSTRUMENT
Clarence D. Zierbut, Granada Hills, Calif., assignor to Paper Mate Manufacturing Company, Santa Monica, Calif., a corporation of Delaware
Filed Sept. 22, 1966, Ser. No. 3,964
Term of patent 14 years
(Cl. D74—17)



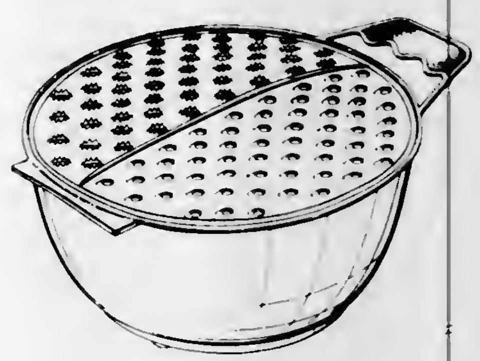
210,859
HEATING UNIT FOR HAIR CURLING CLAMPS
Henricus Franciscus Theresia Schellens, Drachten, Netherlands, assignor to North American Philips Co., Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 23, 1967, Ser. No. 5,931
Claims priority, application Switzerland Sept. 5, 1966
Term of patent 14 years
(Cl. D86—10)



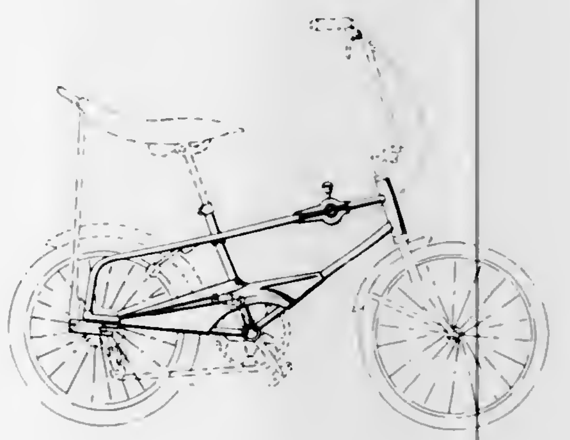
210,860
HAIR CURLER
Henricus Franciscus Theresia Schellens, Drachten, Netherlands, assignor to North American Philips Co., Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 23, 1967, Ser. No. 5,932
Claims priority, application Switzerland Sept. 5, 1966
Term of patent 14 years
(Cl. D86—10)



210,861
GRATER
Maurice Locker, 86 Cavendish Road, Salford, England
Filed July 6, 1966, Ser. No. 2,949
Term of patent 7 years
(Cl. D89—1)



210,862
BICYCLE
Viktor Schreckengost, Cleveland Heights, Ohio, assignor to The Murray Ohio Manufacturing Co., Nashville, Tenn., a corporation of Ohio
Filed Mar. 1, 1967, Ser. No. 6,017
Term of patent 14 years
(Cl. D90—8)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 23RD DAY OF APRIL, 1968

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Brown, Cicero O.: *See*—
  Cochran, Chudleigh B., and Davis. Re. 26,379.
Chalk, Graeme O., to English Electric Valve Co. Ltd. Ultra low noise travelling wave tube having a grid voltage arrangement that includes a pre-set potentiometer. Re. 26,384, 4-23-68, Cl. 315—3.5.
Cochran, Chudleigh B., and J. B. Davis, to C. O. Brown. Hydrostatic pressure set well packer. Re. 26,379, 4-23-68, Cl. 166—120.
Davis, John B.: *See*—
  Cochran, Chudleigh B., and Davis. Re. 26,379.
English Electric Valve Co. Ltd.: *See*—
  Chalk, Graeme O. Re. 26,384.
Gottschalk, Gordon W.: *See*—
  Thiem, Darold W., and Gottschalk. Re. 26,381.
Gresen Mfg. Co.: *See*—
  Huber, Mortimer J. Re. 26,383.
Huber, Mortimer J., to Gresen Mfg. Co. Hydraulic torque motors. Re. 26,383, 4-23-68, Cl. 91—56.
Kaiser Gypsum Co., Inc.: *See*—
  Tillisch, Paul W., and Raffaeli. Re. 26,382.
Raffaeli, Albert F.: *See*—
  Tillisch, Paul W., and Raffaeli. Re. 26,382.
Rogallo, Francis M. Flexible wing vehicle configurations. Re. 26,380, 4-23-68, Cl. 244—49.
Thiem, Darold W., and G. W. Gottschalk, to Universal Refractories Corp. Hot top bottom ring and method for forming same. Re. 26,381, 4-23-68, Cl. 249—202.
Tillisch, Paul W., and A. F. Raffaeli, to Kaiser Gypsum Co., Inc. Joint structure for plasterboard. Re. 26,382, 4-23-68, Cl. 52—417.
Universal Refractories Corp.: *See*—
  Thiem, Darold W., and Gottschalk. Re. 26,381.

LIST OF PLANT PATENTEES

Hoekman, Bud A. Apple tree. 2,806, 4-23-68, Cl. 34.
Logan, Mabel A. Peach tree. 2,807, 4-23-68, Cl. 43.
Logan, Mabel A. Peach tree. 2,808, 4-23-68, Cl. 42.

LIST OF DESIGN PATENTEES

Aach, Celeste E., and R. Parnas. Costume hood. 210,816, 4-23-68, Cl. D2—250.
American Plating and Mfg. Co.: *See*—
  Urban, Charles T., and Defauw. 210,834.
American Standard Inc.: *See*—
  Ruggles, Kay L. 210,827.
Amerock Corp.: *See*—
  Stone, Leland G. 210,819.
  Stone, Leland G. 210,821.
Anderson, Victor F. Pitcher. 210,844, 4-23-68, Cl. D44—21.
Anderson, Victor F. Pitcher. 210,845, 4-23-68, Cl. D44—21.
Anderson, Victor F. Jug. 210,853, 4-23-68, Cl. D58—5.
Anderson, Victor F. Jug. 210,854, 4-23-68, Cl. D58—5.
Anderson, Victor F., and G. W. Spotts. Jug. 210,855, 4-23-68, Cl. D58—5.
Appel, Mel, and M. Schnur. Condiment shaker. 210,846, 4-23-68, Cl. D44—22.
Aron, Ray, to Organon, Inc. Medicinal dispensing device or the like. 210,847, 4-23-68, Cl. D52—2.
Augat, Inc.: *See*—
  Hanlon, Richard J., Yeo, and Grubb. 210,829.
Balmer, James G., Jr., to Xerox Corp. Document reproducing apparatus. 210,856, 4-23-68, Cl: D61—1.
Beckman Instruments, Inc.: *See*—
  Malk, David J., and Greene. 210,825.
Blix, Weltzin B., III. Chair. 210,824, 4-23-68. Cl. D15—11.
Brigham, Dennis M. Panty girdle. 210,815, 4-23-68, Cl. D2—4.
Burger Farms of America, Inc.: *See*—
  Knapp, Ralph R. 210,820.
Caliman, Monte C., Jr., to Unette Corp. Collapsible tubelike container. 210,818, 4-23-68, Cl. D9—194.
Child Guidance Toys, Inc.: *See*—
  Genin, Robert. 210,840.
  Genin, Robert. 210,841.
  Genin, Robert. 210,842.
Cox, Walter L. and W. S. Golf game putting course unit. 210,838, 4-23-68, Cl. D34—5.
Cox, Walter S.: *See*—
  Cox, Walter L. and W. S. 210,838.
Cura, Gino. Wall mounted bar for supporting clothes hangers. 210,833, 4-23-68, Cl. D33—8.
Defauw, John: *See*—
  Urban, Charles T., and Defauw. 210,834.
Delaney, Anne C. Stuffed toy animal figure. 210,836, 4-23-68, Cl. D34—2.
Drake, Eugene S. Safety pin or the like. 210,817, 4-23-68, Cl. D2—413.
Fluke, Jefferson M.: *See*—
  Kaiser, Arthur E., and Fluke. 210,826.
Froemming, Donald E., to Racine Hydraulics, Inc. Symbol guide. 210,849, 4-23-68, Cl. D52—6.
Genin, Robert, to Child Guidance Toys, Inc. Toy bulldozer. 210,840, 4-23-68, Cl. D34—15.
Genin, Robert, to Child Guidance Toys, Inc. Toy locomotive. 210,841, 4-23-68, Cl. D34—15.
Genin, Robert, to Child Guidance Toys, Inc. Toy cement mixer. 210.842, 4-23-68, Cl. D34—15.
Greene, Robert L.: *See*—
  Malk, David J., and Greene. 210,825.
Hanlon, Richard J., H. G. Yeo, and R. M. Grubb, to Augat, Inc. Integrated circuit socket. 210,829, 4-23-68, Cl. D26—1.
Hart, Richard S., to V-M Corp. Combined mount and handle for a phonograph or similar article. 210,852, 4-23-68, Cl. D56—4.
Jones, Alexander C. Child's scooter. 210,839, 4-23-68, Cl. D34—15.
Kaiser, Arthur E., and J. M. Fluke, to Kaiser Seal Co., Inc. Combined pipe closure dish and sealing ring. 210,826, 4-23-68, Cl. D23—41.
Kaiser Seal Co., Inc.: *See*—
  Kaiser, Arthur E., and Fluke. 210,826.
Knapp, Ralph R., to Burger Farms of America, Inc. Building. 210 820, 4-23-68, Cl. D13—1.
Kurosu, Teisuke, to Matsushita Electric Industrial Co., Ltd. Cartridge type tape reproducer. 210,830, 4-23-68, Cl. D26—14.
Lawlor, John K. Electric highway signal flare. 210,857, 4-23-68, Cl. D72—1.
Locker, Maurice. Grater. 210,861, 4-23-68, Cl. 89—1.
Malk, David J., and R. L. Greene, to Beckman Instruments, Inc. Meter for electrochemical analysis. 210,825, 4-23-68, Cl. D16—2.
Matsushita Electric Industrial Co., Ltd.: *See*—
  Kurosu, Teisuke. 210,830.
Moore, Aston L. Sound diffusing speaker baffle. 210,831, 4-23-68, Cl. D26—14.
Murray Ohio Mfg. Co., The: *See*—
  Schrenkengost, Viktor. 210,862.
Mustee, Bernard E., to E. L. Mustee & Sons, Inc. Double laundry tub. 210,828, 4-23-68, Cl. D23—62.
Mustee, E. L., & Sons, Inc.: *See*—
  Mustee, Bernard E. 210,828.
Napier, Howard C. Engine-driven generator for charging batteries. 210.832 4-23-68, Cl. D26—15.
Nelson, Lucille. Chair for use in a shower bath. 210,823, 4-23-68, Cl. D15—1.
Noritake Co., Inc.: *See*—
  Takeoka, Ryotaro. 210,843.
North American Philips Co., Inc.: *See*—
  Schellens, Henricus F. T. 210,859.
  Schellens, Henricus F. T. 210,860.
Organon, Inc.: *See*—
  Aron, Ray. 210,847.
Paper Mate Mfg. Co.: *See*—
  Zierbut, Clarence D. 210,858.
Parnas, Raquel: *See*—
  Aach, Celeste E., and Parnas. 210,816.
Racine Hydraulics, Inc.: *See*—
  Froemming, Donald E. 210.849.
Robb, Harvey V. Dispenser. 210 848, 4-23-68, Cl. D52—2.
Rogers, Harold S. Towel hanger. 210,835, 4-23-68, Cl. D33—32.
Ruggles, Kay L., to American Standard Inc. Integral sink and vanity top, or similar article. 210,827, 4-23-68, Cl. D23—58.
Schellens, Henricus F. T., to North American Philips Co., Inc. Heating unit for hair curling clamps. 210,859, 4-23-68, Cl. D86—10.
Schellens, Henricus F. T., to North American Philips Co., Inc. Hair curler. 210,860, 4-23-68, Cl. D86—10.
Schnur, Martin: *See*—
  Appel, Mel, and Schnur. 210,846.

- Spotts, Gerald W.: *See*—
  - Anderson, Victor F., and Spotts. 210,855.
- Stone, Leland G., to Amerock Corp. Decorative molding strip. 210,821, 4–23–68, Cl. D13—6.
- Stone, Leland G., to Amerock Corp. Escutcheon plate. 210,819, 4–23–68, Cl. D10—8.
- Strunen, Francis L. Combination bumper and step for a pickup truck. 210,822, 4–23–68, Cl. D14—6.
- Takeoka, Ryotaro, to Noritake Co., Inc. Plate or similar article. 210,843, 4–23–68, Cl. D44—15.
- Tezuka, Kunitoshi. Scrap compressing apparatus for an electric furnace. 210,850, 4–23–68, Cl. D55—1.
- Unette Corp.: *See*—
  - Callman, Monte C., Jr. 210,818.
- Urban, Charles T., and J. Defauw, to American Plating and Mfg. Co. Music holder for attachment to musical instrument. 210,834, 4–23–68, Cl. D33—10.
- V-M Corp.: *See*—
  - Hart, Richard S. 210,852.
- Wallace, Willie J. Hand rest for guitars or similar article. 210,851, 4–23–68, Cl. D56—1.
- Warner, Daniel S. Golf tee. 210,837, 4–23–68, Cl. D34—5.
- Xerox Corp.: *See*—
  - Balmer, James G., Jr. 210,856.
- Yeo, Herbert G.: *See*—
  - Hanlon, Richard J., Yeo, and Grubb. 210,829.
- Zierhut, Clarence D., to Paper Mate Mfg. Co. Writing instrument. 210,858, 4–23–68, Cl. D74—17.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 23RD DAY OF APRIL, 1968

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

- ACF Industries, Inc.: *See*—
  - Anderson, Clifford E. 3,379,404.
  - Lowrey, William E. 3,379,408.
  - Natho, Paul J. 3,379,405.
  - Stewart, Joseph T., Jr. 3,379,410.
- Abex Corp.: *See*—
  - Compagnoni, Anthony F. 3,379,384.
- Abitibi Power & Paper Co., Ltd.: *See*—
  - Buss, John. 3,378,936.
- Abramitis, Walter W., R. A. Reck, and C. S. Wilhelmy, to Armour and Co. Impregnated degradation-resistant cloth. 3,379,563, 4–23–68, Cl. 117—138.5.
- Adam, Gunter, to H. Marker. Fixing device for vertically adjustable sole holders of ski bindings. 3,379,448, 4–23–68, Cl. 280—11.35.
- Adams, Robert T., and R. O. Schildknecht, to Communication Systems, Inc. Simplified omega receiver utilizing photo-responsive correlator. 3,380,056, 4–23–68, Cl. 343—105.
- Addamiano, Arrigo, to General Electric Co. Single crystal phosphide production. 3,379,502, 4–23–68, Cl. 23—204.
- Addressograph-Multigraph Corp.: *See*—
  - Korfmann, Clarence R. 3,379,130.
- Adler, Karl, and G. Ducommun, to Biviator S.A. Electronic current reverser having single input controlling plural outputs. 3,379,898, 4–23–68, Cl. 307—244.
- Aeroquip Corp.: *See*—
  - Denney, Raymond E., and Cox. 3,379,226.
- Agfa Aktiengeselschaft: *See*—
  - Riester, Oskar. 3,379,727.
- Agfa-Gevaert Aktiengesellschaft: *See*—
  - Beyer, Fritz, Froese, Jacknau, Scheffel, and Wolf. 3,379,108.
- Ahlgren, Carl R., to Allied Chemical Corp. Manufacture of malic acid. 3,379,756, 4–23–68, Cl. 260—535.
- Air Preheater Co., Inc., The: *See*—
  - Woolard, Thomas L., and Bellows. 3,379,240.
- Airborne Mfg. Co.: *See*—
  - Kaatz, Herbert W. 3,379,135.
- Aktiebolaget Electrolux: *See*—
  - Borrefors, Jan I. 3,378,877.
- Aktiengesellschaft Brown, Boveri & Cie: *See*—
  - Rosner, Manfred. 3,379,903.
- Al, René J.: *See*—
  - Larson, Paul A., and Al. 3,379,791.
- Albanese, Anthony A., to United States of America, Navy. Microwave means and method for measuring the electrolytic content of solution. 3,379,971, 4–23–68, Cl. 324—58.5.
- Albanese, Francesco, E. Padula, and M. Principi, to Montecatini-Edison S.p.A. Process for the catalytic production of hydrocyanic acid. 3,379,500, 4–23–68, Cl. 23—151.
- Albrecht, Jürgen, H. Hönicke, and R. Ruder, to Institut fur Polygraphische Maschinen. Method for testing relative sur-
- Alday, John R.: *See*—
  - Battles, James W., Crane, Yancey, and Alday. 3,379,956.
- Alderfer, Sterling Co.: *See*—
  - Alderfer, Sterling W. 3,379,236.
- Alderfer, Sterling W., to Sterling Alderfer Co. Molded tires. 3,379,236, 4–23–68, Cl. 152—344.
- Alexander, John D., and W. L. Martin, to Continental Oil Co. Oil well ignition device. 3,379,256, 4–23–68, Cl. 166—60.
- Alicot, Marie–Josephe J., and R. F. M. Sureau, to Etablissements Kuhlmann. Basic disazo indazolium dyestuffs. 3,379,714, 4–23–68, Cl. 260—160.
- Alkaline Batteries Ltd.: *See*—
  - Field, Braham R. 3,379,953.
- Alleaume, Jean, to Technigaz. Device for automatically controlling the pressure of an enclosed fluid. 3,379,208, 4–23–68, Cl. 137—263.
- Aller, Edmund R., and R. F. Loomis, to General American Transportation Corp. Railway cars for transporting pulverulent material ladings. 3,379,478, 4–23–68, Cl. 302—52.
- Allied Chemical Corp.: *See*—
  - Ahlgren, Carl R. 3,379,756.
  - Anello, Louis G., and Sweeney. 3,379,765.
  - Lund, Richard B., Pierce, Turi, and Oswald. 3,379,707.
  - Merkel, Richard R. 3,379,643.
  - Winstrom, Leon O., and Frink. 3,379,757.
- Allmänna Svenska Elektriska Aktiebolaget: *See*—
  - Berglund, Sten, and Dahle. 3,379,053.
  - Breitholtz, Bo, and Jacobsen. 3,379,909.
  - Breitholtz, Bo. 3,379,929.
  - Sundell, Sigvard. 3,379,817.
- Allyn, Richard J., to United States of America, Atomic Energy Commission. Coupling and seal for conduits. 3,379,460, 4–23–68, Cl. 285—312.
- Alpert, Nelson L., E. S. Gillette, J. M. Roche, and A. Savitzky, to The Perkin-Elmer Corp. Recorder using either a stationary or moving chart. 3,380,065, 4–23–68, Cl. 346—29.
- Altfelder, Rolf: *See*—
  - Erwien, Helmut, Altfelder, and Bürger. 3,379,476.
- Alumalloy Co.: *See*—
  - Kranich, Frederick J. 3,379,518.
- Alverson, Thomas E., and S. G. Vargo, to Westinghouse Electric Corp. Shielded arrangements for electrical transformers. 3,380,007, 4–23–68, Cl. 336—70.
- Amann, Peter M.: *See*—
  - Nemmaier, Christian, and Amann. 3,379,372.
- Amchem Products, Inc.: *See*—
  - Esposito, James E. 3,379,516.
- American Athletic Equipment Co., The: *See*—
  - Sorenson, Bill W., and Pond. 3,379,439.
- American Can Co.: *See*—
  - Gerhardt, Robert F. 3,379,559.
- American Cyanmid Co.: *See*—
  - Gershberg, David B. 3,379,573.
  - Matsunaga, Yoshio. 3,379,740.
  - Matsunaga, Yoshio. 3,379,742.
  - O'Konski, Thomas R. 3,379,680.
- American Flange & Mfg. Co., Inc.: *See*—
  - Wheaton, Herbert F., and Koll. 3,379,155.
- American Lava Corp.: *See*—
  - Breedlove, James G. 3,379,943.
- American Motors Corp.: *See*—
  - Reddig, William E., and Smith. 3,379,313.
- American Optical Co.: *See*—
  - Upton, Lee O. 3,379,558.
- American Plant Growers, Inc.: *See*—
  - Mertz, Richard S. 3,379,304.
- American Standard Inc.: *See*—
  - Ripple, William M. 3,379,377.
- American Sterilizer Co.: *See*—
  - Link, Leo J., and Boetcker. 3,379,327.
- American Telephone and Telegraph Co.: *See*—
  - Watkins, James W., Jr. 3,379,838.
- Ametek, Inc.: *See*—
  - Sindlinger, Norman E. 3,379,058.
- Amir, Emanuel M., to Esso Research and Engineering Co. Synthesis of 5-t-butyl-m-xylene. 3,379,787, 4–23–68, Cl. 260—671.
- Ampex Corp.: *See*—
  - Chiecchi, Eraldo M. 3,379,556.
  - Lewis, Martyn A., Wang, and Kleist. 3,379,948.
  - Smith, Grant M. 3,379,828.
- Amtmann, Otwin, and H. Eder, to Firma OTA Amtmann & Co. Apparatus for applying flat supports to the backs of advertising posters and the like. 3,379,602, 4–23–68, Cl. 156—572.
- Amtron, Inc.: *See*—
  - Kasper, Frank S. 3,379,233.
  - Kasper, Frank S. 3,379,234.
- Amundsen, Paul D., to Fendall Co. Pivoted auxiliary lens frame for spectacles with adjustable wire bow member support means. 3,379,487, 4–23–68, Cl. 351—58.
- Amylase A.G.: *See*—
  - Gablinger, Hersch. 3,379,534.
- Andersen, Eli F., to The West Co. Container closure. 3,379,326, 4–23–68, Cl. 215—38.
- Anderson, Bazeel B. Fat testing centrifuge. 3,379,370, 4–23–68, Cl. 233—26.
- Anderson, Bert O., to United-Carr Inc. Molding fastener. 3,378,983, 4–23–68, Cl. 52—718.
- Anderson Bros. Mfg. Co.: *See*—
  - Frederick, Kenneth, and Strombeck. 3 379,346.
- Anderson, Clifford E., to ACF Industries, Inc. Control system. 3,379,404, 4–23–68, Cl. 251—26.
- Anderson, Harold H., to G. & J. Weir Ltd. Closure devices. 3,379,332, 4–23–68. Cl. 220—46.
- Anderson, Ralph F. Heat sealing apparatus. 3,378,991, 4–23–68, Cl. 53—373.
- Andrews, Harry N., and H. W. Keller, to Westinghouse Electric Corp. Means for supporting fuel elements in a nuclear reactor. 3,379,617, 4–23–68 Cl. 176—78.
- Andrews, Harry N., and F. N. Vespa, to Westinghouse Electric Corp. Fuel assembly for nuclear reactors. 3,379,619, 4–23–68, Cl. 176—78.
- Anello, Louis G., and R. F. Sweeney, to Allied Chemical Corp. Preparation of perfluorinated ketones. 3,379,765, 4–23–68, Cl. 260—586.
- Antonevich, Michael, to Crawford Stop-Motion Co., Inc. Multiple yarn stop motion assembly. 3,379,037, 4–23–68, Cl. 66—163.
- Antonucci, Carmine J., to Potter Instrument Co , Inc. Type slug impact control in high speed chain printers. 3,379,125, 4–23–68, Cl. 101—93.
- Appel, Rolf, to Olin Mathieson Chemical Corp. Imino bis (sulfuryl halide) product and process for preparing the same. 3,379,509, 4–23–68, Cl. 23—357.
- Appleton Machine Co.: *See*—
  - Thomas, Edgar E., and Lamon. 3,379,170.
- Applied Data Research, Inc.: *See*—
  - Goetz, Martin A. 3,380,029.
- Arakawa Rinsan Kagaku Kogyo Kabushiki Kaisha: *See*—
  - Takei, Koji, Miyamoto, and Kenmotsu. 3,379,663.
- Archer, Sydney, and D. Rosi, to Sterling Drug Inc. Process for producing 4-aminobenzyl alcohol derivatives. 3,379,620, 4–23–68, Cl. 195—51.
- Are, Ward W., Jr., to Lockheed Aircraft Corp. Linear force-applying tool for the separation of joined parts. 3,378,910, 4–23–68, Cl. 29—237.

- Ard, Jesse S., to United States of America, Agriculture. Radiation sample cells. 3,379,093, 4-23-68, Cl. 88—14.
- Armbrust, Roy J. Diesel safety control apparatus. 3,379,187, 4-23-68, Cl. 123—198.
- Armco Steel Corp.: *See—*
  - Harry, William R., Ewing, and Smiltneek. 3,379,221.
  - Hoover, George R., and Schnedler. 3,379,557.
  - Kohler, Dale M., and Carpenter. 3,379,581.
- Armour and Co.: *See—*
  - Abramitis, Walter W., Reck, and Wilhelmy. 3,379,563.
  - Shapiro, Sydney H. 3,379,763.
- Arneson, Edwin L., to Federal Paper Board Co., Inc. Window display container. 3,379,359, 4-23-68, Cl. 229—16.
- Aroyan, George F., to T. R. Whitney, d.b.a. Pacific Infrared Systems Co. Variable frequency modulating reticle and system. 3,379,891, 4-23-68, Cl. 250—233.
- Arrance, Frank C.: *See—*
  - Berger, Carl, and Arrance. 3,379,569.
  - Berger, Carl, and Arrance. 3,379,570.
- Artnell Co.: *See—*
  - Gielow, George F., and Edwards. 3,379,199.
- Simon, Arter, Maschinenbaugesellschaft mit beschrankter Haftung: *See—*
  - Liesenhoff, Paul. 3,379,422.
- Asenbauer, Donald J., to Shell Oil Co. Stackable container having movable support members. 3,379,339, 4-23-68, Cl. 220—97.
- Ashland Oil & Refining Co.: *See—*
  - Harry, William R., Ewing, and Smiltneek. 3,379,221.
- Aahton, Stanley, R. J. Hurlock, and G. Scott, to Imperial Chemical Industries Ltd. Certain triazines as stabilizers for polyamides. 3,379,676, 4-23-68, Cl. 260—45.8.
- Aske, Vernon H., to Honeywell Inc. Control apparatus for producing constant energy pulses. 3,379,979, 4-23-68, Cl. 328—59.
- Askew, Gerald H.: *See—*
  - Nuttall, Thomas C., and Askew. 3,379,944.
- Ateliers de Constructions Electriques de Charleroi (ACEC) Societe Anonyme: *See—*
  - Closset, Maurice. 3,378,918.
- Atlas Chemical Industries, Inc.: *See—*
  - Rutledge, Thomas F. 3 379,694.
- Augere, Paul, to Charvo S.A. Apparatus for drying hides, skins and similar sheet-like articles. 3,378,935, 4-28-68, Cl. 34—92.
- Austin, Arthur C., to National Gypsum Co. Process for forming arcuate rigid plastic plate. 3,379,813, 4-23-68, Cl. 264—227.
- Avco Corp.: *See—*
  - Park. Jerald L., and Lagasse. 3,379,443.
- Azinger, Frederick A., Jr., to Westinghouse Electric Corp. Compressed-gas circuit breaker with rotary blast valve surrounding the arcing chamber. 3,379,847, 4-23-68, Cl. 200—148.
- Azinger, Frederick A., Jr., to Westinghouse Electric Corp. Gas-blast circuit breaker system with current-responsive initiating synchronous relay. 3,379,850, 4-23-68, Cl. 200—148.
- Babcock Electronics Corp.: *See—*
  - Cartwright, Victor F. 3,380,051.
- Babcock & Wilcox Ltd.: *See—*
  - Walkling, Ernest S., McKenzie, and Maskell. 3,379,375.
- Badische Anilin- & Soda-Fabrik Aktiengesellschaft: *See—*
  - Mecke, Rolf. 3,379,739.
- Baggott, George T., to Crescent Metal Products, Inc. Latching system. 3,379,482, 4-23-68, Cl. 312—111.
- Bailey Meter Co.: *See—*
  - Friedline, Leslie E. 3,379,950.
- Baker, Clarence W., to Bell & Howell Co. Ion source for a mass spectrometer with specific electrode structure to accelerate and focus ions. 3,379,874, 4-23-68, Cl. 250—41.9.
- Banks, William P., N. L. Conger, and C. E. Locke, to Continental Oil Co. Method and apparatus for automatically controlling corrosion of process vessels. 3,379,629, 4-23-68, Cl. 204—147.
- Banner, Joseph P. Plastic laminating apparatus. 3,379,122, 4-23-68, Cl. 100—93.
- Banning, Thomas A., Jr. Subscription television system having raster distortion. 3,379,825, 4-23-68, Cl. 178—5.1.
- Barbini, Spartacus, to Compagnie Generale d'Electricite. Triggering device for spark generators. 3,379,928, 4-23-68, Cl. 315—57.
- Barcatta, Frank A.: *See—*
  - Forrester, Alvin T., and Barcatta. 3,379,855.
- Bardell, Kenneth P.: *See—*
  - Smader, Charles L., and Bardell. 3,379,416.
- Bargellini, Fausto, and E. Gagliardo, to Montecatini Edison, S.p.A. Composition of synthetic thermoplastic resins comprised of vinyl chloride and esters of aliphatic phthalate plasticizers. 3,379,669, 4-23-68, Cl. 260—31.6.
- Barker, Alfred W., and F. Ramsay, to The Sandall Precision Co., Ltd. Fuel efficiency meter. 3,379,055, 4-23-68, Cl. 73—113.
- Barnes, Bayard L., to The Mead Corp. Carton. 3,379,361, 4-23-68, Cl. 229—33.
- Barnes Engineering Co.: *See—*
  - Ward, Kenneth A., Falk, and Schwarz. 3,379,883.
- Barnett, Eugene R. and W. L. Beam-driven gyroscope device. 3,379,889, 4-23-68, Cl. 250—215.
- Barnett, Willard L.: *See—*
  - Barnett, Eugene R. and W. L. 3,379,889.
- Barnette, Stanley R. Cast plastic laminates and cast plastic articles of manufacture. 3,379,603, 4-23-68, Cl. 161—5.
- Barr, John T., to Pennsalt Chemicals Corp. Copolymers of 1,1,2-trifluorobutadiene-1,3. 3,379,773, 4-23-68, Cl. 260—615.
- Barowclough, Alan O. Automatic gate. 3,378,953, 4-23-68, Cl. 49—364.
- Barsun, Herman F.: *See—*
  - Kusenberger, Felix N., Barsun, and Fogwell. 3,379,970.
- Baskett, John R., to Bourns, Inc. Adjustable resistor. 3,380,011, 4-23-68, Cl. 338—162.
- Bastian Blessing Co., The: *See—*
  - Billington, Evans R. 3,379,213.
  - Veres, Edward W., Draxler, Hanson, and Poethig. 3,378,993.
- Battles, James W., D. E. Crane, R. W. Yancey, and J. R. Alday, to United States of America, Navy. Floating diode harmonic multiplier. 3,379,956, 4-23-68, Cl. 321—69.
- Baumeister, Wolfgang. Marker for underground marking of measuring points. 3,378,967, 4-23-68, Cl. 52—98.
- Bauschard, John H. Battery hold down clip. 3,379,400, 4-23-68, Cl. 248—361.
- Bayer, Otto: *See—*
  - Hennig, Hans-Joachim, and Bayer. 3,379,749.
- Bean, Kenneth E., and W. R. Runyan, to Texas Instruments Inc. Semiconductor wafer with at least one epitaxial layer and methods of making same. 3,379,584, 4-23-68, Cl. 148—175.
- Beasley, Augustus E., Jr., J. C. Cowan, and H. G. Gainey, to National Lead Co. Dispersion of long chain alkyl ammonium humate in organic liquid. 3,379,650, 4-23-68, Cl. 252—308.
- Becker, Lothar, and H. W. Drawin, to Commissariat a l'Energie Atomique. Auxiliary instrument for the analysis of spectral plates. 3,380,063, 4-23-68, Cl. 346—13.
- Becker, Patrick O., and H. M. Robey, to Varian Associates. Ammonia vaporizer and dissociator system. 3,379,507, 4-23-68 Cl. 23—288.
- Becker, Richard O., to E. I. du Pont de Nemours and Co. Preparation of stable copolymeric latices. 3,379,666, 4-23-68, Cl. 260—29.7.
- Beckman Instruments, Inc.: *See—*
  - Leonard, Lynn B. 3,379,217.
  - Wright, Alan J. 3,379,567.
- Beckmeyer, Charles, to Gulf Oil Corp. Flow control cartridge arrangement. 3,379,477, 4-23-68, Cl. 302—17.
- Behrens, Heinz: *See—*
  - Cremer, Gottfried, and Behrens. 3,379,242.
- Behringer, Arthur J.: *See—*
  - Corrsin, Lester, and Behringer. 3,379,527.
- Bell & Howell Co.: *See—*
  - Baker, Clarence W. 3,379,874.
- Bell Telephone Laboratories, Inc.: *See—*
  - Kaminski, William. 3,379,897.
  - Kempf, Raymond A. 3,379,824.
- Bell, William E., to General Motors Corp. Battery having a cover member for a plurality of vented battery caps. 3,379,575 4-23-68, Cl. 136—170.
- Belling, Robert J.: *See—*
  - Kabel, Richard H., and Belling. 3,379,180.
- Bellows, Kenneth O.: *See—*
  - Woolard, Thomas L., and Bellows. 3,379,240.
- Bemmann, Richard W., to General Motors Corp. Signal frequency to pulse width modulation converter. 3,380,003, 4-23-68, Cl. 332—9.
- Bendix Corp., The: *See—*
  - Franchi, Louis J., Sellite, and Bulloch. 3,379,951.
  - Kamm, Vernon C., Van Ardel, and Whiteside. 3,370,027.
- Bendix-Westinghouse Automotive Air Brake Co.: *See—*
  - Morse, Robert J. 3,379,211.
- Benedek, Gyorgy: *See—*
  - Domokos, Jozsef, Benedek, Kiss, and Winkler. 3,379,066.
- Bennati, Edmo, to R. Glimpel. Collet chuck. 3,379,446, 4-23-68, Cl. 279—51.
- Bennett, John H., to Consolidated Electrodynamics Corp. Magnetic recording dynamic range compressor/expander system. 3,379,839, 4-23-68, Cl. 179—100.2.
- Bentley, William, and N. H. Small, to William Cotton Ltd. Straight bar kniting machines. 3,379,035, 4-23-68, Cl. 66—88.
- Bentsen, Thomas V., to Jydsk Varmekedelfabrik A/S. Safety valve. 3,379,207, 4-23-68, Cl. 137—251.
- Berezkin, Boris S.: *See—*
  - Zherebin, Boris N., Krepyshev, Groshin, and Berezkin. 3,379,427.
- Berger, Anna: *See—*
  - Wohlmeyer, Josef. 3,379,024.
- Berger, Carl, and F. C. Arrance, to McDonnell Douglas Corp. Battery having an integral composite electrode-separator unit. 3,379,569, 4-23-68, Cl. 136—6.
- Berger, Carl, and F. C Arrance, to McDonnell Douglas Corp. Battery containing a sintered aluminosilicate separator. 3,379,570, 4-23-68, Cl. 136—6.
- Berger, Robert: *See—*
  - Wohlmeyer, Josef. 3,379,024.
- Berglund, Sten, and O. Dahle, to Allmanna Svenska Elektriska Aktiebolaget. Means for measuring mechanical stresses in magneto-strictive material. 3,379,053, 4-23-68, Cl. 73—88.5.
- Berman, Leon, to C.I.T.-Compagnie Industrielle des Telecommunications. Frequency synthesizer using frequency control based on a narrow band within spectrum of harmonics. 3,379,993, 4-23-68, Cl. 331—4.
- Bernasconi, Giuseppe, deceased (by P. Bernasconi, executor), Metallo S.A. Slider for zip-fasteners. 3,378,894, 4-23-68, Cl. 24—205.14.
- Bernasconi, Pietro: *See—*
  - Bernasconi, Giuseppe and P. 3,378,894.
- Bernstein, Jack, to E. R. Squibb & Sons, Inc. Aminobenzoic acid derivatives of adamantyl glyoxals. 3,379,754, 4-23-68, Cl. 260—519.

- Berry, Robert E., O. W. Bissett, C. J. Wagner, Jr., and M. K. Veldhuis, to United States of America, Agriculture. Treatment of dried fruit and vegetable powders to prevent foam formation during reconstitution. 3,379,538, 4-23-68, Cl. 99—199.
- Bertram, Ernst & Wilhelm: *See—*
  - Bertram, Wilhelm. 3,379,109.
- Bertram, Wilhelm. Light meter. 3,379,094, 4-23-68, Cl. 88—23.
- Bertram, Wilhelm, to E. & W. Bertram. Automatic center shutter for photographic purposes. 3,379,109, 4-23-68, Cl. 95—62.
- Besso, Michael M., to Chas. Pfizer & Co., Inc. Stabilizing compositions. 3,379,679, 4-23-68, Cl. 260—45.75.
- Betsworth, Ronald K.: *See—*
  - Littrell, Woodrow H., Issaak, Klund, and Betsworth. 3,380,018.
- Betts, Peter, and E. T. Eiselen, to International Business Machines Corp. Electrostatic head. 3,380,070, 4-23-68, Cl. 346—74.
- Beyer, Fritz, H. Froese, A. Jacknau, W. Scheffel, and F. Wolf, to Agfa-Gevaert Aktiengesellschaft. Exchangeable film magazine for microfilm cameras. 3,379,108, 4-23-68, Cl. 95—31.
- Biagini, Henry G.: *See—*
  - Harris, Robert V., and Biagini. 3,379,902.
- Bialy, Karol J., to United States of America, Navy. Optical solar energy converter. 3,379,394, 4-23-68, Cl. 244—1.
- Bianchini, Louis P.: *See—*
  - Grant, Alden H., and Bianchini. 3,378,867.
- Bible, Roy H., Jr.: *See—*
  - Scaros, Mike G., and Bible. 3,379,744.
- Bidelman, Bruce B., R. R. Martin, and G. R. Millard, to Ronan & Kunzl, Inc. Sliding door operating mechanism. 3,378,952, 4-23-68, Cl. 49—360.
- Bigot, Johan A., J. Van Mourik, and J. Van Beveren, to Stamicarbon N.V. Anionic polymerization of lactams. 3,379,698, 4-23-68, Cl. 260—78.
- Billington, Evans R., to The Bastian Blessing Co. Excess flow check valve. 3,379,213, 4-23-68, Cl. 137—515.5.
- Bird, Gordon S., Jr., to Cambridge Thermionic Corp. Thermoelectric junction assembly with insulating irregular grains bonding insulating layer to metallic thermojunction member. 3,379,577, 4-23-68, Cl. 136—205.
- Bissett, Owen W.: *See—*
  - Berry, Robert E., Bissett, Wagner, and Veldhuis. 3,379,538.
- Biviator S.A.: *See—*
  - Adler, Karl, and Ducommun. 3,379,898.
- Bjelland, John L.: *See—*
  - Flynn, Floyd W., Bjelland, and Schutt. 3,379,436.
- Blackert, John E., and D. E. Webb, to Xerox Corp. Exposure control system. 3,379,110, 4-23-68, Cl. 95—75.
- Blancafort, José M. A. Device for pressure dyeing textile samples. 3,379,038, 4-23-68, Cl. 68—156.
- Blanluet, Jack, to CSF-Compagnie Generale de Telegraphie Sans Fil. Integrated field effect circuitry. 3,379,941, 4-23-68, Cl. 317—235
- Bleach, Bruce J., to British Aircraft Corp. (Operating), Ltd. Aircraft-mounted emergency oxygen masks and holder. 3,379,195, 4-23-68, Cl. 128—146.3.
- Blitzer, Jacob H., Jr., to Integrated Ceilings, Inc. Louver construction. 3,378,980, 4-23-68, Cl. 52—668.
- Bloch, Herman S., to Universal Oil Products Co. Catalytic dehydrogenation of alkylaromatic hydrocarbons. 3,379,786, 4-23-68, Cl. 260—669.
- Bloch, Herman S., and R. C. Wackher, to Universal Oil Products Co. Selective solvent for unsaturated hydrocarbons. 3,379,788, 4-23-68, Cl. 260—674.
- Bloom, Frederick S., and R. L. Hoffman. Hearth firing apparatus. 3,379,423, 4-23-68, Cl. 263—6.
- Bloomer, Ward J., and S. W. Martin, deceased (by B. B. Martin, administratrix), to The Lummun Co., and Great Lakes Carbon Corp. Coal solvation with nonhydrogenated solvent in the absence of added hydrogen. 3,379,638, 4-23-68, Cl. 208—8.
- Blum, Julius & Co., Inc.: *See—*
  - Thurnauer, William. 3,379,414.
- Bobolts, Melbourne W., and J. R. Crooks. Device for dispensing twisted barbed tape. 3,379,386, 4-23-68, Cl. 242—55.
- Bobrowski, Jan: *See—*
  - Singer, Oscar, and Bobrowski. 3,378,971.
- Bobrowski, Victor. Welding head centering device for tube making machines. 3,379,355, 4-23-68, Cl. 228—25.
- Boccone, Egido A. Table and leg assembly device. 3,379,398, 4-23-68, Cl. 248—188.
- Bodine, Albert G., Jr. Stepped termination for sonic casing drive. 3,379,262, 4-23-68, Cl. 175—19.
- Bodine, Albert G., Jr. Sonic method and apparatus for installing pile member, casing members or the like, in earthen formations. 3,379,263, 4-23-68, Cl. 175—19.
- Boehringer, C. F., & Soehne G.m.b.H.: *See—*
  - Haack, Erich, Heerdt, Schmidt, and Stach. 3,379,734.
- Boetcker, Carl H.: *See—*
  - Link, Leo J., and Boetcker. 3,379,327.
- Bogie, Nelson H. Trailer stabilizer. 3,379,456, 4-23-68, Cl. 280—446.
- Bohn, Floyd O., to Dresser Industries, Inc. Dump bailer. 3,379,251, 4-23-68, Cl. 166—23.
- Boldt, Manfred: *See—*
  - Heuse, Otto, Boldt, Wirtz, and Theilig. 3,379,626.
- Bolhofer, William A., to Merck & Co., Inc. Phenoxy substituted 3-hydroxyalkanoic acids and a method for their preparation. 3,379,752, 4-23-68, Cl. 260—473.
- Bolt Associates, Inc.: *See—*
  - Chelminski, Stephen V. 3,379,273.
- Bolt Beranek and Newman Inc.: *See—*
  - Conners, Patrick F. 3,379,834.
  - Gilbert, Ernest E. 3,379,835.
- Bombrini Parodi-Delfino S.p.A.: *See—*
  - Corsi, Giannino, and Perfumo. 3,379,588.
- Bone, Arnold R., to Dennison Mfg. Co. Label printer. 3,379,128, 4-23-68, Cl. 101—292.
- Bono, Luigi, to Necchi Societa per Azioni. Oil circulation device in a sewing machine. 3,379,152, 4-23-68, Cl. 112—256.
- Booth, Max H., to E. I. du Pont de Nemours and Co. Polyurethanes prepared from m-xylylenediamine. 3,379,683, 4-23-68, Cl. 260—47.
- Borg-Warner Corp.: *See—*
  - Brummer, Olin, and Talamonti. 3,379,444.
- Borges, Stanley J.: *See—*
  - Calletti, Richard C., and Borges. 3,379,281.
- Borrefors, Jan I., to Aktiebolaget Electrolux. Mobile supporting means for suction cleaners. 3,378,877, 4-23-68, Cl. 15—327.
- Bortz, Jack D., to U.S. Polymatrix, Inc. Molding assembly. 3,379,462, 4-23-68, Cl. 287—20.92.
- Bosch, Robert, G.m.b.H.: *See—*
  - Wolf, Karl. 3,379,183.
  - Wolf, Karl. 3,379,184.
- Bosworth, Marcellus M. Golf ball cleaning and chalking device. 3,379,168, 4-23-68, Cl. 118—72.
- Botalam: *See—*
  - Missioux, Jean. 3,379,099.
- Botden, Theodoor P. J.: *See—*
  - Haans, Petrus F. A., Botden, and Roelofs. 3,379,822.
- Bottenbruch, Ludwig, and H. Schnell, to Farbenfabriken Bayer Aktiengesellschaft. Process for producing high molecular weight polybenzoxazine diones. 3,379,686, 4-23-68, Cl. 260—47.
- Bottorff, Marion R.: *See—*
  - Wallace, Donald A., Kelley, Garber, Bottorff, and Lovejoy. 3,379,067.
- Bourhenne, Francis K.: *See—*
  - Gaines, Jack H., and Bourhenne. 3,380,015.
- Bourns, Inc.: *See—*
  - Baskett, John R. 3,380,011.
- Bowaters United Kingdom Pulp and Paper Mills Ltd.: *See—*
  - Parker, John R. 3,379,050.
- Bowen Tools, Inc.: *See—*
  - Burns, Albert L., Jr., and Slator. 3,379,255.
  - Pilcher, Harold. 3,379,393.
- Bowles Engineering Corp.: *See—*
  - Manion, Francis M. 3,379,203.
- Boyars, Carl, and C. F. Sharn, to United States of America, Navy. Fast startup device for torpedo power plant. 3,379,178, 4-23-68, Cl. 122—247.
- Boyle, Archibald R., and P. M. Dunachie, to D-mac Ltd. Intermittently actuated magnetic recording apparatus. 3,380,071, 4-23-68, Cl. 346—74.
- Bracey, Frederick J., Jr., to Mobil Oil Corp. Process and apparatus for heat sealing thermoplastic materials. 3,379,595, 4-23-68, Cl. 156—306.
- Bracey, Frederick J., Jr., to Mobil Oil Corp. Scoring thermoplastic materials. 3,379,814, 4-23-68, Cl. 264—322.
- Bradley, Richard C. Filament winding of tubular articles with incorporation of cut lengths of roving during windng. 3,379,591, 4-23-68, Cl. 156—173.
- Bradshaw, William K., to Newport News Shipbuilding and Dry Dock Co. Universal boom heel support. 3,379,464, 4-23-68, Cl. 287—88.
- Bramble, Lloyd F., and F. C. Morrow, to Gulf State Asphalt Co., Inc. Sealing composition comprising bitumen residual, elastomer and filler. 3,379,662, 4-23-68, Cl. 260—17.4.
- Bramel, Gerald F.: *See—*
  - Huebschmann, John W., and Bramel. 3,379,547.
- Brand, Abraham, to Consolidated Electrodynamics Corp. Positive pressure buffer device for magnetic tape transport. 3,379,353, 4-23-68, Cl. 226—29.
- Brandt, Boyd W., and W. H. Rasmussen, to Waldorf Paper Products Co. Bulk butter package. 3,379,537, 4-23-68, Cl. 99—179.
- Branson Instruments, Inc.: *See—*
  - Harris Robert V., and Biagini. 3,379,902.
- Bratton, Francis H., and J. M. Broz, to G. T. Schjeldahk Co. Transparent laminated weather resistant material. 3,379,606, 4-23-68, Cl. 161—189.
- Braude, George L.: *See—*
  - Cogliano, Joseph A., and Braude. 3,379,759.
- Breedlove, James G., to American Lava Corp. Multi layered electrical capacitor. 3,379,943, 4-23-68, Cl. 317—258.
- Breitholtz, Bo, to Allmanna Svenska Elektriska Aktiebolaget. D.C. circuit breaker device including one or more auxiliary anodes. 3,379,929, 4-23-68, Cl. 315—59.
- Breitholtz, Bo, and C. Jacobsen, to Allmanna Svenska Elektriska Aktiebolaget. Electron beam generator including a plasma beam in a condensing chamber. 3,379,909, 4-23-68, Cl. 313—34.
- Bremmer, Bart J., and J. P. Easterly, to The Dow Chemical Co. Hydroxyalkyl carboxylic acid esters of 4,4′-oxydibenzyl alcohol. 3,379,753, 4-23-68, Cl. 260—484.
- Brenner, Stan, to John R. Lebb Distributors Inc. Coin controlled bag dispenser. 3,379,296, 4-23-68, Cl. 194—10.
- Breshears, Samuel R., to Northrop Corp. Substituted polyphenyl ether. 3,379,672, 4-23-68, Cl. 260—37.
- Bretschneider, Gunther: *See—*
  - Knorre, Helmut, Kloepfer, and Bretschneider. 3,379,511.
- Briar, Jack E., L. L. Hudson, and F. L. Talge, Jr., to Dazey Products Co. Ice crusher apparatus. 3,379,382, 4-23-68, Cl. 241—63.
- Brick, Harvey W.: *See—*
  - Diamond, James, and Brick. 3,378,942.

Brightman, Barrie, and D. S. J. Smith, to General Dynamics Corp. Time division multiplex telegraph message switching center employing time slot multiplication. 3,379,836, 4–23–68, Cl. 178—50.
Brindamour, Normand E., to Merck & Co., Inc. Spray coating of pharmaceutical cores with a carboxyvinyl polymer and polyethylene glycol. 3,379,554, 4–23–68, Cl. 117—33.
Bristol Aerojet Ltd.: *See*—
  Fisher, William T. 3,379,097.
Bristol-Myers Co.: *See*—
  Montzka, Thomas A., and Cladel. 3,379,726.
Bristol Siddeley Engines Ltd.: *See*—
  Sharp, James W., and Hardy. 3,379,009.
British Aircraft Corp. (Operating) Ltd.: *See*—
  Bleach, Bruce J. 3,379,195.
British Industrial Plastics Ltd.: *See*—
  May, Herbert, Kendall-Smith, and Burr. 3,379,655.
British Petroleum Co. Ltd., The: *See*—
  Holmds, Peter D., Thornhill, and Nicholas. 3,379,505.
Brittan, Kenneth W., to Triflex Safety Glass Co. Ltd. Laminated transparent panels incorporating heating wires. 3,378,919, 4–23–68, Cl. 29—611.
Broadwin, Samuel M., to Maryland Plastics Inc. Test tube rack. 3,379,315, 4–23–68, Cl. 211—72.
Brockner, Charles E.: *See*—
  Cook, Charles E., and Brockner. 3,380,054.
Brooker, Leslie G.: *See*—
  Jenkins, Philip W., and Brooker. 3,379,533.
Brooks, James W., to United States of America, Navy. Pneumatic explosion generator (PEG). 3,379,272, 4–23–68, Cl. 181—.5.
Brooks, Richard, to Imperial Chemical Industries Ltd. Production of sodium carbonate. 3,379,495, 4–23–68, Cl. 23—63.
Broquist, Alben V. Prestressed concrete reinforcing arch structure. 3,378,965, 4–23–68, Cl. 52—88.
Brown, Harry W., Sr., to The National Acme Co. Method and machine for form rolling. 3,379,042, 4–23–68, Cl. 72—10.
Brown, Kenneth W.: *See*—
  Wood, Allan J., and Brown, 3,379,846.
Brown, Richard E., to North American Rockwell Corp. Fluid strainers. 3,379,312, 4–23–68, Cl. 210—415.
Broz, James M.: *See*—
  Bratton, Francis H., and Broz. 3,379,606.
Bruder, Karl, and W. Hüsges, to Firma G. Siempelkamp & Co. Plural actuated press means for a press-charging system. 3,379 124, 4–23–68, Cl. 100—137.
Bruder, Karl, and W. Hüsges, to Firma G. Siempelkamp & Co. Lost motion press-charging apparatus. 3,379,322, 4–23–68, Cl. 214—16.6.
Bruder, Wallace J., to The Dow Chemical Co. Honeycomb fabrication. 3,379,594, 4–23–68 Cl. 156—292.
Brummer, Olin, and J. Talamonti, to Borg-Warner Corp. Fluid seal structure. 3,379,444, 4–23–68, Cl. 277—58.
Brundage, Robert W., to The Emerson Electric Mfg., Co. Hydraulic transmission. 3,379,007, 4–23–68, Cl. 60—53.
Brunswick Corp.: *See*—
  Roberts, John A., and Quirk. 3,378,999.
Brush, John B. Windshield visor. 3,379,467, 4–23–68, Cl. 296—95.
Bryans, David F., and C. C. Herb, to Carrier Corp. Air conditioning equipment. 3,379,329, 4–23–68, Cl. 220—1.
Bryson, Robert P.: *See*—
  Howard, Earle A., Hotz, and Bryson. 3,379,052.
Budd Co., The: *See*—
  Cooper, William C., and Nelson. 3,379,048.
Bugan, Anton. Concrete reinforcing bars with deep alveoli. 3,378,985, 4–23–68, Cl. 52—739.
Bullard E. D., Co.: *See*—
  Raschke, Herbert A. 3,380,022.
Buller, Richard M., to Master Lock Co. Means for assemblying lock cylinder components. 3,378,908, 4–23–68, Cl. 29—208.
Bulloch, James E.: *See*—
  Franchi, Louis J., Sellite, and Bulloch. 3,379,951.
Bunin, Donald S.: *See*—
  Treitler, Theodore L., and Bunin. 3,379,501.
Buning, Robert, to Dynamit Nobel Aktiengesellschaft. Process for the manufacture of water-insoluble polysulfonic acids on the basis of acrolein polymers and copolymers. 3,379,688, 4–23–68. Cl. 260—67.
Burdick, Glen M., J. R. Dafler, and R. L. Every, to Continental Oil Co. Decorative etching of aluminum. 3,379,628, 4–23–68, Cl. 204—141.
Bürger, Ewald: *See*—
  Erwien, Helmut, Altfelder and Bürger. 3,379,476.
Burggraaf, Anthonie J., and E. O. W. van der Stelt, to North American Philips Co., Inc. Sodium-vapor discharge lamp having an envelope with a porous inner wall. 3,379,302, 4–23–68, Cl. 206—.6.
Burhans, Richard O., and G. H. Criss. Refractory bonding mortar. 3,379,544, 4–23–68, Cl. 106—55.
Burndy Corp.: *See*—
  Schenker, Henry, and Reischer. 3,380,014.
Burns, Albert L., Jr., D. T. Slator, to Bowen Tools, Inc. Cutoff assembly for use at wellheads. 3,379,255, 4–23–68, Cl. 166—55.
Burns, Alfred N., and J. C. Vecchi, to Oberg Mfg. Co., Inc. Machineable headed punch. 3,379,083, 4–23–68, Cl. 83—686.
Burr, Merrill, and D. E. Koshland, Jr., to United States of America, Atomic Energy Commission. 2-Bromoacetamido-4-nitrophenol. 3,379,760, 4–23–68, Cl. 260—562.
Burr, Susannah: *See*—
  May, Herbert, Kendall-Smith, and Burr. 3,379,655.
Burroughs Corp.: *See*—
  Green, Milton. 3,379,895.
  Hass, Harold E., Nordman, and Rayfield. 3,379,352.
  Jablonski, Richard J., and Pasinski. 3,379,297.
  Samson, Robert, and Sprenkle. 3,380,016.
  Shafer, Philip E. 3,379,989.
  Zacharda, Donald R. 3,380,037.
Burton, Howard A. Operational circuitry for pipe organs. 3,379,085, 4–23–68, Cl. 84—337.
Bush, Clinton G., Jr., to Elton Industries, Inc. Magnetic support means for a covering. 3,378.974, 4–23–68, Cl. 52—483.
Buss, John, to Abitibi Power & Paper Co., Ltd. Dried section of papermaking machine. 3,378,936, 4–23–68, Cl. 34—116.
Butcher, John W., to United Kingdom Atomic Energy Authority. Compaction processes. 3,379,521, 4–23–68, Cl. 75—201.
Butler, Arnold A. Throw rug mounting on a door. 3,378,950, 4–23–68, Cl. 49—70.
Butterworth System, Inc.: *See*—
  Orem, James W. 3,379 379.
Byland, Henry L. Wrapping machine. 3,378,990, 4–23–68, Cl. 53—206.
Byrne, Francis T.: *See*—
  Soules, Jack A., and Byrne. 3,379,998.
Bywaters, Richard P., to Texas Instruments Inc. Alignment device for semiconductor apparatus. 3,379,938, 4–23–68, Cl. 317—101.
C.I.T.-Compagnie Industrielle des Telecommunications: *See*—
  Berman, Leon. 3,379,993.
CSF-Compagnie Generale de Telegraphie Sans Fil: *See*—
  Blanluet, Jack. 3,379,941.
  Pinel, Jacques. 3,379,984.
Cabot Corp.: *See*—
  Rossman, Raymond P., Jordon, and Dannenberg. 3,379,673.
Calletti, Richard C., and S. J. Borges, to Standard Structures, Inc. Method and equipment for building construction. 3,379,281, 4–23–68. Cl. 182—113.
Cambridge Thermionic Corp.: *See*—
  Bird, Gordon S., Jr. 3,379,577.
Campbell, Tod W., and F. W. Knoblich, to E. I. du Pont de Nemours and Co. Blends of cellulosic and polypivalolactone staple fibers. 3,379,001, 4–23–68, Cl. 57—140.
Canadian General Electric Co.: *See*—
  Eastcott, Peter De H. 3,379,390.
Canadian Patents and Development Ltd.: *See*—
  Chaklader, Asoka C. D. 3,379,523.
Canning, Walter L., to Alex F. Walker & Associates, Inc. Stacking devices. 3,379.314, 4–23–68, Cl. 211—49.
Carborundum Co., The: *See*—
  Smudski, Paul A. 3,379,647.
Cardillo, Jerry E., to Federal-Mogul Corp. Forging method. 3,378,903, 4–23–68, Cl. 29—148.4.
Carey, Thomas P., and T. T. Hadeler, to United States of America. Regulating valve for ejection seat trainer. 3,378,939, 4–23–68, Cl. 35—12.
Carlberg, George A., and B. L. Siegal, to Porta-Table Corp. Portable saw table. 3,379,228, 4–23–68, Cl. 143—132.
Carlson, Robert L., to W. H. Miner, Inc. Draft gear. 3,379,917, 4–23–68, Cl. 213—22.
Carmichael, Charles J.: *See*—
  Pierce, Dewey W., and Carmichael. 3,378,992.
Carpenter, Victor W.: *See*—
  Kohler, Dale M., and Carpenter. 3,379,581.
Carrier Corp.: *See*—
  Bryant, David F., and Herb. 3,379,329.
Carroll, John F., Jr., and R. C. Gotham, to Eastman Kodak Co. Magnetic recording system having an operational environment of low relative humidity. 3,380,043, 4–23–68, Cl. 340—174.1.
Carroll, Paul E.: *See*—
  Clerc, Milton C., and Carroll. 3,379,991.
Carsten, Paul W. Adjustable timer for a plurality of stations. 3,379,894, 4–23–68, Cl. 307—41.
Cartier, Inc.: *See*—
  Horton, Frank E. 3,379,235.
Cartwright, Victor F., to Babcock Electronics Corp. Range and angle measuring system. 3,380,051, 4–23–68, Cl. 343—10.
Cary, Hall: *See*—
  Foster, George B., Ostrander, and Cary. 3,379,972.
Casadio, Pietro. Electro-magnetically actuated switch for toys forming electrical trains. 3,379,873, 4–23–68, Cl. 246—415.
Casas-Campillo, Carlos, to Syntex Corp. Microbiological preparation of $\Delta^{1,3,5(10)}$-3-hydroxy steroids. 3,379,621, 4–23–68, Cl. 195—51.
Cascade Corp.: *See*—
  Frey, Max. 3,379,325.
Caterpillar Tractor Co.: *See*—
  Cheng, Joseph C. J. 3,378,913.
  McCormick, Willard T. 3,379,133.
Catino, Sigmund C.: *See*—
  Strobel, Albert F., and Catino. 3,379,779.
Cavalli Luigi: *See*—
  Forni, Aldo, and Cavalli. 3,379,774.
Cavanaugh, Marion E., to United States of America, Navy. Electrical bus monitoring system for aircraft. 3,379,893, 4–23–68, Cl. 307—41.
Celanese Corp.: *See*—
  Prichard, John H. 3,379,682.
  Prinz, Roy H., and Kerr. 3,379,769.
  Rulison, Richard N. 3,379,719.
Central Electricity Generating Board: *See*—
  Wallis, Peter T., and Gaunt. 3,379,904.
Central Markets, Inc.: *See*—
  Sluiter, Adrian. 3,379,146.
Cerny, Vaclav, to Vyzkumny Ustav Matematickych Stroju. Computer apparatus. 3,380,033, 4–23–68, Cl. 340—172.5.
Cerny, Vaclav, to Vyzkumny Ustav Matematickych Stroju. Addressing system for computer memories. 3,380,034, 4–23–68, Cl. 340—172.5.

Cervenka, Milos, to Tesla, narodni podnik. Registering recorder of hot running axle bearings of railroad cars. 3,380,067, 4–23–68, Cl. 346—33.
Chagnon, Paul L., S. J. Gartner, and A. S. Jankowski, to Sylvania Electric Products Inc. Conveying and orienting apparatus. 3,379,357, 4–23–68, Cl. 228—47.
Chaklader, Asoke C. D., to Canadian Patents and Development Ltd. Hot-pressing of decomposable compounds to form oxide-containing products. 3,379,523, 4–23–68, Cl. 75—206.
Chandler, James F., and J. L. Reunick, to Zenith Radio Corp. Convergence correction. 3,379,923, 4–23–68, Cl. 315—13.
Chang, Winston H., J. W. Clark, and G. D. Oxx, Jr., to General Electric Co. Tantalum-base alloys. 3,379,520, 4–23–68, Cl. 75—174.
Charvo S.A.: *See*—
  Augere, Paul. 3,378,935.
Chatten, Clarence K., and S. A. Eller, to United States of America, Navy. Positioning device for cable fairing. 3,379,162, 4–23–68, Cl. 114—235.
Chauprade, Robert, to Le Materiel Electrique S.W. Distributor circuit for a control rectifier including a pulse generator. 3,379,899, 4–23–68, Cl. 307—284.
Chelminski, Stephen V., to Bolt Associates, Inc. Powerful sound impulse generation methods and apparatus. 3,379,273, 4–23–68, Cl. 181—.5.
Chemical and Industrial Corp., The: *See*—
  Russo, Vincent J. 3,379,496.
Chemische Werke Huls Aktiengesellschaft: *See*—
  Hamann, Karl, and Sturzenhofecker. 3,379,657.
  Winter, Hermann, and Weber. 3,379,704.
Chemische Werke Witten G.m.b.H.: *See*—
  Wolfes, Wolfgang, Renckoff, and Huelsmann. 3,379,695.
Chen, Nai Y., and W. E. Garwood, to Mobil Oil Corp. Selective catalytic conversion with a crystalline aluminosilicate. 3,379,640, 4–23–68, Cl. 208—111.
Cheng, Joseph C. J., to Caterpillar Tractor Co. Friction welding maraging steel. 3,378,913, 4–23–68, Cl. 29—470.3.
Chevron Research Co.: *See*—
  Clark, Calvin M. 3,380,020.
  Jen, Yun. 3,379,548.
Chiddix, Max E., and H. B. Freyermuth, to General Aniline & Film Corp. Monoazo pyrazolone dyestuffs. 3,379,715, 4–23–68, Cl. 260—163.
Chiecchi, Eraldo M., to Ampex Corp. Electroless plating system. 3,379,556, 4–23–68, Cl. 117—47.
Chisholm, Douglas S., to Dow Chemical Co. Mechanical linkage. 3,379,069, 4–23–68, Cl. 74—1.
Chism, Melvin E., to Phillips Petroleum Co. Plugging of vugged and porous strata. 3,379,253, 4–23–68, Cl. 166—33.
Chorney, Paul, and J. Valun, to United States of America, Navy. Plasma extraction guns and applications therefor. 3,379,910, 4–23–68, Cl. 313—63.
Chrysler Corp.: *See*—
  Hill, Wayne O. 3,379,293.
  Lapham, Warren V. 3,378,917.
Ciba Corp.: *See*—
  De Stevens, George, and Werner. 3,379,612.
  Walker, Gordon N. 3,379,731.
  Wilhelm, Max. 3,379,761.
Ciba Ltd.: *See*—
  Ernst, Otto, and Lehmann. 3,379,653.
  Preininger, Erich, and Ott. 3,379,685.
  Seiz, Wolfgang. 3,379,654.
  Tschamper, Otto, and Regenass. 3,379,741.
Cincinnati Milling Machine Co., The: *See*—
  Seidel, William B. 3,378,960.
Clark, Calvin M., to Chevron Research Co. Method and apparatus for dividing measurable variable intervals into an exact number of subintervals. 3,380,020, 4–23–68, Cl. 340—15.5.
Clark-Feather Mfg. Co.: *See*—
  Clark, James T., and Wilson. 3,378,911.
Clark, Jack W.: *See*—
  Chang, Winston H., Clark, and Oxx. 3,379,520.
Clark, James T., and J. E. Wilson, to Clark-Feather Mfg. Co. Windshield wiper arm tools. 3,378,911, 4–23–68, Cl. 29—267.
Clarke, Ray A., to E. I. du Pont de Nemours and Co. Cationic scarlet dye for acid-modified fibers. 3,379,723, 4–23–68, Cl. 260—240.9.
Claude Paz et Visseaux: *See*—
  Delrieu, Pierre, and Taxil. 3,379,916.
Clayton, Billy B., R. E. Fagen, W. W. Marshman, and H. M. Wolbrecht, to Control Data Corp. Remote calculator. 3,380,031, 4–23–68, Cl. 340—172.5.
Clerc, Milton C., and P. E. Carroll. Automatic gain control employing photoresistors. 3,379,991, 4–23–68, Cl. 330—59.
Clifford, David V.: *See*—
  Hewson, Walter N., and Clifford. 3,379,796.
Closset, Maurice, to Ateliers de Constructions Electrique de Charleroi (ACEC) Societe Anonyme. Method of manufacturing a multipolar magnetic lens. 3,378,918, 4–23–68, Cl. 29—602.
Cochran, Edgar. Mint planter. 3,379,147, 4–23–68, Cl. 111—2.
Coddington, David M., and A. E. Lipson, to Esso Research and Engineering Co. Rubbery copolymers with improved tack. 3,379,671, 4–23–68, Cl. 260—336.
Coensgen, Frederic H., W. F. Cummins, and W. E. Nexsen, Jr., to United States of America, Atomic Energy Commission. Device for forming replica images of particle distributions in a plasma stream. 3,379,880, 4–23–68, Cl. 250—71.5.
Cogliano, Joseph A., and G. L. Braude, to W. R. Grace & Co. Sulfide-chloramine reaction and process for making same. 3,379.759, 4–23–68, Cl. 260—551.
Cohler, Edmund U., to Syvania Electric Products Inc. Electronic switching circuits. 3,380,038, 4–23–68, Cl. 340—174.
Colclaser, Robert G., Jr., and F. L. Reese, to Westinghouse Electric Corp. Gas-blast circuit breaker having a movable tubular venting contact and a laterally-arranged exhaust vent in the interrupting chamber. 3,379,848, 4–23–68, Cl. 200—148.
Cole, Robert B., to United States of America. Bidirectional rotary spring return mechanism. 3,379,283 4–23–68, Cl. 185—37.
Colechia, Raymond L.: *See*—
  Keays, Keatinge, and Colechia. 3,379,156.
Collins Radio Co.: *See*—
  Hoo, Eugene. 3,379,992.
Columbia Ribbon and Carbon Mfg. Co., Inc.: *See*—
  Newman, Douglas A. 3,379,127.
Columware, Inc.: *See*—
  Martin, Ernest N., Maxson, and Scheffer. 3,379,116.
Combustion Engineering, Inc.: *See*—
  Stalph, Gunter J. 3,379,177.
Commercial Solvents Corp.: *See*—
  Francis, James W. 3,379,586.
Commissariat a l'Energie Atomique: *See*—
  Becker, Lothar, and Drawin. 3,380,063.
  Leroy, Marcel. 3,379,881.
Commonwealth Shoe & Leather Co., Inc.: *See*—
  Grant, Alden H., and Bianchini. 3,378,867.
Communication Systems, Inc.: *See*—
  Adams, Robert T., and Schildknecht. 3,380,056.
Compagnie des Compteurs: *See*—
  Janssen, Sylvain J. 3,379,905.
Compagnie des Transmissions Mecaniques Seine-Doubs-Isere: *See*—
  Kuntzmann, Paul. 3,379,072.
Compagnie Francaise Thomson Houston-Hotchkiss Brandt: *See*—
  Drabowitch, Serge V., and Morlon. 3,380,052.
Compagnie Generale d'Electricite: *See*—
  Barbini, Spartacus. 3,379,928.
Compagnoni, Anthony F., to Abex Corp. Hammer tip and clamp. 3,379,384, 4–23–68, Cl. 241—197.
Conch International Methane Ltd.: *See*—
  Jackson, Robert G. 3,379,012.
Conde, Julian S., to Raychem Corp. Closure sleeve for pipes or the like. 3,379,218, 4–23–68, Cl. 138—99.
Cone, Peter F., to United States of America, Air Force. Method for producing an interconnection matrix. 3,378,920, 4–23–68, Cl. 29—625.
Conger, Norman L.: *See*—
  Banks, William P., Conger, and Locke. 3,379,629.
Conger, Robert P.: *See*—
  Jakob, John E., Conger, and Palmer. 3,379,674.
Congoleum-Nairn Inc.: *See*—
  Jakob, John E., Conger, and Palmer. 3,379,674.
Conix, André J., and L. G. Jeurissen, to Gevaert Photo-Producten N.V. Increased crystallizability of polycarbonates. 3.379,801, 4–23–68, Cl. 260—47.
Conners, Patrick F., to Bolt Beranek and Newman Inc. Data coder and input device. 3,379,834, 4–23–68, Cl. 178—18.
Connolly, Terrence E., to General Electric Co. Duplexing means for microwave systems utilizing phased array antennas. 3,380,053, 4–23–68, Cl. 343—16.
Consolidated Electrodynamics Corp.: *See*—
  Bennett, John H. 3,379,839.
  Brand, Abraham. 3,379.353.
  Lancor, Joseph H., Jr. 3,379,488.
Continental Can Co., Inc.: *See*—
  Piazze, Thomas E. 3,379,101.
  Uncapher, Charles A., and Roulo. 3,379,045.
Continental Oil Co.: *See*—
  Alexander, John D., and Martin. 3,379,256.
  Banks, William P., Conger and Locke. 3,379,629.
  Burdick, Glen M., Dafler, and Every. 3,379,628.
  Pierce, Dewey W., and Carmichael. 3,378,992.
Control Data Corp.: *See*—
  Clayton, Billy B., Fagen, Marshman, and Wolbrecht. 3,380,031.
  Larson, Marvin A., and Tanner. 3,380 061.
Cook, Charles E., and C. E. Brockner, to Sperry Rand Corp. Pulse-type radar system. 3,380,054, 4–23–68, Cl. 343—17.2.
Cook, Melvin A., to Intermountain Research & Engineering Co. Inorganic oxidizer salt blasting slurry composition containing formamide. 3,379,587, 4–23–68, Cl. 149—39.
Cooper, Henry P.: *See*—
  Horne, James M. 3,378.981.
Cooper, Robert F., and D. E. Powell, to Homertronics, Inc. Program control system for organs or the like. 3,380,026, 4–23–68, Cl. 340—172.5.
Cooper, William C., and H. J. Nelson, to The Budd Co. Hot billet loader. 3,379,048, 4–23–68, Cl. 72—419.
Coover, Harry W., Jr.: *See*—
  Lyon, Herbert R., and Coover. 3,379.665.
Cordingly, Richard H., and D. W. Quackenbush, to Weyerhaeuser Co. Release agent coating apparatus. 3,379,171, 4–23–68, Cl. 118—261.
Corbart Refractories Co.: *See*—
  McTaggart, George D., and Norman. 3,379,578.
Cornelius Co., The: *See*—
  Cornelius, Richard T. 3,379,344.
Cornelius, Richard T., to The Cornelius Co. Apparatus for treating and handling a beverage. 3,379,344, 4–23–68, Cl. 222—70.
Cornes, Phil M. Atmospherically self-inflating buoyant device. 3,378,864, 4–23–68, Cl. 9—11.
Corning Glass Works: *See*—
  Dorman, William H. 3,379.869.
  Loose, Guenter H. 3,379,823.
  Norwalk, Marshall H. 3,379,543.
  Peters, Carroll E. 3,379,858.

Corradi, Demetrio, and A. Pasin, to Snia Viscosa Societa Nazional Industria Applicazioni Viscosa S.p.A. Process for preparation of spinnable solutions of acrylonitrile polymers or copolymers having a high-acrylonitrile content. 3,379,670, 4–23–68, Cl. 260—32.6.

Corrsin, Lester, and A. J. Behringer, to Xerox Corp. Photoconductive insulators comprising activated sulfides, selenides, and sulfoselenides of cadmium. 3,379,527, 4–23–68, Cl. 96—1.5.

Corsette, Douglas F., to Diamond International Corp. Liquid dispenser. 3,379,136, 4–23–68, Cl. 103—203.

Corsi, Giannino, and D. Perfumo, to Bombrini Parodi-Delfino S.p.A. Manufacture of plastic high-power blasting explosive compositions and charges. 3,379,588, 4–23–68, Cl. 149—98.

Corson, Ben B., and W. T. Gormley, to Koppers Co., Inc. Method of producing hydratropic aldehyde. 3,379,768, 4–23–68, Cl. 260—599.

Cotton, William, Ltd.: *See—*
  Bentley, William, and Small. 3,379,035.

Courtaulds Ltd.: *See—*
  Spicer, Jack A. 3,378,900.

Cowan, Jack C.: *See—*
  Beasley, Augustus E., Jr., Cowan, and Gainey. 3,379,650.

Cowans, Kenneth W., to Hughes Aircraft Co. Heat powered engine. 3,379,026, 4–23–68, Cl. 62—6.

Cox, Eugene F.: *See—*
  Hostettler, Fritz, and Cox. 3,379,693.

Cox, Kenneth C., to Dravo Corp. Earth boring machine. 3,379,264, 4–23–68, Cl. 175—86.

Cox, Mayo A. Nutcracker. 3,379,232, 4–23–68, Cl. 146—13.

Cox, Robert G.: *See—*
  Denney, Raymond E., and Cox. 3,379,226.

Craig, Howard L., Jr.: *See—*
  Romans, Harmon B., and Craig. 3,379,630.

Crain, Donald L.: *See—*
  Zuech, Ernest A., Crain, and Kleinschmidt. 3,379,781.

Crane, Delbert E.: *See—*
  Battles, James W., Crane, Yancey, and Alday. 3,379,956.

Cranskens, Georg, to Lumoprint Zindler K.G. Irradiation device and more particularly exposure device. 3,379,112, 4–23–68, Cl. 95—77.5.

Crawford Fitting Co.: *See—*
  Szohatzky, Zolton. 3,378,905

Crawford Stop-Motion Co., Inc.: *See—*
  Antonevich, Michael. 3,379,037.

Cremer, Gottfried, and H. Behrens. Tunnel furnace. 3,379,242, 4–23–68, Cl. 165—120.

Crescent Metal Products, Inc.: *See—*
  Baggott, George T. 3,379,482.

Crispe, Stanley W., and M. J. Mercer, to T. & T. Vicars Ltd. Wafer feed device. 3,379,140, 4–23–68, Cl. 107—1.

Criss, George H.: *See—*
  Burhans, Richard O., and Criss. 3,379,544.

Crompton & Knowles Corp.: *See—*
  Gustafson, Ralph P. 3,379,034.

Crooks, James R.: *See—*
  Bobolts, Melbourne W., and Crooks. 3,379,386.

Crose, Ralph, to Kim Enterprise, Inc. Underwater diving apparatus. 3,379,023, 4–23–68, Cl. 61—70.

Crossley, Harold T., to Packaging Frontiers, Inc. Package. 3,379,360, 4–23–68, Cl. 229—22.

Croymans, Jacques J. H., to North American Philips Co., Inc. Device including an electric motor wherein a capacitor is charged and discharged through a motor winding. 3,379,946, 4–23–68, Cl. 318—138.

Csabi, Menyhert, to General Electric Co. Semiconductor testing. 3,379,625, 4–23–68, Cl. 204—1.

Cummins, William F.: *See—*
  Coensgen, Frederic H., Cummins, and Nexsen. 3,379,880.

Cutter, James W. Clamping and locking apparatus. 3,379,079, 4–23–68, Cl. 81—367.

Cvacho, Daniel S., to Reynolds Metals Co. Container. 3,379,358, 4–23–68, Cl. 229—4.5.

Czerwinski, Watson P., to United States of America, Army. Folded monopole antenna. 3,380,060, 4–23–68, Cl. 343—830.

D-mac Ltd.: *See—*
  Boyle, Archibald R., and Dunachie. 3,380,071.

Dafler, James R.: *See—*
  Burdick, Glen M., Dafler, and Every. 3,379,628.

Dahle, Orvar: *See—*
  Berglund, Sten, and Dahle. 3,379,053.

Dahlstrom, Eleanor M.: *See—*
  Dahlstrom, Sigurd C. 3,379,455.

Dahlstrom, Sigurd C., deceased, by E. M. Dahlstrom, administratrix, to General Motors Corp. Independent dirigible wheel suspension. 3,379,455, 4–23–68, Cl. 280—89.

Daimler-Benz Aktiengesellschaft: *See—*
  Enke, Kurt. 3,379,268.

Dale, Glenn H., to Phillips Petroleum Co. Melting a crystalline fraction in a solvent presence. 3,379,028, 4–23–68, Cl. 62—58.

Dalziel, Darrel R. Portable, convertible chair and lounge. 3,379,471, 4–23–68, Cl. 297—92.

D'Amico, John J., to Monsanto Co. Vulcanization accelerators. 3,379,700, 4–23–68, Cl. 260—79.5.

Danfoss A/S: *See—*
  Waldorff, Jorgen F. 3,379,134.

Dannenberg, Eli M.: *See—*
  Rossman, Raymond P., Jordan, and Dannenberg. 3,379,673.

Dart Mfg. Co.: *See—*
  Dart, William A. 3,378,885.

Dart, William A., to Dart Mfg. Co. Apparatus for forming thin wall cellular plastic containers. 3,378,885, 4–23–68, Cl. 18—5.

Das Gupta, Kamalaksha, to United States of America, Atomic Energy Commission. X-ray diffraction camera employing two curved crystal transmission type monochromotors. 3,379,876, 4–23–68, Cl. 250—51.5.

Davidson, Edmund B., to Esso Research and Engineering Co. Solid homopolymers and copolymers of halogen substituted olefins and a process for the preparation of the same. 3,379,793, 4–23–68, Cl. 260—87.5.

Davis, Earl K., to Westinghouse Electric Corp. Dielectric glasses and capacitors employing such glasses. 3,379,942, 4–23–68, Cl. 317—258.

Davis, Glen R., to Sinclair Research, Inc. Multiple trace recorder. 3,380,068, 4–23–68, Cl. 346—49.

Davis, John W., to Dunlop Rubber Co. Ltd. Vehicle anti-skid braking systems. 3,379,288, 4–23–68, Cl. 188—181.

Davis, Robert F., to Imperial-Eastman Corp. Tube connector. 3,379,461, 4–23–68, Cl. 285—341.

Day, Walter R., Jr., and L. H. Sandstrom, to Sperry Rand Corp. Tunable coupled cavity extended interaction electronic tube having deformable end wall. 3,379,922, 4–23–68, Cl. 315—5.38.

Dazey Products Co.: *See—*
  Briar, Jack E., Hudson, and Talge. 3,379,382.

Deardorff, Clinton E., and E. J. Williams, to Primus Mfg., Inc. Measuring device. 3,378,929, 4–23–68, Cl. 33—125.

Debus, Erwin, to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler. Process for improving the surface characteristics of cellulose hydrate films. 3,379,546, 4–23–68, Cl. 106—193.

Decaux, Raymond. Atomizer pump. 3,379,381, 4–23–68, Cl. 239—333.

Decker, Robert M., R. Jehle, and S. K. Veisel, to United States of America, Navy. Apparatus for the measurement of plateau slope of geigher-muller tubes. 3,379,966, 4–23–68, Cl. 324—24.

De Gelder, Jacob: *See—*
  Ryan, John W., and De Gelder. 3,379,084.

Dell'Agnese, David E., and T. Tinker, to Modern Equipment Co. Scrap metal preheaters. 3,379,424, 4–23–68, Cl. 263—7.

Dell'Agnese, David E., and T. Tinker, to Modern Equipment Co. Scrap metal preheater. 3,379,425, 4–23–68, Cl. 263—17.

Delrieu, Pierre, and A. Taxil, to Claude Paz et Visseaux. High-pressure vapour lamp containing indium, thallium and gallium halides. 3,379,916, 4–23–68, Cl. 313—109.

Denker, Stanley D., to Doughboy Industries, Inc. Packaging machinery. 3,378,989, 4–23–68, Cl. 53—184.

Denney, Melvin J.: *See—*
  Jones, Alpha L. 3,379,005.

Denney, Raymond E., and R. G. Cox, to Aeroquip Corp. Tank coupling. 3,379,226, 4–23–68, Cl. 141—207.

Dennison Mfg. Co.: *See—*
  Bone, Arnold R. 3,379,128.

Denver Equipment Co.: *See—*
  Logue, Leland H. 3,379,415.

De Stevens, George, and L. H. Werner, to Ciba Corp. Pharmaceutical compositions of 6-chloro-7 sulfamyl-3,4-dihydro-2-H-[1,2,4]-benzothiadiazine 1,1-dioxide and an indole alkaloid of the apocynacene family. 3,379,612, 4–23–68, Cl. 167—65.

Deutsche Gold- und Silber-Scheideanstalt vormals Roessler: *See—*
  Debus, Erwin. 3,379,546.
  Dithmar, Karl, and Koblischek. 3,379,493.
  Knorre, Helmut, Kloepfer, and Bretschneider. 3,379,511.

Devine, Harry C., Jr., to Devine Lighting Inc. Lighting fixture. 3,379,872, 4–23–68, Cl. 240—137.

Devine Lighting Inc.: *See—*
  Devine, Harry C., Jr. 3,379,872.

De Young, Malcolm W., and E. T. Johnson, to John Fluke Mfg. Co., Inc. Rotary variable electrical resistance device. 3,380,010, 4–23–68, Cl. 338—122.

Diamond International Corp.: *See—*
  Corsette, Douglas F. 3,379,136.

Diamond, James, and H. W. Brick. Headstone cover. 3,378,942, 4–23–68, Cl. 40—124.5.

Dicker, Albert P.: *See—*
  Dicker, Edward T. and A. P. 3,379,879.

Dicker, Edward T. and A. P. Film unit for dental X-ray photography having a self-contained developer means. 3,379,879, 4–23–68, Cl. 250—65.

Dickinson, Harry J. Low-alloy high-strength steel. 3,379,582, 4–23–68, Cl. 148—36.

Dietrich, Heinz J., R. J. Raynor, and J. V. Karabinos, to Olin Mathieson Chemical Corp. 2-substituted-4-methylene-1,3-dioxolanes and process therefor. 3,379,736, 4–23–68, Cl. 260—340.9.

Di Francesco, Alphonse B., to Eastman Kodak Co. Apparatus for severing film and tape for securement of a portion of the tape to the film. 3,379,597, 4–23–68, Cl. 156—506.

Distillers Co. Ltd., The: *See—*
  Pearce, Norman H. 3,379,748.

Dithmar, Karl, and P. Koblischek, to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler. Activated inorganic bleaches. 3,379,493, 4–23–68, Cl. 8—111.

Dixon Automatic Tool, Inc.: *See—*
  Dixon, Paul H. 3,378,907.

Dixon, Paul H., to Dixon Automatic Tool, Inc. Workpiece transfer mechanism for use with assembling machines and the like. 3,378,907, 4–23–68, Cl. 29—203.

Dixon, Norman E.: *See—*
  Zentschel, Milton F., and Dixon. 3,379,051.

Dolgorukov, Gregory S. Drafting instrument. 3,378,931, 4–23–68, Cl. 33—174.

Domizi, Dante, to Park-Ohio Industries, Inc. Impedor for a tube mill. 3,379,853, 4–23–68, Cl. 219—8.5.

Domokos, Jozsef, G. Benedek, B. Kiss, and L. Winkler, to Hajtomu es Felvonogyar. General testing of sprayable paints and varnishes, especially from the point of view of the electrostatic spray. 3,379,066, 4–23–68, Cl. 73—432.

Don Hill Laboratories, Inc.: *See—*
  Playfair, Malcolm L. 3,379,549.

Donath, Erwin, to Fifth Dimension Inc. Logic circuits. 3,380,006, 4–23–68, Cl. 335—56.

Donnelly, William R. Cooling device. 3,379,025, 4–23–68, Cl. 62—4.

Dorman, William H., to Corning Glass Works. Variable intensity lamp. 3,379,869, 4–23–68, Cl. 240—41.3.

Dorn, Clifford G., to United States of America, Navy. Low frequency noise generator. 3,379,996, 4–23–68, Cl. 331—78.

Dorr-Oliver Inc.: *See—*
  Hrazanek, William R. 3,379,590.

Dorris, Maurice T. Lawn edging device. 3,378,949, 4–23–68, Cl. 47—33.

Dorsey, Ted C. Wire wrapping tool. 3,378,906, 4–23–68, Cl. 29—203.

Dortenzo, Alexander T., and F. F. Standley, to Koppers Co., Inc. Lance apparatus for treating molten metals. 3,379,428, 4–23–68, Cl. 266—34.

Doss, Richard C., and J. T. Edmonds, Jr., to Phillips Petroleum Co. Production of polyurethanes polythiourethanes, and related polymers using alkali metal cyanates and thiocyanates. 3,379,687, 4–23–68, Cl. 260—47.

Doughboy Industries, Inc.: *See—*
  Denker, Stanley D. 3,378,989.
  Thompson, Richard H. 3,378,986.

Douglas, William L., to Lockheed Aircraft Corp. Dispensing device. 3,379,167, 4–23–68, Cl. 118—3.

Dow Chemical Co., The: *See—*
  Bremmer, Bart J., and Easterly. 3,379,753.
  Bruder, Wallace J. 3,379,594.
  Chisholm, Douglas S. 3,379,069.
  Eichhorn, Jacob. 3,379,654.
  Faith, Herman E., and Moss. 3,379,732.
  Larson, Paul A., and Al. 3,379,791.
  Raley, Charles F., and Skochdopole. 3,379,802.
  Reding, John T., and Schreiber. 3,379,636.
  Spivey, Ben E. 3,379,702.
  Wiley, Ralph M. 3,379,664.

Dowbenko, Rostyslaw, to Pittsburgh Plate Glass Co. Halogenated 1,2-butanediols. 3,379,778, 4–23–68, Cl. 260—633.

Dowley, Mark W., to International Business Machines Corp. Continuous tone development method for xerographic printing. 3,379,553, 4–23–68, Cl. 117—17.5.

Downs, Harold H., and H. I. Stanback, to Square D Co. Cartridge fuse pull-out switch. 3,379,842, 4–23–68, Cl. 200—114.

Doyle, Britton H., to Nashua Corp. Combined water bottle and brush holder. 3,379,172, 4–23–68, Cl. 118—267.

Drabowitch, Serge V., and M. Morlon, to Compagnie Francaise Thomson Houston-Hotchkiss Brandt. Multibeam antenna system .3,380,052, 4–23–68, Cl. 343—16.

Drawin, Hans W.: *See—*
  Becker, Lothar, and Drawin. 3,380,063.

Dravo Corp.: *See—*
  Cox, Kenneth C. 3,379,264.

Draxler, Walter E.: *See—*
  Veres, Edward W., Draxler, Hanson, and Poethig. 3,378,993.

Dresser Industries, Inc.: *See—*
  Bohn, Floyd O. 3,379,251.
  Harder, David E. 3,379,137.
  Wilson, Billy F. 3,379,032.
  Youmans, Arthur H. 3,379,882.
  Youmans, Arthur H. 3,379,884.

Dressler, Hans, and K. G. Reabe, to Koppers Co., Inc. Ultraviolet light stabilizers for plastic materals. 3,379,677, 4–23–68, Cl. 260—45.8.

Driver Southall Ltd.: *See—*
  Mackenzie, Benjamin. 3,379,267.

Dron, Douglas W., to Southwest Forest Industries, Inc. Lumber sorting apparatus. 3 379 307, 4–23–68, Cl. 209—123.

Drummond, Carl N., to United States of America, Atomic Energy Commission. Nuclear reactor fuel channel assembly. 3,379,614, 4–23–68, Cl. 176—43.

Dryden, Hugh L., Deputy Administrator of the National Aeronautics and Space Administration with respect to an invention of L. M. Snyder. Particle detection apparatus including a ballistic pendulum. 3,379,974, 4–23–68, Cl. 324—70.

Ducati Elettrotecnica S.p.A.: *See—*
  Guglielmi, Antonio. 3,379,957.

Ducommun, Georges: *See—*
  Adler, Karl, and Ducommun. 3,379,898.

Dudar, Walter H., to Tel-Air Corp. Tire pressure and wheel bearing temperature indicator. 3,380,021, 4–23–68, Cl. 340—58.

Dufresne, Jacques: *See—*
  Ohlmer, Eggert, Dufresne, and Finzi. 3,379,248.

Dunachie, Paul M.: *See—*
  Boyle, Archibald R., and Dunachie. 3,380,071.

Dunderdale, George T. Load-bracing hinge structure. 3,378,889, 4–23–68, Cl. 24—16.

Dunlop Rubber Co. Ltd.: *See—*
  Davis, John W. 3,379,288.

Dunseth, Maria G., and M. L. Salutsky, ½ to W. R. Grace & Co., and ½ to United States of America, Interior. Recovery of potassium from phosphates. 3,379,498, 4–23–68, Cl. 23—107.

Du Pont de Nemours, E. I., and Co.: *See—*
  Becker, Richard O. 3 379,666.
  Booth, Max H. 3,379,683.

Du Pont de Nemours, E. I., and Co.: *See*—Continued
  Campbell, Tod W., and Knobloch. 3,379,001.
  Clarke, Ray A. 3,379,723.
  Farmer, James O. 3,379,036.
  Gladding, Edward K., and Schroeder. 3,379,701.
  Jensen, Arnold W., and Ozolins. 3,379,675.
  King, Charles, and Wallenberger. 3,379,794.
  Limperos, George. 3,378,854.
  Mendes, Frank E., III. 3,378,898.
  Schwarz, Eckhard C. A. 3,379,564.
  Webster, Owen W. 3,379,751.

Dupuis, Hubert, to Goddard & Goddard Co. Milling cutter. 3,378,901, 4–23–68, Cl. 29—105.

Durand, Pierre, to Richier (Societe Anonyme). Shaft of telescoped sections. 3,378,978, 4–23–68, Cl. 52—632.

Dutch, Emery. Combined medical thermometer spinner and sterilizer therefor. 3,379,369, 4–23–68, Cl. 233—26.

Dynamit Nobel Aktiengesellschaft: *See—*
  Buning, Robert. 3,379,688.

Easley, Gilbert J., to Westinghouse Electric Corp. Dual-pressure gas-blast circuit breaker with piston means and interrupting unit in closed tank. 3,379,849, 4–23–68, Cl. 200—148.

Eastcott, Peter D. H., to Canadian General Electric Co. Tension control for a moving web. 3,379,390, 4–23–68, Cl. 242—75.44.

Easterly, James P.: *See—*
  Bremmer, Bart J., and Easterly. 3,379,753.

Eastman Kodak Co.: *See—*
  Carroll, John F., Jr., and Gotham. 3,380,043.
  Di Francesco, Alphonse B. 3,379,597.
  Elam, Edward U., and Martin. 3,379,770.
  Henn, Richard W., and King. 3,379,528.
  Howe, Donald J. 3,379,530.
  Irick, Gether, Jr., and Hawkins. 3,379,771.
  Jenkins, Philip W., and Brooker. 3 379,533.
  Lieser, Ernst, and Häberle. 3,379,107.
  Lyon, Herbert R., and Coover. 3,379,665.
  Martin, James C. 3,379,724.
  Nerwin, Hubert. 3,379,605.
  Porter, Ralph F., Schwan, and Gates. 3,379,529.
  Schweizer, Hans R. 3,379 728.
  Steisslinger, Kurt. 3,379,485.
  Wallace, David J., and Weaver. 3,379,711.
  Wallace, David J., and Weaver. 3,379,713.
  Wallace, David J., and Weaver. 3,379,716.
  Wallace, David J., and Straley. 3,379,738.
  Weaver, Max A., and Wallace. 3,379,712.
  Young, Howard S. 3,379,652.

Eaton Metal Products Co.: *See—*
  Garnet, Edward V. 3,379 392.

Eaton Yale & Towne, Inc.: *See—*
  Grygera, James W. 3,379,292.

Eberhart, Ray. Safety belt buckles. 3,378,895, 4–23–68, Cl. 24—230.

Ebert, Michael: *See—*
  Koppius, Otto G. 3,379,524.

Eder, Helmut: *See—*
  Amtmann, Otwin, and Eder. 3,379,602.

Edmonds, James T., Jr.: *See—*
  Doss, Richard C., and Edmonds. 3,379,687.

Edwards, Robert E., to Raytheon Co. Tunable magnetron having a capacitive transducer magnetically coupled to the tuning member. 3,379 925, 4–23–68, Cl. 315—39.59.

Edwards, Robert L.: *See—*
  Gielow, George F., and Edwards. 3,379,199.

Ehlert, Thomas C.: *See—*
  Margrave, John L., Timms, and Ehlert. 3,379,512.

Ehmann, Werner, S. Sommer and F. Winkler, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Process for preparing polyvinyl alcohol in the presence of dialdehydes. 3,379,703, 4–23–68, Cl. 260—91.3.

Eichhorn, Jacob, to The Dow Chemical Co. Urethane polymer compositions. 3,379,656, 4–23–68, Cl. 260—2.5.

Eickmann, Karl. Fluid power supply device with an adjustment means for automatic decrease of power consumption in analogy with an increase of pressure in fluid. 3,379,006, 4–23–68, Cl. 60—52.

Einstein, Karl: *See—*
  Reiter, Bernard W., and Einstein. 3,379,142.

Eirich, Gustav: *See—*
  Eirich, Wilhelm and G. 3,379,419.

Eirich, Wilhelm and G. Material mixing device. 3,379,419, 4–23–68, Cl. 259—85.

Eiselen, Everett T.: *See—*
  Betts, Peter, and Eiselen. 3,380,070.

Eisenwerk Friedrich S.: *See—*
  Nemmaier, Christian, and Amann. 3,379,372.

Eith, Gebhard, to International Standard Electric Corp. Arrangement for an insulating panel soldering device according to the flowsolder process. 3,379,356, 4–23–68, Cl. 228—37.

Elam, Edward U., and J. C. Martin, to Eastman Kodak Co. 3-alkoxycyclobutanols. 3,379,770, 4–23–68, Cl. 260—611.

Elba-Werk Ettlinger Baumaschinen- and Hebezeugfabrik G.m.b.H.: *See—*
  Maier, Eckhard. 3,379 420.

Electro-Miniatures Corp.: *See—*
  Wolfe, Robert E. 3,378,896.

Electro-Optical Systems, Inc.: *See—*
  Forrester, Alvin T., and Barcatta. 3,379,855.

Elia, Louis. Detachable headliner. 3,379,469, 4–23–68, Cl. 296—137.

Eller, Saul A.: *See—*
  Chatten, Clarence K., and Eller. 3,379,162.

- Elliott, John E., and A. P. Morrell, to International Standard Electric Corp. Production of metallic compacts. 3,379,525, 4–23–68, Cl. 75—221.
- Ellis, Alan F., to Gulf Research & Development Co. Process of preparing a nitro-nitroso dimer from an olefinic hydrocarbon and a mixture of NO and NO_2. 3,379,710, 4–23–68, Cl. 260—143.
- Ellis, Robert. Unattached table and means for storing same. 3,379,144, 4–23–68 Cl. 108—33.
- Ellison, Edward F. Engine wear meter. 3,379,056, 4–23–68, Cl. 73—115.
- Elton Industries, Inc.: *See*—
  - Bush, Clinton G., Jr. 3,378,974.
- Eltro G.m.b.H. & Co.: *See*—
  - Menke, Joseph F. 3,379,830.
- Emerson Electric Mfg. Co., The: *See*—
  - Brundage, Robert W. 3,379,007.
- Endicott Coil Co., Inc.: *See*—
  - Hollinger, John L. 3,379,907.
- Endo, Masayosi: *See*—
  - Makino, Sumio, and Endo. 3,379,877.
- Enge, Harald A., to High Voltage Engineering Corp. Particle accelerator provided with an adjustable 270° non-dispersive magnetic charged-particle beam bender. 3,379,911, 4–23–68, Cl. 313—75.
- English Electric Co. Ltd., The: *See*—
  - Hoel, Hans. 3,379,933.
  - Hoel, Hans, and Humpage. 3,379 934.
  - Hoel, Hans, and Paddison. 3,379,935.
  - Hoel, Hans. 3,379,936.
  - McMillan, Peter W., and Hodgson. 3,379,542.
  - Wood, Allan J., and Brown. 3,379,846.
- English Numbering Machines Ltd.: *See*—
  - Harrison, Herbert G. 3,379,129.
  - Harrison, Herbert G. 3,379,075.
- Enke, Kurt, to Daimler-Benz Aktiengesellschaft. Wheel suspension. 3,379,268, 4–23–68, Cl. 180—73.
- Erickson, Clifford E., to General Electric Co. Lint trap for clothes dryers. 3,378,934, 4–23–68, Cl. 34—82.
- Erickson, Darrell F., to Rushmore Homes. Building construction and method. 3,378,964, 4–23–68, Cl. 52—79.
- Erickson, Willard E., to Link-Belt Co. Boxcar inner door opener. 3,379 082, 4–23–68, Cl. 83—564.
- Ernest, Ivan: *See*—
  - Protiva, Miroslav, Jirkovsky, Pelz, Metysova, and Ernest. 3 379,729.
- Ernest, Otto, and H. Lehmann, to Ciba Ltd. Cold-curable mixtures of cycloaliphatic polyepoxides and curing agents. 3 379,653, 4–23–68, Cl. 260—2.
- Erwien, Helmut, R. Altfelder, and E. Bürger, to Gewerkschaft Eisenhutte Westfalia. Coal-winning apparatus. 3,379,476, 4–23–68, Cl. 299—34.
- Esposito, Frank P. Assembly tool for hose fittings. 3,378,909, 4–23–68, Cl. 29—235.
- Esposito, James E., to Amchem Products, Inc. Herbicidal compositions. 3,379,516, 4–23–68, Cl. 71—94.
- Essaness Theatres Corp.: *See*—
  - Stancher, Joseph E. 3,379,860.
- Essex Wire Corp.: *See*—
  - Mertler, Charles S. 3,379,845.
- Esso Research and Engineering Co.: *See*—
  - Amir, Emanuel M. 3,379,787.
  - Coddington, David M., and Lipson. 3,379,671.
  - Davidson, Edmund B. 3,379,793.
  - Hunter, Edward A., and Gardiner. 3,379,589.
  - Mowell, Roger W., and Mascenik. 3,379,027.
- Etablissements Kuhlmann: *See*—
  - Alicot, Marie-Josephe J., and Sureau. 3,379,714.
- Eue, Ludwig: *See*—
  - Schafer, Werner, Wegler, Eue, and Hack. 3,379,725.
- European Atomic Energy Community (Euratom): *See*—
  - Ohlmer, Eggert, Dufresne, and Finzi. 3,379,243.
- Eveland, Baisel L., and R. E. Seeger, to Honeywell Inc. Document alignment arrangement. 3,379,435, 4–23–68, Cl. 271—61.
- Eversharp, Inc.: *See*—
  - Ferraro, Frank A. 3,378,921.
  - Schrader, Clarence O., and Marcotte. 3,378,922.
- Every, Richard L.: *See*—
  - Burdick, Glen M., Dafler, and Every. 3,379,628.
- Ewing, Lloyd: *See*—
  - Harry, William R., Ewing, and Smiltneek. 3,379,221.
- FMC Corp.: *See*—
  - Robertson, James A. 3,379,508.
  - Treitler, Theodore L., and Bunin. 3,379,501.
  - Weir, Stanley M. 3,379,321.
- Faeth, Paul A., to United States of America, National Aeronautics and Space Administration. Automatic recording McLeod gauge. 3,379,064, 4–23–68, Cl. 73—400.
- Fagen, Robert E.: *See*—
  - Clayton, Billy B., Fagen, Marshman, and Wolbrecht. 3,380,031.
- Fagersta Bruks Aktiebolag: *See*—
  - Gustafson, Manfred W. 3,379,077.
- Fairbanks Morse Inc.: *See*—
  - Morrison, Donald G. 3,380,000.
- Faith, Herman E., and R. D. Moss, to The Dow Chemical Co. Phosphate esters of 2,6-diiodo-4-nitrophenol. 3,379,732, 4–23–68, Cl. 260—297.
- Falk, Thomas: *See*—
  - Ward, Kenneth A., Falk, and Schwarz. 3,379,883.
- Faller, Robert O., to Williams Gold Refining Co. Tooth shade guide. 3,378,925, 4–23–68, Cl. 32—71.
- Farbenfabriken Bayer Aktiengesellschaft: *See*—
  - Bottenbruch, Ludwig, and Schnell. 3,379,686.
  - Hennig, Hans-Joachim, and Bayer. 3,379,749.
- Farbenfabriken Bayer Aktiengesellschaft: *See*—Continued
  - Krauss, Walter, and Hebermehl. 3,379,790.
  - Pampus, Gottfried, Schon, and Witte. 3,379,667.
  - Schafer, Werner, Wegler, Eue, and Hack. 3,379,725.
  - Schmidt, Karl-Julius. 3,379.795.
  - Wagner, Otto. 3,379,718.
- Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning: *See*—
  - Ehmann, Werner, Sommer, and Winkler. 3,379,703.
  - Hartmann, Adolf, and Medem. 3,379,690.
  - Heuse, Otto, Boldt, Wirtz, and Theilig. 3,379,626.
  - Sturm, Karl, Geiger, Siedel, and Starey. 3,379,735.
  - Weissermel, Klaus, Hermann, and Noetzel. 3,379,789.
- Farmer, James O., to E. I. du Pont de Nemours and Co. Elastic yarn holding means for circular knitting machines. 3,379,036, 4–23–68 Cl. 66—145.
- Farquhar, Mary J.: *See*—
  - Hokama, Takeo, and Farquhar. 3,379,776.
- Farr Co.: *See*—
  - Farr, Richard S. 3,378,994.
- Farr, Richard S., to Farr Co. Air filter assembly. 3,378,994, 4–23–68, Cl. 55—324.
- Feather, Franklin G., and S. B. Millheim. Football game with mobile players. 3,379,441, 4–23–68, Cl. 273—94.
- Federal-Mogul Corp.: *See*—
  - Cardillo, Jerry E. 3,378,903.
- Federal Paper Board Co., Inc.: *See*—
  - Arneson, Edwin L. 3,379,359.
- Feinberg, Paul M.: *See*—
  - Townsend, Marjorie R., and Feinberg. 3,380,042.
- Fend, Heinrich, to Oerlikon-Buhrle Holding A.G. Beat-up mechanism for travelling-wave shedding looms. 3,379,223, 4–23–68, Cl. 139—12.
- Fend, Heinrich and Herbert, to Oerlikon-Buhrle Holding A.G. Method for filling loom shuttles with cut-to-length pieces of weft thread and apparatus for the performance of the aforesaid method. 3,379,224, 4–23–68, Cl. 139—224.
- Fend, Herbert: *See*—
  - Fend, Heinrich and Herbert. 3,379,224.
- Fendall Co.: *See*—
  - Amundsen, Paul D. 3,379,487.
- Ferranti, Ltd.: *See*—
  - Shepherd, Alan A. 3,379,937.
- Ferraro, Frank A., to Eversharp, Inc. Spider center bar and stem assembly. 3,378,921, 4–23–68, Cl. 30—60.5.
- Field, Braham R., to Alkaline Batteries Ltd. Automatic battery charging systems. 3,379,953, 4–23–68, Cl. 320—34.
- Fierst, Jeannette I. Convertible sweater construction. 3,378,853, 4–23–68, Cl. 2—90.
- Fifth Dimension Inc.: *See*—
  - Donath, Erwin. 3,380,006.
- Filmtech Associates, Inc.: *See*—
  - Houde, Adelore L. 3,379,819.
- Fincannon, Lee L. Fishing reel. 3,379,391, 423–68, Cl. 242—84.2.
- Finholt, Robert W., to General Electric Co. Polymer blend of a polyphenylene oxide and a polyamide. 3,379,792, 4–23–68, Cl. 260—857.
- Finzi, Sergio: *See*—
  - Ohlmer, Eggert, Dufresne, and Finzi. 3,379,243.
- Firma G. Siempelkamp & Co.: *See*—
  - Bruder, Karl, and Hüsges. 3,379,124.
  - Bruder, Karl, and Hüsges. 3,379,322.
- Firma OTA Amtmann & Co.: *See*—
  - Amtmann, Otwin, and Eder. 3,379,602.
- Firth, Alan, and L. Mawbey, to United Shoe Machinery Corp. Cutting apparatus with work feed. 3,379,081, 4–23–68, Cl. 83—422.
- Fisher, Edward W., to Garlock Inc. Seal for axially movable rod. 3,379,445, 4–23–68, Cl. 277—178.
- Fisher, Jessie M. Cover for external air conditioning apparatus. 3,379,481, 4–23–68, Cl. 312—100.
- Fisher, William T., to Bristol-Aerojet Ltd. Rocket launching. 3,379,097, 4–23–68, Cl. 89—1.816.
- Fitchburg Coated Products, Inc.: *See*—
  - Tharp, Inman D. 3,379,560.
- Fitzpatrick, William D., to A. P. Green Refractories Co. Composite stopper rod sleeve with insulating inner portion. 3,379,409, 4–23–68, Cl. 251—319.
- Fleischer, Svend S. C., C. C. Thomsen, G. G. W. Hofmann, and W. Rossberg Pile thread selecting, cutting, and positioning device for a carpet loom. 3,379,222, 4–23–68, Cl. 139—6.
- Fletcher, Roy W. Earth boring mechanism with expansion underreamer. 3,379,266, 4–23–68, Cl. 175—285.
- Flint, Russell C., and R. L. Pollack, to Schlage Lock Co. Decelerator and dead stop. 3,378,878, 4–23–68, Cl. 16—52.
- Fluke, John, Mfg. Co., Inc.: *See*—
  - De Young, Malcolm W., and Johnson. 3,380,010.
- Flynn, Floyd W., J. L. Bjelland, and N. C. Schutt, to Powers Chemco, Inc. Film transfer and delivery apparatus for photomechanical cameras. 3,379,436, 4–23–68, Cl. 271—74.
- Fogle, Harry C. Bun molding apparatus. 3,379,120, 4–23–68, Cl. 99—439.
- Fogwell, Joseph W.: *See*—
  - Kusenberger, Felix N., Barsun, and Fogwell. 3,379,970.
- Folweiler, Robert C., to Lexington Laboratories, Inc. Tensil test apparatus. 3,379,054, 4–23–68, Cl. 73—95.
- Forberg, Horst: *See*—
  - Krone, Gustav, and Forberg. 3,380,013.
- Forni, Aldo, and L. Cavalli, to Montecatini Edison S.p.A. Process for the preparation of phenol from benzoic acid. 3,379,774, 4–23–68, Cl. 260—621.
- Forrester, Alvin T., and F. A. Barcatta, to Electro-Optical Systems, Inc. Fluid feed system. 3,379,855, 4–23–68, Cl. 219—274.
- Forrester, Howard M., to United States of America, Navy. Time delayed blocking oscillator. 3,380,001, 4–23–68, Cl. 331—112.

- Forsyth, James M. Bottom quick-opening door for coking tower or chamber. 3,379,623, 4–23–68, Cl. 202—252.
- Foseco International Ltd.: *See*—
  - Helliwell, Derek P. 3,379,540.
- Foss, Gerald C., N. D. Weaver, and W. C. Hurley, to Pet Inc. Pie crust package. 3,379,536, 4–23–68, Cl. 99—172.
- Foster, George B., K. A. Ostrander, and H. Cary, to Reliance Electric and Engineering Co. Non-contacting displacement gauge having a feedback means for controlling the vibration amplitude of the probe. 3,379,972, 4–23–68, Cl. 324—61.
- Foster, Leigh C., to Zenith Radio Corp. Acoustic intruder detection systems. 3,379,994, 4–23–68, Cl. 331—65.
- Foster, William W., and D. Pittner, to Union Carbide Corp. Process for bonding silicone elastomers and primer compositions therefor. 3,379,607, 4–23–68, Cl. 161—207.
- Fow, Benjamin R., R. F. Hazel, and W. D. Mount, to Sperry Rand Corp. Millimeter wave radiometer system for measuring air temperature. 3,380,055, 4–23–68, Cl. 343—100.
- Fox, Ripley D. Visual note indicator for stringed instruments. 3,379,068, 4–23–68, Cl. 84—485.
- Franchi, Louis J., R. Sellite, and J. E. Bulloch, to Bendix Corp. Fail operable servo mechanism for an automatic flight control system. 3,379,951, 4–23–68, Cl. 318—489.
- Francis, James W., to Commercial Solvents Corp. Gelled ammonium nitrate-nitromethane-nitropropane explosive composition. 3,379,586, 4–23–68, Cl. 149—19.
- Frank, Darrell F.: *See*—
  - Rapp, Robert A., and Frank. 3,379,579.
- Frankel, Alvin L.: *See*—
  - Liggett, William H., and Frankel. 3,380,040.
  - Liggett, William H., and Frankel. 3,380,041.
- Frasca, Rudolf A. Aviation trainer. 3,378,938, 4–23–68, Cl. 35—12.
- Frazier, Forrest C. Bolster. 3,378,860, 4–23–68, Cl. 5—340.
- Frederick, Kenneth, and L. Strombeck, to Anderson Bros. Mfg. Co. Dispensing apparatus for hollow nested articles. 3,379,346, 4–23–68, Cl. 221—224.
- Freeman, Charles R., to Minnesota Mining and Mfg. Co. Self-adhering sheet product. 3,379,562, 4–23–68, Cl. 117—122.
- Freeman Supply Co.: *See*—
  - Rusk, Gerald R., and Hagquist. 3,379,239.
- Frehse, Walter C., to The General Tire & Rubber Co. Gasket assembly. 3,378,957, 4–23–68, Cl. 49—487.
- Frentzel, Herman C., and R. E. Wenninger; said Frentzel assignor to said Wenninger. Shoring structure. 3,379,018, 4–23–68, Cl. 61—41.
- Freudenberg, Carl: *See*—
  - Hartmann, Ludwig, Riedmuller, and Muller. 3,379,811.
- Frey, Max, to Cascade Corp. Load-handling apparatus. 3,379,325, 4–23–68, Cl. 214—134.
- Freyermuth, Harlan B.: *See*—
  - Chiddix, Max E., and Freyermuth. 3,379,715.
- Friedline, Leslie E., to Bailey Meter Co. Load control circuit including means responsive to load current in excess of a predetermined amount for increasing said load current. 3,379,950, 4–23–68, Cl. 318—434.
- Frink, John W.: *See*—
  - Winstrom, Leon O., and Frink. 3,379,757.
- Frisch, Erling, to Westinghouse Electric Corp. Fuel arrangement for a nuclear reactor. 3,379,618, 4–23–68, Cl. 176—78.
- Frisch, Maurice. Device for advancing the starting of cold internal combustion engines. 3,379,185, 4–23–68, Cl. 123—180.
- Froese, Herbert: *See*—
  - Beyer, Fritz, Froese, Jacknau, Scheffel, and Wolf. 3,379,108.
- Frontera, Edward F., and R. C. Michelfelder. Shield for paint roller. 3,378,872, 4–23–68, Cl. 15—230.11.
- Frost, Nelson A. Acoustical tunnel or the like detecting device. 3,379,274, 4–23–68, Cl. 181—.5.
- Frost, Nelson A. Axially aligned identical half flexible hose connecting means. 3,379,458, 4–23–68, Cl. 285—70.
- Fruehauf Corp.: *See*—
  - Fujioka, Richard T. 3,379,453.
- Frysztak, Jerome P., to Motorola, Inc. Transistorized voltage regulator providing reverse bias for output transistor. 3,379,958, 4–23–68, Cl. 322—59.
- Fuchs, Francis J., Jr., to Western Electric Co., Inc. Pressure vessel for forming apparatus. 3,379,043, 4–23–68, Cl. 72—56.
- Fuji Meon Kabushiki Kaisha: *See*—
  - Hashimoto, Ken. 3,379,831.
- Fuji Shashin Film Kabushiki Kaisha: *See*—
  - Hosoya, Katsumi, and Iijima. 3,379,113.
- Fujioka, Richard T., to Fruehauf Corp. System for indexing wheel bogies to rails of heavy-duty over-the-road semi-trailers. 3,379,453, 4–23–68, Cl. 280—81.
- Gablinger, Hersch, to Amylase A.G. Preparation of a low dextrin beer by using amyloglucosidase. 3,379,534, 4–23–68, Cl. 99—31.
- Gagliardo, Enzo: *See*—
  - Bargellini, Fausto, and Gagliardo. 3,379,669.
- Gaines, Jack H., and F. K. Bourhenne, to Sierra Electric Corp. Telephone jack plug. 3,380,015, 4–23–68, Cl. 339—107.
- Gainey, Hugh G.: *See*—
  - Beasley, Augustus E., Jr., Cowan, and Gainey. 3,379,650.
- Gallo, John, Sr. Fastener holder and driver. 3,379,231, 4–23–68, Cl. 145—52.
- Gambrell, Vernon C., R. H. Lawburgh, and L. E. Wuellner, to International Telephone and Telegraph Corp. Flaw detection apparatus. 3,379,829, 4–23–68, Cl. 178—6.8.
- Gannoe, Thomas E., to Sylvania Electric Products, Inc. CRT face panel having article supporting studs therein. 3,379,913, 4–23–68, Cl. 313—85.
- Garber, Duane L.: *See*—
  - Wallace, Donald A., Kelley, Garber, Bottorff, and Lovejoy. 3,379,067.
- Gardiner, John B.: *See*—
  - Hunter, Edward A., and Gardiner. 3,379,589.
- Garlock Inc.: *See*—
  - Fisher, Edward W. 3,379,445.
- Garner, Gaither B. Refrigeration system with means for controlling oil return. 3,379,030, 4–23–68, Cl. 62—192.
- Garner, Oscar G., to General Cable Corp. Shielded electrical cable. 3,379,821, 4–23–68, Cl. 174—36.
- Garnett, Edward V., to Eaton Metal Products Co. Reel trailer. 3,379,392, 4–23–68, Cl. 242—86.5.
- Garnier, Michel R., to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation. Contra-rotating compressors. 3,379,366, 4–23–68, Cl. 230—115.
- Garretson, Craig M. Crossed field electron tube having input and output cavities and drift region defined by a pair of high conductivity non-magnetic plates. 3,379,921, 4–23–68, Cl. 315—5.35.
- Gartner, Stanley J.: *See*—
  - Chagnon, Paul L., Gartner, and Jankowski. 3,379,357.
- Garwood, William E.: *See*—
  - Chen, Nai Y., and Garwood. 3,379,640.
- Gates, Albert G., to Gestetner Ltd. Sheet feeding mechanism. 3,379,433, 4–23–68, Cl. 271—42.
- Gates, John W., Jr.: *See*—
  - Porter, Ralph F., Schwan, and Gates. 3,379,529.
- Gau, Gerard, to General Motors Corp. Refrigerator condenser apparatus with funnel shaped flue. 3,379,241, 4–23–68, Cl. 165—53.
- Gaudet, Leandre J., and M. M. Gaudet, administratrix of said L. J. Gaudet, deceased. Plural actuated brake system. 3,379,287, 4–23–68, Cl. 188—152.
- Gaudet, Matilda M.: *See*—
  - Gaudet, Leandre J., M. M., and L. J. 3,379,287.
- Gaunt, Ralph G.: *See*—
  - Wallis, Peter T., and Gaunt. 3,379,904.
- Gay, Martin A., to United Aircraft Corp. Method and apparatus for limiting the output voltage of a fuel cell. 3,379,572, 4–23–68, Cl. 136—86.
- Gebr. Hofmann K.G. Maschinenfabrik: *See*—
  - Hegenbart, Horst. 3,379,057.
- Gebr. Stork & Co's Apparatenfabriek N.V.: *See*—
  - Van der Winden, Johannes B. 3,379,115.
- Gehrung, Manfred E., to Werner & Pfleiderer. Storage vessel or feed unit for powered materials with air-permeable guiding or separating walls. 3,379,345, 4–23–68, Cl. 222—195.
- Geiger, George F. Pile extractor and setter. 3,379,265, 4–23–68, Cl. 175—215.
- Geiger, Rolf: *See*—
  - Sturm, Karl, Geiger, Siedel, and Starey. 3,379,735.
- Gemmell, Gordon D., to Union Carbide Corp. Columbium-base alloy. 3,379,519, 4–23–68, Cl. 75—174.
- General American Transportation Corp.: *See*—
  - Aller, Edmund R., and Loomis. 3,379,478.
- General Aniline & Film Corp.: *See*—
  - Chiddix, Max E., and Freyermuth. 3,379,715.
  - Grosser, Frederick. 3,379,772.
  - Katzenstein, William. 3,379,644.
  - Mizianty, Michael F., Welch, and McKinney. 3,379,531.
  - Strobel, Albert F., and Catino. 3,379,779.
- General Cable Corp.: *See*—
  - Garner, Oscar G. 3,379,821.
- General Dynamics Corp.: *See*—
  - Brightman, Barrie, and Smith. 3.379 836.
  - Koontz, Floyd A., and Michaels. 3,379,995.
  - Stephany, Joseph F. 3,379,887.
- General Electric Co.: *See*—
  - Addamiano, Arrigo. 3,379,502.
  - Chang, Winston H., Clark, and Oxx. 3,379,520.
  - Connolly, Terrence E. 3,380,053.
  - Csabi, Menyhert. 3,379,625.
  - Erickson, Clifford E. 3,378,934.
  - Finholt, Robert W. 3.379,792.
  - Haldopoulos, Akis, and Mitchell. 3,378,880.
  - Hannam, Herbert J. 3,379,566.
  - Holoch, Klaus E. 3,379,875.
  - Jenkins, Thomas E. 3,378,933.
  - Kelley, Lonny R., and Ringwall. 3,379,204.
  - King, Ralph E. 3,379,029.
  - Miller, Clarence J. 3,378,914.
  - Miller, Richard H. 3,380,009.
  - Murphy, Robert A. 3,379,659.
  - Smith, Ivie L. 3,379 649.
  - Staples, Paul R. 3,379,189.
  - Taillon, John K. 3,379,868.
  - Vodicka, Vincent. 3,379,174.
  - Werts Everett W. 3,379,863.
- General Instrument Corp.: *See*—
  - Rossoff, Arthur L. 3,379,827.
  - Rossoff, Arthur L. 3,379,888.
- General Motors Corp.: *See*—
  - Bell, William E. 3.379,575.
  - Bemmann, Richard W. 3.380,003.
  - Dahlstrom, Sigurd C. 3,379,455.
  - Gau, Gerard, 3,379,241.
  - Hamilton, William A. 3.379,290.
  - Harris, Thomas A. 3,379,983.
  - Jenkins, Richard L., and Harmon. 3.379,978.
  - Kabel, Richard H., and Belling. 3,379,180.
  - Matter, Robert C. 3.379,576.
  - Mekkes, Lee T. 3,379,374.
  - Rittmann, Albert D., and Shearer. 3,379,182.
  - Stedfeld, Rowland L. 3.379,336.
  - Zetye, Walter C. 3,379,269.

General Precision Inc.: *See*—
Pearlman, Lester S. 3,380,059.
General Steel Products, Inc.: *See*—
Mizelle, Ned W. 3,379,473.
General Telephone and Electronics Laboratories, Inc.: *See*—
Soldano, Anthony J. 3,379,931.
Yando, Stephen. 3,379,927.
General Tire & Rubber Co., The: *See*—
Frehse, Walter C. 3,378,957.
George, Jeanette S.: *See*—
George, Michael P. 3,380,062.
George, Michael P., deceased, by J. S. George, executrix. Telescopic antenna. 3,380,062, 4–23–68, Cl. 343—903.
Gerhardt, Robert F., to American Can Co. Glass container having metal oxide and resin coatings. 3,379,559, 4–23–68, Cl. 117—72.
Gershberg, David B., to American Cyanamid Co. Fluorinated polymer matrix with fluorinated surfactant and fuel cell therewith. 3,379,573, 4–23–68, Cl. 136—86.
Gervaise, Samuel C. Pillow with sound producing elements. 3,378,948, 4–23–68, Cl. 46—175.
Gestetner Ltd.: *See*—
Gates, Albert G. R. 3,379,433.
Gevaert Photo-Producten N.V.: *See*—
Conix, André J., and Jeurissen. 3,379,801.
Gewerkschaft Eisenhutte Westfalia: *See*—
Erwein, Helmut, Altfelder, and Bürger. 3,379,476.
Geyer, William A., to United States of America, Navy. Saturable-core counting apparatus. 3,379,861, 4–23–68, Cl. 235—92.
Gibbon, Harry A., to Research Corp. Pressure liquid sampling system and apparatus. 3,379,065, 4–23–68, Cl. 73—425.4.
Gibbons, Paul D. Anchor construction. 3,379,160, 4–23–68, Cl. 114—207.
Gielow, George F., and R. L. Edwards, to Artnell Co. Ash receiver. 3,379,199, 4–23–68, Cl. 131—235.
Gilbert, Ernest E., to Bolt Beranek and Newman Inc. Data coder and input device. 3,379,835, 4–23–68, Cl. 178—18.
Gilchrist, Ralph E., and R. J. Sonnenfeld, to Phillips Petroleum Co. Process for oil production by steam injection. 3,379,249, 4–23–68, Cl. 166—11.
Gill, John B. Work horse. 3,379,431, 4–23–68, Cl. 269—130.
Gillette, Edward S.: *See*—
Alpert, Nelson L., Gillette, Roche, and Savitzky. 3,380,065.
Gillham, Hugh I., F. J. Kuhlman, and O. F. Snow, to Lockheed Aircraft Corp. Stores mounting and ejecting mechanism for aircraft. 3,379,096, 4–23–68, Cl. 89—1.5.
Gilli, Paul, to Waagner-Biro Aktiengesellschaft. Heat exchanger. 3,379,244, 4–23–68, Cl. 165—163.
Gilreath Hydraulics, Inc.: *See*—
Gilreath, Lafayette E. 3 379,368.
Gilreath, Lafayette E., to Gilreath Hydraulics, Inc. Centrifugal separator. 3,379,368, 4–23–68, Cl. 233—7.
Giolito, Silvio L.: *See*—
Kopacki, Adam F., and Giolito. 3,379,681.
Gladding, Edward K., and H. E. Schroeder, to E. I. du Pont de Nemours, and Co. Copolymers of ethylene, alpha monoolefin and cyclopentadiene. 3,379,701, 4–23–68, Cl. 260—80.7.
Glaser Products Corp.: *See*—
Leach, Charles C. 3,379,190.
Glenn C. G. Electronic component lead forming tool. 3,379,046, 4–23–68, Cl. 72—401.
Glimpel, Richard: *See*—
Bennati, Edmo. 3,379,446.
Goddard & Goddard Co.: *See*—
Dupuis, Hubert. 3,378,901.
Goetti, Adam D. Speaker installation means. 3,379,276, 4–23–68, Cl. 181—31.
Goetz, Martin A., to Applied Data Research, Inc. Sorting system. 3 380,029, 4–23–68, Cl. 340—172.5.
Golay, Marcel J. E. Method for testing optical membranes. 3,379,049, 4–23–68, Cl. 73—4.
Gold Medal Folding Furniture Co.: *See*—
Schwarz, George M., Jr. 3,379,474.
Goldman, Conrad, to Papex Corp. Method of making foamed plastics. 3,379,799, 4–23–68, Cl. 264—26.
Gomard, Preben: *See*—
Staller, Karel J., and Gomard. 3,379,126.
Gomulka, William. Connector. 3,380,017, 4–23–68, Cl. 339—207.
Goodrich, B. F Co., The: *See*—
Hayes, Robert L. 3,379,197.
Lui, Edward J., and Pittenger. 3,379,668.
Parks, Sheldon A., and Naeser. 3,378,956.
Parks, Sheldon A., and Naeser. 3,378,958.
Goodyear Tire & Rubber Co., The: *See*—
Wert, Clifford M. 3,379,800.
Gordon, Allen E., to United Aircraft Corp. Digital complement generator. 3,380,047, 4–23–68, Cl. 340—347.
Gormley, William T.: *See*—
Corson, Ben B., and Gormley. 3,379,768.
Gotham, Robert C.: *See*—
Carroll, John F. Jr., and Gotham. 3,380,043.
Gotz, Armin: *See*—
Hartmann, Adolf. 3,379,690.
Gotz, Axel A.: *See*—
Hartmann, Adolf. 3,379,690.
Gotz, Elizabeth: *See*—
Hartmann, Adolf. 3,379,690.
Gotz, Michael H.: *See*—
Hartmann, Adolf. 3,379,690.
Gotz, Tubingen: *See*—
Hartmann, Adolf. 3,379,690.
Gould, Norman P.: *See*—
Schultz, Everett M., and Gould. 3,379,755.
Grace, W. R. and, Co.: *See*—
Cogliano, Joseph A., and Braude. 3,379,759.
Dunseth, Maria G., and Salutsky. 3,379,498.
Graham, Richard H, to United States of America, Atomic Energy Commission. Complementary pair feedback amplifier. 3,379,988, 4–23–68, Cl. 330—17.
Grant, Alden H., and L. P. Bianchini, to Commonwealth Shoe & Leather Co., Inc. Method of making shoes. 3,378,867, 4–23–68, Cl. 12—142.
Grant, Whitney I., to Vilter Mfg. Corp. Refrigeration system and apparatus. 3,379,033, 4–23–68, Cl. 62—505.
Graper, Leslie G., to LOR Corp. Method of making metal foam. 3,379,517, 4–23–68, Cl. 75—20.
Gray, Stephen B., to Sylvania Electric Products Inc. Video processing system providing correction for changes in the light source intensity and for light fluctuations due to different page reflectiviles. 3,379,826, 4–23–68, Cl. 178—6.
Great Lakes Carbon Corp.: *See*—
Bloomer, Ward J. 3,379,638.
Greco, Carl C., and W. Stamm, to Stauffer Chemical Co. Olefin polymer compositions containing thiazoline polysulfide stabilizing materials. 3,379,678, 4–23–68, Cl. 260—45.8.
Green, A. P. Refractories Co.: *See*—
Fitzpatrick, William D. 3,379,409.
Green, Milton, to Burroughs Corp. Magneto-resistive trigger circuit. 3,379,895, 4–23–68, Cl. 307—88.
Green, William G. Electric and ion generator. 3,379,633, 4–23–68, Cl. 204—248.
Greenberg, Joseph L.: *See*—
Weber, Albert, and Greenberg. 3,379,604.
Greer, Edward M., and R. Singh, to Greer Hydraulics, Inc. Pressure vessels. 3,379,215, 4–23–68, Cl. 138—30.
Greer Hydraulics, Inc.: *See*—
Greer, Edward M., and Singh. 3,379,215.
Greer, Leonard S., to Hays Mfg. Co. Diaphragm valve with water hammer preventer. 3,379,406, 4–23–68, Cl. 251—45.
Griner, Arthur J., to National Biscuit Co. Apparatus for conveying and diverging rows of articles. 3,379,299, 4–23–68, Cl. 198—30.
Griner, Arthur J., to National Biscuit Co. Article conveying, separating and stacking apparatus. 3,379,350, 4–23–68, Cl. 225—97.
Gronert, Paul, to Knotex Maschinenbau G.m.b.H. Thread selecting mechanism for warp tying machines. 3,378,899, 4–23–68, Cl. 28—49.
Groothius, Stanley E., to Union Carbide Corp. Recording coulometer. 3,380,072, 4–23–68, Cl. 346—107.
Grosemans, Jozef A., to North American Philips Co., Inc. Mechanism for varying the speed of the turntable of a record player. 3,379,071, 4–23–68, Cl. 74—194.
Groshin, Vladimir A.: *See*—
Zherebin, Boris N., Krepyshev, Groshin, and Berezkin. 3,379,427.
Grosser, Frederick, to General Aniline & Film Corp. Process for the production of dimethyl chloroacetal. 3,379,772, 4–23–68, Cl. 260—615.
Groth, Fred A., to Pasquale Associates, Inc. Method and apparatus for forming pizza shells. 3,379,141, 4–23–68, Cl. 107—4.
Gruczelak, Norman P., to Texas Instruments Inc. Reel hold down knob 3 379,388, 4–23–68, Cl. 242—68.3.
Gruhl, Wolfgang, and G. Scharf, to Vereinigte Aluminum-Werke Aktiengesellschaft. Heat treatment of aluminum alloys. 3,379,538, 4–23–68, Cl. 148—11.5.
Grulke, Carl A., and R. A. Powers, to Union Carbide Corp. Galvanic dry-tape cell construction. 3,379,574, 4–23–68, Cl. 136—90
Gryctko, Carl E.: *See*—
Shaffer, Howard R., and Gryctko. 3,379,843.
Grygera, James W., to Eaton Yale & Towne, Inc. Control apparatus for electrically operated clutch and brake. 3,379,292, 4–23–68, Cl. 192—12.
Guglielmi Antonio, to Ducati Elettrotecnica S.p.A. A C. battery-charging generator with regulating sysem. 3,379,957, 4–23–68, Cl. 322—29.
Gulf Oil Corp.: *See*—
Beckmeyer, Charles. 3,379,477.
Kreiter, Bernard A., and Ward. 3,379,767.
Gulf Research & Development Co.: *See*—
Ellis, Alan F. 3,379,710.
Gulf State Asphalt Co., Inc.: *See*—
Bramble, Lloyd F., and Morrow. 3,379,662.
Gustafson, Manfred W., to Fagersta Bruks Aktiebolag. Radial adjustment means for cutting tools. 3,379,077, 4–23–68, Cl. 77—58.
Gustafson, Ralph P., to Crompton & Knowles Corp. Yieldable drive couplings. 3 379,034, 4–23–68, Cl. 64—29.
Gustafson, Walter R., and W. H. McMillen, to United States of America, Navy. Multi-sensor display apparatus. 3,380,028, 4–23–68, Cl. 340—172.5.
Guzaldo, Peter J. Exercising apparatus to aid in the practice of yoga. 3,379,434, 4–23–68, Cl. 272—60.
Gynn, Gilbert M., and P. B. Stickney, to Plastics Mfg. Co. Molding composition containing a saturated alicyclic guanamine and cured articles of improved stain resistance and light resistance thereof. 3,379,661, 4–23–68, Cl. 260—17.3.
Haack, Erich, R. Heerdt, F. H. Schmidt, and K. Stach, to C. F. Boehringer & Soehne G.m.b.H. N-(benzenesulfonyl)-N'-(tetrahydrothiapyranyl)ureas. 3,379,734, 4–23–68, Cl. 260—327.
Haans, Petrus F. A., T. P. J. Botden, and H. Roelofs, to North American Philips Co., Inc. Electric conductor suitable for being sealed in the wall of an electric discharge tube. 3,379,822, 4–23–68, Cl. 174—50.57.
Häberle, Karlheinz: *See*—
Lieser, Ernst, and Häberle. 3,379,107.

Hack, Helmuth: *See*—
Schafer, Werner, Wegler, Eue, and Hack. 3,379,725.
Hadeler, Theodore T.: *See*—
Carey, Thomas P., and Hadeler. 3,378,939.
Haga, Tsuneo: *See*—
Ono, Terumichi, Haga, and Sakai. 3,379,810.
Hagquist, Frederick M.: *See*—
Rusk, Gerald R., and Hagquist. 3,379,239.
Hagquist, Mrs. Frederick M.: *See*—
Rusk, Gerald R., and Hagquist. 3,379,239.
Hait, Paul W., to Varian Associates. Magnetically confined ion getter pump having combined coupling flange and pole piece structure. 3,379,365, 4–23–68, Cl. 230—69.
Hajtomu es Felvonogyar: *See*—
Domokos, Jozsef, Benedek, Kiss, and Winkler. 3,379,066.
Haldopoulos, Akis, and T. P. Mitchell, to General Electric Co. Combined hinging and holding device for closure members. 3,378,880, 4–23–68, Cl. 16—142.
Halliburton Co.: *See*—
Slagle, Knox A., and Tamura. 3,379,013.
Walton, John F. 3,379,978.
Halliday, Dixon B., to United Kingdom Atomic Energy Authority. Nuclear reactors. 3,379,615, 4–23–68, Cl. 176—44.
Halstead, John H. Chain column mechanism. 3,379,412, 4–23–68, Cl. 254—122.
Hamann, Karl, and F. Sturzenhofecker, to Chemische Werke Huls Aktiengesellschaft. Process for the production of foam plastic using thioglycolic acid-S-carboxylic acid anhydride. 3,379,657, 4–23–68, Cl. 260—2.5.
Hamilton, William A., to General Motors Corp. Brake assembly. 3,379,290, 4–23–68, Cl. 188—218.
Hanley, William L. Tunnel kiln preheating section. 3,378,897, 4–23–68, Cl. 25—142.
Hanna, Edward, to Hanna Keyholder Co., Inc. Key holder and key container including same. 3,379,041, 4–23–68, Cl. 70—456.
Hanna Keyholder Co., Inc.: *See*—
Hanna, Edward. 3,379.041.
Hannam, Herbert J., to General Electric Co. Method of making a polycrystalline dual layered aluminum oxide-magnesium oxide storage electrode. 3,379,566, 4–23–68, Cl. 117—210.
Hansen, Frithjof N., to The McMillan Corp. of North Carolina. Aperiodic low-pass filter. 3,380,004, 4–23–68, Cl. 333—79.
Hanson, Herbert G.: *See*—
Veres, Edward W., Draxler, Hanson, and Poethig. 3,378,993.
Harder, David E., to Dresser Industries, Inc. Bleed valve for pumps. 3.379,137, 4–23–68, Cl. 103—221.
Hardy, Derek J., and L. A. H. Riddle, to Westland Aircraft Ltd. Vessel convertible to watercraft and air cushion vehicle. 3,379,270, 4–23–68, Cl. 180—127.
Hardy, Philip E.: *See*—
Sharp, James W., and Hardy. 3,379.009.
Hargis, Charles W., and H. S. Young. Contact agents for converting ethylenically unsaturated hydrocarbons to carbonylic compounds. 3,379,651, 4–23–68, Cl. 252—437.
Harmon, Charles A.: *See*—
Jenkins, Richard L., and Harmon. 3,379,978.
Harrell, Joshua R. Auto snack tray. 3,379,316, 4–23–68, Cl. 211—73.
Harrill, Albert C. Barbecue rotisserie. 3,379,119, 4–23–68, Cl. 99—421.
Harrington, Roger E., to Union Carbide Corp. Method for producing high brightness and lower electrode consumption rate in carbon arcs. 3,3799,918, 4–23–68, Cl. 314—29.
Harris-Intertype Corp.: *See*—
Sarka, Albert J. 3,379,351.
Harris, Robert V., and H. G. Biagini, to Branson Instruments, Inc. Ultrasonic testing apparatus. 3,379,902, 4–23–68, Cl. 310—8.5.
Harris, Thomas A., to General Motors Corp. Peak reading voltmeter. 3,379,983, 4–23–68, Cl. 328—151.
Harrison, Herbert G., to English Numbering Machines Ltd. Printing machine. 3,379,129, 4–23–68, Cl. 101—316.
Harrison, Herbert G., to English Numbering Machines Ltd. Pawl mechanisms. 3,379,075, 4–23–68, Cl. 74—527.
Harry, William R., L. Ewing, and R. J. Smiltneek, ½ each to Ashland Oil & Refining Co., and Armco Steel Corp. Underground conduit. 3,379,221, 4–23–68, Cl. 138—148.
Harter, Jean M. Sweater. 3,378,852, 4–23–68, Cl. 2—90.
Hartmann, Adolf, A. Gotz, deceased (by A. A., T., and E. Gotz, administratrix of M. H. Gotz; said A. A. and M. H. Gotz, heirs of A. Gotz), and H. Medem, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Fiber-forming linear polyesters. 3,379,690, 4–23–68, Cl. 260—75.
Hartmann, Ludwig, W. Riedmuller, and G. Muller, to C. Freudenberg. Apparatus and process for production of filaments. 3,379,811, 4–23–68, Cl. 264—210.
Harvey, Edwin D., to United States of America, Navy. Chamberless rocket. 3,379,010, 4–23–68, Cl. 60—253.
Harvey, Robert J., to Thermo Electron Engineering Corp. Nuclear powered mechanical heart. 3,379,191, 4–23–68, Cl. 128—1.
Hashimoto, Ken, to Fuji Meon Kabushiki Kaisha. Flat screen television display apparatus. 3,379,831, 4–23–68, Cl. 178—7.3.
Hass, Harold E., R. G. Nordman, and H. F. Rayfield, to Burroughs Corp. Vacuum system for multiple station tape handling apparatus. 3,379,352, 4–23–68, Cl. 226—11.
Hawkins, Gary F.: *See*—
Irick, Gether, Jr., and Hawkins. 3,379,771.
Hawkins, Percy S. Instrument for marking in the cuts on roof rafters. 3,378,928, 4–23–68, Cl. 33—90.
Hayes, John C., to Universal Oil Products Co. Start-up procedure for fluidized production of hydrogen using a nickel-containing catalyst. 3,379,504, 4–23–68, Cl. 23—212.
Hayes, John C., to Universal Oil Products Co. Low pressure reforming with a platinum, halogen, alumina, sulfur and iron catalyst. 3,379,641, 4–23–68, Cl. 208—139.
Hayes, Robert L., to The B. F. Goodrich Co. Self-inflating catheter with means to prevent leakage of inflation fluid. 3,379,197, 4–23–68, Cl. 128—349.
Hays Mfg. Co.: *See*—
Greer, Leonard S. 3,379,406.
Hazel, Richard F.: *See*—
Fow, Benjamin R., Hazel, and Mount. 3,380,055.
Hebermehl, Reinhard: *See*—
Krauss, Walter, and Hebermehl. 3,379,790.
Hecker, Klaus J., to United States of America, Navy. Multiple element analog storage system. 3,380,035, 4–23–68, Cl. 340—173.
Hecker, Klaus J., H. Staeudle, and W. G. Hueber, to United States of America, Navy. Controllable television raster generator. 3,379,833, 4–23–68, Cl. 178—7.7.
Heckler, George B., and R. F. Meldau, to Phillips Petroleum Co. Well completion for extreme temperatures. 3,379,252, 4–23–68, Cl. 166—29.
Hector, Nils F., to North American Philips Co., Inc. Device for indicating the angular velocity of a system. 3,379,862, 4–23–68, Cl. 235—92.
Heerdt, Ruth: *See*—
Haack, Erich, Heerdt, Schmidt, and Stach. 3,379,734.
Hegenbart, Horst, to Gebr. Hofmann K.G. Maschinenfabrik. Apparatus for measuring the power of motor vehicles. 3,379,057, 4–23–68, Cl. 73—117.
Hehenkamp, Theodorus, to North American Philips Co., Inc. Device comprising an inverter and an input filter for the said inverter. 3,379,954, 4–23–68, Cl. 321—14.
Heller, William C., Jr.: *See*—
James, Albert L., and Heller. 3,379,102.
Helliwell, Derek P., to Foseco International Ltd. Additives to sand moulds and cores. 3,379,540, 4–23–68, Cl. 106—38.5.
Hendrickson, Henry G.: *See*—
Smith, Arthur D., Hendrickson, and Langewis. 3,379,153.
Henig, Hans. Electrolytic apparatus. 3,379,631, 4–23–68, Cl. 204—213.
Henig, Hans. Electrolytic apparatus. 3,379,632, 4–23–68, Cl. 204—213.
Henn, Richard W., and N. H. King, to Eastman Kodak Co. Activator solution rejuvenation. 3,379,528, 4–23–68, Cl. 96—28.
Hennells, Ransom J., to W. E. Hennells Co., Inc. Twin piston pneumatic spring. 3,379,430, 4–23–68, Cl. 267—64.
Hennells, W. E., Co., Inc.: *See*—
Hennells, Ransom J. 3,379,430.
Hennig, Hans-Joachim, and O. Bayer, to Farbenfabriken Bayer Aktiengesellschaft. Preparation of monoisocyanates from isocyanate distillation residues. 3,379,749, 4–23–68, Cl. 260—453.
Hentzi, Joffre E. R., and L. C. Kiser, to The Stanley Works. Cafe hinge. 3,378,881, 4–23–68, Cl. 16—153.
Herb, Carl C.: *See*—
Bryans, David F., and Herb. 3,379,329.
Hercules Inc.: *See*—
Reid, Albert R. 3,379,720.
Reid, Albert R. 3 379,721.
Hermann, Hans D.: *See*—
Weissermel, Klaus, Hermann, and Noetzel. 3,379,789.
Herou, Lars B. S. Superstructures for load vehicles. 3,379,470, 4–23–68, Cl. 296—137.
Herrwerth, Peter, and G. Reich, to Leybold Holding AG. Vacuum gauge including a cold cathode ionization tube. 3,379,967, 4–23–68, Cl. 324—33.
Heuse, Otto, M. Boldt, R. Wirtz, and G. Theilig, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Process and apparatus for oxidizing olefins. 3,379,626, 4–23–68, Cl. 204—80.
Hewes, Ellsworth D., and R. C. Zoppoth, to Xerox Corp. Xerographic reproduction apparatus. 3,379,106, 4–23–68, Cl. 95—1.7.
Hewson, Walter N., and D. V. Clifford, to Minister of Supply, in Her Majesty's Government of the United Kingdom of Great Britain and Northern Ireland. Casting propellant charges. 3 379,796, 4–23–68, Cl. 264—3.
Hier, Edwin H. Holsters. 3,379,349, 4–23–68, Cl. 224—2.
High Voltage Engineering Corp.: *See*—
Enge, Harald A. 3,379,911.
Hileman, Ronald E., to United States of America, Air Force. Doppler frequency-time error detector. 3,380,050, 4–23–68, Cl. 343—8.
Hilfiker, Albert. Furniture for sitting or lying on. 3,379,472, 4–23–68, Cl. 297—118.
Hill, Robert R., to Lee Wilson Engineering Co., Inc. Wall structure with a metal shell and lining blocks secured by support bars and retainer pins. 3,378,975, 4–23–68, Cl. 52—508.
Hill, Wayne O., to Chrysler Corp. Transmission clutch with hydraulic seals. 3,379,293, 4–23–68, Cl. 192—85.
Hirsch, Richard F. Lighter device for cigarettes, etc. 3,379,856, 4–23–68, Cl. 219—268.
Hirst, Charles M., Jr., to Orschelm Brake Lever Mfg. Co. Level operated actuator means. 3,379,074, 4–23–68, Cl. 74—470.
Hisano, Kiyoshi: *See*—
Kobayashi, Hiroshi, Miyazawa, and Hisano. 3,379,961.
Hitachi, Ltd.: *See*—
Hojo, Toku, and Takeya. 3,380,069.
Komatsubara, Kiichi. 3,379,999.
Tagami, Takashi, and Inoue. 3,379,613.

Hodgson, Brian P.: *See*—
  McMillan, Peter W., and Hodgson. 3,379,542.
Hoel, Hans, to The English Electric Co. Ltd. Electrical protective relays. 3,379,933, 4-23-68, Cl. 317—36.
Hoel, Hans, to The English Electric Co. Ltd. Protective distance relay system for power transmission lines. 3,379,936, 4-23-68, Cl. 317—36.
Hoel, Hans, and W. D. Humpage, to The English Electric Co. Ltd. Electrical protective relays. 3,379,934, 4-23-68, Cl. 317—36.
Hoel, Hans, and E. Paddison, to The English Electric Co. Ltd. Electrical relays. 3,379,935, 4-23-68, Cl. 317—36.
Hoexter, Rolf, to Mosstype Corp. Hydraulically-actuated demountable printing cylinders. 3,378,902, 4-23-68, Cl. 29—113.
Hoffman, Rolland L.: *See*—
  Bloom, Frederick S., and Hoffman. 3,379,423.
Hoffmann-La Roche Inc.: *See*—
  Marbet, Roman. 3,379,777.
Hofmann, Gottfried G. W.: *See*—
  Fleischer, Svend S. C., Thomsen, Hofmann, and Rossberg. 3,379,222.
Hogue, Clifford E., to United States of America, Navy. Sure-starting astable multivibrator circuit. 3,380,002, 4-23-68, Cl. 331—113.
Hojo, Toku, and H. Takeya, to Hitachi, Ltd. Line printer employing selectable electrode matrices arrayed on a rotating drum. 3,380,069, 4-23-68, Cl. 346—74.
Hokama, Takeo, and M. J. Farquhar, to Koppers Co., Inc. Stabilization of crude phenolic alkylates. 3,379,776, 4-23-68, Cl. 260—624.
Holland, Leonard E. Tailgate control device. 3,379,475, 4-23-68, Cl. 298—23.
Holley Plastics Co.: *See*—
  Robertson, Duane W. 3,378,888.
Hollinger, John L., to Endicott Coil Co., Inc. Brake mechanism for small induction motors. 3,379,907, 4-23-68, Cl. 310—77.
Hollnagel, Harold E.: *See*—
  Hollnagel, Harold S. and H. E. 3,379,289.
Hollnagel, Harold S. and H. E. Self-adjusting braking mechanism. 3,379,289, 4-23-68, Cl. 188—196.
Holmds, Peter D., A. R. Thornhill, and D. K. Nicholas, to The British Petroleum Co. Ltd. Process for reforming hydrocarbons employing a nickel-sepiolite catalyst composition. 3,379,505, 4-23-68, Cl. 23—212.
Holmes, Billy G., to Mobil Oil Corp. Method for initiating in situ combustion within a subterranean formation. 3,379,254, 4-23-68, Cl. 166—38.
Holmes, Robert E., to North American Rockwell Corp. Process for forming holes and multilayer interconnections through a dielectric. 3,379,568, 4-23-68, Cl. 117—212.
Holoch, Klaus E., to General Electric Co. Stabilized polyphenylene oxide composition. 3,379,875, 4-23-68, Cl. 260—45.8.
Homertronics Inc.: *See*—
  Cooper, Robert F., and Powell. 3,380,026.
Honeywell Inc.: *See*—
  Aske, Vernon H. 3,379,979.
  Eveland, Baisel L., and Seeger. 3,379,435.
  Kladde, Gerhard A., and Meyer. 3,379,982.
  Mott, Richard C. 3,379,165.
  Patterson, Richard G. 3,379,396.
  Schmitz, Robert. 3,379,205.
  Spiegel, Leo. 3,379,070.
Hönicke, Horst: *See*—
  Albrecht, Jürgen, Hönicke, and Ruder. 3,379,068.
Honnell, Pierre M. Electronic network synthesis of mathematical matric equations. 3,379,867, 4-23-68, Cl. 235—180.
Hoo, Eugene, to Collins Radio Co. Multiple frequency signal generator. 3,379,992, 4-23-68, Cl. 331—2.
Hooker Chemical Corp.: *See*—
  Jaszka, Daniel J. 3,379,510.
  Weil, Edward D., and Linder. 3,379,611.
  Weil, Edward D. 3,379,746.
Hoover Co., The: *See*—
  Mitchell, John H., and Searle. 3,379,945.
Hoover, George R., and P. E. Schnedler, to Armco Steel Corp. Suppression of visible spangle. 3,379,557, 4-23-68, Cl. 117—64.
Hopkins, Leslie A., and R. G. Moore, to Hoovercraft Development Ltd. Vehicles for travelling over a surface provided with flexible skirts of differing stiffnesses. 3,379,271, 4-23-68, Cl. 180—128.
Horak, Vladimir: *See*—
  Wiesner, Ivo, and Horak. 3,379,684.
Horiuchi, Takeshi. Heavy medium cyclone separator. 3,379,308, 4-23-68, Cl. 209—172.5.
Horne, James M., to H. P. Cooper. Chair for concrete reinforcing. 3,378,981, 4-23-68, Cl. 52—677.
Horton, Frank E., to Cartier, Inc. Merchandising container. 3,379,235, 4-23-68, Cl. 150—1.7.
Hosoya, Katsumi, and Y. Iijima, to Fuji Shashin Film Kabushiki Kaisha. Method and apparatus for processing light-sensitive elements. 3,379,113, 4-23-68, Cl. 95—89.
Hostettler, Fritz, and E. F. Cox, to Union Carbide Corp. Carbonate compositions. 3,379,693, 4-23-68, Cl. 260—77.5.
Hotelling, Eric B.: *See*—
  Sheridan, John E., and Hotelling. 3,379,775.
Hotz, George M.: *See*—
  Howard, Earle A., Hotz, and Bryson. 3,379,052.
Houdaille Industries, Inc.: *See*—
  Rumsey, Rollin D., and Perhach. 3,379,100.
Houde, Adelore L., to Filmtech Associates, Inc. Electron gun for evaporating or sublimating material in a vacuum environment. 3,379,819, 4-23-68, Cl. 13—31.
Hough, Ralph L., to United States of America, Air Force. Vapor deposition of pyrolytic graphite on tungsten. 3,379,555, 4-23-68, Cl. 117—46.
Houle, Herve. Wrist-lighter. 3,379,491, 4-23-68, Cl. 431—343.
Houlihan, William J., to Sandoz Inc. *N*-(ω-aminoalkyl)isoindoles and method for preparing same. 3,379,733, 4-23-68, Cl. 260—326.1.
Hovercraft Development Ltd.: *See*—
  Hopkins, Leslie A., and Moore. 3,379,271.
Howard, Earle A., G. M. Hotz, and R. P. Bryson. Soil penetrometer. 3,379,052, 4-23-68, Cl. 73—81.
Howe, Donald J., to Eastman Kodak Co. Process for providing size adjustment in viewing azimuth defining means. 3,379,530, 4-23-68, Cl. 96—40.
Hozven, Albert, to Koppers Co., Inc. Electrode sealing device. 3,379,816, 4-23-68, Cl. 13—9.
Hrazanek, William R., to Dorr-Oliver Inc. Method of making a wrinkle-free endless fabric filter belt. 3,379,590, 4-23-68, Cl. 156—84.
Hsieh, Henry L., to Phillips Petroleum Co. Alkene oxide polymerization with a catalyst comprising an organoaluminum compound, an organozinc compound and water. 3,379,660, 4-23-68, Cl. 260—2.
Hudson, Larry L.: *See*—
  Briar, Jack E., Hudson, and Talge. 3,379,382.
Hueber, Werner G.: *See*—
  Hecker, Klaus J., Staeudle, and Hueber. 3,379,833.
Huebschmann, John W., and G. F. Bramel, to A. E. Staley Mfg. Co. Dextrin. 3,379,547, 4-23-68, Cl. 196—210.
Huelsmann, Hans-Leo: *See*—
  Wolfes, Wolfgang, Renckoff, and Huelsmann. 3,379,695.
Hughes Aircraft Co.: *See*—
  Cowans, Kenneth W. 3,379,026.
  Koda, Nobuo J., and Yaggy. 3,379,914.
  Liggett, William H., and Frankel. 3,380,040.
  Liggett, William H., and Frankel. 3,380,041.
  Moulin, Norbert L. 3,380,012.
  Todd, Carl D. 3,379,949.
Hughes, Thomas G., to The Procter & Gamble Co. Pressure-sensitive label receiving and applying station. 3,379,466, 4-23-68, Cl. 294—65.
Humpage, William D.: *See*—
  Hoel, Hans, and Humpage. 3,379,934.
Humpherys, Bernarr H., to United States of America, Navy. Pulse width discriminator. 3,379,981, 4-23-68, Cl. 328—112.
Hunter, Edward A., and J. B. Gardiner, to Esso Research and Engineering Co. Solubilizing high energy propellant polymers. 3,379,589, 4-23-68, Cl. 149—109.
Hunter, Henry J.: *See*—
  Marshall, Clifton W., and Hunter. 3,379,463.
Hupp Corp.: *See*—
  Imbrecht, Arthur G. 3,378,970.
Hurley, William C.: *See*—
  Foss, Gerald C., Weaver, and Hurley. 3,379,536.
Hurlock, Ronald J.: *See*—
  Ashton, Stanley, Hurlock, and Scott. 3,379,676.
Hüsges, Walter: *See*—
  Bruder, Karl, and Hüsges. 3,379,124.
Husges, Walter: *See*—
  Bruder, Karl, and Hüsges. 3,379,322.
Hwang, Yu-Tang, W. J. Sandner, and W. A. Krewer, to Union Oil Co. of California. Process for the production of higher alkanones from lower alkanones. 3,379,766, 4-23-68, Cl. 260—593.
Hydro-Air Engineering, Inc.: *See*—
  Moehlenpah, Walter G., and Palime. 3,379,854.
I.N.M. Industries Corp.: *See*—
  Schonberger, Milton. 3,379,063.
I-T-E Circuit Breaker Co.: *See*—
  Shaffer, Howard R., and Gryctko. 3,379.843.
Ichimi, Teruhiko, K. Takahashi, Z. Ozeki, and Y. Shimoyama, to Toyo Boseki Kabushiki Kaisha. Loom stopping apparatus. 3,379,225, 4-23-68, Cl. 139—353.
Iijima, Yo: *See*—
  Hosoya Katsumi, and Iijima. 3,379,113.
Imbrecht, Arthur G., to Hupp Corp. Wall construction. 3,378 970, 4-23-68, Cl. 52—238.
Imperial Chemical Industries Ltd.: *See*—
  Ashton, Stanley, Hurlock, and Scott. 3,379,676.
  Brooks, Richard. 3,379 495.
  Woods, Denis W. 3,379,809.
  Davis, Robert F. 3.379,461.
Independent General, Inc.: *See*—
  Skinner, Jerald P. 3,378,862.
Inglima, Frank P. Tape indicator. 3,379,166, 4-23-68, Cl. 116—114.
Inoue, Kotaro: *See*—
  Tagami, Takashi, and Inoue. 3,379,613.
Inpaco Trust Reg.: *See*—
  Mantzel, Albracht. 3,379,179.
Inskip, John B.: *See*—
  Restall, George, and Inskip. 3,379,457.
Institut fur Polygraphische Maschinen: *See*—
  Albrecht, Jürgen, and Hönicke, and Ruder. 3,379,068.
Integral Process Systems, Inc.: *See*—
  Wagner, Richard C. 3,379,132.
Integrated Ceilings, Inc.: *See*—
  Blitzer, Jacob H., Jr. 3,378,980.
Interchemical Corp.: *See*—
  McHugh, John F. 3,379,797.

Intermountain Research & Engineering Co.: *See*—
  Cook, Melvin A. 3,379,587.
International Business Machines Corp.: *See*—
  Betts, Peter, and Eiselen. 3,380,070.
  Dowley, Mark W. 3,379,553.
  McGrath, Richard S., and Silcox. 3,379,539.
  McMahon, Robert F. 3,380,030.
  Ragland, Thomas. 3,380,025.
International Research & Development Co. Ltd.: *See*—
  Robinson, Peter. 3,378,916.
International Standard Electric Corp.: *See*—
  Eith, Gebhard. 3,379,356.
  Elliott, John E., and Morrell. 3,379,525.
  Weihser, Rudolf. 3,379,837.
International Telephone and Telegraph Corp.: *See*—
  Gambrell, Vernon C., Lawburgh, and Wuellner. 3,379,829.
  Staller, Karel J., and Gomard. 3,379,126.
Interstate Folding Box Co. The: *See*—
  Nerenberg, Robert W., and Kleingers. 3,379,362.
Irick, Gether, Jr., and G. F. Hawkins, to Eastman Kodak Co. Oxidation inhibited polyphenyl ether composition. 3,379,771, 4-23-68, Cl. 260—611.5.
Isaak, Robert D.: *See*—
  Littrell, Woodrow H., Isaak, Klund, and Betsworth. 3,380,018.
Itoi, Kazuo, to Kurashiki Rayon Co. Ltd. Method of manufacturing organo-tin hydrides. 3,379,747, 4-23-68, Cl. 260—429.7.
Jaanus, Eric. Method of preparing or attaching a reinforcing element to a plastic sheet. 3,379,806, 4-23-68, Cl. 264—154.
Jablonski, Richard J., and A. M. Pasinski, to Burroughs Corp. Electric typewriter keyboard operated mechanism. 3,379,297, 4-23-68, Cl. 197—16.
Jacknau, Alex: *See*—
  Beyer, Fritz, Froese, Jackanu, Scheffel, and Wolf. 3,379,108.
Jacobsen, Clas: *See*—
  Breitholtz Bo, and Jacobsen. 3,379,909.
Jacuzzi Bros., Inc.: *See*—
  Jacuzzi, Candido. 3,378,858.
Jacuzzi, Candido, to Jacuzzi Bros., Inc. Drain assembly. 3,378,858, 4-23-68, Cl. 4—172.
Jackson, Robert G., to Conch International Methane Ltd. Sealing means for ground reservoirs. 3,379,012, 4-23-68, Cl. 61—.5.
Jaffe, Herbert R. Collapsible plastic marble race game. 3,379,440, 4-23-68, Cl. 273—86.
Jakob, John E., R. P. Conger, and L. B. Palmer, to Congoleum-Nairn Inc. Opalescent vinyl compositions. 3,379,674, 4-23-68, Cl. 260—41.
James, Albert L., and W. C. Heller, Jr.; said James assor., to said Heller. Container and method of producing same. 3,379,102, 4-23-68, Cl. 93—36.
Jankowski, Alfred S.: *See*—
  Chagnon, Paul L., Gartner, and Jankowski. 3,379,357.
Janssen, Sylvain J., to Compagnie des Compteurs. Magnetostrictive transducer. 3,379 905, 4-23-68, Cl. 310—26.
Jarlan, Gerard L. E.: *See*—
  Marks, Wilbur, and Jarlan. 3,379,338.
Jaszka, Daniel J., to Hooker Chemical Corp. Phosphonitrilic chloride process. 3,379.510, 4-23-68, Cl. 23—357.
Jay, Irvin. Fish lure device. 3.378,946, 4-23-68, Cl. 43—42.06.
Jayne, William M., Jr.: *See*—
  Tittman, Frederick R., and Jayne. 3,379,803.
Jeffee, Saul. and J. Kowalak. Apparatus for printing multiple images on photographic raw stock. 3,379,111, 4-23-68, Cl. 95—75.
Jehle Robert: *See*—
  Decker, Robert M., Jehle, and Veisel. 3,379,966.
Jen, Yun, to Chevron Research Co. Water-dispersible alkyds and alkyd resins. 3,379,548, 4-23-68, Cl. 106—245.
Jenkins, John H. Slide holder. 3,379,803, 4-23-68, Cl. 206—62.
Jenkins, Philip W., and L. G. Brooker, to Eastman Kodak Co. Dyes derived from 1.2-disubstituted-3.5-pyrazolidinediones and photographic elements containing such dyes. 3,379,533, 4-23-68, Cl. 96—102.
Jenkins, Richard L., and C. A. Harmon, to General Motors Corp. Combination AGC delay and BFO disabling circuit for radio receiver. 3,379,978, 4-23-68, Cl. 325—399.
Jenkins, Thomas E., to General Electric Co. Drying system for dishwasher. 3,378,933, 4-23-68, Cl. 34—54.
Jensen, Arnold W., and M. Ozolins, to E. I. du Pont de Nemours and Co. Polyether urethane stabilized with a benzotriazole and a tris-phenol. 3,379,675, 4-23-68, Cl. 260—45.8.
Jensen, Douglas W.: *See*—
  Wyness, Glen R., and Jensen. 3,379,764.
Jesdinsky, Walter: *See*—
  Reuter, Guido, Jesdinsky, and Werthmoller. 3,379,426.
Jetru, Inc.: *See*—
  Ratliff, Harvey L., Jr. 3,379,489.
Jeurissen, Lambert G.: *See*—
  Conix, André J., and Jeurissen. 3,379,801.
Jirkovsky, Ivo: *See*—
  Protiva, Miroslav, Jirkovsky, Pelz, Metysova, and Ernest. 3,379,729.
Johnson, Archie G. Fishing apparatus. 3,378,945, 4-23-68, Cl. 43—17.
Johnson, Carl W.: *See*—
  Webb, James E. 3,380,049.
Johnson, Elmer T.: *See*—
  De Young, Malcolm W., and Johnson. 3,380,010.
Johnson, Henry V., to United States of America, Navy. Marine marker. 3,378,863, 4-23-68, Cl. 9—8.
Johnson, Ralph E., to The Singer Co. Loop takers for sewing machines. 3,379,150, 4-23-68, Cl. 112—228.
Jones, Alpha L., 25% each to A. L. and J. M. Jones, and 50% to M. J. Denney. Chain clamp. 3,379,005, 4-23-68, Cl. 59—7.
Jones, Clintford R.: *See*—
  Larsen, Earl I., Krock, and Jones. 3.379,513.
  Larsen, Earl I., Krock, and Jones. 3,379,514.
Jones, Emerson, and R. L. Large, to Technical Mfg. Corp. Adjustable wheelchair device. 3,379,450, 4-23-68, Cl. 280—36.
Jones, Jimmie M.: *See*—
  Jones, Alpha L. 3,379,005.
Jones, R. A., and Co., Inc.: *See*—
  Stone, Orison W. 3,379,305.
Jordan, Merrill E.: *See*—
  Rossman, Raymond P., Jordan, and Dannenberg. 3,379,673.
Joseph, Robert R. Film washing device. 3,379,114, 4-23-68, Cl. 95—97.
Jovis, Arthur. Auto lock de-icing. 3,379,854, 4-23-68, Cl. 219—201.
Judin, Herbert. Micro-optical scanning apparatus. 3,379,832, 4-23-68, Cl. 178—7.6.
Jung, Margarete: *See*—
  Von Doebren, Hans H., and Jung. 3,379,635.
Jydsk Varmekedelfabrik A/S: *See*—
  Bentsen, Thomas V. 3,379,207.
Kaatz, Herbert W., to Airborne Mfg. Co. Torsional coupling. 3,379,135, 4-23-68, Cl. 103—202.
Kabel, Richard H., and R. J. Belling, to General Motors Corp. Hydraulic valve lifter. 3,379,180, 4-23-68, Cl. 123—90.
Kahn, Samuel J., to Universal Oil Products Co. Process for preparing polyalkyltetrahydronaphthalenes. 3,379,782, 4-23-68, Cl. 260—668.
Kahn, Samuel, to Universal Oil Products Co. Process for preparing polyalkyltetrahydronaphthalenes. 3,379,783, 4-23-68, Cl. 260—668.
Kahn, Samuel J., to Universal Oil Products Co. Process for preparing polyalkyltetrahydronaphthalenes. 3,379,784, 4-23-68. Cl. 260—668.
Kahn, Samuel J., to Universal Oil Products Co. Process for preparing polyalkyltetrahydronaphthalenes. 3,379,785, 4-23-68, Cl. 260—668.
Kaiser Aluminum & Chemical Corp.: *See*—
  Kirschner, Albert. 3,379,044.
  Smith, Arthur D., Henrickson, and Langewis. 3,379,153.
  Zeigler, Paul P. 3,379.580.
Kali-Chemie Aktiengesellschaft: *See*—
  Massonne, Joachim, and Meyer. 3,379,506.
Kalish, Arthur. Adjustable gage for sewing machines. 3,379,148, 4-23-68, Cl. 112—153.
Kallianos, Andrew G.: *See*—
  Mold, James D., and Kallianos. 3,379,198.
Kalopissis, Gregoire, A. Viout, and G. Vanlerberghe, to Societe Anonyme dite: l'Oreal. Surface-active agents, process for their preparation and their use. 3,379,646, 4-23-68, Cl. 252—152.
Kaminski, William, to Bell Telephone Laboratories, Inc. Frequency division by sequential countdown of paralleled chain counters. 3,379,897, 4-23-68, Cl. 307—225.
Kamlet, Rosalind G. Packageable teabag receptacle. 3,379,331, 4-23-68, Cl. 220—23.83.
Kamm, Vernon C., J. R. Van Ardel, and A. E. Whiteside, to The Bendix Corp. Electronic computer system. 3,380,027, 4-23-68, Cl. 340—172.5.
Kanbar, Maurice S. Method of making spun yarn from false twist crimped yarns. 3,379,003, 4-23-68, Cl. 57—157.
Kaprelian, Edward K. Method of and means for recording and reproducing sound. 3,379,095, 4-23-68, Cl. 88—28.
Karabinos, Joseph V.: *See*—
  Dietrich, Heinz J., Raynor, and Karabinos. 3,379,736.
Karr, Willis F., to Stearns Mfg. Co., Inc. Moving sidewalk. 3,379,300, 4-23-68, Cl. 198—181.
Kasper, Frank S., to Amtron, Inc. Slicing machine having automatic controls for producing groups of preselected weight. 3,379,233, 4-23-68, Cl. 146—94.
Kasper, Frank S., to Amtron, Inc. Methods of effecting slicing operations. 3,379,234, 4-23-68, Cl. 146—222.
Kasper, Robert J., to Park-Ohio Industries, Inc. Method of balancing a three phase system for an induction heating installation. 3,379,962, 4-23-68, Cl. 323—128.
Katzenstein, William, to General Aniline & Film Corp. Hydraulic fluid compositions. 3,379,644, 4-23-68, Cl. 252—78.
Keady, Richard J., and S. R. Petersen, to Westinghouse Electric Corp. Adjustable flexible mounting for rotating equipment. 3,379,397, 4-23-68, Cl. 248—20.
Keays, Keatinge, and R. L. Colechia, to United States of America, Navy. Automatic buoyancy compensation system. 3,379,156, 4-23-68, Cl. 114—16.
Keller, Herbert W.: *See*—
  Andrews, Harry N., and Keller. 3,379,617.
Kelley, Edwin F., and F. J. Thomas, to Manley, Inc. Automatic corn press. 3,379,148, 4-23-68, Cl. 107—14.
Kelley, Lawrence R.: *See*—
  Wallace, Donald A., Kelley, Garber, Bottoroff, and Lovejoy. 3,379,067.
Kelley, Lonny R., and C. G. Ringwall, to General Electric Co. Fluid signal resonator controls. 3,379,204, 4-23-68, Cl. 137—81.5.
Kemeny, George A., and C. B. Wolf, to Westinghouse Electric Corp. Arc-heater apparatus with magnetic yoke. 3,379,908, 4-23-68, Cl. 313—19.
Kemper, Charles R. Porous film and method of making. 3,379,658, 4-23-68, Cl. 260—2.5.

Kempf, Raymond A., to Bell Telephone Laboratories Inc. Coaxial cables. 3,379,824, 4–23–68, Cl. 174—105.

Kendall, Earl W., to Rohr Corp. Process and composition for removing protective paint films. 3,379,645, 4–23–68, Cl. 252—100.

Kendall-Smith, Brian J.: *See—*
May, Herbert, Kendall-Smith, and Burr. 3,379,655.

Kenmotsu, Takeji: *See—*
Takei, Koji, Miyamoto, and Kenmotsu. 3,379,663.

Kennametal Inc.: *See—*
McKenna, Philip M. 3,379,503.

Kennedy, Jerome F. Holders for storage and like containers. 3,379,399, 4–23–68, Cl. 248—312.

Kern, Eugene E. Window cleaning device. 3,378,875, 4–23–68, Cl. 15—250.04.

Kern, Hadley H. Irrigation system. 3,379,378, 4–23–68, Cl. 239—212.

Kerr, Bob C.: *See—*
Prinz, Roy H., and Kerr. 3,379,769.

Key, John E.: *See—*
Tanguy, Denis R., Saurenman, and Key. 3,379,965.

Kilgour, Gilbert I.: *See—*
Ziegler, George E., and Kilgour. 3,379,494.

Kim Enterprise, Inc.: *See—*
Crose, Ralph. 3,379,023.

King, Charles, and F. T. Wallenberger, to E. I. du Pont de Nemours and Co. Blends of fiber forming acrylonitrile polymers and polymeric 2,2-disubstituted propiolactone. 3,379,794, 4–23–68, Cl. 260—898.

King, John J., to Sperry Rand Corp. Pulse generator of low frequency pulse train synchronous to high frequency clock pulse source. 3,379,980, 4–23–68, Cl. 328—63.

King, Nancy H.: *See—*
Henn, Richard W., and King. 3,379,528.

King, Ralph E., to General Electric Co. Auto defrost refrigerator. 3,379,029, 4–23–68, Cl. 62—180.

King-Seeley Thermos Co.: *See—*
Morgan, Samuel A. 3,379,844.

Kirchner, Ilse: *See—*
Wohlmeyer, Josef. 3,379,024.

Kirkland, Joseph T. Sliced bread dispenser. 3,379,343, 4–23–68, Cl. 221—251.

Kirkwood, Loren R., and C.-S. Liu, to Radio Corp. of America. Television deflection circuits. 3,379,924, 4–23–68, Cl. 315—22.

Kirschner, Albert, to Kaiser Aluminum & Chemical Corp. Cleaning device for a rolling mill. 3,379,044, 4–23–68, Cl. 72—236.

Kiser, Lewis C.: *See—*
Hentzi, Joffre E. R., and Kiser. 3,378,881.

Kiss, Bela: *See—*
Domokos, Jozsef, Benedek, Kiss, and Winkler. 3,379,066.

Kiuchi, Atsushi, S. Suzuki, and S. Koike. High bending strength tubular members of fiber reinforced plastics. 3,379,220, 4–23–68, Cl. 138—125.

Kladde, Gerhard A., and J. R. Meyer, to Honeywell Inc. Control apparatus. 3,379,982, 4–23–68, Cl. 328—143.

Kleingers, Alfred B., Jr.: *See—*
Nerenberg, Robert W., and Kleingers. 3,379,362.

Kleinschmidt, Roger F.: *See—*
Zuech, Ernest A., Crain, and Kleinschmidt. 3,379,781.

Kleist, Robert A.: *See—*
Lewis, Martyn A., Wang, and Kleist. 3,379,948.

Kling, Ralph C. Pivoted rack for utensils and the like. 3,379,484, 4–23–68, Cl. 312—300.

Kloepfer, Harry: *See—*
Knorre, Helmut, Kloepfer, and Bretschneider. 3,379,511.

Klund, William E.: *See—*
Littrell, Woodrow H., Issaak, Klund, and Betsworth. 3,380,018.

Knobloch, Fred W.: *See—*
Campbell, Tod W., and Knobloch. 3,379,001.

Knorre, Helmut, H. Kloepfer, and G. Bretschneider, to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler. Production of sodium borohydride. 3,379,511, 4–23–68, Cl. 23—361.

Knotex Maschinenbau G.m.b.H.: *See—*
Gronert, Paul. 3,378,899.

Knuth, Eugene W. Scaffold horse. 3,379,282, 4–23–68, Cl. 182—186.

Knutsen, Willies R. Device for moving material in a silo. 3,379,323, 4–23–68, Cl. 214—17.

Kobayashi, Hiroshi, E. Miyazawa, and K. Hisano, to Yawata Iron & Steel Co., Ltd. Three-phase line voltage regulator. 3,379,961, 4–23–68, Cl. 323—76.

Koblischek, Peter: *See—*
Dithmar, Karl, and Koblischek. 3,379,493.

Kochs Adlernahmaschinenwerke A.G.: *See—*
Tiemann, Helmut. 3,379,151.

Koda, Nobuo J., and L. S. Yaggy, to Hughes Aircraft Co. Cathode ray storage tube having storage target with surface grooves and dielectric film overlying the grooves. 3,379,914, 4–23–68, Cl. 313—89.

Koetsch, Philip W., to Lockheed Aircraft Corp. Apparatus for protecting the switching elements of static inverters from transient voltages. 3,379,955, 4–23–68, Cl. 321—45.

Kohler, Dale M., and V. W. Carpenter, to Armco Steel Corp. Desulfurizing coating for ferrous material and method of using it. 3,379,581, 4–23–68, Cl. 148—113.

Koike, Saburo: *See—*
Kiuchi, Atsushi, Suzuki, and Koike. 3,379,220.

Koll, Stanley J.: *See—*
Wheaton, Herbert F., and Koll. 3,379,155.

Kollonitsch, Janos, to Merck & Co., Inc. 10,11-dihydro-or-5-[3-(N-methyl-N-thiourethane amino)-propylidene-or-propyl]-5H-dibenzo cycloheptenes. 3,379,750, 4–23–68, Cl. 260—455.

Komatsubara, Kiichi, to Hitachi, Ltd. Solid state oscillator operative in the quantum limit region. 3,379,999, 4–23–68, Cl. 331—107.

Koontz, Floyd A., and T. B. Michaels, to General Dynamics Corp. Spectrum controlled frequency synthesizer system. 3,379,995, 4–23–68, Cl. 331—19.

Koopman, Cornelis G., and R. E. J. M. Rutten, to Rabro Co. N.V. Bismuth subglycyrrhizinate and method of preparing same. 3,379,717, 4–23–68, Cl 260—210.

Kopacki, Adam F., and S. L. Giolito, to Stauffer Chemical Co. Polymeric compositions stabilized with a bis (monosubstituted alkyl) sulfone. 3,379,681, 4–23–68, Cl. 260—45.85.

Kopaska, Arnold F. Center drive auger conveyor. 3,379,301, 4–23–68, Cl. 198—213.

Kopco Industries: *See—*
Kopplus, Otto G. 3,379,524.

Koppers Co., Inc.: *See—*
Corson, Ben B., and Gormley. 3,379,768.
Dortenzo, Alexander T., and Standley. 3,379,428.
Dressler, Hans, and Reabe. 3,379,677.
Hokama, Takeo, and Farquhar. 3,379,776.
Hozven, Albert. 3,379,816.
Meteer, Charles L. 3,378,884.

Kopplus, Otto G., 85% to Kopco Industries, and 15% to Michael Ebert. Process for producing castable electrical discharge machining electrode material. 3,379,524, 4–23–68, Cl. 75—213.

Korfmann, Clarence R., to Addressograph-Multigraph Corp. Printing device. 3,379,130, 4–23–68, Cl. 101—368.

Korshak, Harvey, to Scovill Mfg. Co. Welded gear and cam assembly for power operated knives and other tools. 3,379,073, 4–23–68, Cl. 74—434.

Korshak, Harvey, to Scovill Mfg. Co. Power operated knife switch trigger locking means. 3,379,852, 4–23–68, Cl. 200—157

Koshland, Daniel E., Jr.: *See—*
Burr, Merrill, and Koshland. 3,379,760.

Kotter, James I.: *See—*
Wallace, Eugene F., Salaun, Kotter, and Lanigan. 3,379,824.

Kowalak, John: *See—*
Jeffee, Saul, and Kowalak. 3,379,111.

Kraft, Robert E: *See—*
Lunt, Wilbur B., and Kraft. 3,380,008.

Kralowetz, Bruno. Forging process and machine. 3,379,047, 4–23–68, Cl. 72—404.

Kramer, Otto L. Pinking machine. 3,379,599, 4–23–68, Cl. 156—510.

Kranich, Frederick J., to Alumalloy Co. Aluminum alloy. 3,379,518, 4–23–68, Cl. 75—142.

Krauss, Walter, and R. Hebermehl, to Farbenfabriken Bayer Aktiengesellschaft. Polycarbonate-polysiloxane copolymers. 3,379,790, 4–23–68, Cl. 260—824.

Kreiter, Bernard A., and J. V. Ward, to Gulf Oil Corp. Process for the hydrogenation of olefin polymers in cumene. 3,379,767, 4–23–68, Cl. 260—593.

Krepyshev, Nickolai V.: *See—*
Zherebin Boris N., Krepyshev, Groshin, and Berezkin. 3,379,427.

Krewer, William A.: *See—*
Hwang, Yu-Tang, Sandner, and Krewer. 3,379 766.

Krieter, John E., to McDonnell Douglas Corp. Fiber optic readout device and method for making it. 3,379,890, 4–23–68, 250—227

Krock, Richard H.: *See—*
Larsen, Earl I., Krock, and Jones. 3,379,513.
Larsen Earl I., Krock, and Jones. 3,379,514.

Krone, Gustav, and H. Forberg, to Krone Kommanditgesellschaft. Clip connector terminal for insulated conductors. 3,380,013, 4–23–68, Cl. 339—97.

Krone Kommanditgesellschaft: *See—*
Krone, Gustav, and Forberg. 3,380,013.

Krug, Heinrich A. Dolphin or marine construction. 3,379,020, 4–23–68, Cl. 61—46.

Kruszka, Thomas J., to Sangamo Electric Co. Automatic attenuator device. 3,379,959, 4–23–68, Cl. 323—22.

Kuhlman, Frederick J.: *See—*
Gillham, Hugh I., Kuhlman, and Snow. 3,379,096.

Kulka, James M. Sewage treatment and disposal systems. 3,379,311, 4–23–68, Cl. 210—97.

Kuntzmann, Paul, to Compagnie des Transmissions Mecaniques Seine-Doubs-Isere. Chain link and chain including said link. 3,379,072, 4–23–68, Cl. 74—251.

Kurashiki Rayon Co. Ltd.: *See—*
Itoi, Kazuo. 3,379,747.

Kurtz, Leonard D., to Sutures, Inc. Method of making softened fabrics. 3,379,091, 4–23–68, Cl. 87—1.

Kurtz, Leonard D., to Sutures, Inc. Impregnation of stretched multifilament polyester suture with polytetrafluoroethylene. 3,379,552, 4–23–68, Cl. 117—7.

Kusatake, Sugiaki. Concrete blocks for shore and bank protection. 3,379,017, 4–23–68, Cl. 61—37.

Kusenberger, Felix N., H. F. Barsun, and J. W. Fogwell, to United States of America, Navy. Magnetic crack detector for ferromagnetic tubing. 3,379,970, 4–23–68, Cl. 324—37.

Kuznetsky Metallurgichesky Kombinat: *See—*
Zherebin, Boris N., Krepyshev, Groshin, and Berezkin. 3,379,427.

LOR Corp.: *See—*
Graper, Leslie G. 3,379,517.

Labek, Alfred. Discoid snap fastener. 3,378,893, 4–23–68, Cl. 24—201.

Lagasse, Normand L.: *See—*
Park, Jerald L., and Lagasse. 3,379,443.

Lalonde, Earl E. Speed controlled wound rotor motor having control circuit mounted on rotor shaft. 3,379,947, 4–23–68, Cl. 318—237.

Lamon, David E.: *See—*
Thomas, Edgar E., and Lamon. 3,379,170.

Lamoreaux, John W.: *See—*
Schun, Carl R., and Lamoreaux. 3,379,219.

Lamp, Edward F.: *See—*
Mainhardt, Robert, and Lamp. 3,378,944.

Lamson & Sessions Co., The: *See—*
Vaernes, Gunnar J. 3,378,866.

Lancor, Joseph H., Jr., to Consolidated Electrodynamics Corp. Information display system. 3,379,488, 4–23–68, Cl. 352—6.

Lanctot, Leon P. Masonry wall reinforcing and spacing strip. 3,378,982. 4–23–68, Cl. 52—694.

Landfried, Bert W., and R. M. Rapaport, to Top-Score Products, Inc. Microdispersions of monoglycerides and process of preparing and using same. 3,379,535, 4–23–68, Cl. 99—91.

Lang, Karl, to Siemens Aktiengesellschaft. Tristable flip-flop amplifier control system. 3,379,900, 4–23–68, Cl. 307—296.

Langer, Harry: *See—*
Sepich, William S., and Langer. 3,380,048.

Langewis, Cornelis: *See—*
Smith, Arthur D., also known as A. Dean Smith, Henrickson, and Langewis. 3,379,153.

Lanigan, James J., Jr.: *See—*
Wallace, Eugene F., Salaun, Kotter, and Lanigan. 3,379,324.

Lapham, Warren V., to Chrysler Corp. Induction heating inductors 3,378,917, 4–23–68, Cl. 29—602.

Lapple, Charles E., to Stanford Research Institute. Vacuum atomization. 3,378,883, 4–23–68, Cl. 18—2.7.

Large, Richard L.: *See—*
Jones, Emerson, and Large. 3,379,450.

Larger, George K. Prefabricated composite masonry panel formed of prelaid individual masonry modules bonded together. 3,378,969, 4–23–68, Cl. 52—228.

Larsen, Earl I., R. H. Krock, and C. R. Jones, to P. R. Mallory & Co., Inc. Composites of beryllium-aluminum-zinc. 3,379,513, 4–23–68, Cl. 29—182.1.

Larsen, Earl I., R. H. Krock, and C. R. Jones, to P. R. Mallory & Co., Inc. Composites of beryllium-magnesium-silicon. 3,379,514, 4–23–68, Cl. 29—182.1.

Larson, Paul A., and René J. Al, to The Dow Chemical Co. Polyepoxide and polyether prepared from reacting a polyepoxide and a glycol. 3,379,791, 4–23–68, Cl. 260—830.

Larson, Marvin A., and R. L. Tanner, to Control Data Corp. Top loaded monopole antenna with guy wire line tightener. 3,380,061, 4–23–68, Cl. 343—874.

Lawburgh, Robert H.: *See—*
Gambrell, Vernon C., Lawburgh, and Wuellner. 3,379,829.

Leach, Charles C., to Glaser Products Corp. Barbecue cooking unit with vertically movable firebox support. 3,379,190, 4–23–68, Cl. 126—25.

Lebb, John R. Distributors Inc.: *See—*
Brenner, Stan. 3,379,296.

Lectromelt Corp.: *See—*
Parker, William B. 3,379,815.
Sieckman, Walter. 3,379,238.
Wynne, Peter J. 3,379,818.
Wynne, Peter J. 3,379,919.

Leduc, Joseph A. M., to Pullman Inc. Process for the manufacture of oxygen-containing derivatives of olefins in an electrochemical cell. 3,379,627, 4–23–68, Cl. 204—80.

Lee, Shao-Tang. Tetra-time travel watch. 3,379,004, 4–23–68, Cl. 58—42.5.

Leeds & Northrup Co.: *See—*
Lex, Rowland G., Jr. 3,380,066.

Legge, Walter G. Foot grounding device. 3,379,932, 4–23–68, Cl. 317—2.

Lehmann, Hans: *See—*
Ernst, Otto, and Lehmann. 3,379,653.

Leitz, William H., to Westinghouse Electric Corp. Low-friction speed-responsive sensor for elevator. 3,379,285, 4–23–68, Cl. 187—29.

Lellep, Otto G. Measurement of rotary kiln temperatures. 3,379,062, 4–23–68, Cl. 73—351.

Le Materiel Electrique S.W.: *See—*
Chauprade, Robert. 3,379,899.

Lems, Peter, to Signode Corp. Edge protector applicator. 3,378,987, 4–23–68, Cl. 53—124.

Lems, Peter, to Signode Corp. Method of and apparatus for positioning strapping. 3,379,121, 4–23–68, Cl. 100—2.

Leonard, Lynn B., to Beckman Instruments, Inc. Capillary passage and method of making. 3,379,217, 4–23–68, Cl. 138—44.

Lenelletier, Pierre A. G., to Societe Anonyme Francaise du Ferodo. Dynamic pressure converter, especially applicable to the braking system of an automobile vehicle. 3,379,479, 4–23–68, Cl. 303—22.

Leroy, Marcel, to Commissariat al'Energie Atomique. Device for the representation in different colors of different radiation intensities emitted by an object. 3,379,881, 4–23–68, Cl. 250—71.5.

Leslie, Charles B. Direct coupled transistorized class "B" power amplifier. 3,379,986, 4–23–68, Cl. 330—15.

Lewis, John C., Jr. Artificial ice rink employing modular units. 3,379,031, 4–23–68, Cl. 62—235.

Lewis, Martyn A., B. C. Wang, and R. A. Kleist, to Ampex Corp. Tape transport drive system. 3,379,948, 4–23–68, Cl. 318—253.

Levine, Alfred B.: *See—*
Richeson, Sanford E. 3,379,117.

Lex, Rowland G., Jr., to Leeds & Northrup Co. Extended range recorder. 3,380,066, 4–23–68, Cl. 346—32.

Lexington Laboratories, Inc.: *See—*
Folweiler, Robert C. 3,379,054.

Leybold Holding AG.: *See—*
Herrwerth, Peter, and Reich. 3,379,967.

Libbey-Owens-Ford Glass Co.: *See—*
Marriott, James G. 3,379,859.

Lieberman, Edgar M. Folding table. 3,379,145, 4–23–68, Cl. 108—112.

Liesenhoff, Paul, to Artur Simon Maschinenbaugesellschaft mit Beschrankter Haftung. Apparatus for the purification of gases by wet separation. 3,379,422, 4–23–68, Cl. 261—84.

Lieser, Ernst, and K. Häberle, to Eastman Kodak Co. Automatic exposure control device for photographic cameras. 3,379,107, 4–23–68, Cl. 95—10.

Liggett & Myers Tobacco Co.: *See—*
Mold, James D., and Kallianos. 3 379.198.

Liggett, William H., and A. L. Frankel, to Hughes Aircraft Co. Hydrodynamic bearing support for a magnetic drum. 3,380,040, 4–23–68, Cl. 340—174.1.

Liggett, William H., and A. L. Frankel, to Hughes Aircraft Co. Magnetic transducer assembly support structure. 3,380,041, 4–23–68, Cl. 340—174.1.

Limberger, Walter, and R. Wendt, to Lumoprint Zindler KG. Method of producing images by using electrophotographic material. 3,379,526, 4–23–68, Cl. 96—1.

Limberger, Walter, to Lumoprint Zindler KG. Thermographic reproduction apparatus with means to apply the radiation sensitive material just prior to exposure. 3,379,878, 4–23–68, Cl. 250—65.

Limperos, George, to E. I. du Pont de Nemours, and Co. Lined necktie. 3,378,854, 4–23–68, Cl. 2—146.

Lindal, Spuli W. Roof structure. 3,378,966, 4–23–68, Cl. 52—90.

Lindberg, John E. Redundant fire detection circuit. 3,380,045, 4–23–68, Cl. 340—227.

Linder, Jerome: *See—*
Weil, Edward D., and Linder. 3,379,611.

Lindkvist, Eirik, to Perstorp Aktiebolag. Process and equipment for the manufacture of pure polyalcohols. 3,379,624, 4–23–68, Cl. 203—77.

Lindstrom, Eddie G., and E. Mehmedbasich. High molecular weight imide substituted polymers as fuel detergents. 3,379,515, 4–23–68, Cl. 44—62.

Lindstrom, Oscar F., ½ to D. J. McKay. Guide rail for electrically operated toy vehicle. 3,379,138, 4–23–68, Cl. 104—148.

Link-Belt Co.: *See—*
Erickson, Willard E. 3,379,082.

Link, Edwin A., to Ocean Systems, Inc. Inhabitable underwater structure. 3,379 021, 4–23–68, Cl. 61—69.

Link, Leo J., and C. H. Boetcker, to American Sterilizer Co. Closure and container combination. 3,379,327, 4–23–68, Cl. 215—40.

Lipinsky, Robert J. Method and apparatus for quantity production of unbaked folded pastries. 3,379,139, 4–23–68, Cl. 107—1.

Lipson, Arnold E.: *See—*
Coddington, David M., and Lipson. 3,379,671.

Littrell, Woodrow H., R. D. Isaak, W. E. Klund, and R. K. Betsworth, to United States of America, Navy. Digital density threshold for sonar. 3,380,018, 4–23–68, Cl. 340—3.

Liu, Chi-Sheng: *See—*
Kirkwood, Loren R., and Liu. 3,379,924.

Loach, Roy W., and J. F. Procter, to Sheridan-Loach Ltd. Compensating stacker. 3,379,320, 4–23–68, Cl. 214—6.5.

Locke, Carl E.: *See—*
Banks, William P., and Locke. 3,379,629.

Lockheed Aircraft Corp.: *See—*
Are, Ward W., Jr. 3,378.910.
Douglas, William L 3,379,167.
Gillham, Hugh I., Kuhlman, and Snow. 3,379,096.
Koetsch, Philip W. 3,379,955.

Logue, Leland H., to Denver Equipment Co. Center tower agitator for slurries. 3,379,415, 4–23–68, Cl. 259—44.

Lombard, Sherman O., to United States of America, Navy. Hydraulic actuated switch construction. 3,379,841, 4–23–68, Cl. 200—82.

Loomis, Robert F.: *See—*
Aller, Edmund R., and Loomis. 3,379,478.

Loose, Guenter H., to Corning Glass Works. Hermetic enclosure for electronic devices. 3,379,823, 4–23–68, Cl. 174—50.61.

Loosjes, Robert, and B. J. M. Maas, to N.V. Koninklijke sphinx-Ceramique v./h. Petrus Regout. Method of the production of a body from a slip in a porous mold. 3,379,804, 4–23–68, Cl. 264—87.

Louden, William G. Organo-chromium complexes, and their preparation. 3,379,709, 4–23–68, Cl. 260—103.

Lousberg, Hubert J. G. Mattress of novel shape. 3,378,861. 4–23–68, Cl. 5—345.

Lovejoy, Eugene F.: *See—*
Wallace, Donald A., Kelley, Garber, Bottorff, and Lovejoy. 3,379,067.

Lovercheck, Charles L. Applicator-reservoir drum including means to convey particulate coating material. 3,379,169, 4–23–68, Cl. 118—258.

Lovercheck, Charles L. Polish can and dauber. 3,379,492, 4–23–68, Cl. 401—130.

Lovrich, John. Antiseasickness cabin. 3,379,159, 4–23–68, Cl. 114—189.

Lowery, Earnest E. Blackboard drafting implements. 3,378,927, 4–23–68, Cl. 33—26.
Lowrey, William E., to ACF Industries, Inc. Eccentric plug valve. 3,379,408, 4–23–68, Cl. 251—298.
Lublin, Ragnar M. Mountable latticework. 3,378,979, 4–23–68, Cl. 52—603.
Lucian, Arsene N. Stall shower. 3,378,857, 4–23–68, Cl. 4—146.
Lui, Edward J., and F. L. Pittenger, to The B. F. Goodrich Co. Polyurethane compositions having improved low-temperature properties and increased softness. 3,379,668, 4–23–68, Cl. 260—31.4.
Lummun Co., The: *See—*
Bloomer, Ward J., and Martin. 3,379,638.
Lumoprint Zindler K.G.: *See—*
Cranskens, Georg. 3,379,112.
Limberger, Walter, and Wendt. 3,379,526.
Limberger, Walter. 3,379,878.
Wendt, Rudolf. 3,379,532.
Lund, Richard B., A. C. Pierce, E. Turi, and H. J. Oswald, to Allied Chemical Corp. Curing halogenated polyolefins. 3,379,707, 4–23–68, Cl. 260—94.9.
Lunt, Wilbur B., and R. E. Kraft, to United States of America, Navy. Inductive-kick suppression solenoid. 3,380,008, 4–23–68, Cl. 336—73.
Luscombe, Arthur J. Mixing machine for heavy fragmented materials such as silage. 3,379,417, 4–23–68, Cl. 259—6.
Lynch, Hugh C. Permanent curb form structure having tongue and groove joint means. 3,379,105, 4–23–68, Cl. 94—31.
Lynch, Matthew P. Integral umbrella case. 3,379,201, 4–23–68, Cl. 135—33.
Lyon, Channing B., J. W. Nemec, and V. H. Unger, to Rohm & Haas Co. Complex metal salts of manganese ethylenebisdithiocarbamate. 3,379,610, 4–23–68, Cl. 167—22.
Lyon, Herbert R., and H. W. Coover, Jr., to Eastman Kodak Co. Polymeric compositions of high vinylidene chloride content and their preparation. 3,379,665, 4–23–68, Cl. 260—29.6.
MB Associates: *See—*
Mainhardt, Robert, and Lamp. 3,378,944.
MS Industries, Inc.: *See—*
Miles, Robert F. 3,379,341.
Maas, Bernardus J. M.: *See—*
Loosjes, Robert, and Maas. 3,379,804.
Mackenzie, Benjamin, to Driver Southall Ltd. Magnetic-pneumatic controlled discharge valve. 3,379,267, 4–23–68, Cl. 177—110.
Macks, Elmer F. Pier construction. 3,379,015, 4–23–68, Cl. 61—4.
Mager, Eric L.: *See—*
Sentementes, Thomas J., and Mager. 3,379,915.
Magne, Frank C., E. L. Skau, and R. R. Mod, to United States of America, Agriculture. Morpholides of mixtures of epoxidized, saturated, and polyunsaturated fatty acids. 3,379,551, 4–23–68, Cl. 106—316.
Magnuski, Henry, to Motorola, Inc. Electronic alarm system. 3,380,023, 4–23–68, Cl. 340—147.
Maier, Eckhard, to Elba-Werk Ettlinger Baumaschinen- und Hebezeugfabrik G.m.b.H. Movable apparatus for the manufacture of concrete. 3,379,420, 4–23–68, Cl. 259—154.
Mainhardt, Robert, and E. F. Lamp, to MB Associates. Flare launching device 3,378,944, 4–23–68, Cl. 42—1.
Makino, Sumio, and M. Endo, to Tokyo Shibaura Electric Co., Ltd. Tiltable table for radio-fluoroscopic apparatus. 3,379,877, 4–23–68, Cl. 250—57.
Mallory, P. R., & Co. Inc.: *See—*
Larsen, Earl I., Krock, and Jones. 3,379,513.
Larsen, Earl I., Krock, and Jones. 3,379,514.
Malone, Benjamin D., Jr. Movable partition structures. 3,378,951, 4–23–68, Cl. 49—127.
Manaka, Kazuo, to Tokyo Shibaura Electric Co., Ltd. Process of preparing filmy adhesive. 3,379,561, 4–23–68, Cl. 117—122.
Manganaro, Carl A. Fluid pressure system for operating a vehicle drive. 3,379,008, 4–23–68, Cl. 60—57.
Manion, Francis M., to Bowles Engineering Corp. Pure fluid amplifier having positive and negative output pressures. 3,379,203, 4–23–68, Cl. 137—815.
Manley, Inc.: *See—*
Kelley, Edwin F., and Thomas. 3,379,143.
Manning, William F., to Mobil Oil Corp. Tended drilling platform for multiwell subsurface completion. 3,379,245, 4–23–68, Cl. 166—.5.
Manson, Andrew J., and D. K. Phillips, to Sterling Drug Inc. 17-enol esters of 3-oxy-17-hydroxy-polyunsaturated steroids and preparation thereof. 3,379,743, 4–23–68, Cl. 260—397.5.
Manson, Andrew J., and D. K. Phillips, to Sterling Drug Inc. 17-cyclic ketals of 17-oxo-3-alkoxyestrapolyenes. 3,379,722, 4–23–68, Cl. 260—239.55.
Mantzel, Albracht, to Inpaco Trust Reg. Internal combustion engine. 3,379,179, 4–23–68, Cl. 123—65.
Marbet, Roman, to Hoffmann-La Roche Inc. Acetylenic carbinols. 3,379,777, 4–23–68, Cl. 260—632.
Marcotte, James L.: *See—*
Schrader, Clarence O., and Marcotte. 3,378.922.
Margrave, John L., P. L. Timms, and T. C. Ehlert, to R. I. Patents. Inc. Perfluoroborosilanes and methods of preparation. 3,379,512, 4–23–68, Cl. 23—367.
Marini, Louis G.: *See—*
Marini, Thomas O. and L. G. 3,379,451.
Marini, Thomas O. and L. G. Utility cart. 3,379,451, 4–23–68, Cl. 280—47.19.
Marion Laboratories, Inc.: *See—*
Mathison, Iau W. 3,379,730.
Marker, Hannes: *See—*
Adam, Gunter. 3,379,448.
Marks, Wilbur, and G. L. E. Jarlan, to Oceanics Inc. Splash-retarding vessels. 3,379,338, 4–23–68, Cl. 220—90.4.
Marriott, James G., to Libbey-Owens-Ford Glass Co. Electrically heated transparent panel and protective circuit therefor. 3,379,859, 4–23–68, Cl. 219—522.
Marshall, Clifton W., and H. J. Hunter. Bearing mechanism for load supporting multiple ply cables. 3,379,463, 4–23–68, Cl. 287—63.
Marshman, Wilbur W.: *See—*
Clayton, Billy B., Fagen, Marshman, and Wolbrecht. 3,380,031
Martin, Beverly B.: *See—*
Bloomer, Ward J. 3,379,638.
Martin, Ernest N., D. B. Maxson, and J. F. Scheffer, to Columware, Inc. Beverage or food dispenser. 3,379,116, 4–23–68 Cl. 99—275.
Martin, James C., to Eastman Kodak Co. 3-(Aminomethyl) cyclobutanones. 3,379,724, 4–23–68, Cl. 260—247.7.
Martin, James C.: *See—*
Elam, Edward U., and Martin. 3,379,770.
Martin, Raymond R.: *See—*
Bidelman, Bruce B., Martin, and Millard. 3,378,952.
Martin, Samuel W.: *See—*
Bloomer, Ward J., and Martin. 3,379,638.
Martin, Warren: *See—*
Webb, James E. 3,380,049.
Martin, William L.: *See—*
Alexander, John D., and Martin. 3,379,256.
Martini, Leo A. Percussion tool. 3,379,261, 4–23–68, Cl. 173—64.
Marton, Miksa. Disc sanding apparatus. 3,378,961, 4–23–68, Cl. 51—275.
Maryland Plastics Inc.: *See—*
Broadwin, Samuel M. 3,379,315.
Mascenik, John: *See—*
Mowell, Roger W., and Mascenik. 3,379,027.
Maskell, John S.: *See—*
Walkling, Ernest S., McKenzie, and Maskell. 3,379,375.
Mason, Howard C. Saw apparatus. 3,379,227, 4–23–68, Cl. 143—47.
Massa, Anthony G. Cutting device for pipes and the like. 3,379,080, 4–23–68, Cl. 82—61.
Massonne, Joachim, and B. Meyer, to Kali-Chemie Aktiengesellschaft. Bromine recovery. 3,379,506, 4–23–68, Cl. 23—216.
Master Lock Co.: *See—*
Buller, Richard M. 3,378,908.
Matejka, Jaroslav: *See—*
Rokos, Antonin, and Matejka. 3,380 032.
Ryan, John W., and De Gelder. 3,379.084.
Matthews, Charles S., P. Van Meurs, and C. W. Volek, to Shell Oil Co. Thermally controlling fracturing. 3,379 250, 4–23–68, Cl. 166—11.
Mathias, Benny B., L. J. Schmersal, and L. W. Sebring, to Owens-Illinois, Inc. Apparatus for inspecting containers for wall thickness distribution. 3,379,306, 4–23–68, Cl. 209—111.5.
Mathison, Ian W., to Marion Laboratories, Inc. Production of 5,6,7 or 8-hydroxy-1,2,3,4-tetrahydro and decahydro-isoquinolines. 3,379,730, 4–23–68, Cl. 260—286.
Matsui, Mitsuo, and Shimizu. Method and apparatus for manufacturing bulky crimped yarn from synthetic resin films. 3 378,997, 4–23–68, Cl. 57—34.
Matsunaga, Kenji. Toothbrush. 3,378,870, 4–23–68, Cl. 15—104.94.
Matsunaga, Yoshio, to American Cyanamid Co. Process for preparing cobaltocene-p-chloranil (1 : 2). 3,379,740, 4–23–68, Cl. 260—396.
Matsunaga, Yoshio to American Cyanamid Co. Process for preparing transformed 1 : 1 complex of 1,6-diaminopyrene-p-chloranil. 3,379,742, 4–23–68, Cl. 260—396.
Matsuno, Koichiro, to Nippon Electric Co. Ltd. High frequency magnetic amplifier employing "attractive exchange interaction" between spin waves. 3,379,985, 4–23–68, Cl. 330—4.
Matter, Robert C., to General Motors Corp. Electrolyte level indicator. 3,379,576, 4–23–68, Cl. 136—182.
Mawbey, Lawrence: *See—*
Firth, Alan, and Mawbey. 3,379,081.
Maxson, Darwin B.: *See—*
Martin, Ernest N., Maxson, and Scheffer. 3,379,116.
May, Herbert, B. J. Kendall-Smith, and S. Burr, to British Industrial Plastics Ltd. Polymerisation of cyclic acetals. 3,379,655, 4–23–68, Cl. 260—2.
May, Joseph C., to The Superior Electric Co. Automatic voltage regulator with buck-boost transformers. 3,379,960, 4–23–68. Cl. 323—45.
Maze, Gleen W., and A. B. Walker, to Owens-Illinois, Inc. Lubrication method and apparatus for paperboard machine. 3,379,593, 4–23–68, Cl. 156—278.
Mazzeo, Rosario. Key mechanism for clarinet. 3,379,086, 4–23–68, Cl. 84—382.
McBrayer, Robert O., to United States of America, National Aeronautics and Space Administration. 3,378,851, 4–23–68, Cl. 2—14.
McClosky, Robert B. Apparatus for making sealed packages. 3 378,988, 4–23–68, Cl. 53—180.
McCormick, Willard T., to Caterpillar Tractor Co. Modulation control for a hydraulic circuit. 3,379,133, 4–23–68, Cl. 103—37.
McCormick, William A., Jr., to The Pamgborn Corp. Apparatus for deflashing molded goods. 3,378,959, 4–23–68, Cl. 51—13

McDonnell Douglas Corp.: *See—*
Berger, Carl, and Arrance. 3,379,569.
Berger, Carl, and Arrance. 3,379,570.
Krieter, John E. 3,379,890.
McDuffie, Harold P., to United States of America, Atomic Energy Commission. Separation of trivalent 4f rare earths from molten fluoride compositons with UF_6. 3,379,648, 4–23–68, Cl. 252—301.1.
McGivern, Robert F. Y-type rotary filter bed agitator. 3,379,380, 4–23–68, Cl. 239—254.
McGrath, Richard S., and N. W. Silcox, to International Business Machines Corp. Chemical plating. 3,379,539, 4–23–68, Cl. 106—1.
McHugh, John F., to Interchemical Corp. Method for making hollow spherical resinous particles. 3,379,797, 4–23–68, Cl. 264—9.
McIntosh, Euell K., and J. R. Williams, to Monsanto Co. High temperature yarn fibrillation method. 3,379,807, 4–23–68, Cl. 264—162.
McIntosh, Euell K., and J. R. Williams, to Monsanto Co. Method and apparatus for fibrillating synthetic thermoplastic yarn. 3,379,808, 4–23–68, Cl. 264—162.
McKay, David J.: *See—*
Lindstrom, Oscar F. 3,379,138.
McKenna, Philip M., to Kennametal Inc. Process for preparing tungsten monocarbide. 3,379,503, 4–23–68, Cl. 23—208.
McKenzie, Edwin C.: *See—*
Walkling, Ernest S., McKenzie, and Maskell. 3,379,375.
McKinney, John J.: *See—*
Mizianty, Michael F., Welch, and McKinney. 3,379,531.
McMahon, Robert F., to International Business Machines Corp. Apparatus for mating different word length memories. 3,380,030, 4–23–68, Cl. 340—172.5.
McMillan Corp. of North Carolina, The: *See—*
Hansen, Frithjof N. 3,380,004.
McMillan, Peter W., and B. P. Hodgson, to The English Electric Co. Ltd. Glass-ceramics. 3,379,542, 4–23–68, Cl. 106—39.
McNash, Howard H., to Van Dorn Co. Method for forming a plastic liner for a receptacle. 3,379,798, 4–23–68, Cl. 264—25.
McTaggart, George D., and E. K. Norman, to Corhart Refractories Co. Immersion-type thermocouple having a sheath composed of a sintered ceramic refractory. 3,379,578, 4–23–68, Cl. 136—234.
Mead Corp., The: *See—*
Barnes, Bayard I. 3,379,361.
Mecke, Rolf, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Production of 2,5-diarylamino-1,4-benzoquinone-3,6-dicarboxylic acids. 3,379,739, 4–23–68, Cl. 260—396.
Medem, Heinz: *See—*
Hartmann, Adolf. 3,379,690.
Meehan, David D. Mounting means for peripheral vision mirrors. 3,379,403, 4–23–68, Cl. 248—487.
Mehmedbasich, Enver: *See—*
Lindstrom, Eddie G., and Mehmedbasich. 3,379,515.
Mekkes, Lee T., to General Motors Corp. Fuel injection device. 3,379,374, 4–23–68, Cl. 239—90.
Melchiorre, Francesco. Mixer-dosimeter-dispenser for abrasives and like specially for lapping machines and like. 3,379,347, 4–23–68, Cl. 222—231.
Meldau, Robert F.: *See—*
Heckler, George B., and Meldau. 3,379,252.
Melhart, Leonard J. Magnetohydrodynamic light source excited laser. 3,379,997, 4–23–68, Cl. 331—94.5.
Mendes, Frank E., III, to E. I. du Pont de Nemours and Co. Textile package laydown device. 3,378,898, 4–23–68, Cl. 28—21.
Menelly, Richard A., to Sylvania Electric Products Inc. Fluorescent lamp with a reflective coating containing TiO_2 and Sb or its oxide. 3,379,917, 4–23–68, Cl. 313—109.
Menke, Joseph F., to Eltro G.m.b.H. & Co. Decamouflaging apparatus by sequential overlay of different spectral pictures of a single radiating body. 3,39,830, 4–23–68, Cl. 178—6.8.
Mercer, Michael J.: *See—*
Crispe, Stanley W., and Mercer. 3,379,140.
Mercier, Jacques, to Societe pour la Diffusion d'Appareils de Mesure et de Controle, D.A.M. Calorimeter. 3,379,061, 4–23–68, Cl. 73—190.
Mercier, Jacques H., to Mercier Olaer Patent Corp. Pressure vessel. 3,379,216, 4–23–68, Cl. 138—30.
Mercier Olaer Patent Corp.: *See—*
Mercier, Jacques H. 3,379,216.
Merck & Co., Inc.: *See—*
Bolhofer, William A. 3,379,752.
Brindamour, Normand E. 3,379,554.
Kollonitsch, Janos. 3,379,750.
Schultz, Everett M., and Gould. 3,379,755.
Meredith, Thomas C., Jr., to R.B.M. Metals Co., Inc. Ceiling framework. 3,378,976, 4–23–68, Cl. 52—573.
Merkel, Richard R., to Allied Chemical Corp. Flexible magnetic plastic composition. 3,379,643, 4–23–68, Cl. 252—62.54.
Merkt, Harry: *See—*
Prasse, Gisela, and Merkt. 3,378,904.
Mertler, Charles S., to Essex Wire Corp. Fluid operated thermostat. 3,379,845, 4–23–68, Cl. 200—140.
Mertz, Richard S., to American Plant Growers, Inc. Shipping package of nursery flats. 3,379,304, 4–23–68, Cl. 206—65.
Metallo S.A.: *See—*
Bernasconi, Giuseppe. 3,378,894.
Meteer, Charles L., to Koppers Co., Inc. Apparatus for making fiber reinforced resin articles especially in sheet form. 3,378,884, 4–23–68, Cl. 18—4.
Metler, Alvin V., to Mobil Oil Corp. Erosion protection for wells. 3,379,259, 4–23–68, Cl. 166—242.
Metysova, Jirina: *See—*
Protiva, Miroslav, Jirkovsky, Pelz, Metysova, and Ernest. 3,379,729.
Metz, Joseph R., to Norco, Inc. Cable enlargement clasp. 3,378,891, 4–23–68, Cl. 24—123.
Meyer, Boris: *See—*
Massonne, Joachim, and Meyer. 3,379,506.
Meyer, Jackie R.: *See—*
Kladde, Gerhard A., and Meyer. 3,379,982.
Michaels, Thomas B.: *See—*
Koontz, Floyd A., and Michaels. 3,379,995.
Michelfelder, Raymond C.: *See—*
Frontera, Edward F., and Michelfelder. 3,378,872.
Michigna-Dynamics, Inc.: *See—*
Whiting, James C. 3,379,206.
Micronia Amplifier Corp.: *See—*
Volkers, Walter K. 3,379,987.
Miles, Robert F., to MS Industries, Inc. Tote box. 3,379,341, 4–23–68, Cl. 220—97.
Millard, George R.: *See—*
Bidelman, Bruce B., Martin, and Millard. 3,378,952.
Miller, Clarence J., to General Electric Co. Fluxless aluminum brazing. 3,378,914, 4–23–68, Cl. 29—494.
Miller, Clifford L., and J. L. Stark, to United States of America, Atomic Energy Commission. Cast explosives comprising cyclotrimethylene trinitramine and nitrotoluenes. 3,379,585, 4–23–68, Cl. 149—18.
Miller, Richard H., to General Electric Co. High voltage current transformer. 3,380,009, 4–23–68, Cl. 336—92.
Miller, Herman, Inc.: *See—*
Propst, Robert L. 3,379,176.
Millheim, Stewart B.: *See—*
Feather, Franklin G., and Millheim. 3,379,441.
Mills, Roscoe H.: *See—*
Von Ohain, Hans J. P., and Mills. 3,379,011.
Miner, W. H., Inc.: *See—*
Carlson, Robert L. 3,379,317.
Stasieluk, James R. 3,379.319.
Trongeau, William J. 3,379,318.
Mineral Deposits Pty. Ltd.: *See—*
Reichert, Ernst. 3,379,310.
Minister of Supply, in Her Majesty's Government of the United Kingdom of Great Britain and Northern Ireland: *See—*
Hewson, Walter N., and Clifford. 3,379,796.
Minnesota Mining and Mfg. Co.: *See—*
Freeman, Charles R. 3,379,562.
Missioux, Jean, to Botalam. Installation for the automatic control of hydraulic jacks or like devices. 3,379,099, 4–23–68, Cl. 91—412.
Mitchell, John H., and W. W. R. Searle, to The Hoover Co. Alternating current electric motors. 3,379,945, 4–23–68, Cl. 318—46.
Mitchell, Joseph M. Three-piece medicine dropper tube with improved sealing connection. 3,379,196, 4–23–68, Cl. 128—233.
Mitchell, Thomas P.: *See—*
Haldopoulos, Akis, and Mitchell. 3,378,880.
Mitsubishi Petrochemical Co. Ltd.: *See—*
Tanaka, Sanae, Nakamura, and Shimazaki. 3,379,689.
Mitsui Petrochemical Industries, Ltd.: *See—*
Takei, Koji, Miyamoto, and Kenmotsu. 3,379,663.
Miyamoto, Keiichi: *See—*
Takei, Koji, Miyamoto, and Kenmotsu. 3,379,663.
Miyazawa, Eijiro: *See—*
Kobayashi, Hiroshi, Miyazawa, and Hisano. 3,379,961.
Mizelle, Ned W. to General Steel Products, Inc. Rocker lock for reclining platform rocking chair. 3,379,473, 4–23–68, Cl. 297—270.
Mizianty, Michael F., W. J. Welch, and J. J. McKinney, to General Aniline & Film Corp. Two-component heat developing diazotypes. 3,379,531, 4–23–68, Cl. 96—91.
Mobil Oil Corp.: *See—*
Bracey, Frederick J., Jr. 3,379,595.
Bracey, Frederick J., Jr. 3,379,814.
Chen, Nai Y., and Garwood. 3,379,640.
Holmes, Billy G. 3,379,254.
Manning, William F. 3,379,245.
Metler, Alvin V. 3,379,259.
Sklar, Isadore, and Walker. 3,379,246.
Strange, Lloyd K. 3,379,248.
Modern Equipment Co.: *See—*
Dell'Agnese, David E., and Tinker. 3,379,424.
Dell'Agnese, David E., and Tinker. 3,379,425.
Moehl, Reno W., to Universal Oil Products Co. Production of attrition resistant alumina particles. 3,379,499, 4–23–68, Cl. 23—141.
Moehlenpah, Walter G., and G. E. Pallme, Jr., to Hydro-Air Engineering, Inc. Apparatus for fabricating wood structures. 3,379,354, 4–23–68, Cl. 227—152.
Mold, James D., and A. G. Kallianos, to Liggett & Myers Tobacco Co. Coherent tobacco strip and the process for preparing the same. 3,379,198, 4–23–68, Cl. 131—340.
Monaghan, Richard P. Method of forming and using teeth covers. 3,379,193, 4–23–68, Cl. 128—136.
Mongelluzzo, Anthony E. Prefrabricated trash container. 3,379.335, 4–23–68, Cl. 220—62.
Monsanto Co.: *See—*
D'Amico, John J. 3,379,700.
McIntosh, Euell K., and Williams. 3,379,807.
McIntosh. Euell K., and Williams. 3,379,808.
Moore, Edward L. 3,379,497.
Nielsen, Morris L., and Niemi. 3,379,642.

- Monsanto Co.: *See*—Continued
  - Preston, Jack. 3,379,692.
  - Stroh, Ernest F. 3,379,699.
  - Stutz, Frank. 3,379,596.
  - Tuvell, Melvin E. 3,379,541.
  - Williams, Louis B., Jr. 3,379,866.
  - Witcher, Chris A., Jr. 3,379,565.
- Montecatini-Edison S.p.A.: *See*—
  - Albanese, Francesco, Padula, and Principi. 3,379,500.
  - Bargellini, Fausto, and Gagliardo. 3,379,669.
  - Forni, Aldo, and Cavalli. 3,379,774.
- Montzka, Thomas A., and N. M. Cladel, to Bristol-Myers Co. Tetrahydropyridazines. 3,379,726, 4–23–68, Cl. 260—250.
- Moore, Edward L., to Monsanto Co. Tripolyphosphate processes. 3,379,497, 4–23–68, Cl. 23—106.
- Moore, Robert G.: *See*—
  - Hopkins, Leslie A., and Moore. 3,379,271.
- Mordwinkin, George, to Sensor Corp. Universal-sensor control system. 3,380,044, 4–23–68, Cl. 340—213.
- Morgan, Samuel A., to King-Seeley Thermos Co. Switch calibration means. 3,379,844, 4–23–68, Cl. 200—139.
- Morlon, Michel: *See*—
  - Drabowitch, Serge V., and Morlon. 3,380,052.
- Morrell, Alan P.: *See*—
  - Elliott, John E., and Morrell. 3,379,525.
- Morrison, Donald G., to Fairbanks Morse Inc. Voltage controlled relaxation oscillator. 3,380,000, 4–23–68, Cl. 331—109.
- Morrow, Franklin C.: See—
  - Bramble, Lloyd F., and Morrow. 3,379,662.
- Morse, Robert J., to Bendix-Westinghouse Automotive Air Brake Co. Compressor control valve. 3,379,211, 4–23–68, Cl. 137—469.
- Moss, Rodney D.: *See*—
  - Faith, Herman E., and Moss. 3,379,732.
- Mosstype Corp.: *See*—
  - Hoexter, Rolf. 3.378,902.
- Motorola, Inc.: *See*—
  - Frysztak, Jerome P. 3,379,958.
  - Magnuski, Henry. 3,380,023.
  - Osborn, Jimmie D. 3,380,057.
- Mott, Richard C., to Honeywell, Inc. Object detecting system. 3,379,165, 4–23–68, Cl. 116—65.
- Moulin, Norbert L., to Hughes Aircraft Co. Butt type electrical contact. 3,380,012, 4–23–68, Cl. 339—95.
- Mount, Wayne D.: *See*—
  - Fow, Benjamin R., Hazel, and Mount. 3,380,055.
- Muller, Georges, R. Bardoneschi, and A. Poittevin, to Roussel-UCLAF. Desacetylamino colchicine derivatives. 3,379,762, 4–23–68 Cl. 260—471.
- Muller, Gerhard: *See*—
  - Hartmann, Ludwig, Riedmuller, and Muller. 3,379,811.
- Müller, Josef, and H. Riegler, to Trilux-Lenze KG. Lighting fixture for attachment to a wall of a sick-room. 3,379,870, 4–23–68, Cl. 240—73.
- Murcott, Charles E. Hamper supported laundry bag. 3,379,367, 4–23–68, Cl. 232—43.2.
- Murphy, Robert A., to General Electric Co. Organopolysiloxane foam-forming materials. 3,379,659, 4–23–68, Cl. 260—2.5.
- Mowell, Roger W., and J. Mascenik, to Esso Research and Engineering Co. Roller-supported LNG pipeline. 3,379,027, 4–23–68, Cl. 62—55.
- NRM Corp.: *See*—
  - Turk, Leonard G., Ulm, and Stoyanov. 3,378,882.
- N.V. Koninklijke sphinx-Ceramique v/h Petrus Regout: *See*—
  - Loosjes, Robert, and Maas. 3,379,804.
- Naeser, Howard J.: *See*—
  - Parks, Sheldon A., and Naeser. 3,378,956.
  - Parks, Sheldon A., and Naeser. 3,378,958.
- Nakamura, Yoshio: *See*—
  - Tanaka, Sanae, Nakamura, and Shimazaki. 3,379,689.
- Nakao, Hideo, to Nippon Electric Co. Ltd. Integrated symmetrical conduction. 3,379,940, 4–23–68, Cl. 317—235.
- Nalco Chemical Co.: *See*—
  - Phillips, Kenneth G., Schuh, and Ward. 3,379,014.
- Napolitano, Pellegrino E. Bleeder valve. 3,379,407, 4–23–68, Cl. 251—210.
- Nashua Corp.: *See*—
  - Doyle, Britton H. 3,379,172.
- Natho, Paul J., to ACF Industries, Inc. Valve. 3,379,405, 4–23–68, Cl. 251—31.
- National Acme Co., The: *See*—
  - Brown, Harry W., Sr. 3 379,042.
- National Aeronautics and Space Administration: *See*—
  - Dryden, Hugh L. 3.379,974.
  - Webb, James E. 3,380,049.
- National Biscuit Co.: *See*—
  - Griner, Arthur J. 3,379,299.
  - Griner, Arthur J. 3,379,350.
- National Distillers and Chemical Corp.: *See*—
  - Robinson, Robert E. 3,379,780.
- National Gypsum Co.: *See*—
  - Austin, Arthur C. 3,379,813.
  - Shull, John D., Jr. 3,379,545.
- National Lead Co.: *See*—
  - Beasley, Augustus E., Jr., Cowan, and Gainey. 3,379,650.
- National Steel Corp.: *See*—
  - Young, Marvin S. 3,379,334.
- Natwick, Julius O.: *See*—
  - Nichols, Donald A., and Natwick. 3,379,161.
- Navia, Thomas, to Reynolds Metals Co. Container easy-open means and method of making the same or the like. 3,379,333, 4–23–68, Cl. 220—47.
- Neagle, Philip A., to Sigma Instruments, Inc. Photoelectric controller having a shutter which is angularly movable from outside the enclosure for adjusting sensitivity. 3,379,892, 4–23–68, Cl. 250—237.
- Necchi Societa per Azioni: *See*—
  - Bono, Luigi. 3,379,152.
- Neill, Frank E. Grade indicator. 3,378,932, 4–23–68, Cl. 33—215.
- Nelson, Harvey J.: *See*—
  - Cooper, William C., and Nelson. 3,379,048.
- Nemec, Joseph W.: *See*—
  - Lyon, Channing B., Nemec, and Unger. 3.379,610.
- Nemmaier, Christian, and P. M. Amann, to Eisenwerk Friedrich Schroeder. Method and apparatus for preventing snow and ice accumulation. 3,379,372, 4–23–68, Cl. 239—7.
- Nerenberg, Robert W., and A. B. Kleingers, Jr., to The Interstate Folding Box Co. Carton for fragile articles. 3,379,362, 4–23–68, Cl. 229—40.
- Nerwin, Hubert, to Eastman Kodak Co. Photographic film reel arrangement. 3,379,605, 4–23–68, Cl. 161—126.
- Newberry, Meigs W., to Westinghouse Electric Corp. Multiple column vending machine. 3,379,342, 4–23–68, Cl. 221—129.
- Newman, Douglas A., to Columbia Ribbon and Carbon Mfg. Co., Inc. Thermographic imaging process. 3,379,127, 4–23–68, Cl. 101—471.
- Newport News Shipbuilding and Dry Dock Co.: *See*—
  - Bradshaw, William K. 3,379,464.
- Nexsen, William F., Jr.: *See*—
  - Coensgen, Frederic H., Cummins, and Nexsen. 3,379,880.
- Nicholas, Douglas K.: *See*—
  - Holmds, Peter D., Thornhill, and Nicholas. 3,379,505.
- Nicholas Engineering & Research Corp.: *See*—
  - Von Dreusche, Charles F., Jr. 3,379,622.
- Nichols, Donald A., and J. O. Natwick, to United States of America, Navy. Towlines with minimum width fairings. 3,379,161, 4–23–68, Cl. 114—235.
- Niedereder, Martin, to Siemens Aktiengesellschaft. Sweep frequency limit adjusting circuits for sweep generator testing apparatus. 3,379,975, 4–23–68, Cl. 325—131.
- Niedereder, Martin, to Siemens Aktiengesellschaft. Sweep generator with sweep linearity control. 3,379,976, 4–23–68, Cl. 325—131.
- Nielsen, Morris L., and R. M. Niemi, to Monsanto Research Corp. Extrusion lubricants. 3,379,642, 4–23–68, Cl. 252—29.
- Niemi, Roger M.: *See*—
  - Nielsen, Morris L., and Niemi. 3,379,642.
- Nippon Electric Co. Ltd.. *See*—
  - Matsuno, Koichiro. 3,379,985.
  - Nakao, Hideo. 3,379,940.
  - Takahashi, Choku, and Nishizawa. 3,379,387.
- Nishizawa, Tadashi: *See*—
  - Takahashi, Choku, and Nishizawa. 3,379,387.
- Noetzel, Siegfried: *See*—
  - Weissermel, Klaus, Hermann, and Noetzel. 3,379,789.
- Norco, Inc.: *See*—
  - Metz, Joseph R. 3,378,891.
- Nordman, Robert G.: *See*—
  - Hass, Harold E., Nordman, and Rayfield. 3,379,352.
- Nork, Charles L., to United States of America, National Aeronautics and Space Administration. Sight switch using an infrared source and sensor. 3,379,885, 4–23–68, Cl. 250—83.3.
- Norman, Emmerson K.: *See*—
  - McTaggart, George D., and Norman. 3,379,578.
- Norris, Claude R., and N. F. Pratt; said Pratt assor, to said Norris. Automatic utilities billing system. 3,380,064, 4–23–68, Cl. 346—17.
- North American Philips Co., Inc.: *See*—
  - Burggraaf, Anthonie J., and van der Stelt. 3,379,302.
  - Croymans, Jacques J. H. 3,379,946.
  - Grosemans, Jozef A. 3,379,071.
  - Haans, Petrus F. A., Botden, and Roelofs. 3,379,822.
  - Hector, Nils F. 3,379,862.
  - Hebenkamp, Theodorus. 3,379,954.
  - Scholten, Johannes H. M. 3,380,036.
- North American Rockwell Corp.: *See*—
  - Brown, Richard E. 3,379,312.
  - Holmes, Robert E. 3,379,568.
- North American Rockwell-Standard Corp.: *See*—
  - Poulos, Gus L. 3,379,429.
- Northern Electric Co., Ltd.: *See*—
  - Watkinson, Brian G. 3,380,024.
  - Zenner, Gerhard P. 3,378,915.
- Northrop Corp.: *See*—
  - Breshears, Samuel R. 3,379,672.
- Norwalk, Marshall H., to Corning Glass Works. Composition and method for making ceramic articles. 3,379,543, 4–23–68, Cl. 106—39.
- Nukem Nuklear-Chemie und -Metallurgie Gesellschaft m.b.H.: *See*—
  - Rachor, Lothar. 3,379,076.
- Nuttall, Thomas C., and G. H. Askew, to Rank-Bush Murphy Ltd. Movement control servomechanism. 3,379,944, 4–23–68, Cl. 318—18.
- Oakland Corp., The: *See*—
  - Wallace, Richard B. 3,378,912.
- Obata, Gyo, to Southern Illinois University Foundation. Science building layout and equipment. 3,378,963, 4–23–68, Cl. 52—34
- Obenhaus, Robert E., to Texas Instruments, Inc. Fail safe controller. 3,379,939, 4–23–68, Cl. 317—148.5.
- Oberg Mfg. Co., Inc.: *See*—
  - Burns, Alfred N., and Vecchi. 3,379,083.
- O'Brien, John P. Electromagnetic water conditioner. 3,379,637, 4–23–68, Cl. 204—309.

- O'Brien, Leo J., to Union Oil Co. of California. Method of storing hydrocarbon fluids using a foam barrier. 3,379,260, 4–23–68, Cl. 166—9.
- Ocean Systems, Inc.: *See*—
  - Link, Edwin A. 3,379,021.
- Oceanics, Inc.: *See*—
  - Marks, Wilbur, and Jarlan. 3,378,338.
- Oerlikon-Buhrle Holding A.G.: *See*—
  - Fend, Heinrich. 3,379,223.
  - Fend, Heinrich and Herbert. 3,378,224.
  - Zurbuchen, Louis. 3,379,098.
- Ohlmer, Eggert, J. Dufresne, and S. Finzi, to European Atomic Energy Community (Euratom). Device for the heat insulation of reactor channels. 3,379,243, 4–23–68, Cl. 165—135.
- O'Konski, Thomas R., to American Cyanamid Co. Combinations of nickel amine thiobisphenol complexes and dithiobisphenols for polyolefins. 3,379,680, 4–23–68, Cl. 260—45.75.
- Oldford, Morris V. Cabinet assembly and drawer therefor. 3,379,483, 4–23–68, Cl. 312—263.
- Olin Mathieson Chemical Corp.: *See*—
  - Appel, Rolf. 3,379,509.
  - Dietrich, Heinz J., Raynor, and Karabinos. 3,379,736.
- Oliveto, Eugene P., and R. Rausser, to Schering Corp. 16-Alkyl-11-desoxy steroids. 3,379,745, 4–23–68, Cl. 260—397.47.
- O'LKeefe, John T., to United Engineering and Foundry Co. Tension reel. 3,379,389, 4–23–68, Cl. 242—72.1.
- Olson, David G. Electronic musical instrument. 3,379,820, 4–23–68, Cl. 84—1.24.
- Ono, Terumichi, T. Haga, and R. Sakai, to Toyo Rayon Kabushiki Kaisha. Process for the manufacture of high tenacity nylon filaments. 3,379,810, 4–23–68, Cl. 264—210.
- Orem, James W., to Butterworth System, Inc. Tank washing apparatus having oscillating nozzles. 3,379,379, 4–23–68, Cl. 239—227.
- Orschelm Brake Lever Mfg. Co.: *See*—
  - Hirst, Charles M., Jr. 3,379,074.
- Osborn, Jimmie D., to Motorola, Inc. Dual band ridged feed horn. 3 380,057, 4–23–68, Cl. 343—779.
- Osborne, Eugene F., and L. D. Thomas, to United States of America, Navy. Extended range AGC. 3,379,977, 4–23–68, Cl. 325—399.
- Ostrander, Kenneth A.: *See*—
  - Foster, George B., Ostrander, and Cary. 3,379,972.
- Ostrowicz, Joel. Decoration of thermoset plastics. 3,379,592, 4–23–68, Cl. 156—232.
- Oswald, Hendrikus J.: *See*—
  - Lund, Richard B., Pierce, Turi, and Oswald. 3,379,707.
- Osweiler, Paul L., to Price Brothers Co. Machine for tensioning and winding wire onto pipe. 3,379,385, 4–23–68, Cl. 242—11.
- Otis Engineering Corp.: *See*—
  - Tamplen, Jack W. 3,379,257.
- Ott, Gustav: *See*—
  - Preininger, Erich, and Ott. 3,379,685.
- Outboard Marine Corp.: *See*—
  - Tuggle, Lloyd H. 3,379,181.
- Owens-Illinois, Inc.: *See*—
  - Mathias, Benny B., Schmersal, and Sebring. 3,379,306.
  - Maze, Glenn W., and Walker. 3,379,593.
- Oxx, Gordon D., Jr.: *See*—
  - Chang, Winston H., Clark, and Oxx. 3,379,520.
- Ozeki, Ziro: *See*—
  - Ichimi, Teruhiko, Takahashi, Ozeki, and Shimoyama. 3,379,225.
- Ozolins, Mara: *See*—
  - Jenson, Arnold W., and Ozolins. 3,379 675.
- Pace, Max L. Folding ladder. 3,379,280, 4–23–68, Cl. 182—96.
- Packaging Frontiers, Inc.: *See*—
  - Crossley, Harold T. 3,379,360.
- Paddison, Eric: *See*—
  - Hoel, Hans, and Paddison. 3,379,935.
- Padula, Enrico: *See*—
  - Albanese, Francesco, Padula, and Principi. 3,379,500.
- Pagay, Roger, to Societe Baele-Gangloff. Arrangement for pasting metal foils on bottles in tin-foiling machines and the like. 3,379,601, 4–23–68, Cl. 156—568.
- Page, William H., to Union Oil Co. of California. Continuous gasoline warmup factor analyzer and method of control. 3,379,202, 4–23–68, Cl. 137—3.
- Pallme, George E., Jr.: *See*—
  - Moehlenpah, Walter G., and Pallme. 3,379,354.
- Palmer, Leon B.: *See*—
  - Jakob, John E., Conger, and Palmer. 3,379,674.
- Pangborn Corp., The: *See*—
  - McCormick, William A., Jr. 3.378,959.
- Pampus, Gottfried, N. Schon, and J. Witte, to Farbenfabriken Bayer Aktiengesellschaft. Process for emulsifying polybutadiene latices with a mixture of anionic/nonionic emulsifiers. 3,379,667, 4–23–68, Cl. 260—29.7.
- Paonessa, Thomas A. Warning system and switches therefor. 3,380,046, 4–23–68, Cl. 340—262.
- Papex Corp.: *See*—
  - Goldman, Conrad. 3,379,799.
- Papke, Friedrich, to Voigtlander, A.G. Albada type viewfinder with reduction of interference due to reflected light rays. 3.379,092, 4–23–68, Cl. 8.8—1.5.
- Park, Jerald L., and N. L. Lagasse, to Avco Corp. Lubricating arrangement for dynamic self-contained minimum envelope face-type seal. 3,379,443, 4–23–68, Cl. 277—40.
- Park-Ohio Industries, Inc.: *See*—
  - Domizi, Dante. 3,379,853.
  - Kasper, Robert J. 3,379,962.
- Parker, John R., to Bowaters United Kingdom Pulp and Paper Mills Ltd. Instrument for the measurment of the roughness of paper. 3,379,050, 4–23–68, Cl. 73—37.
- Parker, Paraque. Baby bed and mechanism for rocking same. 3,378,859, 4–23–68, Cl. 5—109.
- Parker, William B., to Lectromelt Corp. Electric arc furnace having two hearths and interchangeable roofs therefore. 3,379,815, 4–23–68, Cl. 13—2.
- Parkin, Leslie, to United-Carr Inc. Clip for securing an article to an apertured support. 3,379,090, 4–23–68, Cl. 85—80.
- Parks, Sheldon A., and H. J. Naeser, to The B. F. Goodrich Co. Extruded sealing member. 3,378,956, 4–23–68, Cl. 49—485.
- Parks, Sheldon A., and H. J. Naeser, to The B. F. Goodrich Co. Extrusions having integral portions of different stiffness. 3,378,958, 4–23–68, Cl. 49—489.
- Pasin, Alberto: *See*—
  - Corradi, Demetrio, and Pasin. 3,379,670.
- Pasinski, Arthur M.: *See*—
  - Jablonski, Richard J., and Pasinski. 3,379,297.
- Pasquale Associates, Inc.: *See*—
  - Groth, Fred A. 3,379,141.
- Patterson, Richard G., to Honeywell Inc. Control apparatus. 3,379,936, 4–23–68, Cl. 244—77.
- Pavia-Farny Associates: *See*—
  - Pavia, Leonard. 3,379,275.
- Pavia, Leonard, to Pavia-Farny Associates. Organ tone chamber. 3,379,275, 4–23–68, Cl. 181—27.
- Peacock, Dixon W., to Phillips Petroleum Co. Esters of tall oil pitch and polyoxyethylene compounds and their use as drilling fluid additives. 3,379,708, 4–23–68, Cl. 260—97.5.
- Pear, Charles B., Jr., to Radiation Inc. Wind meter. 3,379,060, 4–23–68, Cl. 73—189.
- Pearce, Norman H., to The Distillers Co. Ltd. Organo-mercury derivative. 3,379,748, 4–23–68, Cl. 260—431.
- Pearlman, Lester S., to General Precision Inc. Vertical antenna with inflatable support and transmission line feed. 3,380,059, 4–23–68, Cl. 343—829.
- Peek, Sandford C., Jr., to Sylvania Electric Products Inc. Incandescent lamp with dimmer. 3,379,871, 4–23–68, Cl. 240—123.
- Pellegrino, Frank, ½ to E. R. Sweda. Automotive wheel lug wrench support. 3,379,401, 4–23–68, Cl. 248—407.
- Pelz, Karel: *See*—
  - Protiva, Miroslav, Jirkovsky, Pelz, Metysova, and Ernest. 3,379,729.
- Pennell, Ruth M. Lens container. 3,379,200, 4–23–68, Cl. 134—143.
- Pennsalt Chemicals Corp.: *See*—
  - Barr, John T. 3,379,773.
- Perez, William. Baking rack. 3,379,118, 4–23–68, Cl. 99—419.
- Perfumo, Domenico: *See*—
  - Corsi, Giannino, and Perfumo. 3,379,588.
- Perhach, John M.: *See*—
  - Rumsey, Rollin D., and Perhach. 3,379,100.
- Perkin-Elmer Corp., The: *See*—
  - Alpert, Nelson L., Gillette, Roche, and Savitzky. 3,380,065.
- Perkins, Porter J., Jr., to United States of America, National Aeronautics and Space Administration. Cryogenic insulation system. 3,379,330, 4–23–68, Cl. 220—9.
- Perrochat, Jean, to A. Raymond. Molding fastener. 3,378,890, 4–23–68, Cl. 24—73.
- Perstorp Aktiebolag: *See*—
  - Lindkvist, Eirik. 3,379,624.
- Peters, Carroll E., to Corning Glass Works. Electrically heated article. 3,379,858, 4–23–68, Cl. 219—522.
- Petersen, Pieter N., to Scott-Engineering Sciences Corp Educational electric fluid flow analyzer. 3,379,864, 4–23–68, Cl. 235—151.34.
- Petersen, Sigrud R.: *See*—
  - Keady, Richard J., and Petersen. 3,379,397.
- Pet Inc.: *See*—
  - Foss, Gerald C., Weaver, and Hurley. 3,379,536.
- Petru, Karel, to Závody V.I. Lening Plzeň, národní podnik. Cutting mechanisms for machines which wrap a prismatic box into a cellophane cover. 3,379,598, 4–23–68, Cl. 156—510.
- Pettibone Mulliken Corp.: *See*—
  - Stepanek, Roy W. 3,379,383.
- Pfizer, Chas., & Co., Inc.: *See*—
  - Besso, Michael M. 3,379,679.
- Phillips, Donald K.: *See*—
  - Manson, Andrew J., and Phillips. 3,379,722.
  - Manson, Andrew J., and Phillips. 3,379,743.
- Phillips, Kenneth G., T. R. Schuh, Jr., and W. J. Ward, to Nalco Chemical Co. Soil sealant compositions and processes. 3.379,014, 4–23–68, Cl. 61—1.
- Phillips Petroleum Co.: *See*—
  - Chism, Melvin E. 3,379.253.
  - Dale, Glenn H. 3,379,028.
  - Doss, Richard C., and Edmonds. 3,379,687.
  - Gilchrist, Ralph E., and Sonnenfeld. 3,379,249.
  - Heckler, George B., and Meldau. 3,379,252.
  - Hsieh, Henry L. 3,379,660.
  - Peacock, Dixon W. 3,379,708.
  - Rothlisberger, Alvin C. 3,379,705.
  - Santourian, Melcon. 3,379,247.
  - Wiley, Bruce F. 3,379 059.
  - Zuech, Ernest A., Crain, and Kleinschmidt. 3,379,781.
- Piazze, Thomas E., to Continental Can Co., Inc. Method and apparatus for making bags. 3,379,101, 4–23–68, Cl. 93—8.
- Pick, George G., to Sylvania Electric Products Inc. Read only magnetic memory matrix. 3,380,039, 4–23–68, Cl. 340—174.

Pierce, Arleen C.: *See—*
Lund, Richard B., Pierce, Turi, and Oswald. 3,379,707.
Pierce, Dewey W., and C. J. Carmichael, to Continental Oil Co. Gas treating process utilizing overlapping adsorption phases. 3,378,992, 4–23–68, Cl. 55—62.
Pierson, Fred W., and F. W. Pierson, Jr. Spout construction. 3,379,348, 4–23–68, Cl. 222—566.
Pierson, Fred W., Jr.: *See—*
Pierson, Fred W., and F. W. Pierson, Jr. 3,379,348.
Pigg, Benjamin R. Retrievable lifesaving cushion. 3,378,865, 4–23–68, Cl. 9—13.
Piggott, Richard G.: *See—*
Williams, Robert P., and Piggott. 3,379,376.
Pilcher, Harold, to Bowen Tools, Inc. Reel-mounted level wind apparatus. 3,379,393, 4–23–68, Cl. 242—158.4.
Pillon, Justin B. Nautical apparatus having a removable centerboard. 3,379,164, 4–23–68, Cl. 115—6.1.
Pinel, Jacques, to CSF-Compagnie Generale de Telegraphie Sans Fil. Shortening device for relativistic electron pulses downstream of an accelerator. 3,379,984, 4–23–68, Cl. 328—230.
Piret, Jean, to Societe d'Etude de Recherches et d'Applications. Fuel cell with electrolyte of solid crystalline salt. 3,379,571, 4–23–68, Cl. 136—86.
Pittenger, Frederick L.: *See—*
Lui, Edward J., and Pittenger. 3,379,668.
Pittsburgh Plate Glass Co.: *See—*
Dowbenko, Rostyslaw. 3,379,778.
Pittner, Daniel: *See—*
Foster, William W., and Pittner. 3,379,607.
Plastics Mfg. Co.: *See—*
Gynn, Gilbert M., and Stickney. 3.379,661.
Playfair, Malcolm L., to Don Hill Laboratories, Inc. Composition for restoring surface finishes. 3,379,549, 4–23–68, Cl. 106—265.
Plion, Andre. Cork wires. 3,379,328, 4–23–68, Cl. 215—94.
Plum, John. Automatic stabilizer for watercraft. 3,379,158, 4–23–68, Cl. 114—66.5.
Podlipnik, John, to Sinclair Research, Inc. Paraffin-microcrystalline wax composition. 3,379,550, 4–23–68, Cl. 106—270.
Poethig, Robert E.: *See—*
Veres, Edward W., Draxler, Hanson, and Poethig. 3,378,993.
Polger, Nicholas J., to Reynolds Metals Co. Package means. 3,379,364, 4–23–68, Cl. 229—87.
Pollack, Roy L.: *See—*
Flint, Russell C., and Pollack. 3,378,878.
Pollitt, Milton D. Holder for flexible sheet. 3,378,941, 4–23–68, Cl. 40—10.
Pond, Charles P.: *See—*
Sorenson, Bill W., and Pond. 3,379,439.
Porta-Table Corp.: *See—*
Carlberg, George A., and Siegal. 3,379,228.
Siegal, Burton L. 3,379,229.
Porter, Philip E. Cable cutting assembly. 3,378,924, 4–23–68, Cl. 30—91.2.
Porter, Ralph F., J. A. Schwan, and J. W. Gates, Jr., to Eastman Kodak Co. Photographic inhibitor releasing developers. 3,379 529, 4–23–68, Cl. 96—36.
Post, William L. Watercraft with submersible marine observation chamber. 3 379.157, 4–23–68, Cl. 114—66.
Potter Instrument Co., Inc.: *See—*
Antonucci, Carmine J. 3,379,125.
Potvin. R. J., Shoe Co., Inc.: *See—*
Potvin, Richard J., Jr. 3,378,940.
Potvin, Richard J., Jr., to R. J. Potvin Shoe Co., Inc. Moccasin shoe and blank therefor. 3,378,940, 4–23–68, Cl. 36—11.
Poulos, Gus L., to North American Rockwell-Standard Corp. Auxiliary spring. 3,379,429, 4–23–68, Cl. 267—56.
Powell, Douglas E.: *See—*
Cooper, Robert F., and Powell. 3,380,026.
Powers Chemco, Inc.: *See—*
Flynn, Floyd W., Bjelland, and Schutt. 3,379,436.
Powers, Robert A.: *See—*
Grulke, Carl A., and Powers. 3,379,574.
Prasse, Gisela, and H. Merkt, to Teves-Thompson & Co., G.m.b.H. Method of making valves for internal-combustion engines. 3,378,904, 4–23–68, Cl. 29—156.7.
Pratt, Norman F.: *See—*
Norris, Claude R., and Pratt. 3,380,064.
Preininger, Erich, and G. Ott, to Ciba Ltd. Curable epoxy compound composition of matter. 3,379,685, 4–23–68, Cl. 260—47.
Preston, Jack, to Monsanto Co. Amide-urethane copolymers. 3,379,692, 4–23–68, Cl. 260—77.5.
Price Bros. Co.: *See—*
Osweiler, Paul L. 3,379,385.
Prichard, John H., to Celanese Corp. Polymer stabilization. 3,379,682, 4–23–68, Cl. 260—45.85.
Primus Mfg., Inc.: *See—*
Deardorff, Clinton E., and Williams. 3,378,929.
Principi, Massimo: *See—*
Albanese, Francesco, Padula, and Principi. 3,379,500.
Prinz, Roy H., and B. C. Kerr, to Celanese Corp. Stabilized formaldehyde solutions. 3,379,769, 4–23–68, Cl. 260—606.
Procter & Gamble Co., The: *See—*
Hughes, Thomas G. 3 379 466.
Sisson, James B. 3,378.876.
Wyness, Glen R., and Jensen. 3,379,764.
Procter, James F.: *See—*
Loach, Roy W., and Procter. 3,379,320.
Propst, Robert L., to Herman Miller, Inc. Livestock identification method and apparatus. 3,379,176, 4–23–68, Cl. 119—1.
Protiva, Miroslav, I. Jirkovsky, K. Pelz, J. Metysova, and I. Ernest, to Spofa, Spojene Podniky Pro Zdravotnickon Vyrobu. Piperazinyldibenzothiepins. 3,379,729, 4–23–68, Cl. 260—268.
Pullman Inc.: *See—*
Leduc, Joseph A. M. 3,379,627.
Putman, Richard E. J., to Westinghouse Electric Corp. Control of material processing device. 3,379,421, 4–23–68, Cl. 259—154.
Quackenbush, Dale W.: *See—*
Cordingly, Richard H., and Quackenbush. 3,379,171.
Quirk, Joseph R.: *See—*
Roberts, John A., and Quirk. 3,378,999.
Quisling, Sverre. Construction beams. 3,378,984, 4–23–68, Cl. 52—729.
R.B.M. Metals Co., Inc.: *See—*
Meredith, Thomas C., Jr. 3,378,976.
R.I. Patents, Inc.: *See—*
Margrave, John L., Timms, and Ehlert. 3,379,512.
Rabro Co. N.V.: *See—*
Koopman, Cornelis G., and Rutten. 3,379,717.
Rachor, Lothar, to Nukem Nuklear-Chemie und -Metallurgie Gesellschaft m.b.H. Apparatus for forming hollows in spherical fuel elements. 3,379,076, 4–23–68, Cl. 77—3.
Radiation Inc.: *See—*
Pear, Charles B., Jr. 3,379,060.
Radio Corp. of America: *See—*
Kirkwood, Loren R., and Liu. 3,379,924.
Ragland, Thomas, to International Business Machines Corp. Microprogrammed addressing control system for a digital computer. 3.380,025, 4–23–68, Cl. 340—172.5.
Raley, Charles F., and R. E. Skochdopole, to The Dow Chemical Co. Foamed olefin copolymer blends. 3,379,802, 4–23–68, Cl. 260—53.
Ramsay, Frank: *See—*
Barker, Alfred W., and Ramsay. 3,379,055.
Randol, Glenn T. Transmission with clutch having fluid and spring release means. 3,379,291, 4–23–68, Cl. 192—.052.
Rank-Bush Murphy Ltd.: *See—*
Nuttall, Thomas C., and Askew. 3,379,944.
Rapaport, Robert M.: *See—*
Landfried, Bert W., and Rapaport. 3,379,535.
Rapp, Robert A., and D. F. Frank, to United States of America, Air Force. Process of forming passivating internal In_2O_3 bands in silver-indium alloys. 3,379,579, 4–23–68, Cl. 148—6.3.
Raschke, Herbert A., to E. D. Bullard Co. Vehicle back-up warning device. 3 380.022, 4–23–68, Cl. 340—70.
Rasmussen, Walter H.: *See—*
Brandt, Boyd W., and Rasmussen. 3,379,537.
Rass, Hans A. Ski. 3,379,449, 4–23–68, Cl. 280—12.
Ratliff, Harvey L., Jr., to Jetru, Inc. Stereo-rama motion picture machine. 3,379,489, 4–23–68, Cl. 352—60.
Rausser, Richard: *See—*
Oliveto, Eugene P., and Rausser. 3,379,745.
Raychem Corp.: *See—*
Conde, Julian S. 3,379,218.
Rayfield, Harry F.: *See—*
Hass, Harold E., Nordman, and Rayfield. 3,379,352.
Raymond, Alain, to A. Raymond. Clamp for cap moldings. 3,379,465, 4–23–68, Cl. 287—189.35.
Raymond, A.: *See—*
Perrochat, Jean. 3,378,890.
Raynor, Robert J.: *See—*
Dietrich, Heinz J., Raynor, and Karabinos. 3,379,736.
Raytheon Co.: *See—*
Edwards, Robert E. 3,379,925.
Scharfman, Howard. 3,379,990.
Reabe, Kenneth G.: *See—*
Dressler, Hans, and Reabe. 3,379,677.
Reck, Richard A.: *See—*
Abramitis, Walter W., Reck, and Wilhelmy. 3,379,563.
Reddig, William E., and H. H. Smith, to American Motors Corp. Refrigerator shelf container positioning device. 3,379,313, 4–23–68, Cl. 211—49.
Reding, John T., and C. F. Schrieber, to The Dow Chemical Co. Indium-gallium-aluminum alloys and galvanic anodes made therefrom. 3,379,636, 4–23–68, Cl. 204—293.
Reese, Frank L.: *See—*
Colclaser, Robert G., Jr., and Reese. 3,379,848.
Regenass, Willy: *See—*
Tschamper, Otto, and Regenass. 3,379,741.
Reib, John C., and J. D. Russell. Vacuum sizer. 3,378,887, 4–23–68, Cl. 18—19.
Reich, Gunter: *See—*
Herrwerth, Peter, and Reich, 3,379,967.
Reichert, Ernst, to Mineral Deposits Pty. Ltd. Method and apparatus for the wet gravity concentration of ores. 3,379,310, 4–23–68, Cl. 209—459.
Reid, Albert R., to Hercules Inc. Water-soluble polymers and process of preparing. 3,379,720, 4–23–68, Cl. 260—232.
Reid, Albert R., to Hercules Inc. Process of treating water-soluble alkali metal salts of CMC and product. 3,379,721, 4–23–68, Cl. 260—232.
Reischer, Walter: *See—*
Schenker, Henry, and Reischer. 3,380,014.
Reiter, Bernard W., and K. Einstein. Bagel-making apparatus. 3.379.142, 4–23–68, Cl. 107—8.
Reliance Electric and Engineering Co.: *See—*
Foster, George B., Ostrander, and Cary. 3,379,972.
Yeasting, Maynard C. 3,379,284.
Renckoff, Gustav: *See—*
Wolfes, Wolfgang, Renckoff, and Huelsmann. 3,379,695.
Rennick, John L.: *See—*
Chandler, James F., and Rennick. 3,379,923.

Research Corp.: *See—*
Gibbon, Harry A. 3,379,065.
Restall, George, and J. B. Inskip, to Owen Rubery and Co. Hitch with weight-transferring drawbar coupling. 3,379,457, 4–23–68, Cl. 280—479.
Reuter, Guido, W. Jesdinsky, and E. Werthmoller, to Rheinstahl ECO G.m.b.H. Suction device for an electric arc furnace. 3,379,426, 4–23–68, Cl. 266—31.
Reynolds Metals Co.: *See—*
Cvacho, Daniel S. 3,379,358.
Navia, Thomas. 3,379,333.
Polger, Nicholas J. 3,379,364.
Romans, Harmon B., and Craig. 3,379,630.
Weber, Otto R. 3,379,337.
Rheinstahl ECO G.m.b.H.: *See—*
Reuter, Guido, Jesdinsky, and Werthmoller. 3,379,426.
Ribeiro, Sergio T.: *See—*
Ujhelyi, Gabor K., and Ribeiro. 3,379,486.
Richards, James R. Fetal heart transducer and method of manufacture. 3,379,901, 4–23–68, Cl. 310—8.2.
Richeson, Sanford E., to A. B. Levine. Programmed automatic coffee machine. 3,379,117, 4–23–68, Cl. 99—283.
Richier (Societe Anonyme): *See—*
Durand, Pierre. 3,378,978.
Riddle, Lavis A. H.: *See—*
Hardy, Derek J., and Riddle. 3,379,270.
Riedmuller, Walter: *See—*
Hartmann, Ludwig, Riedmuller, and Muller. 3,379,811.
Riegler, Harald: *See—*
Müller, Josef, and Riegler. 3,379,870.
Riel, Gordon K., to United States of America, Navy. Single radiation detector capable of simultaneously measuring several variable conditions. 3,379,886, 4–23–68, Cl. 250—106.
Riester, Oskar, to AGFA Aktiengesellschaft. Cyanine dyestuffs. 3,379,727, 4–23–68, Cl. 260—256.5.
Ringwall, Carl G.: *See—*
Kelley, Lonny R., and Ringwall. 3,379,204.
Ripple, William M., to American Standard Inc. Spraying apparatus. 3,379,377, 4–23–68, Cl. 239—186.
Rittmann, Albert D., and J. E. Shearer, to General Motors Corp. Ignition system. 3,379,182, 4–23–68, Cl. 123—148.
Roberts, Fred T., & Co.: *See—*
Roberts, Robert E. 3,379,805.
Roberts, James R., and F. J. Wendt, to United States Gypsum Co. Water felted mineral wool building and insulation product including nonfibrous cellulose binder. 3,379,608, 4–23–68, Cl. 162—145.
Roberts, James R., to United States Gypsum Co. Water felted building product including nonfibrous cellulose binder. 3,379,609, 4–23–68, Cl. 162—181.
Roberts, John A., and J. R. Quirk, to Brunswick Corp. Metallic yarn structure. 3,378,999, 4–23–68, Cl. 57—139.
Roberts, Robert E., to Fred T. Roberts & Co. Method of making corrugated hose. 3,379,805, 4–23–68, Cl. 264—94.
Roberts, Roger, to Root-Lowell Mfg. Co. Method and means for producing and controlling the discharge of fog. 3,379,373, 4–23–68, Cl. 239—8.
Robertson, Duane W., to Holley Plastics Co. Structure for vacuum forming of thermoplastic material on undercut flexible molds. 3,378,888, 4–23–68, Cl. 18—35.
Robertson, James A., to FMC Corp. Active soda ash compaction. 3,379,508, 4–23–68, Cl. 23—293.
Robey, Homer M.: *See—*
Becker, Patrick O., and Robey. 3,379,507.
Robinson, Peter, to International Research & Development Co. Ltd. Manufacture of superconducting wire. 3,378,916, 4–23–68, Cl. 29—599.
Robinson, Robert E., to National Distillers and Chemical Corp. Fluorination process. 3,379,780, 4–23–68, Cl. 260—653.3.
Roche, John M.: *See—*
Alpert, Nelson L., Gillette, Roche, and Savitzky. 3,380,065.
Roehr Products Co., Inc.: *See—*
Webber, Harold H., and Wilson. 3,379,000.
Roehrig, Phillip J., to Solem Machine Co. Finishing machine. 3,379,230, 4–23–68, Cl. 144—1.
Roelofs, Hendrik: *See—*
Haans, Petrus F. A., Botden, and Roelofs. 3,379,822.
Rohm & Haas Co.: *See—*
Lyon, Channing B., Nemec, and Unger. 3,379,610.
Rohr Corp.: *See—*
Kendall, Earl W. 3,379,645.
Rokos, Antonin, and J. Matejka, to Vyzkumny Ustav Matematickych Stroju. Storage and logic networks. 3,380,032, 4–23–68, Cl. 340—172.5.
Romans, Harmon B., and H. L. Craig, Jr., to Reynolds Metals Co. Method and apparatus for cathodically protecting aluminum alloys against corrosion by alkali nitrate solutions. 3,379,630, 4–23–68, Cl. 204—147.
Ronan & Kunzl, Inc.: *See—*
Bidelman, Bruce B., Martin, and Millard. 3,378,952.
Ronci, Fernando M. Method of making a closure cap. 3,379,154, 4–23–68, Cl. 113—121.
Root-Lowell Mfg. Co.: *See—*
Roberts, Roger. 3,379,373.
Rosenstein, Nathan, to Spunize Co. of America, Inc. Spliced yarn. 3,379,002, 4–23–68, Cl. 57—142.
Rosenstein, Nathan, to Spunize Co. of America, Inc. Method and apparatus for controlling diameter of pressure rolls. 3,379,857, 4–23–68, Cl. 219—469.
Rosi, David: *See—*
Archer, Sydney, and Rosi. 3,379,620.
Rosner, Manfred, to Aktiengesellschaft Brown, Boveri & Cie. Magnetohydrodynamic generator with sulphur containing fuel. 3,379,903, 4–23–68, Cl. 310—11.
Rossberg, Werner: *See—*
Fleischer, Svend S. C., Thomsen, Hofmann, and Rossberg. 3,379,222.
Rossman, Raymond P., M. E. Jordan, and E. M. Dannenberg, to Cabot Corp. Pigmented compositions and method of manufacture. 3,379,673, 4–23–68, Cl. 260—41.
Rossoff, Arthur L., to General Instrument Corp. Synthetic stereoscopic binocular. 3,379,827, 4–23–68, Cl. 178—6.5.
Rossoff, Arthur L., to General Instrument Corp. Photodiode mixing in multiplication region. 3,379,888, 4–23–68, Cl. 250—199.
Rothlisberger, Alvin C., to Phillips Petroleum Co. Butadiene polymerization process and catalyst. 3,379,705, 4–23–68, Cl. 260—94.3.
Roulo, Ronald H.: *See—*
Uncapher, Charles A., and Roulo. 3,379,045.
Roussel-UCLAF: *See—*
Muller, Georges, Bardoneschi, and Poittevin. 3,379,762.
Rubery, Owen and Co.: *See—*
Restall, George, and Inskip. 3,379,457.
Ruder, Rudolf: *See—*
Albrecht, Jürgen, Hönicke, and Ruder. 3,379,068.
Rulison, Richard N., to Celanese Corp. Ion exchange fibers. 3,379,719, 4–23–68, Cl. 260—231.
Runyan Walter R.: *See—*
Bean, Kenneth E., and Runyan. 3,379,584.
Rumsey, Rollin D., and J. M. Perhach, to Houdaille Industries, Inc. Hydraulic rotary actuator with fail safe locking means. 3,379,100, 4–23–68, Cl. 92—27.
Rushmore Homes: *See—*
Erickson, Darrell F. 3,378,964.
Rusk, Gerald R., and F. M. Hagquist, deceased, (by Mrs. F. M. Hagquist, executrix), to Freeman Supply Co. Guide means for core boxes and the like. 3,379,239, 4–23–68, Cl. 164—387.
Russell, Arthur G. Co. Inc.: *See—*
Willis, Grant N. 3,379,298.
Russell, John D.: *See—*
Reib, John C., and Russell. 3,378,887.
Russell, Richard, to Willcox & Gibbs Sewing Machine Co. Stand for sewing machines. 3,379,149, 4–23–68, Cl. 112—217.3.
Russo, Vincent J., to The Roessler Chemical and Industrial Corp. High density ammonium nitrate granules. 3,379,496, 4–23–68, Cl. 23—103.
Rustin, Anthony, J. Varjavandi, and E. R. Hayes, to Shawinigan Chemicals Ltd. Epoxide production. 3,379,737, 4–23–68, Cl. 260—348.5.
Ruth, Ignaz, to R. Winkler, and K. Dunnebier, d.b.a. Winkler & Dunnebier Maschinenfabrik and Eisengiesserei. Apparatus for aligning envelope blanks and the like. 3,379,432, 4–23–68, Cl. 271—2.
Rutkowski, Michael D., to United States of America, Air Force. Zero gravity electrolysis apparatus. 3,379,634, 4–23–68, Cl. 204—258.
Rutledge, Thomas F., to Atlas Chemical Industries, Inc. Sulfated copolymers of urea and diolefins and process for producing same. 3,379,694, 4–23–68, Cl. 260—77.5.
Rutten, Rene E, J. M.: *See—*
Koopman, Cornelis G., and Rutten. 3,379,717.
Ryan, John W., and J. De Gelder, to Mattel, Inc. Visual effect means for music box toy. 3,379,084, 4–23–68, Cl. 84—97.
Sakai, Rokuro: *See—*
Ono, Terumichi, Haga, and Sakai. 3,379,810.
Salaun, Harold L., Jr.: *See—*
Wallace, Eugene F., Salaun, Kotter, and Lanigan. 3,379,324.
Sallows, William J. Socket wrench for sprinkler nozzles. 3,379,078, 4–23–68, Cl. 81—125.
Salutsky, Murrell L.: *See—*
Dunseth, Maria G., and Salutsky. 3,379,498.
Samson, Robert, and G. J. Sprenkle, to Burroughs Corp. Electronic circuit package storage, forming and handling apparatus. 3,380,016, 4–23–68, Cl. 339—174.
Sandall Precision Co., Ltd., The: *See—*
Barker, Alfred W., and Ramsay. 3,379,055.
Sandin, Raymond C., to General Electric Co. Reversibly mounted cabinet door. 3,378,954, 4–23–68, Cl. 49—382.
Sandner, Walter J.: *See—*
Hwang, Yu-Tang, Sandner, and Krewer. 3,379,766.
Sandoz Inc.: *See—*
Houlihan, William J. 3,379,733.
Sandstrom, Lars H.: *See—*
Day, Walter R., Jr., and Sandstrom. 3,379,922.
Sangamo Electric Co.: *See—*
Kruszka, Thomas J. 3,379,959.
Santourian, Melcon, to Phillips Petroleum Co. Oil recovery process using hot fluids. 3,379,247, 4–23–68, Cl. 166—11.
Sarka, Alpert J., to Harris-Intertype Corp. Method and apparatus for feeding webs at cyclically variable speeds. 3,379,351, 4–23–68, Cl. 226—2.
Saurenman, Dean F., to Technology Corp. Well logging pad member constructed to conform to borehole wall curvature. 3,379,963, 4–23–68, Cl. 324—10.
Saurenman, Dean F.: *See—*
Tanguy, Denis R., Saurenman, and Key. 3,379,965.
Savitzky, Abraham: *See—*
Alpert, Nelson L., Gillette, Roche, and Savitzky. 3,380,065.

Scaros, Mike G., and R. H. Bible, Jr., to G. D. Searle & Co. Dehydrogenation process for manufacture of 3-hydroxy-14β-estra-1,3,5(10), 6,8-pentaen-17-one and ethers corresponding. 3,379,744, 4–23–68, Cl. 260—397.45.
Schafer, Werner, R. Wegler, L. Eue, and H. Hack, to Farbenfabriken Bayer Aktiengesellschaft. Substituted hexahydro-1,3 5-triazines. 3 379,725, 4–23–68, Cl. 260—248.
Schaff, Paul W.: *See*—
    Tatter, Ernest O. P., and Schaff. 3,379,442.
Scharf, Gunther: *See*—
    Gruhl, Wolfgang, and Scharf. 3,379,583.
Scharfman, Howard, to Raytheon Co. Traveling wave tube phase shifter. 3,379,990, 4–23–68, Cl. 330—43.
Scheffel, Walter: *See*—
    Beyer, Fritz, Froese, Jacknau, Scheffel, and Wolf. 3,379,-108.
Scheffer, Joseph F.: *See*—
    Martin, Ernest N., Maxson, and Scheffer. 3.379,116.
Schenker, Henry, and W. Reischer, to Burndy Corp. Run and tap connector. 3,380,014, 4–23–68, Cl. 339—97.
Schering Corp.: *See*—
    Oliveto, Eugene P., and Rausser. 3,379,745.
Schildknecht, Raymond O.: *See*—
    Adams, Robert T., and Schildknecht. 3,380,056.
Schjeldahk, G. T., Co.: *See*—
    Bratton, Francis H., and Broz. 3,379,606.
Schlage Lock Co.: *See*—
    Flint, Russell C., and Pollack. 3,378,878.
Schlumberger Technology Corp.: *See*—
    Segesman, Francis F. 3,379,964.
    Tanguy, Denis R., Saurenman, and Key. 3,379,965.
Schmersal, Larry J.: *See*—
    Mathias, Benny B., Schmersal, and Sebring. 3,379,306.
Schmidt, Felix H.: *See*—
    Haack, Erich, Heerdt, Schmidt, and Stach. 3,379,734.
Schmidt, Karl-Julius, to Farbenfabriken Bayer Aktiengesellschaft. S-cyanobenzyl thio and dithiophosphonic acid esters. 3,379,795, 4–23–68, Cl. 260—940.
Schmitz, Robert, to Honeywell Inc. Pneumatic force balance controller. 3,379,205, 4–23–68, Cl. 137—86.
Schnedler, Paul E.: *See*—
    Hoover, George R., and Schnedler. 3,379,557.
Schnell, Hermann: *See*—
    Bottenbruch, Ludwig, and Schnell. 3,379,686.
Scholl, James E., to United States of America, Navy. Connection means for landing mat sections. 3,379,104, 4–23–68, Cl. 94—13.
Scholten, Johannes H. M., to North American Philips Co., Inc. Shift register of the kind composed of storage cores. 3,380,036, 4–23–68, Cl. 340—174.
Schon, Nikolaus: *See*—
    Pampus, Gottfried, Schon, and Witte. 3,379,667.
Schonberger, Milton, to I.N.M. Industries Corp. Temperature measuring apparatus. 3,379,063, 4–23–68, Cl. 73—362.
Schrader, Clarence O., and J. L. Marcotte, to Eversharp, Inc. Disposable safety razor. 3,378,922, 4–23–68, Cl. 30—66.
Schrieber, Charles F.: *See*—
    Reding, John T., and Schrieber. 3,379,636.
Schroeder, Herman E.: *See*—
    Gladding, Edward K., and Schroeder. 3,379,701.
Schroeder, Klaus G., to United States of America, Air Force. Near sidelobe suppression in a single-ring directional array with horizontal beam direction. 3,380,058, 4–23–68, Cl. 343—844.
Schuh, Carl R., and J. W. Lamoreaux. Elevator spout construction and method of making same. 3,379,219, 4–23–68, Cl. 138—118.
Schuh, Theodore R., Jr.: *See*—
    Phillips, Kenneth G., Schuh, and Ward. 3,379,014.
Schultz, Everett M., and N. P. Gould, to Merck & Co., Inc. Preparation of (4-alkanoylphenoxy) acetic acids by oxidation. 3,379,755, 4–23–68, Cl. 260—523.
Schutt, Norman C.: *See*—
    Flynn, Floyd W., Bjelland, and Schutt. 3,379,436.
Schwabe, Eberhard A. Continuous process of preparing fired ferrite cores. 3,378,896, 4–23–68, Cl. 25—2.
Schwan, Judith A.: *See*—
    Porter, Ralph F., Schwan, and Gates. 3,379,529.
Schwartz, Theodore F. Electric pot scrubber. 3,378,869, 4–23–68, Cl. 15—93.
Schwartz, Theodore F. Means and method for labeling edible items such as potatoes, other vegetables and fruits or the like. 3,379,600, 4–23–68, Cl. 156—521.
Schwartzman, Gilbert. Narrow line applicator. 3,379,490, 4–23–68, Cl. 401—214.
Schwarz, Eckhard C. A., to E. I. du Pont de Nemours and Co. Method of coating a synthetic polymeric material by cross-linking a polysiloxane containing 2-cyanoethyl and 2-carboxyethyl groups. 3,379,564, 4–23–68, Cl. 117—138.8.
Schwarz, Frank: *See*—
    Ward, Kenneth A., Falk, and Schwarz. 3,379,883.
Schwarz, George M., Jr., to Gold Medal Folding Furniture Co. Collapsible chair of the knock-down type. 3,379,474, 4–23–68, Cl. 297—440.
Schweizer, Hans R., to Eastman Kodak Co. Phenazine-1,4-dicarboxylic acids and esters thereof. 3,379,728, 4–23–68, Cl. 260—267.
Schweizersiche Teerindustrie AG: *See*—
    Tschamper, Otto, and Regenass. 3,379,741.
Scienco, Inc.: *See*—
    Vanderjagt, John A. 3,379,411.
Scinta, Anthony C., to Trico Products Corp. Windshield wiper assembly. 3,378,874, 4–23–68, Cl. 15—250.32.
Scott-Engineering Sciences Corp.: *See*—
    Petersen, Pieter N. 3,379,864.
Scott, Gerald: *See*—
    Ashton, Stanley, Hurlock, and Scott. 3,379,676.
Scovill Mfg. Co.: *See*—
    Korshak, Harvey. 3,379,852.
    Korshak, Harvey. 3,379,073.
    Smader, Charles L., and Bardell. 3,379,416.
Searle, G. D., & Co.: *See*—
    Scaros, Mike G., and Bible. 3,379,744.
Searle, Walter W. R.: *See*—
    Mitchell, John H., and Searle. 3,379,945.
Sebring, Lowell W.: *See*—
    Mathias, Benny B., Schmersal, and Sebring. 3,379,306.
Secomastic Ltd.: *See*—
    Tudor-Pole, Christopher G. 3,378,973.
Seeger, Richard E.: *See*—
    Eveland, Balsel L., and Seeger. 3,379,435.
Segesman, Francis F., to Schlumberger Technology Corp. Well logging pad structure having pivotally interconnected members. 3,379,964, 4–23–68, Cl. 324—10.
Seidel, William B., to The Cincinnati Milling Machine Co. Machine tool workpiece driving mechanism. 3,378,960, 4–23–68, Cl. 51—237.
Seipos, Andrew G.: *See*—
    Wollard, Joseph C., Slaney, and Seipos. 3,378,868.
Selz, Wolfgang, to Ciba Ltd. Process for the preparation of epoxy-group containing prepolymers from polyepoxy compounds. 3,379,654, 4–23–68, Cl. 260—2.
Sellite, Ralph: *See*—
    Franchi, Louis J., Sellite, and Bulloch. 3,379,951.
Seng, Mark W., to Wisconsin Alumni Research Foundation. Averaging device. 3,379,371, 4–23–68, Cl. 235—61.
Sensor Corp.: *See*—
    Mordwinkin, George. 3,380,044.
Sentementes, Thomas J., and E. L. Mager, to Sylvania Electric Products Inc. Conductive media for electroluminescent devices, and electroluminescent device. 3,379,915, 4–23–68, Cl. 313—108.
Sepich, William S., and H. Langer, to United States of America, Navy. Precision angle encoder transducer. 3,380,048, 4–23–68, Cl. 340—347.
Shackelford, John C. Air handling and cleaning apparatus for machines. 3,378,998, 4–23–68, Cl. 57—56.
Shafer, Philip E., to Burroughs Corp. Radiation-tolerant transistor sense preamplifier. 3,379,989, 4–23–68, Cl. 330—28.
Shaffer, Howard R., and C. E. Gryctko, to I-T-E Circuit Breaker Co. Simplified circuit breaker device with manual on-off control and manual reset. 3,379,843, 4–23–68, Cl. 200—138.
Shanafelt, Leo A. Beam and raster locating means for thin cathode ray tube. 3,379,912, 4–23–68, Cl. 313—76.
Shapiro, Sydney H., to Armour and Co. Preparation of primary and secondary amines from alkyl sulfates. 3,379,763, 4–23–68, Cl. 260—583.
Sharn, Charles F.: *See*—
    Boyars, Carl, and Sharn. 3,379,178.
Sharp, James Waller, and P. E. Hardy, to Bristol Siddeley Engines Ltd. Combustion system for fluid fuel. 3,379,009, 4–23–68, Cl. 60—243.
Shawinigan Chemicals Ltd.: *See*—
    Rustin, Anthony, Varjavandi, and Hayes. 3,379,737.
Shearer, James E.: *See*—
    Rittmann, Albert D., and Shearer. 3,379,182.
Shell Oil Co.: *See*—
    Asenbauer, Donald J. 3,379,339.
    Matthews, Charles S., Van Meurs, and Volek. 3,379,250.
Shepherd, Alan A., to Ferranti, Ltd. Semiconductor circuit assemblies. 3,379,937, 4–23–68, Cl. 317—101.
Sherer, Robert B., to Whirlpool Corp. Instinctive pressure release for wringers. 3,379 039, 4–23–68, Cl. 68—256.
Sheridan, John E., and E. B. Hotelling, to Virginia Chemicals. Compound 2-cyclododecyl-6-t-butyl-p-cresol. 3,379,775, 4–23–68, Cl. 260—624.
Sheridan-Loach Ltd.: *See*—
    Loach, Roy W., and Procter. 3,379,320.
Shimazaki, Noboru: *See*—
    Tanaka, Sanae, Nakamura, and Shimazaki. 3,379,689.
Shimizu, Chuji: *See*—
    Matsui, Mitsuo, and Shimizu. 3,378,997.
Shimono, Junichi. Pushbutton lock. 3,379,040, 4–23–68, Cl. 70—313.
Shimoyama, Yukishige: *See*—
    Ichimi, Teruhiko, Takahashi, Ozeki, and Shimoyama. 3,379,225.
Shoemaker, James C., to A. F. Wintercorn. Cement form stake. 3,378,968, 4–23–68, Cl. 52—155.
Shull, John D., Jr., to National Gypsum Co. High strength gypsum plaster. 3,379,545, 4–23–68, Cl. 106—110.
Sicking, Robert H. Hollow engraving points. 3,378,926, 4–23–68, Cl. 33—18.
Sieckman, Walter, to Lectromelt Corp. Polyphase electric furnace for molding ingots. 3,379,238, 4–23–68, Cl. 164—252.
Siedel, Walter: *See*—
    Sturm, Karl, Geiger, Siedel, and Starey. 3,379,735.
Siegal, Burton L.: *See*—
    Carlberg, George A., and Siegal. 3,379,228.
Siegal, Burton L., to Porta-Table Corp. Portable saw tables. 3,379,229, 4–23–68, Cl. 143—132.
Siemens Aktiengesellschaft: *See*—
    Lang, Karl. 3,379.900.
    Niedereder, Martin. 3,379,975.
    Niedereder, Martin. 3,379,976.
Sierra Electric Corp.: *See*—
    Gaines, Jack H., and Bourhenne. 3,380,015.
Sigma Instruments, Inc.: *See*—
    Neagie, Philip A. 3,379,892.

Signode Corp.: *See*—
    Lems, Peter. 3,378,987.
    Lems, Peter. 3,379,121.
Silcox, Norman W.: *See*—
    McGrath, Richard S., and Silcox. 3,379,539.
Silvio, Paul. Stacking trays. 3,379,340, 4–23–68, Cl. 220—97.
Sims, Claude C., to United States of America, Navy. Pressure-gradient hydrophone. 3,380,019, 4–23–68, Cl. 340—10.
Sinclair Research, Inc.: *See*—
    Davis, Glen R. 3,380,068.
    Podlipnik, John. 3,379,550.
    Vallino, Barney, Jr. 3,379,639.
Sindlinger, Norman E., to Ametak, Inc. Force gauge. 3,379,-058, 4–23–68, Cl. 73—141.
Singer Co., The: *See*—
    Johnson, Ralph E. 3,379,150.
Singer, Oscar, and J. Bobrowski; said Bobrowski assor. to said Singer. Building structures and joint members therefor. 3,378,971, 4–23–68, Cl. 52—263.
Singh, Ram: *See*—
    Greer, Edward M., and Singh. 3,379,215.
Sinniger, Joseph O., to United States of America, Navy. Squarer for summing the squares of several numbers by iterative addition. 3,379,865, 4–23–68, Cl. 235—168.
Sisson, James B., to The Proctor & Gamble Co. Adjustable doctor blade assembly for yankee dryers and like machines. 3,378,876, 4–23–68, Cl. 15—256.51.
Skau, Evald L.: *See*—
    Magne, Frank C., Skau, and Mod. 3,379,551.
Skinner, Jerald P., to Independent General, Inc. Maternity mattress. 3,378,862, 4–23–68, Cl. 5—345.
Skinner Precision Industries, Inc.: *See*—
    Weinberg, Robert W. 3,379.214.
Sklar, Isadore, and G. W. Walker, to Mobil Oil Corp. Thermal method for producing heavy oil. 3,379,246, 4–23–68, Cl. 166—2.
Skochdopole, Richard E.: *See*—
    Raley, Charles F., and Skochdopole. 3,379,802.
Skowron, Carl. Muffler for pneumatically powered tools. 3,379,278, 4–23–68, Cl. 181—36.
Slagle, Knox A., and T. Tamura, to Halliburton Co. Method of disposing of waste materials. 3,379,013, 4–23–68, Cl. 61—.5.
Slaney, John S.: *See*—
    Wollard, Joseph C., Slaney, and Seipos. 3,378,868.
Slator, Damon T.: *See*—
    Burns, Albert L., Jr., and Slator. 3,379.255.
Sluiter, Adrian, to Central Markets, Inc. Incinerator heating system. 3,379,146, 4–23–68, Cl. 110—10.
Slusher, Emmet G. Mobile aerial platform. 3,379,279, 4–23–68, Cl. 182—14.
Smader, Charles L., and K. P. Bardell, to Scovill Mfg. Co. Drink mixer switch and column construction. 3,379,416, 4–23–68, Cl. 259—108.
Small, Norman H.: *See*—
    Bentley William, and Small. 3.379 035.
Smid, Rudolph. Conduit clamping means. 3,379,459, 4–23–68, Cl. 285—158.
Smiltneek, Raimond J.: *See*—
    Harry, William R., Ewing, and Smiltneek. 3,379,221.
Smith, A. Dean: *See*—
    Smith, Arthur D., Henrickson, and Langewis. 3,379.153.
Smith, Arthur D., also known as A. Dean Smith, H. G. Henrickson and C. Langewis, to Kaiser Aluminum & Chemical Corp. Feed mechanism for cup-shaped blanks. 3,379,153, 4–23–68, Cl. 113—115.
Smith, David S. J.: *See*—
    Brightman, Barrie, and Smith. 3,379,836.
Smith, F. L., Machine Co., Inc.: *See*—
    Treff, Ernest H. 3,379,103.
Smith, Gene W. V/STOL aircraft. 3,379,395, 4–23–68, Cl. 244—12.
Smith, Grant M., to Ampex Corp. Programmed switching of servo error signals in tape apparatus synchronizing systems. 3,379,828, 4–23–68, Cl. 178—6.6.
Smith, Harold H.: *See*—
    Reddig, William E., and Smith. 3,379,313.
Smith, Ivie L., to General Electric Co. Preparation of halophosphate phosphor. 3,379,649, 4–23–68, Cl. 252—301.4.
Smudski, Paul A., to The Carborundum Co. Metal carbide and boride production. 3,379,647, 4–23–68, Cl. 252—301.1.
Snia Viscosa Societa Nazional Industria Applicazioni Viscosa S.p.A.: *See*—
    Corradi, Demetrio, and Pasin. 3,379,670.
Snow, Oliver F.: *See*—
    Gillham, Hugh I., Kuhlman, and Snow. 3,379,096.
Snyder, Leonard M.: *See*—
    Dryden, Hugh L. 3,379,974.
Societe Anonyme dite: l'Oreal: *See*—
    Kalopissis, Gregoire, Viout and Vanlerberghe. 3,379,646.
Societe Anonyme Francaise du Ferodo: *See*—
    Lepelletier, Pierre A. G. 3,379,479.
Societe Baele-Gangloff: *See*—
    Pagay, Roger. 3,379,601.
Societe d'Etude de Recherches et d'Applications: *See*—
    Piret, Jean. 3,379,571.
Societe Indatom: *See*—
    Vitry, Pierre. 3,379,616.
Societe Nationale d'Etude et de Construction de Moteurs d'Aviation: *See*—
    Garnier, Michel R. 3,379,366.
Societe pour la Diffusion d'Appareils de Mesure et de Controle, D.A.M.: *See*—
    Mercier, Jacques. 3,379,061.

Soldano, Anthony J., to General Telephone and Electronics Laboratories, Inc. Electroluminescent translator utilizing thin film transistors. 3,379,931, 4–23–68, Cl. 315—169.
Solem Machine Co.: *See*—
    Roehrig, Phillip J. 3,379,230.
Sommer, Siegfried: *See*—
    Ehman, Werner, Sommer, and Winkler. 3,379,703.
Sonnenfeld, Richard J.: *See*—
    Gilchrist, Ralph E., and Sonnenfeld. 3,379,249.
Sorenson, Bill W., and C. P. Pond, to The American Athletic Equipment Co. Side horse training device. 3,379,439, 4–23–68, Cl. 272—64.
Soules, Jack A., and F. T. Byrne. Laser image amplifying system. 3,379,998, 4–23–68, Cl. 331—94.5.
Southwest Forest Industries, Inc.: *See*—
    Dron, Douglas W. 3,379,307.
Southern Illinois University Foundation: *See*—
    Obata, Gyo. 3,378,963.
Spencer, Francis T., to West Point-Pepperell, Inc. Flock-applying apparatus. 3,379,175, 4–23–68, Cl. 118—636.
Sperry Rand Corp.: *See*—
    Cook, Charles E., and Brockner. 3,380,054.
    Day, Walter R., Jr., and Sandstrom. 3,379,922.
    Fow, Benjamin R., Hazel, and Mount. 3,380,055.
    King, John J. 3,379,980.
Spicer, Jack A., to Courtaulds Ltd. Method of bulking yarns. 3,378,900, 4–23–68, Cl. 28—72.
Spiegel, Leo, to Honeywell Inc. Control apparatus. 3,379,070, 4–23–68, Cl. 74—5.
Spiselman, Joseph W. Securing device for fire hydrants. 3,379,209, 4–23–68, Cl. 137—296.
Spivey, Ben E., to Dow Chemical Co. Method for preparing terpolymers of ethylene, acrylic acids and salts of acrylic acids. 3,379,702, 4–23–68, Cl. 260—80.8.
Spofa, Spojene Podniky Pro Zdravotnickon Vyrobu: *See*—
    Protiva, Miroslav, Jirkovsky, Pelz, Metysova, and Ernest. 3,379,729.
Spohr, Albert R., to Sunbeam Corp. Electric appliance with selective motion conversion means. 3,379,906, 4–23–68, Cl. 310—50.
Spraying Systems Co.: *See*—
    Williams, Robert P., and Piggott. 3,379,376.
Sprenkle, George J.: *See*—
    Samson, Robert, and Sprenkle. 3,380,016.
Sprey Architectural Metals Ltd.: *See*—
    Sprey, Charles A. 3,379,413.
Sprey, Charles A., to Sprey Architectural Metals Ltd. Balustrades. 3,379,413, 4–23–68, Cl. 256—65.
Springer, Clarence A. Toilet unit. 3,378,855, 4–23–68, Cl. 4—10.
Spunize Co. of America, Inc.: *See*—
    Rosenstein, Nathan. 3,379,857.
    Rosenstein, Nathan. 3,379,002.
Square D Co.: *See*—
    Downs, Harold H., and Stanback. 3,379,842.
Squibb, E. R., & Sons, Inc.: *See*—
    Bernstein, Jack. 3,379,754.
Staaf, Gustaf A. Pipe mixer. 3,379,418, 4–23–68, Cl. 259—8.
Stach, Kurt: *See*—
    Haack, Erich, Heerdt, Schmidt, and Stach. 3,379,734.
Staeudle, Hans: *See*—
    Hecker, Klaus J., Staeudle, and Hueber. 3,379,833.
Staley, A. E., Mfg. Co.: *See*—
    Huebschmann, John W., and Bramel. 3 379 547.
Stall, Orville T. Drapery glide. 3,378,879, 4–23–68, Cl. 16—87.4.
Staller, Karel J., and P. Gomard, to International Telephone and Telegraph Corp. Closed loop printing machine and type slug supporting means. 3,379 126, 4–23–68, Cl. 101—111.
Stalph, Gunter J., to Combustion Engineering, Inc. Buckstay connection for furnace walls. 3,379,177, 4–23–68, Cl. 122—6.
Stamicarbon N.V.: *See*—
    Bigot, Johan A., Van Mourik, and Van Beveren. 3,379,-698.
    Van Mourik Johannes, and Van Beveren. 3,379,697.
Stamm, Walter: *See*—
    Greco, Carl C., and Stamm. 3,379,678.
Stanback, Harris I.: *See*—
    Downs, Harold H., and Stanback. 3,379.842.
Stancher, Joseph E., to Essaness Theatres Corp. Heater installation. 3,379,860, 4–23–68, Cl. 219—533.
Standard Structures, Inc.: *See*—
    Calletti, Richard C., and Borges. 3,379,281.
Standley, Floyd F.: *See*—
    Dortenzo, Alexander T., and Standley. 3,379,428.
Stanford Research Institute: *See*—
    Lapple, Charles E. 3,378,883.
Stanley, Kenneth E. Stud with a perforated anchoring sheet. 3,378,972, 4–23–68, Cl. 52—309.
Stanley Works, The: *See*—
    Hentzi, Joffre E. R., and Kiser. 3,378,881.
Staples, Paul R., to General Electric Co. Forced convection oven. 3,379,189, 4–23–68, Cl. 126—21.
Starey, Franz: *See*—
    Sturm, Karl, Geiger, Siedel, and Starey. 3,379,735.
Stark, Joseph L.: *See*—
    Miller, Clifford L., and Stark. 3,379,565.
Stasieluk, James R., to W. H. Miner, Inc. Draft gear. 3,379,-319, 4–23–68, Cl. 213—22.
Stauffer Chemical Co.: *See*—
    Greco, Carl C., and Stamm. 3,379.678.
    Kopacki, Adam F., and Giolito. 3,379,681.
Stearns Mfg. Co., Inc.: *See*—
    Karr, Willis F. 3,379,300.

- **Stedfeld, Rowland L.**, to General Motors Corp. Self-sealing tank. 3,379,336, 4-23-68, Cl. 220—63.
- **Steisslinger, Kurt**, to Eastman Kodak Co. Flexible lens hood with annular attaching means. 3,379,485, 4-23-68, Cl. 350—58.
- **Stepanek, Roy W.**, to Pettibone Mulliken Corp. Fine grind hammer mill with adjustable hammer rotor. 3,379,383, 4-23-68, Cl. 241—86.
- **Stephany, Joseph F.**, to General Dynamics Corp. Electro-optical modulator. 3,379,887, 4-23-68, Cl. 250—199.
- **Sterling Drug Inc.**: *See*—
  - Archer, Sydney, and Rosi. 3 379,620.
  - Manson, Andrew J., and Phillips. 3,379,722.
  - Manson, Andrew J., and Phillips. 3,379,743.
- **Stewart, Joseph T., Jr.**, to ACF Industries, Inc. Valve having seat seal and venting means. 3,379,410, 4-23-68, Cl. 251—359.
- **Stewart, Roy A** Hobbyhorse. 3,379,438, 4-23-68, Cl. 272—52.
- **Stickney, Palmer B.**: *See*—
  - Gynn, Gilbert M., and Stickney. 3,379,661.
- **Stone, Orison W.**, to R. A. Jones and Co., Inc. End structure for shadow box carton. 3,379,305, 4-23-68, Cl. 206—45.14.
- **Storm, Walter V.**, to Westrac Co. Track link seal. 3,379,480, 4-23-68, Cl. 305—11.
- **Stoyanov, Benjamin**: *See*—
  - Turk, Leonard G., Ulm, and Stoyanov. 3,378,882.
- **Straley, James M.**: *See*—
  - Wallace, David J., and Straley. 3,379,738.
- **Strange, Lloyd K.**, to Mobil Oil Corp. In situ combustion process utilizing waste heat. 3,379,248, 4-23-68, Cl. 166—11.
- **Strobel, Albert F., and S. C. Catino**, to General Aniline & Film Corp. Bis-aryl methylene malononitriles. 3,379,779, 4-23-68, Cl. 260—248.
- **Stroh, Ernest F.**, to Monsanto Co. Dyeable, flame resistant tetrapolymer. 3,379,699, 4-23-68, Cl. 260—78.5.
- **Strombeck, Leo**: *See*—
  - Frederick, Kenneth, and Strombeck. 3,379,346.
- **Strout, Frank G.** Golf ball cleaner. 3,378,873, 4-23-68, Cl. 15—244.
- **Studiengesellschaft m.b.H.**: *See*—
  - Wilke, Gunther. 3,379,706.
- **Sturm, Karl, R. Geiger, W. Siedel, and F. Starey**, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Sulfamyl aniline derivatives. 3,379,735, 4-23-68, Cl. 260—340.5.
- **Sturzenhofecker, Franz**: *See*—
  - Hamann, Karl, and Sturzenhofecker. 3,379,657.
- **Stutz, Frank**, to Monsanto Co. Apparatus for arranging fibers in grid form. 3,379,596, 4-23-68, Cl. 156—434.
- **Submarine Research Laboratories**: *See*—
  - Willy, Donald S. 3,379,277.
- **Suleski, Anthony A.** Cylindrical mop. 3,378,871, 4-23-68, Cl. 15—230.11.
- **Sunbeam Corp.**: *See*—
  - Spohr, Albert R. 3,379,906.
- **Sundell, Sigvard**, to Allmanna Svenska Elektriska Aktiebolaget. Electrode control device. 3,379,817, 4-23-68, Cl. 13—13.
- **Sundholm, Norman K.**, to Uniroyal, Inc. Polyurethanes cured with the reaction product of 2-chloroaniline; 2,5-dichloroaniline; and formaldehyde. 3,379,691, 4-23-68, Cl. 260—75.
- **Sunnen, Joseph.** Honing device. 3,378,962, 4-23-68, Cl. 51—339.
- **Superior Electric Co., The**: *See*—
  - May, Joseph C. 3,379,960.
- **Sureau, Robert F. M.**: *See*—
  - Alicot, Marie-Josephe J., and Sureau. 3,379,714.
- **Sutphen, Harold A., Jr.**, to United States Envelope Co. Stuffed sealed envelopes. 3,379,363, 4-23-68, Cl. 229—85.
- **Sutures, Inc.**: *See*—
  - Kurtz, Leonard D. 3,379,091.
  - Kurtz, Leonard D. 3,379,552.
- **Suzuki, Sohei**: *See*—
  - Kiuchi, Atsushi. 3,379,220.
- **Swaim, Frank H.**, to United States of America, Navy. Vacuum activated, magnetic drive switch. 3,379,840, 4-23-68, Cl. 200—81.
- **Sweda, Edward R.**: *See*—
  - Pellegrino, Frank. 3,379,401.
- **Sweeney, Richard F.**: *See*—
  - Anello, Louis G., and Sweeney. 3,379,765.
- **Sylvania Electric Products Inc.**: *See*—
  - Chagnon Paul L., Gartner, and Jankowski. 3,379,357.
  - Cohler, Edmund U. 3,380,038.
  - Gannoe, Thomas E. 3,379,913.
  - Gray, Stephen B. 3,379 826.
  - Menelly, Richard A. 3,379,917.
  - Peek, Sandford C. Jr. 3,379,871.
  - Pick, George G. 3,380,039.
  - Sentementes, Thomas J., and Mager. 3,379,915.
- **Symes, John**, to Westinghouse Electric Corp. Coaxial magnetron having slot mode suppressing lossy material in anode resonators. 3,379,926, 4-23-68, Cl. 315—39.75.
- **Syntex Corp.**: *See*—
  - Casas-Campillo, Carlos. 3,379,621.
- **Szczepanski, Harry.** Rotary-linear spray painting machine. 3,379,173, 4-23-68, Cl. 118—301.
- **Szohatzky, Zolton**, to Crawford Fitting Co. Preswaging tool. 3,378,905, 4-23-68, Cl. 29—200.
- **T. & T. Vicars Ltd.**: *See*—
  - Crispe, Stanley W., and Mercer. 3,379,140.
- **Tagami, Takashi, and K. Inoue**, to Hitachi, Ltd. Post-incident device for nuclear reactors. 3,379,613, 4-23-68, Cl. 176—37.
- Taillon, John K., to General Electric Co. Electric discharge projection lamp. 3,379,868, 4-23-68, Cl. 240—11.4.
- Takagi, Tatsuya. Oil damper. 3,379,286, 4-23-68, Cl. 188—88.
- Takahashi, Choku, and T. Nishizawa, to Nippon Electric Co. Threading means for a cartridge-type tape recorder. 3,379,387, 4-23-68, Cl. 242—55.13.
- Takahashi, Keinosuke: *See*—
  - Ichimi, Teruhiko, Takahashi, Ozeki, and Shimoyama. 3,379,225.
- Takei, Koji, K. Miyamoto, and T. Kenmotsu, to Mitsui Petrochemical Industries, Ltd., and Arakawa Rinsan Kagaku Kogyo Kabushiki Kaisha. Petroleum resin and sizing composition prepared from an unsaturated dicarboxylic acid adduct thereof. 3,379,663, 4-23-68, Cl. 260—23.7.
- Takeya, Hirofumi: *See*—
  - Hojo, Toku, and Takeya. 3,380,069.
- Talamonti, John: *See*—
  - Brummer, Olin, and Talamonti. 3,379,444.
- Talge, Foster L., Jr.: *See*—
  - Briar, Jack E., Hudson, and Talge. 3,379,382.
- Tamplen, Jack W., to Otis Engineering Corp. Anchoring devices for well tools. 3,379,257, 4-23-68, Cl. 166—137.
- Tamura, Tsuneo: *See*—
  - Slagle, Knox A., and Tamura. 3,379,013.
- Tanaka, Sanae, Y. Nakamura, and N. Shimazaki, to Mitsubishi Petrochemical Co. Ltd. Process for the manufacture of acrolein polymers. 3,379,689, 4-23-68, Cl. 260—67.
- Tanguy, Denis R., D. F. Saurenman, and J. E. Key, to Schlumberger Technology Corp. Apparatus for investigating earth formations including a flexible pad member having an investigating means and longitudinally extendible hinging means for rotating portions of the pad member. 3,379,965, 4-23-68, Cl. 324—10.
- Tanner, Robert L.: *See*—
  - Larson, Marvin A. and Tanner. 3,380,061.
- Tarrson, Emanuel B. Electric toothbrush which is rechargeable with or without a recharging stand. 3,379,952, 4-23-68, Cl. 320—2.
- Tatter, Ernest O. P., and P. W. Schaff, to Warwick Electronics Inc. Record changer. 3,379,442, 4-23-68, Cl. 274—10.
- Taxil, Andre: *See*—
  - Delrieu, Pierre, and Taxil. 3,379,916.
- Technical Mfg. Corp.: *See*—
  - Jones, Emerson, and Large. 3,379,450.
- Technigaz: *See*—
  - Alleaume, Jean. 3,379,208.
- Technology Corp.: *See*—
  - Saurenman, Dean F. 3,379,963.
- Tel-Air Corp.: *See*—
  - Dudar, Walter H. 3,380,021.
- Tesla, narodni podnik: *See*—
  - Cervenka, Milos. 3,380,067.
- Teves-Thompson & Co., G.m.b.H.: *See*—
  - Prasse, Gisela, and Merkt. 3,378,904.
- Texas Instruments Inc.: *See*—
  - Bean, Kenneth E., and Runyan. 3,379,584.
  - Bywaters, Richard P. 3,379,938.
  - Gruczelak, Norman P. 3,379 388.
  - Obenhaus Robert E. 3,379,939.
- Tharp, Inman D., to Fitchburg Coated Products, Inc. Cold embossable web. 3,379,560, 4-23-68, Cl. 117—121.
- Theilig, Gerhard: *See*—
  - Heuse, Otto, Boldt, Wirtz, and Theilig. 3,379,626.
- Thermo Electron Engineering Corp.: *See*—
  - Harvey, Robert J. 3,379,191.
- Thomas, Edgar E., and D. E. Lamon, to Appleton Machine Co. Liquid applicator. 3,379,170, 4-23-68, Cl. 118—259.
- Thomas, Frank J.: *See*—
  - Kelley, Edwin F., and Thomas. 3,379,143.
- Thomas, Leslie D.: *See*—
  - Osborne, Eugene F., and Thomas. 3,379,977.
- Thompson, Richard H., to Doughboy Industries, Inc. Sealing apparatus. 3,378,986, 4-23-68, Cl. 53—76.
- Thomsen, Christen C.: *See*—
  - Fleischer, Svend S. C., Thomsen, Hofmann, and Rossberg. 3,379,222.
- Thornhill, Alan R.: *See*—
  - Holmds Peter D., Thornhill, and Nicholas. 3,379,505.
- Thurnauer, William, to Julius Blum & Co., Inc. Handrail assembly. 3,379,414, 4-23-68, Cl. 256—68.
- Tieman, Helmut, to Kochs Adlernahmaschinenwerke A.G. Thread chain trimming device for sewing machines. 3,379,151, 4-23-68, Cl. 112—252.
- Timms, Peter L.: *See*—
  - Margrave, John L., Timms, and Ehlert. 3,379,512.
- Tinker, Townsend: *See*—
  - Dell'Agnese, David E., and Tinker. 3,379,424.
  - Dell'Agnese David E., and Tinker. 3,379,425.
- Titanium Metals Corp. of America: *See*—
  - Vordahl, Milton B. 3,379 522.
- Tittmann, Frederick R., and W. M. Jayne, Jr., to Union Carbide Corp. Coating method and apparatus for deposition of polymer forming vapor under vacuum. 3,379,803, 4-23-68, Cl. 264—81.
- **Todd, Carl D.**, to Hughes Aircraft Co. Electronic braking circuit for electric motor. 3,379,949, 4-23-68, Cl. 318—380.
- **Tokyo Shibaura Electric Co., Ltd.**: *See*—
  - Makino, Sumio, and Endo. 3,379,877.
  - Manaka, Kazuo. 3,379,561.
- Top-Scor Products, Inc.: *See*—
  - Landfried, Bert W., and Rapaport. 3,379,535.
- **Torrisi, Carmelo.** Hand-towable boat trailer. 3,379,452, 4-23-68, Cl. 280—63.

- **Townsend, Marjorie R., and P. M. Feinberg**, to United States of America, National Aeronautics and Space Administration. Digital telemetry system. 3,380,042, 4-23-68, Cl. 340—174.1.
- **Toyo Boseki Kabushiki Kaisha**: *See*—
  - Ichimi, Teruhiko, Takahashi, Oseki, and Shimoyama. 3,379,225.
- **Toyo Rayon Kabushiki Kaisha**: *See*—
  - Ono, Terumichi, Haga, and Sakai. 3,379,810.
- **Trammel, Earl M., Jr.** Vehicle license plate holders. 3,379,402, 4-23-68, Cl. 248—488.
- **Treff, Ernest H.**, to F. L. Smith Machine Co., Inc. Device for adjusting envelope making machine. 3,379,103, 4-23-68, Cl. 93—62.
- **Treitler, Theodore L., and D. S. Bunin**, to FMC Corp. Phosphoric acid purification. 3,379,501, 4-23-68, Cl. 23—165.
- **Trico Products Corp.**: *See*—
  - Scinta, Anthony C. 3,378,874.
- **Triflex Safety Glass Co. Ltd.**: *See*—
  - Brittan, Kenneth W. 3,378,919.
- **Trilux-Lenze KG.**: *See*—
  - Müller, Josef, and Riegler. 3,379,870.
- **Trongeau, William J.**, to W. H. Miner, Inc. Draft gear. 3,379,318, 4-23-68, Cl. 213—22.
- **Trush, Anthony A.** Multipurpose implement. 3,378,923, 4-23-68, Cl. 30—318.
- **Tschamper, Otto, and W. Regenass**, to Ciba Ltd. and Schweizerische Teerindustrie AG. Process for obtaining naphthoquinone. 3,379,741, 4-23-68, Cl. 260—396.
- **Tudor-Pole, Christopher G.**, to Secomastic Ltd. Joint covering strips. 3,378,973, 4-23-68, Cl. 52—466.
- **Tuggle, Lloyd H.**, to Outboard Marine Corp. Ignition system. 3,379,181, 4-23-68, Cl. 123—146.5.
- **Turbyfill, Charles W.** Centralizer. 3,379,258, 4-23-68, Cl. 166—241.
- **Turi, Edith**: *See*—
  - Lund, Richard B., Pierce, Turi, and Oswald. 3,379,707.
- **Turk, Leonard G., E. S. Ulm, and B. Stoyanov**, to NRM Corp. Loader for tire curing press. 3,378,882. 4-23-68, Cl. 18—2.
- **Tuvell, Melvin E.**, to Monsanto Co. Alkaline earth metal hydroxylapatites, processes for preparing the same and compositions containing the same. 3,379,541, 4-23-68, Cl. 106—38.27.
- **U.S. Polymatrix, Inc.**: *See*—
  - Bortz, Jack D. 3,379,462.
- **Ujhelyi, Gabor K., and S. T. Ribeiro**, to United States of America, Navy. Plural internal reflection polarized light modulator. 3,379,486, 4-23-68, Cl. 350—150.
- **Ulm, Ernest S.**: See—
  - Turk, Leonard G., Ulm, and Stoyanov. 3,378,882.
- **Ulrich, Henri**, to The Upjohn Co. Phosgenation of N-arylsulfonyl-N'-alkyl-ureas to produce arylsulfonyl isocyanates. 3,379,758, 4-23-68, Cl. 260—545.
- **Uncapher, Charles A., and R. H. Roulo**, to Continental Can Co., Inc. Coin and trim machine. 3,379,045, 4-23-68, Cl. 72—332.
- **Unger, Victor H.**: *See*—
  - Lyon, Channing B., Nemec, and Unger. 3,379,610.
- **Union Carbide Corp.**: *See*—
  - Foster, William W., and Pittner. 3,379,607.
  - Gemmel, Gordon D. 3,379,519.
  - Groothius, Stanley E. 3,380,072.
  - Grulke, Carl A., and Powers. 3 379,574.
  - Harrington, Roger E. 3,379,918.
  - Hostettler, Fritz, and Coz. 3,379,693.
  - Tittmann, Frederick R., and Jayne. 3,379,803.
- **Union Oil Co. of California**: *See*—
  - Hwang, Yu-Tang, Sandner, and Krewer. 3,379,766.
  - O'Brien, Leo J. 3,379,260.
- **Uniroyal, Inc.**: *See*—
  - Sundholm, Norman K. 3 379,691.
  - Welton, Glenn T. 3,379,022.
- **United Aircraft Corp.**: *See*—
  - Gay, Martin A. 3,379,572.
  - Gordon, Allen E. 3,380,047.
  - Ziermann, Hermann. 3,379,194.
- **United-Carr Inc.**: *See*—
  - Anderson, Bert O. 3,378,983.
  - Parkin, Leslie. 3,379,090.
  - Weremey, Frederick J. 3,379,851.
- **United Engineering and Foundry Co.**: *See*—
  - O'Keefe, John T. 3,379,389.
- **United Kingdom Atomic Energy Authority**: *See*—
  - Butcher, John W. 3,379,521.
  - Halliday, Dixon B. 3,379,615.
- **United Merchants and Manufacturers, Inc.**: *See*—
  - Ziegler, George E., and Kilgour. 3,379,494.
- **United Shoe Machinery Corp.**: *See*—
  - Firth, Alan, and Mawbey. 3,379,081.
- **United States of America**
  - Carey, Thomas P., and Hadeler. 3,378,929.
  - Cole, Robert B. 3,379,283.
- **United States of America**
  - Agriculture: *See*—
    - Ard, Jesse S. 3,379,093.
    - Berry, Robert E., Bissett, Wagner, and Veldhuis. 3,379,538.
    - Magne, Frank C., Skau, and Mod. 3,379,551.
    - Wallace, Eugene F., Salaun, Kotter, and Lanigan. 3,379,324.
  - Air Force: *See*—
    - Cone, Peter F. 3,378,920.
    - Hileman, Ronald E. 3,380,050.
    - Hough, Ralph L. 3,379,555.
    - Rapp, Robert A., and Frank. 3,379,579.
- **United States of America—Air Force: *See*—Continued**
  - Rutkowski, Michael D. 3,379,634.
  - Schroeder, Klaus G. 3,380,038.
  - Von Ohain, Hans J. P., and Mills. 3,379,011.
  - Army: *See*—
    - Czerwinski, Watson P. 3,380,060.
  - Atomic Energy Commission: *See*—
    - Allyn, Richard J. 3,379,460.
    - Burr, Merrill, and Koshland. 3,379,760.
    - Coensgen, Frederic H., Cummins, and Nexsen. 3,379,880.
    - Das Gupta, Kamalaksha. 3,379,876.
    - Drummond, Carl N. 3,379,614.
    - Graham, Richard H. 3,379,988.
    - McDuffie, Harold F. 3,379,648.
    - Miller, Clifford L., and Stark. 3,379,585.
    - Zeutschel, Milton F., and Dixon. 3,379,051.
  - Interior: *See*—
    - Dunseth, Maria G., and Salutsky. 3,379,498.
  - National Aeronautics and Space Administration: *See*—
    - Faeth, Paul A. 3,379,064.
    - McBrayer, Robert O. 3,378,851.
    - Nork, Charles L. 3,379,885.
    - Perkins, Porter J., Jr. 3,379,330.
    - Townsend, Marjorie R., and Feinberg. 3,380,042.
    - Vano, Andrew E. 3,378,892.
  - Navy: *See*—
    - Albanese, Anthony A. 3,379,971.
    - Battles, James W., Crane, Yancey, and Alday. 3,379,956.
    - Bialy, Karol J. 3,379,394.
    - Boyars, Carl, and Sharn. 3,379,178.
    - Brooks, James W. 3,379,272.
    - Cavanaugh, Marion E. 3,379,893.
    - Chatten, Clarence K., and Eller. 3,379,162.
    - Chorney, Paul, and Valun. 3,379,910.
    - Decker, Robert M., Jehle, and Veisel. 3,379,966.
    - Dorn, Clifford G. 3,379,996.
    - Forrester, Howard M. 3,380,001.
    - Geyer, William A. 3,379,861.
    - Gustafson, Walter R., and McMillen. 3,380,028.
    - Harvey, Edwin D. 3,379,010.
    - Hecker, Klaus J., Staeudle, and Hueber. 3,379,833.
    - Hecker, Klaus J. 3,380,035.
    - Hogue, Clifford E. 3,380,002.
    - Humpherys, Bernarr H 3,379,981.
    - Johnson, Henry V. 3,378,863.
    - Keays, Keatinge, and Colechia. 3,379,156.
    - Kusenberger, Felix N., Barsun, and Fogwell. 3,379,970.
    - Littrell, Woodrow H., Isaak, Klund, and Betsworth. 3,380,018.
    - Lombard, Sherman O. 3,379,841.
    - Lunt, Wilbur B., and Kraft. 3,380,008.
    - Nichols, Donald A., and Natwick. 3,379,161.
    - Osborne, Eugene F., and Thomas. 3,379,977.
    - Riel, Gordon K. 3,379,886.
    - Scholl, James E. 3,379,104.
    - Sepich William S., and Langer. 3,380,048.
    - Sims, Claude C. 3 380 019.
    - Sinniger, Joseph O. 3,379,865.
    - Swaim, Frank H. 3,379,840.
    - Ujhelyi, Gabor K., and Ribeiro. 3 379,486.
    - Wallace, Donald A., Kelley, Garber, Bottorff, and Lovejoy. 3,379,067.
    - Webb, Horace D. 3 379 131.
    - Wiethoff, Roger H. 3,379,163.
- **United States Envelope Co.**: *See*—
  - Sutphen, Harold A., Jr. 3,379,363.
- **United States Gypsum Co.**: *See*—
  - Roberts, James R., and Wendt. 3,379,608.
  - Roberts, James R. 3,379,609.
- **Universal Oil Products Co.**: *See*—
  - Bloch, Herman S. 3,379,786.
  - Bloch, Herman S., and Wackher. 3,379,788.
  - Hayes, John C. 3,379,504.
  - Hayes, John C. 3,379,641.
  - Kahn, Samuel J. 3 379,782.
  - Kahn, Samuel. 3,379,783.
  - Kahn, Samuel J. 3,379,784.
  - Kahn, Samuel J. 3,379 785.
  - Moehl, Reno W. 3 379,499.
- **Upjohn Co., The**: *See*—
  - Ulrich, Henri. 3,379,758.
- **Upton, Lee O.**, to American Optical Co. Sealing porosity of fiber face plates by yttrium resinate. 3,379,558, 4-23-68, Cl. 117—66.
- **Vaernes, Gunnar J.**, to The Lamson & Sessions Co. Method and tap for making lock nuts. 3,378,866, 4-23-68, Cl. 10—86.
- **Valburg, Raymond.** Safety plug for guns. 3,378,943, 4-23-68, Cl. 42—1.
- **Vallino, Barney, Jr.**, to Sinclair Research, Inc. Residual deasphalting and cracking with catalyst demetalization. 3,379,639, 4-23-68, Cl. 208—80.
- **Valun, John**: *See*—
  - Chorney, Paul, and Valun. 3,379,910.
- **Van Ardel, John R.**: *See*—
  - Kamm, Vernon C., Van Ardel, and Whiteside. 3,380,027.
- **Van Beveren, Johannes**: *See*—
  - Bigot, Johan A., van Mourik, and van Beveren. 3,379,698.
- **Van Beveren, Johannes**: *See*—
  - Van Mourik, Johannes, and van Beveren. 3,379,697.
- **Vanderjagt, John A.**, to Scienco, Inc. Jacks employing elongated, tubular pneumatic elements. 3,379,411, 4-23-68, Cl. 254—93.

Van der Stelt, Ernest O. W.: *See—*
  Burggraaf, Anthonie J., and van der Stelt. 3,379,302.
Van der Winden, Johannes B., to Gebr. Stork & Co.'s Apparatenfabriek N.V. Installation for the sterilization or pasteurization of commodities packed in containers. 3,379,115, 4–23–68, Cl. 99—249.
Van Dorn Co.: *See—*
  McNash, Howard H. 3,379,798.
Vanlerberghe, Guy: *See—*
  Kalopissis, Gregoire, Viout, and Vanlerberghe. 3,379,646.
Van Liew, William J., Jr., to Vendo Co. Serpentine chute for can vender having structure preventing rim interlock. 3,379,294, 4–23–68, Cl. 193—2.
Van Meurs, Pieter: *See—*
  Matthews, Charles S., Van Meurs, and Volek. 3,379,250.
Van Mourik, Johannes, and J. van Beveren, to Stamicarbon N.V. Process for the inogenic polymerization of ω-lactams with oxy- or thioalkylenes as activators. 3,379,697, 4–23–68, Cl. 260—78.
Van Mourik, Johannes: *See—*
  Bigot, Johan A., van Mourik, and van Beveren. 3,379,698.
Vano, Andrew E., to United States of America, National Aeronautics and Space Administration. Quick attach mechanism. 3,378,892, 4–23–68, Cl. 24—126.
Van Scoyk, Melvin W. Air bag elements for tire casing spotters. 3,378,886, 4–23–68, Cl. 18—18.
Van Sickle, Roswell C., to Westinghouse Electric Corp. Circuit breaker with high speed interrupter. 3,380,005, 4–23–68, Cl. 335—19.
Vargo, Stephen G.: *See—*
  Alverson, Thomas E., and Vargo. 3,380,007.
Varian Associates: *See—*
  Becker, Patrick O., and Robey. 3,379,507.
  Hait, Paul W. 3,379,365.
  Wheeler, William R. 3,379,210.
Varjavandi, Jamshid: *See—*
  Rustin, Anthony, Varjavandi, and Hayes. 3,379,737.
Varley, Clement. Self-service apparatus. 3,379,295, 4–23–68, Cl. 194—4.
Varta Aktiengesellschaft: *See—*
  Von Doehren, Hans H., and Jung. 3,379,635.
Vecchi, John C.: *See—*
  Burns, Alfred N., and Vecchi. 3,379,083.
Veisel, Selam K.: *See—*
  Decker, Robert M., Jehle, and Veisel. 3,379,966.
Veldhuis, Matthew K.: *See—*
  Berry, Robert E., Bissett, Wagner, and Veldhuis. 3,379,538.
Vendo Co.: *See—*
  Van Liew, William J., Jr. 3,379,294.
Vereinigte Aluminium-Werke Aktiengesellschaft: *See—*
  Gruhl, Wolfgang, and Scharf. 3,379,583.
Vereinigte Glanzstoff-Fabriken A.G.: *See—*
  Wiloth, Fritz. 3,379,696.
Veres, Edward W., W. E. Draxler, H. G. Hanson, and R. E. Poethig, to The Bastian-Blessing Co. Air line filter. 3,378,993, 4–23–68, Cl. 55—219.
Vervloet, Jean. Dismountable partitions, panels and special sections applied to this end. 3,378,977, 4–23–68, Cl. 52—584.
Vespa, Faust N.: *See—*
  Andrews, Harry N., and Vespa. 3,379,619.
Vilter Mfg. Corp.: *See—*
  Grant, Whitney I. 3,379,033.
Viout, Andre: *See—*
  Kalopissis, Gregoire, Viout, and Vanlerberghe. 3,379,646.
Virginia Chemicals: *See—*
  Sheridan, John E., and Hotelling. 3,379,775.
Vitry, Pierre, to Societe Indatom. Heat extraction device for nuclear reactor. 3,379,616, 4–23–68, Cl. 176—60.
Vodicka, Vincent, to General Electric Co. Apparatus for applying a coating onto a localized region of the inside of a hollow article. 3,379,174, 4–23–68, Cl. 118—318.
Voigtlander, A.G.: *See—*
  Papke, Friedrich. 3,379,092.
Volek, Charles W.: *See—*
  Matthews, Charles S., Van Meurs, and Volek. 3,379,250.
Volkers, Walter K., to Micronia Amplifier Corp. Admittance neutralizer. 3,379,987, 4–23–68, Cl. 330—17.
Von Doehren, Hans H., and M. Jung, to Varta Aktiengesellschaft. Method of preserving the catalytic activity of sensitive catalysts. 3,379,635, 4–23–68, Cl. 204—284.
Von Dreusche, Charles F., Jr., to Nicholas Engineering & Research Corp. Forming charcoal in an air ambient. 3,379,622, 4–23–68, Cl. 201—8.
Von Ohain, Hans J. P., and R. H. Mills, to United States of America, Air Force. Energy exchange device and separator. 3,379,011, 4–23–68, Cl. 60—259.
Vordahl, Milton B., to Titanium Metals Corp. of America. Dispersoid titanium and titanium-base alloys. 3,379,522, 4–23–68, Cl. 75—201.
Vyzkumny Ustav Matematickych Stroju: *See—*
  Rokos, Antonin, and Matejka. 3,380,032.
  Cerny, Vaclav. 3,380,033.
  Cerny, Vaclav. 3,380,034.
Waagner-Biro Aktiengesellschaft: *See—*
  Gilli, Paul. 3,379,244.
Waber, Hans: *See—*
  Wohlmeyer, Josef. 3,379,024.
Wackher, Richard C.: *See—*
  Bloch, Herman S., and Wackher. 3,379,788.
Wagner, Charles J., Jr.: *See—*
  Berry, Robert E., Bissett, Wagner, and Veldhuis. 3,379,538.
Wagner, Otto, to Farbenfabriken Bayer Aktiengesellschaft. Process for preparing cobalamine-sulphonic acid. 3,379,718, 4–23–68, Cl. 260—211.5.
Wagner, Richard C., to Integral Process Systems, Inc. Cryogenic pump. 3,379,132, 4–23–68, Cl. 103—26.
Wahlgren, Wallace W. Sun screen. 3,378,955, 4–23–68, Cl. 49—397.
Waldorf Paper Products Co.: *See—*
  Brandt, Boyd W., and Rasmussen. 3,379,537.
Waldorff, Jorgen F., to Danfoss A/S. Guide means and rotary device. 3,379,134, 4–23–68, Cl. 103—130.
Walker, Alex F. & Associates, Inc.: *See—*
  Canning, Walter L. 3,379,314.
Walker, Alvin B.: *See—*
  Maize, Glenn W., and Walker. 3,379,593.
Walker, G. W.: *See—*
  Sklar, Isadore, and Walker. 3,379,246.
Walker, Gordon N., to Ciba Corp. 1,4-dihydro-1,4-ethano-isoquinolines. 3,379,731, 4–23–68, Cl. 260—286.
Walkling, Ernest S., E. C. McKenzie, and J. S. Maskell, to Babcock & Wilcox Ltd. Ignition burner. 3,379,375, 4–23–68, Cl. 239—110.
Wallace, David J., and M. A. Weaver, to Eastman Kodak Co. Disazo-N-phenylthiomorpholine dioxide dyes. 3,379,711, 4–23–68, Cl. 260—152.
Wallace, David J.: *See—*
  Weaver, Max A., and Wallace. 3,379,712.
Wallace, David J., and M. A. Weaver, to Eastman Kodak Co. Benzothiazolyl azo dyestuffs. 3,379,713, 4–23–68, Cl. 260—158.
Wallace, David J., and M. A. Weaver, to Eastman Kodak Co. Aromatic mono azo dyestuffs. 3,379,716, 4–23–68, Cl. 260—207.1.
Wallace, David J., and J. M. Straley, to Eastman Kodak Co. 2-anilino-1,4-dihydroxy-anthraquinones. 3,379,738, 4–23–68, Cl. 260—376.
Wallace, Donald A., L. R. Kelley, D. L. Garber, M. R. Bottorff, and E. F. Lovejoy, to United States of America, Navy. Satellite thermal energy input simulator. 3,379,067, 4–23–68, Cl. 73—432.
Wallace, Eugene F., H. L. Salaun, Jr., J. I. Kotter, and J. P. Lanigan, Jr., to United States of America, Agriculture. Vehicle positioning and unloading means. 3,379,324, 4–23–68, Cl. 214—57.
Wallace, Richard B., to The Oakland Corp. Method of forming recesses in parts for the reception of friction locking plugs. 3,378,912, 4–23–68, Cl. 29—419.
Wallenberger, Frederick T.: *See—*
  King, Charles, and Wallenberger. 3,379,794.
Wallis, Peter T., and R. G. Gaunt, to Central Electricity Generating Board. Magnetohydrodynamic apparatus. 3,379,904, 4–23–68, Cl. 310—11.
Walther, Fritz. Trigger type compressed air gun having a piston with air valve and air valve actuator. 3,379,188, 4–23–68, Cl. 124—13.
Walton, John F., to Halliburton Co. Impedance measuring circuit having the unknown impedance in the feedback path of an amplifier. 3,379,973, 4–23–68, Cl. 324—62.
Wang, Ben C.: *See—*
  Lewis, Martyn A., Wang, and Kleist. 3,379,948.
Ward, John V.: *See—*
  Kreiter, Bernard A., and Ward. 3,379,767.
Ward, Kenneth A., T. Falk, and F. Schwarz, to Barnes Engineering Co. High accuracy circuitry for correcting edge errors in scanning radiometers. 3,379,883, 4–23–68, Cl. 250—83.3.
Ward, William J.: *See—*
  Phillips, Kenneth G., Schuh, and Ward. 3,379,014.
Warner, Harry A. Log rolling device incorporating vertical positioning means. 3,379,437, 4–23–68, Cl. 272—1.
Warren, Edward L. Teaching device. 3,378,937, 4–23–68, Cl. 35—9.
Warren, Lamar G., Jr. Dental treatment device. 3,379,192, 4–23–68, Cl. 128—66.
Warwick Electronics Inc.: *See—*
  Tatter, Ernest O. P., and Schaff. 3,379,442.
Washburn, Frederick L., Jr., to Westinghouse Electric Corp. Traveling-wave tube with efficiency-enhancing focus-field jump. 3,379,920, 4–23–68, Cl. 315—3.5.
Watkins, James W., Jr., to American Telephone and Telegraph Co. Telephone dial tone delay measuring circuit. 3,379,838, 4–23–68, Cl. 179—175.
Watkinson, Brian G., to Northern Electric Co., Ltd. Multidigit electrical combination lock. 3,380,024, 4–23–68, Cl. 340—164.
Weaver, Max A.: *See—*
  Wallace, David J., and Weaver. 3,379,711.
Weaver, Max A., and D. J. Wallace, to Eastman Kodak Co. Disazo dyes for hydrophobic fibers. 3,379,712, 4–23–68, Cl. 260—157.
Weaver, Max A.: *See—*
  Wallace, David J., and Weaver. 3,379,713.
  Wallace, David J., and Weaver. 3,379,716.
Weaver, Norman D.: *See—*
  Foss, Gerald C., Weaver, and Hurley. 3,379,536.
Webb, Douglas E.: *See—*
  Blackert, John E., and Webb. 3,379,110.
Webb, James E., Administrator of the National Aeronautics and Space Administration with respect to an invention of C. W. Johnson, and W. Martin. Method of resolving clock synchronization error and means therefor. 3,380,049, 4–23–68, Cl. 343—6.5.

Webb, Horace D., to United States of America, Navy. Suspension assembly. 3,379,181, 4–23–68, Cl. 102—7.6.
Webber, Harold H., and A. H. Wilson, Jr., to Roehr Products Co., Inc. Metal filaments suitable for textiles. 3,379,000, 4–23–68, Cl. 57—139.
Weber, Albert, and J. L. Greenberg. Transfer and method of making and using same. 3,379,604, 4–23–68, Cl. 161—38.
Weber, Heinrich: *See—*
  Winter, Hermann, and Weber. 3,379,704.
Weber, Otto R., to Reynolds Metals Co. Covered receptacle and method of making the same or the like. 3,379,337, 4–23–68, Cl. 220—67.
Webster, Gordon A. Ski safety binding device. 3,379,447, 4–23–68, Cl. 280—11.35.
Webster, Owen W., to E. I. du Pont de Nemours and Co. Di- and tricyanocyclopentadienes and their salts and formaldehyde copolymers. 3,379,751, 4–23–68, Cl. 260—464.
Wegler, Richard: *See—*
  Schafer, Werner, Wegler, Eue, and Hack. 3,379,725.
Wehner, Albert. Screening or conveying machine. 3,379,309, 4–23–68, Cl. 209—325.
Weihser, Rudolf, to International Standard Electric Corp. Central energy simplex intercommunication system capable of paging and conference calls. 3,379,837, 4–23–68, Cl. 179—40.
Weil, Edward D., and J. Linder, to Hooker Chemical Corp. Method for inhibiting the growth of pathogenic organisms with aromatic cycloaliphatic ketone ethers. 3,379,611, 4–23–68, Cl. 167—32.
Weil, Edward D., to Hooker Chemical Corp. Metal salts of 3-hydroxy-pentahalo-2-cyclopentenone. 3,379,746, 4–23–68, Cl. 260—429.
Weinberg, Robert W., to Skinner Precision Industries, Inc. Permanent magnet valve assembly. 3,379,214, 4–23–68, Cl. 137—625.5.
Weir, G. & J., Ltd.: *See—*
  Anderson, Harold H. 3,379,332.
Weir, Stanley M., to FMC Corp. Carrier with an article label unit for a warehouse system. 3,379,321, 4–23–68, Cl. 214—16.4.
Weissermel, Klaus, H. D. Hermann, and S. Noetzel, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Process for preparing block polymers of a polyepoxide and polyoxymethylene. 3,379,789, 4–23–68, Cl. 260—823.
Weitzner, Dorothea M. Electrically operated music display and cuing apparatus. 3,379,087, 4–23–68, Cl. 84—478.
Welch, Walter J.: *See—*
  Mizlanty, Michael F., Welch, and McKinney. 3,379,531.
Welsh, Maurice P. Safety-guard. 3,378,995, 4–23–68, Cl. 56—25.4.
Weltner, Corliss L. Hay baler attachment. 3,379,123, 4–23–68, Cl. 100—98.
Welton, Glenn T., to Uniroyal, Inc. Underwater shelter. 3,379,022, 4–23–68, Cl. 61—69.
Wendt, Frank J.: *See—*
  Roberts, James R., and Wendt. 3,379,608.
Wendt, Rudolph: *See—*
  Limberger, Walter, and Wendt. 3,379,526.
Wendt, Rudolf, to Lumoprint Zindler K.G. Image receiving sheet with a double PVA-hygroscopic salt layer coating. 3,379,532, 4–23–68, Cl. 96—76.
Wenglarz, John. Self-cleaning rake. 3,378,996, 4–23–68, Cl. 56—400.2.
Wenninger, Robert E.: *See—*
  Frentzel, Herman C., and Wenninger. 3,379,018.
Weremey, Frederick J., to United-Carr Inc. Pushbutton using three stage unitary spring as a contactor means. 3,379,851, 4–23–68, Cl. 200—159.
Werner, Lincoln H.: *See—*
  De Stevens, George, and Werner. 3,379,612.
Werner & Pfleiderer: *See—*
  Gehrung, Manfred E. 3,379,345.
Wert, Clifford M., to The Goodyear Tire & Rubber Co. Method of making cushion structure. 3,379,800, 4–23–68, Cl. 264—45.
Werthmoller, Ewald: *See—*
  Reuter, Guido, Jesdinsky, and Werthmoller. 3,379,426.
Werts, Everett W., to General Electric Co. Reed switch circuits. 3,379,863, 4–23–68, Cl. 235—92.
West Co., The: *See—*
  Andersen, Eli F. 3,379,326.
West Point-Pepperell, Inc.: *See—*
  Spencer, Francis T. 3,379,175.
Western Electric Co., Inc.: *See—*
  Fuchs, Francis J., Jr. 3,379,043.
Westinghouse Electric Corp.: *See—*
  Alverson, Thomas E., and Vargo. 3,380,007.
  Andrews, Harry N., and Keller. 3,379,617.
  Andrews, Harry N., and Vespa. 3,379,619.
  Azinger, Frederick A., Jr. 3,379,847.
  Azinger, Frederick A., Jr. 3,379,850.
  Colclaser, Robert G., Jr., and Reese. 3,379,848.
  Davis, Earl K. 3,379,942.
  Easley, Gilbert J. 3,379,849.
  Frisch, Erling. 3,379,618.
  Keady, Richard J. and Petersen. 3,379,397.
  Kemeny, George A., and Wolf. 3,379,908.
  Leitz, William H. 3,379,283.
  Newberry, Meigs W. 3,379,342.
  Putman, Richard E. J. 3,379,421.
  Symes, John. 3,379,926.
  Van Sickle, Roswell C. 3,380,005.
  Washburn, Frederick L., Jr. 3,379,920.
Westland Aircraft Ltd.: *See—*
  Hardy, Derek J., and Riddle. 3,379,270.
Westrac Co.: *See—*
  Storm, Walter V. 3,379,480.
Weyerhaeuser Co.: *See—*
  Cordingly, Richard H., and Quackenbush. 3,379,171.
Wheaton, Herbert F., and S. J. Koll, to American Flange & Mfg. Co., Inc. Method of forming closure caps. 3,379,155, 4–23–68, Cl. 113—121.
Wheeler, William R., to Varian Associates. High vacuum valve. 3,379,210, 4–23–68, Cl. 137—327.
Whirlpool Corp.: *See—*
  Sherer, Robert B. 3,379,039.
Whiteside, Arliss E.: *See—*
  Kamm, Vernon C., Van Ardel, and Whiteside. 3,380,027.
Whiting, James C., to Michigan-Dynamics, Inc. Differential pressure indicating and fluid bypass device. 3,379,206, 4–23–68, Cl. 137—110.
Whitmore, Henry B. Vacuum regulating apparatus. 3,379,212, 4–23–68, Cl. 137—489.5.
Whitney, Theodore R., d.b.a. Pacific Infrared Systems Co.: *See—*
  Aroyan, George F. 3,378,891.
Wiesner, Ivo, and V. Horak. Method of preparing high-molecular polyhyroxyethers. 3,379,684, 4–23–68, Cl. 260—47.
Wiethoff, Roger H., to United States of America. Means of launching torpedoes. 3,379,163, 4–23–68, Cl. 114—238.
Wiley, Bruce F., to Phillips Petroleum Co. Flow meter with gravity and liquid sensing switches. 3,379,059, 4–23–68, Cl. 73—155.
Wiley, Ralph M., to The Dow Chemical Co. Aqueous dispersions of polymeric materials. 3,379,664, 4–23–68, Cl. 260—28.5.
Wilhelm, Max, to Ciba Corp. 1-isopropyl amine-2-hydroxy-3-(o-propargyloxy-phenoxy)-propane and salts thereof. 3,379,761, 4–23–68, Cl. 260—570.7.
Wilhelmy, Charles S.: *See—*
  Abramitis, Walter W., Reck, and Wilhelmy. 3,379,563.
Wilke, Gunther, to Studiengesellschaft m.b.H. 11-allyl metal compounds and their use as polymerization, including oligomerization, catalysts. 3,379,706, 4–23–68, Cl. 260—94.3.
Willcox & Gibbs Sewing Mschine Co.: *See—*
  Russell, Richard. 3,379,149.
Williams, Chester I. Rock bolt assembly and procedure for use in conjunction with blasting operations. 3,379,016, 4–23–68, Cl. 61—35.
Williams, Chester I. Rock bolt assembly for up-grouting operations. 3,379,019, 4–23–68, Cl. 61—45.
Williams, Chester I. Limited expansion rock bolt anchor. 3,379,089, 4–23–68, Cl. 85—73.
Williams, Edward J.: *See—*
  Deardorff, Clinton E., and Williams. 3,378,929.
Williams Gold Refining Co.: *See—*
  Faller, Robert O. 3,378,925.
Williams, James R.: *See—*
  McIntosh, Euell K., and Williams. 3,379,807.
Williams, James R.: *See—*
  McIntosh, Euell K., and Williams. 3,379,808.
Williams, Louis B., Jr., to Monsanto Co. Analyzing computer using bridge unbalance techniques. 3,379,866, 4–23–68, Cl. 235—179.
Williams, Robert P., and R. G. Piggott, to Spraying Systems Co. Two fluid gun jet. 3,379,376, 4–23–68, Cl. 239—142.
Willis, Grant N., to Arthur G. Russell Co., Inc. Indexing assembly machine. 3,379,298, 4–23–68, Cl. 198—19.
Willy, Donald S., to Submarine Research Laboratories. Flexible exhaust gas conduit and muffler. 3,379,277, 4–23–68, Cl. 181—36.
Wiloth, Fritz, to Vereinigte Glanzstoff-Fabriken A.G. Solid state preparation of polyamides. 3,379,696, 4–23–68, Cl. 260—78.
Wilson, Albert H., Jr.: *See—*
  Webber, Harold H., and Wilson. 3,379,000.
Wilson, Billy F., to Dresser Industries, Inc. Temperature stabilization apparatus for well logging systems. 3,379,032, 4–23–68, Cl. 62—259.
Wilson, James E.: *See—*
  Clark, James T., and Wilson. 3,378,911.
Wilson, Lee, Engineering Co., Inc.: *See—*
  Hill, Robert R. 3,378,975.
Winkler, and Dunnebier Maschinenfabrik und Eisengiesserei: *See—*
  Ruth, Ignaz. 3,379,432.
Winkler, Fritz: *See—*
  Ehmann, Werner, Sommer, and Winkler. 3,379,703.
Winkler, Laszlo: *See—*
  Domokos, Jozsef, Benedek, Kiss, and Winkler. 3,379,066.
Winstrom, Leon O., and J. W. Frink, to Allied Chemical Corp. Malic acid synthesis. 3,379,757, 4–23–68, Cl. 260—535.
Winter, Hermann, and H. Weber, to Chemische Werke Huls Aktiengesellschaft. Process for polymerizing conjugated diolefins and novel catalyst system useful therein. 3,379,704, 4–23–68, Cl. 260—94.3.
Wintercorn, Andrew F.: *See—*
  Shoemaker, James C. 3,378,968.
Wirtz, Rudolf: *See—*
  Heuse, Otto, Boldt, Wirtz, and Theilig. 3,379,626.
Wisconsin Alumni Research Foundation: *See—*
  Seng, Mark W. 3,379,371.
Witcher, Chris A., Jr., to Monsanto Co. Process for applying anti-static finish to a textile material. 3,379,565, 4–23–68, Cl. 117—139.5.
Witte, Josef: *See—*
  Pampus, Gottfried, Schon, and Witte. 3,379,667.

Wohlmeyer, Josef (deceased) by Maria Wohlmeyer, I. Kirchner, Helmut and Helga Wohlmeyer, A. Berger, and H. Waber. Machine for constructing lined ducts through rock. 3,379,024, 4–23–68, Cl. 61—85.

Wohlmeyer, Helga: *See—*

Wohlmeyer, Josef. 3,379,024.

Wohlmeyer, Helmut: *See—*

Wohlmeyer, Josef. 3,379,024.

Wohlmeyer, Maria: *See—*

Wohlmeyer, Josef. 3,379,024.

Wolbrecht, Horace M.: *See—*

Clayton, Billy B., Fagen, Marshman, and Wolbrecht. 3,380,031.

Wolf, Charles B.: *See—*

Kemeny, George A., and Wolf. 3,379,908.

Wolf, Fredi: *See—*

Beyer, Fritz, Froese, Jacknau, Scheffel, and Wolf. 3,379,108.

Wolf, Karl, to R. Bosch G.m.b.H. Starter arrangement for internal combustion engines. 3,379,183, 4–23–68, Cl. 123—179.

Wolf, Karl, to R. Bosch, G.m.b.H. Preheating arrangement for internal combustion engines with fuel injection. 3,379,184, 4–23–68, Cl. 123—179.

Wolfe, Robert E., to Electro-Miniatures Corp. Automatic resistance soldering apparatus and the like. 3,379,896, 4–23–68, Cl. 307—141.

Wolfes, Wolfgang, G. Renckoff, and H. L. Huelsmann, to Chemische Werke Witten G.m.b.H. Process for the preparation of polyamides in finely grained form. 3,379,695, 4–23–68, Cl. 260—78.

Wollard Aircraft Service Equipment Inc.: *See—*

Wollard, Joseph C., Slaney, and Seipos. 3,378,868.

Wollard, Joseph C., J. S. Slaney, and A. G. Seipos, to Wollard Aircraft Service Equipment Inc. Conveyance loader. 3,378,868, 4.23–68, Cl. 14—71.

Wood, Allan J., and K. W. Brown, to The English Electric Co. Ltd. Electrodes for electric devices operable in a vacuum. 3.379,846, 4–23–68, Cl. 200—144.

Woodman, Willis M. Ball supported device. 3,379,454, 4–23–68, Cl. 280—87.4.

Woods, Denis W., to Imperial Chemical Industries Ltd. Process for drawing and crimping yarn. 3,379,809, 4–23–68, Cl. 264—168.

Woodward, Cyril H. T. Truck cover. 3,379,468, 4–23–68, Cl. 296—100.

Woolard, Thomas L., and K. O. Bellows, to The Air Preheater Co., Inc. Element basket for regenerative heat exchangers. 3,379,240, 4–23–68, Cl. 165—10.

Wooldridge, Albert L. Measuring device. 3,378,930, 4–23–68, Cl. 33—170.

Worthington, Henry M. Frame construction for screens. 3,379,237, 4–23–68, Cl. 160—371.

Wright, Alan J., to Beckman Instruments, Inc. Tailored variable electrical resistance element. 3,379,567, 4–23–68, Cl. 117—212.

Wuellner, Louis E.: *See—*

Gambrell, Vernon C., Lawburgh, and Wuellner. 3.379.829.

Wyness, Glen R., and D. W. Jensen, to The Procter & Gamble Co. Amination of alkylbromides. 3,379,764, 4–23–68, Cl. 260—583.

Wynne, Peter J., to Lectromelt Corp. Electric arc furnace. 3,379,818, 4–23–68, Cl. 13—14.

Wynne, Peter J., to Lectromelt Corp. Hydraulic electrode positioning means for an electric arc furnace. 3,379.919, 4–23–68, Cl. 314—61.

Xerox Corp.: *See—*

Blackert, John E., and Webb. 3 379.110.

Corrsin, Lester, and Behringer. 3.379.527.

Hewes, Ellsworth D., and Zoppoth. 3,379,106.

Yaggy, Leon S.: *See—*

Koda, Nobuo J., and Yaggy. 3,379 914.

Yakovou, John. Method of making fashioned fieldstone. 3.379,812. 4–23–68, Cl. 264—227.

Yamane, Mikiya. Method and means for detection of gases and vapors. 3,379,968, 4–23–68, Cl. 324—33.

Yancey, Robert W.: *See—*

Battles, James W., Crane, Yancey, and Alday. 3,379,956.

Yando, Stephen, to General Telephone and Electronics Laboratories, Inc. Piezoelectric-electroluminescent display device containing nonlinear resistance layer. 3,379,927, 4–23–68, Cl. 315—55.

Yawata Iron & Steel Co., Ltd.: *See—*

Kobayashi, Hiroshi, Miyazawa, and Hisano. 3,379,961.

Yeasting, Maynard C., to The Reliance Electric and Engineering Co. Elevator control including a common transmission circuit with a threshold circuit for each car to determine its availability to answer calls. 3,379,284, 4–23–68, Cl. 187—29.

Yost, Oscar A. Machine with polyhedral pistons and renewable straight seals. 3,379,186, 4–23–68, Cl. 123—193.

Youmans, Arthur H., to Dresser Industries, Inc. Method and apparatus for neutron well logging based on the lifetime of neutrons in the formations. 3,379,882, 4–23–68, Cl. 250—71.5.

Youmans, Arthur H., to Dresser Industries, Inc. Method and apparatus for neutron lifetime well logging. 3,379,884, 4–23–68, Cl. 250—83.3.

Young, Howard S., to Eastman Kodak Co. Arsenophosphomolybdic acid catalyst compositions and process for their preparation. 3,379,652, 4–23–68, Cl. 252—437.

Young, Howard S.: *See—*

Hargis, Charles W., and Young. 3,379,651.

Young, Marvin S., to National Steel Corp. Container opening structure. 3,379,334, 4–23–68, Cl. 220—54.

Young, William O., Jr. Automotive lighting system. 3,379,930, 4–23–68, Cl. 315—82.

Zacharda, Donald R., to Burroughs Corp. Bistable device. 3,380.037, 4–23–68, Cl. 340—174.

Zavody V.I. Lening Plzen, narodni podnik: *See—*

Petru, Karel. 3,379,598.

Zeigler, Paul P., to Kaiser Aluminum & Chemical Corp. Method of heat treating and forming an aluminum sheet. 3,379,580. 4–23–68, Cl. 148—11.5.

Zenith Radio Corp.: *See—*

Chandler, James F., and Rennick. 3,379,923.

Foster, Leigh C. 3,379,994.

Zenner, Gerhard P., to Northern Electric Co. Ltd. Method of making a planar diffused semiconductor voltage reference diode. 3,378,915, 4–23–68. Cl. 29—577.

Zetye, Walter C., to General Motors Corp. Variable rate single-leaf spring independent rear suspension. 3,379,269, 4–23–68, Cl. 180—73.

Zeutschel, Milton F., and N. E. Dixon, to United States of America, Atomic Energy Commission. Multiple beam ultrasonic nondestructive testing device. 3,379,051, 4–23–68, Cl. 73—67.5.

Zherebin, Boris N., N. V. Krepyshev, V. A. Groshin, and B. Berezkin, to Kuznetsky Metallurgichesky Kombinat. Lining of the internal surface of a blast furnace. 3,379,427, 4–23–68, Cl. 266—32

Ziegler, George E., and G. I. Kilgour, to United Merchants and Manufacturers Inc. Method for treating fabrics in rope form. 3,379,494, 4–23–68, Cl. 8—151.1.

Ziermann, Hermann, to United Aircraft Corp. Fluid amplifier controlled respirator. 3,379,194, 4–23–68, Cl. 128—145.6.

Zimmerman, Jack. Animated jumping toy. 3,378,947, 4–23–68, Cl. 46—129.

Zinke, Otto H. Magnetic bridge means for detecting the electrical properties of substances. 3,379,969, 4–23–68, Cl. 324—34.

Zoppoth, Raymond C.: *See—*

Hewes, Ellsworth D., and Zoppoth. 3,379 106.

Zuech, Ernest A., D. L. Crain, and R. F. Kleinschmidt, to Phillips Petroleum Co. Conversion of acyclic triene compounds. 3,379,781, 4–23–68, Cl. 260—666.

Zurhuchen, Louis, to Oerlikon Buhrle Holding Ltd. Mounting device for automatic guns. 3,379,098, 4–23–68, Cl. 89—40.

CLASSIFICATION OF PATENTS

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NOTE.—First number, class; second number, subclass; third number, patent number

2–14	3,378,851
90	3,378,852
	3,378,853
146	3,378,854
4–10	3,378,855
57	3,378,856
146	3,378,857
172	3,378,858
5–109	3,378,859
340	3,378,860
345	3,378,861
	3,378,862
8–111	3,379,493
151.1	3,379,494
9–8	3,378,863
11	3,378,864
13	3,378,865
10–86	3,378,866
12–142	3,378,867
13–2	3,379,815
9	3,379,816
13	3,379,817
14	3,379,818
31	3,379,819
14–71	3,378,868
15–93	3,378,869
104.94	3,378,870
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256.51	3,378,876
327	3,378,877
16–52	3,378,878
87.4	3,378,879
142	3,378,880
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18–2	3,378,882
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23–63	3,379,495
103	3,379,496
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	3,379,510
361	3,379,511
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24–16	3,378,889
73	3,378,890
123	3,378,891
126	3,378,892
201	3,378,893
205.14	3,378,894
230	3,378,895
25–2	3,378,896
142	3,378,897
28–21	3,378,898
49	3,378,899
72	3,378,900
29–105	3,378,901
113	3,378,902
148.4	3,378,903
156.7	3,378,904
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208	3,378,908
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419	3,378,912
470.3	3,378,913
29–494	3,378,914
577	3,378,915
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602	3,378,917
	3,378,918
611	3,378,919
625	3,378,920
30–60.5	3,378,921
66	3,378,922
91.2	3,378,924
318	3,378,923
32–71	3,378,925
33–18	3,378,926
26	3,378,927
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125	3,378,929
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215	3,378,932
34–54	3,378,933
82	3,378,934
92	3,378,935
116	3,378,936
35–9	3,378,937
12	3,378,938
	3,378,939
36–11	3,378,940
40–10	3,378,941
124.5	3,378,942
42–1	3,378,943
	3,378,944
43–17	3,378,945
42.06	3,378,946
44–62	3,379,515
46–129	3,378,947
175	3,378,948
47–33	3,378,949
49–70	3,378,950
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58–42.5	3,379,004
59–7	3,379,005
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83–564	3,379,082
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103–26	3,379,132
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122–6	3,379,177
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126–21	3,379,189
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141–207	3,379,226
143–47	3,379,227
132	3,379,228
	3,379,229
144–1	3,379,230
145–52	3,379,231
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149–18	3,379,585
19	3,379,586
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152–344	3,379,236
156–84	3,379,590
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160–371	3,379,237
161–5	3,379,603
38	3,379,604
126	3,379,605
189	3,379,606
207	3,379,607
162–145	3,379,608
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164–252	3,379,238
387	3,379,239
165–10	3,379,240
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163	3,379,244
166–.5	3,379,245
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137	3,379,257
241	3,379,258
242	3,379,259
167–22	3,379,610
32	3,379,611
65	3,379,612
173–64	3,379,261

174– 36 : 3,379,821
50.57: 3,379,822
.61: 3,379,823
105 : 3,379,824
175– 19 : 3,379,262
3,379,263
86 : 3,379,264
215 : 3,379,265
285 : 3,379,266
176– 37 : 3,379,613
43 : 3,379,614
44 : 3,379,615
60 : 3,379,616
78 : 3,379,617
3,379,618
3,379,619
177–108 : 3,379,267
178– 5.1 : 3,379,825
6 : 3,379,826
.5 : 3,379,827
.6 : 3,379,828
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18 : 3,379,834
3,379,835
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179– 40 : 3,379,837
100.2 : 3,379,839
175 : 3,379,838
180– 73 : 3,379,268
3,379,269
127 : 3,379,270
128 : 3,379,271
181– .5 : 3,379,272
3,379,273
3,379,274
27 : 3,379,275
31 : 3,379,276
36 : 3,379,277
3,379,278
182– 14 : 3,379,279
96 : 3,379,280
113 : 3,379,281
186 : 3,379,282
185– 37 : 3,379,283
187– 29 : 3,379,284
3,379,285
188– 88 : 3,379,286
152 : 3,379,287
181 : 3,379,288
196 : 3,379,289
218 : 3,379,290
192– .052 3,379,291
12 : 3,379,292
85 : 3,379,293
193– 2 : 3,379,294
194– 4 : 3,379,295
10 : 3,379,296
195– 51 : 3,379,620
3,379,621
197– 16 : 3,379,297
198– 19 : 3,379,298
30 : 3,379,299
181 : 3,379,300
213 : 3,379,301
200– 81 : 3,379,840
82 : 3,379,841
114 : 3,379,842
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201– 8 : 3,379,622
202–252 : 3,379,623
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204– 1 : 3,379,625
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45.14: 3,379,305
62 : 3,379,303
65 : 3,379,304
208– 8 : 3,379,638
80 : 3,379,639
111 : 3,379,640
139 : 3,379,641
209–111.5 : 3,379,306

209–123 : 3,379,307
172.5 : 3,379,308
325 : 3,379,309
459 : 3,379,310
210– 97 : 3,379,311
415 : 3,379,312
211– 49 : 3,379,313
3,379,314
72 : 3,379,315
73 : 3,379,316
213– 22 : 3,379,317
3,379,318
3,379,319
214– 6.5 : 3,379,320
16.4 : 3,379,321
.6 : 3,379,322
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134 : 3,379,325
215– 38 : 3,379,326
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94 : 3,379,328
219– 8.5 : 3,379,853
201 : 3,379,854
268 : 3,379,856
274 : 3,379,855
469 : 3,379,857
522 : 3,379,858
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23.83: 3,379,331
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62 : 3,379,335
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90.4 : 3,379,338
97 : 3,379,339
3,379,340
3,379,341
221–129 : 3,379,342
224 : 3,379,346
251 : 3,379,343
222– 70 : 3,379,344
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231 : 3,379,347
566 : 3,379,348
224– 2 : 3,379,349
225– 97 : 3,379,350
226– 2 : 3,379,351
11 : 3,379,352
29 : 3,379,353
227–152 : 3,379,354
228– 25 : 3,379,355
37 : 3,379,356
47 : 3,379,357
229– 4.5 : 3,379,358
16 : 3,379,359
22 : 3,379,360
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230– 69 : 3,379,365
115 : 3,379,366
232– 43.2 : 3,379,367
233– 7 : 3,379,368
26 : 3,379,369
3,379,370
235– 61 : 3,379,371
92 : 3,379,861
3,379,862
3,379,863
151.34: 3,379,864
168 : 3,379,865
179 : 3,379,866
180 : 3,379,867
239– 7 : 3,379,372
8 : 3,379,373
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110 : 3,379,375
142 : 3,379,376
186 : 3,379,377
212 : 3,379,378
227 : 3,379,379
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333 : 3,379,381
240– 11.4 : 3,379,868
41.3 : 3,379,869
73 : 3,379,870
123 : 3,379,871
137 : 3,379,872
241– 63 : 3,379,382
86 : 3,379,383
197 : 3,379,384
242– 11 : 3,379,385
55 : 3,379,386
.13: 3,379,387
68.3 : 3,379,388
72.1 : 3,379,389
75.44: 3,379,390
84.2 : 3,379,391
86.5 : 3,379,392

242–158.4 : 3,379,393
244– 1 : 3,379,394
12 : 3,379,395
49 : Re.26,380
77 : 3,379,396
246–415 : 3,379,873
248– 20 : 3,379,397
188 : 3,379,398
312 : 3,379,399
361 : 3,379,400
407 : 3,379,401
487 : 3,379,403
488 : 3,379,402
249–202 : Re.26,381
250– 41.9 : 3,379,874
51.5 : 3,379,876
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65 : 3,379,878
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199 : 3,379,887
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251– 26 : 3,379,404
31 : 3,379,405
45 : 3,379,406
210 : 3,379,407
298 : 3,379,408
319 : 3,379,409
359 : 3,379,410
252– 29 : 3,379,642
62.54: 3,379,643
73 : 3,379,644
100 : 3,379,645
152 : 3,379,646
301.1 : 3,379,647
3,379,648
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308 : 3,379,650
437 : 3,379,651
3,379,652
254– 93 : 3,379,411
122 : 3,379,412
256– 65 : 3,379,413
68 : 3,379,414
259– 6 : 3,379,417
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44 : 3,379,415
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78 : 3,379,695
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260– 78 : 3,379,697
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261– 84 : 3,379,422
263– 6 : 3,379,423
7 : 3,379,424
17 : 3,379,425
264– 3 . 3,379,796
9 : 3,379,797
25 : 3,379,798

264– 26 : 3,379,799
45 : 3,379,800
53 : 3,379,802
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154 : 3,379,806
162 : 3,379,807
3,379,808
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210 : 3,379,810
3,379,811
227 : 3,379,812
3,379,813
322 : 3,379,814
266– 31 : 3,379,426
32 : 3,379,427
34 : 3,379,428
267– 56 : 3,379,429
64 : 3,379,430
269–130 : 3,379,431
271– 2 : 3,379,432
42 : 3,379,433
61 : 3,379,435
74 : 3,379,436
272– 1 : 3,379,437
52 : 3,379,438
60 : 3,379,434
64 : 3,379,439
273– 86 : 3,379,440
94 : 3,379,441
274– 10 : 3,379,442
277– 40 : 3,379,443
58 : 3,379,444
178 : 3,379,445
279– 51 : 3,379,446
280– 11.35: 3,379,447
3,379,448
12 : 3,379,449
36 : 3,379,450
47.19: 3,379,451
63 : 3,379,452
81 : 3,379,453
87.04: 3,379,454
89 : 3,379,455
446 : 3,379,456
479 : 3,379,457
285– 70 : 3,379,458
158 : 3,379,459
312 : 3,379,460
341 : 3,379,461
287– 20.92: 3,379,462
63 : 3,379,463
88 : 3,379,464
189.35: 3,379,465
294– 65 : 3,379,466
296– 95 : 3,379,467
100 : 3,379,468
137 : 3,379,469
3,379,470
297– 92 : 3,379,471
118 : 3,379,472
270 : 3,379,473
440 : 3,379,474
298– 23 : 3,379,475
299– 34 : 3,379,476
302– 17 : 3,379,477
52 : 3,379,478
303– 22 : 3,379,479
305– 11 : 3,379,480
307– 41 : 3,379,893
3,379,894
88 : 3,379,895
141 : 3,379,896
225 : 3,379,897
244 : 3,379,898
284 : 3,379,899
296 : 3,379,900
310– 8.2 : 3,379,901
.5 : 3,379,902
11 : 3,379,903
3,379,904
26 : 3,379,905
50 : 3,379,906
77 : 3,379,907
312–100 : 3,379,481
111 : 3,379,482
263 : 3,379,483
300 : 3,379,484
313– 19 : 3,379,908
34 : 3,379,909
63 : 3,379,910
75 : 3,379,911
76 : 3,379,912
85 : 3,379,913
89 : 3,379,914
108 : 3,379,915
109 : 3,379,916
3,379,917
314– 29 : 3,379,918
61 : 3,379,919
315– 3.5 : Re.26,384
3,379,920
5.35: 3,379,921
.38: 3,379,922
13 : 3,379,923

315– 22 : 3,379,924
39.59: 3,379,925
.75: 3,379,926
55 : 3,379,927
57 : 3,379,928
59 : 3,379,929
82 : 3,379,930
169 : 3,379,931
317– 2 : 3,379,932
36 : 3,379,933
3,379,934
3,379,935
3,379,936
101 : 3,379,937
3,379,938
148.5 : 3,379,939
235 : 3,379,940
3,379,941
258 : 3,379,942
3,379,943
318– 18 : 3,379,944
46 : 3,379,945
138 : 3,379,946
237 : 3,379,947
253 : 3,379,948
380 : 3,379,949
434 : 3,379,950
489 : 3,379,951
320– 2 : 3,379,952
34 : 3,379,953
321– 14 : 3,379,954
45 : 3,379,955
69 : 3,379,956
322– 29 : 3,379,957
59 : 3,379,958
323– 22 : 3,379,959
45 : 3,379,960
76 : 3,379,961
128 : 3,379,962
324– 10 : 3,379,963
3,379,964
3,379,965
24 : 3,379,966
33 : 3,379,967
3,379,968
34 : 3,379,969
37 : 3,379,970
58.5 : 3,379,971
61 : 3,379,972
62 : 3,379,973
70 : 3,379,974
325–131 : 3,379,975
3,379,976
399 : 3,379,977
3,379,978
328– 59 : 3,379,979
63 : 3,379,980
112 : 3,379,981
143 : 3,379,982
151 : 3,379,983
230 : 3,379,984
330– 4 : 3,379,985
15 : 3,379,986
17 : 3,379,987
3,379,988
28 : 3,379,989
43 : 3,379,990
59 : 3,379,991
331– 2 : 3,379,992
4 : 3,379,993
19 : 3,379,995
65 : 3,379,994
78 : 3,379,996
94.5 : 3,379,997
3,379,998
107 : 3,379,999
109 : 3,380,000
112 : 3,380,001
113 : 3,380,002
332– 9 : 3,380,003
333– 79 : 3,380,004
335– 19 : 3,380,005
56 : 3,380,006
336– 70 : 3,380,007
73 : 3,380,008
92 : 3,380,009
338–122 : 3,380,010
162 : 3,380,011
339– 95 : 3,380,012
97 : 3,380,013
3,380,014
107 : 3,380,015
174 : 3,380,016
207 : 3,380,017
340– 3 : 3,380,018
10 : 3,380,019
15.5 : 3,380,020
58 : 3,380,021
70 : 3,380,022
147 : 3,380,023
164 : 3,380,024
172.5 : 3,380,025
3,380,026
3,380,027
3,380,028
3,380,029

340–172.5 : 3,380,030
3,380,031
3,380,032
3,380,033
3,380,034
173 : 3,380,035
174 : 3,380,036
3,380,037
3,380,038

340–174 : 3,380,039
.1 : 3,380,040
3,380,041
3,380,042
3,380,043
213 : 3,380,044
227 : 3,380,045
262 : 3,380,046
347 : 3,380,047

340–347 : 3,380,048
343– 6.5 : 3,380,049
8 : 3,380,050
10 : 3,380,051
16 : 3,380,052
3,380,053
17.2 : 3,380,054
100 : 3,380,055
105 : 3,380,056

343–779 : 3,380,057
829 : 3,380,059
830 : 3,380,060
844 : 3,380,058
874 : 3,380,061
903 : 3,380,062
346– 13 : 3,380,063
17 : 3,380,064

346– 29 : 3,380,065
32 : 3,380,066
33 : 3,380,067
49 : 3,380,068
74 : 3,380,069
3,380,070
3,380,071
107 : 3,380,072

350– 58 : 3,379,485
150 : 3,379,486
351– 58 : 3,379,487
352– 6 : 3,379,488
60 : 3,379,489
401–130 : 3,379,492
214 : 3,379,490
431–343 : 3,379,491

CLASSIFICATION OF DESIGNS

D 2– 4 : 210,815
250 : 210,816
413 : 210,817
D 9– 47 : 210,853
210,854
210,855
194 : 210,818
D10– 8 : 210,819

D13– 1 : 210,820
6 : 210,821
D14– 6 : 210,822
D15– 1 : 210,823
11 : 210,824
D16– 2 : 210,825
D23– 41 : 210,826
58 : 210,827

D23– 62 : 210,828
D26– 1 : 210,829
14 : 210,830
210,831
15 : 210,832
D33– 8 : 210,833
10 : 210,834
32 : 210,835

D34– 2 : 210,836
5 : 210,837
210,838
15 : 210,839
210,840
210,841
210,842
D44– 15 : 210,843

D44– 21 : 210,844
210,845
22 : 210,846
D52– 2 : 210,847
210,848
6 : 210,849
D55– 1 : 210,850
D56– 1 : 210,851

D56– 4 : 210,852
D61– 1 : 210,856
D72– 1 : 210,857
D74– 17 : 210,858
D86– 10 : 210,859
210,860
D89– 1 : 210,861
D90– 8 : 210,862

CLASSIFICATION OF PLANTS

P. – 34 : 2,806
P. – 42 : 2,808
P. – 43 : 2,807

GEOGRAPHICAL INDEX OF RESIDENCE OF INVENTORS

(U.S. States, Territories and Armed Forces, the Commonwealth of Puerto Rico, and the Canal Zone)

(NOTE.—CODES ARE CHANGED AS OF JANUARY 1, 1967)

Alabama	1	Kentucky	21	Oregon	41
Alaska	2	Louisiana	22	Pennsylvania	42
American Samoa	3	Maine	23	Puerto Rico	43
Arizona	4	Maryland	24	Rhode Island	44
Arkansas	5	Massachusetts	25	South Carolina	45
California	6	Michigan	26	South Dakota	46
Canal Zone	7	Minnesota	27	Tennessee	47
Colorado	8	Mississippi	28	Texas	48
Connecticut	9	Missouri	29	Utah	49
Delaware	10	Montana	30	Vermont	50
District of Columbia	11	Nebraska	31	Virginia	51
Florida	12	Nevada	32	Virgin Islands	52
Georgia	13	New Hampshire	33	Washington	53
Guam	14	New Jersey	34	West Virginia	54
Hawaii	15	New Mexico	35	Wisconsin	55
Idaho	16	New York	36	Wyoming	56
Illinois	17	North Carolina	37	U.S. Air Force	57
Indiana	18	North Dakota	38	U.S. Army	58
Iowa	19	Ohio	39	U.S. Navy	59
Kansas	20	Oklahoma	40		

(First number in listing denotes location according to above key. Refer to patent number in body of the Official Gazette to obtain details as to inventor name, location, etc.)

PATENTS

1 : 3,379,046
3,379,582
3,379,699
3,379,885
4 : 3,378,869
3,378,932
3,379,122
3,379,276
3,379,307
3,379,600
3,379,637
3,380,010
3,380,057
3,380,064
5 : 3,379,969
6 : RE.26,382
3,378,855
3,378,858
3,378,859
3,378,865
3,378,879
3,378,883
3,378,889
3,378,892
3,378,906
3,378,927
3,378,929
3,378,944
3,378,946
3,378,949
3,378,950
3,378,955
3,378,970
3,378,980
3,378,994
3,379,005
3,379,008
3,379,026
3,379,052
3,379,056
3,379,062
3,379,067
3,379,079
3,379,084
3,379,088
3,379,116
3,379,136
3,379,144
3,379,153
3,379,166

6 : 3,379,202
3,379,210
3,379,215
3,379,217
3,379,218
3,379,246
3,379,262
3,379,263
3,379,266
3,379,281
3,379,283
3,379,304
3,379,321
3,379,339
3,379,343
3,379,352
3,379,353
3,379,361
3,379,364
3,379,365
3,379,395
3,379,412
3,379,431
3,379,462
3,379,463
3,379,471
3,379,480
3,379,481
3,379,488
3,379,507
3,379,515
3,379,548
3,379,553
3,379,556
3,379,567
3,379,569
3,379,570
3,379,599
3,379,604
3,379,645
3,379,672
3,379,819
3,379,828
3,379,834
3,379,835
3,379,839
3,379,841
3,379,855
3,379,856
3,379,874

6 : 3,379,876
3,379,880
3,379,890
3,379,891
3,379,894
3,379,896
3,379,912
3,379,914
3,379,948
3,379,949
3,379,956
3,379,981
3,379,992
3,379,994
3,379,996
3,380,001
3,380,008
3,380,011
3,380,012
3,380,015
3,380,018
3,380,020
3,380,022
3,380,031
3,380,035
3,380,040
3,380,041
3,380,045
3,380,051
3,380,061
3,380,070
8 : 3,378,856
3,378,886
3,378,911
3,378,921
3,378,930
3,379,392
3,379,415
9 : 3,378,881
3,378,891
3,378,913
3,379,002
3,379,080
3,379,139
3,379,156
3,379,161
3,379,177
3,379,194
3,379,214
3,379,245

9 : 3,379,250
3,379,273
3,379,274
3,379,298
3,379,443
3,379,458
3,379,505
3,379,572
3,379,573
3,379,590
3,379,595
3,379,679
3,379,691
3,379,736
3,379,740
3,379,742
3,379,758
3,379,792
3,379,805
3,379,814
3,379,857
3,379,883
3,379,902
3,379,960
3,379,964
3,379,988
3,380,014
3,380,044
3,380,047
3,380,059
3,380,065
10 : 3,378,854
3,379,036
3,379,519
3,379,694
3,379,701
3,379,720
3,379,721
3,379,751
3,379,794
11 : 3,379,974
3,380,042
3,380,049
12 : 3,378,863
3,378,868
3,378,897
3,378,951
3,379,060
3,379,070
3,379,157

12 : 3,379,192
3,379,232
3,379,334
3,379,394
3,379,437
3,379,538
3,379,565
3,379,591
3,379,596
3,379,633
3,379,807
3,379,808
3,379,864
3,379,866
3,379,922
3,380,019
13 : 3,378,910
3,379,096
3,379,167
3,379,955
15 : 3,379,403
16 : 3,379,044
17 : 3,378,864
3,378,878
3,378,907
3,378,909
3,378,934
3,378,938
3,378,954
3,378,968
3,378,987
3,378,990
3,378,991
3,378,993
3,378,996
3,379,014
3,379,023
3,379,045
3,379,073
3,379,082
3,379,121
3,379,132
3,379,133
3,379,141
3,379,165
3,379,168
3,379,181
3,379,187
3,379,213
3,379,228

17 : 3,379,229
3,379,230
3,379,233
3,379,234
3,379,260
3,379,311
3,379,317
3,379,318
3,379,319
3,379,346
3,379,376
3,379,384
3,379,434
3,379,442
3,379,444
3,379,459
3,379,461
3,379,483
3,379,486
3,379,487
3,379,499
3,379,504
3,379,518
3,379,536
3,379,547
3,379,550
3,379,563
3,379,586
3,379,608
3,379,609
3,379,639
3,379,641
3,379,744
3,379,763
3,379,776
3,379,786
3,379,788
3,379,825
3,379,852
3,379,860
3,379,863
3,379,906
3,379,923
3,379,952
3,379,958
3,380,000
3,380,023
18 : 3,378,852
3,378,860
3,378,895

18 : 3,378,957
3,378,992
3,379,182
3,379,336
3,379,478
3,379,513
3,379,514
3,379,576
3,379,732
3,379,829
3,379,889
3,379,924
3,379,978
3,380,002
19 : 3,379,085
3,379,301
3,379,383
3,379,417
3,379,439
3,379,475
20 : 3,378,862
3,378,941
3,379,219
3,379,382
21 : 3,378,880
3,378,933
3,379,029
3,379,189
3,379,456
3,379,524
3,379,842
3,379,997
22 : 3,379,324
3,379,377
3,379,551
3,379,603
23 : 3,378,867
3,379,175
24 : 3,378,896
3,378,924
3,378,939
3,378,959
3,379,010
3,379,095
3,379,158
3,379,178
3,379,203
3,379,237
3,379,272
3,379,291
3,379,331
3,379,489
3,379,498
3,379,759
3,379,824
3,379,840
3,379,861
3,379,886
3,379,901
3,379,977
3,379,986
25 : 3,378,920
3,378,940
3,378,983
3,378,999
3,379,000
3,379,034
3,379,054
3,379,086
3,379,128
3,379,191
3,379,196
3,379,231
3,379,235
3,379,277
3,379,287
3,379,342
3,379,357
3,379,360
3,379,363
3,379,435
3,379,454
3,379,558
3,379,577
3,379,673
3,379,826
3,379,851
3,379,871
3,379,875
3,379,892
3,379,910
3,379,911
3,379,915
3,379,917
3,379,920
3,379,925
3,379,939
3,379,990
3,380,004
3,380,017
3,380,038
3,380,039
3,380,055
3,380,062
26 : 3,378,885
3,378,888

26 : 3,378,901
3,378,903
3,378,912
3,378,917
3,378,928
3,378,931
3,378,942
3,378,952
3,379,016
3,379,019
3,379,039
3,379,048
3,379,069
3,379,089
3,379,173
3,379,176
3,379,180
3,379,206
3,379,226
3,379,269
3,379,293
3,379,297
3,379,300
3,379,313
3,379,314
3,379,348
3,379,349
3,379,373
3,379,374
3,379,386
3,379,429
3,379,430
3,379,453
3,379,455
3,379,575
3,379,594
3,379,656
3,379,664
3,379,729
3,379,753
3,379,802
3,379,844
3,379,983
3,380,003
3,380,027
3,380,046
27 : RE.26,383
3,378,965
3,379,102
3,379,163
3,379,333
3,379,344
3,379,396
3,379,537
3,379,562
3,379,606
3,379,979
29 : 3,378,962
3,378,963
3,379,007
3,379,074
3,379,143
3,379,145
3,379,190
3,379,279
3,379,294
3,379,303
3,379,340
3,379,354
3,379,402
3,379,409
3,379,497
3,379,535
3,379,541
3,379,867
3,379,872
3,379,959
30 : 3,379,138
3,379,947
31 : 3,378,923
3,379,438
3,379,450
32 : 3,379,522
33 : 3,379,172
34 : 3,378,857
3,378,872
3,378,902
3,378,988
3,379,027
3,379,037
3,379,041
3,379,043
3,379,058
3,379,063
3,379,126
3,379,150
3,379,155
3,379,197
3,379,275
3,379,285
3,379,299
3,379,350
3,379,359
3,379,379
3,379,414
3,379,451

34 : 3,379,468
3,379,477
3,379,501
3,379,589
3,379,612
3,379,622
3,379,627
3,379,638
3,379,640
3,379,643
3,379,671
3,379,674
3,379,680
3,379,681
3,379,682
3,379,707
3,379,719
3,379,723
3,379,731
3,379,733
3,379,745
3,379,750
3,379,754
3,379,765
3,379,772
3,379,782
3,379,783
3,379,784
3,379,785
3,379,793
3,379,797
3,379,803
3,379,821
3,379,865
3,379,897
3,379,951
3,379,991
3,380,006
3,380,029
3,380,043
3,380,056
3,380,060
35 : 3,379,316
3,379,585
3,379,998
36 : 3,378,853
3,378,874
3,378,875
3,378,925
3,378,947
3,378,948
3,378,974
3,379,003
3,379,021
3,379,049
3,379,065
3,379,087
3,379,091
3,379,100
3,379,103
3,379,106
3,379,110
3,379,111
3,379,117
3,379,118
3,379,125
3,379,127
3,379,146
3,379,148
3,379,149
3,379,159
3,379,162
3,379,186
3,379,204
3,379,209
3,379,216
3,379,240
3,379,296
3,379,305
3,379,315
3,379,329
3,379,338
3,379,367
3,379,369
3,379,398
3,379,401
3,379,407
3,379,436
3,379,440
3,379,445
3,379,452
3,379,490
3,379,510
3,379,527
3,379,528
3,379,529
3,379,530
3,379,531
3,379,533
3,379,543
3,379,545
3,379,552
3,379,559
3,379,566
3,379,578
3,379,597

36 : 3,379,605
3,379,607
3,379,611
3,379,620
3,379,625
3,379,647
3,379,659
3,379,678
3,379,722
3,379,726
3,379,743
3,379,746
3,379,756
3,379,757
3,379,760
3,379,779
3,379,799
3,379,812
3,379,813
3,379,827
3,379,832
3,379,836
3,379,854
3,379,858
3,379,869
3,379,887
3,379,888
3,379,907
3,379,921
3,379,926
3,379,927
3,379,931
3,379,932
3,379,966
3,379,971
3,379,980
3,379,982
3,379,987
3,379,995
3,380,025
3,380,026
3,380,030
3,380,043
3,380,050
3,380,053
3,380,054
37 : 3,379,030
3,379,119
3,379,198
3,379,473
3,379,539
3,379,564
3,379,610
3,379,692
39 : 3,378,866
3,378,876
3,378,882
3,378,905
3,378,926
3,378,937
3,378,956
3,378,958
3,378,960
3,378,969
3,378,975
3,378,995
3,379,011
3,379,015
3,379,025
3,379,042
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	3,379,292		3,379,416		3,379,425						

Design Patents

6 :	210,817	17 :	210,831	25 :	210,836	34 :	210,845	36 :	210,840	39 :	210,862
	210,825		210,834	26 :	210,856		210,846		210,841	49 :	210,827
	210,832		210,852	27 :	210,848		210,847		210,842	53 :	210,826
	210,857	18 :	210,820		210,851		210,853	39 :	210,823		210,837
	210,858	24 :	210,822	29 :	210,816		210,854		210,828	55 :	210,824
17 :	210,819		210,838	34 :	210,818		210,855		210,835		210,849
	210,821	25 :	210,829		210,844	36 :	210,833				

Plant Patents

6 :	2,807	6 :	2,808	53 :	2,806

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

April 23, 1968 Volume 849 Number 4

TRADEMARKS

NOTICES

United States Adopted Names

LIST NO. 19

November 1, 1967 to February 29, 1968

The following nonproprietary names for the drugs described have been adopted by the USAN Council (the nomenclature committee sponsored by the American Medical Association, the American Pharmaceutical Association, and the United States Pharmacopeial Convention) in cooperation with the interested manufacturers. The designation "United States Adopted Names" (USAN) has been coined to distinguish these formally adopted nonproprietary names from other nonproprietary names. Adoption of such names does not imply endorsement of the products involved by the A.M.A. Council on Drugs, the United States Pharmacopeia, or the National Formulary.

Any comments or suggestions should be addressed to Doctor Joseph B. Jerome, Secretary, United States Adopted Names Council, American Medical Association, 535 N. Dearborn St., Chicago, Ill., 60610.

alphasone acetophenide: progestogen
alprenolol hydrochloride: β-adrenergic receptor antagonist
amquinolate: poultry coccidiostat
azaribine: oral antipsoriatic
betamethasone valerate: corticosteroid
butaperazine maleate: tranquilizer
carbenicillin calcium: antibacterial
carbenicillin disodium: antibacterial
carbenicillin potassium: antibiotic
cingestol: progestogen
clinimycin: antiparasitic; antibacterial
cosyntropin: synthetic corticotropin
cromolyn sodium: treatment of allergic airway obstruction
dantrolene sodium: skeletal muscle relaxant
diphenidol hydrochloride: antiemetic; antivertigo
dipenidol pamoate: antiemetic; antivertigo
filipin: antifungal; antibiotic
flavoxate hydrochloride: urinary antispasmodic
flurazepam hydrochloride: hypnotic
furazolium tartrate: antibacterial
gloxazone: treatment of anaplasmosis in cattle
guanacline sulfate: antihypertensive
halofenate: hypocholesteremic
indriline hydrochloride: central nervous system agent
kalafungin: antifungal; antibacterial
ketipramine fumarate: antidepressant
lydimycin: antibacterial; antifungal
medazepam hydrochloride: tranquilizer
milipertine: tranquilizer
nebramycin: antibiotic
nifursol: histomonocide; veterinary growth stimulant
nimazone: anti-inflammatory
parbendazole: anthelmintic

CONDITION OF TRADEMARK APPLICATIONS AS OF FEBRUARY 29, 1968

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	17, 790
Date of oldest new application	Apr. 4, 1967
Date of oldest amended application (filing date)	Oct. 11, 1963

C. M. WENDT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	4-10-67	10-20-65
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	4-25-67	10-11-63
(III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 36	4-4-67	6-30-65
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	4-5-67	1-5-65
Renewals (All Classes)	1-29-68	....
Sec. 12(c) Publications (All Classes)	2-5-68	....

Applications filed during the month of February 1968—2,340

Registrations Issued	237—No. 847,793 to No. 848,029
Renewals Issued	80

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $12.00 per annum, foreign mailing $4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

piprozolin: choleretic
povidone: pharmaceutic aid
profadol hydrochloride: analgesic
puromycin hydrochloride: antibiotic
quazodine: cardiopulmonary
racephenicol: veterinary antibacterial
riboprine: antineoplastic
rifampin: antibacterial
soterenol hydrochloride: adrenergic bronchodilator, β-receptor stimulant
tetrydamine: analgesic; anti-inflammatory
thiamphenicol: veterinary antibacterial
tigestol: progestogen
tilidine hydrochloride: analgesic
tofenacin hydrochloride: antiparkinson; psychotonic
verapamil: coronary vasodilator

Notice of Daylight Saving Time

The Patent Office will operate on Daylight Saving Time from April 29, 1968 through October 27, 1968.

Errata

In the OFFICIAL GAZETTE of Feb. 6, 1968, at page TM 33, Reg. No. 843,826, "Serial No. 215,732" should be deleted and *Serial No. 251,732* should be inserted.

In the OFFICIAL GAZETTE of Feb. 20, 1968, in the List of Registrants at TM ii under Colgate-Palmolive-Peet Co., "Registration No. 434,949" should be deleted and *Registration No. 434,494* should be inserted.

In the OFFICIAL GAZETTE of Mar. 19, 1968, at page TM 138, all reference to the mark of Serial No. 252,999 should be deleted.

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 310,855 ("GLENMORE" ETC. AND DESIGN), Glenmore Distilleries Co., Whiskey; **Reg. No. 502,859** (GLENMORE), same; **Reg. No. 665,176** (GLENMORE AND DESIGN), same, Vodka; **Reg. No. 703,326** (GLENMORE), same, Gin, **filed** Oct. 27, 1967, D.C. Conn. (New Haven), Doc. 12224, *Glenmore Distilleries Company* v. *Esbeco Distilling Corporation.*

Reg. No. 502,859. (See Reg. No. 310,855.)

Reg. No. 548,246 (KING QUALITY), Quality Dairy Company, Packaged ice cream; **Reg. No. 674,682** (KING QUALITY AND DESIGN), same, Packaged ice cream, butter, fresh cream, fresh milk, fresh buttermilk, oleomargarine, salad dressing, sour cream dressing, cheese, fluid chocolate milk, and reconstituted orange juice in fluid form; **Reg. No. 802,799,** same, Packaged ice cream, butter, fresh cream, fresh milk, fresh buttermilk, oleomargarine, salad dressing, sour cream dressing, cheese, fluid chocolate milk, reconstituted orange juice in fluid form, whipping cream, skim milk, fruit sherbets, jellies, preserves, apple butter, cake, cookies, peanut butter, and brown and serve, unfrozen pizza, **filed** Sept. 29, 1967, D.C., E.D. Mo. (St. Louis), Doc. 67C333(3), *Quality Dairy Company* v. *Nathan Taksel and S. Alex Trust, doing business as King Quality Builders.* Cause dismissed, Dec. 12, 1967.

Reg. No. 568,635 (LITTLE LEAGUE BASEBALL AND DESIGN), Little League Baseball, Inc., Promoting and developing sportsmanship, team play, and athletic ability through the medium of organized juvenile baseball teams; **Reg. No. 590,251,** same, Young boys' T-shirts and sweatshirts; **Reg. No. 606,748** (LITTLE LEAGUER), same, Magazines; **Reg. No. 621,335** (LITTLE LEAGUE), same, Pen and pencil sets; **Reg. No. 642,433** (LITTLE LEAGUE BASEBALL), same, Services in connection with the development of sportsmanship, clean play, and athletic ability in young boys through the medium of a planned program of baseball; **filed** Nov. 13, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c1967, *Little League Baseball, Incorporated* v. *National Tea Co.* Plantiff's complaint withdrawn; action dismissed without prejudice, Nov. 30, 1967.

Reg. No. 590,251. (See Reg. No. 568,635.)

Reg. No. 606,748. (See Reg. No. 568,635.)

Reg. No. 621,335. (See Reg. No. 568,635.)

Reg. No. 642,433. (See Reg. No. 568,635.)

Reg. No. 652,818 (LITTLE RED BARN AND DESIGN), Edwin H. Eichler, doing business as E. H. Eichler, Various items of food—namely, pork sausage, summer sausage, sliced bacon, small barbecued chicken, whole wheat bread, cheddar cheese, molasses taffy, trout pate and pre-cooked wild rice; **Reg. No. 772,953** (THE RED BARN), The Red Barn System, Inc., Promoting the establishment of a chain of franchised drive-in restaurants, and advising, instructing and financially assisting the operators of such restaurants, **filed** July 7, 1964, D.C., N.D. Ind. (Hammond), Doc. C–4810, *Little Red Barn* v. *The Red Barn.*

Reg. No. 665,176. (See Reg. No. 310,855.)

Reg. No. 674,682. (See Reg. No. 548,246.)

Reg. No. 703,326. (See Reg. No. 310,855.)

Reg. No. 755,336 (FLECTO AND DESIGN), The Flecto Company, Inc., Protective coatings—namely, paints, varnishes, and enamels for interior and exterior use, **filed** Nov. 24, 1967, D.C., E.D. Wash. (Spokane), Doc. 3062, *The Flecto Company, Inc.* v. *Atlas Seamless Flooring Manufacturing, Inc.*

Reg. No. 769,598. (See Reg. No. 790,425.)

Reg. No. 772,953. (See Reg. No. 652,818.)

Reg. No. 790,424. (See Reg. No. 790,425.)

Reg. No. 790,425 (IRENE HERBERT'S PANTS PARLOUR), Irene Herbert's Pants Parlour, Women's pants for outerwear; **Reg. No. 769,598** (MISS PANTS PARLOUR AND DESIGN), Pants Parlour Holding Company, Inc., Women's pants and tops for outerwear; **Reg. No. 790,424** (PANTS PARLOUR), same, **filed** Feb. 24, 1966, D.C., E.D.N.Y. (Brooklyn), Doc. 66C–1153, *Pants Parlour Holding Co.* v. *Pants Parlor, Inc.* Order dismissing action without prejudice, Dec. 11, 1967.

Reg. No. 802,799. (See Reg. No. 548,246.)

Reg. No. 807,373 (SARDOETTES), Sardeau, Inc., Bath oil impregnated pads, **filed** Jan. 12, 1968, D.C., S.D.N.Y., Doc. 68–C–165, *Sardeau, Inc.* v. *Helene Curtis Industries, Inc.*

MARKS PUBLISHED FOR OPPOSITION

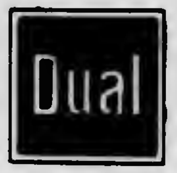
SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[**NOTE:** For publication of marks presented in applications for registration in one class, see section 2.]

SN 233,159. Dual Gebrüder Steidinger, St. Georgen, Black Forest, Germany, by change of name from Gebrüder Steidinger, St. Georgen, Black Forest, Germany. Filed Nov. 23, 1965.



Owner of U.S. Reg. Nos. 640,938 and 641,392.

Class 21—Electrical Apparatus, Machines, and Supplies

For Small Electric Motors and Parts Thereof (Int. Cl. 7).

Class 36—Musical Instruments and Supplies

For Phonographs, Phonograph Record Changers, and Parts Thereof; and Tape Recorders/Reproducers, and Parts Thereof (Int. Cl. 9).

First use July 26, 1963; in commerce July 26, 1963.

Class 21—Electrical Apparatus, Machines, and Supplies

For A.C.-D.C. Power Converters and Speaker Kits (Int. Cl. 9).
First use July 6, 1965.

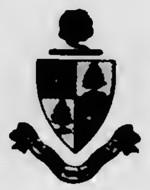
Class 22—Games, Toys, and Sporting Goods

For Toys—Namely, Waist-Mounted Tethered Balls (Int. Cl. 28).
First use Aug. 31, 1965.

Class 36—Musical Instruments and Supplies

For Automobile Phonograph Record Players, Tape Decks, and Phonograph Records (Int. Cl. 9).
First use Apr. 19, 1963.

SN 237,639. Delta Delta Delta, Chicago, Ill. Filed Feb. 1, 1966.



The Greek working is translated as "let us steadfastly love one another."

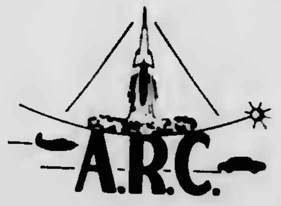
Class 38—Prints and Publications

For Directories, Christmas Cards, and Pledge Manuals (Int. Cl. 16).
First use 1910.

Class 200

For Indicating Membership in the Applicant.
First use June 27, 1906.

SN 243,211. A.R.C. Electronics, Inc., Paramount, Calif. Filed Apr. 12, 1966.



Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Rope Hardware—Namely, Rope Friction Locks and Rope Tie-Downs (Int. Cl. 6).
First use Oct. 31, 1965; 1959 as to the insignia.

SN 257,330. Professional Market Research, Inc., Philadelphia, Pa. Filed Oct. 27, 1966.

MEDIA-CHEK

Class 38—Prints and Publications

For Survey Reports Issued From Time to Time (Int. Cl. 16).

Class 101—Advertising and Business

For Preparing Survey Reports Calculated To Show Which Advertising Channels Will Produce the Best Results in Selling a Given Product or Service (Int. Cl. 35).

First use February 1965.

SN 262,079. Walco Manufacturing Corp., Providence, R.I., assignee of Walco Electric Company, Providence, R.I. Filed Jan. 9, 1967.

WALCO.

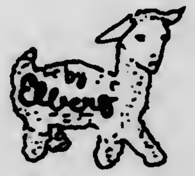
Class 21—Electrical Apparatus, Machines, and Supplies

For Rebuilt Motors and Generators and Control Units Therefor, Electric Heat Controls for Extruders and the Like, and Wire Preheaters and Annealers (Int. Cls. 7, 9, and 11).
First use on or about Sept. 19, 1933.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Electrically Operated Plastic Film Winders (Int. Cl. 7).
First use on or about July 29, 1963.

SN 264,633. The Elbert Leather Company, Inc., New York, N.Y. Filed Feb. 14, 1967.



Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Ladies' Purses and Hand Bags Made in Whole or in Part of Leather (Int. Cl. 18).
First use Sept. 12, 1965.

Class 39—Clothing

For Ladies' Caps and Hats (Int. Cl. 25).
First use at least as early as May 1, 1966.

SN 266,477. Copystatics Manufacturing Corporation, Miami Lakes, Fla. Filed Mar. 13, 1967.

COPYSTATICS

Class 6—Chemicals and Chemical Compositions

For Toner for Electrostatic Copying Machines (Int. Cl. 1).

Class 37—Paper and Stationery

For Paper for Electrostatic Copying Machines (Int. Cl. 16).

First use July 1966.

SN 267,060. Polak's Frutal Works, Inc., Middletown, N.Y. Filed Mar. 17, 1967.

PFW

Class 6—Chemicals and Chemical Compositions

For Essential Oils, Perfume Bases, and Aromatic Compositions Used in the Manufacture of Perfume (Int. Cl. 1 and 3).

Class 46—Foods and Ingredients of Foods

For Food Flavoring Extracts (Int. Cl. 30).

First use July 1960.

SN 274,131. United States Pipe and Foundry Company, Birmingham, Ala. Filed June 19, 1967.

PLAS-TYTON

Owner of Reg. Nos. 646,725, 805,582, and others.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Plastic Pipe and Fittings (Int. Cl. 17).

Class 35—Belting, Hose, Machinery Packing, and Non-metallic Tires

For Gaskets for Use in Pipe Joints (Int. Cl. 17).

First use on or about Apr. 1, 1967.

SN 280,746. Eltop Corp., Orange, Calif. Filed Sept. 20, 1967.

ELTOP

Class 21—Electrical Apparatus, Machines, and Supplies

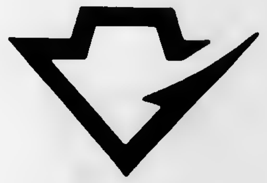
For Electric Control Panels and Electrical Relays (Int. Cl. 9).

Class 26—Measuring and Scientific Appliances

For Liquid Level Probes, Battery Condition Testers, Battery Charge Testers, and Liquid Gauges (Int. Cl. 9).

First use Apr. 5, 1967.

SN 281,659. Eltop Corp., Orange, Calif. Filed Oct. 3, 1967.



Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Control Panels, Pump Relays, and Liquid Level Prober (Int. Cl. 9).

Class 26—Measuring and Scientific Appliances

For Battery Condition Testers, Battery Charge Testers, and Liquid Level Gauges (Int. Cl. 9).

First use Apr. 5, 1967.

SN 284,961. Advo-System, Inc., Hartford, Conn. Filed Nov. 16, 1967.

ADVO-SYSTEM

Class 101—Advertising and Business

For Advertising, Printing, Addressing, and Mailing Services for Goods of Others; and the Maintaining and Providing of Mailing Lists Therefor (Int. Cl. 35).

Class 106—Material Treatment

For Bindery Services (Int. Cl. 40).

First use at least as early as 1939.

SN 284,963. Advo-System, Inc., Hartford, Conn. Filed Nov. 16, 1967.

ADVO

Class 101—Advertising and Business

For Advertising, Printing, Addressing and Mailing Services for Goods of Others; and Maintaining and Providing of Mailing Lists Therefor (Int. Cl. 35).

Class 106—Material Treatment

For Bindery Services (Int. Cl. 40).

First use at least as early as 1939.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1 — Raw or Partly Prepared Materials

SN 258,159. Seaboard Seed Company, Bristol, Ill. Filed Nov. 7, 1966.

MAGIC MIX

Applicant disclaims the word "Mix" apart from the mark as shown.
For Grass Seed (Int. Cl. 31).
First use during or prior to 1957.

SN 262,685. B. L. Cobia, Inc., Winter Garden, Fla. Filed Jan. 17, 1967.

XMAS-KACTUS

For Tropical House Plants (Int. Cl. 31).
First use on or about Dec. 6, 1966.

SN 270,348. Borg-Warner Corporation, Chicago, Ill. Filed May 1, 1967.

ALPHA-CLAN

For Thermoplastic Material in Granular Form (Int. Cl. 1).
First use on or prior to Apr. 11, 1967.

SN 271,786. Foseco International Limited, Birmingham, England. Filed May 18, 1967.

CERAMOL

For Mould Dressings for Use in the Foundry Industry (Int. Cl. 1).
First use July 27, 1966; in commerce July 27, 1966.

SN 273,114. Rexall Drug and Chemical Company, d.b.a. Fiberfil, Los Angeles, Calif. Filed June 5, 1967.

ETHOCON

Owner of Reg. Nos. 793,861 and 794,252.
For Resin Coated Glass Fibers in Granular or Pellet Form (Int. Cl. 21).
First use Mar. 30, 1967.

SN 273,683. Rexall Drug and Chemical Company, d.b.a. Fiberfil, Los Angeles, Calif. Filed June 12, 1967.

NYLADYNE

Owner of Reg. Nos. 715,604 and 758,613.
For Thermoplastic Molding Resin Pellets (Int. Cl. 1).
First use May 19, 1967.

SN 288,992. Beaunit Corporation, New York, N.Y. Filed Jan. 17, 1968.

TOUGH STUFF

Owner of Reg. Nos. 834,185 and 844,338.
For High Tenacity Polyester Fiber for Use in Home Furnishing Fabrics and Carpets (Int. Cl. 22).
First use on or about Oct. 11, 1966.

Class 2 — Receptacles

SN 253,934. Robert B. Vance & Associates, Atlanta, Ga. Filed Sept. 6, 1966.

FINANCIAL ORGANIZER

For Check Storage Boxes (Int. Cl. 16).
First use on or about Jan. 25, 1965.

SN 279,748. Rocket Jewelry Box, Inc., New York, N.Y. Filed Sept. 6, 1967.

Young Years

For Jewelry Boxes (Int. Cl. 21).
First use June 1, 1965.

SN 281,242. Universal Packaging Corporation, Bow, N.H. Filed Sept. 26, 1967.

UNI/GLAZE

For Coated Paperboard Box Blanks for Use in Packaging Frozen Foods (Int. Cl. 16).
First use Aug. 1, 1967.

SN 281,243. Universal Packaging Corporation, Bow, N.H. Filed Sept. 26, 1967.

UNI/GLOSS

For Coated Paperboard Box Blanks for Use in Packaging Frozen Foods (Int. Cl. 16).
First use Aug. 1, 1967.

Class 4 — Abrasives and Polishing Materials

SN 260,007. Armour and Company, Chicago, Ill. Filed Dec. 5, 1966.

HUSTLE

Owner of Reg. No. 796,541.
For Furniture Cream Polish (Int. Cl. 3).
First use Jan. 3, 1966.

SN 266,756. Hanlon Chemical Co., Inc., Kansas City, Kans. Filed Mar. 15, 1967.

Hanlon's Wash-'N-Wax

Applicant disclaims any exclusive right to the words "Wash" and "Wax," apart from the mark as shown. Owner of Reg. No. 728,995.

For Sponge Device for Washing and Waxing Painted Surfaces Such as Automobiles (Int. Cl. 21).

First use February 1959.

Class 5—Adhesives

SN 263,468. The Leal Company, Camden, N.J. Filed Jan. 27, 1967.

LEAL-LOK

For Epoxy Spray Adhesive (Int. Cl. 1).

First use Oct. 12, 1966.

SN 287,122. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Dec. 18, 1967.

SCOTCH

Owner of Reg. Nos. 522,761, 688,141, and others.

For Mounting Squares Having Adhesive on Both Sides Thereof (Int. Cl. 1).

First use Apr. 20, 1967.

Class 6—Chemicals and Chemical Compositions

SN 259,255. Merck Sharp & Dohme of Canada Limited, Westmount, Montreal, Quebec, Canada. Filed Nov. 22, 1966.

SILANOR

For Deuterated Chemical Solvents Containing Tetramethylsilane for Use in Nuclear Magnetic Resonance Spectroscopy (Int. Cl. 1).

First use Oct. 4, 1966; in commerce Oct. 4, 1966.

SN 260,270. National Lead Company, New York, N.Y. Filed Dec. 7, 1966.

ENELCHEM

For Chemical Compositions Being Derivatives of Titanium (Int. Cl. 1).

First use Mar. 10, 1966.

SN 261,760. Shell Oil Company, New York, N.Y. Filed Dec. 30, 1966.

SHELL

Owner of Reg. No. 292,495.

For 405 Catalyst for Initiating Spontaneous Decomposition of Liquid Hydrazine in Small Reactors for Generation of Gas or Thrust (Int. Cl. 1).

First use Nov. 18, 1966.

SN 262,230. Universal Oil Products Company, Des Plaines, Ill. Filed Jan. 9, 1967.

DEEP PURPLE

For Algaecide (Int. Cl. 5).

First use July 8, 1960.

SN 262,348. Rayonier Incorporated, New York, N.Y. Filed Jan. 11, 1967.

POLYPHENE

For Organic Polyphenolic Chemicals—Namely, Those derived From the Aqueous Extract of Western Red Cedar Wood (Int. Cl. 1).

First use Dec. 16, 1966.

SN 262,756. Ball Brothers Company Incorporated, Muncie, Ind. Filed Jan. 18, 1967.

KONTROL

For Graphic Art Chemicals and Solutions (Int. Cl. 1).

First use on or about Aug. 20, 1964.

SN 265,483. B & L Sales Associates, Boston, Mass. Filed Feb. 27, 1967.

COME ON STRONG

For Room Deodorant (Int. Cl. 5).

First use at least as early as about April 1965.

SN 266,700. Sun Chemical Corporation, New York, N.Y. Filed Mar. 14, 1967.

EXCELLO

For Finely Divided Pigmented Powder for Use in Xerographic Copy Machines (Int. Cl. 2).

First use August 1966.

SN 267,731. Ciba Corporation, d.b.a. The Gland-O-Lac Company, New York, N.Y. Filed Mar. 28, 1967.

FORMIDE

For Preparation for the Fumigation of Brooder Houses, Poultry Houses, Hog Houses, and Barns (Int. Cl. 5).

First use January 1961.

SN 268,023. Chemetron Noury Corporation, New York, N.Y. Filed Mar. 31, 1967.

CADET

Owner of Reg. No. 751,498.

For Chemical Peroxides and Chemical Peroxide Mixtures for Industrial and/or Manufacturing Use (Int. Cl. 1).

First use Feb. 14, 1967.

SN 271,491. Pluess-Staufer (North American) Inc., New York, N.Y. Filed May 15, 1967.

SETALITE

For Calcium Carbonate (Int. Cl. 1).

First use at the beginning of 1967.

SN 274,970. Heatbath Corporation, Indian Orchard, Mass. Filed June 28, 1967.

PHOS BLACK

For Chemical Predip Bath To Be Used With Phosphate Conversion Coating Baths for Steel Parts (Int. Cl. 1).

First use Mar. 3, 1967.

Subj. to Intf. with SN 285,240.

SN 275,189. Valley Chemical Company, Greenville, Miss. Filed June 30, 1967.

BEANWEDA

For Herbicide (Int. Cl. 5).

First use May 29, 1967.

SN 275,486. Watkins Products, Inc., Winona, Minn. Filed July 6, 1967.

TREAT-A-LOT

For Combination Deodorant and Insecticide (Int. Cl. 5).

First use May 16, 1967.

SN 275,515. Continental Oil Company, Ponca City, Okla. Filed July 7, 1967.

TRUOX

For Lauroyl Peroxide (Int. Cl. 1).

First use October 1960.

SN 275,931. General Aniline & Film Corporation, New York, N.Y. Filed July 13, 1967.

FULGAYNE

For Textile Finishing Agents—Namely, Filling, Weighting, Hand Building, and Body Agents (Int. Cl. 1).

First use at least as early as 1947.

SN 276,098. The British Drug Houses Limited, London, England. Filed July 17, 1967.

MAGTRAN

Owner of British Reg. No. 865,465, dated June 11, 1964.

For Chemical Preparations for Use in the Manufacture and Coating of Optical Elements (Int. Cl. 1).

SN 276,221. Ciba Limited, Basel, Switzerland. Filed July 18, 1967.

PERGAFOR

Owner of Swiss Reg. No. 215,591, dated Jan. 12, 1966.

For Chemical Compositions, Preparations or Compounds for Use as Auxiliary Agents in the Paper Industry (Int. Cl. 1).

SN 276,226. Ciba Limited, Basel, Switzerland. Filed July 18, 1967.

RESICART

Owner of Swiss Reg. No. 215,592, dated Jan. 12, 1966.

For Chemical Compositions, Preparations or Compounds for Use as Auxiliary Agents in the Paper Industry (Int. Cl. 1).

SN 276,312. Stanley H. Cohen, Yonkers, N.Y. Filed July 19, 1967.

MULTI DENSE

For Chemical Density Determining Solution (Int. Cl. 1).

First use Oct. 4, 1966.

SN 280,136. K. J. Quinn & Co., Inc., Malden, Mass. Filed Sept. 12, 1967.

INFRA-SHELL

Owner of Reg. No. 825,153.

For Dressings for Leather Shoes and Other Leather Products (Int. Cl. 1).

First use Aug. 17, 1967.

SN 282,946. El Paso Products Company, Odessa, Tex. Filed Oct. 20, 1967.

El Paso

For Hexamethylenediamine and Adipic Acid (Int. Cl. 1).

First use Dec. 30, 1966.

SN 285,979. One Ten, Inc., Summit, N.J. Filed Dec. 1, 1967.

110

For Laundry Whitening and Brightening Additive (Int. Cl. 3).

First use Oct. 24, 1967.

SN 286,073. Stauffer Chemical Company, New York, N.Y. Filed Dec. 4, 1967.

DIAMOND-S

Owner of Reg. No. 500,314.

For Sulfur (Int. Cl. 1).

First use at least as early as June 17, 1964.

SN 287,120. Geigy Chemical Corporation, Ardsley, N.Y. Filed Dec. 18, 1967.

SEVEREX

For Chemical Ingredient Used in the Manufacture of Herbicides (Int. Cl. 1).

First use Nov. 20, 1967.

Class 8—Smokers' Articles, Not Including Tobacco Products

SN 264,846. Newman Brothers, Inc., Cincinnati, Ohio. Filed Feb. 16, 1967.

SIGNA

For Ash Trays and Cigarette Boxes (Int. Cl. 34).

First use Jan. 10, 1967.

SN 283,051. James H. Thurman, Hayward, Calif. Filed Oct. 18, 1967.

SANDUNK

The word "Trademark" is disclaimed apart from the mark.

For Smokers' Ash Receptacles (Int. Cl. 34).

First use June 16, 1967.

SN 288,372. Standard Packaging Corporation, New York, N.Y. Filed Jan. 8, 1968.

Owner of Reg. Nos. 595,308, 604,047, and others.
For Smokers' Articles—Namely, Cigarette, Cigar and Pipe Lighters, and Plastic Ashtrays (Int. Cl. 34).
First use at least as early as Apr. 12, 1967; Sept. 17, 1953, as to "Stanpak."

SN 288,965. Thaddeus D. McHan, d.b.a. Immokalee Mfg. Co., Immokalee, Fla. Filed Jan. 16, 1968.

For Smoking Pipes (Int. Cl. 34).
First use July 30, 1967.

Class 9—Explosives, Firearms, Equipments, and Projectiles

SN 276,778. Wanda Cartridge Co., Houston, Tex. Filed July 25, 1967.

WANDA

For Ammunition in the Form of Cartridges for Use in Shotguns (Int. Cl. 13).
First use on or about Nov. 29, 1966.

Class 10—Fertilizers

SN 269,623. Bering Industries Ltd., North Vancouver, British Columbia, Canada. Filed Apr. 20, 1967.

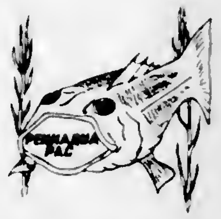
For Sphagnum Peat Moss (Int. Cl. 31).
First use Mar. 22, 1967; in commerce Mar. 22, 1967.

SN 269,736. Bering Industries Ltd., North Vancouver, British Columbia, Canada. Filed Apr. 21, 1967.

ARCTIC GOLDEN

For Sphagnum Peat Moss (Int. Cl. 31).
First use Mar. 22, 1967; in commerce Mar. 22, 1967.

SN 272,677. Pennington Grain & Seed, Inc., Madison, Ga. Filed May 31, 1967.



For Fish Pond Fertilizer (Int. Cl. 1).
First use Mar. 1, 1967.

Class 12—Construction Materials

SN 257,963. Johns-Manville Corporation, New York, N.Y. Filed Nov. 4, 1966.

spanCore

For Acoustical Panels (Int. Cl. 19).
First use Dec. 30, 1965.

SN 259,583. Riblet Products, Incorporated, Elkhart, Ind. Filed Nov. 28, 1966.

RIB

Applicant disclaims the word "Rib."
For Pre-Engineered Steel Buildings (Int. Cl. 6).
First use June 3, 1966.

SN 260,606. Stanmar, Inc., Sudbury, Mass. Filed Dec. 12, 1966.

stanmar

For Pre-Engineered Buildings and Like Structures, and Parts Thereof, Said Parts Being Wall Panels, Windows, Doors, Door Frames, Decking, Studding, Posts, Beams, Railings, Roofing, and Flooring (Int. Cl. 19).
First use May 27, 1966.

SN 261,496. Industrial Acoustics Company, Inc., Bronx, N.Y. Filed Dec. 27, 1966.

iac

THE STANDARD OF SILENCE

Owner of Reg. Nos. 643,127, 814,266, and others.
For Prefabricated or Field Fabricated Noise Control Enclosures, and Components Therefor, Including Panels, Doors, Floors, Windows, Ventilators, Silencers, and Associated Hardware and Trim; Sound Proof Rooms; Movable Walls, and Room Dividers (Int. Cl. 19).
First use December 1964.

SN 272,270. The General Fireproofing Company, Youngstown, Ohio. Filed May 24, 1967.

HILA-TEX

For Rigid, High-Strength Plastic Laminate for Use in Manufacture of Tops for Tables and Desks (Int. Cl. 17).
First use Oct. 10, 1966.

SN 272,938. Munchhausen Soundproofing Company, Inc., New York, N.Y. Filed June 2, 1967.

SHERMLORE

For Sound Insulating Structures—Namely, Doors (Int. Cl. 19).
First use May 16, 1967.

SN 273,318. Sonneborn Building Products, Inc., Des Plaines, Ill. Filed June 7, 1967.

SONOLASTIC

Owner of Reg. No. 416,974.
For Elastomeric-Type Sealant for Masonry and the Like Used in the Construction Industry (Int. Cl. 17).
First use on or about Feb. 28, 1957.

SN 273,700. Universal American Corporation, Detroit, Mich. Filed June 12, 1967.

PERMA PRINT

For Extruded Aluminum Trim, the Surface of Which Contains Decorative or Functional Symbols (Int. Cl. 6).
First use Mar. 20, 1967.

SN 274,768. C.B.S. Plywood, Inc., d.b.a. California Builders Supply Company, Oakland, Calif. Filed June 26, 1967.

For Lumber—Namely, Plywood (Int. Cl. 19).
First use October 1964.

SN 276,141. Kaiser Aluminum & Chemical Corporation, Oakland, Calif. Filed July 17, 1967.

ROTOCAST

For Refractory Kiln Lining Material (Int. Cl. 11).
First use at least as early as June 9, 1967.

SN 276,246. Newport Storm Window Corp., Bayport, N.Y. Filed July 18, 1967.

For Storm Windows, Storm Screens, and Storm Doors (Int. Cl. 19).
First use on or about Apr. 11, 1967.

SN 282,954. General Refractories Company, Philadelphia, Pa. Filed Oct. 20, 1967.

LITECAST

For Refractory Castable—Namely, Lightweight Refractory Aggregate and a Hydraulic Setting Cement (Int. Cl. 19).
First use 1950.

SN 287,915. Interchemical Corporation, New York, N.Y. Filed Jan. 2, 1968.

STRUCSURECRYLIC

Owner of Reg. Nos. 704,173, 732,917, and 769,015.
For Acrylic Based Caulking Compositions for General Purpose Glazing and Sealing in the Building and Construction Industry (Int. Cl. 17).
First use on or about Feb. 1, 1967.

SN 288,608. General Aniline & Film Corporation, New York, N.Y. Filed Jan. 11, 1968.

ETERNIT

Owner of Reg. Nos. 200,878, 295,276, and 297,247.
For Asbestos-Cement for Roofing Purposes, for Covering Walls and Ceilings, and Other Construction Purposes; and Pipe, Tubes, Sheets, and Molded Pieces of Asbestos-Cement for Construction and Roofing Purposes (Int. Cl. 19).
First use Jan. 1, 1903.

SN 288,633. Pacific Wood Products Company, Los Angeles, Calif. Filed Jan. 11, 1968.

MATCH+MATED

For Plywood Panels (Int. Cl. 19).
First use June 1967.

SN 288,635. Pacific Wood Products Company, Los Angeles, Calif. Filed Jan. 11, 1968.

MANOR

For Plywood Panels (Int. Cl. 19).
First use June 1967.

SN 288,636. Pacific Wood Products Company, Los Angeles, Calif. Filed Jan. 11, 1968.

ISLANDER

For Plywood Panels (Int. Cl. 19).
First use February 1964.

SN 289,639. General Refractories Company, Philadelphia, Pa. Filed Jan. 29, 1968.

SIMULTAN

For Refractory Brick (Int. Cl. 19).
First use Aug. 25, 1965.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 251,212. C. Hager & Sons Hinge Manufacturing Company, St. Louis, Mo. Filed July 28, 1966.

Owner of Reg. No. 607,192.
For Hinges of All Types—Namely, Door Hinges, Cabinet Hinges, Screw Hook Hinges, Screw Bolt Hinges, Strap Hinges, and Miscellaneous Special Hinges; Door Pulls; Cabinet Knobs; and Miscellaneous Hardware Items—Namely, Shelf Brackets, Corner Braces, Door Stops, Window Locks and Lifts, Closet Rods, and Adjustable Shelf Standards (Int. Cl. 6).
First use in or about 1947.

SN 258,219. Townsend Company, West Newton, Pa. Filed Nov. 8, 1966.

WEATH-R-LOK

For Pre-Assembled Expandable Fastener and Sealing Washer for Connecting Metal and Non-Metallic Members Together (Int. Cl. 6).
First use in or about March 1963.

SN 269,468. Stehlin Corporation, Pasadena, Calif. Filed Apr. 18, 1967.

Stehlin

For Valves Including Sanitary and Industrial Valves, Line, Angle, Gravity-Flow, Tank, Tanker, Vacuum and Air-Actuated Valves; Closures, Hose Clamps, Fittings, Vents, Kettle Valves, Regulating Units, Remote Control Valve Units, and Clamps (Int. Cl. 6).
First use Feb. 6, 1958.

SN 269,909. Maxon Premix Burner Company, Inc., Muncie, Ind. Filed Apr. 24, 1967.

Maxon

For Automatic Closing Valves and Automatic Opening Valves (Int. Cl. 6).
First use December 1959.

SN 270,969. Standard-Thomson Corporation, Waltham, Mass. Filed May 8, 1967.

H-N

For Bellows (Int. Cl. 6).
First use Mar. 27, 1967.

SN 273,802. Staple Center Manufacturing Corp., Rosemont, Ill. Filed June 13, 1967.

STAPLE CENTER

Applicant disclaims the word "Staple" apart from the mark as shown.
For Staples (Int. Cl. 6).
First use May 19, 1967.

SN 278,876. Crane Co., New York, N.Y. Filed Aug. 23, 1967.

HYDRO-AIRE

For Fluid, Semi-Fluid, and Gas Handling Valves, Safety and Relief Valves, and Valve Operating and Actuating Mechanisms; and Parts, Controls, and Components of the Foregoing (Int. Cl. 6).
First use June 22, 1967.

SN 287,863. Nugget Distributors' Cooperative of America, Inc., d.b.a. Nugget Distributors, Inc., Stockton, Calif. Filed Jan. 2, 1968.

Nugget

Owner of Reg. No. 832,553.
For Aluminum Cookware, Including Pans, Measuring Sets, and Related Cooking Utensils (Int. Cl. 21).
First use Dec. 12, 1967.

Class 14 — Metals and Metal Castings and Forgings

SN 270,651. Anaconda American Brass Company, Waterbury, Conn. Filed May 4, 1967.

ANAVAC

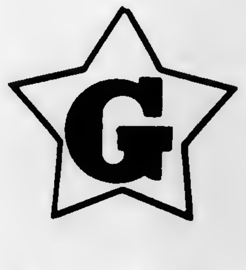
For Non-Ferrous Metals in the Form of Rod, Tube, Wire, and Sheet (Int. Cl. 6).
First use Jan. 3, 1967.

SN 271,766. Cameron Iron Works, Inc., Houston, Tex. Filed May 18, 1967.

CAMERON

Owner of Reg. Nos. 525,597, 786,400, and others.
For Forged and Milled Metals and Alloys in the Form of Sheet, Strip, Plate, Bars, and Billets (Int. Cl. 6).
First use 1950.

SN 288,997. Symington Wayne Corporation, Salisbury, Md. Filed Jan. 12, 1968.



For Rough and Finished Hard and Malleable Iron and Electric and Cast Steel Castings (Int. Cl. 6).
First use May 14, 1904.

Class 15 — Oils and Greases

SN 259,635. Bayou State Oil Corporation, Shreveport, La. Filed Nov. 29, 1966.

Owner of Reg. Nos. 337,228, 791,683, and others.
For Lubricating Oils (Int. Cl. 4).
First use Sept. 26, 1966.

SN 262,237. Witco Chemical Company, Inc., New York, N.Y. Filed Jan. 9, 1967.

SEMTOL

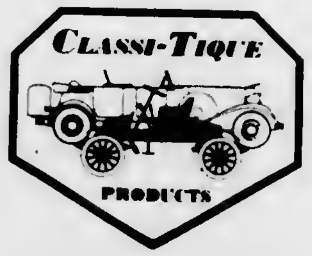
For Technical White Mineral Oil (Int. Cl. 4).
First use on or about Jan. 1, 1951.

SN 262,763. Cato Oil and Grease Company, Oklahoma City, Okla. Filed Jan. 18, 1967.

CATO-GEL

For Compositions Which Form Greases Upon Addition of Lubricating Oil (Int. Cl. 4).
First use Feb. 4, 1965.

SN 275,537. George J. Liddell, d.b.a. Class-Tique Products, Springfield, Pa. Filed July 7, 1967.



The word "Products" is disclaimed apart from the mark as shown.
For Motor Oil, Gear Oil, and Lubricating Grease (Int. Cl. 4).
First use Jan. 21, 1967.

SN 280,388. Calgon Corporation, Pittsburgh, Pa. Filed Sept. 15, 1967.

VELVAMAG

For Fuel Oil Additive (Int. Cl. 1).
First use May 26, 1967.

SN 280,471. Simoniz Company, Chicago, Ill. Filed Sept. 15, 1967.

POWER GUARD

For Oil and Gasoline Additives (Int. Cl. 1).
First use July 31, 1967.

SN 280,529. Agglo Corporation, Detroit, Mich. Filed Sept. 18, 1967.

LIGHTNING FAST

For Fuel Supplement for Gasoline, Methyl Alcohol or Nitromethane-Methanol Mixtures (Int. Cl. 1).
First use on or about Feb. 12, 1967.

SN 280,530. Agglo Corporation, Detroit, Mich. Filed Sept. 18, 1967.

AGGLO

For Graphite Lubricants, Fuel Supplements, and Lubrication Fortifiers for Grease, Oil and Liquid Fuels (Int. Cls. 1 and 4).
First use on or about Mar. 4, 1966.

Class 16 — Protective and Decorative Coatings

SN 272,829. General Polymers Corporation, Cincinnati, Ohio. Filed June 1, 1967.

GEPCO

For Plastic Coating Compositions for Floor Surfaces in the Nature of Paint (Int. Cl. 2).
First use Mar. 7, 1967.

SN 279,221. Silmica Corporation of America, Chicago, Ill. Filed Aug. 28, 1967.

TERRAPLAS

For One Component, Moisture Cure Urethane Protective Coating for Surfacing Walls, Floors, and Other Surfaces (Int. Cl. 2).
First use June 25, 1967.

SN 285,240. MacDermid Incorporated, Waterbury, Conn. Filed Nov. 20, 1967.

PROSBLACK

For Immersion Solution for the Application of a Corrosion Resistant and Decorative Coating to Steel and Other Metals (Int. Cl. 1).
First use Oct. 15, 1963.
Subj. to Intf. with SN 274,970.

Class 17 — Tobacco Products

SN 260,301. Tobacco Blending Corp., Louisville, Ky. Filed Nov. 28, 1966.

DANISH FRUIT CAKE

Applicant disclaims the word "Danish" apart from the mark as shown.
For Pipe Tobacco (Int. Cl. 34).
First use Oct. 3, 1966.

SN 272,267. General Cigar Co., Inc., New York, N.Y. Filed May 24, 1967.

CASINO ROYALE

For Cigars (Int. Cl. 34).
First use May 12, 1967.

SN 277,129. Bayuk Cigars Incorporated, Philadelphia, Pa. Filed July 31, 1967.

CERVANTES

The mark consists of the name of the Sixteenth Century Spanish author.
For Cigars (Int. Cl. 34).
First use June 9, 1967.

SN 280,812. Rembrandt Tobacco Corporation (Overseas) Limited, Zurich, Switzerland. Filed Sept. 20, 1967.

**A HANDFUL OF GUNSTON....
A FISTFUL OF FLAVOUR**

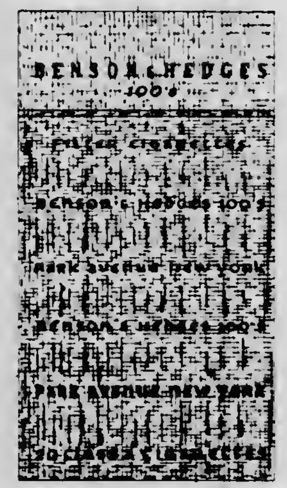
For Cigarettes (Int. Cl. 34).
First use Dec. 29, 1966; in commerce Dec. 29, 1966.

SN 282,821. Rembrandt Tobacco Corporation (Overseas) Limited, Zurich, Switzerland. Filed Oct. 18, 1967.

AMSTEL

For Smoking Tobacco (Int. Cl. 34).
First use May 26, 1967.

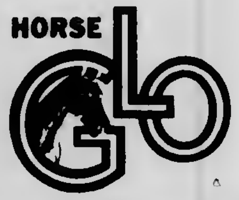
SN 289,458. Philip Morris Incorporated, New York, N.Y. Filed Jan. 24, 1968.



The drawing is lined for gold. Applicant disclaims the wording "Filter Cigarettes"; "Park Avenue, New York"; "20 Class A Cigarettes"; and the numeral "100's," apart from the mark as shown and without waiver of common law rights. Owner of Reg. Nos. 411,340, 520,355, and others.
For Cigarettes (Int. Cl. 34).
First use Aug. 23, 1965; 1864 in a different form.

Class 18—Medicines and Pharmaceutical Preparations

SN 267,699. Vita Plus Corporation, Madison, Wis. Filed Mar. 27, 1967.



The word "Horse" and the representation of a horse's head are disclaimed apart from the mark as shown. Owner of Reg. No. 687,100.
For Livestock Food Supplement Consisting Essentially of Vitamins, Proteins, and Minerals (Int. Cl. 5).
First use Mar. 29, 1961.

SN 287,496. Ralston Purina Company, St. Louis, Mo. Filed Dec. 26, 1967.

GOOD GRAVY!

For Vitamin Mineral Containing Dog Food Supplement (Int. Cl. 5).
First use Dec. 6, 1967.

Class 19—Vehicles

SN 266,958. Wheel Camper Corp., Centerville, Mich. Filed Mar. 16, 1967.

CHUCKWAGON

For Camping Trailers (Int. Cl. 12).
First use Apr. 10, 1965.

SN 270,347. Alfred S. Bloomingdale, Los Angeles, Calif. Filed May 1, 1967.

WATERMOBILE

For Powered Watercraft Goods—Namely, Surfboards, Paddleboards, Small Pleasure Boatcraft, Small Sailboats, and the Like, and Their Component Parts (Int. Cl. 12).
First use on or about Apr. 21, 1967.

SN 270,988. Vodon Industries, Inc., New York, N.Y. Filed May 8, 1967.

YAK

For Synthetic Imitation Fur Cover for Automobiles (Int. Cl. 22).
First use Mar. 31, 1967.

SN 274,518. Robert N. Hasinfelt and Lois J. Hasinfelt (joint owners), d.b.a. Bobby & Company, Elkhart, Ind. Filed June 22, 1967.

For Pick-Up Campers and Travel Trailers (Int. Cl. 12).
First use during May 1967.

SN 274,519. Robert N. Hasinfelt and Lois J. Hasinfelt (joint owners), d.b.a. Bobby & Company, Elkhart, Ind. Filed June 22, 1967.

BOBBY

For Pick-Up Campers and Travel Trailers (Int. Cl. 12).
First during the fall of 1963.

SN 285,565. Longmark Mobile Home Mfg. Corp., Phoenix, Ariz. Filed Nov. 24, 1967.

MAYFLOWER

For Mobile Homes (Int. Cl. 12).
First use Sept. 29, 1967.

Class 20—Linoleum and Oiled Cloth

SN 260,778. Standard Coated Products Incorporated, Buchanan, N.Y. Filed Dec. 14, 1966.

SANITAS

Owner of Reg. No. 606,639.
For Resin Coated Fabric Wall Covering (Int. Cl. 24).
First use May 1, 1903.

SN 279,070. James Halstead Limited, Whitefield, Manchester, England. Filed Aug. 25, 1967.

PRESTO

Owner of British Reg. No. 890.294, dated Feb. 5, 1966.
For Linoleum and Floor Coverings Made of Plastics (Int. Cl. 27).

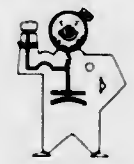
Class 21—Electrical Apparatus, Machines, and Supplies

SN 247,898. Contacts, Incorporated, Wethersfield, Conn. Filed June 13, 1966.

GOLD BONDED

For Gold Covered Electrical Contacts and Contact Assemblies, Including Bead, Rivet and Ball Contacts, Housings, Plugs and Jacks, and Assemblies Such as Relays Employing the Contacts or Assemblies (Int. Cl. 9).
First use November 1958.

SN 254,352. Myron J. Zucker, d.b.a. Myron Zucker Engineering Co., Bloomfield Hills, Mich. Filed Sept. 12, 1966.



The circuit is disclaimed apart from the mark as shown.
For Capacitor Assemblies (Int. Cl. 9).
First use April 1966.

SN 254,999. Gerald Products, Inc., Philadelphia, Pa. Filed Sept. 23, 1966.

Electro-Guard

For Burglar Alarm Systems (Int. Cl. 9).
First use July 10, 1966.

SN 256,544. General Utility Products Co., Barberton, Ohio. Filed Oct. 17, 1966.

TERRA-SHELL

For Underground Enclosures for Utilities—Namely, Telephone and Electrical Distribution Systems (Int. Cl. 9).
First use Sept. 10, 1966.

SN 257,107. Tensolite Insulated Wire Co., Inc., Tarrytown, N.Y. Filed Oct. 24, 1966.

MICROYRE

For Electrical Insulated and Uninsulated Wire (Int. Cl. 9).
First use Aug. 5, 1966.

SN 257,254. Consolidated Electronics Industries Corporation, New York, N.Y. Filed Oct. 26, 1966.

CONELCO

For Timing Motors (Int. Cl. 7).
First use Sept. 19, 1966.

SN 258,234. Kahn Reesarch Laboratories, Inc., Freeport, N.Y. Filed Nov. 8, 1966.

VOICEPLEX

For Electronic Head-Worn Protection Device, Permitting the Wearer To Hear Speech or Other Desired Sounds in a Noisy Environment (Int. Cl. 9).
First use on or about Oct. 4, 1966.

SN 258,533. General Electric Company, Pittsfield, Mass. Filed Nov. 14, 1966.

SAF-T-CON

For Terminations for Shielded High Voltage Electric Cable—Namely, Bushings, Stress Relief Cones, Housings, Ferrules, Loadbreak Devices, Monitoring Circuits, Monitoring Modules, All as Components of Terminations, and Combinations of Two or More Thereof, Forming Terminations, Particularly, Circuit Monitoring Detachable Connector Terminations for Underground Electric Power Distribution System Cables Connected to Distribution Transformers or Other Electrical Equipment (Int. Cl. 9).
First use on or about Sept. 19, 1966.

SN 260,336. Koehler Manufacturing Company, Marlboro, Mass. Filed Dec. 8, 1966.

Koehler

For Lighting Products—Namely, Miners' Lamps, Batteries and Circuits, Hand Lamps, Belt Lights, and Spotlights (Int. Cls. 9 and 11).
First use Oct. 31, 1966.

SN 260,836. Farmland Industries, Inc., Kansas City, Mo. Filed Dec. 15, 1966.

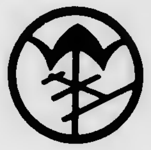
Owner of Reg. No. 794,387.
For Batteries for Motor Vehicles (Int. Cl. 9).
First use Nov. 10, 1965.

SN 261,039. Bonwit Laboratories, Inc., Chicago, Ill. Filed Dec. 19, 1966.

LIQUIMATIC

For Electric Warmer Chests for Warming Cooking Oil and the Like (Int. Cl. 11).
First use Oct. 25, 1966.

SN 261,246. Winegard Company, Burlington, Iowa. Filed Dec. 21, 1966.



For Radio and Television Antennas and Related System Components and Accessories—Namely, Amplifiers, Attenuation Pads, Couplers, Cable Connectors, Channel Traps, Line Splitters, Line Tap-Offs, Matching Transformers, Outlets, Plugs, Pre-Amplifiers, Receptacles, Sockets, and Wall Plate Covers (Int. Cl. 9).
First use January 1954.

SN 262,001. Ronson Corporation, Woodbridge, N.J. Filed Jan. 5, 1967.

RONSON

Owner of Reg. Nos. 261,178, 715,376, and others.
For Jump Cords (Int. Cl. 9).
First use Nov. 20, 1966.

SN 265,457. Square D Company, Park Ridge, Ill. Filed Feb. 17, 1967.

WELL-GUARD
CONTROL

The word "Control" is disclaimed apart from the mark as shown.
For Controllers for Electric Motors Used for Driving Irrigation Pumps (Int. Cl. 9).
First use April 1962.

SN 266,431. Liberty Electric Corporation, Indianapolis, Ind. Filed Mar. 10, 1967.

BROILMATE

For Electric Broiler (Household Appliance) (Int. Cl. 11).
First use Dec. 4, 1966.

SN 269,622. Bell Hospital Systems, Inc., Bridgeport, Conn. Filed Apr. 20, 1967.

STERICALL

For Intercommunication Equipment Comprising Electronic Signalling and Audio and Television Apparatus, for Communicating Between a Patient's and a Nurse's Stations, and Parts Thereof (Int. Cl. 9).
First use Mar. 27, 1967.

SN 271,673. The Lima Electric Motor Co., Inc., Lima, Ohio. Filed May 17, 1967.

LIMATROL

For Electronic Remote Control Gearshift Drive for Use With Industrial Bench Lathes, Milling Machines, and the Like, for Machining of Materials (Int. Cl. 9).
First use July 15, 1966.

SN 273,660. Frank W. Murphy Manufacturer, Inc., Tulsa, Okla. Filed June 12, 1967.

MURPHYMATIC

For Pressure Controllers—Namely, Electric Motor Controls for Electric Motor Powered Air Compressors, Water Supply Pumps, Hydraulic Power Pumps, Oil Well Pumps, Process Valves, and the Like; Liquid Level Controllers—Namely, Electric Motor Controls for Electric Motor Powered Pumps and Valves; Automatic Engine Controllers—Namely, Electric Motor Controls for Starting and Stopping Engines at Predetermined Pressures, Temperatures, Times, Tank Levels, or Relay Contacts (Int. Cl. 9).
First use 1957.

SN 276,360. Shure Brothers Incorporated, Evanston, Ill. Filed July 19, 1967.

ARMO-DUR

For Microphone Cases and Stands (Int. Cl. 9).
First use June 12, 1967.

SN 276,897. Vincent Bach Corporation, Elkhart, Ind. Filed July 26, 1967.

BUESCHER

Owner of Reg. Nos. 241,033 and 265,784.
For Electronic Equipment—Namely, Microphones, Control Apparatus, Loud Speakers, Preamplifiers, Tone Modifying Devices, and Basic Amplifiers (Int. Cl. 9).
First use Apr. 12, 1967.

SN 276,932. Fisher Radio Corporation, Long Island City, N.Y. Filed July 27, 1967.

150

For Stereo Radio Receiving Apparatus (Int. Cl. 9).
First use Sept. 8, 1966.

SN 279,455. Clevite Corporation, Cleveland, Ohio. Filed Aug. 31, 1967.

LEC'TRION

For Electric Batteries (Int. Cl. 9).
First use July 24, 1967.

SN 279,582. Superior Cable Continental Corporation, Hickory, N.C., by change of name from Superior Cable Corporation, Hickory, N.C. Filed Sept. 1, 1967.

SOLID-D

For Natural Polyethylene Dielectric Utilized in Coaxial Cables (Int. Cl. 17).
First use June 25, 1965.

SN 281,996. New England Instrument Company, Natick, Mass. Filed Oct. 6, 1967.

ECONOPOT

For Electrical Resistors—Namely, Potentiometers (Int. Cl. 9).
First use on or about Nov. 21, 1964.

SN 282,961. Robert Sonneman Associates Inc., Long Island City, N.Y. Filed Oct. 20, 1967.

ORBITER

For Electrical High Intensity Lighting Lamps (Int. Cl. 11).
First use June 10, 1967.

SN 290,051. Otto Kadmon, Inc., New York, N.Y. Filed Feb. 1, 1968.

ALTO

For Electric Bulbs and Electric Light Sets (Int. Cl. 11).
First use Nov. 6, 1957.

Class 22 — Games, Toys, and Sporting Goods

SN 259,117. Holmar International Corporation, Garfield, N.J. Filed Nov. 21, 1966.

SPORT KING

For Baseball Gloves, Bats, Balls, Tennis Rackets, Tennis Racket Covers and Presses, Tennis Balls in Metal Cans and Tennis Balls in Plastic Bags; Golf Balls, Golf Tees, Practice Golf Balls, Practice Putting Disks, Golf Club Covers, Golf Bags, and Golf Gloves; Badminton Sets, and Individual Badminton Components (Int. Cl. 28).
First use in or about September 1963.
Subj. to Intf. with SN 264,334.

SN 260,677. Playground Corporation of America, New York, N.Y. Filed Dec. 13, 1966.

Playscape

For Playground Apparatus (Int. Cl. 28).
First use Apr. 29, 1959.
Subj. to Intf. with SN 263,091.

SN 261,171. Tudor Metal Products Corporation, Brooklyn, N.Y. Filed Dec. 20, 1966.

WORLD CHAMPIONSHIP

For Equipment for Playing a Football Board Game (Int. Cl. 28).
First use Dec. 9, 1966.

SN 261,551. Wilson Sporting Goods Co., River Grove, Ill., assignee of Wilson Sporting Goods Co., River Grove, Ill. Filed Dec. 27, 1966.

TURFRIDER

Owner of Reg. Nos. 332,549 and 764,240.
For Golf Carts for Carrying Golf Bags (Int. Cl. 28).
First use August 1954.

SN 261,552. Wilson Sporting Goods Co., River Grove, Ill., assignee of Wilson Sporting Goods Co., River Grove, Ill. Filed Dec. 27, 1966.

LOCK-TITE WEB

No claim of exclusive right is made to "Web" for the goods recited.
For Baseball Glove Webbing Which Is Incorporated as a Component Part of Baseball Gloves (Int. Cl. 28).
First use 1960.

SN 261,692. Wilson Sporting Goods Co., River Grove, Ill., assignee of Wilson Sporting Goods Co., River Grove, Ill. Filed Dec. 29, 1966.

HEAD SPEED

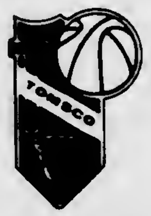
Owner of Reg. No. 750,473.
For Badminton Rackets (Int. Cl. 28).
First use January 1947.

SN 262,366. Wilson Sporting Goods Co., River Grove, Ill., assignee of Wilson Sporting Goods Co., River Grove, Ill. Filed Jan. 11, 1967.

SPEED FLO

Owner of Reg. No. 750,474.
For Golf Balls (Int. Cl. 28).
First use December 1948.

SN 263,772. Olds Investments, Inc., d.b.a. Tom Sports Co., Abilene, Tex. Filed Feb. 1, 1967.



Applicant disclaims the pictorial representation of a basketball hoop, net, and ball, apart from the mark as shown.
For Basketball Rebounders, Athletic Training Weights, and Exercising Apparatus Employing Weights and Pull-Operated Leverage Arms (Int. Cl. 28).
First use Oct. 21, 1963.

SN 273,527. Premier Athletic Products Corp., d.b.a. Premier Products, River Vale, N.J. Filed June 9, 1967.

ROYAL DUMMY

No claim is made to the word "Dummy" apart from the mark as shown.
For Football Blocking and Tackling Dummies (Int. Cl. 28).
First use December 1966.

SN 274,437. Marshann Enterprises, Inc., Sevierville, Tenn. Filed June 21, 1967.

CRITIC

For Equipment Sold as a Unit for Playing a Board-Type Parlor Game (Int. Cl. 28).
First use Mar. 24, 1967.

SN 274,438. Marshann Enterprises, Inc., Sevierville, Tenn. Filed June 21, 1967.

ROLL CALL

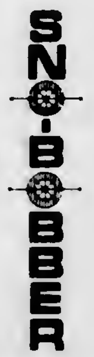
For Apparatus Sold as a Unit for Playing a Board-Type Parlor Game (Int. Cl. 28).
First use Mar. 24, 1967.

SN 274,779. Spectacular Products, Inc., Cannon Falls, Minn. Filed June 26, 1967.

TEENIE BOPPER

For Stuffed Toys (Int. Cl. 28).
First use on or about Apr. 3, 1967.
Subj. to Intf. with SN 275,416.

SN 274,813. Manning Manufacturing Corporation, Chicago, Ill. Filed June 26, 1967.



The drawing is lined for red, but no claim is made to color.
For Snow Gliders (Int. Cl. 28).
First use about February 1967.

SN 276,041. Samsonite Corporation, Denver, Colo. Filed July 14, 1967.

WINGER

For Toy Flying Bird (Int. Cl. 28).
First use Dec. 19, 1966.

SN 276,048. J. Swedlin, Inc., d.b.a. Gund Manufacturing Company, Brooklyn, N.Y. Filed July 14, 1967.

HUSH HUSH

For Stuffed Toys (Int. Cl. 28).
First use June 6, 1967.

SN 277,315. Tocar, Inc., Houston, Tex. Filed Aug. 1, 1967.

TOCAR

For Flotation Devices To Be Worn for Use in Training Swimmers (Int. Cl. 28).
First use April 1967.

SN 278,990. Peerless Playthings Co., Inc., Ridgefield Park, N.J. Filed Aug. 24, 1967.

JOLLY CHOLLY

For Toy Magnetic Face Sets (Int. Cl. 28).
First use Nov. 15, 1959.

SN 280,168. Jamison, Inc., Torrance, Calif. Filed Sept. 12, 1967.

IMAGINE CITY

For Children's Multi-Level Playground Equipment—Namely, Slides, Climbers, Platforms, and Cages (Int. Cl. 28).
First use July 6, 1967.

SN 280,950. Illinois Sheepskins, Inc., Nokomis, Ill. Filed Sept. 22, 1967.

CLOD

For Toy Banks, Dolls, and Toy Decorative Novelties (Int. Cl. 28).
First use Aug. 26, 1966.

SN 282,018. Wilson Sporting Goods Co., River Grove, Ill. Filed Oct. 6, 1967.

GYRO BALANCED

For Inflated Balls—Namely, Basketballs, Volley Balls, Soccer Balls, Footballs, Playground Balls, and Tetherballs (Int. Cl. 28).
First use 1960.
Subj. to Intf. With SN 272,368.

SN 284,025. William F. Niemi Co., d.b.a. Eddie Bauer, Seattle, Wash. Filed Nov. 2, 1967.

Life Like

No claim is made to the words "Life" and "Like," apart from the mark as shown.
For Waterfowl Decoys (Int. Cl. 28).
First use about June 1967.

SN 285,058. POP Corporation, Kitatama-gun, Tokyo, Japan. Filed Nov. 16, 1967.

PoP

For Battery-Operated Toy Automobile for Children (Int. Cl. 28).
First use Aug. 15, 1966; in commerce Mar. 1, 1967.

SN 286,855. Totem Manufacturing Company, d.b.a. Totem Mfg., Kent, Wash. Filed Dec. 13, 1967.

Hey Joe!

For Fishing Lures (Int. Cl. 28).
First use on or about June 13, 1966.

SN 288,415. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Jan. 9, 1968.

eduPLAYtional

For Apparatus Sold as a Unit for Playing a Game (Int. Cl. 28).
First use Dec. 5, 1967.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 215,921. American Hic Corporation, West Nyack, N.Y. Filed Apr. 7, 1965.

AMERICAN HIC

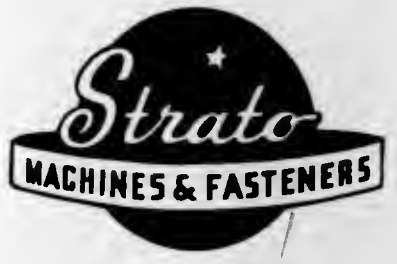
For Ball Bearings, Cylindrical Roller Bearings, Tapered Roller Bearings, Pillow Blocks, Flange Mountings, Split Housing Pillow Blocks, Adapter Sleeves, Gear Bearings, Clutch Throw Out Bearings, Fan and Pump Shaft Bearings (Int. Cl. 7).
First use Mar. 16, 1965.
Subj. to Intf. with SN 232,584.

SN 233,170. W. Bennett Collet, Atlanta, Ga. Filed Nov. 23, 1965.

TOP TEN D-J

For Vending Machines (Int. Cl. 9).
First use on or about Oct. 7, 1965.

SN 241,091. Strato Tool Corporation, Hanover, N.J. Filed Mar. 15, 1966.



The wording "Machines & Fasteners" is disclaimed apart from the mark as shown.
For Vacuum Closure Fastening and Closure Clipping Machines and Fasteners Therefor, Sold as a Unit (Int. Cl. 7).
First use Feb. 23, 1965.

SN 250,086. Casco Products Corporation, Bridgeport, Conn. Filed July 12, 1966.

HOME GUARD

For Portable Hand-Held Fire Extinguishers (Int. Cl. 9).
First use Dec. 7, 1965.

SN 255,995. Maschinenfabrik Hasenclever Aktiengesellschaft, Dusseldorf, Germany. Filed Oct. 7, 1966.

HASENCLEVER AUTOVAC

Owner of German Reg. No. 809,405, dated Nov. 25, 1964.
For Vacuum Transporters, Lifting Equipment, and Components Thereof (Int. Cl. 7).

SN 256,059. Borg-Warner Corporation, Chicago, Ill. Filed Oct. 10, 1966.

TORQUE TOPPER

For Supplementary Fuel Systems for Use With Diesel Engines, Comprising a Liquid Petroleum Gas Regulator and Automatically or Remotely Controlled Valving Equipment and Parts Thereof for Replacement and Repair (Int. Cl. 7).
First use on or prior to Sept. 1, 1966.

SN 256,567. Lilliston Implement Company, Albany, Ga. Filed Oct. 17, 1966.

ROLLING CULTIVATOR

No claim is made to the word "Cultivator" apart from the instant mark. Owner of Reg. No. 792,888.
For Rotary Hoe-Type Cultivators (Int. Cl. 7).
First use on or about Feb. 20, 1961.

SN 257,645. A. B. Chance Company, Centralia, Mo., assignee of Pitman Manufacturing Company, Grandview, Mo. Filed Oct. 31, 1966.

HYDRA/LOGGER

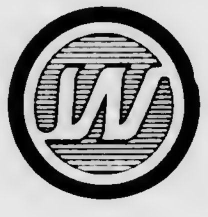
For Rotatable Articulated Boom With Article Gripping Structure (Int. Cl. 7).
First use Sept. 12, 1966.

SN 259,806. Challenge-Cook Bros., Inc., City of Industry, Calif. Filed Dec. 1, 1966.

POWERHORSE

For Motorized Converter Dolly for Connecting to the Rear of One Trailer Vehicle and Supporting the Front of Another Trailer Vehicle and Supplying Driving Power to Such Other Trailer Vehicle (Int. Cl. 7).
First use June 6, 1966.

SN 264,258. Republic Industrial Corporation, New York, N.Y. Filed Feb. 8, 1967.



The drawing is lined for blue.
For Marine Equipment—Namely, Floating Dredges (Int. Cl. 12).
First use Feb. 25, 1965.

SN 265,596. Anaconda Equipment & Service Company, Louisville, Ky. Filed Feb. 28, 1967.

ANASEAL

For Packaging Machinery (Int. Cl. 7).
First use Jan. 19, 1967.

SN 266,116. Vesuvius Crucible Company, Swissvale, Pittsburgh, Pa. Filed Mar. 6, 1967.

RHINOGAHIDE

For Stopper Rod Sleeves for Molten Metal Pouring Receptacles (Int. Cl. 17).
First use Jan. 5, 1967.

SN 267,625. The Gates Rubber Company, Denver, Colo. Filed Mar. 27, 1967.

MULTI-DUTY

Owner of Reg. No. 314,673.
For Sheaves and Pulleys (Int. Cl. 7).
First use Jan. 1, 1934.

SN 267,830. L. J. Kingsley Co., Inc., Binghamton, N.Y. Filed Mar. 29, 1967.

TUF-BOY

For Garden and Hand Tools—Namely, Rakes, Hoes, Spades, Shovels, Grass Trimmers and Weeders; and Handles for Hand and Garden Tools, Namely, Hammers, Hatchets, Axes, Wedges, Mauls, Peavies, Cant Hooks, Scoops, Shovels, Spades, Cultivators, Forks, Hoes, Rakes, Trimmers, and Trowels (Int. Cl. 8).
First use March 1962.

SN 268,743. William S. Klitzner, Lincoln, R.I. Filed Apr. 10, 1967.

Divcleat

For Golfer's Combination Divot Repairer and Cleat Cleaner and Tightener (Int. Cl. 8).
First use on or about Mar. 10, 1967.

SN 269,734. Andec Corporation, Decatur, Ill. Filed Apr. 21, 1967.

CONVEY/MOBILE

For Portable Screw Conveyor for Free-Flowing Materials (Int. Cl. 7).
First use Jan. 2, 1966.

SN 270,467. Aurora Plastics Corp., d.b.a. K & B Manufacturing, Downey, Calif. Filed May 2, 1967.

VAC-U-TRON

For Internal Combustion Engine Crankcase Emission Control Unit and Parts Thereof for Reducing Smog Forming Air Pollutants (Int. Cl. 12).
First use on or about May 24, 1966.

SN 270,904. Degremont S.A., Suresnes (Seine), France. Filed May 8, 1967.

OXYAZUR

Owner of French Reg. No. 8,611, dated July 31, 1965 (Versailles); Natl. Inst. No. 265,351.
For Sewage Disposal and Reduction Plants (Int. Cl. 11).

SN 271,027. Baker Perkins Inc., Saginaw, Mich. Filed May 9, 1967.

M-P

For Machines for Use in the Chemical and Plastics Industries for Mixing, Reacting, Devolatilizing, Blending, Extruding, Dispersing, and Precipitating Materials (Int. Cl. 7).
First use Apr. 12, 1967.

SN 271,614. General Motors Corporation, Detroit, Mich. Filed May 16, 1967.

NDH

Owner of Reg. Nos. 111,903, 275,911, and 559,854.
For Ball, Roller, and Air Bearings, and Parts Thereof (Int. Cl. 7).
First use June 1965; in or before October 1907 as to "ND."

SN 273,301. L. R. Oliver & Co., Inc., Algonac, Mich. Filed June 7, 1967.

BUZZARD

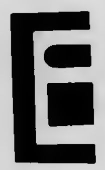
For Cutting and Grinding Instruments Which Comprise a Preformed Steel Base Member Which Has Sintered Tungsten Carbide Brazed to Its Cutting or Abrading Surfaces, Including Grinding Wheels, Circular Saws, Router Bits, and Hole Saws (Int. Cl. 7).
First use on or about Sept. 29, 1964.

SN 274,361. The Union Fork and Hoe Company, Columbus, Ohio. Filed June 20, 1967.

SUPER-A

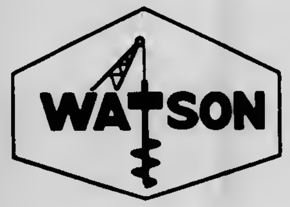
For Hand-Operated Lawn and Garden Tools—Namely, Drags, Forks, Grass Trimmers, Hoes, Hoe-Type Cultivators, Hooks, Lawn Edgers, Lawn Shears, Rakes, Scoops, Scrapers, Shovels, Spades, Weeders and Weed Cutters (Int. Cl. 8).
First use Feb. 17, 1967.

SN 274,857. Caton Industries, Inc., Roselle, N.J. Filed June 27, 1967.



The mark consists of the stylized letters "CI."
For Metal Cutting Machine (Int. Cl. 7).
First use Nov. 15, 1966.

SN 276,593. Watson Manufacturing Company, Fort Worth, Tex. Filed July 21, 1967.



For Machinery and Components Therefor Used in Earth Boring Operations (Int. Cl. 7).
First use Nov. 28, 1963.

SN 277,179. Jen Products, Inc., Bethel, Vt. Filed July 31, 1967.

FLAVOR-JECTOR

For Instrument for Injecting Various Flavors Into Meat and Other Foodstuffs, Upon Cooking, Baking, Roasting, and the Like (Int. Cl. 8).
First use June 15, 1966.

SN 277,228. T & Y Bar Company, Guttenberg, Iowa. Filed July 31, 1967.

SAV-IN BAR

The word "Bar" is disclaimed apart from the mark as shown.
For Pry Bar Tool (Int. Cl. 8).
First use on or before June 21, 1966.

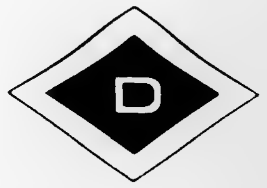
SN 284,536. Doughboy Industries, Inc., New Richmond, Wis. Filed Nov. 13, 1967.

DOUGHBOY

Owner of Reg. Nos. 599,908, 821,560, and others.
For Conveyors of Single, Multi, and V-Type Belts; Continuous Glue-Type Sealing Machines; Bag Closing and Tying Machines; Trimming Devices for Bag Tops; Sewing Machines for Closing Bag Tops; Heavy Duty Sewing Pedestals for Sewing Machines for Closing Bag Tops; Chain Band Tape-Over Sealing Machines; Bag Lubricating Systems and Apparatus; Packaging Machinery; Rotary Work Tables; and Packaging Machines for Enveloping Film About Articles and Goods (Int. Cl. 7).
First use on or about Jan. 1, 1940.

Class 24 — Laundry Appliances and Machines

SN 240,866. Dependable Appliance Parts Company, Inc., Eastlake, Ohio. Filed Mar. 14, 1966.



For Laundry Equipment Parts Such as Pinions, Bushings, Caps, Gears, Shafts, or the Like (Int. Cl. 7).
First use in or about February 1966.

SN 276,030. McGraw-Edison Company, Elgin, Ill. Filed July 14, 1967.

Silver Lining

For Washers and Dryers (Int. Cl. 7).
First use May 19, 1967.

Class 25 — Locks and Safes

SN 274,751. Kabushiki Kaisha Kumahira Seisakusho, d.b.a. Kumahira Safe Co., Hiroshima-shi, Hiroshima, Japan. Filed June 26, 1967.

Kumahira

For Vault Doors, Safes, Safe Deposit Boxes, and Night Depositories (Int. Cl. 6).
First use Dec. 26, 1966; in commerce Dec. 26, 1966; August 1958 as to the mark "Kumahira."

Class 26 — Measuring and Scientific Appliances

SN 240,074. Daniel Industries, Inc., Houston, Tex., assignee of Daniel Orifice Fitting Company, Houston, Tex. Filed Mar. 3, 1966.

SIMPLEX

For Orifice Metering Equipment, Such as Orifice Plate Holders, Plates, Sealing Units, Metering Tubes, and Parts Therefor (Int. Cl. 9).
First use in or before May 1948.

SN 240,076. Daniel Industries, Inc., Houston, Tex., assignee of Daniel Orifice Fitting Company, Houston, Tex. Filed Mar. 3, 1966.

JUNIOR

For Orifice Metering Equipment, Such as, Orifice Fittings, Plates, Sealing Units, Metering Tubes, and Parts Thereof (Int. Cl. 9).
First use in or before 1937.

SN 240,078. Daniel Industries, Inc., Houston, Tex., assignee of Daniel Orifice Fitting Company, Houston, Tex. Filed Mar. 3, 1966.

SENIOR

For Orifice Metering Equipment, Such as Orifice Fittings, Plates, Sealing Units, Metering Tubes, and Parts Therefor (Int. Cl. 9).
First use in or before 1930.

SN 247,332. Clay-Adams, Inc., New York, N.Y. Filed June 6, 1966.

SEDI-CAL

For Centrifuge Tubes, Caps, and Holders Therefor, for Use in the Analysis of Specimens (Int. Cl. 9).
First use on or about Feb. 1, 1966.

SN 254,228. Bolt Beranek and Newman Inc., Cambridge, Mass. Filed Sept. 12, 1966.

TELEPUTER

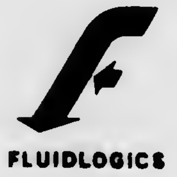
For Electronic, Electrical and Mechanical Systems Which Transmit and Receive Data in Graphical and Alphanumeric Form and Which Display Same (Int. Cl. 9).
First use Nov. 1, 1965.

SN 254,925. F & B/Ceco, Inc., New York, N.Y. Filed Sept. 22, 1966.

doiflex 16

No claim is made to the number "16" apart from the mark as a whole.
For Motion Picture Cameras (Int. Cl. 9).
First use May 3, 1966.

SN 261,289. Fluidlogics Corporation, New York, N.Y. Filed Dec. 22, 1966.



The design portion of the mark is a stylized representation of the letter "F" and also suggests flowing fluids.
For Fluid Flow Equipment—Namely, Test Apparatus, Fluid Circuitry Modules and Building Blocks, Manifolds and Connectors, and Sensor and Interface Devices (Int. Cl. 9).
First use Nov. 9, 1966.

SN 262,559. Atlantic Research Corporation, Alexandria, Va. Filed Jan. 16, 1967.

ARCAGEN

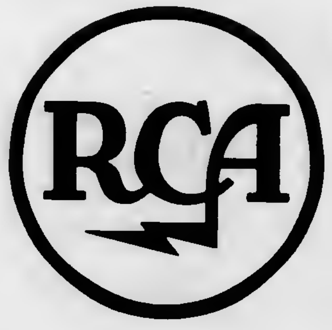
For Controlled Atmosphere Generating Systems Comprised of a CO_2 Scrubber and an Oxygen Converter for the Preservation of Organic Matter (Int. Cl. 11).
First use June 29, 1966.

SN 271,461. General Aniline & Film Corporation, New York, N.Y. Filed May 15, 1967.

ANSCOMITE

Owner of Reg. Nos. 685,920 and 826,848.
For Projector for Photographic Transparencies (Int. Cl. 9).
First use Dec. 5, 1966.

SN 271,515. Radio Corporation of America, New York, N.Y. Filed May 15, 1967.



For Electronic Emergency Radio Communication Equipment Utilizing a Computer/Decoder and Visual Display (Int. Cl. 9).
First use on or about Mar. 29, 1967.

SN 274,091. The Rank Organisation Limited, London, England. Filed June 16, 1967.

COOKE

For Optical Lenses for Use in Cameras, in Projectors, and in Other Optical Instruments, and in Parts Thereof (Int. Cl. 9).
First use Feb. 1, 1934; in commerce Feb. 1, 1934.

SN 275,479. T.N.E. Incorporated, Jefferson County, Mo. Filed July 6, 1967.

TNECO

For Electronic Current Sensor for Monitoring Underload and Overload Conditions on Electrically Operable Equipment (Int. Cl. 9).
First use Feb. 13, 1967.

SN 276,182. Southwestern Industries, Inc., Los Angeles, Calif. Filed July 17, 1967.

TEDD

For Friction-Wheel Distance Measuring Devices With Electrical Digital Readout Display (Int. Cl. 9).
First use Feb. 2, 1967.

SN 276,556. Honeywell Inc., Minneapolis, Minn. Filed July 21, 1967.

WINTER WATCHMAN

For Thermostats (Int. Cl. 9).
First use at least as early as December 1965.

SN 276,557. Honeywell Inc., Minneapolis, Minn. Filed July 21, 1967.

AUTOJECT

For Digital Voltmeters (Int. Cl. 9).
First use at least as early as February 1967.

SN 276,575. The Ohmart Corporation, Cincinnati, Ohio. Filed July 21, 1967.

FLORESCOAT

For Thickness Gauges (Int. Cl. 9).
First use Apr. 6, 1967.

SN 276,621. Addmaster Corporation, San Gabriel, Calif. Filed July 24, 1967.

CASH MASTER

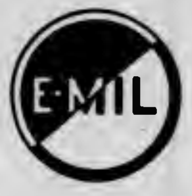
The word "Cash" is disclaimed apart from the mark as shown.
For Cash Registers (Int. Cl. 9).
First use on or about July 14, 1967.

SN 276,641. Chesley F. Carlson Company, Minneapolis, Minn. Filed July 24, 1967.

GAMMAMATIC

For Exposure Control for Cameras, and Step and Repeat Machines (Int. Cl. 9).
First use July 23, 1965.

SN 276,655. H. J. Elliott Ltd., Treforest, Glamorgan, England. Filed July 24, 1967.



Owner of British Reg. No. 613,566, dated Dec. 11, 1940.
For Thermometers for Laboratory Use and Volumetric Laboratory Glassware (Int. Cl. 9).
First use January 1941; in commerce April 1955.

SN 276,660. Gettys Manufacturing Company, Incorporated, Racine, Wis. Filed July 24, 1967.

PRODUCTIONEER

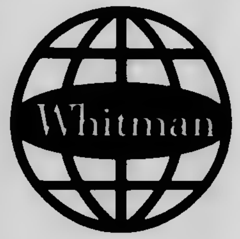
For Electronic Lath Tracers (Int. Cl. 9).
First use on or about Apr. 17, 1967.

SN 280,550. Burke Rubber Company, Inc., San Jose, Calif. Filed Sept. 18, 1967.

TUFBRADE

For Industrial Molded Products—Namely, Vacuum Cups Used in a Manufacturing Process for Testing Leaks in Cans (Int. Cl. 9).
First use Oct. 19, 1966.

SN 280,905. Whitman Publishing Company, Racine, Wis. Filed Sept. 21, 1967.



For Magnifying Lenses (Int. Cl. 9).
First use Feb. 17, 1967.

SN 288,741. Deering Milliken, Inc., New York, N.Y. Filed Jan. 15, 1968.

Visi-Rol

For Machines for Automatically Counting and Packaging Coins (Int. Cl. 9).
First use Oct. 15, 1967.

Class 27 — Horological Instruments

SN 272,463. Atlantic Uhrenfabrik A.G. Bettlach (Atlantic Fabrique d'Horlogerie S.A. Bettlach) (Atlantic Watch Factory Ltd. Bettlach), Bettlach, Switzerland. Filed May 26, 1967.

ATLANTIC

For Watches and Watch Parts (Int. Cl. 14).
First use 1926; in commerce 1926.

SN 276,951. Prince Gardner Company, Inc., Attleboro, Mass. Filed July 27, 1967.

PRINCE GARDNER

To the best of applicant's knowledge there is not any living individual bearing the name "Prince Gardner." Owner of Reg. Nos. 359,533, 367,247, 516,773, and 614,144.
For Watches (Int. Cl. 14).
First use July 20, 1967.

SN 279,171. Corletto, Inc., New York, N.Y. Filed Aug. 28, 1967.

Lorett

For Watches (Int. Cl. 14).
First use Aug. 3, 1964.

Class 28 — Jewelry and Precious-Metal Ware

SN 263,931. Maranne Trading Corporation, Hoboken, N.J. Filed Feb. 3, 1967.

BAKER-WELLS

For Watch Bands (Int. Cl. 14).
First use Jan. 5, 1967.

SN 278,045. Union Carbide Corporation, New York, N.Y. Filed Aug. 10, 1967.

Lindé

Owner of Reg. Nos. 435,600 and 443,395.
For Synthetic Gemstones (Int. Cl. 14).
First use July 10, 1967.

SN 290,226. Sarah Coventry, Inc., Newark, N.Y. Filed Feb. 5, 1968.

SARAH-TEEN

Owner of Reg. Nos. 636,452, 777,378, and others.
For Costume Jewelry for Men and Women (Int. Cl. 14).
First use on or about Oct. 12, 1967.

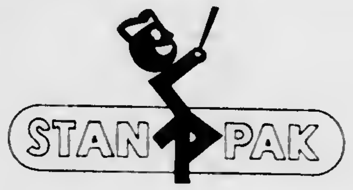
Class 29 — Brooms, Brushes, and Dusters

SN 277,909. Gibson-Thomsen Co., Inc., Kearney, N.J. Filed Aug. 9, 1967.

777

For Brushes (Int. Cl. 21).
First use July 6, 1967.

SN 288,380. Standard Packaging Corporation, New York, N.Y. Filed Jan. 8, 1968.



Owner of Reg. Nos. 595,308, 604,047, and others.
For Dishwashing Brushes (Int. Cl. 21).
First use at least as early as Apr. 12, 1967; Sept. 17, 1953, as to "Stanpak."

SN 290,058. U.S. Plywood-Champion Papers Inc., New York, N.Y. Filed Feb. 1, 1968.

SNAP-A-BRUSH

For Paint, Lacquer, and Varnish Brushes (Int. Cl. 16).
First use on or about Jan. 9, 1968.

Class 30 — Crockery, Earthenware, and Porcelain

SN 262,292. Shenango Ceramics, Inc., New Castle, Pa. Filed Jan. 10, 1967.

CASTILE

For China Dinnerware (Int. Cl. 21).
First use Nov. 8, 1965.

Class 31 — Filters and Refrigerators

SN 263,682. The New York Air Brake Company, New York, N.Y. Filed Jan. 31, 1967.

BIF

For Liquid Filters, Industrial Dust Collectors, and Parts and Accessories Therefor (Int. Cl. 11).
First use November 1955 on industrial dust collectors.

SN 270,156. Richmond Cedar Works Manufacturing Corporation, Richmond, Va. Filed Apr. 27, 1967.

GOLDEN EAGLE

For Domestic Ice Cream Freezers (Int. Cl. 11).
First use Mar. 25, 1967.

SN 270,430. Sundstrand Corporation, Rockford, Ill. Filed May 1, 1967.

HELICONE

For Coolant Filters (Int. Cl. 11).
First use Feb. 3, 1967.

SN 271,168. Nordberg Manufacturing Company, Milwaukee, Wis. Filed May 10, 1967.

NORDPAK

For Filter Elements for Lubricating Oil Filters (Int. Cl. 11).
First use May 25, 1966.

SN 272,360. Continental Air Filters, Inc., Louisville, Ky. Filed May 25, 1967.

CONOPAD

For Air Filters (Int. Cl. 11).
First use Mar. 21, 1966.

Class 32 — Furniture and Upholstery

SN 261,118. Tomlinson of High Point, High Point, N.C. Filed Dec. 19, 1966.

APROPOS

For Chairs, Tables, Sideboards, Cabinets, Sofas, Love Seats, Benches, Beds, Dressers, Mirrors, Vanities, Chests, Commodes, Desks, Cupboards, and Bookcases (Int. Cl. 20).
First use Oct. 21, 1966.

SN 263,119. Serta Associates, Inc., Chicago, Ill. Filed Jan. 23, 1967.

**YOU SLEEP ON IT—
NOT IN IT**

Owner of Reg. No. 634,015.
For Mattresses and Box Springs (Int. Cl. 20).
First use on or about Sept. 15, 1947.

SN 263,824. Fort Smith Plywood Company, South Fort Smith, Ark. Filed Feb. 2, 1967.

HEATHERTONE

For Tables (Int. Cl. 20).
First use Jan. 24, 1967.

Class 33 — Glassware

SN 278,451. Owens-Illinois, Inc., Toledo, Ohio. Filed Aug. 17, 1967.

AUTUMN GOLD

For Glass Tableware (Int. Cl. 21).
First use June 21, 1967.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 260,379. Green Colonial, Inc., Des Moines, Iowa. Filed Dec. 9, 1966.

GREEN COLONIAL

For Furnaces (Int. Cl. 11).
First use January 1910.

SN 264,325. Arthur Magel, d.b.a. Soo-Venir Products, Sioux City, Iowa. Filed Feb. 9, 1967.

GYPSY CHAR-KETTE

For Charcoal Grill (Int. Cl. 11).
First use July 1965.

SN 265,082. Messer Griesheim G.m.b.H., Frankfurt am Main, Germany. Filed Feb. 2[illegible], 1967.

GRINOX

Owner of German Reg. No. 796,736, dated Nov. 11, 1964.
For Welding Wires and Welding Electrodes (Int. Cls. 6 and 9).

SN 265,085. Messer Griesheim G.m.b.H., Frankfurt am Main, Germany. Filed Feb. 20, 1967.

GRILOY

Owner of German Reg. No. 803,691, dated May 4, 1965.
For Welding Wires and Welding Electrodes (Int. Cls. 6 and 9).

SN 267,602. Baker Perkins Inc., Saginaw, Mich. Filed Mar. 27, 1967.

TRI-ZONE

For Bakery Ovens (Int. Cl. 11).
First use Mar. 1, 1967.

SN 271,937. Gulf Oil Corporation, Pittsburgh, Pa. Filed May 19, 1967.

GULF

Owner of Reg. No. 621,651.
For Oil Burners and Oil Powered Water Heaters (Int. Cl. 11).
First use at least as early as Sept. 3, 1964.

SN 272,809. The Coleman Company, Inc., Wichita, Kans. Filed June 1, 1967.

Cool-Ray

For Gas Mantle Lamps (Int. Cl. 11).
First use on or before Dec. 1, 1966.

SN 273,159. The Bahnson Company, Winston-Salem, N.C. Filed June 6, 1967.

STEAMETTE

For Humidifiers (Int. Cl. 11).
First use June 1960.

SN 273,436. Western Engineering & Mfg. Co., Venice, Calif. Filed June 8, 1967.

RIDGEPAC

For Roof Ventilators (Int. Cl. 11).
First use Apr. 20, 1967.

SN 273,472. Borg-Warner Corporation, Chicago, Ill. Filed June 9, 1967.

NORGE

Owner of Reg. Nos. 719,783, 801,329, and others.
For Gas Water Heaters and Parts Thereof for Replacement and Repair (Int. Cl. 11).
First use on or prior to Dec. 31, 1954.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 260,788. Uniroyal, Inc., New York, N.Y., by change of name from United States Rubber Company, New York, N.Y. Filed Dec. 14, 1966.

FLEET MULTI-GRIP

For Pneumatic Tires (Int. Cl. 12).
First use Nov. 21, 1966.

SN 265,475. A & A Manufacturing Company, Inc., Milwaukee, Wis. Filed Feb. 27, 1967.

VULCA SEAL

Applicant disclaims the word "Seal" apart from the mark as a whole. Owner of Reg. Nos. 582,258 and 815,873.
For Protective Coated Fabric Bellows Used as a Protective Cover Over Machine Members (Int. Cl. 7).
First use Sept. 6, 1960.

SN 266,324. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Mar. 9, 1967.

WIDE BOOTS

The word "Wide" is disclaimed apart from the mark as shown.
For Tires (Int. Cl. 12).
First use Feb. 8, 1967.

SN 268,721. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Apr. 10, 1967.

WIDE RIDE

Applicant disclaims any rights in the word "Wide" apart from the mark as shown.
For Resilient Vehicle Tires (Int. Cl. 12).
First use Mar. 21, 1967.

SN 270,574. The Kelly-Springfield Tire Company, Cumberland, Md. Filed May 3, 1967.

**STAR
CROSS BAR**

The words "Cross Bar" are disclaimed apart from the mark as shown. Owner of Reg. No. 746,927.
For Tires (Int. Cl. 12).
First use June 5, 1946.

SN 290,053. Oliver Tire & Rubber Company, Oakland, Calif. Filed Feb. 1, 1968.

[illegible]

For Tread Rubber (Int. Cl. 17).
First use Jan. 4, 1968.

Class 36 — Musical Instruments and Supplies

SN 260,385. Arc Sound Limited, Toronto, Ontario, Canada. Filed Dec. 9, 1966.

SAGA

For Phonograph Records and Prerecorded Magnetic Tapes (Int. Cl. 9).
First use May 10, 1966; in commerce May 19, 1966.

SN 265,626. Harman-Kardon Incorporated, Plainview, N.Y., assignee of Harman-Kardon, Incorporated, Plainview, N.Y. Filed Feb. 28, 1967.

harman kardon

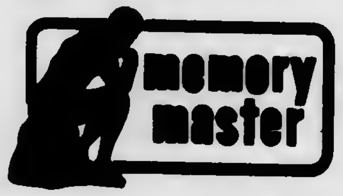
For Phonographs, Parts and Components Thereof (Int. Cl. 9).
First use in or about January 1953.

SN 269,362. Thomas Organ Company, Sepulveda, Calif. Filed Apr. 17, 1967.

VOX

Owner of Reg. No. 796,754.
For Musical Wind Instruments (Int. Cl. 15).
First use Feb. 17, 1967.

SN 269,441. Memory Master Corporation, Cleveland, Ohio. Filed Apr. 18, 1967.



For Attache Cases, for Carrying Tape-Recorders, Having a Built-In Concealed Microphone and Switch Controlled by Its Carrying Handle (Int. Cl. 9).
First use on or about Sept. 29, 1966.

SN 273,006. Artic Import Co., Chicago, Ill. Filed June 5, 1967.

"Swing-A-tone"

For Tape Player and Tape Recorder (Int. Cl. 9).
First use May 24, 1967.

Class 37 — Paper and Stationery

SN 92,476. Lindy Pen Co., Inc., Culver City, Calif. Filed Mar. 9, 1960.

UTILITY SHORTY

For Ballpoint Pens (Int. Cl. 16).
First use during November 1954.

SN 92,477. Lindy Pen Co., Inc., Culver City, Calif. Filed Mar. 9, 1960.

UTILITY

For Ballpoint Pens (Int. Cl. 16).
First use during November 1954.

SN 203,776. Lindy Pen Company Incorporated, North Hollywood, Calif. Filed Oct. 12, 1964.

UTILITY

For Felt Tip Marking Pens, Drawing and Marking Instruments (Int. Cl. 16).
First use July 31, 1964.

SN 227,613. Radiant Color Company (California corporation), Richmond, Calif., assignee of Radiant Color Company (firm), Richmond, Calif. Filed Sept. 10, 1965.

RADIANT

Owner of Reg. Nos. 793,487, 793,495, and others.
For Non-Sensitized Paper Coated With Fluorescent Material, Sold in Bulk for Further Processing or Packaging (Int. Cl. 16).
First use Oct. 29, 1963.

SN 281,395. Scott Paper Company, Delaware County, Pa. Filed Sept. 28, 1967.

SCOTT

Owner of Reg. Nos. 559,929, 747,765, and others.
For Plastic Wrap, Paper Placemats, and Paper Tablecloths (Int. Cl. 16).
First use about Aug. 31, 1964.

Class 38 — Prints and Publications

SN 243,799. Newsweek, Inc., New York, N.Y. Filed Apr. 19, 1966.

NEWS FOCUS

For Weekly News Magazine (Int. Cl. 16).
First use Mar. 29, 1966.

SN 255,095. Institute of Gas Technology, Chicago, Ill. Filed Sept. 26, 1966.

GAS ABSTRACTS

For Magazine for Dissemination to the Gas Industry (Int. Cl. 16).
First use in or about May 1945.

SN 261,282. Curtis Circulation Company, Philadelphia, Pa. Filed Dec. 22, 1966.

LIBRABOUND

For Paperback Books With a Special Hard Cover Type of Binding (Int. Cl. 16).
First use Nov. 3, 1966.

SN 271,113. The American Political Items Collectors, Charleston, Ill. Filed May 10, 1967.

KEYNOTER

For Newsletter for Political Items Collectors (Int. Cl. 16).
First use on or about Sept. 1, 1962.

SN 277,024. Club Mediterranee, S.A., Paris, France. Filed July 28, 1967.

LE TRIDENT

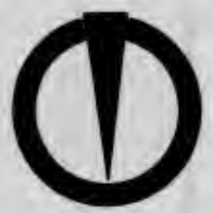
For Magazine (Int. Cl. 16).
First use 1950; in commerce 1959.

SN 277,041. Geigy Chemical Corporation, Ardsley, N.Y. Filed July 28, 1967.

The Geigy Rtra

Owner of Reg. Nos. 307,766, 398,710, and 638,640.
For House Newspaper Published Periodically (Int. Cl. 16).
First use June 10, 1967.

SN 277,264. Chilton Company, Philadelphia, Pa. Filed Aug. 1, 1967.



For Periodical Publications in the Nature of Business or Trade Magazines (Int. Cl. 16).
First use Oct. 16, 1934.

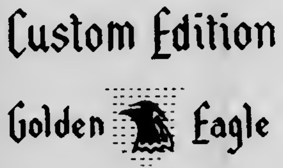
SN 277,270. The Ueuben H. Donnelley Corporation, New York, N.Y. Filed Aug. 1, 1967.

DONNETEL

For Classified Telephone Directories (Int. Cl. 16).
First use on or before Feb. 1, 1967.

Class 39 — Clothing

SN 254,265. Eagle Clothes, Inc., New York, N.Y. Filed Sept. 12, 1966.



The lining shown on the drawing is merely employed to reproduce the lines shown on the specimens. Owner of Reg. Nos. 66,879, 702,620, and others.
For Men's Coats, Topcoats, and Suits (Int. Cl. 25).
First use July 12, 1966; September 1912 as to "Eagle"; June 2, 1958, as to "Custom Edition"; Mar. 5, 1957, as to "Golden Eagle."

SN 258,507. Joseph L. Stafford, d.b.a. Curtis, Eddy-Form Co., New York, N.Y. Filed Nov. 14, 1966.

CURTIS

For Ladies' Foundation Garments—Namely, Corsets, Girdles, Garter Belts, Abdominal Belts (Not Surgical), Brassieres, and Bandeaus (Int. Cl. 25).
First use May 31, 1946.

SN 264,759. Popular Merchandise Co., Inc., Passaic, N.J. Filed Feb. 15, 1967.

EMILY DARE

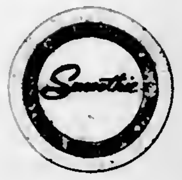
The name "Emily Dare" is not that of any particular living individual.
For Foundation Garments, Brassieres, Lingerie, and Panties (Int. Cl. 25).
First use July 1964.

SN 264,958. Pers-Pro-Tan Leathers, Inc., Squantum, Mass. Filed Feb. 17, 1967.

PERS-PRO-TAN

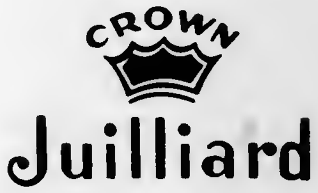
For Leather Innersoles for Shoes (Int. Cl. 25).
First use Dec. 9, 1966.

SN 268,776. The Strouse, Adler Company, New Haven, Conn. Filed Apr. 10, 1967.



The phrase "Symbol of Perfection" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 585,276, 811,380, and others.
For Foundation Garments (Int. Cl. 25).
First use at least as early as Mar. 20, 1967.

SN 270,243. Robert Hall Clothes, Inc., d.b.a. Robert Hall Clothes, New York, N.Y. Filed Apr. 28, 1967.



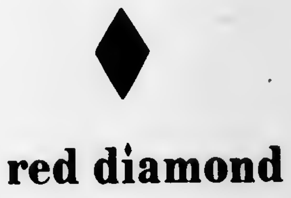
For Men's Suits (Int. Cl. 25).
First use on or about Apr. 13, 1967.

SN 270,686. Kayser-Roth Corporation, New York, N.Y. Filed May 4, 1967.

JAYSON CLASSICS

For Ladies' Shirts, Shifts, Blouses, Suits, Skirts, Pants, and Jackets (Int. Cl. 25).
First use May 1959.

SN 271,806. Johnson & Johnson, New Brunswick, N.J. Filed May 18, 1967.



Owner of Reg. No. 665,774.
For Diapers (Int. Cl. 25).
First use Jan. 24, 1966.

SN 273,647. Marjorie Katz, Ladue, Mo. Filed June 12, 1967.

Something Different BY PATCHES

For Women's Dresses (Int. Cl. 25).
First use Feb. 15, 1967.

SN 273,663. McGregor-Doniger Inc., New York, N.Y. Filed June 12, 1967.

SCOTCH & WATER

For Men's Woolen Sweaters (Int. Cl. 25).
First use May 31, 1967.

SN 277,297. Plymouth Wholesale Corporation, New York, N.Y. Filed Aug. 1, 1967.

IRON ACE

Owner of Reg. No. 733,461.
For Workshirts and Work Trousers for Men and Boys (Int. Cl. 25).
First use January 1935 on work shirts.

SN 280,500. Wolverine World Wide, Inc., Rockford, Mich. Filed Sept. 15, 1967.

HUSH PUPPIES

Owner of Reg. No. 663,849.
For Hosiery (Int. Cl. 25).
First use on or about May 23, 1967.

SN 285,086. Campus Girl, Inc., New York, N.Y. Filed Nov. 17, 1967.

CampusGirl

For Loungewear, Sportswear, and Dresses for Misses and Children—Namely, Dusters, Robes, Shifts, and Culottes (Int. Cl. 25).
First use at least as early as June 3, 1953.

SN 285,950. J. P. Stevens & Co., Inc., New York, N.Y. Filed Nov. 30, 1967.

EIGHTH WONDER

For Hosiery (Int. Cl. 25).
First use Nov. 1, 1967.

SN 285,954. J. P. Stevens & Co., Inc., New York, N.Y. Filed Nov. 30, 1967.

POSSESSED

For Hosiery (Int. Cl. 25).
First use Nov. 21, 1967.

SN 285,955. J. P. Stevens & Co., Inc., New York, N.Y. Filed Nov. 30, 1967.

ROSEBOWER

For Hosiery (Int. Cl. 25).
First use Nov. 1, 1967.

SN 285,956. J. P. Stevens & Co., Inc., New York, N.Y. Filed Nov. 30, 1967.

CLAUDETTE

For Hosiery (Int. Cl. 25).
First use Nov. 1, 1967.

SN 285,957. J. P. Stevens & Co., Inc., New York, N.Y. Filed Nov. 30, 1967.

VERSAILLES

For Hosiery (Int. Cl. 25).
First use Nov. 1, 1967.

SN 286,192. J. P. Stevens & Co., Inc., New York, N.Y. Filed Dec. 4, 1967.

COMFORT PLUS

Owner of Reg. Nos. 699,905, 834,236, and others.
For Hosiery (Int. Cl. 25).
First use Nov. 1, 1967.

SN 286,193. J. P. Stevens & Co., Inc., New York, N.Y. Filed Dec. 4, 1967.

SOUTHAMPTON

Owner of Reg. No. 547,998.
For Hosiery (Int. Cl. 25).
First use Nov. 1, 1967.

SN 286,194. J. P. Stevens & Co., Inc., New York, N.Y. Filed Dec. 4, 1967.

MAGIC HOUR

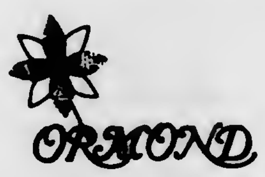
For Hosiery (Int. Cl. 25).
First use Nov. 21, 1967.

SN 288,481. Robert Miles Sherman, d.b.a. De Martel, Dressmaker, New York, N.Y. Filed Jan. 10, 1968.

JUMPING BEAN

For Women's Blouses, Sweaters, Dresses, Slacks, Shirts, Jackets, and Shorts (Int. Cl. 25).
First use Dec. 19, 1967.

SN 288,752. The Ormond Shops, Inc., New York, N.Y. Filed Jan. 15, 1968.



Owner of Reg. Nos. 565,227 and 767,241.
For Hosiery, Anklets, Footlets, Tights, Knee-Socks, Panty Hose, Slips, Petticoats, Pettipants, Bed Jackets, Gowns, Peignoir Sets, Pajamas, Dusters, Loungers, Panties, Beach Jackets, Gloves, Slippers, Garters, Belts, Suspenders, Swim Caps, Dickies, Garter Belts, Girdles, Brassieres, Blouses, Sweaters, T-Shirts, Skirts, Shorts, Pedal Pushers, Slacks, Playsuits, Jumpers, Swim Suits, Jackets, Coats, Suits, Raincoats, and Dresses (Int. Cl. 25).
First use Dec. 28, 1967; Feb. 25, 1932, as to "Ormond."

Class 40 — Fancy Goods, Furnishings, and Notions

SN 260,368. The Standard Oil Company, Cleveland, Ohio. Filed Dec. 8, 1966.

VISTRON

For Dresser Sets (Int. Cl. 21).
First use Nov. 15, 1966.

SN 280,220. Elnbe Mfg. Agency, Inc., New York, N.Y. Filed Sept. 13, 1967.

RAMONA

For Wigs, Wiglets, and Falls (Int. Cl. 26).
First use Mar. 1, 1967.

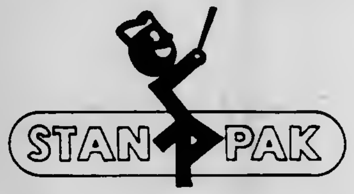
SN 290,222. Edith M. Fiore, d.b.a. Beauti-Quik Wig Co., Winston-Salem, N.C. Filed Feb. 5, 1968.

BEAUTI-QUIK

For Wigs (Int. Cl. 26).
First use Sept. 17, 1967.

Class 41 — Canes, Parasols, and Umbrellas

SN 288,365. Standard Packaging Corporation, New York, N.Y. Filed Jan. 8, 1968.



Owner of Reg. Nos. 595,308, 604,047, and others.
For Umbrellas (Int. Cl. 18).
First use at least as early as Apr. 12, 1967; Sept. 17, 1953, as to "Stanpak."

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 274,325. Interco Incorporated, St. Louis, Mo. Filed June 20, 1967.

Lady Margaret

For Bed Sheets and Pillow Cases (Int. Cl. 24).
First use on or about Apr. 24, 1964.

SN 279,749. Roller Process Corp., New York, N.Y. Filed Sept. 6, 1967.

SATURN-130

For Piece Goods Made of Cotton, Silk, Wool, Man-Made Fibers or Blends Thereof, and Glitter Fabrics (Int. Cl. 24).
First use Apr. 5, 1967.

SN 279,750. Roller Process Corp., New York, N.Y. Filed Sept. 6, 1967.

SATURN LOOK

For Piece Goods Made of Cotton, Silk, Wool, Man-Made Fibers or Blends Thereof, and Glitter Fabrics (Int. Cl. 24).
First use Apr. 5, 1967.

SN 279,752. Roller Process Corp., New York, N.Y. Filed Sept. 6, 1967.

SATURN

For Piece Goods Made of Cotton, Silk, Wool, Man-Made Fibers or Blends Thereof, and Glitter Fabrics (Int. Cl. 24).
First use Apr. 5, 1967.

SN 280,397. Cla-Mar, Inc., Topeka, Kans. Filed Sept. 15, 1967.

CLA-MAR

For Rugs and Carpeting (Int. Cl. 27).
First use July 14, 1967.

Class 44 — Dental, Medical, and Surgical Appliances

SN 256,828. Densco, Incorporated, Denver, Colo. Filed Oct. 20, 1966.

"Q-T"

For Dental Handpiece Used in the Dental Profession (Int. Cl. 10).
First use on or about Dec. 31, 1964.

SN 256,984. Edmond Bordeaux Szekely, d.b.a. Twenty-First Century Products Co., San Diego, Calif. Filed Oct. 21, 1966.

CHAMPAGNE BATH

The word "Bath" is disclaimed apart from the mark as shown.
For Body Bathtub for Therapeutic Massage Through Jets of Water (Int. Cl. 10).
First use Sept. 29, 1966.

SN 256,985. Edmond Bordeaux Szekely, d.b.a. Twenty-First Century Products Co., San Diego, Calif. Filed Oct. 21, 1966.

HAPPY FEET

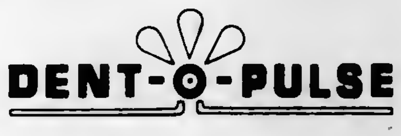
The word "Feet" is disclaimed from the mark as shown.
For Foot Bath for Therapeutic Massage Through Jets of Water (Int. Cl. 10).
First use Sept. 29, 1966.

SN 257,056. Revlon, Inc., New York, N.Y. Filed Oct. 24, 1966.

MANI-GROOM

Owner of Reg. No. 613,636.
For Combination Cuticle Pusher, Cuticle Trimmer, and Under-Nail Cleaner (Int. Cl. 21).
First use Sept. 2, 1966.

SN 276,052. Troy Industries Inc., Tuckahoe, N.Y. Filed July 14, 1967.



For Oral Lavage Dental Sprayer (Int. Cl. 10).
First use on or about June 22, 1967.

SN 277,273. Ethicon, Inc., Somerville, N.J. Filed Aug. 1, 1967.

ETHIFLEX

For Surgical Sutures and Ligatures (Int. Cl. 10).
First use May 12, 1967.

SN 277,299. Rexall Drug and Chemical Company, d.b.a. The Seamless Rubber Company, Los Angeles, Calif. Filed Aug. 1, 1967.

DETECTORAY

For Surgical Sponges (Int. Cl. 5).
First use 1954.

SN 277,300. Rexall Drug and Chemical Company, d.b.a. The Seamless Rubber Company, Los Angeles, Calif. Filed Aug. 1, 1967.

LAMINO

For Surgical Padding (Int. Cl. 5).
First use 1954.

SN 277,886. Allan A. Connel, Stillwater, Minn. Filed Aug. 9, 1967.

AC/ME

For Portable Inhalation Anesthesia Unit for Small Animals (Int. Cl. 10).
First use June 8, 1967.

SN 285,889. Johnson & Johnson, New Brunswick, N.J. Filed Nov. 30, 1967.

ORTHOPLAST

Owner of Reg. No. 196,666.
For Splints for Medical Purposes (Int. Cl. 10).
First use Sept. 17, 1965.

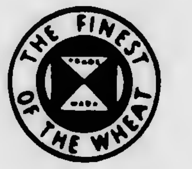
Class 46 — Foods and Ingredients of Foods

SN 230,688. The Pillsbury Company, Minneapolis, Minn. Filed Oct. 20, 1965.

ONIONS PRONTO

Applicant disclaims the word "Onions" apart from the mark as shown.
For Dehydrated Onions (Int. Cl. 29).
First use July 27, 1965.

SN 232,999. James Marshall (Glasgow) Limited, Glasgow, Scotland. Filed Nov. 19, 1965.


THE FINEST OF THE WHEAT
TRADE MARK

Applicant disclaims any exclusive right in the words "Trade Mark" and "The Finest of the Wheat" apart from the mark as shown. Owner of British Reg. No. 45,490, dated June 4, 1885.
For Wheat Cereals, Preparations of Wheat Cereals, and Ground Rice for Use as Food (Int. Cl. 30).

SN 237,472. National Biscuit Company, New York, N.Y. Filed Jan. 27, 1966.

DOO DADS

For Snacks—Namely, Puffed Rice Squares, Puffed Wheat Squares, Pretzel Sticks, and Cheese Crackers (Int. Cl. 30).
First use Dec. 20, 1965.
Subj. to Intf. with SN 255,636.

SN 237,588. Plantation Foods, Inc., Waco, Tex. Filed Jan. 28, 1966.

PLANTATION BEAUTY

For Frozen Processed Turkeys (Int. Cl. 29).
First use Sept. 21, 1965.

SN 237,807. Butler Wholesale Products, Inc., Adams, Mass. Filed Feb. 2, 1966.

BERKSHIRE HILLS

For Canned and Bottled Foods—Namely, Apple Juice, Maraschino Cherries, Catsup, Chili Sauce, Pure Extracts, Fruit Cocktail, Mayonnaise, Evaporated Milk, Mustard, Olives, Sweet Peas, Peaches, Pickles, Jellies and Preserves, Pecans, Walnuts, Pineapple, Prune Juice, Relishes, Salad Dressing, Spices, Spinach, Salt, and Tomato Juice (Int. Cls. 29, 30, and 32).
First use 1936.

SN 239,706. Basic Vegetable Products, Inc., San Francisco, Calif. Filed Feb. 28, 1966.

BASIC

FREE-FLO

Owner of Reg. No. 339,436.
For Dehydrated Onions and Garlic (Int. Cl. 29).
First use prior to Dec. 28, 1945.

SN 240,896. General Mills, Inc., Minneapolis, Minn. Filed Mar. 14, 1966.

TOASTYBURGER

For Sandwich Meat Patties (Int. Cl. 29).
First use Feb. 9, 1966.

SN 242,848. Rogers Brothers Company, Idaho Falls, Idaho. Filed Apr. 6, 1966.

R
ROGERS

Owner of Reg. Nos. 681,291, 735,743, and others.
For Dehydrated Vegetables (Int. Cl. 29).
First use Dec. 14, 1965.

SN 243,036. Suchard Holding Societe Anonyme, Lausanne, Switzerland. Filed Apr. 8, 1966.

VELMA

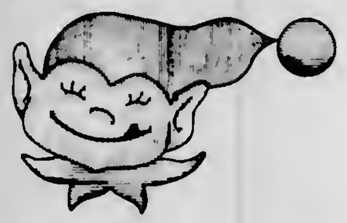
Owner of Swiss Reg. No. 142,665, dated May 17, 1952.
For Cocoa; Candies; Chocolate for Cooking Purposes; Bakery Products—Namely, Pastries; and Nourishing Drinks Made From Chocolate or Cocoa (Int. Cl. 30).

SN 250,362. Drew Chemical Corporation, d.b.a. Drew Foods, New York, N.Y. Filed July 15, 1966.
Filed July 15, 1966.

COMO

For Salad Oil (Int. Cl. 29).
First use at least as early as July 24, 1950.
Subj. to Intf. with SN 278,761.

SN 250,480. Home Town Foods, Inc., d.b.a. Pixieland Frozen Treats Co., Jacksonville, Fla. Filed July 18, 1966.



The drawing is lined for red and blue.

For Frozen Confection on a Stick, Ice Cream, Ice Cream With an Edible Coating, Ice Cream on a Stick With an Edible Coating, Ice Milk on a Stick With an Edible Coating, Ice Milk With an Edible Coating, Ice Cream in a Cone, and Ice Cream Sandwich (Int. Cl. 30).

First use Mar. 25, 1966.

SN 254,570. Mead Johnson & Company (Delaware corporation), Evansville, Ind., assignee of Mead Johnson & Company (Indiana corporation), Evansville, Ind. Filed Sept. 16, 1966.

BERRI-GOOD

Owner of Reg. No. 785,317.

For Fruit Flavored Liquid To Be Used on Breakfast Cereal (Int. Cl. 30).

First use on or prior to July 27, 1966.

SN 255,001. S. & H. Grossinger, Inc., Grossinger, N.Y. Filed Sept. 23, 1966.

GROSSINGER'S

Owner of Reg. No. 708,803.

For Frozen Poultry Products—Namely, Poultry, Poultry Parts, and Chicken Fat (Int. Cl. 29).

First use Mar. 1, 1966.

SN 255,636. W. R. Grace & Co., New York, N.Y., assignee of Milko Products, Inc., d.b.a. Milko Candy Co., Chicago, Ill. Filed Oct. 3, 1966.

DOO-DADS

For Candy (Int. Cl. 30).

First use Aug. 16, 1956.

Subj. to Intf. with SN 237,472.

SN 257,468. Di Giorgio Corporation, d.b.a. Di Giorgio Fruit Corporation, San Francisco, Calif. Filed Oct. 28, 1966.

OH YES!
WE GROW THE BEST

Owner of Reg. No. 539,773.

For Fresh Fruits and Vegetables (Int. Cl. 31).

First use Oct. 10, 1923.

SN 257,591. Champignon Käsewerk Camembert-Industrie Heising, Offene Handelsgesellschaft, Heising, Allgau, Germany. Filed Oct. 31, 1966.

BAVARIAN BOY

Applicant disclaims the word "Bavarian" apart from the mark as shown.

For Cheeses (Int. Cl. 29).

First use 1958; in commerce 1958.

SN 258,137. National Tea Co., d.b.a. National Food Stores, Chicago, Ill. Filed Nov. 7, 1966.

TOP TASTE

Owner of Reg. Nos. 444,626, 827,931, and others.

For Coffee, Regular Potato Chips, a Variety of Potato Chips Used for Dipping in Sauces, Prepared Coconut, Canned Soups, Bread Crumbs, and Pancake Mixes (Int. Cls. 29 and 30).

First use Dec. 15, 1946, on coffee.

SN 258,856. Trugman-Nash, Inc., New York, N.Y. Filed Nov. 16, 1966.

FROMAGEX

For Food Product for the Manufacture of Ice Cream and Comprising Butter Plus Milk Solids (Int. Cl. 29).

First use June 11, 1966.

SN 258,857. Trugman-Nash, Inc., New York, N.Y. Filed Nov. 16, 1966.

MAYTEX

For Food Product for the Manufacture of Ice Cream Comprising Butter, Sugar, and Milk Powder (Int. Cl. 29).

First use Aug. 25, 1966.

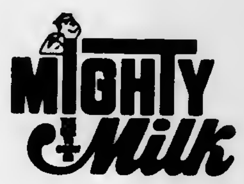
SN 259,288. World's Finest Chocolate, Inc., Chicago, Ill. Filed Nov. 23, 1966.

CONTINENTAL

For Candy (Int. Cl. 30).

First use in or about October 1958.

SN 261,822. Fairmont Foods Company, d.b.a. Abbotts Dairies, Omaha, Nebr. Filed Jan. 3, 1967.



Applicant disclaims the words "The One To Grow On" and "Milk" apart from the mark as shown. Owner of Reg. Nos. 809,373 and 822,048.

For Fluid Milk (Int. Cl. 29).

First use Oct. 17, 1966.

SN 261,990. Horner Sales Corporation, Pittsburgh, Pa. Filed Jan. 5, 1967.

KREME-TEX

For Stabilizers Adapted To Be Incorporated Into Ice Cream, Sherbets, Soft Serve Mixtures, and the Like (Int. Cl. 30).

First use Sept. 12, 1949.

SN 263,074. Kabushiki Kaisha Nakano Su Mise, d.b.a. Nakano Vinegar Co., Ltd., Handa-shi, Aichi-ken, Japan. Filed Jan. 23, 1967.

MITSUKAN

For Vinegar (Int. Cl. 30).

First use June 12, 1920; in commerce Nov. 2, 1954.

SN 267,518. Extrin Foods, Inc., Long Island City, N.Y. Filed Mar. 24, 1967.

EXTRIN'S
POLYMOLLIRE

For Baking Ingredient Which Serves To Extend Shelf Life, Produce Finer Grain, and Retain Moisture (Int. Cl. 1).

First use Nov. 2, 1966.

SN 267,979. Rhodia Inc., New York, N.Y. Filed Mar. 30, 1967.

CITROMINT

For Artificial Flavor in Concentrate Form (Int. Cl. 30).

First use Feb. 7, 1967.

SN 270,120. Esco Imports, Inc., New Haven, Conn. Filed Apr. 27, 1967.

LIMERICK

For Canned Food Products—Namely, Canned Beef Pies, Canned Chicken Pies, Canned Steak Chunks, Canned Rice Pudding, Canned Ham Steaks, and Canned Steak and Mushroom Pies (Int. Cls. 29 and 30).

First use December 1966.

SN 271,368. Roy Hines, d.b.a. House O'Roy Hines, Albany, Ga. Filed May 12, 1967.

DOWN HOME

For Table Syrup (Int. Cl. 30).

First use March 1967.

SN 275,074. Pet Incorporated, St. Louis, Mo. Filed June 29, 1967.

CORN STALKS

The word "Corn" is disclaimed apart from the mark as shown.

For Snack Food Item Derived From Corn (Int. Cl. 30).

First use June 20, 1966.

SN 275,276. Laddie Boy Dog Foods, Inc., Philadelphia, Pa. Filed July 3, 1967.

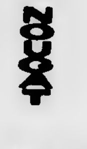
REX

Owner of Reg. No. 321,344.

For Dog Food (Int. Cl. 31).

First use in or about December 1933.

SN 276,828. Fenn Bros., Inc., Sioux Falls, S. Dak. Filed July 26, 1967.



Exclusive rights to the word "Nougat," apart from the mark shown, are disclaimed.

For Candy (Int. Cl. 30).

First use May 2, 1967.

SN 278,511. Mars Limited, Slough, Bucks, England. Filed Aug. 17, 1967.

FANFARE

Owner of British Reg. No. 859,053, dated Jan. 17, 1964.

For Chocolate Candy (Int. Cl. 30).

SN 278,761. International Milling Company Inc., Minneapolis, Minn. Filed Aug. 22, 1967.

COMO

For Wheat Flour (Int. Cl. 30).

First use at least as early as June 29, 1946.

Subj. to Intf. with SN 250,362.

SN 280,092. Ralston Purina Company, St. Louis, Mo. Filed Sept. 11, 1967.

ALL YOU ADD IS LOVE

For Dog Food (Int. Cl. 31).

First use August 1962.

SN 280,109. Topps Chewing Gum, Incorporated, Brooklyn, N.Y. Filed Sept. 11, 1967.

WACKY PACKAGES

For Chewing Gum, Sold in Conjunction with Adhesively Backed Labels (Int. Cl. 30).

First use July 28, 1967.

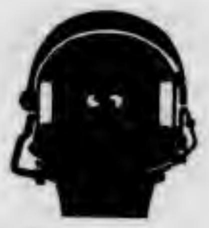
SN 280,111. Topps Chewing Gum, Incorporated, Brooklyn, N.Y. Filed Sept. 11, 1967.

ANGRY STICKERS

For Chewing Gum, Sold in Conjunction With Adhesively Backed Labels (Int. Cl. 30).

First use May 15, 1967.

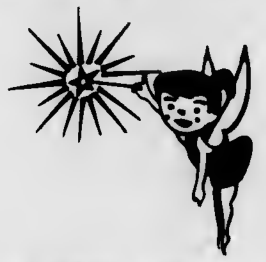
SN 280,721. National Biscuit Company, New York, N.Y. Filed Sept. 19, 1967.



For Biscuits (Int. Cl. 30).

First use May 29, 1967.

SN 281,022. American Crystal Sugar Company, Denver, Colo. Filed Sept. 25, 1967.



For Granulated and Refined Sugar (Int. Cl. 30).

First use September 1955.

SN 284,541. General Mills, Inc., Minneapolis, Minn. Filed Nov. 13, 1967.

COMPANION

For Liquid Non-Dairy Coffee Creamer (Int. Cl. 30).

First use on or prior to Sept. 18, 1967.

SN 285,802. The Procter & Gamble Company, Cincinnati, Ohio. Filed Nov. 29, 1967.

COUNTER POINT

For Coffee (Int. Cl. 30).

First use Oct. 26, 1967.

Class 47 — Wines

SN 248,937. Julius Wile Sons & Co., Inc., New York, N.Y. Filed June 24, 1966.

CHANSON

Owner of Reg. No. 323,709.
For Wines (Int. Cl. 33).
First use 1886.

SN 250,197. Julius Wile Sons & Co., Inc., New York, N.Y. Filed July 13, 1966.

Entrepôts de Boutaut

The term "Entrepots de" is a French expression translated into English as "bonded warehouse of." Applicant makes no claim to the term "Entrepots de" apart from the mark as shown.
For Wines (Int. Cl. 33).
First use in or about March 1964.

SN 250,198. Julius Wile Sons & Co., Inc., New York, N.Y. Filed July 13, 1966.

G. Chicard Fils Aîné

For Wines (Int. Cl. 33).
First use 1933.

SN 261,670. Werner Motzel, d.b.a. Weingut Motzel Weingrosskellerei, Gau-Algesheim (Rhine), Germany. Filed Dec. 29, 1966.

RHEINFEST

The mark is a combination of two German words "Rhein" and "Fest," meaning "Rhine" and "festival" respectively.
For Still Wines (Int. Cl. 33).
First use Aug. 8, 1964; in commerce Aug. 19, 1964.

SN 261,671. Werner Motzel, d.b.a. Weingut Motzel, Weingrosskellerei, Gau-Algesheim (Rhine), Germany. Filed Dec. 29, 1966.

Chriſtel
vom Rhein

The words "Vom Rhein," meaning "from the Rhine," are disclaimed apart from the mark as shown. The mark can be translated from the German as "Christine from the Rhine."
For Still Wines and Sparkling Wines (Int. Cl. 33).
First use July 22, 1959; in commerce Aug. 2, 1960.

SN 262,813. Societe Anonyme des Liqueurs Combier, Paris, France. Filed Jan. 18, 1967.

ARTICIO

Owner of French Reg. No. 527,160, dated Jan. 12, 1965 (Seine); Natl. Inst. No. 238,723.
For Wine-Base Aperitifs (Int. Cl. 33).

SN 290,214. Bear Mountain Winery, Di Giorgio, Calif. Filed Feb. 5, 1968.

GOLD PEAK

For Wines (Int. Cl. 33).
First use Jan. 10, 1968.

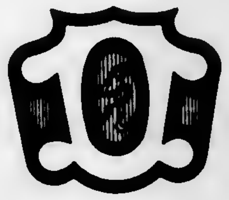
Class 49 — Distilled Alcoholic Liquors

SN 277,994. Joseph S. Finch and Company, New York, N.Y. Filed Aug. 10, 1967.

LANSDOWNE

Owner of Reg. Nos. 728,636 and 811,441.
For Vodka (Int. Cl. 33).
First use June 30, 1967.

SN 289,114. Puerto Rico Distillers, Inc., d.b.a. Compania Ron Llave, Arecibo, Puerto Rico. Filed Jan. 18, 1968.



The drawing is lined for red, but no claim is made to color.
For Alcoholic Beverages—Namely, Rum (Int. Cl. 33).
First use Aug. 15, 1967; 1942 in a different form.

Class 50 — Merchandise Not Otherwise Classified

SN 260,580. Plastic Sealing Corporation, Los Angeles, Calif. Filed Dec. 12, 1966.

VIC

For Coin Collector's Accessories—Namely, Coin Files, Wallets, Envelopes, and Coin Pages (Int. Cl. 16).
First use Oct. 4, 1962.

SN 262,191. Joseph B. Pompa, d.b.a. Pompa Industries, Rochester, N.Y. Filed Jan. 9, 1967.

Mag-Attach

For Magnetic Adhesive Fasteners To Be Attached to Walls and the Like for Mounting Pictures, Clocks, etc. (Int. Cl. 6).
First use at least as early as Nov. 30, 1966.

SN 272,288. L. Marino, Inc., Brooklyn, N.Y. Filed May 24, 1967.

FLEX AIR

For Cargo Containers, Including a Pallet, and a Collapsible Fabric Cover, Including a Front Flap Attached to the Pallet (Int. Cl. 20).
First use Jan. 11, 1967.

Class 51 — Cosmetics and Toilet Preparations

SN 242,136. La Maur, Inc., Minneapolis, Minn. Filed Mar. 29, 1966.

TEEN STYLE

Owner of Reg. Nos. 753,442, 802,850, and others.
For Permanent Waving Compositions (Int. Cl. 3).
First use Aug. 26, 1959.

SN 253,414. Avon Products, Inc., New York, N.Y. Filed Aug. 30, 1966.

BLUE LOTUS

For After Bath Freshener (Int. Cl. 3).
First use Aug. 3, 1966.

SN 257,815. Avon Products, Inc., New York, N.Y. Filed Nov. 3, 1966.

WHATEVER YOU WEAR—
WEAR FRAGRANCE!

For Cologne, Cologne Mist, and Perfume (Int. Cl. 3).
First use Oct. 28, 1966.

SN 259,423. Elizabeth Hartley, Inc., New York, N.Y. Filed Nov. 25, 1966.

CHANGING SHADOWS

Applicant disclaims the word "Shadows" apart from the mark as shown.
For Eye Shadow (Int. Cl. 3).
First use August 1966.

SN 261,637. Clairol Incorporated, New York, N.Y. Filed Dec. 29, 1966.

GALE

For Perfume (Int. Cl. 3).
First use Sept. 26, 1966.

SN 263,763. Edith Lances Corporation, New York, N.Y. Filed Feb. 1, 1967.

EDITH L

For Bath Oils, Perfumes, Colognes, and Body Lubricants (Int. Cl. 3).
First use in or about March 1966.

SN 264,415. Helene Curtis Industries, Inc., Chicago, Ill. Filed Feb. 10, 1967.

GO GAY

For Hair Setting Lotion (Int. Cl. 3).
First use on or about Nov. 30, 1966.

SN 264,428. La Maur, Inc., Minneapolis, Minn. Filed Feb. 10, 1967.

BE BLONDE PLUS II

The words "Be Blonde" are disclaimed apart from the rest of the mark.
For Hair Bleach Booster (Int. Cl. 3).
First use Jan. 25, 1967.

SN 265,523. Helene Curtis Industries, Inc., d.b.a. Helene Curtis, Chicago, Ill. Filed Feb. 27, 1967.

COLORMASTER

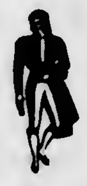
Owner of Reg. No. 833,003.
For Conditioner Preparation for the Hair (Int. Cl. 3).
First use on or about Oct. 10, 1966.

SN 267,630. Helene Curtis Industries, Inc., Chicago, Ill. Filed Mar. 27, 1967.

REVIVE

Owner of Reg. Nos. 580,485 and 646,214.
For Hair Waving Lotion (Int. Cl. 3).
First use on or about Feb. 20, 1967.

SN 269,547. Laboratorios Orive S.A., Logrono, Spain. Filed Apr. 19, 1967.



El Torero

The Spanish words "El Torero" translate into English as "bullfighter." Owner of Spanish Reg. No. 111,518, dated Apr. 24, 1941.
For Toothpaste (Int. Cl. 3).

SN 269,632. Clairol Incorporated, New York, N.Y. Filed Apr. 20, 1967.

CHILDHOOD COLOR

Applicant disclaims the word "Color" apart from the mark as shown.
For Hair Tinting, Dyeing, and Coloring Preparation (Int. Cl. 3).
First use Dec. 19, 1966.

SN 270,577. G. B. Kent & Sons, Ltd., London, England. Filed May 3, 1967.

KENT OF LONDON

The word "London" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 280,509, 826,535, and others.
For Cologne, Talc, After-Shave Lotion, and Personal Deodorant (Int. Cls. 3 and 5).
First use at least as early as June 21, 1965; in commerce June 21, 1965.

SN 272,485. The Fuller Brush Company, East Hartford, Conn. Filed May 26, 1967.

BUTTON
DOWN

For Cologne (Int. Cl. 3).
First use November 1966.

SN 272,501. Kenra, Incorporated, Indianapolis, Ind. Filed May 26, 1967.

RE-JOOV-IT

For Hair Conditioner (Int. Cl. 3).
First use December 1966.

SN 272,699. Chekol Laboratories Ltd., Chicago, Ill. Filed May 31, 1967.

CHEKOL

For Deodorant and Air Freshener for Eliminating Noxious Odors (Int. Cl. 5).
First use Apr. 27, 1967.

SN 275,078. Roger & Gallet, S.A., Paris, France. Filed June 29, 1967.

CIGALIA

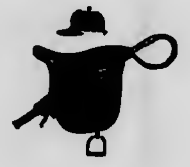
Owner of French Reg. No. 454,388, dated Dec. 8, 1955 (Seine); Natl. Inst. No. 65,457.
For Toilet Water (Int. Cl. 3).

SN 285,524. Chesebrough-Pond's Inc., New York, N.Y. Filed Nov. 24, 1967.

SUGAR PLUM

For Nail Polish (Int. Cl. 3).
First use July 25, 1941.

SN 290,184. MEM Company, Inc., Northvale, N.J. Filed Feb. 2, 1968.



Owner of Reg. No. 841,770.
For Toilet Preparations—Namely, Lotion Used as After Shave Lotion or Eau de Cologne or Toilet Water or Afterbath Rub, Deodorant Lotion, Talcum Powder; and Sets Containing at Least Two of the Foregoing (Int. Cls. 3 and 5).
First use Apr. 14, 1949.

Class 52 — Detergents and Soaps

SN 259,800. Avon Products, Inc., New York, N.Y. Filed Dec. 1, 1966.

MISS LOLLYPOP

For Toilet Soap (Int. Cl. 3).
First use Nov. 18, 1966.

SN 260,006. Armour and Company, Chicago, Ill. Filed Dec. 5, 1966.

ASTOUND

For Skin Cleansing Lotion and an All-Purpose Cleaner (Int. Cl. 3).
First use Oct. 14, 1966.

SN 264,902. Bristol-Myers Company, New York, N.Y. Filed Feb. 17, 1967.

CURTAIL

For Drain/Toilet Bowl Cleaner (Int. Cl. 3).
First use Jan. 23, 1967.

SN 265,269. Samuel Cabot, Inc., Boston, Mass. Filed Feb. 23, 1967.

SYLPHO-NATHOL

For Cleaner-Disinfectant for General Household Use (Int. Cl. 5).
First use as early as Apr. 14, 1914.

SN 265,498. Dub-L-Kleen Chemical Corporation, College Point, N.Y. Filed Feb. 27, 1967.

DUB-L-SOLV

For Solvent Degreaser (Int. Cl. 1).
First use Sept. 21, 1966.

SN 265,533. Kem Manufacturing Corporation, Tucker, Ga. Filed Feb. 27, 1967.

BLAST

For Detergent Preparation for Cleaning Floors, Walls, Metal, Ceramic, and Like Surfaces (Int. Cl. 3).
First use March 1960.

SN 278,812. Metalline Chemicals Corporation, Milwaukee, Wis. Filed Aug. 22, 1967.

VORTECID

For Acid-Type Specialty Cleaners for the Removal of Oxides, Scale, and Soil From Metal Surfaces (Int. Cl. 1).
First use May 15, 1967.

SN 278,813. Metalline Chemicals Corporation, Milwaukee, Wis. Filed Aug. 22, 1967.

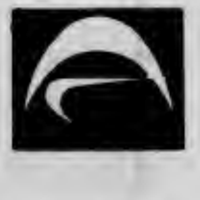
VORTESOL

For Compounded Alkaline Cleaners Which Are Used Within the Presence of Electric Current To Remove Soil, Smut, and Scale From Metal Parts Prior to Electroplating or Electrofinishing (Int. Cl. 1).
First use Apr. 3, 1967.

SERVICE MARKS

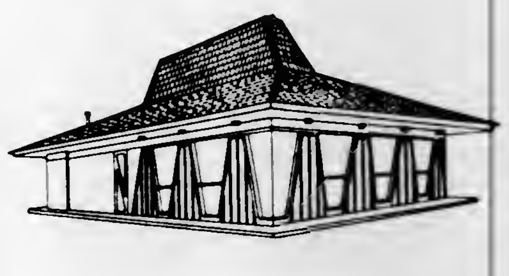
Class 100 — Miscellaneous

SN 244,646. Aerotherm Corporation, Palo Alto, Calif. Filed May 2, 1966.



For Research in Aerodynamics, Thermodynamics, and Chemistry (Int. Cl. 42).
First use Feb. 18, 1966.

SN 256,767. Pizza Hut, Inc., Wichita, Kans. Filed Oct. 19, 1966.



For Restaurant Services (Int. Cl. 42).
First use on or about May 10, 1964.

SN 257,437. Comprehensive Designers, Inc., Philadelphia, Pa. Filed Oct. 28, 1966.

COMPREHENSIVE DESIGNERS INC.

For Engineering, Research, Development, and Designing Services in the Fields of Electronics, Aircraft, and Machinery (Int. Cl. 42).
First use September 1950.

SN 263,062. HMH Publishing Co., Inc., Chicago, Ill. Filed Jan. 23, 1967.

PLAYMATE

Owner of Reg. Nos. 661,391, 777,867, and others.
For Operation of Establishments Which Feature Food, Drink, and Entertainment (Int. Cl. 42).
First use on or about Feb. 29, 1960.

SN 271,087. Walther League, Chicago, Ill. Filed May 9, 1967.

WALTHER LEAGUE/WHEAT RIDGE SEALS PROGRAM

For Charitable Fund Raising Activities (Int. Cl. 42).
First use May 1, 1967.

SN 274,174. The Big Beef, Los Angeles, Calif. Filed June 19, 1967.

THE BIG BEEF

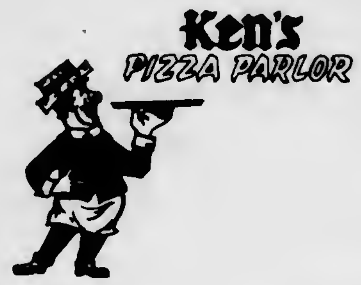
For Restaurant and Take-Out Food Services (Int. Cl. 42).
First use Apr. 20, 1967.

SN 274,307. Calgon Corporation, Pittsburgh, Pa. Filed June 20, 1967.

WATER AUDIT

For Surveys of Water Use, Requirements, and Standards (Int. Cl. 42).
First use Nov. 7, 1966.

SN 274,777. John K. Selby, d.b.a. Ken's Pizza Parlor, Tulsa, Okla. Filed June 26, 1967.



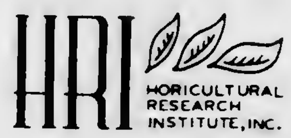
Applicant disclaims the phrase "Pizza Parlor" apart from the mark as shown.
For Restaurant Services (Int. Cl. 42).
First use June 23, 1965; Nov. 11, 1961, as to "Pizza Parlor" and to the man design.

SN 277,381. Pyrofax Gas Corporation, Houston, Tex. Filed Aug. 2, 1967.

GASROOTS

For Services Relating To Furnishing Compressed Gas (Int. Cl. 42).
First use during or about July 1965.

SN 278,003. Horticultural Research Institute, Inc., Washington, D.C. Filed Aug. 10, 1967.



For Consulting and Research Services Related to the Nursery Industry (Int. Cl. 42).
First use March 1965.

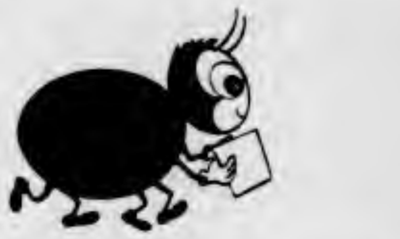
Class 101 — Advertising and Business

SN 255,616. Goodwin, Dannenbaum, Littman & Wingfield, Incorporated, Houston, Tex. Filed Oct. 3, 1966.

CREACTIVITY

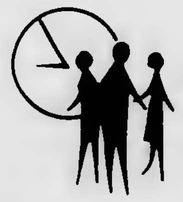
For Advertising and Public Relations Services, Such Services Being Used To Promote the Sale of the Goods and Services of Others (Int. Cl. 35).
First use Dec. 10, 1965.

SN 256,757. Marketing-Research Associates, Hopkins, Minn. Filed Oct. 19, 1966.



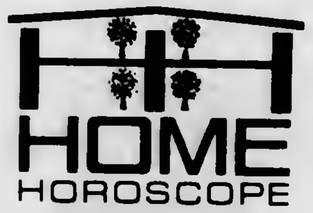
For Promoting the Business of Newspapers by Means of a Bingo-Type Game Placed in Said Newspapers (Int. Cl. 35).
First use Oct. 19, 1964.

SN 260,877. William Olsten, New York, N.Y. Filed Dec. 15, 1966.



Owner of Reg. Nos. 697,224 and 718,709.
For Temporary Personnel Services, Such as White Collar, Blue Collar, Hostesses, Demonstrators; Technicians, and Professional and Permanent Placements as Well as Executive Search (Int. Cl. 35).
First use about July 1966.

SN 264,061. Housing Education & Research Institute, Inc., Atlanta, Ga. Filed Feb. 6, 1967.



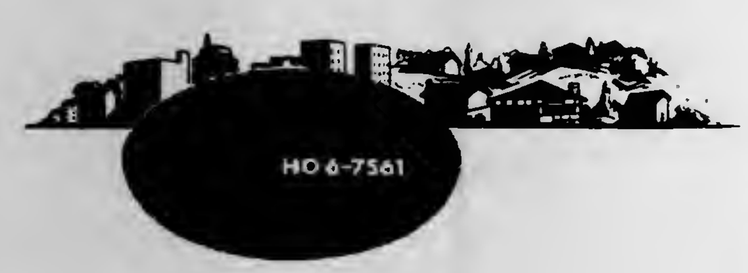
Applicant disclaims exclusive right to the word "Home" apart from the mark as shown.
For Operation of Trade Expositions Featuring Home Building Techniques, Innovations, and Products (Int. Cl. 35).
First use Feb. 1, 1967.

SN 264,715. Add-A-Man, Inc., Chicago, Ill. Filed Feb. 15, 1967.

ADD-A-MAN

For Providing All Types of Plant and Office Temporary Assistants (Int. Cl. 35).
First use on or about Nov. 15, 1958.

SN 270,491. Hollywood Properties, Hollywood, Calif. Filed May 2, 1967.



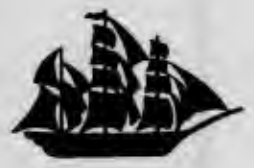
The drawing is lined for yellow and red. The words "Hollywood Properties," the telephone number, and the representation of Hollywood property are disclaimed apart from the mark as shown.
For Real Estate Brokerage Services (Int. Cl. 35).
First use Jan. 1, 1965.

SN 277,233. Welcome Wagon International, Inc., Memphis, Tenn. Filed July 31, 1967.

THE MOST FAMOUS BASKET IN THE WORLD

For Community Services in Bringing Civic, Religious, Social, and Commercial Information to the Public, Through Individual Home Visits Made in Person by Its Representatives, as a Public Service and in Behalf of Interested Sponsors (Int. Cl. 35).
First use May 15, 1967.

SN 278,567. Atlantic Company, Atlanta, Ga. Filed Aug. 18, 1967.



For Gift Shop Services Specializing in Imported Items (Int. Cl. 35).
First use on or about Nov. 15, 1965.

SN 278,778. Rome Arnold & Company, Chicago, Ill. Filed Aug. 22, 1967.

CENTEL

For Marketing Research Services Performed by Telephone (Int. Cl. 35).
First use on or before Jan. 1, 1965.

SN 285,488. Continental Casualty Company, Chicago, Ill. Filed Nov. 24, 1967.

IRIS

For Insurance Cost Analysis Services (Int. Cl. 35).
First use Oct. 30, 1967.

Class 102 — Insurance and Financial

SN 285,605. Woodmen of the World Life Insurance Society and/or Omaha Woodman Life Insurance Society, Omaha, Nebr. Filed Nov. 24, 1967.

W.O.W.

Applicant claims use for the areas of the United States comprising the District of Columbia and the States of Alabama, Alaska, Arizona, Arkansas, Connecticut, Delaware, Florida, Georgia, Hawaii, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Vermont, Virginia, West Virginia, and Wisconsin.
For Underwriting of Insurance (Int. Cl. 36).
First use about 1890.
Subj. to Concurrent Use Proceeding with SN 285,606.

SN 285,606. Woodmen of the World and/or Assured Life Association, Denver, Colo. Filed Nov. 24, 1967.

W.O.W.

Applicant claims use for the area comprising the States of California, Colorado, Idaho, Montana, Nevada, Oregon, Utah, Washington, and Wyoming.
For Underwriting of Insurance (Int. Cl. 36).
First use about 1890.
Subj. to Concurrent Use Proceeding with SN 285,605.

SN 285,607. Woodmen of the World and/or Assured Life Association, Denver, Colo. Filed Nov. 24, 1967.

WOODMEN OF THE WORLD

Applicant claims use for the area comprising the States of California, Colorado, Idaho, Montana, Nevada, Oregon, Utah, Washington, and Wyoming.
For Underwriting of Insurance (Int. Cl. 36).
First use about 1890.
Subj. to Concurrent Use Proceeding with SN 285,608.

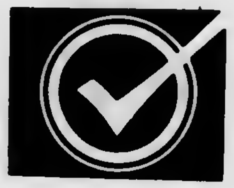
SN 285,608. Woodmen of the World Life Insurance Society and/or Omaha Woodman Life Insurance Society, Omaha, Nebr. Filed Nov. 24, 1967.

WOODMEN OF THE WORLD

Applicant claims use for the areas of the United States comprising the District of Columbia and the States of Alabama, Alaska, Arizona, Arkansas, Connecticut, Delaware, Florida, Georgia, Hawaii, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Vermont, Virginia, West Virginia, and Wisconsin.
For Underwriting of Insurance (Int. Cl. 36).
First use about 1890.
Subj. to Concurrent Use Proceeding with SN 285,607.

Class 103 — Construction and Repair

SN 259,794. Ammco Tools, Inc., North Chicago, Ill. Filed Dec. 1, 1966.



For Automobile and Truck Repair and Maintenance Services (Int. Cl. 37).
First use June 1, 1966.

SN 264,297. J. H. Bray, d.b.a. Alarm Signal Company of Texas, Pasadena, Tex. Filed Feb. 9, 1967.

ASCOT

For Installation and Maintenance of Industrial Protective Systems for Process Control, and Intrusion and Fire Detection, and Sprinklers (Int. Cl. 37).
First use 1954.

SN 271,227. Culligan, Inc., Northbrook, Ill. Filed May 11, 1967.

"HEY CULLIGAN MAN!"

Owner of Reg. Nos. 537,164, 771,457, and others.
For Servicing Portable and Stationary Apparatus and Equipment for Conditioning, Softening, Treating, Filtering, and Deionizing Water, and for Salt and Chemical Delivery Service (Int. Cl. 37).
First use Feb. 15, 1960.

SN 272,155. The Austin Company, Cleveland, Ohio. Filed May 23, 1967.

THE AUSTIN METHOD

Owner of Reg. Nos. 186,643, 821,327, and 843,428.
For Construction of Industrial and Commercial Buildings (Int. Cl. 37).
First use 1915.

Class 104 — Communication

SN 255,932. United Utilities, Incorporated, d.b.a. United Telephone System, Westwood, Kans. Filed Oct. 6, 1966.

U-TOUCH

For Providing Telephone Communication Services (Int. Cl. 38).
First use Aug. 5, 1966.

SN 277,147. Columbia Broadcasting System, Inc., New York, N.Y. Filed July 31, 1967.

CBS

Owner of Reg. Nos. 381,572, 777,570, and others.
For Radio and Television Broadcasting Services Rendered Through the Medium of Radio and Television Programs Broadcast Over Applicant's Radio and Television Stations and Radio and Television Networks (Int. Cl. 38).
First use at least as early as Oct. 15, 1933.

Class 105 — Transportation and Storage

SN 233,838. Southern Railway Company, Richmond, Va. Filed Dec. 2, 1965.

ALL-DOOR

For Railroad Freight Transportation Services (Int. Cl. 39).
First use Apr. 15, 1961.

SN 251,874. Avion Coach Corporation, Benton Harbor, Mich. Filed Aug. 8, 1966.

TRAVELCADE

For Organizing, Promoting and Supervising Tours of Persons in Their Own Travel Trailers, and Publicizing and Organizing Groups and Clubs for Each Tour (Int. Cl. 39).
First use June 27, 1960.

SN 260,516. William L. Bashford, Jr., d.b.a. Bashford Travel, Fresno, Calif. Filed Dec. 12, 1966.

AGRI-TOUR

For Providing Tours for Farmers or Breeders (Int. Cl. 39).
First use Dec. 1, 1963.

Class 107 — Education and Entertainment

SN 256,284. Iramac N.V., d.b.a. Iramac, Bussum, Netherlands. Filed Oct. 12, 1966.

IRAMAC

For Acting as Agents for Musical Performing and Recording Artists, Including the Promotion and Presentation of Such Artists Through the Medium of Films and Phonograph Records (Int. Cl. 41).
First use Jan. 5, 1965; in commerce Nov. 11, 1965.

SN 262,115. Bankers Management & Services, Inc., Dallas, Tex. Filed Jan. 9, 1967.

BOBBY PATTERSON AND THE MUSTANGS

The name "Bobby Patterson" refers to Robert Carl Patterson, whose consent is of record.
For Entertainment Services—Namely, Musical Entertainment Services Rendered by a Vocal and Instrumental Group (Int. Cl. 41).
First use Dec. 2, 1966.

SN 262,116. Bankers Management & Services, Inc., Dallas, Tex. Filed Jan. 9, 1967.

THE MUSTANGS

For Entertainment Services—Namely, Musical Entertainment Services Rendered by a Vocal and Instrumental Group (Int. Cl. 41).

First use Dec. 2, 1966.

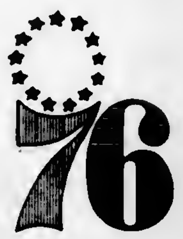
SN 277,558. The Institute of Electrical and Electronics Engineers, Incorporated, New York, N.Y. Filed Aug. 4, 1967.

NTC

For Establishment of Conferences Yearly and at Intermediate Times To Disseminate and Exchange Information Relating to Electronics and Telemetering (Int. Cl. 41).

First use September 1950.

SN 287,211. Riko Enterprises, Inc., Philadelphia, Pa. Filed Dec. 19, 1967.



The drawing is lined for red and blue.

For Entertainment Services in the Nature of Basketball Exhibitions Rendered Live and Through the Media of Radio and Television Broadcasts (Int. Cl. 41).

First use July 1963.

COLLECTIVE MEMBERSHIP MARKS

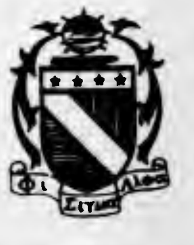
Class 200

SN 258,409. Phi Sigma Alpha, Kansas City, Mo. Filed Nov. 10, 1966.

ΦΣΑ

For Indicating Membership in a Fraternal Organization.
First use Sept. 22, 1960.

SN 258,410. Phi Sigma Alpha, Kansas City, Mo. Filed Nov. 10, 1966.



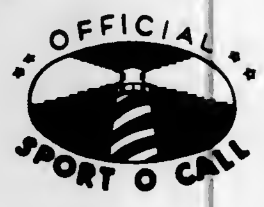
The Greek words "Phi Sigma Alpha" are translated to read "friendship, wisdom and courage." The drawing is lined for shading purposes.

For Indicating Membership in a Fraternal Organization.
First use Sept. 22, 1960.

CERTIFICATION MARKS

Class B — Services

SN 256,244. Sportsman's Handbook, Inc., Cambridge, Mass. Filed Oct. 11, 1966.



The mark certifies the quality of said services. Owner of Reg. Nos. 790,852 and 795,577.

For Hotel, Motel, Travel Agency, Marina, and Restaurant Services.

First use on or about Mar. 1, 1966.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

847,793. BAY. San Francisco Fish Farms, Inc. MULTIPLE CLASS (Classes 1 and 46). SN 256,495. Pub. 8-8-67. Filed 10-17-66.

847,794. FLEXAGRIT. Newark Brush Company. SN 263,194. Pub. 2-6-68. Filed 1-24-67.

847,795. ETHYL. Ethyl Corporation. SN 269,871. Pub. 2-6-68. Filed 4-24-67.

Class 2 — Receptacles

847,796. CALPINE ETC. AND DESIGN. Calpine Containers, by change of name from California Pine Box Distributors. SN 232,116. Pub. 2-6-68. Filed 11-4-65.

847,797. E-Z OFF. Gulf States Paper Corporation. SN 278,483. Pub. 2-6-68. Filed 8-17-67.

Class 5 — Adhesives

847,798. ETHYL. Ethyl Corporation. SN 269,870. Pub. 2-6-68. Filed 4-24-67.

Class 6 — Chemicals and Chemical Compositions

847,799. 00-7. Flame-Out, Inc. SN 229,967. Pub. 5-17-66. Filed 10-12-65.

847,800. HOT LINE. Minneapolis-Moline, Inc. MULTIPLE CLASS (Classes 6, 15, 16, 21, 26, and 35). SN 248,385. Pub. 2-6-68. Filed 6-20-66.

847,801. ZYDEX. Glaxo Laboratories Limited. SN 251,913. Pub. 2-6-68. Filed 8-8-66.

847,802. TERRA-COAT. Olin Mathieson Chemical Corporation. SN 275,588. Pub. 9-19-67. Filed 7-10-67.

Class 8 — Smokers' Articles, Not Including Tobacco Products

847,803. SCRIPTANE CLASSIC. Scripto, Inc. SN 267,680. Pub. 2-6-68. Filed 3-27-67.

847,804. MINI-PAK. Swartz Creations, Inc. SN 284,557. Pub. 2-6-68. Filed 11-13-67.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

847,805. DUAL-CORE. Aktiebolaget, Norma Projektilfabrik. SN 259,513. Pub. 2-6-68. Filed 11-28-66.

Class 10 — Fertilizers

847,806. SOILIFE. Armour Agricultural Chemical Company. SN 255,762. Pub. 2-6-68. Filed 10-5-66.

Class 12 — Construction Materials

847,807. DURATUF. Berdon, Inc., d.b.a. Ornyte, Division of Berdon, Inc. SN 267,000. Pub. 2-6-68. Filed 3-17-67.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

847,808. COR-BOND. The Polymer Corporation. SN 267,661. Pub. 2-6-68. Filed 3-27-67.

Class 15 — Oils and Greases

847,800. (See Class 6 for this trademark.)

847,809. RIDGID. Ridge Tool Company, by merger and assignment from The Ridge Tool Company. MULTIPLE CLASS (Classes 15, 21, and 23). SN 244,285. Pub. 3-21-67. Filed 4-25-66.

Class 16 — Protective and Decorative Coatings

847,800. (See Class 6 for this trademark.)

847,810. KORCHEM. Wyandotte Chemicals Corporation. SN 277,401. Pub. 2-13-68. Filed 8-2-67.

847,811. NEXTEL. Minnesota Mining and Manufacturing Company. SN 285,037. Pub. 2-6-68. Filed 11-16-67.

Class 17 — Tobacco Products

847,812. "OO" VII. International Enterprises Ltd. SN 221,182. Pub. 2-22-66. Filed 6-15-65.

847,813. RED HORSE. The Pinkerton Tobacco Co. SN 276,859. Pub. 2-6-68. Filed 7-26-67.

847,814. PLAZA. Philip Morris Incorporated. SN 285,626. Pub. 2-6-68. Filed 11-27-67.

847,815. LIMITED EDITION. Philip Morris Incorporated. SN 285,628. Pub. 2-6-68. Filed 11-27-67.

Class 18 — Medicines and Pharmaceutical Preparations

847,816. NODEMA. Irving P. Filderman. SN 203,081. Pub. 4-26-66. Filed 10-1-64.

847,817. TEND. Merck & Co., Inc. SN 245,839. Pub. 4-25-67. Filed 5-17-66.

847,818. COLECTRIL. Merck & Co., Inc. SN 269,551. Pub. 2-6-68. Filed 4-19-67.

Class 19 — Vehicles

847,819. SNOW BIRDIE. William L. Bales. SN 283,059. Pub. 2-6-68. Filed 10-23-67.

Class 21 — Electrical Apparatus, Machines, and Supplies

847,800. (See Class 6 for this trademark.)

847,809. (See Class 15 for this trademark.)

847,820. POLY QUAD. Plas-Steel Products, Inc. SN 271,285. Pub. 2-6-68. Filed 5-11-67.

847,821. TORQFORM. Cambridge Thermionic Corporation. SN 271,591. Pub. 2-6-68. Filed 5-16-67.

847,822. FCI (DESIGN). Marathon Electric Manufacturing Corporation. SN 283,962. Pub. 2-6-68. Filed 11-2-67.

Class 22 — Games, Toys, and Sporting Goods

847,823. KRAZY SNAPS. Whitman Publishing Company. SN 264,625. Pub. 2-6-68. Filed 2-13-67.

847,824. RUSSELL. Jack Russell Company, Inc. SN 266,693. Pub. 2-6-68. Filed 3-14-67.

847,825. MINISPORT. Kenner Products Company. SN 268,418. Pub. 2-6-68. Filed 4-5-67.

847,826. LITE-BRITE. Hassenfeld Bros. Inc. SN 269,885. Pub. 2-6-68. Filed 4-24-67.

847,827. FULLFLEX. The Orvis Company, Inc. SN 272,087. Pub. 2-6-68. Filed 5-22-67.

847,828. KARATE. Atlantic Lures, Inc. SN 273,464. Pub. 2-6-68. Filed 6-9-67.

847,829. BARON. Atlantic Lures, Inc. SN 273,467. Pub. 2-6-68. Filed 6-9-67.

847,830. PLUNGER-PUP. Atlantic Lures, Inc. SN 273,469. Pub. 2-6-68. Filed 6-9-67.

847,831. SHOOP SHOOP HULA-HOOP. Wham-O Mfg. Co. SN 273,543. Pub. 2-6-68. Filed 6-9-67.

847,832. CLAUDETTE. Nasco Doll Inc. SN 273,971. Pub. 2-6-68. Filed 6-15-67.

847,833. BARON. Bel-Air Pools, Inc. SN 274,942. Pub. 2-6-68. Filed 6-28-67.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

847,809. (See Class 15 for this trademark.)

847,834. STIRALL. Specialized Products, Incorporated. SN 244,146. Pub. 2-6-68. Filed 4-22-66.

847,835. CSY. Central Soya Company, Inc., d.b.a. Central Soya. SN 268,152. Pub. 2-6-68. Filed 4-3-67.

847,836. LUMINITE. Luminite Products Corporation. SN 269,084. Pub. 2-6-68. Filed 4-13-67.

Class 24 — Laundry Appliances and Machines

847,837. ROUTEMASTER. McGraw-Edison Company. SN 268,755. Pub. 2-6-68. Filed 4-10-67.

Class 26 — Measuring and Scientific Appliances

847,800. (See Class 6 for this trademark.)

847,838. GE MAC AND DESIGN. General Electric Company. SN 218,005. Pub. 5-24-66. Filed 5-4-65.

847,839. BAUSCH & LOMB WITH RED TRIANGLE IN CIRCLE. Bausch & Lomb Incorporated. SN 233,055. Pub. 2-6-68. Filed 11-22-65.

847,840. RED TRIANGLE IN CIRCLE (DESIGN). Bausch & Lomb Incorporated. SN 233,056. Pub. 2-6-68. Filed 11-22-65.

847,841. BAUSCH & LOMB WITH BLACK TRIANGLE IN CIRCLE. Bausch & Lomb Incorporated. SN 233,057. Pub. 2-6-68. Filed 11-22-65.

847,842. BLACK TRIANGLE IN CIRCLE (DESIGN). Bausch & Lomb Incorporated. SN 233,058. Pub. 2-6-68. Filed 11-22-65.

847,843. VIDEO TELETRAINER AND DESIGN. Video Electronic Systems, Inc. SN 241,103. Pub. 2-6-68. Filed 3-15-66.

847,844. VIDEO SPORTRAINER AND DESIGN. Video Electronic Systems, Inc. SN 241,104. Pub. 2-6-68. Filed 3-15-66.

847,845. MISCELLANEOUS DESIGN. Sanders Associates, Inc. SN 245,516. Pub. 2-6-68. Filed 5-12-66.

847,846. COLORMASTER. Houston Fearless Corporation. SN 247,923. Pub. 2-6-68. Filed 6-13-66.

847,847. DACTYLOCHROME LEARNING LANTERN. C. A. Curran. SN 250,454. Pub. 2-6-68. Filed 7-18-66.

847,848. TELA-CABLE. Tela Cable Incorporated. SN 255,135. Pub. 2-6-68. Filed 9-26-66.

847,849. LAB-SAFE. Span Products Inc. SN 259,679. Pub. 2-6-68. Filed 11-29-66.

847,850. TCA ETC. AND DESIGN. Mid-Continent Manufacturing Co. SN 260,672. Pub. 2-6-68. Filed 12-13-66.

847,851. SEMS 5. Electronic Memories, Inc. SN 266,207. Pub. 2-6-68. Filed 3-8-67.

Class 27 — Horological Instruments

847,852. DELIGHT. Sunbeam Corporation. SN 252,906. Pub. 2-6-68. Filed 8-22-66.

847,853. SEKONDA. Time Products Limited. SN 261,239. Pub. 2-6-68. Filed 12-21-66.

Class 28 — Jewelry and Precious-Metal Ware

847,854. PERLA SEVILLIA AND DESIGN. William Rand, Inc. SN 257,082. Pub. 2-6-68. Filed 10-24-66.

847,855. ENGLISH GARDEN. Oneida Ltd. SN 267,177. Pub. 2-6-68. Filed 3-20-67.

847,856. LANGANI WITH THE BLACK PEARL. Anni Schaad. SN 271,645. Pub. 2-6-68. Filed 5-16-67.

847,857. MAGNUM. Emo E. Gottlieb. SN 272,719. Pub. 2-6-68. Filed 5-31-67.

Class 30 — Crockery, Earthenware, and Porcelain

847,858. DUXBURY. Shenango Ceramics, Inc. SN 244,930. Pub. 2-6-68. Filed 5-4-66.

847,859. FLAMENCO. Castleton China, Inc. SN 248,113. Pub. 2-6-68. Filed 6-15-66.

Class 32 — Furniture and Upholstery

847,860. HAMPTON MODERN. Hampton Shops. SN 271,939. Pub. 2-6-68. Filed 5-19-67.

847,861. HEATHER. Breneman, Inc. SN 272,572. Pub. 2-6-68. Filed 5-29-67.

Class 33 — Glassware

847,862. RUBION. Paul Masson, Inc., d.b.a. Paul Masson, and Paul Masson Vineyards. SN 262,430. Pub. 2-6-68. Filed 1-12-67.

847,863. SIV SOCIETA ITALIANA VETRO AND DESIGN. Società Italiana Vetro S.I.V. S.p.A. SN 265,116. Pub. 2-6-68. Filed 2-20-67.

Class 34 — Heating, Lighting, and Ventilating Apparatus

847,864. ARROW-LINE AND DESIGN. M.G.M.S. Associates, Inc. SN 240,753. Pub. 2-6-68. Filed 3-11-66.

847,865. SPIRAL LINE PRODUCTS AND DESIGN. Alfred G. B. Prather. SN 250,515. Pub. 2-6-68. Filed 7-18-66.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

847,800. (See Class 6 for this trademark.)

847,866. PARAGON STUD. Andrew Fisher Cycle Co. Inc. SN 265,510. Pub. 2-6-68. Filed 2-27-67.

847,867. PARAGON SLICK. Andrew Fisher Cycle Co. Inc. SN 265,511. Pub. 2-6-68. Filed 2-27-67.

Class 36 — Musical Instruments and Supplies

847,868. CATHY. Nissho Electronics Corporation. SN 276,341. Pub. 2-6-68. Filed 7-19-67.

Class 37 — Paper and Stationery

847,869. KLEAN-FAX. Frankel Carbon & Ribbon Company. SN 246,672. Pub. 2-6-68. Filed 5-26-66.

847,870. DURACREST AND DESIGN. Metro Wholesale Corporation. SN 257,297. Pub. 2-6-68. Filed 10-26-66.

847,871. MOISTIC. Graphic Controls Corporation. SN 263,563. Pub. 2-6-68. Filed 1-30-67.

847,872. CAMELLIA AND DESIGN. Marcal Paper Mills, Inc. SN 267,835. Pub. 2-6-68. Filed 3-29-67.

847,873. GUSTO. Consolidated Cellulose Products, Inc., assignee of A.P.W. Products Company, Inc. SN 270,208. Pub. 2-6-68. Filed 4-28-67.

847,874. KNIGHTKOTE. U.S. Plywood-Champion Papers Inc. SN 271,296. Pub. 2-6-68. Filed 5-11-67.

Class 38 — Prints and Publications

847,875. MISS UNIVERSE BEAUTY PAGEANT. Miss Universe, Inc. SN 210,331. Pub. 2-6-68. Filed 1-21-65.

847,876. CEB AND DESIGN. Cowles Educational Books, Inc. SN 216,936. Pub. 12-14-65. Filed 4-20-65.

847,877. MISS U.S.A. BEAUTY PAGEANT. Miss Universe, Inc. SN 227,316. Pub. 2-6-68. Filed 9-7-65.

847,878. TRUSTS AND ESTATES. Fiduciary Publishers, Inc. SN 240,424. Pub. 2-6-68. Filed 3-9-66.

847,879. BETTER LIVING ENCYCLOPEDIA. Parents' Magazine Enterprises, Inc., assignee of Home Library Press, Inc. SN 255,003. Pub. 2-6-68. Filed 9-23-66.

847,880. WAITING ROOM READER. Lawrence Katzman. SN 256,564. Pub. 2-6-68. Filed 10-17-66.

847,881. THE ART OF LIVING. Hallmark Cards, Incorporated. SN 260,844. Pub. 2-6-68. Filed 12-15-66.

847,882. CAT AND DOG DAYS. Hallmark Cards, Incorporated. SN 260,846. Pub. 2-6-68. Filed 12-15-66.

847,883. REMEMBER WHEN. Hallmark Cards, Incorporated. SN 260,847. Pub. 2-6-68. Filed 12-15-66.

847,884. WELCOME WAGON. Welcome Wagon International, Inc. SN 263,968. Pub. 2-6-68. Filed 2-3-67.

847,885. MISCELLANEOUS DESIGN. The Regents of the University of Michigan. SN 264,257. Pub. 2-6-68. Filed 2-8-67.

847,886. AMERICAN BIRTHRIGHT BOOKS AND DESIGN. Random House, Inc. SN 267,182. Pub. 2-6-68. Filed 3-20-67.

Class 39 — Clothing

847,887. WHIMS OF CAL. AND DESIGN. Rough Rider, Inc. SN 239,323. Pub. 2-6-68. Filed 2-21-66.

847,888. MR. OOMPHIES. Oomphies, Inc. SN 242,745. Pub. 2-6-68. Filed 4-5-66.

847,889. BARBAC. Angelica Corporation, by change of name from Angelica Uniform Company. SN 255,055. Pub. 10-10-67. Filed 9-26-66.

847,890. RISTAKNIT. S.p.A. Manifattura Lane Ugo Rista. MULTIPLE CLASS (Classes 39 and 42). SN 257,433. Pub. 2-6-68. Filed 10-28-66.

847,891. GELOT. Maison Gelot Societe Anonyme. SN 259,660. Pub. 2-6-68. Filed 11-29-66.

847,892. DURA-LOOP. Hanes Corporation. SN 259,825. Pub. 2-6-68. Filed 12-1-66.

847,893. SKY-LANDERS AND DESIGN. Wellco Ro-Search Industries, Inc. SN 260,113. Pub. 2-6-68. Filed 12-5-66.

847,894. JHC PLUS AND DESIGN. Rapid-American Corporation. SN 263,697. Pub. 2-6-68. Filed 1-31-67.

847,895. LOOK SWEETER IN A SWEATER. Electronic Crystals Corporation. SN 263,988. Pub. 2-6-68. Filed 2-6-67.

847,896. FIT-ALL-HEEL. Kayser-Roth Corporation. SN 266,049. Pub. 2-6-68. Filed 3-6-67.

847,897. TOPPIT. Irwin Touster, d.b.a. Headstart Co. SN 269,001. Pub. 2-6-68. Filed 4-12-67.

847,898. FOOTHOLD. Wolverine World Wide, Inc. SN 270,832. Pub. 2-6-68. Filed 5-5-67.

847,899. ON-THE-SPOT. Peter Pan International, Inc., by merger and change of name from Peter Pan Foundations, Inc. SN 270,949. Pub. 2-6-68. Filed 5-8-67.

847,900. THE BUFFER. The Enro Shirt Company, Inc. SN 271,047. Pub. 2-6-68. Filed 5-9-67.

847,901. DREAM-TIMER. Maidenform, Inc. SN 283,753. Pub. 2-6-68. Filed 10-31-67.

Class 40 — Fancy Goods, Furnishings, and Notions

847,902. RAPID SET. Solo Products Corporation. SN 260,600. Pub. 2-6-68. Filed 12-12-66.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

847,890. (See Class 39 for this trademark.)

847,903. C AND DESIGN. Celanese Corporation, by change of name from Celanese Corporation of America. SN 235,164. Pub. 2-6-68. Filed 12-23-65.

847,904. FYBRITE. Fiber Industries, Inc. SN 261,060. Pub. 2-6-68. Filed 12-19-66.

847,905. EVENSONG. Chatham Manufacturing Company. SN 262,126. Pub. 2-6-68. Filed 1-9-67.

847,906. NOVONETTE. The Kendall Company. SN 266,548. Pub. 2-6-68. Filed 3-13-67.

847,907. COTIL AND DESIGN. Aktieselskabet C. Olesen. SN 268,666. Pub. 2-6-68. Filed 4-10-67.

847,908. PETALSMOOTH. Collins & Aikman Corporation. SN 269,060. Pub. 2-6-68. Filed 4-13-67.

847,909. ETHYL. Ethyl Corporation. SN 269,875. Pub. 2-6-68. Filed 4-24-67.

847,910. STEVAIR. J. P. Stevens & Co., Inc. SN 271,188. Pub. 2-6-68. Filed 5-10-67.

847,911. HANDI-CUT. Dan River Mills, Incorporated. SN 271,233. Pub. 2-6-68. Filed 5-11-67.

847,912. SET FREE. J. P. Stevens & Co., Inc. SN 271,853. Pub. 2-6-68. Filed 5-18-67.

847,913. SHASTEAU. Fieldcrest Mills, Inc. SN 271,931. Pub. 2-6-68. Filed 5-19-67.

847,914. RIVERCLUB. Dan River Mills, Incorporated. SN 272,711. Pub. 2-6-68. Filed 5-31-67.

847,915. A ROOM HAPPENING. Louis Hand Incorporated. SN 272,935. Pub. 2-6-68. Filed 6-2-67.

847,916. MERRYAIRE. J. P. Stevens & Co., Inc. SN 273,123. Pub. 2-6-68. Filed 6-5-67.

847,917. KRINKL-CORD. Dan River Mills, Incorporated. SN 273,184. Pub. 2-6-68. Filed 6-6-67.

847,918. SUPERTRIQUE. Webco Mills, Inc. SN 273,220. Pub. 2-6-68. Filed 6-6-67.

847,919. SPACE. National Research Corporation. SN 277,106. Pub. 2-6-68. Filed 7-31-67.

847,920. MISCELLANEOUS DESIGN. Hygiene Industries, Inc. SN 285,092. Pub. 2-6-68. Filed 11-17-67.

847,921. HOME SWEET HOME FABRICS AND DESIGN. Qual Fab, Inc. SN 285,177. Pub. 2-6-68. Filed 11-20-67.

Class 43 — Thread and Yarn

847,922. GLOWETTE. Rich-Flex Mfg. Corporation. SN 272,856. Pub. 2-6-68. Filed 6-1-67.

847,923. REFLECTION. Columbia-Minerva Corporation. SN 273,041. Pub. 2-6-68. Filed 6-5-67.

847,924. PPG INDUSTRIES AND DESIGN. Pittsburgh Plate Glass Company. SN 285,176. Pub. 2-6-68. Filed 11-20-67.

Class 44 — Dental, Medical, and Surgical Appliances

847,925. DRAKE-WILLOCK. DWS, Inc. SN 259,814. Pub. 2-6-68. Filed 12-1-66.

847,926. HERCU-GUARD. Herculite Protective Fabrics Corporation, assignee of William S. Rice, Inc. SN 260,083. Pub. 10-17-67. Filed 12-5-66.

847,927. CARMEN. Arne Bybjerg Pedersen, d.b.a. Carmen Curlers. SN 260,231. Pub. 2-6-68. Filed 12-7-66.

847,928. SIGMOIDFORM. Baxter Laboratories, Inc. SN 260,641. Pub. 1-16-68. Filed 12-13-66.

847,929. HYGROBATH. Whip-Mix Corporation. SN 260,793. Pub. 2-6-68. Filed 12-14-66.

847,930. KROMOPAN. Danilo Cozzi. SN 263,162. Pub. 2-6-68. Filed 1-24-67.

847,931. EXTRACATH. Levoy's Inc. SN 269,993. Pub. 2-6-68. Filed 4-25-67.

847,932. HER HIGHNESS. Helene Curtis Industries, Inc. SN 270,246. Pub. 2-6-68. Filed 4-28-67.

847,933. STYLOCATH. Abbott Laboratories. SN 270,333. Pub. 2-6-68. Filed 5-1-67.

847,934. MILLIKNIT. Bearing Products Co., Inc. SN 270,470. Pub. 2-6-68. Filed 5-2-67.

847,935. DERMISOFF. Johnson & Johnson. SN 271,257. Pub. 2-6-68. Filed 5-11-67.

Class 45 — Soft Drinks and Carbonated Waters

847,936. SIR REGINALD LIME-LIME AND DESIGN. The Pillsbury Company. SN 266,255. Pub. 2-6-68. Filed 3-8-67.

847,937. BARON VON LEMON AND DESIGN. The Pillsbury Company. SN 266,256. Pub. 2-6-68. Filed 3-8-67.

847,938. TONIGHT. Heublein, Inc. SN 273,775. Pub. 2-6-68. Filed 6-13-67.

847,939. OLD CREAMY. Eng-Skell Company. SN 284,134. Pub. 2-6-68. Filed 11-6-67.

Class 46 — Foods and Ingredients of Foods

847,793. (See Class 1 for this trademark.)

847,940. SHURTENDA. Shurtenda Steaks, Inc. SN 190,291. Pub. 2-6-68. Filed 4-3-64.

847,941. GOLDEN KERNEL. A. L. Schutzman Company, Inc. SN 221,957. Pub. 5-9-67. Filed 6-24-65.

847,942. DUNHILL. Alfred Dunhill Limited. SN 238,198. Pub. 2-6-68. Filed 2-7-66.

847,943. FLAV-O-PEAK. David Kleckner & Son, Inc. SN 238,748. Pub. 2-6-68. Filed 2-14-66.

847,944. CARAWAY CRAZYS. Keebler Company, by change of name from United Biscuit Company of America. SN 240,219. Pub. 2-6-68. Filed 3-4-66.

847,945. SMILING CLOWN (DESIGN). Southern Fruit Distributors, Inc., d.b.a. Southern Fruit Distributors. SN 245,424. Pub. 8-9-66. Filed 5-11-66.

847,946. CIRCUS AND DESIGN. Southern Fruit Distributors, Inc., d.b.a. Southern Fruit Distributors. SN 245,426. Pub. 8-9-66. Filed 5-11-66.

847,947. CHOCOLATE TOWN, U.S.A.! Hershey Chocolate Corporation. SN 246,466. Pub. 2-6-68. Filed 5-24-66.

847,948. MIDWEST. SCM Corporation, assignee of The Glidden Company, d.b.a. Bell Food Products Company. SN 251,721. Pub. 2-6-68. Filed 8-4-66.

847,949. SIDE DISH. Dell Products Corp. SN 252,359. Pub. 2-6-68. Filed 8-15-66.

847,950. RUMENEX. Witco Chemical Company, Inc. SN 253,698. Pub. 2-6-68. Filed 9-1-66.

847,951. BOND'S. Beatrice Foods Co. SN 259,079. Pub. 2-6-68. Filed 11-21-66.

847,952. VANIMITE. Balch Flavor Company. SN 262,394. Pub. 2-6-68. Filed 1-12-67.

847,953. GOLDEN MEAL. Miami Maid Bakery Inc. SN 262,877. Pub. 2-6-68. Filed 1-19-67.

847,954. STEWART'S. A. L. Stewart & Sons. SN 263,624. Pub. 2-6-68. Filed 1-30-67.

847,955. CREAM-A-RONI. The Creamette Company. SN 263,750. Pub. 2-6-68. Filed 2-1-67.

847,956. NALLEY'S AND DESIGN. W. R. Grace & Co. SN 263,828. Pub. 2-6-68. Filed 2-2-67.

847,957. DAIRY KING. Dairy King, Inc. SN 266,306. Pub. 2-6-68. Filed 3-9-67.

847,958. HARVEST MOON. National Dairy Products Corporation. SN 267,260. Pub. 2-6-68. Filed 3-21-67.

847,959. MISCELLANEOUS DESIGN. Hudson National, Inc. SN 268,960. Pub. 2-6-68. Filed 4-12-67.

847,960. SUCRE. Sucre Banana Import Corp. SN 269,360. Pub. 2-6-68. Filed 4-17-67.

847,961. PALM GARDENS. John H. Ginsbach, d.b.a. Rio Citrus. SN 269,416. Pub. 2-6-68. Filed 4-18-67.

847,962. TALL TEXAN. John H. Ginsbach, d.b.a. Rio Citrus. SN 269,417. Pub. 2-6-68. Filed 4-18-67.

847,963. LIL' ANIMAL FRIENDS. Keebler Company. SN 269,763. Pub. 2-6-68. Filed 4-21-67.

847,964. LOYOLA BEACH. Loyola Beach Vegetable Company. SN 270,587. Pub. 2-6-68. Filed 5-3-67.

847,965. MASONEX. Masonite Corporation. SN 271,268. Pub. 2-6-68. Filed 5-11-67.

847,966. KICK-OFF. American Dietaids Company, Inc. SN 272,148. Pub. 2-6-68. Filed 5-23-67.

847,967. WIGWAM. Carpenter Cook Company. SN 272,164. Pub. 2-6-68. Filed 5-23-67.

847,968. PURINA. Ralston Purina Company. SN 272,633. Pub. 2-6-68. Filed 5-29-67.

847,969. MENU. Hunt-Wesson Foods, Inc., d.b.a. Winters Canning Co. SN 273,641. Pub. 2-6-68. Filed 6-12-67.

847,970. BRAMBLE. Bramble Canning Corporation. SN 273,848. Pub. 2-6-68. Filed 6-14-67.

847,971. SKY VALLEY. Sky Valley Foods, Inc. SN 276,481. Pub. 2-6-68. Filed 7-20-67.

847,972. FROST BITES. The Quaker Oats Company. SN 279,033. Pub. 2-6-68. Filed 8-25-67.

847,973. POOH POOHS. General Mills, Inc. SN 284,865. Pub. 2-6-68. Filed 11-15-67.

847,974. ALICE & FRIENDS. General Mills, Inc. SN 284,871. Pub. 2-6-68. Filed 11-15-67.

Class 47 — Wines

847,975. SHIELD WITH WINGS (DESIGN). Chandon Champagne Corporation. SN 227,559. Pub. 2-6-68. Filed 9-10-65.

847,976. CHERRY SAGA. Vilh. Christiansen A/S, d.b.a. Vilh. Christiansen Inc. SN 258,944. Pub. 2-6-68. Filed 11-17-66.

847,977. GEORGES DE LATOUR PRIVATE RESERVE. Beaulieu Vineyard. SN 269,162. Pub. 2-6-68. Filed 4-14-67.

Class 48 — Malt Beverages and Liquors

847,978. MALTA HEINEKEN AND DESIGN. Heineken's Brouwerijen Nederland N.V. SN 260,252. Pub. 2-6-68. Filed 12-7-66.

847,979. MALTA HEINEKEN AND DESIGN. Heineken's Brouwerijen Nederland N.V. SN 260,253. Pub. 2-6-68. Filed 12-7-66.

847,980. KING OF BEERS. Anheuser-Busch, Incorporated. SN 267,115. Pub. 2-6-68. Filed 3-20-67.

Class 49 — Distilled Alcoholic Liquors

847,981. FRIENDSHIP AND DESIGN. H. Hellebrekers & Zonen N.V. SN 247,507. Pub. 2-6-68. Filed 12-8-67.

847,982. CUERVO. Tequila Cuervo, S.A. SN 267,271. Pub. 2-6-68. Filed 3-21-67.

847,983. CANADIAN CUSTOM. Canadian Schenley Distilleries, Ltd. SN 268,472. Pub. 2-6-68. Filed 4-6-67.

847,984. SCHENLY PLUS 7. Schenley Industries, Inc. SN 271,182. Pub. 2-6-68. Filed 5-10-67.

847,985. GIBSON'S. Joseph S. Finch and Company. SN 272,180. Pub. 2-6-68. Filed 5-23-67.

Class 50 — Merchandise Not Otherwise Classified

847,986. HERCU-GUARD. Herculite Protective Fabrics Corporation, assignee of William S. Rice, Inc. SN 260,084. Pub. 7-4-67. Filed 12-5-66.

847,987. DESIGNED FOR TODAY . . . WITH FOND RESPECT FOR THE PAST. Halo Sales Corporation, d.b.a. Olde Tower Sealing Wax. SN 268,045. Pub. 2-6-68. Filed 3-31-67.

Class 51 — Cosmetics and Toilet Preparations

847,988. SO DRY. Shulton, Inc. SN 259,286. Pub. 4-11-67. Filed 11-23-66.

847,989. LAMPLIGHTER. Yardley of London, Inc. SN 264,875. Pub. 8-22-67. Filed 2-16-67.

Class 52 — Detergents and Soaps

847,990. SUN-FRESH. The Calvert Chemical Company. SN 220,742. Pub. 6-28-66. Filed 6-9-65.

Service Marks

Class 100 — Miscellaneous

847,991. WAYSIDE CHEF AND DESIGN. Smith Oil Corporation. SN 227,713. Pub. 2-6-68. Filed 9-13-65.

847,992. CTC AND DESIGN. Commercial Travellers Club, Inc. SN 251,709. Pub. 2-6-68. Filed 8-4-66.

847,993. GL AND DESIGN. Guardian Leasing, Inc. SN 270,381. Pub. 2-6-68. Filed 5-1-67.

Class 101 — Advertising and Business

847,994. PAPERBACK DEN. Cheltenham Book Shop, Inc. SN 234,622. Pub. 2-6-68. Filed 12-15-65.

847,995. CAMPUS RENTALS. Campus Rentals. SN 240,063. Pub. 2-6-68. Filed 3-3-66.

847,996. LEGGITT ASSOCIATE STORE ETC. AND DESIGN. S. H. Leggitt Company, d.b.a. Leggitt Associate Stores. SN 240,313. Pub. 2-6-68. Filed 3-7-66.

847,997. YOUNG AMERICA EXPOSITION. Atlanta Trade Shows, Inc. SN 246,638. Pub. 2-6-68. Filed 5-26-66.

847,998. THE MOGUL SKI SHOP. The Mogul Ski Shop. SN 251,313. Pub. 2-6-68. Filed 7-29-66.

847,999. COLORGRAPHICS AND C DESIGN. The Oklahoma Publishing Company. SN 269,445. Pub. 2-6-68. Filed 4-18-67.

848,000. PABATCO. Farm Chemicals of Oregon, Inc., d.b.a. Pacific Basin Trading Company. SN 270,238. Pub. 2-6-68. Filed 4-28-67.

848,001. COPY COP. Michael S. Gerstein, d.b.a. Copy Cop Duplicating Services. SN 279,346. Pub. 2-6-68. Filed 8-30-67.

848,002. MISCELLANEOUS DESIGN. United Data Centers, Inc. SN 281,339. Pub. 2-6-68. Filed 9-28-67.

848,003. SHOW AND GROW AND DESIGN. Mid-Atlantic Expositions, Incorporated. SN 281,943. Pub. 2-6-68. Filed 10-6-67.

Class 102 — Insurance and Financial

848,004. FSCA AND DESIGN. Financial Service Corporation of America. SN 265,417. Pub. 2-6-68. Filed 2-24-67.

Class 103 — Construction and Repair

848,005. ACMETIZED AND DESIGN. Acme Uniform & Linen Inc. SN 262,250. Pub. 2–6–68. Filed 1–10–67.

848,006. BIRD SPACE TECHNOLOGY AND DESIGN. Bird Space Technology, Inc. SN 262,310. Pub. 2–6–68. Filed 1–11–67.

Class 104 — Communication

848,007. TEL-CONSULTANTS. Norman B. York, d.b.a. Tel-Consultants. SN 240,361. Pub. 2–6–68. Filed 3–7–66.

848,008. MISCELLANEOUS DESIGN. Field Communications Corporation. SN 252,370. Pub. 2–6–68. Filed 8–15–66.

Class 105 — Transportation and Storage

848,009. TWINAIR. Twin City Air Service, Inc. SN 257,110. Pub. 2–6–68. Filed 10–24–66.

848,010. CATCH A YELLOWBIRD. Northeast Airlines, Inc. SN 269,203. Pub. 2–6–68. Filed 4–14–67.

Class 106 — Material Treatment

848,011. PALLETTE, PEN AND MOLD (DESIGN), Standard International Corporation, assignee of Roll-Die & Mold Decorators, Inc. SN 237,594. Pub. 2–6–68. Filed 1–28–66.

848,012. COLOR SERVICE AND DESIGN. Color Service Company, Inc. SN 255,600. Pub. 2–6–68. Filed 10–3–66.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 2 — Receptacles

848,013. Weyerhaeuser Company, Tacoma, Wash. SN 250,070. Filed P.R. 7–11–66; Am. S.R. 2–23–68.

SIDE-LOK

For Wraparound Cartons (Int. Cl. 16).
First use May 9, 1966.

848,014. Sweetheart Plastics, Inc., Wilmington, Mass. SN 264,344. Filed P.R. 2–9–67; Am. S.R. 2–20–68.

THE "GLASS" YOU CAN AFFORD TO THROW AWAY

For Clear Plastic Drinking Cups and Containers (Int. Cl. 21).
First use Dec. 12, 1966.

Class 14 — Metals and Metal Castings and Forgings

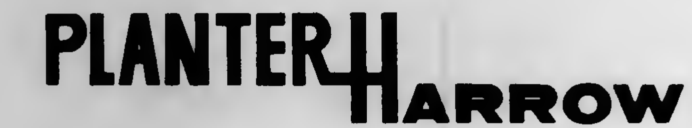
848,015. Erik Arne Sabel, Lidkoping, Sweden. SN 248,546. Filed P.R. 6–20–66; Am. S.R. 2–20–68.

SABEL RE-CAST

Priority claimed under Sec. 44(d) on Swedish application filed Feb. 2, 1966; Reg. No. 118,155, dated Dec. 2, 1966.
For Reinforced Cast Iron (Int. Cl. 6).

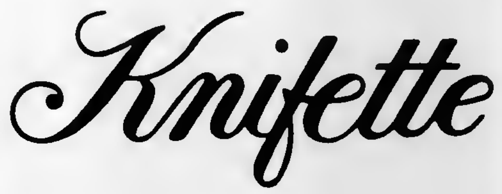
Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

848,016. Midwest Industries, Inc., Ida Grove, Iowa. SN 234,452. Filed P.R. 12–13–65; Am. S.R. 2–19–68.



For Spring Tooth Harrow (Int. Cl. 7).
First use Nov. 22, 1965.

848,017. Scovill Manufacturing Company, Racine, Wis. SN 251,004. Filed P.R. 7–25–66; Am. S.R. 2–5–68.



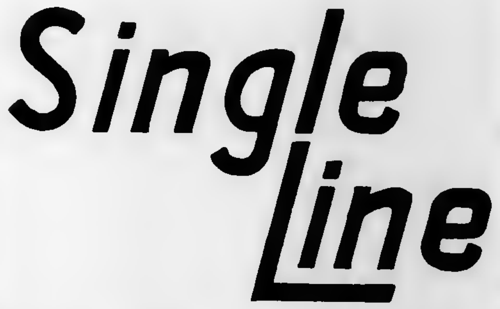
For Power Operated Knives (Int. Cl. 8).
First use June 13, 1966.

848,018. Charles W. Morris, d.b.a. Versatile Engineering, Los Angeles, Calif. SN 251,737. Filed P.R. 8–4–66; Am. S.R. 12–8–67.

SMOG BURNER

For Exhaust Gas Control and Purifying Devices for Treatment of Fumes and Gases From Internal Combustion Engines (Int. Cl. 11).
First use Mar. 8, 1960.

848,019. Eaton Yale & Towne Inc., Cleveland, Ohio. SN 256,440. Filed P.R. 10–14–66; Am. S.R. 1–10–68.



For Centralized Lubrication Systems for Machine Applications, and Parts Therefor (Int. Cl. 7).
First use Aug. 26, 1966.

848,020. Fedtro, Inc., Rockville Centre, N.Y. SN 264,734. Filed P.R. 2–15–67; Am. S.R. 1–25–68.

JET ACTION HYDRO PUMP

The term "Hydro Pump" is disclaimed apart from the mark as shown.
For Portable Fire Extinguishers (Int. Cl. 9).
First use Jan. 19, 1967.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

848,021. Mattiperl C. Heath, d.b.a. Heath-Gates Tire Repair Products Co., Shawnee Mission, Kans. SN 253,032. Filed P.R. 8–24–66; Am. S.R. 2–19–68.

SURE-SEAL

For Repair Kits for Tubeless Tires (Int. Cl. 12).
First use June 9, 1961.

Class 37— Paper and Stationery

848,022. Arman J. Buettner, McLean, Va. SN 243,631. Filed P.R. 4–18–66; Am. S.R. 10–6–67.

DIAZO-FOLD

For Prefolded Diazo Sensitized Papers in Rolls and/or Packages (Int. Cl. 1).
First use July 15, 1965.

848,023. International Paper Company, New York, N.Y. SN 259,433. Filed P.R. 11–25–66; Am. S.R. 2–19–68.

I-PEAL

For Wall Covering Substrates Made From Wood Fibers, Synthetic Fibers, and Resins (Int. Cl. 27).
First use May 5, 1966.

Class 38 — Prints and Publications

848,024. American Chemical Society, Washington, D.C. SN 259,209. Filed P.R. 11–22–66; Am. S.R. 2–19–68.

NEWS SCRIPTS

For Section of a Magazine (Int. Cl. 16).
First use July 10, 1943.

848,025. American Chemical Society, Washington, D.C. SN 259,210. Filed P.R. 11–22–66; Am. S.R. 2–19–68.

NEWS FOCUS

For Feature or Section of an Educational Magazine, Said Section Dealing With People and Events in the Scientific and Engineering Fields (Int. Cl. 16).
First use Sept. 5, 1955.

848,026. Conover-Mast Publications, Inc., New York, N.Y. SN 260,729. Filed 12–14–66.

THE CONSTRUCTION SURVEY

For Advice Column in a Monthly Magazine (Int. Cl. 16).
First use Jan. 1, 1964.

848,027. Lebhar-Friedman Publications, Inc., New York, N.Y. SN 264,887. Filed P.R. 2–17–67; Am. S.R. 2–15–68.

DISCOUNT-DEPARTMENT STORE NEWS

For Trade Newspaper (Int. Cl. 16).
First use Feb. 9, 1967.

Class 44 — Dental, Medical, and Surgical Appliances

848,028. William J. Rashkind, Merion, Pa. SN 278,029. Filed P.R. 8–10–67; Am. S.R. 2–26–68.

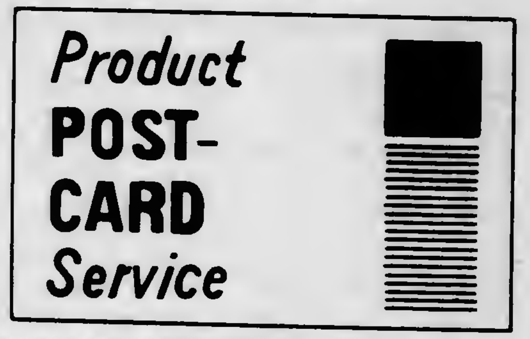
RASHKIND

For Catheters (Int. Cl. 10).
First use on or about Sept. 30, 1965.

Service Mark

Class 101 — Advertising and Business

848,029. CMN Associates, Inc., Chicago, Ill. SN 274,143. Filed P.R. 6–19–67; Am. S.R. 2–6–68.



For Direct Mail Advertising and Promotional Services (Int. Cl. 35).
First use on or about Jan. 23, 1967.

TRADEMARK REGISTRATIONS RENEWED

31,317. PEPSOL. Cl. 45 (Int. Cl. 32). 2–22–1898.
67,528. EASY TASK. Cl. 52 (Int. Cl. 3). 2–4–08.
67,727. RE UMBERTO I AND DESIGN. Cl. 46 (Int. Cl. 29). 2–18–08.
67,861. KISMET. Cl. 43 (Int. Cl. 23). 2–25–08.
68.117. HARMONY. Cl. 51 (Int. Cl. 3). 3–10–08.
69,911. KAYSER. Cl. 39 (Int. Cl. 25). 7–14–08.
70,107. KAYSER. Cl. 39 (Int. Cl. 25). 7–28–08.
70,312. "BLUE CROSS" ETC. AND DESIGN. Cl. 23 (Int. Cl. 8). 8–18–08.
235,277. CRODON. Cl. 13 (Int. Cls. 6, 7, 9, 11, 20, and 21). 11–15–27.
235,526. "WILCO." Cl. 6 (Int. Cl. 5). 11–22–27.
239,163. "ARROW BLOTTING" AND DESIGN. Cl. 37 (Int. Cl. 16). 2–21–28.
239,561. FISCAL. Cl. 37 (Int. Cl. 16). 3–6–28.
240,400. "VENUS" AND DESIGN. Cl. 52 (Int. Cl. 3). 3–27–28.
240,728. VAPURE. Cl. 18 (Int. Cl. 5). 4–10–28.
241,059. "HEART'S DELIGHT" AND REPRESENTATION OF A HEART. Cl. 46 (Int. Cls. 29 and 30). 4–17–28.
242,098. "AUTOPOINT" ETC. Cl. 37 (Int. Cl. 16). 5–15–28.
242,470. "GINGHAM GIRL" ETC. AND REPRESENTATION OF A GIRL. Cl. 46 (Int. Cl. 30). 5–22–28.
243,092. "OMEGA" AND DESIGN. Cl. 46 (Int. Cls. 30 and 31). 6–12–28.
243,117. COQUET. Cl. 46 (Int. Cl. 30). 6–12–28.
243,633. "REPRESENTATION OF A LEAF" AND DESIGN. Cl. 50 (Int. Cl. 16). 6–26–28.
243,669. "GUARDIAN SAFETY PAPER" ETC. Cl. 37 (Int. Cl. 16). 6–26–28.
243,713. "AMERICAN BEAUTY" AND REPRESENTATION OF ROSE. Cl. 46 (Int. Cl. 31). 6–26–28.
243,883. KATHANODE. Cl. 21 (Int. Cl. 9). 7–3–28.
244,534. OMAHA & GRANT. Cl. 14 (Int. Cl. 6). 7–24–28.

244,535. PERTH AMBOY. Cl. 14 (Int. Cl. 6). 7–24–28.
244,713. "SEMCO" ETC. AND DESIGN. Cl. 23 (Int. Cl. 7). 7–24–28.
434,568. MELODEX. Cl. 46 (Int. Cl. 5). 11–25–47.
434,722. FOX HEAD. Cy. 6 (Int. Cl. 3). 12–2–47.
435,529. HAPPY DAY. Cl. 52 (Int. Cl. 3). 12–30–47.
436,320. SHORE-CRAFT. Cl. 23 (Int. Cl. 8). 2–3–48.
436,431. KAY DAUMIT. Cl. 51 (Int. Cl. 3). 2–10–48.
436,443. GARCREST. Cl. 39 (Int. Cl. 25). 2–10–48.
436,732. SOLAIRE. Cl. 46 (Int. Cl. 29). 2–17–48.
436,817. MOBILCOTE. Cl. 15 (Int. Cl. 4). 2–24–48.
436,871. PETROFOS. Cl. 1 (Int. Cl. 1). 3–2–48.
436,954. BY COHAMA. Cl. 42 (Int. Cl. 24). 3–2–48.
437,125. ARALDITE. Cl. 1 (Int. Cl. 17). 3–9–48.
437,151. STAR. Cl. 40 (Int. Cl. 26). 3–9–48.
437,202. NERVA-STRAL SEAL-PRUF AND DESIGN. Cl. 12 (Int. Cl. 19). 3–9–48.
437,266. EAGLE PICHER. Cl. 12 (Int. Cl. 17). 3–9–48.
437,271. RHOZYME. Cl. 6 (Int. Cl. 1). 3–9–48.
437,374. BIG 5 AND DESIGN. Cl. 37 (Int. Cl. 16). 3–16–48.
437,378. BREVITIES. Cl. 37 (Int. Cl. 16). 3–16–48.
437,394. MAMMOTH. Cl. 37 (Int. Cl. 16). 3–16–48.
437,399. RED BAR. Cl. 37 (Int. Cl. 16). 3–16–48.
437,442. KAMEWA. Cl. 19 (Int. Cl. 12). 3–23–48.
437,583. PBZ. Cl. 18 (Int. Cl. 5). 3–30–48.
437,665. RAVING BEAUTY. Cl. 51 (Int. Cl. 3). 3–30–48.
437,676. RAY-TEC. Cl. 44 (Int. Cl. 5). 3–30–48.
437,826. THE ROAD RUNNER AND DESIGN. Cl. 38 (Int. Cl. 16). 3–30–48.
437,848. WESH WELL. Cl. 52 (Int. Cl. 3). 3–30–48.
438,108. AERO LAID AND DESIGN. Cl. 37 (Int. Cl. 16). 4–6–48.
438,109. BIG CHIEF AND DESIGN. Cl. 37 (Int. Cl. 16). 4–6–48.
438,217. ROGERS AND DESIGN. Cl. 4 (Int. Cl. 3). 4–13–48.
438,247. MICROBORE. Cl. 23 (Int. Cl. 7). 4–13–48.
438,352. GHIRARDELLI. Cl. 46 (Int. Cl. 30). 4–13–48.
438,354. ADORA. Cl. 27 (Int. Cl. 14). 4–13–48.
438,774. INERTOL. Cl. 12 (Int. Cl. 2). 5–11–48.
438,911. TWINKLE TOES AND DESIGN. Cl. 39 (Int. Cl. 25). 5–18–48.
439,113. TIMOFAX. Cl. 18 (Int. Cl. 5). 6–1–48.
439,460. RAINCHIEF. Cl. 39 (Int. Cl. 25). 6–29–48.
439,522. GLO-CRAFT. Cl. 21 (Int. Cl. 11). 7–6–48.
439,833. ABEJA. Cl. 6 (Int. Cl. 5). 7–27–48.
500,184. OVERWAY AND DESIGN. Cl. 14 (Int. Cl. 6). 4–27–48.
500,244. QUINOXYL. Cl. 18 (Int. Cl. 5). 5–11–48.
500,344. SPEEDWRITING. Cl. 38 (Int. Cl. 16). 5–11–48.
500,611. DYNASPEDE. Cl. 21 (Int. Cl. 9). 6–8–48.
500,670. MISCELLANEOUS DESIGN. Cl. 28 (Int. Cls. 8 and 14). 6–15–48.
500,726. LAHER AND DESIGN. Cl. 19 (Int. Cl. 12). 6–29–48.
500,775. SHARPRINT. Cl. 37 (Int. Cl. 16). 6–29–48.
500,885. TRU-SEAM. Cl. 43 (Int. Cl. 23). 7–6–48.
500,948. WEDGIE. Cl. 23 (Int. Cl. 7). 7–13–48.
501,049. SARBY. Cl. 39 (Int. Cl. 25). 7–30–48.
501,244. ILCO. Cl. 25 (Int. Cl. 6). 7–27–48.
501,259. BIS. Cl. 51 (Int. Cl. 3). 7–27–48.
501,314. RITTENHOUSE. Cl. 49 (Int. Cl. 33). 8–3–48.
501,597. GLIDER. Cl. 43 (Int. Cl. 23). 8–17–48.
501,598. SIGNAL. Cl. 43 (Int. Cl. 23). 8–17–48.
501,599. SKY-TOP. Cl. 43 (Int. Cl. 23). 8–17–48.
501,600. SELEX. Cl. 43 (Int. Cl. 23). 8–17–48.

TRADEMARK REGISTRATIONS CANCELED

Section 8

154,141. AEROPLANE. Cl. 29. 4–4–22.
343,068. DESIRABLES. Cl. 39. 2–9–37.
394,819. PHILCO. Cl. 25. 4–28–42.
395,436. PHILCO. Cl. 29. 5–26–42.

The following registrations issued Mar. 6, 1962

728,119. CELLENSIDE. Cl. 2.
728,120. FLAVOR-TRU. Cl. 2.
728,126. SUNBURST. Cl. 7.
728,129. NELSON AND DESIGN. Cl. 9.
728,130. SYMBOL AND 8 : 1. Cl. 11.
728,131. POOL CRAFT. Cl. 12.
728,134. CONDO-LUX. Cl. 12.
728,135. ECONO-BEAM. Cl. 12.
728,137. MIRAPLANK. Cl. 12.
728,142. GLIDE-AWN. Cl. 12.
728,144. PANOROC AND DESIGN. Cl. 12.
728,146. REYKOOL. Cl. 12.
728,148. BLUE STAR. Cl. 12.
728,151. WEATHER-MATIC. Cl. 12.
728,154. DURA-LINE. Cl. 12.
728,155. STEELFAST. Cl. 12.
728,157. PORTPLAST AND DESIGN. Cl. 12.
728,159. TRIPLE X SILVERTONE. Cl. 13.
728,162. CQ CERTIFIED QUALITY AND DESIGN. Cl. 13.
728,164. VOLLRATH SINCE 1874 AND DESIGN. Cl. 13.
728,165. SILENT GLISS AND DESIGN. Cl. 13.
728,166. ROL-O-VALVE KING OF THE BALL AND DESIGN. Cl. 13.
728,171. DESIGN OF SPACED RED AND YELLOW BANDS. Cl. 14.
728,176. ARTCOIL. Cl. 14.
728,178. GAR-LINE. Cl. 16.
728,180. PYRO-PLATE. Cl. 16.
728,181. NAUGATILE. Cl. 16.
728,182. SUNCO. Cl. 16.
728,184. AA ALUMA-LAST AND DESIGN. Cl. 16.
728,187. PAR-TMX. Cl. 16.
728,192. FLAVO-SELTZER. Cl. 18.
728,195. ALLSTAR AND DESIGN. Cl. 19.
728,199. DESIREE. Cl. 19.
728,210. ITA AND DESIGN. Cl. 21.
728,211. CF2 AND DESIGN. Cl. 21.
728,212. BOOT BUDDY. Cl. 21.
728,213. WEPCO. Cl. 21.
728,214. MITE-SITE AND DESIGN. Cl. 21.
728,219. POWERLYTIC. Cl. 21.
728,225. ION+X– AND DESIGN. Cl. 21.
728,228. ECDC. Cl. 21.
728,230. SEMI-NETS. Cl. 21.
728,233. LOUDEN 'MULTI-LOT' FEEDER. Cl. 23.
728,248. WIRE-MATEK. Cl. 23.
728 234. VANGUARD. Cl. 23.
728,251. FLOAT-A-MATIC. Cl. 23.
728,254. MAGNEMOTOR. Cl. 23.
728,255. V. Cl. 23.
728,264. HEAD WITH WHEELS (DESIGN). Cl. 26.
728.265. BAZOOKA. Cl. 26.
782,272. CENTER SCOPE. Cl. 26.
728,274. PAIR-O-MATIC. Cl. 26.
728,275. SPIRALOHM. Cl. 26.
728,283. DYELINE. Cl. 26.
728,284. NOVOCHOC. Cl. 27.
728,285. GLOCHARM. Cl. 28.
728,287. WURRY BEADS. Cl. 28.
728,291. GREEK LETTER MU IN TRIANGLE DESIGN. Cl. 31.
728,292. TRIMATIC AND DESIGN. Cl. 31.
728,298. RICHELAIN. Cl. 32.
728,299. STATEX. Cl. 32.
728,300. WHEEL OF FORTUNE. Cl. 32.
728,302. STA-C-FOAM. Cl. 32.
728,303. DURAFLAIR. Cl. 32.
728,305. COMPOSITE BY DREXEL. Cl. 32.
728,310. FLUTTER-JET. Cl. 34.
728,311. SANIMATIC. Cl. 34.
728,314. RIB TRAC. Cl. 35.
728,319. TRIFLEX. Cl. 35.
728,320. SNAKESKIN. Cl. 35.
728,326. MILLIONAIRE. Cl. 39.
728,327. A LORETTA BY FRAYNE. Cl. 39.
728,329. THE LAST CHANCE ROLL-UR-OWN AND DESIGN. Cl. 39.
728,331. 101 RANCH AND DESIGN. Cl. 39.
728,335. BRIARWOOD. Cl. 39.
728,344. JET AGE. Cl. 39.

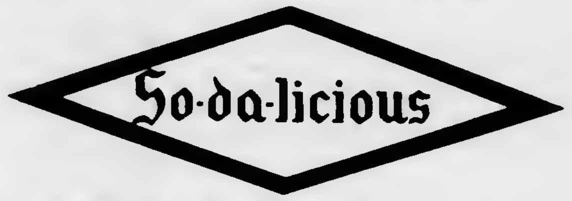
728,345. TRAIL GUIDE. Cl. 39.
728,348. TWIRLETTES. Cl. 39.
728,349. JUNIOR ROCK. Cl. 39.
728,364. CARIOCA. Cl. 43.
728,366. VASOGRAPH. Cl. 44.
728,370. CONTOURETTE. Cl. 44.
728,372. SURETEL. Cl. 44.
728,375. TROPHY. Cl. 46.
728,378. SHOE COMB. Cl. 50.
728,383. SUPER STRIP PALLET. Cl. 50.

Section 18

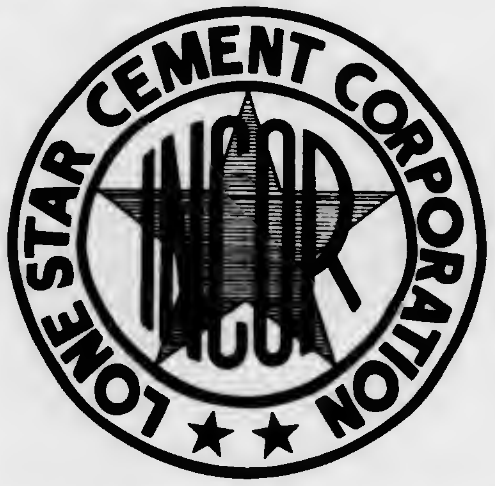
658,068. IMPERIAL. Cl. 34. 2–4–58.
735,702. KAMPUS KISS AND DESIGN. Cl. 39. 8–7–62.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

236,654. SO-DA-LICIOUS. Cl. 45. 12–20–27. Seilbeimer Beverage Co., Inc. Edward W. Seilbeimer, doing business as Seilbeimer Beverage Company, Hackensack, N.J. Amended: In the statement, column 1, line 7, "in red diamond" is deleted, and the drawing is amended to appear:



263,786. INCOR ETC. AND DESIGN. Cl. 12. 11–12–29. International Cement Corporation. Lone Star Cement Corporation, New York, N.Y. Amended: In the statement, column 1, lines 22 and 23 are deleted, and the drawing is amended to appear:

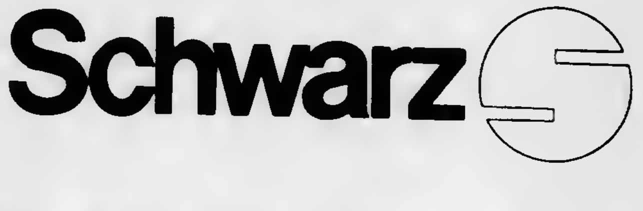


728,635. ZAR ALEXANDER. Cl. 49. 3–13–62. Hans Richard Von Blanckenhagen, doing business as Baltische Liqueur-Fabrik Otto Von Blanckenhagen-Allasch, Hamburg, Germany. Amended to appear:

CZAR ALEXANDER

728,635. ZAR ALEXANDER. Cl. 49. 3–13–62. Hans Richard Von Blanckenhagen, doing business as Baltische Liqueur-Fabrik Otto Von Blanckenhagen-Allasch, Hamburg, Germany. Corrected: In the statement, column 1, line 1, "Blankenhagen should be deleted and *Blanckenhagen* should be inserted.

820,011. SCHWARZ AND DESIGN. Cl. 46. 12–6–66. Schwarz Services International Limited, Mount Vernon, N.Y. Amended to appear:



821,653. IMPERIAL GIRL. Cl. 39. 1–3–67. Imperial Reading Corporation, New York, N.Y. Corrected: In the statement, column 1, line 1, "New York" should be deleted and *Virginia* should be inserted.

836,318. EXEC-SEC. Cl. 37. 10–3–67. Lindy Pen Company Incorporated, North Hollywood, Calif. Corrected: In the statement, column 1, line 3, "7258" should be deleted and *7250* should be inserted.

842,173. NU CREST. Cl. 46. 1–9–68. Paul M. Cooter, doing business as The Cooter Company, Atherton, Calif. Corrected: In the statement, column 2, line 1, after "juices" *preserves and jellies, fruit juices and vegetable juices, canned meats and dehydrated fruits* should be inserted.

844,918. SULZER. Cl. 21. 2–27–68. Sulzer Brothers Limited, Winterthur, Switzerland. Corrected: In the statement, column 2, line 7, "616,841" should be deleted and *616,842* should be inserted.

845,338. SAN MARCO. Cl. 22. 3–5–68. Santo Tessaro, doing business as Calzaturificio di Santo Tessaro, and Calzaturificio di Sante Tessaro, Treviso, Italy. Corrected: In the statement, column 2, line 1, "boats" should be deleted and *boots* should be inserted.

INDEX OF REGISTRANTS

APRIL 23, 1968

(Registered ; Renewed ; Canceled ; Amended, Disclaimed, Corrected, etc. ; New Certificates ; 12c Publications.)

A.P.W. Products Co., Inc. : *See*—
    Consolidated Cellulose Products, Inc.
Abbott Laboratories, North Chicago, Ill. 847,933, pub. 2–6–68. Cl. 44.
Acme Uniform & Linen Inc., Cincinnati, Ohio. 848,005, pub. 2–6–68. Cl. 103.
Admiral Aluminum Awnings : *See*—
    Admiral Jeter Farmer.
Admiral Jeter Farmer, d.b.a. Admiral Aluminum Awnings, Glendora, Calif. 728,142, canc. Cl. 12.
Aircraft & Airport Services, Inc., Metropolitan, Mich. 728,184, canc. Cl. 16.
Aktiebolaget Karlstads Mekaniska Werkstad, Karlstad, Sweden. 437,442, ren. 4–23–68. Cl. 19.
Aktiebolaget, Norma Projektilfabrik, Amotfors, Sweden. 847,805, pub. 2–6–68. Cl. 9.
Aktieselskabet C. Olesen, Copenhagen, Denmark. 847,907, pub. 2–6–68. Cl. 42.
Alexander, Robert M., Santa Barbara, Calif. 728,199, canc. Cl. 19.
Allstar Mfg. Corp., Lewisburg, Tenn. 728,195, canc. Cl. 19.
Alsan Mfg. Co. : *See*—
    Frackman, Hy.
American Chemical Society, Washington, D.C. 848,024–5. Cl. 38.
American Dietaids Co., Inc., Yonkers, N.Y. 847,966, pub. 2–6–68. Cl. 46.
American Home Products Corp. : *See*—
    Shore Machine Corp.
American Latex Products Corp., Hawthorne, Calif. 728,299, canc. Cl. 32.
American Latex Products Corp., Hawthorne, Calif. 728,302, canc. Cl. 32.
American Machine & Metals, Inc., East Moline, Ill. 728,291, canc. Cl. 31.
American Smelting & Refining Co., New York, N.Y. 244,534–5, ren. 4–23–68. Cl. 14.
American Thread Co., The, New York, N.Y. 67,861, ren. 4–23–68. Cl. 43.
American Thread Co., The, New York, N.Y. 437,151, ren. 4–23–68. Cl. 40.
Amplifier Corp. of America, New York, N.Y. 728,254, canc. Cl. 23.
Angelica Corp., from Angelica Uniform Co., St. Louis, Mo. 847,889, pub. 10–10–67. Cl. 39.
Anheuser-Busch, Inc., St. Louis, Mo. 847,980, pub. 2–6–68. Cl. 48.
Applied Power Industries, Inc. : *See*—
    Blackhawk Mfg. Co.
Armco Steel Corp., Middletown, Ohio. 728,135, canc. Cl. 12.
Armour Agricultural Chemical, Chicago, Ill. 847,806, pub. 2–6–68. Cl. 10.
Aronheim, Walter, New York, N.Y., to Jura Watch Co., Delemont, Switzerland. 438,354, ren. 4–23–68. Cl. 27.
Astron Chemicals and Pharmaceuticals, Inc. : *See*—
    Miles Laboratories, Inc.
Atlanta Trade Shows, Inc., Atlanta, Ga. 847,997, pub. 2–6–68. Cl. 101.
Atlantic Lures, Inc., Providence, R.I. 847,828–30, pub. 2–6–68. Cl. 22.
Autopoint Co., to Cory Corp., Chicago, Ill. 242,098, ren. 4–23–68. Cl. 37.
Badger Paper Mills, Inc., Peshtigo, Wis. 500,775, ren. 4–23–68. Cl. 37.
Baker Laboratories, Inc., The, Cleveland, Ohio, to Chas. Pfizer & Co., Inc., New York, N.Y. 434,568, ren. 4–23–68. Cl. 46.
Balch Flavor Co., Pittsburgh, Pa. 847,952. pub. 2–6–68. Cl. 46.
Bales, William L., Grand Junction, Colo. 847,819, pub. 2–6–68. Cl. 19.
Ball Food Products Co. : *See*—
    SCM Corp.
Banco Corp. Ltd. : *See*—
    Bankers Printing Co.
Bankers Printing Co., to Banco Corp. Ltd., San Francisco, Calif. 243,669, ren. 4–23–68. Cl. 37.
Bausch & Lomb Inc., Rochester, N.Y. 847,839–42, pub. 2–6–68. Cl. 26.
Baxter Laboratories, Inc., Morton Grove, Ill. 847,928, pub. 1–16–68. Cl. 44.
Bearing Products Co., Inc., Philadelphia, Pa. 847,934, pub. 2–6–68. Cl. 44.
Beatrice Foods Co., Chicago, Ill. 847,951, pub. 2–6–68. Cl. 46.
Beaulieu Vineyard, San Francisco, Calif. 847,997, pub. 2–6–68. Cl. 47.
Bel-Air Pools, Inc., Southfield, Mich. 847,833, pub. 2–6–68. Cl. 22.
Belknap Hardware & Mfg. Co., Louisville, Ky. 70,312, ren. 4–23–68. Cl. 23.
Berdon, Inc., d.b.a. Ornyte, Division of Berdon, Inc., Santa Monica, Calif. 847,807, pub. 2–6–68. Cl. 12.
Bernat, Emile, & Sons Co., Jamaica Plain, Mass. 728,364, canc. Cl. 43.
Bestwall Gypsum Co., Ardmore, Pa. 728,155, canc. Cl. 12.
Bird Space Technology, Inc., Palm Springs, Calif. 848,006, pub. 2–6–68. Cl. 103.
Blackhawk Mfg. Co., to Applied Power Industries, Inc., Milwaukee, Wis. 500,948, ren. 4–23–68. Cl. 23.
Bramble Canning Corp., Greenwood, Del. 847,970, pub. 2–6–68. Cl. 46.
Breneman, Inc., Cincinnati, Ohio. 847,861, pub. 2–6–68. Cl. 32.
Buettner, Arman J., McLean, Va. 848,022. Cl. 37.
Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, N.Y. 439,113, ren. 4–23–68. Cl. 18.
Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, N.Y. 500,244, ren. 4–23–68. Cl. 18.
CMN Associates, Inc., Chicago, Ill. 848,029. Cl. 101.
California Canners & Growers : *See*—
    Scoville, Brown & Co.
California Pine Box Distributors : *See*—
    Calpine Containers.
Calpine Containers, from California Pine Box Distributors, San Francisco, Calif. 847,796, pub. 2–6–68. Cl. 2.
Calvert Chemical Co., The, Cincinnati, Ohio. 847,990, pub. 6–28–66. Cl. 52.
Cambridge Thermionic Corp., Cambridge, Mass. 847,821, pub. 2–6–68. Cl. 21.
Campus Rentals, Madison, Wis. 847,995, pub. 2–6–68. Cl. 101.
Canadian Schenley Distilleries, Ltd., Montreal, Quebec, Canada. 847,983, pub. 2–6–68. Cl. 49.
Carmen Curlers : *See*—
    Pedersen, Arne B.
Carpenter Cook Co., Menominee, Mich. 847,967, pub. 2–6–68. Cl. 46.
Castleton China, Inc., New Castle, Pa. 847,859, pub. 2–6–68. Cl. 30.
Celanese Corp., from Celanese Corp. of America, New York, N.Y. 847,903, pub. 2–6–68. Cl. 42.
Celanese Corp. of America : *See*—
    Celanese Corp.
Center Scope Products : *See*—
    Griffin, Stanley.
Central Soya : *See*—
    Central Soya Co., Inc.
Central Soya Co., Inc., d.b.a. Central Soya, Fort Wayne, Ind. 847,835, pub. 2–6–68. Cl. 23.
Chandon Champagne Corp., New York, N.Y. 847,975, pub. 2–6–68. Cl. 47.
Chatham Mfg. Co., Elkin, N.C. 847,905, pub. 2–6–68. Cl. 42.
Cheltenham Book Shop, Inc., Wyncote, Pa. 847,994, pub. 2–6–68. Cl. 101.
Chemical Treatment Co. Inc., assor. to Chromium Corp. of America, New York, N.Y., to Chromium Corp. of America, Waterbury, Conn. 235,277, ren. 4–23–68. Cl. 13.
Chesebrough-Pond's Inc. : *See*—
    Sage, Peggy, Inc.
Chicago Printed String Co., Chicago, Ill. 728,126, canc. Cl. 7.
Chief Apparel, Inc. : *See*—
    Kuhn, Lou, Inc.
Christiansen, Vilh., A/S. d.b.a. Vilh. Christiansen Inc., Copenhagen, Denmark. 847,976, pub. 2–6–68. Cl. 47.
Christiansen, Vilh., Inc. : *See*—
    Christiansen, Vilh., A/S.
Chromium Corp. of America : *See*—
    Chemical Treatment Co. Inc.
Ciba Corp. : *See*—
    Ciba Ltd.
    Ciba Pharmaceutical Products, Inc.
Ciba Ltd., Basle, Switzerland, to Ciba Corp., Summit, N.J. 437,125, ren. 4–23–68. Cl. 1.
Ciba Pharmaceutical Products, Inc., to Ciba Corp., Summit, N.J. 437 583, ren. 4–23–68. Cl. 18.
Clark Thread Co., The, Wilmington, Del., and Clarkdale, Ga., to Coats & Clark Inc., New York, N.Y. 500,885, ren. 4–23–68. Cl. 43.
Coats & Clark Inc. : *See*—
    Clark Thread Co., The.
Cohn-Hall-Marx Co., to United Merchants & Manufacturers, Inc., New York, N.Y. 436,954, ren. 4–23–68. Cl. 42.
Cole, H. C., Milling Co., Chester, Ill. 243,092, ren. 4–23–68. Cl. 46.
Colgate-Palmolive Co. : *See*—
    Daumit, Kay.
Collins & Aikman Corp., New York, N.Y. 847,908, pub. 2–6–68. Cl. 42.
Color Service Co., Inc., New York, N.Y. 848,012, pub. 2–6–68. Cl. 106.
Columbia-Minerva Corp., New York, N.Y. 847,923, pub. 2–6–68. Cl. 43.
Commercial Travellers Club, Inc., Grand Rapids, Mich. 847,992, pub. 2–6–68. Cl. 100.
Connecticut, S.p.A., Milan, Italy. 728,157, canc. Cl. 12.
Conover-Mast Publications, Inc., New York, N.Y. 848,026. Cl. 38.
Consolidated Cellulose Products, Inc., from A.P.W. Products Co., Inc., New York, N.Y. 847,873, pub. 2–6–68. Cl. 37.
Continental Distilling Corp., Philadelphia, Pa. 501,314, ren. 4–23–68. Cl. 49.
Cooter, Paul M., d.b.a. The Cooter Co., Atherton, Calif. 842,173, cor. Cl. 46.
Copy Cop Duplicating Services : *See*—
    Gerstein, Michael S.

Corn Products Co.: *See—*
  Corn Products Refining Co.
Corn Products Refining Co., to Corn Products Co., New York, N.Y. 434,722, ren. 4–23–68. Cl. 6.
Cory Corp.: *See—*
  Autopoint Co.
Cowles Educational Books, Inc., New York, N.Y. 847,876, pub. 12–14–65. Cl. 38.
Cozzi, Danilo, Florence, Italy. 847,930, pub. 2–6–68. Cl. 44.
Creamette Co., The, Minneapolis, Minn. 847,955, pub. 2–6–68. Cl. 46.
Curran, C. A., Chicago, Ill. 847,847, pub. 2–6–68. Cl. 26.
Curtis Companies Inc., Clinton, Iowa. 728,303, canc. Cl. 32.
Curtis, Helene, Industries, Inc., Chicago, Ill. 847,932, pub. 2–6–68. Cl. 44.
DWS, Inc., Gladstone, Oreg. 847,925, pub. 2–6–68. Cl. 44.
Dairy King, Inc., Baltimore, Md. 847,957, pub. 2–6–68. Cl. 46.
Dairy Maid Products Cooperative, from Dried Milk Products Cooperative, Eau Claire, Wis. 728,375, canc. Cl. 46.
Dan River Mills, Inc., Danville, Va. 847,911, pub. 2–6–68. Cl. 42.
Dan River Mills, Inc., Danville, Va. 847,914, pub. 2–6–68. Cl. 42.
Dan River Mills, Inc., Danville, Va. 847,917, pub. 2–6–68. Cl. 42.
Daumit, Kay, assor., by mesne assignments, to Kay Daumit, Inc., Chicago, Ill., to Colgate-Palmolive Co., New York, N.Y. 436,431, ren. 4–23–68. Cl. 51.
De Vlieg Machine Co.: *See—*
  Microbore Co.
Dell Products Corp., Hillside, N.J. 847,949, pub. 2–6–68. Cl. 46.
Dixie-Portland Flour Mills, Inc.: *See—*
  Plant Flour Mills Co.
Dresser Industries, Inc., d.b.a. Dresser-Ideco Co., Dallas, Tex. 728,134, canc. Cl. 12.
Dresser-Ideco Co.: *See—*
  Dresser Industries, Inc.
Drexel Enterprises, Inc., Drexel, N.C. 728,305, canc. Cl. 32.
Dried Milk Products Cooperative: *See—*
  Dairy Maid Products Cooperative.
Dunhill, Alfred, Ltd., London, England. 847,942, pub. 2–6–68. Cl. 46.
Dura-Line Metal Products, Ltd., Northport, Ala. 728,154, canc. Cl. 12.
Dynamatic Corp., Kenosha, Wis., to Eaton Yale & Towne Inc., Cleveland, Ohio. 500,611, ren. 4–23–68. Cl. 21.
Eagle-Picher Co., The, to Eagle-Picher Industries, Inc., Cincinnati, Ohio. 437,266, ren. 4–23–68. Cl. 12.
Eagle-Picher Industries, Inc.: *See—*
  Eagle-Picher Co., The.
Easterling Co., The, Wheaton, Ill. 500,670, ren. 4–23–68. Cl. 28.
Easy Way Products Corp., Cleveland, Ohio. 728,300, canc. Cl. 32.
Eaton Yale & Towne Inc.: *See—*
  Dynamatic Corp.
Eaton Yale & Towne Inc., Cleveland, Ohio. 848,019. Cl. 23.
Electro-Medical Engineering Co.: *See—*
  Smith, Chester A., Jr.
Electronic Crystals Corp., New York, N.Y. 847,895, pub. 2–6–68. Cl. 39.
Electronic Memories, Inc., Hawthorne, Calif. 847,851, pub. 2–6–68. Cl. 26.
Ellis Paperboard Products, Inc., Portland, Maine. 728,119, canc. Cl. 2.
Engelhard Industries, Inc., Newark, N.J. 728,265, canc. Cl. 26.
Eng-Skell Co., San Francisco, Calif. 847,939, pub. 2–6–68. Cl. 45.
Enro Shirt Co., Inc., The, Louisville, Ky. 847,900, pub. 2–6–68. Cl. 39.
Etcher, Kenneth E., d.b.a. Etcher Research & Development Co., Orchard Lake, Mich. 728,378, canc. Cl. 50.
Etcher Research & Development Co.: *See—*
  Etcher, Kenneth E.
Ethyl Corp., Richmond, Va. 847,795, pub. 2–6–68. Cl. 1.
Ethyl Corp., Richmond, Va. 847 798, pub. 2–6–68. Cl: 5.
Ethyl Corp., Richmond, Va. 847,909, pub. 2–6–68. Cl. 42.
Eutectic Welding Alloys Corp., Flushing, N.Y. 728,171, canc. Cl. 14.
Eves, Robert L., Nashville, Tenn., to The Pepsol Co., Inc., New York, N.Y. 31,317, ren. 4–23–68. Cl. 45.
Fabri-Tex, Inc., Hopkins, Minn. 728,248, canc. Cl. 23.
Fabri-Tubes Ltd., Heanor, England. 728.274, canc. Cl. 26.
Farm Chemicals of Oregon, Inc., d.b.a. Pacific Basin Trading Co., Athena, Oreg. 848,000, pub. 2–6–68. Cl. 101.
Fedtro, Inc., Rockville Centre, N.Y. 848,020. Cl. 23.
Fiber Industries, Inc., Charlotte, N.C. 847,904, pub. 2–6–68. Cl. 42.
Fiduciary Publishers, Inc., New York, N.Y. 847,878, pub. 2–6–68. Cl. 38.
Field Communications Corp., Chicago, Ill. 848,008, pub. 2–6–68. Cl. 104.
Fieldcrest Mills, Inc., Spray, N.C. 847,913, pub. 2–6–68. Cl. 42.
Filderman, Irving P., Memphis, Tenn. 847,816, pub. 4–26–66. Cl. 18.
Financial Service Corp. of America, Atlanta, Ga. 848,004, pub. 2–6–68. Cl. 102.
Finch, Joseph S., & Co., New York, N.Y. 847,985, pub. 2–6–68. Cl. 49.
Fine Spun Knitting Mills Inc., Brooklyn, N.Y. 735,702, canc. Cl. 39.
Fisher, Andrew, Cycle Co., Inc., New York, N.Y. 847,866–7, pub. 2–6–68. Cl. 35.
Flame-Out, Inc., Kenner, La. 847,799, pub. 5–17–66. Cl. 6.
Flexees International, Inc.: *See—*
  Garments, Inc.
Frackman, Hy, d.b.a. Alsan Mfg. Co., New York, N.Y. 728,285, canc. Cl. 28.
Franconia Ski Wear, Inc., Boston, Mass. 728,344–5, canc. Cl. 39.
Frankel Carbon & Ribbon Co., Denver, Colo. 847,869, pub. 2–6–68. Cl. 37.
Franklin, D. R., Co., Inc., to Venus Chemical Co., Inc., New York, N.Y. 240,400, ren. 4–23–68. Cl. 52.
Frayne Sportswear Mfgrs., Inc., Tampa, Fla. 728,327, canc. Cl. 39.
Garlock Inc., Palmyra, N.Y. 728,178, canc. Cl. 16.
Garments, Inc., Charlotte, N.C., to Flexees International, Inc., New York, N.Y. 436,443, ren. 4–23–68. Cl. 39.
General Electric Co., Schenectady, N.Y. 847,838, pub. 5–24–66. Cl. 26.
General Mills, Inc., Minneapolis, Minn. 847,973–4, pub. 2–6–68. Cl. 46.
Gerstein, Michael S., d.b.a. Copy Cop Duplicating Services, Boston, Mass. 848,001, pub. 2–6–68. Cl. 101.
Ghirardelli, D., Co., San Francisco, to Golden Grain Macaroni Co., San Leandro, Calif. 438,352, ren. 4–23–68. Cl. 46.
Giannini Controls Corp., Duarte, Calif. 728,275, canc. Cl. 26.
Ginsbach, John H., d.b.a. Rio Citrus, Alamo, Tex. 847,961–2, pub. 2–6–68. Cl. 46.
Glaxo Laboratories Ltd., Greenford, England. 847,801, pub. 2–6–68. Cl. 6.
Glidden Co., The: *See—*
  SCM Corp.
Golden Grain Macaroni Co.: *See—*
  Ghirardelli, D., Co.
Goodall Rubber Co., Trenton, N.J. 728,319–20, canc. Cl. 35.
Gottlieb, Emo E., New York, N.Y. 847,857, pub. 2–6–68. Cl. 28.
Gould Storage Battery Co., Inc., Depew, N.Y., to Gould-National Batteries, Inc., St. Paul, Minn. 243,883, ren. 4–23–68. Cl. 21.
Gould-National Batteries, Inc.: *See—*
  Gould Storage Battery Co., Inc.
Grace, W. R., & Co., New York, N.Y. 847,956, pub. 2–6–68. Cl. 46.
Graphic Controls Corp., Buffalo, N.Y. 847,871, pub. 2–6–68. Cl. 37.
Gregory Industries, Inc., Lorain, Ohio. 728 129, canc. Cl. 9.
Griffin, Stanley, d.b.a. Center Scope Products, Costa Mesa, Calif. 782,272 canc. Cl. 26.
Guardian Leasing, Inc., Hinsdale, Ill. 847,993, pub. 2–6–68. Cl. 100.
Gulf States Paper Corp., Tuscaloosa, Ala. 847,797, pub. 2–6–68. Cl. 2.
Hallmark Cards, Inc., Kansas City, Mo. 847,881–3, pub. 2–6–68. Cl. 38.
Halo Sales Corp., d.b.a. Olde Tower Sealing Wax, San Francisco, Calif. 847,987, pub. 2–6–68. Cl. 50.
Hampton Shops, Paterson, N.J. 847,860, pub. 2–6–68. Cl. 32.
Hand, Louis, Inc., New York, N.Y. 847,915, pub. 2–6–68. Cl. 42.
Hanes Corp., Winston-Salem, N.C. 847,892, pub. 2–6–68. Cl. 39.
Hassenfeld Bros. Inc., Pawtucket, R.I. 847,826, pub. 2–6–68. Cl. 22.
Headstart Co.: *See—*
  Touster, Irwin.
Heath, Mattiperl C., d.b.a. Heath-Gates Tire Repair Products Co., Shawnee Mission, Kans. 848,021. Cl. 35.
Heath-Gates Tire Repair Products Co.: *See—*
  Heath Mattiperl C.
Heineken's Brouwerijen Nederland N.V., Amsterdam, Netherlands. 847,978–9, pub. 2–6–68. Cl. 48.
Hellebrekers, H., & Zonen N.V., Delft, Netherlands, 847,981, pub. 2–6–68. Cl. 49.
Herculite Protective Fabrics Corp., Newark, N.J., from William S. Rice, Inc., Adams, N.Y. 847,926, pub. 10–17–67. Cl. 44.
Herculite Protective Fabrics Corp., Newark, N.J., from William S. Rice, Inc., Adams, N.Y. 847,986, pub. 7–4–67. Cl. 50.
Hershey Chocolate Corp., Hershey, Pa. 847,947, pub. 2–6–68. Cl. 46.
Heublein, Inc., Hartford, Conn. 847,938, pub. 2–6–68. Cl. 45.
Hewitt Bros. Soap Co., The, to The Hewitt Soap Co., Inc., Dayton, Ohio. 67,528, ren. 4–23–68. Cl. 52.
Hewitt Soap Co., Inc., The: *See—*
  Hewitt Bros. Soap Co., The.
  Procter & Gamble Co., The.
Hill Mfg. Co., Santa Ana, Calif. 728,370, canc. Cl. 44.
Home Library Press, Inc.: *See—*
  Parents' Magazine Enterprises, Inc.
Houston Fearless Corp., Los Angeles, Calif. 847,846, pub. 2–6–68. Cl. 26.
Hudson National, Inc., New York, N.Y. 847,959, pub. 2–6–68. Cl. 46.
Hunt-Wesson Foods, Inc., d.b.a. Winters Canning Co., Fullerton, Calif. 847,969, pub. 2–6–68. Cl. 46.
Hupp Corp.: *See—*
  Richards-Wilcox Mfg. Co.
Hygiene Industries, Inc., New York, N.Y. 847,920, pub. 2–6–68. Cl. 42.
Illinois Tool Works: *See—*
  Illinois Tool Works, Inc.
Illinois Tool Works, Inc., from Illinois Tool Works, Chicago, Ill. 728,120, canc. Cl. 2.
Imperial Reading Corp., New York, N.Y. 821 653, cor. Cl. 39.
Independent Lock Co., Fitchburg, Mass. 501,244, ren. 4–23–68. Cl. 25.

Industrial Transmitters & Antennas, Inc., Lansdowne, Pa. 728,210, canc. Cl. 21.
Inertol Co., Inc., Newark, N.J., to Koppers Co., Inc., Pittsburgh, Pa. 438,774, ren. 4–23–68. Cl. 12.
International Cement Corp., Lone Star Cement Corp., New York, N.Y. 263,786. Am. 7(d). Cl. 12.
International Enterprises Ltd., Beltsville, Md. 847,812, pub. 2–22–66. Cl. 17.
International Paper Co., New York, N.Y. 848,023. Cl. 37.
International Silver Co., The, Meriden, Conn. 438,217, ren. 4–23–68. Cl. 4.
J & A Products, Inc., Saginaw, Mich. 728,148, canc. Cl. 12.
Johnson & Johnson, New Brunswick, N.J. 437,676, ren. 4–23–68. Cl. 44.
Johnson & Johnson, New Brunswick, N.J. 847,935, pub. 2–6–68. Cl. 44.
Jura Watch Co.: *See—*
  Aronheim, Walter.
Katzman, Lawrence, New York, N.Y. 847,880, pub. 2–6–68. Cl. 38.
Kayser, Julius, & Co., to Kayser-Roth Corp., New York, N.Y. 69,911, ren. 4–23–68. Cl. 39.
Kayser, Julius, & Co., to Kayser-Roth Corp., New York, N.Y. 70,107, ren. 4–23–68. Cl. 39.
Kayser-Roth Corp.: *See—*
  Kayser, Julius, & Co.
Kayser-Roth Corp., New York, N.Y. 847,896, pub. 2–6–68. Cl. 39.
Keebler Co., Elmhurst, Ill. 847,963, pub. 2–6–68. Cl. 46.
Kelly-Springfield Tire Co., The, Cumberland, Md. 728,314, canc. Cl. 35.
Kendall Co., The, Walpole, Mass. 847,906, pub. 2–6–68. Cl. 42.
Kenner Products Co., Cincinnati, Ohio. 847,825, pub. 2–6–68. Cl. 22.
Kleckner, David, & Son, Inc., Brooklyn, N.Y. 847,943, pub. 2–6–68. Cl. 46.
Koppers Co., Inc.: *See—*
  Inertol Co., Inc.
Kuhn, Lou, Inc., to Chief Apparel, Inc., New York, N.Y. 439,460, ren. 4–23–68. Cl. 39.
Laher Spring & Electric Car Corp.: *See—*
  Laher Spring & Tire Corp.
Laher Spring & Tire Corp., to Laher Spring & Electric Car Corp., Oakland, Calif. 500,726, ren. 4–23–68. Cl. 19.
Larson, Clarence E., d.b.a. Pool Craft Co., Stamford, Conn. 728,131, canc. Cl. 12.
Lebhar-Friedman Publications, Inc., New York, N.Y. 848,027. Cl. 38.
Leggitt Associate Stores: *See—*
  Leggitt, S. H., Co.
Leggitt, S. H., Co., d.b.a. Leggitt Associate Stores, Marshall, Mich. 847,996, pub. 2–6–68. Cl. 101.
Les Glaceries de la Sambre, Societe Anonyme, Auvelais, Belgium. 728,144, canc. Cl. 12.
Les Parfums de Dana, Inc., New York, N.Y. 501,259, ren. 4–23–68. Cl. 51.
Lever Bros. Co.: *See—*
  United Drug Co.
Levoy's Inc., Salt Lake City, Utah. 847,931, pub. 2–6–68. Cl. 44.
Lindy Pen Co., Inc., North Hollywood, Calif. 836,318, cor. Cl. 37.
Lipsner-Smith Corp., Evanston, Ill. 728,211, canc. Cl. 21.
Loose-Wiles Biscuit Co., Kansas City, Mo., to Sunshine Biscuits, Inc., New York, N.Y. 243,117, ren. 4–23–68. Cl. 46.
Louden Machinery Co., The, Fairfield, Iowa. 728,233, canc. Cl. 23.
Loyola Beach Vegetable Co., Riviera, Tex. 847,964, pub. 2–6–68. Cl. 46.
Luminite Products Corp., Salamanca, N.Y. 847,836, pub. 2–6–68. Cl. 23.
M.G.M.S. Associates, Inc., Cambridge, Mass. 847,864, pub. 2–6–68. Cl. 34.
Maidenform, Inc., New York, N.Y. 847,901, pub. 2–6–68. Cl. 39.
Maison Gelot Societe Anonyme, Paris, France. 847,891, pub. 2–6–68. Cl. 39.
Manifattura Lane Ugo Rista, S.p.A., Milan, Italy. 847,890, pub. 2–6–68. Multiple Class (Classes 39 and 42).
Marathon Electric Mfg. Corp., Wausau, Wis. 847,822, pub. 2–6–68. Cl. 21.
Marcal Paper Mills, Inc., East Paterson, N.J. 847,872, pub. 2–6–68. Cl. 37.
Marigold Knitwear, Inc., New York, N.Y. 728,335, canc. Cl. 39.
Masonite Corp., Chicago, Ill. 847,965, pub. 2–6–68. Cl. 46.
Masson, Paul: *See—*
  Masson, Paul, Inc.
Masson, Paul, Inc., d.b.a. Paul Masson, and Paul Masson Vineyards, San Francisco, Calif. 847,862, pub. 2–6–68. Cl. 33.
Masson, Paul, Vineyards: *See—*
  Masson, Paul, Inc.
May White Corp., New York, N.Y. 728.287, canc. Cl. 28.
McCormick & Co., Inc., Baltimore, Md. 439,833, ren. 4–23–68. Cl. 6.
McGraw-Edison Co., Elgin, Ill. 847,837, pub. 2–6–68. Cl. 24.
Merck & Co., Inc., Rahway, N.J. 847,817–18, pub. 4–25–67. Cl. 18.
Metro Wholesale Corp., New York, N.Y. 847,870, pub. 2–6–68. Cl. 37.
Miami Maid Bakery Inc., Dayton, Ohio. 847,953, pub. 2–6–68. Cl. 46.
Microbore Co., Ferndale, to De Vlieg Machine Co., Royal Oak, Mich. 438,247, ren. 4–23–68. Cl. 23.
Mid-Atlantic Expositions, Inc., Washington, D.C. 848,003, pub. 2–6–68. Cl. 101.
Mid-Continent Mfg. Co., Columbus, Ohio. 847,850, pub. 2–6–68. Cl. 26.
Midwest Industries, Inc., Ida Grove, Iowa. 848,016. Cl. 23.
Miles Laboratories, Inc., Elkhart, Ind., from Astron Chemicals and Pharmaceuticals, Inc., New York, N.Y. 728,192, canc. Cl. 18.
Miller, Zack T., Jr., Ponca City, Okla. 728,331, canc. Cl. 39.
Milsan Mills, Inc., Lebanon, Pa. 728,349, canc. Cl. 39.
Minneapolis-Honeywell Regulator Co., Minneapolis, Minn. 728,310, canc. Cl. 34.
Minneapolis-Moline, Inc., Hopkins, Minn. 847,800, pub. 2–6–68. Multiple Class (Classes 6, 15, 16, 21, 26, and 35).
Minnesota Mining and Mfg. Co., St. Paul, Minn. 847,811, pub. 2–6–68. Cl. 16.
Miratile Mfg. Co., Inc., Chicago, Ill. 728,137, canc. Cl. 12.
Miss Universe, Inc., New York, N.Y. 847,875, pub. 2–6–68. Cl. 38.
Miss Universe, Inc., New York, N.Y. 847,877, pub. 2–6–68. Cl. 38.
Mobil Oil Corp.: *See—*
  Socony-Vacuum Oil Co.
Mogul Ski Shop, The, Philadelphia, Pa. 847,998, pub. 2–6–68. Cl. 101.
Monsanto Chemical Co., to Monsanto Co., St. Louis, Mo. 436,871, ren. 4–23–68. Cl. 1.
Monsanto Co.: *See—*
  Monsanto Chemical Co.
Morris, Charles W., d.b.a. Versatile Engineering, Los Angeles, Calif. 848,018. Cl. 23.
Morris, Philip, Inc., New York, N.Y. 847,814–15, pub. 2–6–68. Cl. 17.
Nasco Doll Inc., Brooklyn, N.Y. 847,832, pub. 2–6–68. Cl. 22.
National Dairy Products Corp., Chicago, Ill. 847,958, pub. 2–6–68. Cl. 46.
National Research Corp., Cambridge, Mass. 847,919, pub. 2–6–68. Cl. 42.
National Steel Corp., Pittsburgh, Pa. 728,176, canc. Cl. 14.
Nervastral, Inc.: *See—*
  Rubber & Plastics Compound Co. Inc.
Newark Brush Co., Kenilworth, N.J. 847,794, pub. 2–6–68. Cl. 1.
Nissho Electronics Corp., Osaka, Japan. 847,868, pub. 2–6–68. Cl. 36.
Northeast Airlines, Inc., Boston, Mass. 848,010, pub. 2–6–68. Cl. 105.
Novochoc S.A., Neuchatel, Switzerland. 728,284, canc. Cl. 27.
Oklahoma Publishing Co., The, Oklahoma City, Okla. 847,999, pub. 2–6–68. Cl. 101.
Olde Tower Sealing Wax: *See—*
  Halo Sales Corp.
Olin Mathieson Chemical Corp., New York, N.Y. 847,802, pub. 9–19–67. Cl. 6.
Olympia Werke Aktiengesellschaft, Wilhelmshaven, Germany. 728,264 canc. Cl. 26.
Olympic Products, Inc., Minneapolis, Minn. 728,212, canc. Cl. 21.
Oneida Ltd., Oneida, N.Y. 847,855, pub. 2–6–68. Cl. 28.
Oomphies, Inc., New York, N.Y. 847,888, pub. 2–6–68. Cl. 39.
Ornyte, Division of Berdon, Inc.: *See—*
  Berdon, Inc.
Ortiz, Alfonso, New York, N.Y., to West Riding Investments Ltd., Nassau, N.P. Bahamas. 436,732, ren. 4–23–68. Cl. 46.
Orvis Co., Inc., The, Manchester, Vt. 847,827, pub. 2–6–68. Cl. 22.
Pacific Basin Trading Co.: *See—*
  Farm Chemicals of Oregon, Inc.
Pacific Plywood Co., Dillard, Oreg. 728,187, canc. Cl. 16.
Parents' Magazine Enterprises, Inc., from Home Library Press, Inc., New York, N.Y. 847,879, pub. 2–6–68. Cl. 38.
Peavey Co.: *See—*
  Stanard-Tilton Milling Co.
Peavey Co. Flour Mills: *See—*
  Stanard-Tilton Milling Co.
Pedersen, Arne B., d.b.a. Carmen Curlers, Kalundborg, Denmark. 847,927, pub. 2–6–68. Cl. 44.
Pepsol Co., Inc., The: *See—*
  Eves, Robert L.
Peter Pan Foundations, Inc.: *See—*
  Peter Pan International, Inc.
Peter Pan International, Inc., from Peter Pan Foundations, Inc., New York, N.Y. 847,899, pub. 2–6–68. Cl. 39.
Pfizer, Chas., & Co., Inc.: *See—*
  Baker Laboratories, Inc., The.
Philco Corp., Philadelphia, Pa. 394,819, canc. Cl. 25.
Philco Corp., Philadelphia, Pa. 395,436, canc. Cl. 29.
Pillsbury Co., The, Minneapolis, Minn. 847,936–7, pub. 2–6–68. Cl. 45.
Pinkerton Tobacco Co., The, Toledo, Ohio. 847,813, pub. 2–6–68. Cl. 17.
Pittsburgh Plate Glass Co., Pittsburgh, Pa. 847,924, pub. 2–6–68. Cl. 43.
Plant Flour Mills Co., St. Louis, Mo., to Dixie-Portland Flour Mills, Inc., Memphis, Tenn. 242,470, ren. 4–23–68. Cl. 46.
Plas-Steel Products, Inc., Walkerton, Ind. 847,820, pub. 2–6–68. Cl. 21.
Polymer Corp., The, Reading, Pa. 847,808, pub. 2–6–68. Cl. 13.
Pool Craft Co.: *See—*
  Larson, Clarence E.
Powell & Campbell, Inc., New York, N.Y. 438,911, ren. 4–23–68. Cl. 39.
Prather, Alfred G. B., Lanham, Md. 847,865, pub. 2–6–68. Cl. 34.
Procter & Gamble Co., The, Cincinnati, Ohio. 435,529, ren. 4–23–68. Cl. 52.

Procter & Gamble Co., The, Cincinnati, to The Hewitt Soap Co., Inc., Dayton, Ohio. 437,848, ren. 4–23–68. Cl. 52.

Quaker Oats Co., The, Chicago, Ill. 847,972, pub. 2–6–68. Cl. 46.

Qual Fab, Inc., New York, N.Y. 847,921, pub. 2–6–68. Cl. 42.

R.F. Industries, Inc., Summit, N.J. 728,214, canc. Cl. 21.

Ralston Purina Co., St. Louis, Mo. 847,968, pub. 2–6–68. Cl. 46.

Rand, William, Inc., New York, N.Y. 847,854, pub. 2–6–68. Cl. 28.

Random House, Inc., New York, N.Y. 847,886, pub. 2–6–68. Cl. 38.

Rapid-American Corp., New York, N.Y. 847,894, pub. 2–6–68. Cl. 39.

Rashkind, William J., Merion, Pa. 848,028. Cl. 44.

Regents of the University of Michigan, The, Ann Arbor, Mich. 847,885, pub. 2–6–68. Cl. 38.

Rexall Drug & Chemical Co. : *See—*
United Drug Co.

Rexall Drug Co. : *See—*
United Drug Co.

Reynolds Metals Co., Richmond, Va. 728,146, canc. Cl. 12.

Rice, William S., Inc. : *See—*
Herculite Protective Fabrics Corp.

Rich, M. D., d.b.a. Southern Tape & Supply Co., Decatur, Ala. 728,372, canc. Cl. 44.

Richardson Co., The, Melrose Park, Ill. 728,298, canc. Cl. 32.

Richards-Wilcox Mfg. Co., Aurora, Ill., to Hupp Corp., Cleveland, Ohio. 500 134, ren. 4–23–68. Cl. 14.

Rich-Flex Mfg. Corp., Central Falls, R.I. 847,922, pub. 2–6–68. Cl. 43.

Ridge Tool Co., from The Ridge Tool Co., Elyria, Ohio. 847,-809, pub. 3–21–67. Multiple Class (Classes 15, 21, and 23).

Ridge Tool Co., The : *See—*
Ridge Tool Co.

Rio Citrus : *See—*
Ginsbach, John H.

Rising, B. D. Paper Co., to Rising Paper Co., Housatonic, Mass. 239,561, ren. 4–23–68. Cl. 37.

Rising Paper Co. : *See—*
Rising B. D., Paper Co.

Rochester Paper Co., Rochester, Mich. 239,163, ren. 4–23–68. Cl. 37.

Rohm & Haas Co., Philadelphia, Pa. 437,271, ren. 4–23–68. Cl. 6.

Roll-Die & Mold Decorators, Inc. : *See—*
Standard International Corp.

Rol-O-Valve Co., Warner Robins, Ga. 728,166, canc. Cl. 13.

Rough Rider, Inc., Napa, Calif. 847,887, pub. 2–6–68. Cl. 39.

Rubber & Plastics Compound Co. Inc., to Nervastral, Inc., New York, N.Y. 437,202, ren. 4–23–68. Cl. 12.

Rubon Inc. : *See—*
Rubon Wood Finishing and Products Co.

Rubon Wood Finishing and Products Co., Kansas City, from Rubon Inc., Independence, Mo. 154,141, canc. Cl. 29.

Russell, Jack, Co., Inc., Key Biscayne, Fla. 847,824, pub. 2–6–68. Cl. 22.

Ruud Mfg. Co., Kalamazoo, Mich. 728,311, canc. Cl. 34.

SCM Corp., New York, N.Y., from The Glidden Co., d.b.a. Ball Food Products Co., Cleveland, Ohio. 847,948, pub. 2–6–68. Cl. 46.

Sabel, Erik A., Lidkoping, Sweden. 848,015. Cl. 14.

Saburo Miyata Moriya, Minato-ku, Tokyo, Japan. 728,225, canc. Cl. 21.

Sage, Peggy, Inc., Stamford, Conn., and New York, N.Y., to Chesebrough-Pond's Inc., New York, N.Y. 437,665, ren. 4–23–68. Cl. 51.

San Francisco Fish Farms, Inc., Menlo Park, Calif. 847,793, pub. 8–8–67. Multiple Class (Classes 1 and 46).

Sanders Associates, Inc., Nashua, N.H. 847,845, pub. 2–6–68. Cl. 26.

Schaad, Anni, Stuttgart, Germany. 847,856, pub. 2–6–68. Cl. 28.

Schenley Industries, Inc., New York, N.Y. 847,984, pub. 2–6–68. Cl. 49.

School of Speedwriting Inc., to Speedwriting Publishing Co., Inc., New York, N.Y. 500 344, ren. 4–23–68. Cl. 38.

Schultz Rosky Block Co., Chicago, Ill. 501,049, ren. 4–23–68. Cl. 39.

Schutzman, A. L., Co., Inc., Milwaukee, Wis. 847,941, pub. 5–9–67. Cl. 46.

Schwarz Services International Ltd., Mount Vernon, N.Y. 820,011. Am. 7(d). Cl. 46.

Scovill Mfg. Co., Hamilton Beach Division, Racine, Wis. 848,017. Cl. 23.

Scoville, Brown & Co., Wellsville, N.Y., to California Canners & Growers, San Francisco, Calif. 241,059, ren. 4–23–68. Cl. 46.

Scripto, Inc., Atlanta, Ga. 847,803, pub. 2–6–68. Cl. 8.

Sears, Roebuck and Co., Chicago, Ill. 343,068, canc. Cl. 39.

Sears, Roebuck and Co., Chicago, Ill. 728,151, canc. Cl. 12.

Seifreat-Elstad Machinery Co., The, Dayton, Ohio. 244,713, ren. 4–23–68. Cl. 23.

Seilheimer Beverage Co., Inc., to E. W. Seilheimer, d.b.a. Seilheimer Beverage Co., Hackensack, N.J. 236,654. Am. 7(d). Cl. 45.

Shenango Ceramics, Inc., New Castle, Pa. 847,858, pub. 2–6–68. Cl. 30.

Shore Machine Corp., to American Home Products Corp., New York, N.Y. 436,320, ren. 4–23–68. Cl. 23.

Shulton, Inc., Clifton, N.J. 847,988, pub. 4–11–67. Cl. 51.

Shurtenda Steaks, Inc., Denver, Colo. 847,940, pub. 2–6–68. Cl. 46.

Silent Gliss Gesellschaft, Bern, Switzerland. 728,165, canc. Cl. 13.

Sky Valley Foods, Inc., New York, N.Y. 847,971, pub. 2–6–68. Cl. 46.

Skyline Industries Sales, Inc., Titusville, Pa. 728,162, canc. Cl. 13.

Smith, Chester A., Jr., d.b.a. Electro-Medical Engineering Co., Burbank, Calif. 728,366, canc. Cl. 44.

Smith Oil Corp., Rockford, Ill. 847,991, pub. 2–6–68. Cl. 100.

Societa Italiana Vetro S.I.V., S.p.A., Vasto (Chieti), Italy. 847,863, pub. 2–6–68. Cl. 33

Socony-Vacuum Oil Co., to Mobil Oil Corp., New York, N.Y. 436,817, ren. 4–23–68. Cl. 15.

Solo Products Corp., New York, N.Y. 847,902, pub. 2–6–68. Cl. 40.

Southern Fruit Distributors : *See—*
Southern Fruit Distributors, Inc.

Southern Fruit Distributors, Inc., d.b.a. Southern Fruit Distributors, Orlando, Fla. 847,945–6, pub. 8–9–66. Cl. 46.

Southern Tape & Supply Co. : *See—*
Rich, M. D.

Span Products Inc., Paterson, N.J. 847,849, pub. 2–6–68. Cl. 26.

Spaulding-Moss Co., Boston, Mass. 728,283, canc. Cl. 26.

Specialized Products, Inc., Taylorville, Ill. 847,834, pub. 2–6–68. Cl. 23.

Speedwriting Publishing Co., Inc. : *See—*
School of Speedwriting Inc.

Sperry Rand Corp., Great Neck, N.Y. 728,230, canc. Cl. 21.

Sprague Electric Co., North Adams, Mass. 728,219, canc. Cl. 21.

Sprague Electric Co., North Adams, Mass. 728,228, canc. Cl. 21.

Stanard-Tilton Milling Co., St. Louis, Mo., Alton, Ill., and Dallas, Tex., to Peavey Co., d.b.a. Peavey Co. Flour Mills, Minneapolis, Minn. 243,713, ren. 4–23–68. Cl. 46.

Standard International Corp., Andover, Mass., from Roll-Die & Mold Decorators, Inc., Youngstown, Ohio. 848,011, pub. 2–6–68. Cl. 106.

Standard Motor Co., Ltd., The, Canley, Coventry, England. 728,234, canc. Cl. 23.

Standard-Coosa-Thatcher Co., Chattanooga, Tenn. 501,597–600, ren. 4–23–68. Cl. 43.

Stevens, J. P., & Co., Inc., New York, N.Y. 847,910, pub. 2–6–68. Cl. 42.

Stevens, J. P., & Co., Inc., New York, N.Y. 847,912, pub. 2–6–68. Cl. 42.

Stevens, J. P., & Co., Inc., New York, N.Y. 847,916, pub. 2–6–68. Cl. 42.

Stewart, A. L., & Sons, Cherryfield, Maine. 847,954, pub. 2–6–68. Cl. 46.

Strohmeyer & Arpe Co., New York, N.Y. 67,727, ren. 4–23–68. Cl. 46.

Sucre Banana Import Corp., New York, N.Y. 847,960, pub. 2–6–68. Cl. 46.

Sulzer Bros. Ltd., Winterthur, Switzerland. 844,918, cor. Cl. 21.

Sun Chemical Corp., New York, N.Y. 728,182, canc. Cl. 16.

Sunbeam Corp., Chicago, Ill. 847,852, pub. 2–6–68. Cl. 27.

Sunshine Biscuits, Inc. : *See—*
Loose-Wiles Biscuit Co.

Swartz Creations, Inc., Fort Lauderdale, Fla. 847,804, pub. 2–6–68. Cl. 8.

Sweetheart Plastics, Inc., Wilmington, Mass. 848 014. Cl. 2.

Switzer Brothers, assor. to Switzer Brothers, Inc., to Switzer Brothers, Inc., Cleveland, Ohio. 439,522, ren. 4–23–68. Cl. 21.

Switzer Brothers, Inc. : *See—*
Switzer Brothers.

Tablet & Ticket Co., The, Chicago, Ill. 243,633, ren. 4–23–68. Cl. 50.

Tela Cable Inc., North Providence, R.I. 847,848, pub. 2–6–68. Cl. 26.

Tel-Consultants : *See—*
York, Norman G.

Tequila Cuervo, S.A., Mexico City, Mexico. 847,982, pub. 2–6–68. Cl. 49.

Tessaro, Santo, d.b.a. Calzaturificio di Santo Tessaro, and Calzaturificio di Sante Tessaro, Treviso, Italy. 845,338, cor. Cl. 22.

Teter, Inc., Dolton, Ill. 658,068, canc. Cl. 34.

Texas Hardware Boosters Club, Dallas, Tex. 437,826, ren. 4–23–68. Cl. 38.

Texas Harvest Hat Co., Laredo, Tex. 728 329, canc. Cl. 39.

Time Products Ltd., London, England. 847,853, pub. 2–6–68. Cl. 27.

Todd, Hoyt H., d.b.a. Todco, Whittier, Calif. 728,180, canc. Cl. 16.

Touster, Irwin, d.b.a. Headstart Co., Long Island City, N.Y. 847,897, pub. 2–6–68. Cl. 39.

Twin City Air Service, Inc., Benton Harbor, Mich. 848,009, pub. 2–6–68. Cl. 105.

United Biscuit Co. of America : *See—*
Keebler Co.

United Biscuit Co. of America, Melrose Park, Ill. 847,944, pub. 2–6–68. Cl. 46.

United Data Centers, Inc., New York, N.Y. 848,002, pub. 2–6–68. Cl. 101.

United Drug Co., Boston, Mass., to Lever Brothers Co., New York, N.Y. 68,117, ren. 4–23–68. Cl. 51.

United Drug Co., Boston, Mass. to Rexall Drug & Chemical Co., d.b.a. Rexall Drug Co., Los Angeles, Calif. 240,728, ren. 4–23–68. Cl. 18.

United Merchants & Manufacturers, Inc. : *See—*
Cohn-Hall-Marx Co.

United States Marine Industries, Inc., Bradenton, Fla. 728,-251, canc. Cl. 23.

U.S. Plywood-Champion Papers Inc., Hamilton, Ohio. 847,874, pub. 2–6–68. Cl. 37.

United States Rubber Co., New York, N.Y. 728,181, canc. Cl. 16.

Vanderhoff, Mary, Boston, Mass. 728,348, canc. Cl. 39.

Vendo Co., The, Kansas City, Mo. 728,255, canc. Cl. 23.

Venus Chemical Co., Inc. : *See—*
Franklin, D. R., Co., Inc.

Versatile Engineering : *See—*
Morris, Charles W.

Video Electronic Systems, Inc., Lubbock, Tex. 847,843–4, pub. 2–6–68. Cl. 26.

Vollrath Co., The, Sheboygan, Wis. 728,164, canc. Cl. 13.

Von Blanckenhagen, Hans Richard, d.b.a. Baltische Liqueur-Fabrik Otto Von Blanckenhagen-Allasch, Hamburg, Germany. 728,635, cor. Cl. 49.

Water Refining Co., Inc., Middletown, Ohio. 728,292, canc. Cl. 31.

Webco Mills, Inc., Burlington, N.C. 847,918, pub. 2–6–68. Cl. 42.

Welcome Wagon International, Inc., Memphis, Tenn. 847,884, pub. 2–6–68. Cl. 38.

Wellco Ro-Search Industries, Inc., Waynesville, N.C. 847,893, pub. 2–6–68. Cl. 39.

West Riding Investments Ltd. : *See—*
Ortiz, Alfonso.

Westab Inc. : *See—*
Western Tablet & Stationery Corp.

Western Tablet & Stationery Corp., to Westab Inc., Dayton, Ohio. 437,374, ren. 4–23–68. Cl. 37.

Western Tablet & Stationery Corp., to Westab Inc., Dayton, Ohio. 437,378, ren. 4–23–68. Cl. 37.

Western Tablet & Stationery Corp., to Westab Inc., Dayton, Ohio. 437,394, ren. 4–23–68. Cl. 37.

Western Tablet & Stationery Corp., to Westab Inc., Dayton, Ohio. 437,399, ren. 4–23–68. Cl. 37.

Western Tablet & Stationery Corp., to Westab Inc., Dayton, Ohio. 438,108–9, ren. 4–23–68. Cl. 37.

Weyerhaeuser Co., Tacoma, Wash. 848,013. Cl. 2.

Wham-O Mfg. Co., San Gabriel, Calif. 847,831, pub. 2–6–68. Cl. 22.

Wheatland Electric Product Co., Carnegie, Pa. 728,213, canc. Cl. 21.

Whip-Mix Corp., Louisville, Ky. 847,929, pub. 2–6–68. Cl. 44.

Whiteford Paper Co., Inc., New York, N.Y. 728,130, canc. Cl. 11.

Whitman Publishing Co., Racine, Wis. 847,823, pub. 2–6–68. Cl. 22.

Williams, Geo. L., Co., The, Cleveland, Ohio. 235,526, ren. 4–23–68. Cl. 6.

Winters Canning Co. : *See—*
Hunt-Wesson Foods, Inc.

Witco Chemical Co., Inc., New York, N.Y. 847,950, pub. 2–6–68. Cl. 46.

Wolverine World Wide, Inc., Rockford, Mich. 847,898, pub. 2–6–68. Cl. 39.

Woodward, Frank H., Brattleboro, Vt. 728,383, canc. Cl. 50.

World Exports, Inc., Miami, Fla. 728,159, canc. Cl. 13.

Wyandotte Chemicals Corp., Wyandotte, Mich. 847,810, pub. 2–13–68. Cl. 16.

Yardley of London, Inc., Totowa, N.J. 847,989, pub. 8–22–67. Cl. 51.

York, Norman G., d.b.a. Tel-Consultants, San Diego, Calif. 848,007, pub. 2–6–68. Cl. 104.

Yorn Import Co., Inc., San Francisco, Calif. 728,326, canc. Cl. 39.

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OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
April 30, 1968 Volume 849 Number 5

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of March 1968

Examiner affirmed	162
Examiner affirmed in part	32
Examiner reversed	58
Total	252

TITLE 37—PATENTS, TRADEMARKS, AND COPYRIGHTS

Chapter 1—Patent Office, Department of Commerce

PART 1—RULES OF PRACTICE IN PATENT CASES

PART 3—FORMS FOR PATENT CASES

Amendment of Rules re New Defensive Publication Program; Additional Form

Sections 1.11, 1.14, 1.101, 1.103 and 1.108 of Title 37 CFR (Patent Rules 11, 14, 101, 103 and 108) are amended or revised and a new § 1.139 (Patent Rule 139) is added to take effect May 1, 1968, for the purpose of instituting a new defensive publication program. A new section 3.50 is added for the purpose of implementing the new program.

The general substance of the proposed revisions and additions was published in the Federal Register of February 20, 1968 (33 F.R. 3189). A hearing was held on March 27, 1968, and all persons, who desired to, were invited to attend and to submit their views, objections, recommendations or suggestions. Both oral and written comments were carefully considered. The sections are being revised substantially as published with a few additional changes.

This program is intended to provide better service to the public by making available the technical disclosure of certain applications in which the owner may prefer to publish an abstract in lieu of obtaining an examination by the Patent Office. The defensive publication would be in the form of an abstract of the technical disclosure, printed in the OFFICIAL GAZETTE and made a part of the Patent Office search files.

This program will be open to any applicant having an application awaiting action by the Patent Office and who files a written request no later than eight (8) months after the earliest U.S. effective filing date of the designated application and agrees to the conditions of the program, including waiving his patent rights based on the designated application, opening the complete application to inspection by the general public upon publication of the abstract, expressly abandoning his application, the abandonment to take effect five (5) years after the earliest U.S. effective filing date of the application unless within that period interference proceedings have been initiated, and waiving his rights to a patent on a continuing application filed after the expiration of thirty (30) months from the earliest U.S. effective filing date of the designated application. *Until November 1, 1968, this program will be open to any pending application awaiting first action by the Patent Office at the time of the request without regard to the filing date of that application.*

In accordance with existing rules and procedures interferences may be declared with applications and patents. During the period beginning with the suggestion of claims by the Patent Office or the filing of claims by the applicant copied from a patent and ending with the termination of proceedings if an interference is declared or the mailing of a decision refusing to declare the interference, abandonment by reason of the expiration of the five year period will be stayed. Since the applicant has waived his patent rights and agreed to a defensive publication, termination of interference proceedings in his favor would render the express abandonment ineffective but would not result in the issuance of an enforceable patent. Instead, a normal Notice of Allowance would be issued except that the applicant would be notified that when the issue fee is remitted a disclaimer of the entire term of the patent to be granted in accordance with the second paragraph of 35 U.S.C. 253 should be included.

No special fees will be required for entrance into this program. The applicant will be permitted to include with his request a replacement or expanded abstract of the technical disclosure of up to two hundred (200) words. Acceptance of a request to enter this program will be contingent upon screening by the Patent Office to exclude such material that may be considered advertising, frivolous, scandalous, against public policy, subject to national security controls, etc. Acceptance of a designated application in this program is not intended to preclude the examination of any continuing application filed under 35 U.S.C. 120 within thirty (30) months after the earliest effective U.S. filing date of the designated application.

Upon receipt and approval of the request the application abstract will be published in the OFFICIAL GAZETTE. Publication of the abstract in the OFFICIAL GAZETTE would be in a separate section identifying the application as being open for inspection by the general public and indicating that it is subject to the New Defensive Publication Program.

Following publication the application would be filed in the Record Section of the Patent Reference Branch where it will be available for inspection upon written request. Copies of the application will be furnished by the Patent Office upon request and payment of fee. The application abstract and suitable drawing copies would then be made a part of the official search files.

After the defensive publication has appeared in the OFFICIAL GAZETTE the abstract and suitable drawing copies will be available as prior art from the date of publication under 35 U.S.C. 102(a) or 102(b) as a printed publication. Also, at this time the application will be available as prior art under 35 U.S.C. 102(a) as evidence of prior knowledge from the actual date of filing the application in the Patent Office.

The changes follow:

1. In § 1.11, delete "Patent" from the title. Identify the one paragraph now in the section as paragraph "(a)" and

New Applications Received During March 1968

Patents	7926
Designs	431
Plant Patents	9
Reissues	20
Total	8386

Issue—April 30, 1968

Patents	1230	—No. 3,380,073 to No. 3,381,302, incl.
Designs	63	—No. 210,863 to No. 210,925, incl.
Plant Patents	2	—No. 2,809 to No. 2,810, incl.
Total	1295	

follow with a new paragraph "(b)", so that the section reads as follows:

§ 1.11 *Files open to the public.*

(a) After a patent has been issued, the specification, drawings, and all papers relating to the case in the file of the patent are open to inspection by the general public, and copies may be furnished upon paying the fee therefor. The file of any terminated interference involving a patent, or an application on which a patent has subsequently issued, is similarly open to public inspection and procurement of copies. See § 2.27 for trademark files.

(b) Applications in which the Office has accepted a request filed under § 1.139 are open to inspection by the general public, and copies may be furnished upon paying the fee therefor.

2. In § 1.14, insert "Except as provided in § 1.11(b)" at the beginning of the first sentence of both paragraphs (a) and (b), so that these paragraphs read:

§ 1.14 *Patent applications preserved in secrecy.*

(a) Except as provided in § 1.11(b) pending patent applications are preserved in secrecy. No information will be given by the Office respecting the filing by any particular person of an application for a patent, the pendency of any particular case before it, or the subject matter of any particular application, nor will access be given to or copies furnished of any pending application or papers relating thereto, without written authority of the applicant, or his assignee or attorney or agent, unless it shall be necessary to the proper conduct of business before the Office or as provided by this part.

(b) Except as provided in § 1.11(b) abandoned applications are likewise not open to public inspection, except that if an application referred to in a United States patent is abandoned and is available, it may be inspected or copies obtained by any person on written request, without notice to the applicant. Abandoned applications may be destroyed after twenty years from their filing date, except those to which particular attention has been called and which have been marked for preservation. Abandoned applications will not be returned.

3. In § 1.101, add "except for those applications in which the Office has accepted a request filed under § 1.139" at the end of the last sentence of paragraph (a), so that it reads:

§ 1.101 *Order of examination.*

(a) Applications filed in the Patent Office and accepted as complete applications (§§ 1.53 and 1.55) are assigned for examination to the respective examining divisions having the classes of inventions to which the applications relate. Applications shall be taken up for examination by the examiner to whom they have been assigned in the order in which they have been filed except for those applications in which the Office has accepted a request under § 1.139.

4. In § 1.103, add a new paragraph (d) to read as follows:

§ 1.103 *Suspension of action.*

(d) Action on applications in which the Office has accepted a request filed under § 1.139 will be suspended for the entire pendency of these applications except for purposes relating to proceedings under § 1.201(b).

5. In § 1.108, delete "and forfeited" in the title and the first sentence, and add "except those which have become abandoned as a result of the filing and acceptance of a request under § 1.139" at the end of the first sentence, so that it reads as follows:

§ 1.108 *Abandoned applications not cited.*

Abandoned applications as such will not be cited as references except those which have become abandoned as a result of the filing and acceptance of a request under § 1.139.

6. A new § 1.139 is added, the full text of which reads as follows:

§ 1.139 *Waiver of patent rights.*

An applicant may waive his rights to an enforceable patent based on a pending patent application by filing in the Patent Office a written waiver of patent rights, a consent to the publication of an abstract, an authorization to open the complete application to inspection by the general public, and a declaration of abandonment signed by the applicant and the assignee of record or by the attorney or agent of record.

7. A new § 3.50 is added to read as follows:

§ 3.50 *Waiver of patent rights.*

To the Commissioner of Patents:

The undersigned having on ------------------ filed an application for patent, Serial No. -------------- entitled ----------------------------, hereby waives his right to an enforceable patent based on said application or on any continuing application filed after the expiration of thirty (30) months from the earliest U.S. effective filing date of said application and subject to acceptance by the Commissioner, and requests that an abstract of the disclosure thereof be published in the OFFICIAL GAZETTE, that the complete application be opened to inspection by the general public upon publication of said abstract, and that the application be considered pending for the purpose of interference; and further the undersigned expressly abandons said application, the abandonment to take effect five (5) years after the earliest U.S. effective filing date of the application unless within that period interference proceedings have been initiated.

(Sec. 1, 66 Stat. 792; 35 U.S.C. 6)

EDWARD J. BRENNER,
Commissioner of Patents.

Approved: Apr. 9, 1968.
JOHN F. KINCAID,
Assistant Secretary for
Science and Technology.

Published in 33 F.R. —; Apr. 11, 1968

TITLE 37—PATENTS, TRADEMARKS, AND COPYRIGHTS

Chapter I—Patent Office, Department of Commerce

PART 3—FORMS FOR PATENT CASES

Notice of Appeal

To expedite the processing of new appeals and to ensure their prompt acknowledgment, additional information will be necessary on the Notice of Appeal. Accordingly, § 3.41, suggested in the rules of practice in patent cases, is revised as shown below.

Copies for duplication may be obtained from the receptionist in Crystal Plaza and from the Correspondence and Mail

Branch in the Main Commerce Building. The use of this revised form is solicited.

All papers relating to appeals should include the post office address of the person to whom correspondence is to be directed.

Revised § 3.41 will read as follows:

§ 3.41 *Notice of appeal from the Primary Examiner to the Board of Appeals*

In re application of--------------------------------------
Serial No--
For --
Filed ---
Group Art Unit--

To the Commissioner of Patents:

Sir: Applicant hereby appeals to the Board of Appeals from the decision dated -------------- of the Primary Examiner finally rejecting claims --------.

The item(s) checked below are appropriate:

1. ☐ An extension of time to respond to the final rejection was granted on -------------------- for -------- month(s).
2. ☐ A timely response to the final rejection has been filed, as provided in 841 O.G. 1411.
3. ☐ Fee $50.00:
   ☐ Enclosed.
   ☐ Not required (fee paid in prior appeal).
   ☐ Charge to Deposit Account No. ---------------.
   (One additional copy of this Notice is enclosed herewith.)

Signature (Rule 191(b))

Post Office Address (to which correspondence is to be sent).

(Sec. 1, 66 Stat. 792; 35 U.S.C. 6)

EDWIN L. REYNOLDS,
Acting Commissioner of Patents.

Approved: March. 22, 1968.
JOHN F. KINCAID,
Assistant Secretary for
Science and Technology.

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PATENT COOPERATION TREATY

The United International Bureaux for the Protection of Intellectual Property (BIRPI) released on May 31, 1967 in Geneva, Switzerland, a draft of a proposed Patent Cooperation Treaty designed to increase greatly international cooperation in the protection of inventions. This draft was reproduced in the Official Gazette *of the U.S. Patent Office on June 13, 1967.*

A meeting of a Committee of Experts was held in Geneva from October 2–10, 1967 to consider the proposed treaty. A report of this meeting was released by BIRPI as PCT/II/2 dated October 20, 1967. A copy of this report was reproduced in the Official Gazette *of January 2, 1968.*

A meeting of a Working Group was held in Geneva from March 25–29, 1968 to consider the subject of searching under the Patent Cooperation Treaty. The Director of BIRPI has scheduled a meeting of another Working Group to be held July 1–5, 1968 to discuss formalities and other matters under the treaty. A meeting of a Committee of Experts has also been scheduled in Geneva from November 4–12, 1968 to consider the proposed treaty in general.

Since considerable interest has been expressed in further developments in the treaty proposal, the official Report of the March meeting, released by BIRPI as PCT/II/7 dated April 3, 1968, is reproduced below.

EDWARD J. BRENNER,
Commissioner.

Approved: Apr 10, 1968.

PCT/II/ 7
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April 3, 1968

BUREAUX INTERNATIONAUX
RÉUNIS POUR LA PROTECTION
DE LA PROPRIÉTÉ INTELLECTUELLE
GENÈVE, SUISSE

BIRPI

UNITED INTERNATIONAL
BUREAUX FOR THE PROTECTION
OF INTELLECTUAL PROPERTY
GENEVA, SWITZERLAND

WORKING GROUP ON THE BIRPI PLAN FOR FACILITATING THE FILING AND EXAMINATION OF APPLICATIONS FOR THE PROTECTION OF THE SAME INVENTION IN A NUMBER OF COUNTRIES

Plan for a Patent Cooperation Treaty (PCT)

(Geneva, March 25 to 29, 1968)

REPORT

Contents

(The numbers in parentheses refer to paragraphs)

Introduction

Composition of the Working Group, Etc. (1 to 10)
Scope of the Present Report (11 to 14)
Basis of Discussions of the Working Group (15)

The Proposed International Search

Purposes Served by the International Search Report (16 to 18)
Objectives of the International Search (19 to 22)
[*Excursio*] Documents (23 and 24)
Fields to be Covered by the International Search (25)
Parts of the International Application to which the International Search is Directed (26 to 30)
Documents to be Searched (31 to 47)
Contents of the International Search Report (48 to 53)
The Question of the Supplementary International Search (54 to 60)
The Time Allowed for Establishing the International Search Report (61 to 66)
Which Should Be the International Searching Authorities? (67 to 79)
Which Searching Authority Should Be Competent for Any Given Application? (80 and 81)
Fees (82)
Languages (83 to 86)
Adoption of the Present Report (87)

INTRODUCTION

Composition of the Working Group, Etc.

1. On the invitation of the Director of the United International Bureaux for the Protection of Intellectual Property (BIRPI), a Working Group on the Patent Cooperation Treaty ("PCT") met in Geneva from March 25 to 29, 1968, in order to examine the proposed international search aspects of BIRPI's plan for facilitating the filing and examination of applications for the protection of the same invention in a number of countries.

2. Those 23 countries in which, according to the latest available yearly statistics, more than 5,000 applications are filed were invited to attend the meeting of the Working

Group. The following 20 were represented: Argentina, Austria, Belgium, Brazil, Canada, Czechoslovakia, Denmark, France, Germany (Federal Republic), Italy, Japan, Netherlands, Norway, Poland, Soviet Union, Spain, Sweden, Switzerland, United Kingdom, United States of America. Three were not represented: Australia, Mexico, and South Africa. Hungary was represented by observers. India was invited as an observer but was not represented.

3. The following five intergovernmental organizations were represented: United Nations, International Patent Institute, Council of Europe, European Communities, European Free Trade Association. The Organization of American States and the African and Malagasy Industrial Property Office were invited but were not represented.

4. Eleven non-governmental organizations, representing inventors, industrialists, patent lawyers, and patent agents, were invited. Ten were represented: Committee of National Institutes of Patent Agents, Council of European Industrial Federations, European Industrial Research Management Association, Inter-American Association of Industrial Property, International Association for the Protection of Industrial Property, International Chamber of Commerce, International Federation of Patent Agents, National Association of Manufacturers (USA), Union of European Patent Agents, Union of Industries of the European Economic Community. The Japan Patent Association was invited but was not represented.

5. Representatives of Governments and private organizations had the same opportunities for participating in the discussions.

6. The Director of BIRPI, Professor G. H. C. Bodenhausen, participated in all the discussions.

7. In his opening speech, the Director of BIRPI emphasized that the Patent Cooperation Treaty could only succeed if it was satisfactory both to the Patent Offices and to the interested private circles. BIRPI had this double objective constantly in mind, and the many consultations, including the present meeting, with both Government and private groups were proof of this policy.

8. The Working Group unanimously elected as its Chairman Mr. J. Voyame, Director of the Swiss Federal Office of Intellectual Property, and, as Vice-Chairman, Mr. E. I. Artemiev, Deputy Chairman of the Committee for Inventions and Discoveries attached to the Council of Ministers of the Union of Soviet Socialist Republics.

9. Dr. Arpad Bogsch, Deputy Director of BIRPI, acted as Secretary of the Working Group.

10. The list of participants is annexed to this report. The number present was around one hundred.

Scope of the Present Report

11. The present document does not identify, except when the nature of the intervention seems to require it, the persons who, or the countries or organizations which, have expressed the views recorded herein, as the purpose of this report is a limited one, namely, to assist BIRPI in its work of preparing new drafts. Identification of the speakers, however, remains possible on the basis of the notes taken by the Secretariat and the tape recording of all interventions kept in the files of BIRPI.

12. Furthermore, because of its said limited purpose, suggestions contained in document PCT/II/2 not expressly objected to and views supporting such suggestions are generally not referred to in this report. Neither does this report generally contain the arguments advanced in support of the various counter-suggestions.

13. Discussion sometimes related to questions reserved for future meetings. Such discussion is only exceptionally reported upon.

14. Finally, because of the briefness of the time available for preparing and discussing this report, some of the suggestions of secondary importance have not been included. They, as well as the arguments advanced in support of or against the suggestions noted, will, however, also be taken into consideration on the basis of the above-mentioned notes and tape recordings.

Basis of Discussions of the Working Group

15. The agenda of the meeting (see document PCT/II/1) consisted of a single substantive item, namely, the consideration of questions concerning the proposed international search. Discussion was based on a memorandum prepared by BIRPI, dated January 31, 1968 (document PCT/II/2), and two documents containing written observations and proposals by the Delegations of the United Kingdom (document PCT/II/3) and Canada (document PCT/II/5). (The provisional list of participants bears the document number PCT/II/4.) The Fédération internationale des Ingénieurs-conseils en propriété industrielle distributed to the participants a printed brochure containing its proposal for the international filing of patent applications.

THE PROPOSED INTERNATIONAL SEARCH

Purposes Served by the International Search Report

16. Several representatives of the interested private circles expressed the view that the international search report would be of interest to third parties as much as to applicants and examining Offices and consequently urged that any future paper should place these three groups—from the point of view of potential interest—on the same level.

17. It was generally understood that in all cases in which the national laws permit amendment of the description in the application, the applicant could, on the basis of the international search report, amend during the national procedure not only the claims but also the description.

18. The representatives of some of the private circles said that the international search should be carried out on the basis of a short description, prepared by the applicant, of the subject matter of the invention rather than on the basis of the claims.

Objectives of the International Search

19. It was generally agreed that the search report should have a broad documentary scope.

20. It was further agreed that, in paragraph 7, the reference to the differences in law among the various countries should be omitted and that "inventive step" should be expressed as an alternative ("or" rather than "and") to non-obviousness. Furthermore, it was agreed that the objective of the international search was not only to locate but to help in locating prior art.

21. Some of the participants remarked that the international search should primarily be directed to novelty and only secondarily to inventive step or non-obviousness. Others said that such a distinction was difficult to make in practice, particularly for countries whose laws incorporated the concept of inventive step in the notion of novelty itself ("essential novelty"). Still others said that, even for countries where novelty and inventive step were sharply distinguished, it was important that the search should pay equal attention to discovering documents relevant for either criterion.

22. It was generally agreed that searching less than the prescribed documentation on account of finding "complete" anticipations (so-called "knock-out" references) should be an exception admitted only in the rarest cases, namely, where it would be absolutely unreasonable to continue the search. It was recognized that the utmost caution would be required because what could seem to be "complete" anticipations to the searcher might, upon further scrutiny of the peculiar legal situation in some of the designated countries, prove not to be such anticipations. Not only negative material should be cited but also material supporting the existence of novelty and inventive step or non-obviousness. Several speakers said that, in any case, the searcher should make an a posteriori rather than an a priori selection among the documents retrieved as being of possible interest for the application searched.

[Excursio] Documents

23. In the course of the discussion, the question arose in what documents the principles agreed upon would eventually be reflected.

24. It has been stated that the present plans provided for the following:

(a) A *treaty* which would incorporate the basic principles.

(b) *Regulations* which would contain details of application.

Both the Treaty and the Regulations would be adopted and signed by the diplomatic conference which would finalize the negotiations on the Patent Cooperation Treaty. The Treaty could be modified only by another diplomatic conference and modifications therein would become binding only upon ratification. The Regulations could be modified by the Assembly of the Patent Cooperation Treaty Union, i.e., the countries which would be parties to the Patent Cooperation Treaty. No ratification of the modifications would be required. According to the importance of the proposed modifications, their adoption would require either a unanimous decision or decision by a majority variously qualified.

(c) The draft Treaty and the draft Regulations would be accompanied by *comments* clarifying the intent underlying the more important or more complicated provision.

(d) Many of the details concerning international search and international preliminary examination would be regulated in the *agreements* which would be concluded by the Patent Cooperation Treaty Union or the International Bureau with the Searching and Preliminary Examining Authorities. Such agreements would, as far as the Patent Cooperation Treaty Union is concerned, have to be approved by the Assembly of the members of the Patent Cooperation Treaty Union. Modifications in the agreements would be subject to the same procedure. The guiding principles for such agreements would be laid down in the Regulations. Naturally, the agreements would have to be in harmony with the Regulations.

(e) A constant watch would be kept on the practical application of the Patent Cooperation Treaty, particularly by the *advisory committees* on searching and preliminary examination. Their recommendations would be an important source for adjusting the Regulations and the agreements to changing circumstances, and securing effective harmonization in the working methods of the Searching Authorities and Preliminary Examining Authorities.

Fields to be Covered by the International Search

25. It was recognized that the intent of paragraphs 13 to 15 was acceptable but that the terminology (e.g., "use" instead of "utility" in paragraph 14) and drafting could be improved.

Parts of the International Application to which the International Search is Directed.

26. Several representatives of the private circles expressed the view that a better search could be carried out on the basis of a short summary or statement of the inventive concept than on the basis of claims, which, if this view were accepted, would become superfluous. They argued that, since the search must be a technical one, a technical summary (which is what the statement of the inventive concept would be) would be a better basis than claims, which are drafted also with legal considerations in mind. They also argued that because of the existing habits as regards claiming—which differ from country to country—it would be difficult to draft claims which would satisfy the various idiosyncrasies of prospective Searching Authorities.

27. Others, including all the Government Representatives except one (and another who reserved his final view), were of the opinion that claims were needed. The arguments advanced were, among others, that the claims were *par excellence* the expression of the inventive concept, and a precise expression at that, because of the care with which they must be drafted; that therefore they offer the best guidance for the searcher in his effort to orientate his search towards the inventive concept; that, in the absence of claims, the searcher would not know in which direction to search and therefore the search would be more costly and less reliable; that claims were needed to give assurance that there was continuity in the application; that, since the ultimate objective was to judge the validity of claims, the required continuity could be assured only if every phase were tied to the claims; that, especially where claims could be amended in the national phases, harmonization of the national laws or practices was not a prerequisite, but that practices would doubtless grow more similar in time if the search reports were based on claims drafted in a certain (namely, the international) manner.

28. In subsequent discussions, it was assumed that the international application would contain claims.

29. It was noted that the international search would *not* be limited to the claims but would be directed to the invention both as described and claimed, and that the abstract which the applicant would be required to file would also help in identifying the inventive concept.

30. It was noted that the proposal contained in paragraph 19 (the search should, in so far as was possible and reasonable, cover also subject matter to which the claims might reasonably be expected to be directed after

they had been amended) might be difficult to apply in practice. However, as a goal, the principal was not challenged.

Documents to be Searched

31. The question was asked what criteria—language or other—were applied in defining the minimum patent documentation (paragraph 23). It was replied that the said definition was governed by what appeared to be practical for the prospective Searching Authorities.

32. One of the Government Representatives urged that the minimum patent documentation should be "art-oriented," i.e., contain, for each branch of technology, the patents of the countries which were the most "inventive" in that branch. It was remarked, in reply to this suggestion, that the said patents would probably be considered in most cases on the basis of paragraphs 21 and 38.

33. The Representative of the Soviet Union urged that the patent literature of his country prior to 1961 should also be included in the minimum documentation. This could doubtless be done if English abstracts could be produced also for the pre-1961 literature. As to the originals, the Soviet Representative said that they were available on an exchange basis.

34. The Representative of Japan urged that the question be examined whether the Japanese Patent Office could not be provided with English abstracts of those patents in the minimum documentation which were in the French and German languages and for which no English abstracts were now available. He emphasized, however, that, even if his Office was not provided with such additional abstracts, it was now—and would be in the future—in a position to search all the documents of the prescribed minimum documentation, including those in French and German.

35. On the request of the Representative of the Federal Republic of Germany, German applications published prior to the date at which *Auslegeschriften* started to be printed (i.e., 1955, see paragraph 28, footnote) are no longer included in the proposed minimum documentation.

36. Some of the participants suggested that the documents of "early publication" countries, particularly Ireland and Belgium, be included in the minimum documentation. Others said that this seemed to be unnecessary since several countries included in the minimum documentation would soon have a system requiring early publication.

37. The Representative of Canada said that the Canadian Patent Office might be able to select, and give copies to the Searching Authorities of, those Canadian patents which did not invoke the priority of a filing abroad. These could then be included in the minimum documentation.

38. It was agreed that BIRPI would examine the question in which cases, if any, the requirement of printing should be dropped for the inclusion of published patent applications in the minimum documentation. (The last sentence of the footnote to paragraph 28 remains, in any case, unaffected.)

39. Opinions were divided on whether the search report should indicate the date of publication of the cited documents. Whereas there was no doubt that such information would be useful as a means of ascertaining the effective date of the publication and as a means of spotting and correcting miscitations, it was frequently not easy to establish the date on which a document was actually published. Furthermore, the same document may have different publication dates in different countries. Finally, the relevance, from a legal point of view, of certain dates may vary according to the laws of the various countries. Consequently, any date may, in certain circumstances, mislead the reader.

40. It was also recognized that precise dates were generally of relevance only within a short range of time, mainly when they were near the claimed priority date.

41. Several speakers emphasized, however, the need to group separately in the search report at least those documents which appear to have been published between the date of the national application whose priority is invoked and the date of actual filing of the international application. Others suggested that documents relating to an application filed earlier than the searched application (or invoking a priority that was earlier than the priority or filing of the searched application) but published after the actual filing date of the searched international application should also be cited in the search report and should be cited separately.

42. It was agreed that, whatever solution was adopted for the purposes of further drafts, the other possibilities would be referred to as alternatives.

43. In connection with paragraph 32, it was suggested that abstracts published between the priority date and the actual international filing date should also be citable. Furthermore, that abstracts published after the relevant date should be citable if the documents of which they were the abstracts had been published prior to the relevant date.

44. It was agreed that BIRPI would further study the question whether, in the case of families of patents, citations of some of the members could be omitted or could be less complete (no reference to page, paragraph, column) than in the case of other members of the same family.

45. It was suggested by several speakers that, when the search files contained abstracts, the full document, in its original language, should be physically attached to the abstract.

46. Representatives of the interested private circles emphasized the need for the maximum degree of international cooperation in the field of searching methods, searching tools, and, in general, the organization of search. One of the Government Representatives recalled the need for harmonizing any documentation efforts with those sponsored by UNESCO, ICSU, OECD, and other computer-based documentation systems, including those run by private enterprises. Several speakers urged the general adoption of the International Patent Classification and its use for also classifying non-patent literature for the purposes of the search files. Others said that for the time being they did not intend to organize all or some of their search files according to the International Patent Classification.

47. Several speakers of the interested private circles urged the need for effective central control of the uniform high quality of searches. It was pointed out in reply that the Advisory Committee on International Searching and other

bodies of the proposed Patent Cooperation Treaty Union would be active in achieving this aim.

Contents of the International Search Report

48. Views were divided on whether the name of the applicant or patentee should be included in the citations listed in the search report.

49. As to the question of the possible inclusion of the publication dates of the cited documents, see paragraph 39, above.

50. There was general agreement that the search report should indicate the date of its completion.

51. One of the Government Representatives suggested that the search report should indicate the classification of the documents cited but the majority held that this was superfluous since it could be obtained from the documents themselves.

52. There was a very full discussion of the question whether the search report should include any text matter, that is, a justification of the reason for which any document was cited in it. Although at least one Government Representative urged inclusion of such text matter and although none of the speakers denied the possible usefulness of such indications, the majority took the view that, in order to avoid any risk of expressing an opinion in what should be a purely documentary report, the search report should contain no such text matter.

53. A further question discussed in detail was whether the search report could, particularly when the application was complicated and the number of claims relatively high, be allowed to relate certain of the citations to certain of the claims of the international application, and whether the relevant passages of the cited document (particularly if that document were long or complicated) could be referred to by page, column or paragraph number. Although some of the speakers expressed the view that allowing such an annotated presentation might render less pure the documentary character of the search report, most participants who spoke on the point gave an affirmative reply to the above questions.

The Question of the Supplementary International Search

54. Almost an entire day was devoted to the discussion of this chapter of the memorandum.

55. One of the fundamental questions examined was whether an international search could be based on a national application. In this connection, a written proposal of the United Kingdom (PCT/II/3, paragraphs 7 to 10) and detailed oral proposals of the Representatives of the Netherlands and Switzerland were considered.

56. The general conclusions arrived at by the overwhelming majority of both the Government Representatives and those of the interested private Group were that:

(i) the international search report must be based on the international application,

(ii) if a search according to international standards had been carried out on a national application, the international search would nevertheless be effected on the international application itself, taking into account, however, the results of the preceding search and subject to a rebate in the fees commensurate with the value of the resulting savings.

57. At least one Government Representative reserved opinion on the question whether any national Office being a Searching Authority should be obliged, by the Patent Cooperation Treaty, to carry out an international search in the absence of an international application.

58. In view of the above decisions, which correspond to the essence of the United Kingdom proposal, the limitation appearing in paragraph 67 of document PCT/II/2 disappears.

59. In connection with the question of a supplementary international search in the case of amendments to the claims in the international phase, it was generally agreed that there should be no *obligation* to ask for a supplementary search. On the question whether the applicant should have *a right* to a supplementary search, several speakers said that such a right should not exist, while others said that it should exist only if the supplementary search could be carried out within the prescribed maximum deadlines for the original search.

60. The question whether claims could be changed in the international phase—and there were expressions of opinion both for and against such a possibility—was reserved for further discussion in the future meetings to deal with procedure. It was, however, observed that, should the said possibility of amendment, as distinguished from amendment in the national phase, be admitted, one would have to make sure that the changes would be effective also in countries having a registration system. One of the speakers suggested allowing amendments in the international phase only during the priority year.

The Time Allowed for Establishing the International Search Report

61. The Representative of the United States said that he did not wish to see in the Treaty a rigid obligation to produce search reports within a certain number of months. An expression of intention should suffice and the time governing should be between 6 and 16 months from the priority date. He believed that in most cases the search report would be completed by the end of the 13th month.

62. It was remarked in reply that any time limits would be set down in the Regulations rather than the Treaty and they would be subject to change in view of the requirements and in the light of experience.

63. Opinions differed on the question whether six months for bringing the search files up to date was too long or too short or just about right under present circumstances, but most of the speakers of the latter opinion admitted that, through better organizaion of transmittal and filing, the six months could be shortened.

64. The Representative of the United Kingdom referred in this connection to paragraph 3 of document PCT/II/3, where it was observed that the time table in paragraph 97 could be misleading and searches might in many cases not be completed before the 18th month. Other Representatives, especially the Representatives of the Federal Republic of Germany and the United States, were of the opinion that this time table could be respected in the great majority of cases, since, among other things, waiting for new material would be a practical necessity only in those presumably rare cases where new matter was added to the application when internationally filed, and since the time needed for bringing the search files up to date could be considerably shortened (see paragraph 63, above).

65. The impact of the unity of invention requirement on international search was discussed at some length. The importance of the guarantees provided for the applicant in the footnote to paragraph 98 was emphasized by several speakers. One additional suggestion made was that in order to save time the Searching Authority itself should have the right to determine the part it would search if it was of the opinion that the unity of invention rule had not been respected. Others, however, said that this would give too much freedom to the Searching Authority. Further discussion was reserved for future meetings.

66. The Representative of the United States, while reserving his opinion on paragraph 98(1) and the footnote relating to that paragraph, suggested that any designated Office should have the right to require that the applicant transmit a translation of his application and the national filing fee by the end of the 21st month after the priority date in the admittedly abnormal case in which the search report would not yet be available and thus the communication of the international application had not yet taken place. The reason for this requirement would be to allow proceeding tò the national examination of the international application without an international search report in the said abnormal cases. Also, that no designated country should have the right to require filing of such translation and payment of such fee before the expiration of the 21st month, even if the international application, together with the search report, were communicated earlier. Discussion was not opened on those procedural questions as they were reserved for future meetings.

Which Should Be the International Searching Authorities?

67. A particularly thorough discussion took place on the question of centralized versus decentralized search.

68. "Centralized search" was generally understood as search carried out for all international applications by one international organization, namely, the International Patent Institute. However, various nuances and transitional solutions were also proposed by some of the speakers, such as: branch offices of the International Patent Institute in various places of the world; subcontracting some of the work done by the International Patent Institute to national Offices with the responsibility for quality control in the International Patent Institute; effecting the initial search on the national application (if an international-type search on such application is requested by the applicant) in certain national Offices and effecting the second search (that on the international application) in the International Patent Institute, using also the results of the first search.

69. "Decentralized search," for the purpose of the discussion, was understood to mean the proposals contained in document PCT/II/2.

70. The Representatives of the interested private circles who spoke on the subject expressed a strong preference for a centralized search. However, most of them added, albeit with reluctance, that, at least in the initial period of the application of the Patent Cooperation Treaty, decentralization would be necessary. Many of them expressed the desire that it should be clearly understood that decentralization was merely a transitional situation and centralization should be achieved as soon as possible. The supporters of centralized search argued that its quality would be more uniform, generally higher, and more objective.

71. Most of these views were also shared by the Representative of France, and, tentatively, the Representative of Italy.

72. The Representatives of Canada and the United Kingdom stated that the future lay in centralization of one kind or another, though one might have to start out with the existing facilities, i.e., decentralization.

73. The Representatives of the Federal Republic of Germany, the United States of America, Japan, Sweden, the Soviet Union, Poland and Austria (in the order in which they spoke) were of the opinion that the only realistic solution, at least for the foreseeable future, consisted in decentralization. Some of them argued also that centralization had definite disadvantages: for example, duplication of work in cases where a national Office had to search an application *qua* national application in any case. Also, some said that decentralization would be a potent incentive for international cooperation and harmonization of national practices and laws, incentives which would not exist in the case of a centralized international search. It was also said that decentralization would lead to sound competition among the various Searching Authorities for the producing of good quality searches. All the prospective Searching Authorities declared that their documentation and their staff were wholly adequate, even in respect of the problem of handling foreign languages, to perform searches meeting all the proposed requirements.

74. Several speakers said that it was necessary to keep the number of Searching Authorities small and possibly even to provide for the gradual reduction of their number.

75. The Director General of the International Patent Institute said that, even if the International Patent Institute were the only Searching Authority under the Patent Cooperation Treaty, the number of applications to be searched would only cause an increase of a very small percentage in the workload which the International Patent Institute would have once the French applications were searched by it. He said that the Institute would have a new headquarters building which would be able to house 1,120 searchers plus their supporting staff and that he was confiident that he would be able to recruit the necessary staff. He said that each searcher could produce approximately 100 searches per year and that the Institute was scheduled to be able to handle 40,000 searches per year within five years from the signing of its Agreement with France, which was expected to take place within two months. The Representative of the Federal Republic of Germany said that, for the purposes of the Patent Cooperation Treaty, which he hoped would come into force by 1971 or 1972, the International Patent Institute would have to be able by that time to perform the required amount of international searches, and he asked for a detailed estimate of the future capacity of the International Patent Institute. The Director General of the International Patent Institue said that he would prepare and communicate a study on this matter to BIRPI. He also said that the requirements of international search would be unusual for national Offices acting as Searching Authorities and that the Patent Cooperation Treaty should require "effective ability" on the part of such Offices to perform the international search. Finally, he said that the suggestion in paragraph 102 according to which the past performance of a Searching Authority could lead to non-renewal of its designation was not in conformity with international public law as applicable to the Institute and that the suggestion should be re-examined.

76. It was agreed that the compatibility of paragraph 102 with paragraph 107 would be thoroughly examined.

77. The Representatives of several national Offices which were prospective Searching Authorities expressly stated that they would naturally accept quality control.

78. The Representative of France urged that, should the decentralization solution prevail, the Searching Authorities should jointly create international organs useful for the Patent Cooperation Treaty and dealing with such questions as uniform classification, cooperation in translation tasks, research into the search problems.

79. The Representative of the Soviet Union said that, although decentralization should be kept to a minimum, the Patent Cooperation Treaty should not preclude the creation, on a regional basis, of international Searching Authorities additional to the International Patent Institute.

Which Searching Authority Should Be Competent for Any Given Application?

80. It was explained that the right provided for the applicant in paragraph 108 as it stands was also his only possibility of obtaining a search report in the case contemplated therein. The Representative of Switzerland said that, in his opinion, the applicant should in no case have a choice between several Searching Authorities (cf. paragraph 107).

81. It was suggested that further study should be made for the purpose of arriving at possibly more flexibility in the rules concerning the competence of any given Searching Authority. While it was generally recognized that one must prevent the flow to any of the Searching Authorities of applications which normally should not go to it, account should be taken of the fact that applicants might wish to file their first national applications in a country other than that of their residence, or assign them to persons having their residence in another country.

Fees

82. The Representative of the International Patent Institute said that the same independence with regard to fixing the search fees should be given to his Institute as was suggested for national Offices. The Representative of Italy said that applicants from all PCT countries should have equal conditions as to search fees.

Languages

83. Several speakers dealt with questions which, thereafter, were reserved for future meetings. Among these questions were the respective advantages of publishing claims or abstracts in the Gazette, a suggestion for not re-publishing the international application together with the search report in a case where the application was published before establishing the search report but making the latter available only upon request, and the desirability of publishing abstracts in classified groups separate from the Gazette.

84. The Representatives of the Federal Republic of Germany and of the Soviet Union urged that the Gazette be published also in German and Russian, respectively.

85. Some speakers gave warning that the cost of translating abstracts was very high.

86. One Government Representative suggested that it would be simpler and more efficient if copies of the international application as translated in the various languages of the designated countries were sold by the national Offices rather than by the International Bureau. It was replied that perhaps the best solution would consist in providing for both possibilities.

87. *This report was unanimously adopted by the Working Group in its closing meeting on March 29, 1968.*

LIST OF PARTICIPANTS

I. States

Argentina

Mr. L. M. Laurelli, Third Secretary, Permanent Delegation of the Republic of Argentina, Geneva

Austria

Mr. T. Lorenz, Counsellor, Austrian Patent Office, Vienna

Belgium

Mr. A. Schurmans, Director, Belgian Industrial Property Service, Brussels

Mr. J. D. P. Degavre, Belgian Industrial Property Service, Brussels

Brazil

Mr. R. Soares-de-Oliveira, Secretary of Embassy, Permanent Delegation of Brazil, Geneva

Mr. E. Massarani, Embassy Attaché, Permanent Delegation of Brazil, Geneva

Canada

Mr. F. W. Simons, Assistant Commissioner of Patents, Department for Consumer and Corporate Affairs, Ottawa

Mr. G. A. Asher, Director of Planning Division, Department for Consumer and Corporate Affairs, Ottawa

Mr. J. A. Corbeil, Third Secretary, Permanent Mission of Canada, Geneva

Czechoslovakia

Mr. M. Všetečka, Head of the Legal and International Department, Office for Patents and Inventions, Prague

Mr. L. Lacina, Head of the Examination Department, Office for Patents and Inventions, Prague

Denmark

Mr. E. Tuxen, Director, Patent and Trademark Office, Copenhagen

Mrs. D. Simonsen, Head of Department, Patent and Trademark Office, Copenhagen

France

Mr. F. Savignon, Director, National Institute of Industrial Property, Paris

Mr. R. Labry, Counsellor of Embassy, Ministry for Foreign Affairs, Directorate of Economic and Financial Affairs, Paris

Germany (Federal Republic)

Mr. K. Haertel, President, German Patent Office, Munich

Mr. R. Singer, Leitender Regierungsdirektor, German Patent Office, Munich

Mr. H. Mast, Regierungsdirektor, Federal Ministry of Justice, Bonn

Mr. K.-H. Hofmann, Regierungsdirektor, German Patent Office, Munich

Mr. P. Schönfeld, First Secretary, Permanent Delegation of the Federal Republic of Germany, Geneva

Italy

Mr. G. Trotta, Counsellor at the Court of Appeal, Italian Delegation for Intellectual Property Treaties, Ministry for Foreign Affairs, Rome

Mr. M. Angel Pulsinelli, Inspector General, Patent Office, Ministry for Industry, Commerce and Handicrafts, Rome

Mr. R. Messerotti Benvenuti, Attorney at Law, Montecatini-Edison S.p.A., Milan

Mr. G. Omodeo-Salè, Engineer, Società Italiana Brevetti, Rome

Japan

Mr. M. Sasaki, Director, General Administration Division, Patent Office, Tokyo

Mr. T. Sakai, First Secretary, Permanent Delegation of Japan, Geneva

Netherlands

Mr. J. B. van Benthem, Vice-President, Netherlands Patent Office, The Hague

Mr. J. Dekker, Member of Patent Board, Netherlands Patent Office, The Hague

Mr. M. van Dam, Patent Agent, Philips' Gloeilampenfabrieken, Eindhoven

Norway

Mr. L. Nordstrand, Director, Patent Office, Oslo

Poland

Mr. M. Zoledowski, Head of Section, Polish Patent Office, Warsaw

Mr. M. Misiewicz, Head of Section, Polish Patent Office, Warsaw

Spain

Mr. A. F. Mazarambroz, Director, Industrial Property Registration Office, Madrid

Mr. J. Delicado y Montero-Rios, Head of the Technical and Administrative Office, Industrial Property Registration Office, Madrid

Sweden

Mr. G. R. Borggård, Director-General, National Patent and Registration Office, Stockholm

Mr. S. Lewin, Head of Division, National Patent and Registration Office, Stockholm

Switzerland

Mr. J. Voyame, Director, Federal Office of Intellectual Property, Berne

Mr. J.-L. Comte, Head of Section, Federal Office of Intellectual Property, Berne

Mr. W. Winter, Director, F. Hoffmann-La Roche & Co., Basle

Union of Soviet Socialist Republics

Mr. E. I. Artemiev, Deputy Chairman, Committee for Inventions and Discoveries attached to the Council of Ministers of the U.S.S.R., Moscow

Mr. I. Kichkin, Deputy Director of the All-Union Scientific Research Institute of State Patent Examination, Moscow

United Kingdom

Mr. E. Armitage, Assistant Comptroller, Patent Office, London

Mr. D. G. Gay, Superintending Examiner, Patent Office, London

United States of America

Mr. G. D. O'Brien, Assistant Commissioner, Patent Office, Department of Commerce, Washington, D.C.

Mr. W. O. Quesenberry, Director, Office of International Patent and Trademark Affairs, Patent Office, Department of Commerce, Washington, D.C.

Mr. R. L. Kenyon, American Chemical Society, Washington, D.C.

Mr. W. R. Woodward, General Patent Attorney, Western Electric Company, Inc., New York, N.Y.

Mr. W. E. Hewitt, Chief Legal Officer, United States Mission, Geneva

Mr. E. A. Faller, International Patent Liaison Officer, United States Mission, Geneva

II. OBSERVERS

1. STATES

Hungary

Mr. E. Tasnádi, President, National Office for Inventions, Budapest

Mr. G. Ürmösi, Head of Service, Ministry for Foreign Trade, Budapest

Mr. G. Kóvári, Engineer, National Office for Inventions, Budapest

2. INTERGOVERNMENTAL ORGANIZATIONS

United Nations (UN)

Mr. H. Cornil, Legal Officer, Commission Affairs and Trade Development Division of the Economic Commission for Europe, Geneva

Mr. V. Dolezil, Industrial Development Officer, United Nations Industrial Development Organization, Vienna

International Patent Institute (IIB)

Mr. G. Finniss, Director-General, The Hague

Mr. P. van Waasbergen, Technical Director, The Hague

Mr. L. F. W. Knight, Counsellor in Information Retrieval, The Hague

Mr. R. Weber, Head of Division, The Hague

Council of Europe

Mr. R. Muller, Head of Service, Directorate of Legal Affairs, Strasbourg

European Free Trade Association (EFTA)

Mr. G. Latzel, Assistant, General and Legal Department, Geneva

European Communities

Mr. J. P. Lauwers, Principal Administrator, Directorate for Unification of Laws, Brussels

Mr. J. Weinmiller, Principal Administrator, Directorate-General for Dissemination of Information, Brussels

3. NON-GOVERNMENTAL ORGANIZATIONS

Committee of National Institutes of Patent Agents (CNIPA)

Mr. W. Weston, Chartered Patent Agent, London

Mr. H. Bardehle, Patent Agent, Munich

Council of European Industrial Federations (CEIF)

Mr. M. G. E. Meunier, Head of Patent Service, Ateliers de Constructions Electriques de Charleroi

Mr. J. M. Aubrey, Courtaulds Limited, Coventry

Mr. P. Bertrand, Director-General, Cie Saint-Gobain, Neuilly s/Seine

Mr. S. Finne, Director, Federation of Finnish Industries, Helsinki

Mr. P. Trupia, Confederazione Generale dell'Industria Italiana, Rome

European Industrial Research Management Association (EIRMA)

Mr. F. L. Picard, Vice-President of EIRMA, Chairman of the EIRMA Working Group on Patents, Directeur Conseil, Régie Nationale des Usines Renault, Billancourt

Mr. A. L. Van Der Auweraer, Vice-Chairman of the EIRMA Group on Patents, Industrial Patent Counsel, Gevaert-Agfa, N.V., Mortsel-Antwerp

Mr. F. P. Panel, Rapporteur of the EIRMA Working Group on Patents, Director of Industrial Property Services, Compagnie Générale d'Electricité, Paris

Mr. G. Hirt, Patent Expert, Société des Produits Nestlé S.A., Vevey

Inter-American Association of Industrial Property (ASIPI)

Mr. S. D. Goldsmith, Langner, Parry, Card & Langner, New York, N.Y.

International Association for the Protection of Industrial Property (IAPIP)

Mr. C. M. R. Davidson, President of the Netherlands Group of IAPIP, The Hague

Mr. J. Monnet, President of the French Group of IAPIP, Paris

Mr. S. D. Goldsmith, Langner, Parry, Card & Langner, New York, N.Y.

Mr. M. Arrigucci, Patent Agent, Rome

International Chamber of Commerce (ICC)

Mr. H. Vanderborght, Head of the Department of Technical Documentation and Patents, Chemische Bedrijven "UCB," Drogenbos

Mr. D. O. Lewis, Patent Department, Babcock & Wilcox, London

Mr. J. F. Monnet, Rhône-Poulenc, Paris

International Federation of Patent Agents (FICPI)

Mr. P. O. Langballe, Honorary President, President of the Study and Working Group, FICPI, Copenhagen

Mr. J. Corre, Rapporteur of the Study and Working Group, FICPI, Patent Agent, Paris

National Association of Manufacturers (NAM), U.S.A.

Mr. H. H. Green, Patent Counsel, General Electric Company, New York

Mr. C. Phelan, Patent Counsel, Bell Telephone Laboratories, New Jersey

Mr. I. L. Wolk, Director of Patents, Merck & Co., Inc., New Jersey

Union of European Patent Agents

Mr. C. Massalski, Rapporteur-General, Union of European Patent Agents, Paris

Union of Industries of the European Economic Community (UNICE)

Mr. G. Oudemans, President of Patent Group, Vught

Mr. J. Willems, Krefeld

Mr. C. Massart, Head of Patent Department, Solvay & Co. S.A., Brussels

Mr. J. P. Simon, Legal Service, Syndicat Général de la Construction Electrique, Paris

Mr. P. Trupia, Confederazione Generale dell'Industria Italiana, Rome

Mr. D. A. Was, Head Group Patent Division, Royal Dutch-Shell, The Hague

III. UNITED INTERNATIONAL BUREAUX FOR THE PROTECTION OF INTELLECTUAL PROPERTY (BIRPI)

Professor G. H. C. Bodenhausen, Director

Dr. Arpad Bogsch, Deputy Director

Mr. Klaus Pfanner, Counsellor, Head of the Industrial Property Division

Mr. I. Morozov, Counsellor, Industrial Property Division

Miss G. Davies, Legal Assistant, Industrial Property Division

Mr. René Tegtmeyer (U.S. Patent Office)

Mr. Yoshiro Hashimoto (Patent Office of Japan)

IV. OFFICERS OF THE MEETING

Chairman: Mr. J. Voyame (Switzerland)

Vice-Chairman: Mr. E. I. Artemiev (Union of Soviet Socialist Republics)

Secretary: Dr. Arpad Bogsch (BIRPI)

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF MARCH 11, 1968

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
CHEMICAL EXAMINING OPERATION—I. MARCUS, Director.		
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—R. L. CAMPBELL, Manager Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	2-12-65	8-10-62
GENERAL ORGANIC CHEMISTRY, GROUP 120—M. STERMAN, Manager Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	5- 7-65	12-28-62
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Manager Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping and Treating Processes.	4-27-65	3-22-63
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—J. R. LIBERMAN, Manager Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	2-10-65	8-10-62
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Manager Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	1- 8-65	1-29-64
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—J. F. COUCH, Acting Manager Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	6-24-65	12-31-63
SECURITY, GROUP 220—S. BOYD, Manager Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	5-26-65	8-20-64
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—M. L. LEVY, Manager Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	10-20-64	6-18-62
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Manager Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	9-21-64	3-14-62
PHYSICS, GROUP 280—R. L. EVANS, Manager Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	10- 1-65	6-24-63
DESIGNS, GROUP 290—S. BOYD, Manager Industrial Arts; Household, Personal and Fine Arts.	4-12-67	4-20-66

Total number of pending applications (excluding Designs)	174, 257
Total number of Design applications pending	3, 692
Total number of applications awaiting action (excluding Designs)	124, 960
Total number of Design applications awaiting action	1, 718
Date of oldest new application awaiting action	Sept. 21, 1964
Date of oldest amended application awaiting action	March 14, 1962

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during May 1968, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1953.*

Patents	Numbers 2,550,660 to 2,555,299, inclusive
Plant Patents	Number 1,012

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
MECHANICAL EXAMINING OPERATION—F. H. BRONAUGH, Director.		
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Manager	10-20-66	1- 4-65
Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.		
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Manager	4-11-66	7- 2-63
Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders; Woodworking; Tools; Cutlery; Jacks.		
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Manager	10-11-65	5-14-64
Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.		
HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Manager	10- 6-66	8- 4-65
Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.		
FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager	9- 2-66	3- 5-64
Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports: Cabinet Structures.		
TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—W. S. COLE, Manager	3-21-66	5-20-63
Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.		

DECISIONS IN PATENT AND TRADEMARK CASES

[Consolidation of Decisions appearing in the OFFICIAL GAZETTE on March 26, and April 2, 1968, to replace those publications]

In the United States Patent Office
Before the Board of Appeals

EX PARTE ALEXANDER D. ARGOUDELIS, CLARENCE DE BOER, THOMAS E. EBLE, AND ROSS R. HERR

Appeal No. 195—42. Decided March 10, 1965

APPEAL from the Examiner (Sam Rosen) of Group 120. Serial No. 147,873. AFFIRMED.

Eugene O. Retter, George T. Johannesen, and *Roman Saliwanchik* for appellants.

Before FEDERICO and ROSA, *Examiners-in-Chief* and STONE, *Acting Examiner-in-Chief*

EX PARTE ALEXANDER D. ARGOUDELIS, CLARENCE DE BOER, THOMAS E. EBLE, AND ROSS R. HERR

Appeal No. 717—71. Decided December 12, 1967

APPEAL from the Examiner (Sam Rosen) of Group 120. Serial No. 147,873. AFFIRMED.*

Eugene O. Retter, George T. Johannesen, and *Roman Saliwanchik* for appellants.

Before FEDERICO, ASP, MAGIL, LIDOFF and STONE, *Examiners-in-chief*

1. PATENTABILITY—REFERENCE—ENABLING DISCLOSURE—*In re Le Grice* CONSTRUED.

"Appellants rely heavily on the decision of the Court of Customs and Patent Appeals in *In re Le Grice*, 133 USPQ 365, 49 CCPA 1124, 1962 C.D. 707, 785 O.G. 741, 301 Fed. (2d) 929. This case involved two applications for plant patents which were each rejected on certain printed publications. These printed publications adequately described the particular plants (roses) which were described and claimed in the applications. (Two of the publications were rose annuals describing the plants and stating by whom they were distributed, two other publications were catalogues of the distributor. Public use or sale could not be considered as the distributor was in England.) The issue involved was whether the printed publications were sufficient to defeat the applications under section 102(b) of the statute which states that a patent cannot be obtained if 'the invention was . . . described in a printed publication . . . more than one year prior to the date of the application'; this being the same issue that is involved here. The court held that since the invention claimed, that is the rose, could not be reproduced from the written description, the written description could not be used as a bar to the grant of a patent."

2. SAME—SAME—SAME—DESCRIPTION SHOULD ENABLE PRODUCTION OF INVENTION.

In connection with a reference publication that described an antibiotic and its separation from a culture broth of a strain of actinomyces, a microorganism that "was isolated from the soil of Chiba Prefecture (Japan)," and with reference to an affidavit by a microbiologist who indicated that the antibiotic "could not be produced by a person skilled in the art, from the description, owing to the fact that the particular microorganism from which the antibiotic is obtained could not be found without unreasonable experimentation," *Held* that "It cannot be denied that *In re Le Grice* * * * applies to the publication cited in this application to the same extent that it applied to the publications cited in that case"; and that "Moreover, we have ourselves held that a written description of the character involved in a case such as the present one is not sufficient to enable a person skilled in the art to produce the invention. *Ex parte Kropp*, 143 USPQ 148."

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* This decision is being appealed to the U.S. Court of Customs and Patent Appeals.

3. Application—Disclosure—Sufficiency of Disclosure—35 U.S.C. 111 and 112.

"However, appellants' arguments against written description in cases of this kind raise a question concerning the sufficiency of the written description in the present application itself. Insofar as enabling a person skilled in the art to produce the invention, the written description in the instant specification is not much better than the written description in the cited [reference] publication. It is true that the specification gives some description of the microorganism (stating its principal characteristic to be the production of the antibiotic). This does not add very much and such description of the microorganism was held not sufficient to enable the invention to be produced in *Ex parte Kropp* * * * (there was a description of the plants in the references in the *Le Grice* case). Insofar as producing the compound chemically, no more information is in the specification than is presented in the reference. The affidavit of the microbiologist would apply to the description in the present specification, as it does to the description of the cited reference. If the description in a publication such as is used in this case by the Examiner is held to be insufficient to form an anticipation then a similar description could hardly be considered sufficient, under section 112, as the description in the specification of an application for patent. Section 112 requires that 'The specification shall contain a written description of the invention, and of the manner of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same' and, by section 111, such a specification must be included with the application at the time of filing."

4. Same—Same—Same—Deposit of Culture in Depository—35 U.S.C. 112.

"One point that requires to be noted in this connection is the statement on page 1 of the specification that 'A subculture of this variety can be obtained from the permanent collection of the Northern Utilization and Research Division, Agricultural Research Service, U.S. Department of Agriculture, Peoria, Illinois. Its accession number in this repository is NRRL 2940.' This statement, it should be noted, does not indicate by whom the subculture may be obtained. In order to clarify this, appellants were requested to submit copies of the correspondence relating to the culture deposit referred to. This correspondence shows that the subculture presently cannot be obtained by anyone except nominees of appellants' assignee company on written authorization from the company. What such a deposit has to do with the requirements of section 112 of the statute is not evident. Appellants' assignee presumably has specimens of the microorganism which they use. They have deposited specimens with some depository which is holding the deposits to its order. They are not part of this application for patent and could not be made a part by language used by appellants' assignee in making the personal deposit. Section 162 of the statute, which exempts plant applications from full compliance with section 112 is not applicable to this case."

5. Application—Disclosure—Adequate Disclosure Required When Application Filed—35 U.S.C. 111 and 112.

"* * * according to 35 U.S.C. 111, 'a specification as prescribed by section 112' is required at the time of filing the application."

6. Same—Same—Sufficiency of Disclosure—Deposit of Cultfre in Depository.

"In view of the fact that when a case involves starting materials which are already known and available to persons in the art at the time of filing an application for patent, the description need not contain an enabling disclosure of them, in many instances deposits of cultures are made in certain depositories by applicants on their own initiative at the time of or before filing of an application so that thereafter they would be in a position to urge that an enabling disclosure was not necessary with respect to their starting materials. While such deposits are purely private matters between the depositor and the custodian, the practice of the Patent Office is to accept this situation and not raise

any questions regarding enabling sufficiency of the written description in such cases. However, the situation with respect to appellants' assignee's deposit * * * in our view prevents application of this practice to the present case. If an applicant urged that he or his assignee had specimens of necessary starting materials in their safe (or refrigerator) at their disposition, this would hardly be considered sufficient to meet the statutory requirement for an enabling written description at the time of filing the application. We do not see any difference in the case of an agent holding something at the order of his principal."

7 Same—Same—Same—Same.

"The question in cases of this kind is not whether any particular deposit [of a culture] or type of deposit has or has not been made, but is the same fundamental question presented by the statute for all cases, of whether a person skilled in the art can reproduce the invention from the written description at the time the application is filed. The person skilled in the art is supposed to have before him whatever is known and available to such persons skilled in the art. There is no requirement in the statute or in any Patent Office rule or order for any deposit or any particular type of deposit. The practice has developed of depositing microorganisms in a stock culture collection prior to filing an application for patent. These culture collections are maintained by various types of organizations, including universities and some governmental organizations and exist in foreign countries as well as the United States. The objective in applicants making such deposits is to put themselves into a position where they would have evidence conveniently at hand to show that a person skilled in the art could reproduce the invention."

8. Same—Same—Same—Same.

"If an applicant can show that at the time of filing the application the organisms involved were known and available to persons skilled in the art then the question of sufficiency of disclosure of the type here involved would not arise. This is a question of fact, subject to proof by evidence. Applicants may have recourse to any competent evidence to show this fact with or without having made any deposit. Of course making a certain character of deposit in a stock culture collection prior to filing the application would greatly simplify the problem of proof."

9. Same—Same—Same—Same—35 U.S.C. 112.

"Apparently appellants seem to consider that they have made the substance deposited elsewhere a part of the disclosure of the application in this case as filed. There is no authority in 35 U.S.C. 112 for anything but a written description as the disclosure in an application for patent, and certainly there is no authority for either the Patent Office or an applicant to modify the requirements of the statute."

10. Same—Same—Same—Same—Ex parte Schmidt-Kastner and Hackmann Overruled.

"Appellants refer to *Ex parte Schmidt-Kastner and Hackmann*, 153 USPQ 473, published after the first two decisions in this case and apparently inconsistent therewith. This decision will not be followed and is over-ruled to the extent that it may have reference to a deposit [of a culture] not publicly available at the time the application is filed * * *."

11. Patentability—Reference—Enabling Disclosure.

"Claims 4 through 8 stand rejected on the Anzai reference. This rejection was affirmed in the first two decisions [in a prior appeal on the case] but it is evident that the rejection was maintained in the case purely as cumulative. In the prior appeal appellants urged, among other matters, that the reference did not contain a sufficient description of the organism mentioned. In Appeal No. 717–72, in a commonly assigned application, which was heard at the same time as the first hearing in the present appeal, the question involved was the utilization against the applicants of a disclosure in a foreign specification which contained such description of the organism and was otherwise similar to the disclosure in *Ex parte Kropp*. Counsel argued in the brief that such a disclosure is meaningless, 'just as meaningless as if a "philosopher's stone" were recited as usable to make' the antibiotic. In that case the rejection of the Examiner was reversed, predicated upon the insufficiency of the disclosure 'in the absence of any evidence of what may have been known or available to the public on the date involved,' citing *Ex parte Kropp* and *In re LeGrice*, 49 CCPA 1124, 301 F.2d 929, 1962 CD 707, 785 OG 741, 133 USPQ 365. In view of this, therefore, we believe that the rejection on the Anzai publication should not be pressed and this rejection will not be affirmed."

Appeal No. 195—42

Federico, *Examiner-in-Chief.*

This is an appeal from the final rejection of claims 4 to 8. Claims 1 to 3 and 10 to 15 stand allowed. Claim 4 reads as follows:

> 4. The substance designated sparsogenin A which
> (*a*) is effective in inhibiting the growth of gram-positive and gram-negative bacteria;
> (*b*) is effective in inhibiting the growth of Walker adenocarcinoma in mice;
> (*c*) is a basic substance which is slightly soluble in water and lower alcohols and insoluble in acetone, ethyl acetate, chloroform, benzene and petroleum ether;
>
> and which in its essentially pure crystalline form
> (*d*) has a pKa' of 5.07 in water and an equivalent weight of 269;
> (*e*) has an optical rotation $[\alpha]_D^{25}$ −62° (c.=0.718 in 0.1 N HCl):
> (*f*) has a characteristic ultra-violet maxima as follows:

water	270 mμ, $a=44.14$
0.01 N H_2SO_4	227 mμ, $a=85.28$ 271 mμ, $a=40.82$
0.01 N KOH	270 mμ, $a=43.50$

> (*g*) has a calculated empirical formula $C_{11}H_{14}O_4N_4$; and
> (*i*) exhibits a characteristic IR absorption as shown in FIGURE 3 of the accompanying drawing.

The reference relied upon is:

Anzai et al., A New Antibiotic Tubercidin, Journal of Antibiotics, Ser. A, vol. X, No. 5, pages 201 to 204, September 1957.

Appellants claim as a new substance an antibiotic which they have designated sparsogenin A. This antibiotic, as well as another one designed sparsogenin, is obtained from a species of actinomycetes which they have designated as *Streptomyces sparsogenes* var. *sparsogenes*. Some description of the microorganism is included in the specification, which also indicates that one of its strain characteristics is the production of sparsogenin. The specification describes the growth of the microorganism to produce the antibiotics and the separation of the resultant products from the culture medium.

The claims on appeal stand rejected as fully met by the Anzai et al. publication cited above.

This publication states that an antibiotic, which the authors named "tubercidin," was obtained from the fermentation broth of a strain of actinomyces. The microorganism was isolated from the soil of Chiba Prefecture (Japan). The culture of the microorganism and the separation of the antibiotic therefrom are adequately described in the publication. The publication describes the antibiotic by physical and chemical properties, including the molecular formula.

Appellants acknowledge that the substance claimed and the substance described by the reference are the same; no question is raised as to this point. Appellants' position is that the disclosure in the publication does not enable a person skilled in the art to reproduce the invention. Two affidavits have been filed. One is by a chemist who states that the compound cannot be produced chemically from the information given in the publication. An affidavit to this effect is hardly necessary since it is obvious that the description in the publication is not of a nature which would enable the compound to be produced chemically. The other affidavit is by a microbiologist who indicates that the substance could not be produced by a person skilled in the art from the description, owing to the fact that the particular microorganism from which the antibiotic is obtained could not be found without unreasonable experimentation.

Appellants state that the issue in this case is

> "*Whether a foreign publication is a statutory bar under U.S.C. 102 (b) where the disclosure in the publication is such that a person skilled in the art could not with the publication and his own knowledge, duplicate, or even hope to come close to the 'discovery' disclosed.*" [Emphasis in original.]

Except for the word "foreign" which is wholly irrelevent, and the phrase "or even hope to come close to" which does not appear to be necessary, we agree that this substantially represents the issue involved.

[1] Appellants rely heavily on the decision of the Court of Customs and Patent Appeals in *In re Le Grice*, 133 USPQ 365, 49 CCPA 1124, 1962 C.D. 707, 785 O.G. 741, 301 Fed. (2d) 929. This case involved two applications for plant patents which were each rejected on certain printed publications. These printed publications adequately described the particular plants (roses) which were described and claimed in the applications. (Two of the publications were rose annuals describing the plants and stating by whom they were distributed, two other publications were catalogues of the distributor. Public use or sale could not be considered as the distributor was in England.) The issue involved was whether the printed publications were sufficient to defeat the applications under section 102(d) of the statute which states that a patent cannot be obtained if "the invention was . . . described in a printed publication . . . more than one year prior to the date of the application"; this being the same issue that is involved here. The court held that since the invention claimed, that is the rose, could not be reproduced from the written description, the written description could not be used as a bar to the grant of a patent. Appellants quote the following from the opinion:

> ". . . the proper test of a description in a publication as a bar to a patent as the clause is used in section 102 (b) requires a determination of whether one skilled in the art to which the invention pertains could take the description of the invention in the printed publication and combine it with his own knowledge of the particular art and from this combination be put in possession of the invention on which a patent is sought. *Unless the condition prevails, the description in the printed publication is inadequate as a statutory bar to patentability under section 102(b).* [Emphasis added by appellants.]

Appellants also reproduce the following quotations from Robinson on Patents, section 330, and Walker on Patents, Deller Edition, page 271, as quoted with approval by the court:

> "Finally, the description must place the invention in the possession of the public as fully as if the art or instrument itself had been practically and publicly employed. In order to accomplish this, it must be so particular and definite that *from it alone, without experiment or the exertion of his own inventive skill*, any person versed in the art to which it appertains could construct and use it. [Emphasis added by the court.]
>
> "And a claim for an article of manufacture may be anticipated by a prior patent or printed publication, which describes the article, without describing any process of making it; *provided a knowledge of the article would teach a skillful mechanic some process of making it.*" [Emphasis added by the court.]

[2] It cannot be denied that *In re Le Grice*, supra, applies to the publication cited in this application to the same extent that it applied to the publications cited in that case. Moreover, we have ourselves held that a written description of the character involved in a case such as the present one is not sufficient to enable a person skilled in the art to produce the invention, *Ex parte Kropp*, 143 USPQ 148.

[3] However, appellants' arguments against written description in cases of this kind raise a question concerning the sufficiency of the written description in the present application itself. Insofar as enabling a person skilled in the art to produce the invention, the written description in the instant specification is not much better than the written description in the cited publication. It is true that the specification gives some description of the microorganism (stating its principal characteristic to be the production of the antibiotic). This does not add very much and such description of the microorganism was held not sufficient to enable the invention to be produced in *Ex parte Kropp*, supra (there was a description of the plants in the references in the *Le Grice* case). Insofar as producing the compound chemically, no more information is in the specification than is presented in the reference. The affidavit of the microbiologist would apply to the description in the present specification, as it does to the description of the cited reference. If the description in a publication such as is used in this case by the Examiner is held to be insufficient to form an anticipation then a similar description could hardly be considered sufficient, under section 112, as the description in the specification of an application for patent. Section 112 requires that "The specification shall contain a written description of the invention, and of the manner of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same" and, by section 111, such a specification must be included with the application at the time of filing.

[4] One point that requires to be noted in this connection is the statement on page 1 of the specification that "A subculture of this variety can be obtained from the permanent collection of the Northern Utilization and Research Division, Agricultural Research Service, U.S. Department of Agriculture, Peoria, Illinois. Its accession number in this repository is NRRL 2940." This statement, it should be noted, does not indicate by whom the subculture may be obtained. In order to clarify this, appellants were requested to submit copies of the correspondence relating to the culture deposit referred to. This correspondence shows that the subculture presently cannot be obtained by anyone except nominees of appellants' assignee company on written authorization from the company. What such a deposit has to do with the requirements of section 112 of the statute is not evident. Appellants' assignee presumably has specimens of the microorganism which they use. They have deposited specimens with some depository which is holding the deposits to its order. They are not part of this application for patent and could not be made a part by language used by appellants' assignee in making the personal deposit. Section 162 of the statute, which exempts plant applications from full compliance with section 112 is not applicable to this case.

The decision of the Examiner rejecting the claims on appeal on the reference cited is affirmed in view of the fact that the written description in the present specification is of the same order as the written description in the reference. A new rejection of the claims on the ground that the specification does not comply with the requirements of section 112 is made. This new ground would also apply to the other claims in the case and these claims should be re-examined when the application returns to the Examiner's jurisdiction.

Any request for rehearing or reconsideration or modification of this decision by the Board of Appeals based upon the same record must be filed within thirty days from the date of the decision (Rule 197). Should appellants elect to have further prosecution before the Examiner in response to the new rejection under Rule 196(b) by way of amendment or showing of facts, or both, not previously of record, a shortened statutory period for making such response is hereby set to expire *sixty days* from the date of this decision.

AFFIRMED.

On Petition for Reconsideration, May 25, 1966

Appellants have requested rehearing and reconsideration of our decision in this case. It is not the custom to grant rehearings in the sense of another oral hearing and to this extent the request is denied, but the decision has been reconsidered in all aspects.

A good deal of thought was given to the questions involved before rendering the original decision and an even greater amount of thought has been given to the same questions and to appellants' request for reconsideration.

[5] However, we are unable to hold that the written description complies with 35 U.S.C. 112, noting that, according to 35 U.S.C. 111, "a specification as prescribed by section 112" is required at the time of filing the application. It is not believed necessary to restate our position. The character of the description for purposes of identification has not been questioned.

[6] In view of the fact that when a case involves starting materials which are already known and available to persons in the art at the time of filing an application for patent, the description need not contain an enabling disclosure of them, in many instances deposits of cultures are made in certain depositories by applicants on their own initiative at the time of or before filing of an application so that thereafter they would be in a position to urge that an enabling disclosure was not necessary with respect to their starting materials. While such deposits are purely private matters between the depositor and the custodian, the practice of the Patent Office is to accept this situation and not raise any questions regarding enabling sufficiency of the written description in such cases. However, the situation with respect to appellants' assignee's deposit as pointed out on pages 7 and 8 of the opinion, in our view prevents application of this practice to the present case. If an applicant urged that he or his assignee had specimens of necessary starting materials in their safe (or refrigerator) at their disposition, this would hardly be considered sufficient to meet the statutory requirement for an enabling written description at the time of filing the application. We do not see any difference in the case of an agent holding something at the order of his principal.

Appellants have submitted copies of two letters relating to an attempt to obtain a specimen of a culture. These show that deposits have been made subject to conditions and the order of the depositor. Attention is also called to the decision of the First Assistant Commissioner of Patents, dated March 30, 1959, in which appellants' assignee's request for an order from the Commissioner of Patents directing a depositor to grant access to a culture mentioned in a patent was dismissed for lack of authority.

With respect to appellants' observations regarding Rule 14, this rule is one governing the conduct of the Patent Office and its officers and employees, others are free to do or not to do what they please.

The rejection on the Anzai reference was not eliminated, see page 8, line 3 et seq. This rejection has likewise been reconsidered but is retained. If our position on the insufficiency of the specification in this case is correct, the rejection on the reference becomes moot. However, if the written description herein as such were to be considered a sufficient compliance with the statute we believe that the rejection is proper.

The request for rehearing in the sense of an oral hearing is denied; the request for reconsideration is granted and the case has been reconsidered but no change is made in the decision.

APPEAL No. 717—71

FEDERICO, *Examiner-in-Chief.*

This is the second appeal in this application and involves all the claims in the case, 1 through 8 and 10 through 15. The first appeal involved claims 4 through 8 only, rejected by the Examiner on the Anzai publication, the other claims having been allowed by the Examiner. In the first decision the rejection on the reference was affirmed and a new ground of rejection was made. This new ground was based on the finding that the specification was insufficient. Appellants requested reconsideration of both grounds of rejection of the involved claims and the matter was gone into again in a second decision which maintained the position previously taken. The Examiner then reopened the case, entering a rejection on the basis of insufficient disclosure of the claims which stood allowed and repeating the rejections which had been affirmed by the Board. Following the reopening, appellants have appealed a second time, from the rejection of all the claims. The anomalous situation of claims 4 through 8 is ignored and as to these claims the present appeal is in effect a further reconsideration. After a hearing was held in the present appeal it was decided that a second hearing would be held before an augmented panel in view of the importance of the principal issue involved and the possibility that consideration thereof might involve disagreement with some other decision.

The entire case has been considered by the presently constituted panel of the Board of Appeals as a new decision on the issues. However, matters stated in the previous two decisions will not be repeated and these prior decisions are incorporated by reference and considered a part of the present decision except to the extent that changes are pointed out.

The issue of insufficient disclosure is of the same character as that involved in *Ex parte Kropp*, 143 USPQ 148. With the exception of the particular point raised by appellants, the specification of the present application is of substantially the same character as the specification involved in the *Kropp* case. Appellants acknowledge that such a specification does not comply with 35 U.S.C. 112.

Appellants have filed an affidavit by a microbiologist purporting to show that the invention can be reproduced by a person skilled in the art from the present specification. However, this affidavit confirms that the invention cannot be reproduced from the written description since it specifically refers to the fact that access to the microorganism used is necessary. It is obvious that, with the microorganism at hand, the invention can be reproduced.

Appellants' position is that the fact of having made a particular type of deposit, which is referred to in the specification, relieves the disclosure of the deficiency and hence the rejection cannot be maintained.

[7] The question in cases of this kind is not whether any particular deposit or type of deposit has or has not been made, but is the same fundamental question presented by the statute for all cases, of whether a person skilled in the art can reproduce the invention from the written description at the time the application is filed. The person skilled in the art is supposed to have before him whatever is known and available to such persons skilled in the art. There is no requirement in the statute or in any Patent Office rule or order for any deposit or any particular type of deposit. The practice has developed of depositing microorganisms in a stock culture collection prior to filing an application for patent. These culture collections are maintained by various types of organizations, including universities and some governmental organizations and exist in foreign countries as well as the United States. The objective in applicants making such deposits is to put themselves into a position where they would have evidence conveniently at hand to show that a person skilled in the art could reproduce the invention. As stated in *Ex parte Kropp*, in holding that the specification there involved did not comply with 35 U.S.C. 112:

> "If appellant were dealing with a known organism which had a well defined source and which had been obtained and used by others before, or even with an organism which was merely known and available to persons skilled in the art, the present question of the sufficiency of the disclosure would not arise."

[8] If an applicant can show that at the time of filing the application the organisms involved were known and available to persons skilled in the art then the question of sufficiency of disclosure of the type here involved would not arise. This is a question of fact, subject to proof by evidence. Applicants may have recourse to any competent evidence to show this fact with or without having made any deposit. Of course making a certain character of deposit in a stock culture collection prior to filing the application would greatly simplify the problem of proof. Attention may be called to a recent decision of a District Court: *Merck and Co., Inc.* v. *Chase Chemical Co. et al.*, 155 USPQ 139, (D.C., New Jersey, 1967). This suit involved a patent directed to vitamin B$_{12}$ which was produced through the action of a microorganism. This was stated to be the strain of *Streptomyces griseus* which produced the antibiotic *grisein*. The specification was attacked in the suit as allegedly insufficient in accordance with the reasoning involved in *Ex parte Kropp*. The court apparently accepted the decision and after quoting the same passage quoted above, found that the patent was dealing with a known and available organism. There had been a deposit with the stock culture collection of Rutgers University where the microorganism was available and could be obtained by anyone for any purpose, prior to the filing of the application, and the identification of the particular strain had also been published, prior to the filing of the application. These findings were based upon uncontradicted testimony in the case. A second patent involved in the same suit related to the production of vitamin B$_{12}$-active compsitions. The court merely states that the testimony established that microbiologists following the teachings of the specification would be able to produce the particular com-

positions. The specification of the patent indicates that a strain of *Streptomyces griseus* producing the antibiotic *grisein* was used, and also disclosed a number of known species of organisms with a description of how the strains utilized could be produced from them.

Appellants do not in fact show or attempt to show that at the time of filing the application the microorganism used was known and available to the public; it is clear from the record that the deposit was secret or confidential and was not available to anyone without appellants' permission. The statement in the specification referring to the deposit and stating that the organism could be obtained does not state and was not intended to mean that at the time of filing the application the organism could be obtained freely (meaning without appellants' permission or dispensation) by any one or any person skilled in the art.

[9] Apparently appellants seem to consider that they have made the substance deposited elsewhere a part of the disclosure of the application in this case as filed. There is no authority in 35 U.S.C. 112 for anything but a written description as the disclosure in an application for patent, and certainly there is no authority for either the Patent Office or an applicant to modify the requirements of the statute.

It is noted that the particular stock culture collection utilized by appellants is an agency in the Department of Agriculture. In response to a specific inquiry, appellants do not take the position that being a government agency is *per se* material, but that the particular (according to appellants) manner of making deposits in any suitable depository would be sufficient. To contend otherwise would involve considerable anomalies since such collections are maintained by various universities here and abroad and also by agencies of various foreign governments, and no distinction could be made.

[10] Appellants refer to *Ex parte Schmidt-Kastner and Hackmann*, 153 USPQ 473, published after the first two decisions in this case and apparently inconsistent therewith. This decision will not be followed and is over-ruled to the extent that it may have reference to a deposit not publicly available at the time the application is filed, nor do we agree with the analogy in this decision.

Appellants question the use of the word "agent" in the second decision. The word was used only figuratively and had reference to the statement by the depository that it would refrain from distributing the culture (until after a patent was issued) except "upon receipt of written authorization from your company." These depositories are not parts of the Patent Office nor agents of the Patent Office, nor are any of their contents parts of patent applications and could hardly be unilaterally made so by anyone without the consent of the statute.

[11] Claims 4 through 8 stand rejected on the Anzai reference. This rejection was affirmed in the first two decisions but it is evident that the rejection was maintained in the case purely as cumulative. In the prior appeal appellants urged, among other matters, that the reference did not contain a sufficient description of the organism mentioned. In Appeal No. 717—72, in a commonly assigned application, which was heard at the same time as the first hearing in the present appeal, the question involved was the utilization against the applicants of a disclosure in a foreign specification which contained such description of the organism and was otherwise similar to the disclosure in *Ex parte Kropp*. Counsel argued in the brief that such a disclosure is meaningless, "just as meaningless as if a 'philosopher's stone' were recited as usable to make" the antibiotic. In that case the rejection of the Examiner was reversed, predicated upon the insufficiency of the disclosure "in the absence of any evidence of what may have been known or available to the public on the date involved," citing *Ex parte Kropp* and *In re LeGrice*, 49 CCPA 1124, 301 F.2d 929, 1962 CD 707, 785 OG 741, 133 USPQ 365. In view of this, therefore, we believe that the rejection on the Anzai publication should not be pressed and this rejection will not be affirmed.

The rejection of the claims on the ground of insufficient disclosure is affirmed.

AFFIRMED.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,531,374. (See D. 197,670.)

2,581,345. (See D. 197,670.)

2,610,167, T. A. Te Grotenhuis, PIGMENTED SILICONE ELASTOMERS; **2,742,378**, same, FILLERS HAVING VINYL SILOXANE GROUPS BONDED TO THE SURFACE THEREOF AND COPOLYMERS THEREOF WITH ETHYLENICALLY UNSATURATED POLYMERIZABLE MONOMERS; **2,841,566**, same, HIGH POLYMERS WITH CHEMICALLY BONDED REINFORCING AND METHOD OF MAKING SAME, **filed** Oct. 25, 1967, D.C., N.D. Ohio (Cleveland), Doc. C67–775, *Westwood Chemical, Inc.* v. *Union Carbide Corp.*

2,640,249, A. H. Symons, WALL FORM PANEL, **filed** Mar. 31, 1967, D.C., S.D.N.Y., Doc. 67–C–1032, *Symons Mfg. Company* v. *Hico Corporation of America, Inc.* Granting motion to remand to Supreme Court, State of New York, Mar. 23, 1967.

2,660,767. (See 3,154,814.)

2,699,192, P. T. Poutinen, COMBINED KEY AND FLASHLIGHT HOLDER, **filed** Apr. 12, 1967, D.C., S.D.N.Y., Doc. 67–C–1442, *Apex Products Corporation* v. *Equality Plastics, Inc.* Consent judgment, defendants restrained and enjoined, July 7, 1967.

2,708,776. (See 3,154,814.)

2,742,378. (See 2,610,167.)

2,742,462, G. Gever, NEW N-(5-NITRO-2-FURFURYLIDENE)-3-AMINO-2-OXAZOLIDONES, **filed** Aug. 9, 1967, D.C., W.D.N.C. (Charlotte), Doc. 2267, *The Norwich Pharmacal Company* v. *Haskell E. Willingham.* **Same, filed** Aug. 9, 1967, D.C., W.D.N.C. (Charlotte), Doc. 2268, *The Norwich Pharmacal Company* v. *Banner Roller Mills, Inc.* **Same, filed** Aug. 9, 1967, D.C., W.D.N.C. (Charlotte), Doc. 2269, *The Norwich Pharmacal Company* v. *Threadgills Veterinarian Supply, Inc.* **Same, filed** Sept. 11, 1967, D.C., N.D.N.Y. (Utica), Doc. 67–CV–294, *The Norwich Pharmacal Company* v. *A.P.A., Inc. and P.V.U., Inc.* **Same, filed** Oct. 6, 1967, D.C., N.D. Ala. (Birmingham), Doc. No. 67–549–Sou. Div., *The Norwich Pharmacal Company* v. *C. L. Jones, Inc.* **Same, filed** Aug. 9, 1967, D.C., W.D.N.C. (Charlotte), Doc. 2269, *The Norwich Pharmacal Company* v. *Threadgills Veterinarian Supply, Inc.* Defendant has infringed patent, defendant enjoined, Oct. 9, 1967. **Same, filed** Aug. 9, 1967, D.C., W.D.N.C (Charlotte), Doc. 2268, *The Norwich Pharmacal Company* v. *Banner Roller Mills, Inc.* Consent judgment, Oct. 16, 1967. **Same, filed** Oct. 19, 1967, D.C., W.D. Wash. (Tacoma), Doc. 3643, *The Norwich Pharmacal Company* v. *Fors Hatchery & Breeding Farms and Ernest W. Fors.* **Same, filed** Feb. 27, 1967, D.C., W.D.N.Y. (Buffalo), Doc. C–1967–82, *The Norwich Pharmacal Company* v. *P. D. Feeds, Inc.* Consent judgment and decree, Oct. 23, 1967. **Same, filed** Oct. 5, 1966, D.C., W.D.N.Y. (Buffalo), Doc. C–1966–124, *The Norwich Pharmacal Company* v. *Rycam Limited.* Consent judgment and decree, Oct. 23, 1967. **Same, filed** Aug. 22, 1966, D.C., W.D.N.Y. (Buffalo), Doc. C–1966–71, *The Norwich Pharmacal Company* v. *Patrick D. Ryan, doing business as Rycam Limited and Buffalo Merchandise Warehouses, Inc.* Consent judgment and decree, Oct. 23, 1967. **Same, filed** May 2, 1967, D.C., W.D.N.Y. (Buffalo), Doc. C–1967–171, *The Norwich Pharmacal Company* v. *P. D. Feeds, Ltd.* Consent judgment and decree, Oct. 23, 1967.

2,766,498. (See 3,154,814.)

2,775,811, J. G. Wilson, METHODS FOR FORMING CONTACT SURFACES, **filed** Oct. 25, 1967, D.C., N.D. Ohio (Cleveland), Doc. C67–773, *Wilson Welding Co., etc. and James G. Wilson* v. *William Frank Surgeon et al.*

2,823,828, M. A. Frater, NESTING AND STACKING CONTAINERS, **filed** June 27, 1966, D.C. Mass. (Boston), Doc. 66–500–J, *Milton A. Frater and G. B. Lewis Company* v. *Plastex Corporation.* Defendant permanently enjoined, Oct. 25, 1967.

2,841,566. (See 2,610,167.)

2,856,635, Gerson and Bruins, METHOD OF MANUFACTURING PLASTIC SHEET MATERIAL WITH PEARL ESSENCE INCORPORATED THEREIN, **filed** Apr. 26, 1965, D.C., S.D.N.Y., Doc. 65–C–1263, *Patrician Plastic Corp.* v. *Schwanda Plastics, Inc. et ano.* Voluntary dismissal by plaintiff, Oct. 25, 1967.

2,907,407, Engle and Swanton, FILTER CONSTRUCTION; **2,907,408**, same; **3,187,489**, Bauder and Quick, SPACE FILTER, **filed** June 17, 1965, D.C., S.D.N.Y., *Cambridge Filter Corp.* v. *Arco Manufacturing Corp.* Stipulation and order that the only issue remaining to be tried as between parties has now been settled, Oct. 13, 1967.

2,907,408. (See 2,907,407.)

2,926,388, Garbler and Sivelle, MOLD AND FRAME ASSEMBLY, **filed** Nov. 4, 1966, D.C., E.D.N.Y. (Brooklyn), Doc. 66C–1045, *P.M. Sales, Inc.* v. *Uneeda Doll Co., Inc.* Dismissed with prejudice, Oct. 30, 1967.

2,947,107, J. U. Lehn, ANIMAL TRAPS; **3,010,245**, F. R. Conibear, TRAPS, **filed** Oct. 26, 1967, D.C. Minn., 2nd Div., (St. Paul), Doc. 2–67–297C, *Woodstream Corporation* v. *Herter's Inc., and George L. Herter.*

3,010,245. (See 2,947,107.)

3,087,577, M. J. Prestia, CEILING TILE WITH SOUND ATTENUATING AND VISUAL EFFECTS, **filed** Feb. 21, 1967, D.C., S.D.N.Y., Doc. 67–C–736, *Michael J. Prestia* v. *Johns-Manville.* Stipulation and order of dismissal with prejudice, Oct. 19, 1967.

3,093,200, S. H. Raskin, SYSTEM AND METHOD OF WEIGHING COUPLED RAILROAD CARS IN MOTION, **filed** May 13, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c860, *Railroad Machinery Development Corp.* v. *Mangood Corporation.* On motion of parties, complaint and counterclaim is dismissed without prejudice in part and with prejudice in part, Oct. 25, 1967.

3,097,408. (See 2,907,407.)

3,115,305. (See D. 193,884.)

3,126,156. (See D. 193,884.)

3,142,300, O. Erteszek, ELASTICIZED PANTY GIRDLE; **3,142,301**, same, **filed** Oct. 27, 1967, D.C., S.D.N.Y., Doc. 67–C–4181, *Vanity Fair Mills Inc.* v. *Olga Company Inc.*

3,142,301. (See 3,142,300.)

3,147,175, T. Gonzalez, ORNAMENTAL TREE, **filed** Mar. 10, 1967, D.C., S.D. N.Y., Doc. 67–C–1004, *Snow Tree Corporation* v. *Bradford Novelty Company, Inc.* Order of dismissal, Sept. 25, 1967.

3,154,814, L. T. Fike, TIRE CURING APPARATUS; **2,660,767**, J. C. Heintz, SIPING TIRE AND APPARATUS THEREFOR; **2,708,776**, same, CARE BOX FOR PLASTER

OF PARIS MOLDS; **2,766,498**, same, USE OF PLASTER OF PARIS FORMS IN MAKING METAL CASTINGS, **filed** Oct. 25, 1967, D.C., N.D. Ohio (Cleveland), Doc. C67–245, *Super Mold Corp. of California* v. *James C. Heintz Co.*

3,159,346, Caparone and Dykzeul, CONTROL VALVES FOR A DOMESTIC WATER HEATER, **filed** Oct. 25, 1967, D.C., C.D. Calif. (Los Angeles), Doc. 67–1562–R, *Robertshaw Controls Co.* v. *Brannen Pipe & Supply and Emerson Electric Co.*

3,166,430, C. A. Seabright, IRON CERAMIC PIGMENT, **filed** Oct. 27, 1967, D.C., N.D. Ohio (Cleveland), Doc. C67–785, *Kewanee Oil Company* v. *Ferro Corporation.*

3,187,489. (See 2,907,407.)

3,196,497. (See 3,299,681.)

3,227,745, J. D. McClure, THE USE OF A TERTIARY ALKANOL SOLVENT IN THE TERTIARY PHOSPHINE CATALYZED DIMERIZATION OF ALKYL ACRYLATES, **filed** D.C. Nebr. (Omaha), Doc. C02888, *Alvin L. Divoky, doing business as The Ply-L-Vator Company* v. *Bruce F. Miller and The American Plywood Association.*

3,328,064, Whitener and Whitener, CHAIR AND METHOD FOR MAKING SAME, **filed** Oct. 25, 1967, D.C., W.D.N.C. (Statesville), Doc. ST–562, *Sky-Line Furniture of Hickory, Inc.* v. *Patrician Frames, Incorporated.*

D. **193,884**, J. D. Beinert, MOBILE LAWN SPRINKLER; **3,115,305**, I. Rinkewich, OSCILLATING LAWN SPRINKLER; **3,126,156**, I. Rinkewich, TRAVELLING SPRINKLER, **filed** May 6, 1966, D.C., S.D.N.Y., Doc. 66–C–1321, *Melnor Industries Inc. et ano.* v. *First Manufacturing Corp. et ano.* Stipulation and order of discontinuance, Sept. 8, 1967.

D. **197,264**, L. E. Anderson, Sr., ELEVATED STORAGE TANK, **filed** Oct. 12, 1967, U.S. Court of Claims, Doc. 353–67, *Pittsburgh-Des Moines Steel Co.* v. *U.S.A.*

D. **197,670**, Sundberg and Dobson, PHONOGRAPH CABINET; D. **208,501**, C. W. Sundberg, same; **2,531,374**, E. F. Andrews, SELECTOR MECHANISM FOR AUTOMATIC PHONOGRAPHS; **2,581,345**, same, AUTOMATIC PHONOGRAPH, **filed** Oct. 18, 1967, D.C., S.D. Fla. (Miami), Doc. 67–1058–C JE, *The Seeburg Corporation* v. *Taran Enterprises, Inc.*

D. **203,981**, L. L. Krieger, PANTY GIRDLE, **filed** Oct. 30, 1967, D.C., M.D. Ga. (Columbus), Doc. 1243–C, *International Playtex Corporation* v. *Montgomery Ward and Company, Inc.*

D. **208,501.** (See D. 197,670.)

U.S. GOVERNMENT PRINTING OFFICE: O—1968

PLANT PATENTS

GRANTED APRIL 30, 1968

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,809

ROSE PLANT

Eugene S. Boerner, deceased, late of Benton, N.Y., by Lincoln Rochester Trust Company, Rochester, N.Y., and Roger L. Boerner, Milwaukee, Wis., executors, assignors to Jackson & Perkins Company, Newark, N.Y., a corporation of New York

Filed Jan. 11, 1967, Ser. No. 608,708

1 Claim. (Cl. Plt.—24)

1. A new and distinct variety of rose plant of the floribunda class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a flower productivity equal to that of "Golden Garnette," but with the flowers borne on longer cutting stems, a larger flower size than the flowers of "Golden Garnette," with more petals per flower, and a flower color and fragrance similar to "Golden Garnette."

2,810

ROSE PLANT

Reimer Kordes, Barmstedt, near Elmshorn, Germany, assignor to Jackson & Perkins Company, Newark, N.Y., a corporation of New York

Filed Jan. 19, 1967, Ser. No. 610,458

1 Claim. (Cl. Plt.—20)

1. A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a very vigorous plant habit, a flower size larger than that of "Spartan" (U.S. Plant Patent No. 1,357), a quilled form of the outer petals of the flower, and a distinctive and attractive Spectrum Red flower color.

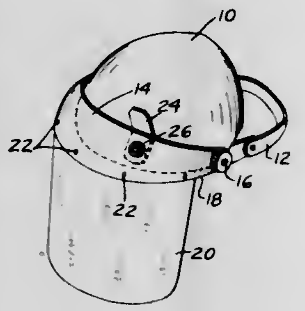
PATENTS

GRANTED APRIL 30, 1968

GENERAL AND MECHANICAL

3,380,073
PROTECTIVE DEVICE SUCH AS WELDER SHIELD

**James T. McLaughlin, 911 E. Kenton St.,
Springfield, Ohio 45505
Filed Dec. 2, 1965, Ser. No. 511,113
5 Claims. (Cl. 2—8)**

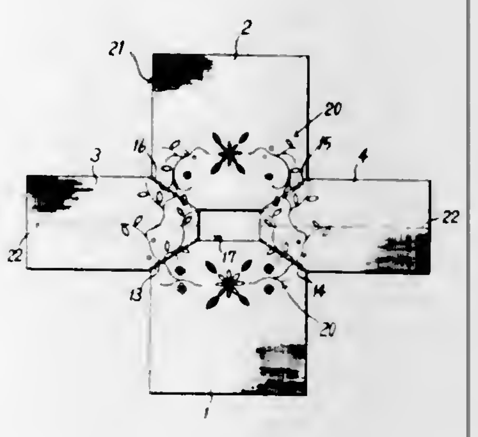


1. A protective device for protecting the face and head of workmen such as, welders and the like comprising; a face shielding portion adapted to be disposed in front of the workman's face and including at least a portion in the region of the workman's eyes through which an arc or the like can be observed, a band adapted to support the device on the workman's head and means pivotally supporting said face shielding portion on said band for tilting movement between lowered face protecting position and tilted up face exposing position, and angular clip means mounted on and projecting outwardly from said face shielding portion at the top edge of said face shielding portion from a point to one side of the center of said face shielding portion, said clip means projecting outwardly from said face shielding portion such a distance as to be readily engageable by the hand of a workman wearing the device upon a sweeping motion of the workman's hand along a path adjacent the device in the lateral region of said clip means whereby the face shielding portion can be moved by the workman from lowered to tilted up position and vice versa without soiling of said face shielding portion.

3,380,074
COAT PRINTED WITH AN ALLOVER PATTERN OF DESIGN AND THE MANUFACTURING PROCESS

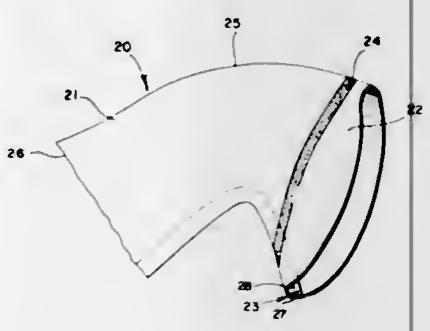
**Tokutaro Muto, Tokyo-to, Japan, assignor to Kosugi Sangyo Company, Limited, Tokyo, Japan
Filed Dec. 28, 1966, Ser. No. 605,288
Claims priority, application Japan, Sept. 14, 1966, 41/60,333
2 Claims. (Cl. 2—93)**

1. A coat fabricated by preparing two pieces of material for the body each produced by cutting the corners at both ends of a rectangular blank of fabric into two oblique edges, and two pieces of sleeve material, each produced by cutting the corners at both ends of a shorter side of a rectangular blank of fabric into two oblique edges, combining said four pieces of material symmetrically with the oblique edges directed inward, sewing up the oblique edges so as to form a half-made coat having a neck opening at its center, expanding the semitailored coat over a printing board, printing a pattern of design on the expanded half-made coat so that the pattern of design is continuous at the seams of the armholes and the shoulders, folding the printed half-made coat in two along the center line of the expanded sleeves, and sewing up the side edges of the overlapping front and back body portions and the meeting edges of the sleeves.



3,380,075
ADAPTABLE GARMENT ACCESSORY

**Barbara K. Marthinsson, Box 416, Aspen, Colo. 81611, now by change of name Barbara K. McLoughlin
Filed Apr. 11, 1966, Ser. No. 541,557
14 Claims. (Cl. 2—126)**

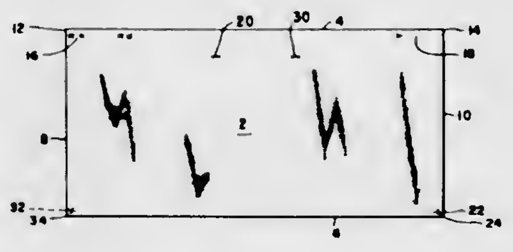


A tubular interchangeable accessory such as a sleeve or collar for attachment to a basic garment. Interchangeability is provided by permitting circumferential adjustment of the element and by providing an in-place attachment arrangement permitting attachment of the accessory to a garment regardless of the position of the accessory relative to the garment.

3,380,076
SCARF

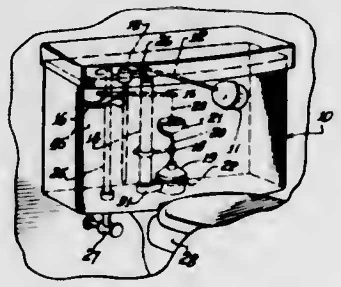
**Mildred M. Held, 8615 Lynbrook Drive,
Bethesda, Md. 20014
Filed Oct. 11, 1966, Ser. No. 585,807
2 Claims. (Cl. 2—207)**

A rectangular scarf to be worn about the head having cooperating fasteners at the opposite ends of one edge so that such edge may be drawn closely about the head and the fasteners connected at the back of the neck, and having at least one additional pair of co-operating fasteners, one of which is attached to a free corner of the scarf when it is about the head and the other of which is attached to the outer surface of the scarf adjacent the top of the head when the scarf is worn.



3,380,077
DOUBLE FLUSHING VALVE

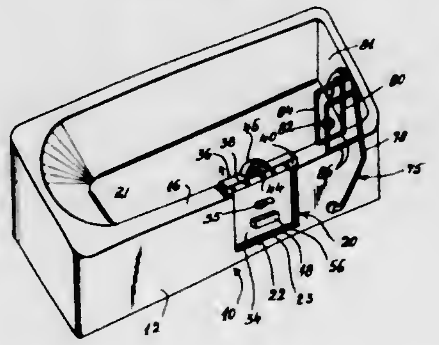
**Ogden H. Armstrong, 633 S. Indian Hill Blvd.,
Claremont, Calif. 91711
Filed Oct. 5, 1965, Ser. No. 493,030
15 Claims. (Cl. 4—67)**



A water saving dual action flushing valve for toilet flushing tanks, which provides a two-stage discharge action whereby normal action on a flushing lever produces a partial discharge of water and a further or harder action produces a full water discharge.

3,380,078
BATHTUB WITH SLIDING DOOR CLOSURE

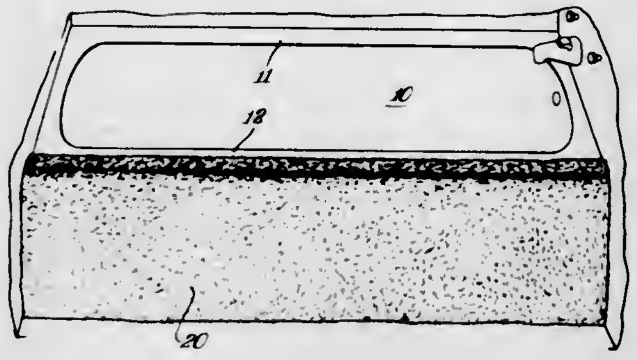
**Adelheid Hanson, 12914 NW. 7th Ave.,
North Miami, Fla. 33168
Filed Feb. 23, 1966, Ser. No. 529,527
10 Claims. (Cl. 4—173)**



1. In a bathtub having a lateral wall opening and a sliding door closure for said opening, the combination comprising a U-shaped frame disposed vertically in said opening, said frame having outer vertical opposing rails, and an inner rail, said inner rail being generally T-shaped in cross section with a head having edges extending toward the outer rails respectively to define two partially closed grooves, and a generally rectangular door having spaced diverging opposing panels, said panels having edges thereof disposed in said grooves respectively, resilient gaskets mounted on the panels respectively and extending inwardly toward respective edges of the rail head for engaging the same in liquid-tight sealing relationship, and a mechanism for drawing the panels toward each other in parallel relation for engaging the gaskets at the respective edges of the rail head.

3,380,079
BATHTUB COVER

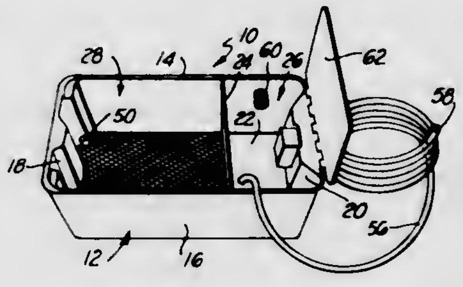
**Seymour S. Dolnick, Milwaukee, Wis., assignor to Glen Mfg. Inc., a corporation of Wisconsin
Filed July 13, 1966, Ser. No. 564,869
1 Claim. (Cl. 4—173)**



This invention provides a cover of fabric for covering the outer exposed side of a bathtub together with means for removably securing the cover to the side of the bathtub so that the same may be removed for laundering and the like.

3,380,080
FOOT BATH

**Basil M. Farrell, Newport Beach, Calif., assignor to Marilyn Derigo, Newport Beach, Calif.
Filed Nov. 22, 1965, Ser. No. 509,134
6 Claims. (Cl. 4—182)**



1. A foot bath, said foot bath comprising:

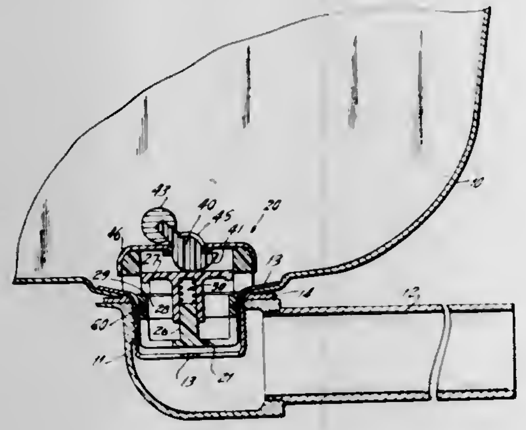
a receptacle, said receptacle having sides, ends and a bottom to form a water-tight, open top receptacle, a dividing wall extending from one of said sides to another of said sides and adjoining the bottom of said receptacle to divide said receptacle into a storage compartment and a foot bathing compartment;

a pump secured to said receptacle, said pump having a suction and a discharge, said discharge being connected through a discharge conduit to a nozzle, said suction being positioned adjacent the bottom of said foot bathing compartment, said nozzle being directed into said foot bathing compartment above the bottom thereof, a filling and drain line connected to said discharge conduit, said filling and drain line extending into said storage compartment, a flexible hose connected to said filling and drain line, said flexible hose being storable within said storage compartment, means in said storage compartment associated with said hose to close said hose when said hose is in said storage compartment;

at least one heater associated with said receptacle, said heater being adapted to heat water within said foot bathing compartment so that when water is placed in said foot bathing compartment it is turbulently circulated by said pump and is warmed by said heater.

3,380,081
DRAIN STOPPER

Donald H. Eilertson, Huntington, and Richard A. Mason, Orange, Conn., assignors to National Distillers & Chemical Corporation, New York, N.Y., a corporation of Virginia
Filed Feb. 21, 1966, Ser. No. 528,948
5 Claims. (Cl. 4—295)

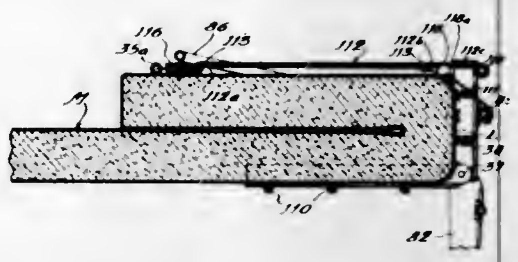


1. A drain stopper for removable connection to a drain comprising a drain core having a lower body portion having first passages therethrough, an upper head portion, a valve seat portion disposed between said lower body portion and said upper head portion, second passages extending through said drain core above said valve seat, a valve guide pedestal extending upwardly from said lower body portion, and sealing ring means extending around the outer periphery of said lower body portion for removably sealing said drain stopper in a drain with said first passages below said sealing ring and said second passages above said sealing ring; a valve member fitted over said pedestal and guided by said pedestal for translatory movement into and out of sealing engagement with said valve seat thereby to open and close communication between said first and second passages; a drain cap connected to and extending across the top of said upper head portion; and a rotatable operating handle pivotally connected to said upper head portion; said rotatable operating handle having an external portion extending beyond said drain cap to be accessible for manual operation and an internal portion connected to said valve member for moving said valve member between its said open and closed positions responsive to rotation of said operating handle.

3,380,082
SOFA BED WITH IMPROVED SEAT DECK STRUCTURE

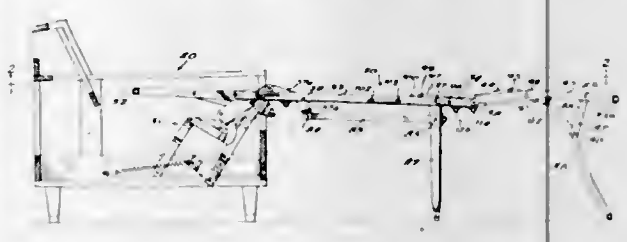
Aloysius J. Mikos, Skokie, Ill., assignor to The Seng Company, a corporation of Delaware
Original application June 6, 1966, Ser. No. 555,599. Divided and this application Mar. 7, 1967, Ser. No. 621,214
7 Claims. (Cl. 5—12)

A four section foldable sofa bed of the type wherein the outer bed section is folded over the inner bed section in substantial parallelism therewith in the retracted position of the sofa bed, with a hinge or intermediate bed section being disposed generally vertically between the inner and outer bed sections at the forward ends thereof; and with a head bed section extending generally upwardly from the rearward end of the inner bed section. A cushion supporting member is connected to the outer bed section by a plurality of helical springs at one end and the opposite end of the cushion supporting member is connected to the intermediate bed section by a plurality of thin, flat, spring bands. Only the forward and rearward ends of the cushion supporting member are connected to the sides of the outer bed section, so that a soft feel is retained at the side edges of the sofa.



3,380,083
SOFA BED WITH LEG ACTUATED SECTION LOCKING MEANS

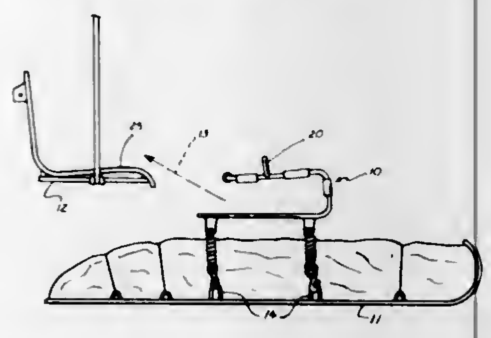
Aloysius J. Mikos, Skokie, Ill., assignor to The Seng Company, a corporation of Delaware
Original application June 6, 1966, Ser. No. 555,599. Divided and this application Mar. 7, 1967, Ser. No. 621,215
4 Claims. (Cl. 5—13)



A four section foldable sofa bed of the type wherein the outer bed section is supported by a downwardly extending leg in the bed position, and wherein the bed sections are movable to an intermediate position in which the outer bed section is positioned over the inner bed section in substantial parallelism therewith, with the supporting leg being movable to a locking position to actuate mechanism for positively preventing movement of the outer bed section relative to the inner bed section when the bed sections are moved to the sofa position.

3,380,084
SKI RESCUE SLED LIFT DEVICE

Phillip D. Savage, Malone, N.Y., assignor to Hall Ski-Lift Company, Inc., Watertown, N.Y., a corporation of New York
Filed Nov. 21, 1966, Ser. No. 595,720
3 Claims. (Cl. 5—81)

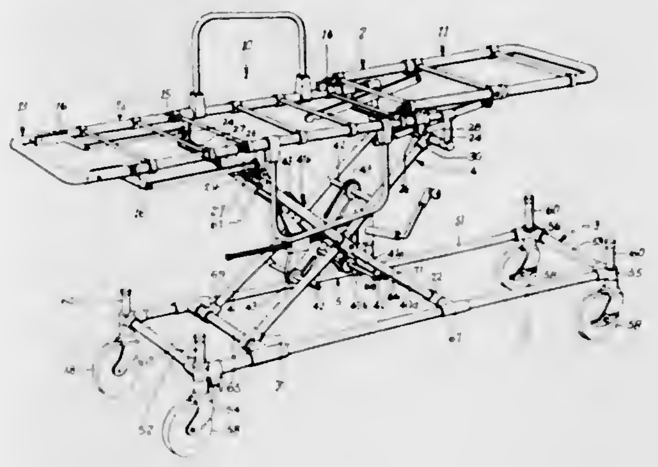


A rigid framework from which a ski rescue sled may be suspended and having a handle, rearwardly projecting legs adapted to rest on the seat of a chair lift, and rearwardly projecting legs below the other legs from which pendant securing means extend to the sled. The pendant

means include spring means and the portions in contact with the chair seat are padded and are curved to fit the curvature of the chair seat.

3,380,085
MULTI-PURPOSE STRETCHER CHAIR

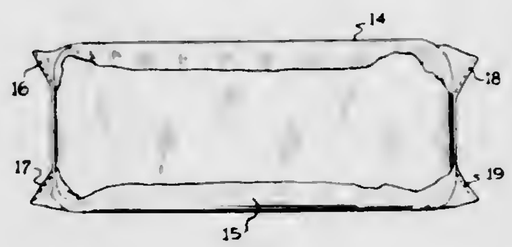
Richard H. Ferneau and George A. Selig, Washington Court House, Ohio, assignors to Ferno-Washington Inc., Greenfield, Ohio, a corporation of Ohio
Filed Oct. 24, 1966, Ser. No. 589,044
8 Claims. (Cl. 5—86)



A multi-purpose stretcher chair construction wherein an elongated body supporting frame is adapted to be raised and lowered relative to an undercarriage mounted on wheels, the body supporting frame being connected to the undercarriage by means of coacting pairs of cross-forming frame members which are pivotally connected at their upper ends to the body supporting frame and pivotally and slidably connected to the undercarriage, the cross-forming frame members being movable relative to each other by means of an elevating mechanism comprising a screw shaft, a pair of housings on the screw shaft one of which is axially movable relative to the shaft and the other is fixed against axial movement, there being elongated cam tracks extending diagonally outwardly from the housings engaged by cam rollers mounted on cross members extending between the cross-forming frame members, one of the housings additionally mounting a brake means acting to automatically resist rotating movement of the screw shaft in one direction while permitting free movement thereof in the opposite direction.

3,380,086
CELLULOSIC PRODUCT

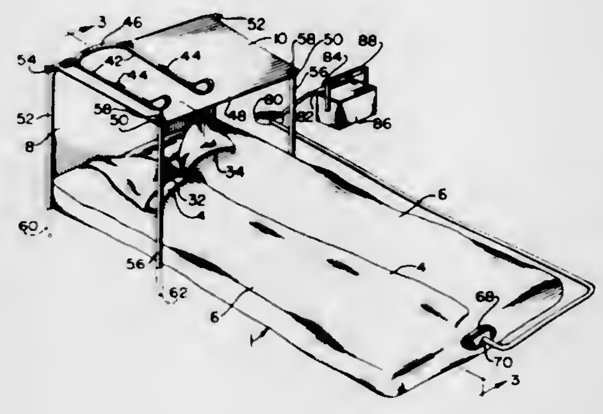
Marion A. McCurry, Appleton, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Apr. 1, 1966, Ser. No. 539,521
2 Claims. (Cl. 5—334)



A bassinet pad cover of paperlike material and comprising a main rectangular body portion of greater length than width and two rectangular pocket forming portions extending longitudinally of the main body portion and folded underneath the main body portion at side edges of the main body portion, with edges of said pocket forming portions and the end edges of said main body portion being co-incident and the portions being bonded together by means of adhesive lines extending along said last mentioned edges.

3,380,087
ELECTRICALLY HEATED SLEEPING BAG

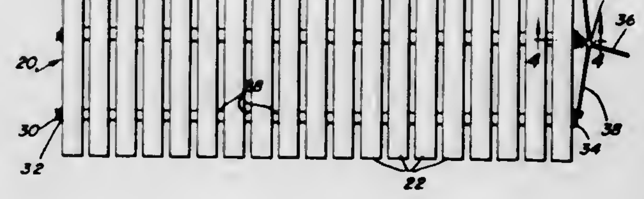
Frances M. Petty, Wichita Falls, Tex. (3608 Meadowbrook, Fort Worth, Tex. 76103), and Wayland D. Keith, 2208 Piedmont, Wichita Falls, Tex. 76308
Filed Aug. 30, 1965, Ser. No. 483,716
3 Claims. (Cl. 5—343)



An electrically heated sleeping bag with thermo-controls to enable the temperature to be maintained within certain limits. A selector switch enables the use of one or two circuits separately or both circuits at the same time to give three independent heat ranges. Provision is made for the utilization of a portable source of electricity, such as a battery. Further provision is made for encasing the heating and insulation elements within a weather-proof covering which is provided with a substantially weather-tight slide fastener to enable the closing of the sleeping bag along a side thereof, a special arrangement of paralleling the heating element conductors within the sleeping bag enables the maximum stretch of the elements to be had and allows for rough usage without breaking the heating elements.

3,380,088
COMBINATION FLOATING MATTRESS AND BEACH PAD

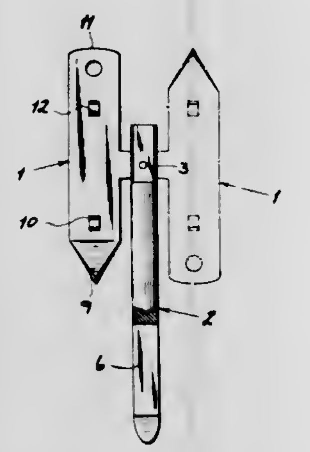
Pierre Y. d'Adesky, 11340 SW. 60th Court, Miami, Fla. 33156
Filed Mar. 9, 1966, Ser. No. 533,047
2 Claims. (Cl. 5—344)



A float for supporting a person on a body of water including a set of flexible, resilient floating blocks constructed of mono-cellular foam plastic and arranged in a parallel relation. The blocks are maintained in this parallel relation by means of plastic cords passing through the central portion of each block and terminating on the float ends by knots. The blocks are maintained in a spaced relation by utilizing washers fabricated from a foam plastic material similar to that of the float, the washers being positioned on the cord inbetween adjacent blocks. The floating structure enables the float to conform to the contours of a person floating thereon as well as enabling a user to roll the float into a compact spiral package.

3,380,089
COMBINATION KITCHEN TOOL

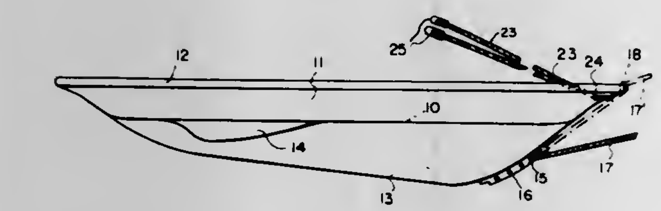
Albert Schober, 40 Irving Ave.,
Brooklyn, N.Y. 11237
Filed May 18, 1967, Ser. No. 639,413
3 Claims. (Cl. 7—14.2)



A combination kitchen tool consisting essentially of a long stem slitted at one end for the opening of sardine cans or the like and a generally flat implement with can-opening and/or bottle-opening formations pivotally secured to the other end of the stem as a handle therefore, the pivotal axis being perpendicular to the flat sides of the implement to enable the latter to be swung into a position alongside the stem in which the stem is manipulable to exert leverage on the implement for rotation thereof in a plane perpendicular to the pivotal axis.

3,380,090
WATER SLED

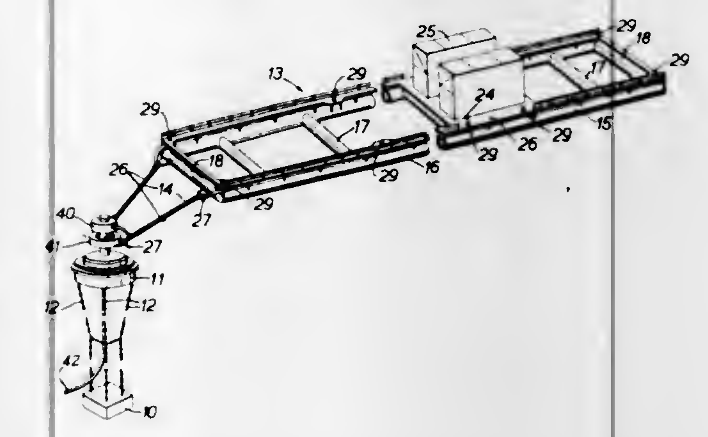
Lester P. Kenmuir, P.O. Box 115,
Salem, Ohio 44460
Filed May 27, 1966, Ser. No. 553,540
2 Claims. (Cl. 9—6)



Disclosed in the following specification is a water sled which is intended to be towed behind a powerboat. The hull portion of the sled is preferably formed of a single sheet of thermoplastic material by a vacuum molding process. This hull portion is formed with a V-shaped keel which is deepest toward the front of the sled and tapers upwardly toward the rear, and with a pair of V-shaped fins spaced from the keel at the rear of the sled. A floor, also of thermoplastic material, is sealed to the hull portion creating voids between itself and the keel and between itself and the fins. A mounting bar for securing a towrope is provided at the forward end of the keel and a notch is provided in the forward end of the sled for holding the towrope when it is desired to tow the sled without planing.

3,380,091
SINGLE POINT MOORING ARRANGEMENT FOR TANK SHIPS

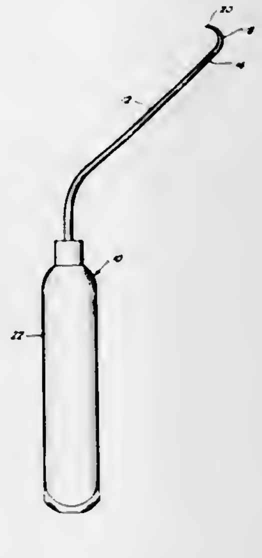
Brendan Francis Saurin, Ilford, and James N. McFeeters, Barnet, England, assignors to The British Petroleum Company Limited, London, England
Filed Jan. 10, 1966, Ser. No. 519,477
Claims priority, application Great Britain, Jan. 12, 1965, 1,338/65
5 Claims. (Cl. 9—8)



A single point mooring arrangement for ships is provided in which a buoy is moored to the sea bed and in which a floating jetty is provided and includes means for attaching the mooring ropes of a ship, and means for attaching the jetty to the buoy. The means for attaching the jetty to the buoy are such that the jetty may both move around the buoy in a horizontal plane and may also move in a vertical plane so as to accommodate the relative motion of the buoy and the jetty caused by tide and wave action.

3,380,092
TOOL AND METHOD FOR REMOVING INSOLES

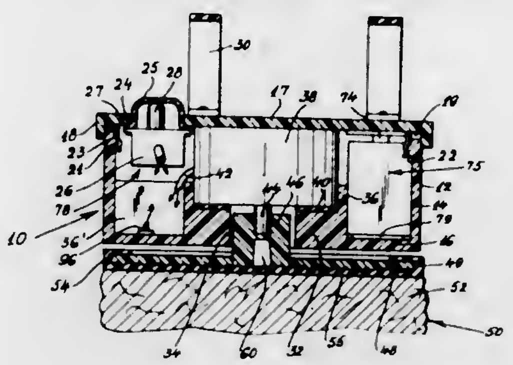
Edward S. Golczynski, 1030 Acacia, Apt. H-2, Anaheim, Calif. 92805
Filed June 20, 1966, Ser. No. 558,903
9 Claims. (Cl. 12—142)



Disclosed herein is a method and tool for removing insoles from shoes. The tool has a shank carrying a sharp point at one end and a handle at the other end. The point can be formed as a stamping from the shank or a separate element secured to the shank. The handle extends at such an angle from the shank to permit the handle to extend from the open heel area of a shoe when the point engages the front toe portions of an insole.

3,380,093
BATTERY-POWERED SCOURING APPLIANCE

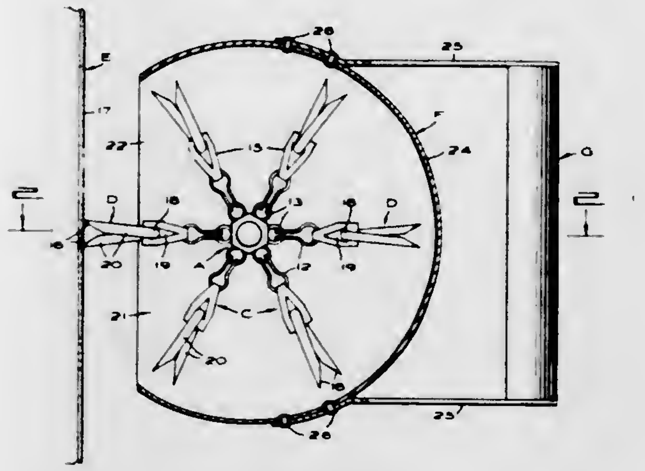
Mary E. Hill, Bronx, N.Y., assignor of one-half to Lucinda Carter, Jamaica, N.Y.
Filed Mar. 24, 1966, Ser. No. 537,123
6 Claims. (Cl. 15—23)



Motorized appliance for securing pots, pans and other utensils that can be held in the user's hand, which appliance is entirely self-contained and not connected to any external power source. The appliance has a shallow hollow cylindrical housing with a battery-operated motor therein. The housing has a circular bottom wall mounting an external disk for supporting a scouring member. The disk is operatively connected to the motor and is driven thereby. Switch means are provided for controlling the motor.

3,380,094
ROTARY PAINT CHIPPER

Bill H. Comstock, 260 La Cruz Ave.,
Millbrae, Calif. 94030
Filed Sept. 30, 1965, Ser. No. 491,726
2 Claims. (Cl. 15—93)

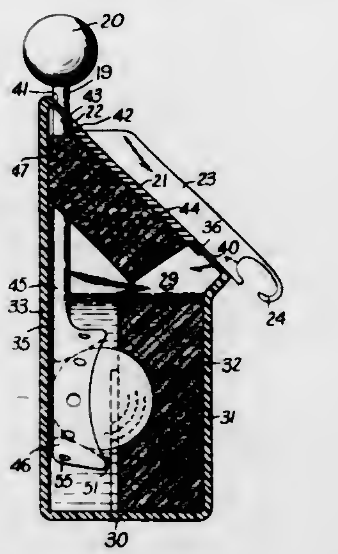


A rotary paint chipper having a power driven mandrel to which inner links of a plurality of chains are anchored, each chain providing an outer link having a striker swingably secured thereto, and each striker being defined by a staple having legs crossing one another so as to preclude accidental disengagement of the staple from its outer link, the ends of the legs beyond the crossing thereof being pointed and spaced from one another and facing outwardly to contact with a surface to be cleaned.

3,380,095
GOLF BALL WASHER

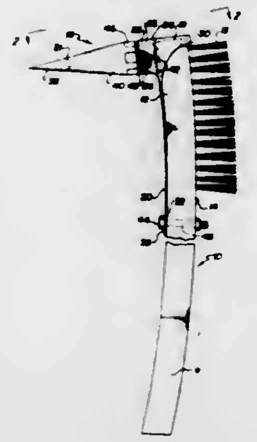
John C. Piper, Jr., Decatur, Ill., assignor of fifty-one percent to Day E. Brown, Decatur, Ill.
Filed July 8, 1966, Ser. No. 563,733
9 Claims. (Cl. 15—97)

A portable golf ball washer composed of a liquid holding container and a hand actuated reciprocater plunger having a golf ball holder mounted to that end of the plunger which passes through the top of the container and between the inner front and rear wall of the container. The inner front wall is adapted with a sponge-like material while the inner rear wall is adapted with a traction producing material. As the plunger is reciprocated the golf ball is in tangential rolling contact with the traction material and in washing contact with the sponge-like material.



3,380,096
WELDER'S CHIPPING AND CLEANING TOOL

Frederick T. Marston, 223 Therrien St., Maillardville, New Westminster, British Columbia, Canada
Filed Aug. 1, 1966, Ser. No. 569,508
1 Claim. (Cl. 15—105)

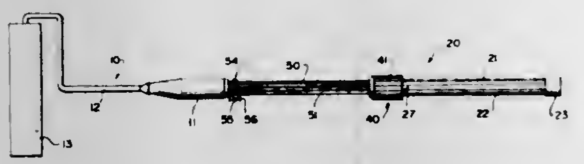


Welder's chipping and cleaning tool having a chipping attachment detachably connectable to a brush handle, the chipping attachment being provided with a socket into which the brush handle fittedly extends.

3,380,097
EXTENSION HANDLE FOR PAINT ROLLER

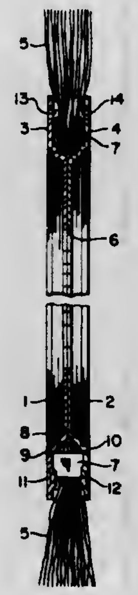
John A. Pharris, Milwaukee, Wis., assignor to E Z Paintr Corporation, a corporation of Delaware
Continuation-in-part of application Ser. No. 500,744, Oct. 22, 1965. This application July 24, 1967, Ser. No. 659,283
15 Claims. (Cl. 15—145)

An extension handle for a tool, such as a paint roller or the like, wherein a second handle member is telescopically movable relative to a first handle member and is positively lockable at desired positions of extension relative to the first member. The locking means includes a first sleeve held against rotational and axial movement relative to the first member and having a plurality of radially inwardly compressive gripping fingers that are moved into clamping engagement with the second member when a second sleeve is threaded onto the first sleeve to move a surface on the second sleeve into engagement with camming surfaces on the gripping fingers.



3,380,098
BRUSH

Brooks E. Nelson, Chagrin Falls, Ohio, assignor to The Osborn Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Original application Jan. 11, 1965, Ser. No. 424,542, now Patent No. 3,312,993, dated Apr. 11, 1967. Divided and this application Oct. 11, 1966, Ser. No. 585,842
4 Claims. (Cl. 15—179)

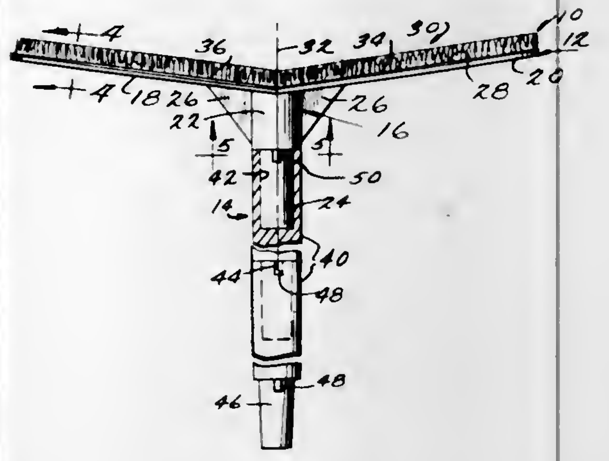


A rotary brush having a circular sheet metal channel back and bundles of brush material retained therein and extending radially outwardly therefrom, and a band around the inner end portion of each bundle also engaging such back to assist in retaining the bundles in the channel.

3,380,099
FLUORESCENT FIXTURE CLEANING DEVICE

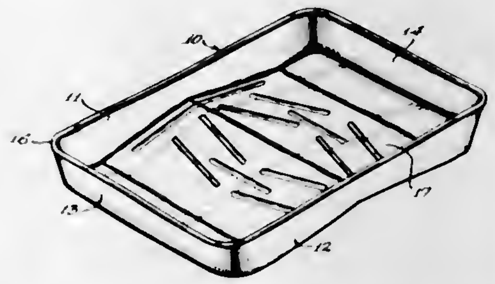
Joe B. Hunt and Nina E. Hunt, Scottsdale, Ariz., assignors to James Douglas, Scottsdale, Ariz., Hugh Douglas, Atherton, Calif., and John C. Robinson, Seattle, Wash.
Filed Oct. 23, 1965, Ser. No. 502,933
6 Claims. (Cl. 15—210)

The width of the arms and base portion of the cleaning head is of a size to pass upwardly in parallel relation between a pair of fluorescent tubes of a fixture into a first position with respect to the fixture and the combined thickness of the arms and cleaning pad is of a size to pass between the horizontal reflector tube surface and of the fixture in response to a 90° pivotal movement of the head about the axis of the handle from the first position into a second position. The outwardly diverging extent and stiff flexibility of the arms are such as to enable the cleaning pad to engage and clean the area of the horizontal reflector surface above and between the pair of tubes in response to a combined upward force and horizontal movement of the handle in a direction parallel to the tubes when the cleaning head is in its second position.



3,380,100
PAINT TRAY

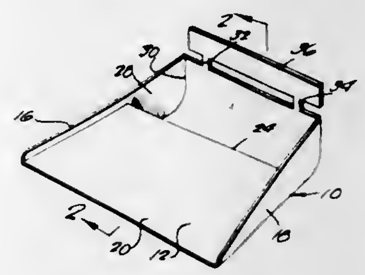
John A. Pharris and Erik Henningsen, Milwaukee, Wis., assignors to E Z Paintr Corporation, a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 500,759
2 Claims. (Cl. 15—257.06)



A one piece paint tray for use with a paint roller including a bottom wall having an inverted V-shaped central portion with a rectangular surface at each end of said portion for supporting the tray. An upstanding side wall extends around the periphery of the bottom wall whereby spaced and separate paint reservoirs are provided at each end of the tray, with the central portion of the bottom wall defining roll-out areas adjacent each of the paint reservoirs.

3,380,101
CLEANUP PAN

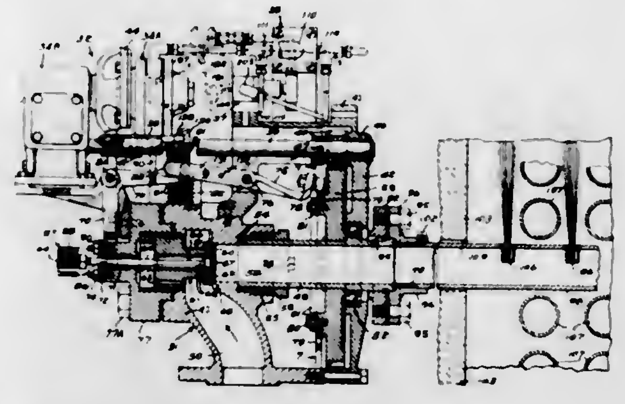
Thomas Chandler Phillips, 343 S. Jameson Ave., Lima, Ohio 45805
Filed Oct. 13, 1966, Ser. No. 586,433
1 Claim. (Cl. 15—257.1)



A cleanup pan made of stamped metal or plastic material having a depression that will hold trash or the like including a plastic edge forming a scraper which may be easily broken off from the receptacle to scrap spillage into the cavity or receptacle formed in the cleanup pan.

3,380,102
ROTARY SOOT BLOWER

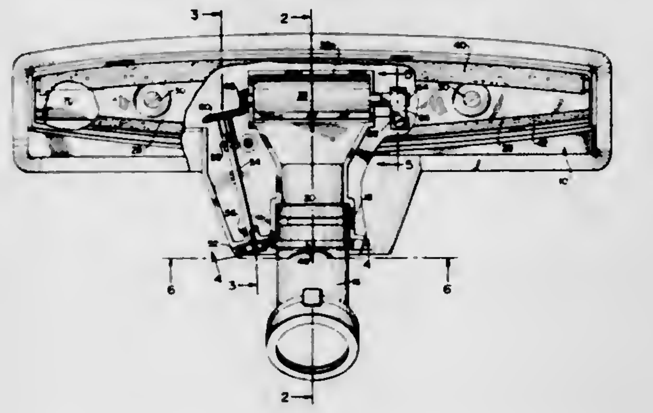
Burford L. Johnson, East Orange, and Robert P. Gillette, Dover, N.J., assignors to Foster Wheeler Corporation, Livingston, N.J., a corporation of New York
Filed Sept. 30, 1964, Ser. No. 400,533
18 Claims. (Cl. 15—318)



6. A soot blower comprising:
a housing defining an inlet passageway with an inner end and an outer end and defining a valve chamber with a valve seat therein located in communication with the inner end of said inlet passageway and further defining an outlet from said valve chamber;
a rotatable supply tube rotatably mounted at the outlet of said valve chamber and in communication therewith;
a valve plug having a seat face and a stem face slidably fitted within said valve chamber and adapted to press said seat face against said valve seat, said valve plug having an opening therein extending from said stem face to said seat face and with an inner valve seat within said opening located at said seat face and said valve plug having a bleeder passage therein extending from said stem face to a point on said valve plug continuously in communication with said inlet passageway;
a valve stem slidably fitted through said opening in said valve plug and adapted to seat at one end against said inner seat with the opposite end extending through said housing, said valve stem and opening being jointly adapted to permit communication through said valve plug when said valve stem is only slightly withdrawn from said inner valve seat;
a drive shaft rotatably mounted on said housing;
a pinion rigidly secured to said drive shaft;
a gear rigidly secured to said rotatable supply tube, said pinion and said gear being operatively associated with one another;
means for supplying rotating motion to said drive shaft;
a valve cam fixedly mounted on said gear so as to rotate as said gear rotates, said valve cam having a periphery with a rise and fall therein;
a valve cam follower means in the form of a relatively straight member pivotably mounted on said housing, said cam follower assembly means having a valve cam wheel at one end and a yoke wheel at the other end, said valve cam wheel being associated with the periphery of said valve cam;
a yoke assembly means in the form of an L-shaped member pivotably mounted on said housing and connected at one end to said valve stem while pressing at the other end against said yoke wheel on said valve cam follower means, said yoke assembly means having a plurality of extensions connected to it; and
spring means located between said housing and said plurality of extensions to force said yoke assembly means upward against said valve cam follower arm means and said valve cam follower arm means against said valve cam.

3,380,103
DUPLEX VACUUM CLEANER NOZZLE

William P. Ritzau, Darien, Conn., assignor to Electrolux Corporation, Old Greenwich, Conn., a corporation of Delaware
Filed July 6, 1966, Ser. No. 563,192
8 Claims. (Cl. 15—417)



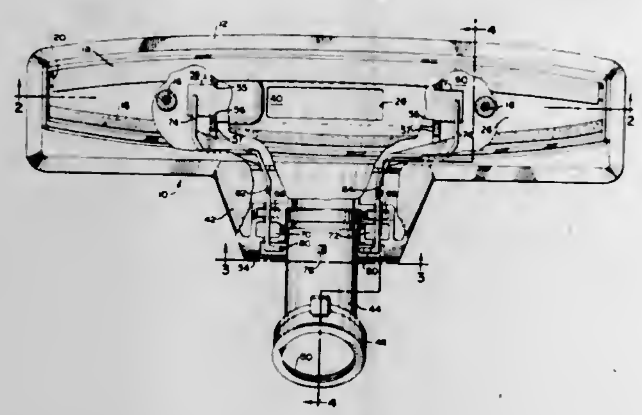
1. A duplex suction nozzle, a nozzle body including first and second dissimilar floor cleaning surfaces situated in back-to-back relation and a third surface extending from the first cleaning surface to the second cleaning surface, said nozzle body having a plenum chamber therewithin and first and second inlet openings in the first and second floor cleaning surfaces, respectively, for admitting dirt to the plenum chamber, said nozzle body having an exhaust opening in the third surface for discharging dirt from the plenum chamber, a conduit having an end thereof coupled to the nozzle body at the exhaust opening thereof, said nozzle body being rotatable about the end of the conduit to selectively position either of the floor cleaning surfaces in facing relation to the floor, said conduit having at least one tooth projecting from the periphery thereof, a valve disposed in the plenum chamber, and gear means coupled to the valve and engageable by said tooth after the nozzle body has been rotated approximately 90° about the conduit to shift the valve dudring a further 90° rotation of the nozzle body about the conduit whereby the valve opens the inlet opening in the floor cleaning surface facing the floor while, simultaneously, closing the inlet opening in the floor cleaning surface which does not face the floor.

3,380,104
DUPLEX VACUUM CLEANER NOZZLE

William P. Ritzau, Darien, Conn., and Robert A. Budington III, Montclair, N.J., assignors to Electrolux Corporation, Old Greenwich, Conn., a corporation of Delaware
Filed July 11, 1966, Ser. No. 564,222
10 Claims. (Cl. 15—417)

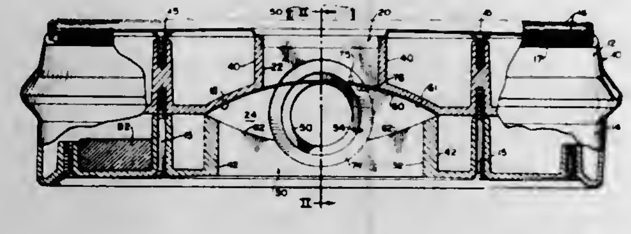
1. In a duplex vacuum cleaner tool which includes a suction tube, a body rotatably mounted on said suction tube and having a pair of opposed cleaning sides which are brought to a cleaning position alternately by rotating said body one-half revolution on said suction tube, said body having suction passages extending inwardly therein from each of said cleaning sides and terminating at a central cavity within the body, said central cavity communicating with said suction tube, a leaf spring valve member supported in said body and normally positioned therein in a closure position closing off the body suction passage associated with the cleaning side which is in a non-cleaning position thereby to block communication of said one body passage with said central cavity, tooth means fixed with respect to said suction tube, a member movable to shift said leaf spring valve member, and tooth means on said movable member and engageable with the first-

mentioned tooth means upon completion of rotation of said body through approximately 90° with respect to said tube to impart motion to said movable member to thereby shift the positioning of said leaf spring valve member to a closure position closing off the other body suction passage.



3,380,105
DUPLEX VACUUM CLEANER NOZZLE

Michael E. Belicka, Greenwich, Conn., assignor to Electrolux Corporation, Old Greenwich, Conn., a corporation of Delaware
Filed June 21, 1966, Ser. No. 564,465
9 Claims. (Cl. 15—417)

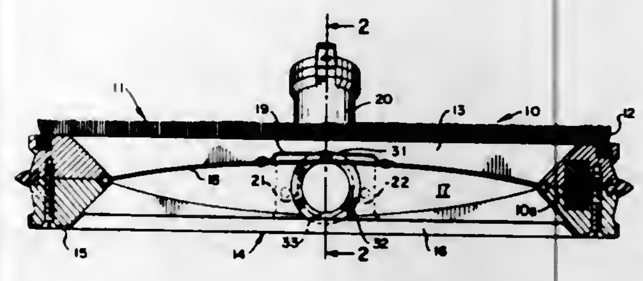


1. In a vacuum cleaner tool which includes a suction tube, a body rotatably connected to said suction tube and having a pair of opposed cleaning sides which are brought to a cleaning position alternately by rotating said body one-half revolution, said body having passages extending inwardly therein from each of said cleaning sides and terminating at a central cavity within the body, said central cavity communicating with said suction tube, and a flexible valve member comprising a snap action leaf spring supported in said body arcuately biased in one direction with a portion thereof extending across the body passage associated with the cleaning side which is in a non-cleaning position thereby to block communication of said one body passage with said central cavity, valve actuator means connectable with said suction tube and engaging said valve member, said valve actuator means being operative by rotation of said body to distort said leaf spring to thereby arcuately bias said leaf spring in an opposite direction and cause a portion thereof to extend across and close said other passage.

3,380,106
DUAL PURPOSE FLOOR CLEANING TOOL

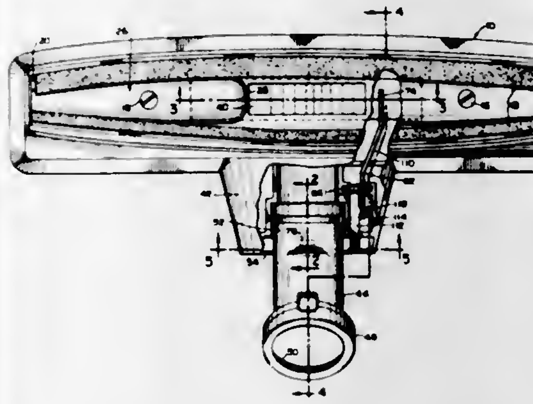
Raymond Descarries, Montreal, Quebec, Canada, assignor to Electrolux Corporation, Old Greenwich, Conn., a corporation of Delaware
Filed Aug. 11, 1966, Ser. No. 571,764
4 Claims. (Cl. 15—417)

1. A dual purpose cleaning tool for a vacuum cleaner comprising an elongated hollow nozzle body having distinct cleaning surfaces on opposite sides of said body and a pair of apertures extending through said cleaning surfaces and opening into the interior of said body, elbow means pivotally connected with said body for connecting the interior of said body with a vacuum cleaner, blade valve means connected with said body, said blade valve means having a first position closing one of said apertures and a second position closing the other of said apertures whereby only the aperture postioned for cleaning is in communication with said elbow, and means for moving said valve from said first position into said second position; said last named means including a stirrup carried by said blade valve and spaced therefrom, and an actuating sleeve coaxial with said elbow, lost motion means for coupling said elbow and said actuating sleeve, and a lever connected with said sleeve and projecting into the space between said blade valve and associated stirrup.



3,380,107
DUPLEX VACUUM FLOOR CLEANING TOOL

William P. Ritzau, Darien, Conn., and Ronald Danks, Santa Clara, Calif., assignors to Electrolux Corporation, Old Greenwich, Conn., a corporation of Delaware
Filed Aug. 29, 1966, Ser. No. 575,788
8 Claims. (Cl. 15—417)

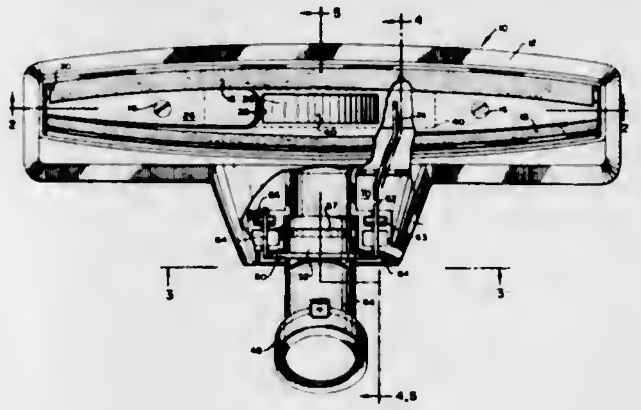


1. In a duplex vacuum floor cleaner tool which includes an elbow, a nozzle body rotatably connected to said elbow and having a pair of opposed cleaning sides which are brought to a cleaning position alternately by rotating said body one-half revolution on said elbow, said body having a pair of apertures opening within said body for communicating each of said cleaning sides and a central cavity within the body, said central cavity communicating with said elbow, and a valve member supported in said body and normally positioned therein in a position closing off the one of said pair of apertures associated with the said cleaning side which is in a non-cleaning position thereby to block communication of the said one aperture with said central cavity; valve positioning means comprising a projection fixed to said elbow, and a valve actuating assembly supported in said body for movement between two positions corresponding to the closure positions of said valve member and having a part operatively coupled with said valve member, said valve actuating assembly having another part which is engaged by said projection when said body and suction tube are rotated relative to each other a distance in excess of a predetermined magnitude thereby moving said valve actuating assembly from one to the other of its two positions and shifting the position of said valve member to the corresponding closure

position, said other part of the valve actuating assembly comprising a resilient element having resistance to flexure during movement of said valve actuating assembly between said two positions, but which flexes under the force of continued relative rotation of said body and elbow beyond said predetermined magnitude for disengaging said projection from said other part of the valve actuating assembly.

3,380,108
DUPLEX VACUUM CLEANER TOOL

Oliver L. Allen and John J. Kowalewski, Riverside, and William P. Ritzau, Darien, Conn., assignors to Electrolux Corporation, Old Greenwich, Conn., a corporation of Delaware
Filed Aug. 29, 1966, Ser. No. 575,789
8 Claims. (Cl. 15—417)

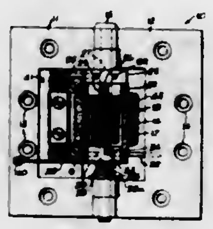


1. In a duplex vacuum cleaner tool which includes a suction tube, a body rotatably connected to said suction tube and having a pair of opposed cleaning sides which are brought to a cleaning position alternately by rotating said body one-half revolution on said suction tube, said body having suction passages extending inwardly therein from each of said cleaning sides and terminating at a central cavity within the body, said central cavity communicating with said suction tube, and a valve member supported in said body and normally positioned therein in a closure position closing off the body suction passage associated with the cleaning side which is in a non-cleaning position thereby to block communication of said one body passage with said central cavity, valve positioning means comprising an actuating member operatively coupled with said valve member and supported in said body for movement between two extreme positions corresponding to the closure positions of said valve member, a projection fixed to said suction tube, and a ring fixed to said actuating member and encircling said suction tube, said ring having projection engaging surfaces at opposed locations thereon, each projection engaging surface being associated with and effective to move said actuating member to one of its extreme positions, relative rotation between said body and suction tube in excess of a predetermined magnitude when alternating the poitioning of said cleaning sides being effective to advance the other projection engaging surface into engagement with said projection and thereby move said actuating member to its other extreme position shifting the positioning of said valve member to the corresponding closure position.

3,380,109
SELF-CLOSING DOOR HINGE

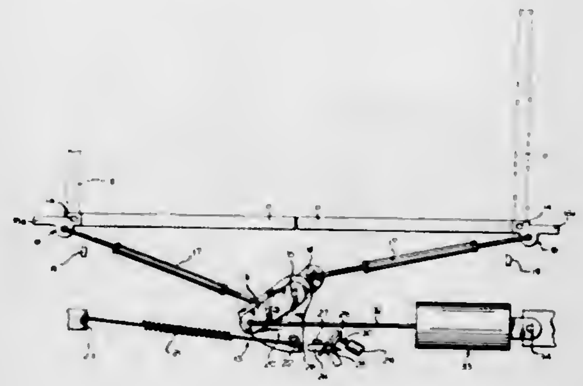
William B. Ruiz, 1010 SW. 2nd Ave., Miami, Fla. 33130
Filed Feb. 2, 1966, Ser. No. 535,277
5 Claims. (Cl. 16—50)

A door hinge the hinge leaves of which are interconnected by a helical torsion spring circumjacent its pintle for self-closing action, and further including a cylindrical brake lining fixed with respect to one of the hinge leaves and a brake surface fixed with respect to the other of the hinge leaves and in frictional face-to-face contact with the brake lining for retarding the accelerating action of the torsion spring on the hinge leaves.



3,380,110
MODULATING DOOR CHECK

Kristupas Daugirdas, Wilmette, Robert J. Lynn, Morton Grove, and S' Leo Lowy, Chicago, Ill., assignors to Vapor Corporation, Chicago, Ill., a corporation of Delaware
Filed Sept. 12, 1966, Ser. No. 578,561
2 Claims. (Cl. 16—66)



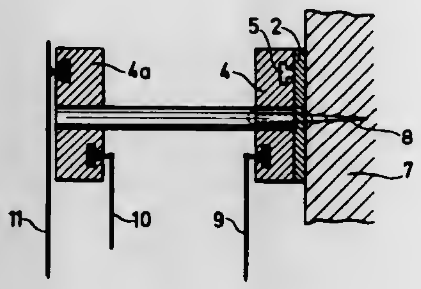
Modulating door check for controlling the closing action of a vehicle door normally opened by egressing passengers including a cylinder having a piston movable therein, wherein a flap valve is provided in the piston to permit uninhibited movement thereof toward the closed end, an orifice is provided in the piston for bleeding air during door closing action, an orifice is provided in the rod end of the cylinder to bleed air from the rod side of the piston during door closing action, and piston seal breaking means is provided in the cylinder wall to aid in controlling door closing action.

3,380,111
ARRANGEMENT FOR SUPPORTING CURTAINS, DRAPERIES AND THE LIKE

Göran Jakob Fredrik Hård af Segerstad, Sigtuna, Sweden, assignor to Per Granebro AB, a Swedish joint-stock company
Filed May 20, 1966, Ser. No. 551,615
Claims priority, application Sweden, May 24, 1965, 6,737/65
2 Claims. (Cl. 16—94)

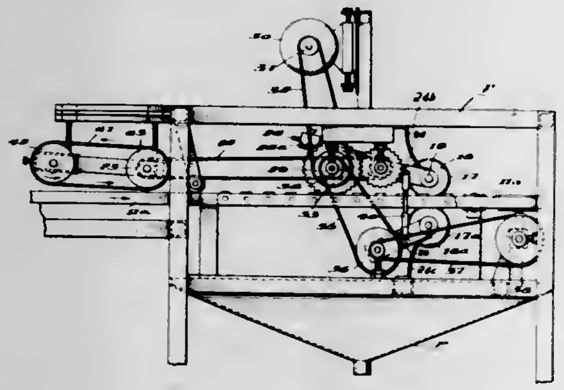
In combination: a bracket arrangement having stems projecting therefrom to carry curtain boards and curtain boards with holes therethrough to receive said stems. The curtain boards having a substantially rectangular cross section with at least one T-shaped groove but preferably two T-shaped grooves with the base of each T-shaped groove opening to opposite sides of each curtain board.

When hanging up curtains and the like, e.g. in front of windows, some functional and aesthetical requirements, such as movability, shading of light, possibility of obtaining appealing draping and hang of the cloth, are to be considered.



3,380,112
SHRIMP BUTCHERING APPARATUS

James S. Cox, 6431 Lily Dhu Lane,
Falls Church, Va. 22044
Filed Oct. 14, 1965, Ser. No. 495,800
3 Claims. (Cl. 17—2)

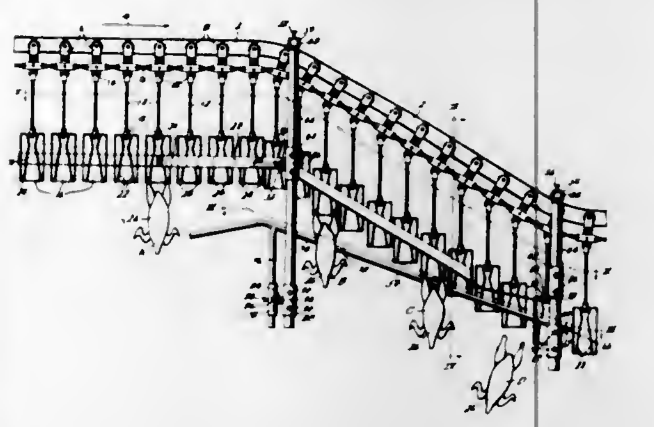


This invention relates to a method and apparatus for conducting the method of butchering green beheaded shrimp, one at a time, progressively through mechanism which serves to hold the individual shrimp in position for treatment by butchering knives after which the shrimp meat is separated from the shell and deveined material.

3,380,113
POULTRY SHACKLE UNLOADING DEVICE

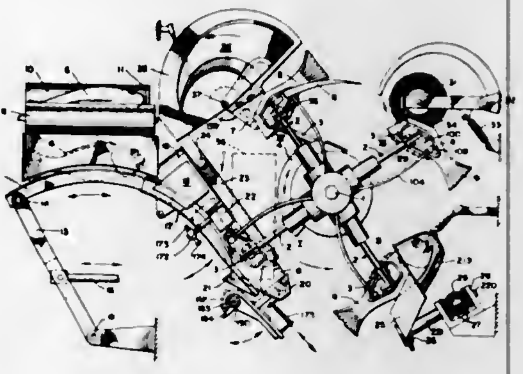
Ralph S. Zebarth, Kansas City, Mo., and Reed J. Wight, Ogden, Utah, assignors to Ralph Zebarth, Inc., Kansas City, Mo., a corporation of Missouri
Filed Jan. 30, 1967, Ser. No. 612,679
10 Claims. (Cl. 17—11)

This disclosure is of a device for removing poultry carcasses from shackles suspended from a conveyor line by means of rigid but pivoted drop rods, each carcass being supported in a shackle by engagement of portions of said carcass in downwardly tapering notches of said shackle, and being disengageable from the shackle by elevation of said carcass portions in said notches. The unloading device includes a portion of the conveyor arranged to move said shackles in a path which is inclined downwardly in the direction of travel, and a knock-off rail disposed immediately adjacent and extending along the inclined path of shackle travel. Said knock-off rail is also inclined downwardly in the direction of shackle travel, but to a lesser degree than the shackles, so that the shackles move downwardly with respect to the rail, and the rail engages the carcasses immediately adjacent the shackles and forces them upwardly in the shackle notches to disengage them. The relative inclination of the shackle path and rail prevents the shackles from pivoting rearwardly on the conveyor, so as to continue forwardly with the drop rods substantially vertical. The degree of relative inclination of the rail and the shackle path is therefore somewhat critical.



3,380,114
FISH TREATING METHOD

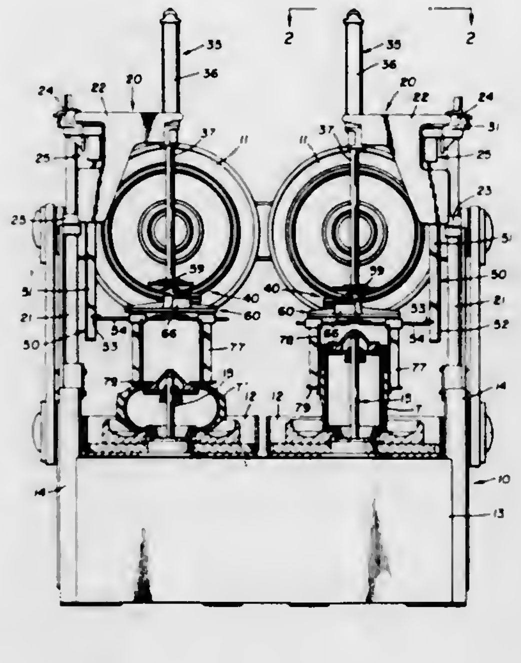
Ernst Eduard Härtl, Alfred Albert Dudszus, Reinhold Heinrich Franz, Christoph Friedrich Wilhelm Rethfeldt, Günther Hubert Reiner Wienert, Rudolf Müke, Franz Andreas Hauptmann and Günther Bolze, Rostock, Germany, assignors to Institut für Schiffbau, Rostock, Germany
Original application Jan. 18, 1965, Ser. No. 426,055. Divided and this application Feb. 16, 1966, Ser. No. 565,662
8 Claims. (Cl. 17—45)



A fish treating process according to which the head and stomach of the fish are sheared away from the body of the fish while cutting through the fish simultaneously from opposite sides thereof in a single operation during which the fish is maintained stationary. Then the fish is fileted, also in a single shearing operation, while maintaining the fish stationary. The shearing away of the head and stomach takes place in two planes one of which extends perpendicularly across the spine of the fish just behind the head thereof and the other of which is also perpendicular to the spine of the fish but extends approximately from the point of intersection of the spine with the first plane downwardly and rearwardly between the spine and the underside of the fish, so that the simultaneous cutting through the body of the fish in these planes will, in a single operation, eliminate from the body of the fish the head, the stomach and the insides of the fish.

3,380,115
UNIVERSAL TIRE PRESS LOADER

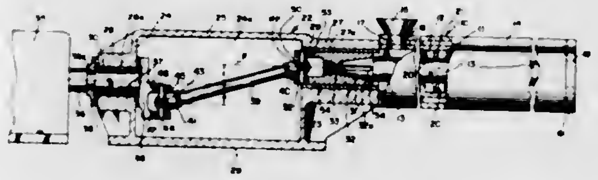
Leslie E. Soderquist, Silver Lake, Ohio, assignor to McNeil Corporation, Akron, Ohio, a corporation of Ohio
Filed Jan. 28, 1966, Ser. No. 523,650
8 Claims. (Cl. 18—2)



Automatic loading apparatus for use with tire presses. The loader has band gripping elements selectively adjustable by rotating cam means for various shapes, heights, and widths of tire bands.

3,380,116
MIXING MACHINE DRIVE

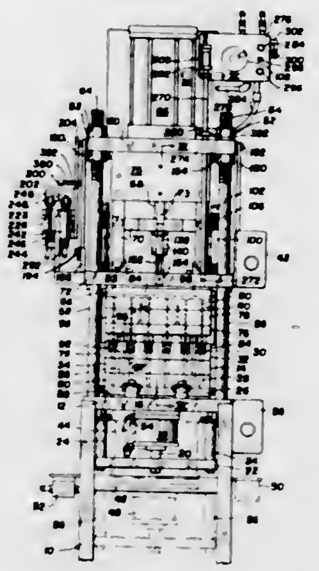
Bradley G. Cox, Leon Yablonski, and Bernard A. Loomans, Saginaw, Mich., assignors to Baker Perkins Inc., Saginaw, Mich., a corporation of New York
Filed Oct. 13, 1966, Ser. No. 586,459
9 Claims. (Cl. 18—12)



1. In a mixing machine including an axially extending mixer shaft and an axially extending, tubular barrel means for said shaft, advancing and mixing flight means on said shaft; entrance means permitting the introduction of material to be mixed to said barrel means; a drive shaft extending on an axis in axial parallelism with the axis of said mixer shaft and with its axis spaced from the axis of said mixer shaft; motor means driving said drive shaft; and connecting rod means universally connected to said mixer shaft at one end of said rod means and to said drive shaft at the other end of said rod means; said connecting rod means at one end being connected at a spaced eccentric distance from the axis of the shaft to which it connects at that end so that rotation of said drive shaft causes both rotation and reciprocation of said mixer shaft.

3,380,117
AUTOMATIC MOLDING MACHINE

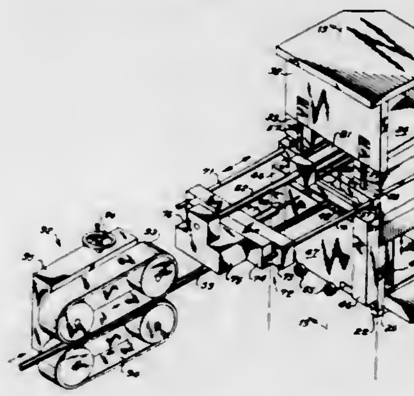
William Gluck, Box 315, Monroeville, Pa. 15146
Filed Feb. 7, 1966, Ser. No. 525,732
24 Claims. (Cl. 18—16)



1. In an automatic molding machine, the combination comprising a fixed platen having a mold die assembly thereon, a movable platen having a complementary mold die assembly thereon, a guideway structure for mounting said movable platen for movement toward and away from said fixed die assemblies, a fixed supporting plate mounted adjacent the end of said guideway structure at a position removed from said platen, an actuating mechanism and control means therefor mounted on said support plate for reciprocating said movable platen toward and away from said fixed platen, limit switch means mounted on said supporting plate for actuating said control means, a switch actuating rod secured adjacent its end to said movable platen, said rod slidably extending generally parallel to said guideway structure and through rod aperture therefore in said supporting plate for movement relative thereto and to said switch means with said movable platen, and a pair of switch actuators spacedly and adjustably mounted on said rod and positioned to engage said switch means at predetermined limits of travel of said movable platen, the spacing between said actuators along said rod setting said travel limits.

3,380,118
APPARATUS FOR MAKING COMPOSITE ARTICLES

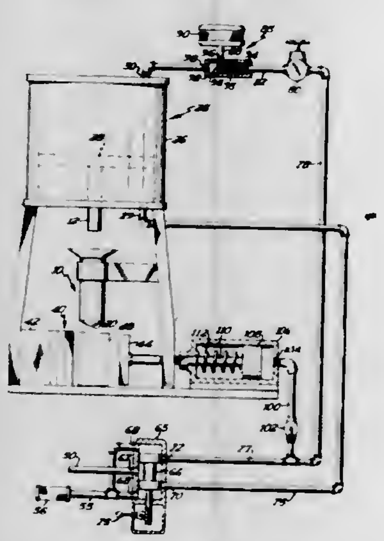
Quentin E. Gualtier, Bloomfield, N.J., assignor to Rapid Tool & Manufacturing Company, Inc., Newark, N.J., a corporation of New Jersey
Filed July 1, 1965, Ser. No. 468,724
11 Claims. (Cl. 18—30)



Two-part mold defines cavity for container cap. Means advance a continuous length of tubing to mouth of cavity, and mold parts close. Tubing is cut at point spaced from cavity mouth to produce an individual tube, and a core moves through cut end of tube into cavity, just prior to injection of molten plastic into cavity.

3,380,119
INJECTION MOLDING MACHINE WITH CONTROLS FOR INJECTING AND CLAMPING

John B. Beaudry, Minneapolis, Minn., assignor of one-half to John R. Beaudry, Minneapolis, Minn.
Filed June 9, 1966, Ser. No. 556,319
7 Claims. (Cl. 18—30)

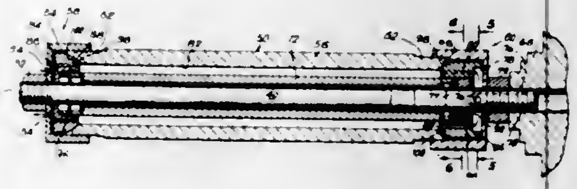


1. An injection molding apparatus comprising, an injection cylinder, an injection plunger adapted to cooperate therewith to move material from the injection cylinder to a mold in an injection molding process, a fluid motor for operating the injection cylinder to move the plunger between a retracted and extended position in said cylinder, a fluid source for energizing the fluid motor including intake and exhaust lines, a single control valve means having a pair of outlet ports and an inlet and return port, connection means connecting the inlet and return ports of the valve means to the intake and exhaust lines of the fluid source, further fluid connection means connecting the outlet ports of said single control valve means to the fluid motor at opposite sides thereof to selectively move the motor and hence the plunger of the injection cylinder between operative positions: a clamp adapted to hold a mold in position relative to the injection cylinder in a molding operation, a second fluid motor operating the clamp to move the clamp in a holding position with a mold, further connection means connecting one of the outlet ports of the said single control valve means to the second fluid motor operating the clamp, said valve means when operated to one position being operative to direct fluid through one of said outlet ports connected to the clamp motor and to one side of the first motor operating the plunger to cause the plunger to move into the injection cylinder and the clamp to clamp the mold, and means including the connection between the single control valve and said first and second fluid motors to cause said clamp to be first operated and the second fluid motor to be operating the injection cylinder plunger to be operated thereafter.

3,380,120
MANUFACTURE OF METAL CORED RUBBER ROLLS

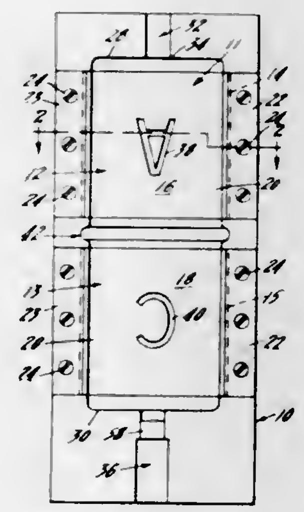
Thomas W. Rowland, Isle Palms, and Charles L. Tavelle, North Charleston, S.C., assignors to Raybestos-Manhattan Inc., Passaic, N.J., a corporation of New Jersey
Filed June 22, 1966, Ser. No. 559,586
8 Claims. (Cl. 18—30)

The apparatus is used for molding a metal cored rubber roll to very close tolerance. The mold comprises a cylindrical casing with removable end assemblies each having a taper to mate with the tapered ends of the core. One end assembly acts as an inlet, and has a ring which is axially slidable relative to the rest of the end assembly. This ring has the said taper mating with the core, and its outer face is exposed to the rubber being forced into the mold, so that it is pushed by the force of the supplied rubber to cause the tapers at both ends to center the core. The ends of the cylindrical casing also have tapers, and the end assemblies have mating tapers, that of the inlet end assembly being on an outer part which slidably receives the axially slidable ring. The ends of the casing are preferably threaded and receive internally threaded caps which bear against the end assemblies with a mechanical force, independently of the slidable ring. An extruder supplies the rubber under high pressure, and has a fixed spindle the remote end of which is threaded to receive a nut for securing the mold on the spindle. The core is hollow and slides over the spindle. The spindle has a counterbored inlet, and has radial holes for discharge of rubber from the counterbore into a hollow space in the inlet end assembly communicating with a ring or holes for passage of rubber into the mold cavity.



3,380,121
MOLD WITH REPLACEABLE INSERTS

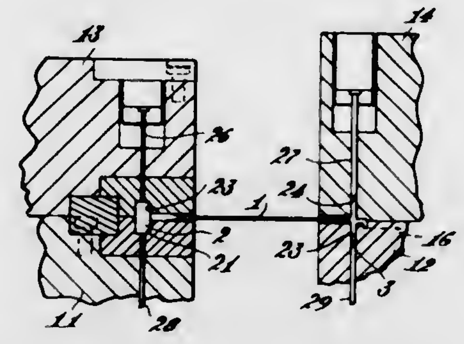
Richard Marion Chittenden, Grayslake, and Oscar Frederick Ecklund, Barrington, Ill., assignors to American Can Company, New York, N.Y., a corporation of New Jersey
Filed July 30, 1965, Ser. No. 475,929
10 Claims. (Cl. 18—35)



A multisection mold for blow molding thermoplastic containers having recesses within the mold wall into which are inserted replaceable inserts so that the exterior appearance of a container blown within the mold may be changed without changing the basic shape and capacity of the container.

3,380,122
MOLD FOR MAKING AN ATTACHMENT DEVICE

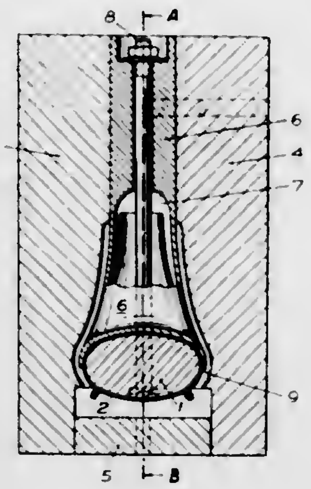
Fred Jewett Kirk, Lancaster, Mass., assignor to Dennison Manufacturing Company, Framingham, Mass., a corporation of Nevada
Filed Feb. 1, 1966, Ser. No. 523,998
1 Claim. (Cl. 18—42)



For making an attachment device having a thermoplastic filament, apparatus comprising a mold having means for stretching the filament while still in the mold.

3,380,123
APPARATUS FOR THE MANUFACTURE OF SHOES WITH AN INNER LEG, PARTICULARLY SKI-BOOTS

Oskar Schmidt, Weyrgasse 6, Vienna, Austria
Filed Mar. 3, 1966, Ser. No. 531,585
Claims priority, application Austria, Mar. 8, 1965, A 2,052/65
7 Claims. (Cl. 18—42)

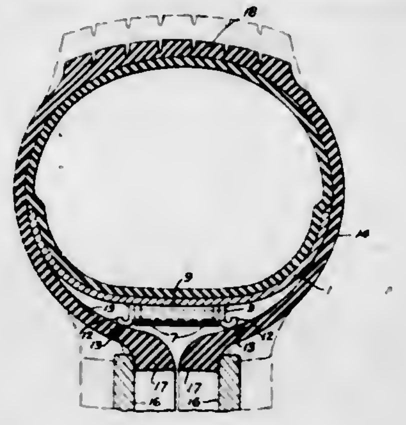


1. An apparatus for the manufacture of shoes with an inner leg, particularly ski-boots, comprising
a multi-part hollow mold,
a last carrying the inner leg of the shoe, and
a hollow part covering said leg to a predetermined extent and receiving corresponding parts of said last, and
said last and said hollow part being insertable into said hollow mold.

3,380,124
DEVICE FOR GUIDING TIRE CASINGS ON CURING RIMS

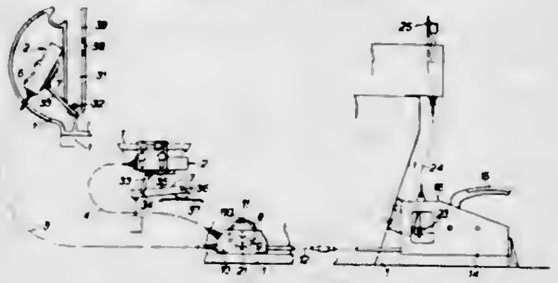
Elmer W. Robertson, 6965 Park Blvd., Oakland, Calif. 94611
Filed Apr. 28, 1965, Ser. No. 451,569
1 Claim. (Cl. 18—45)

Rim sections of collapsible curing rims are connected by hinge brackets extending from the meeting ends of adjacent rim sections and held together by a transverse pivot pin. The hinge brackets consist of spaced parallel lug flanges on one meeting end being spaced wider apart than parallel lug flanges on the other meeting end so that the latter fit between the former lug flanges. The more widely spaced lug flanges extend to a considerable length from the pivot pin and have outwardly curved flanges spaced apart sufficiently far to take up all the slack between the rim and the tire casing thereby to hold the tire casing firm and rigid; these guide flanges space the tire casing away from the sides of the hinge, thereby guiding the tire casing so as to be properly centered, prevent damage to the tire casing, and, by taking up the slack, hold the tire casing rigid and properly centered in the mold without distortion.



3,380,125
DRIVE KNOCK-OFF MOTIONS FOR CARDING MACHINES

John M. J. Varga, Toronto, Ontario, Canada, assignor to Carding Specialists (Canada) Limited, Toronto, Ontario, Canada, a corporation of Canada
Filed Nov. 12, 1964, Ser. No. 410,478
Claims priority, application Great Britain, Apr. 13, 1964, 15,090/64
5 Claims. (Cl. 19—.25)



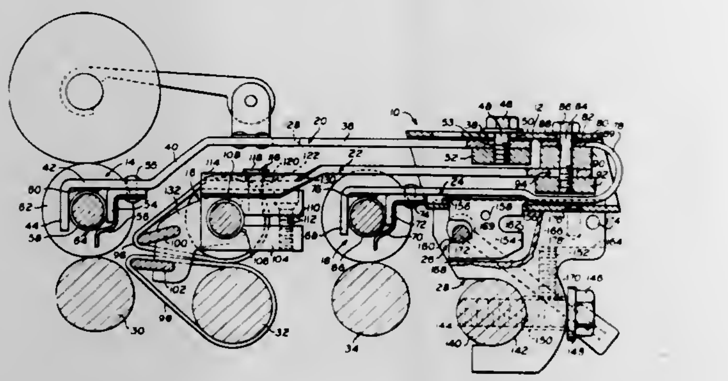
A carding machine drive knock-off motion control mechanism having a first cable operatively connected to a spring loaded plunger which is held in operative position by a catch member and to a junction means, a second cable is operatively connected to the junction means and a resetting mechanism and a third cable is operatively connected to the resetting mechanism and an operating lever of a carding machine. The movement of the catch member by a lap rod or a lap feeling roller associated therewith, releases the spring loaded plunger whereby the operating lever of the carding machine is moved thereby stopping the carding machine.

3,380,126
DRAFTING MECHANISM

Richard K. Butler, Whitman, Mass., assignor to Machinecraft, Whitman, Mass., a corporation of Massachusetts
Filed Jan. 19, 1965, Ser. No. 426,600
13 Claims. (Cl. 19—267)

1. A top roll assembly for a drafting mechanism, comprising a tubular base member (in the form of a tube) having a rectangular cross-section, a first spring arm for

connecting a front roll to said tubular base member, a second spring arm for connecting a back roll to said tubular base member, a third spring arm for connecting an intermediate roll to said tubular base member, said first and third spring arms being substantially unidirectionally extending members; said second spring arm having a C-shaped intermediate portion, an upper end portion extending away from said tubular base member in a direction opposite to the direction of said first and third spring arms and a lower end portion extending away from said C-shaped intermediate portion in the same direction as said first and third spring arms, means for connecting said first spring arm to the upper surface of said tubular base member in close confronting relation therewith, and means for connecting said second and third spring arms to said tubular base member rearwardly of said first spring arm comprising a securing element passing through the top surface of said tubular base member, said upper end portion of said second spring arm and said third spring arm.



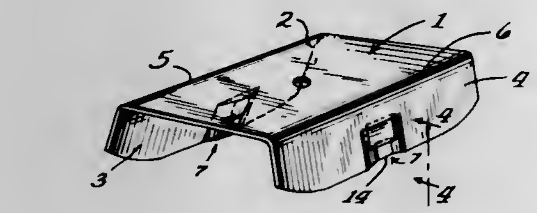
3,380,127

STACKING SEAL

Harold G. Tetens, Homewood, Ill., assignor to Interlake Steel Corporation, Chicago, Ill., a corporation of New York

Filed Jan. 5, 1967, Ser. No. 607,561

8 Claims. (Cl. 24—23)



A band strapping seal having step-shaped deformations formed in its free ends to facilitate stacking.

3,380,128

APPARATUS FOR PRODUCING CERAMIC BODIES

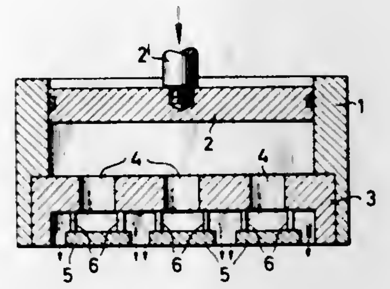
Gottfried Cremer and Heinz Behrens, Junkersdorf, Germany, and Hans-Joachim Dietzsch, Villars-sur-Ollon, Switzerland, assignors to Schneider & Co., Frechen, Germany, a German firm

Filed Apr. 14, 1966, Ser. No. 542,700

Claims priority, application Germany, Apr. 15, 1965, B 81,490

3 Claims. (Cl. 25—17)

Apparatus for producing a ceramic body having parallel channels extending from end to end in which a die plate is arranged at the end of the extruder and has a plurality of spaced orifices opening into a chamber. Disposed forwardly of each orifice is a masking member and the several masking members are spaced laterally from each other and from the walls of the chamber. The cross section of the space between the die plate orifices exceeds the cross section of the space between adjacent masking members and between the masking members and the chamber walls. The masking members are spaced from the die plate orifices by pins disposed about the periphery of each member or by a sleeve having a masking member at one end and connected to an orifice at the other end and having lateral openings.



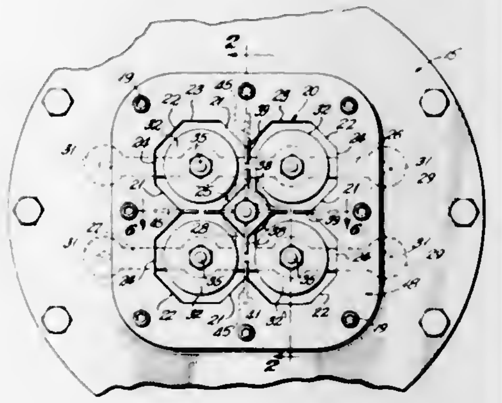
3,380,129

EXTRUSION DIE FOR DRAIN TILE CLUSTER

George M. Magruder, Columbia, S.C., assignor to Richland Shale Products Co., Columbia, S.C., a corporation of South Carolina

Filed June 29, 1966, Ser. No. 561,506

1 Claim. (Cl. 25—17)



An extrusion die structure particularly for producing a cluster of drain tiles with the individual drain tiles interconnected by thin frangible webs of sufficient strength to stabilize the cluster of tiles during firing in a kiln. After firing, the individual tiles are easily separated by breaking the connecting webs.

3,380,130

OSCILLATING SHEARING APPARATUS

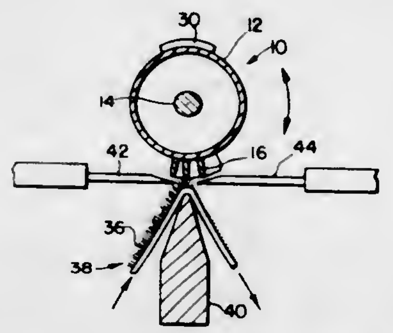
William J. Holm, Springfield, Vt., assignor to Parks & Woolson Machine Company, Springfield, Vt., a corporation of Vermont

Filed Sept. 27, 1965, Ser. No. 490,599

1 Claim. (Cl. 26—15)

A shearing apparatus is provided for cutting to a uniform height the upstanding threads of a cloth web which is moved longitudinally over a fixed rest. The apparatus comprises a torsion system which supports shearing blades and fixed ledger knives extending into proximity

with the shearing blades and the rest. The torsion system is driven by an oscillating drive system whereby the shearing blades are oscillated back and forth and, in cooperation with the fixed ledger knives, shear the cloth.



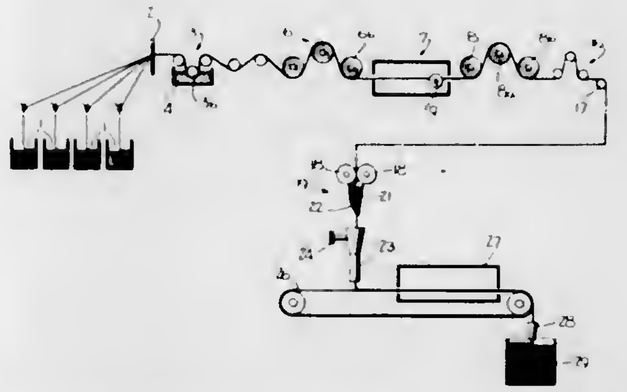
3,380,131

METHOD AND APPARATUS DEFLECTING AND DRAWING TOW

Jack N. Gray, Shelby, N.C., assignor to Fiber Industries Inc., a corporation of Delaware

Filed July 13, 1964, Ser. No. 382,328

7 Claims. (Cl. 28—1)



A process and apparatus for the production of drawn tow in which a band of tow of drawable continuous filament is fed through a draw zone wherein a deflecting surface contacts the tow band and causes the filaments to intermingle.

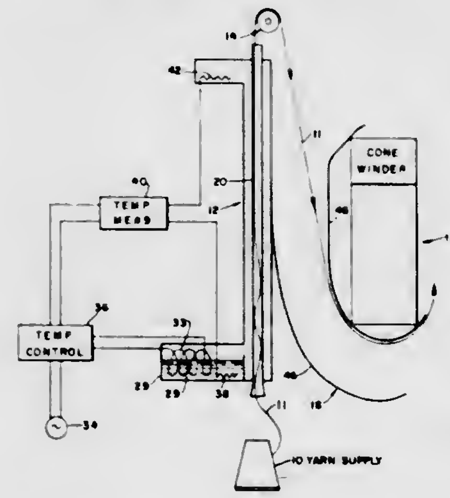
3,380,132

APPARATUS FOR PRODUCTION OF BULKED YARN

Marshall McKew, Whitfield-Reading, Pa., assignor to Caron Spinning Company, Rochelle, Ill., a corporation of Illinois

Filed Jan. 12, 1966, Ser. No. 520,116

10 Claims. (Cl. 28—1)



A heating tube assembly which is arranged above a yarn supply. The yarn is passed through the heating tube assembly from which it is dropped into a scray for cooling. The cooled yarn is then withdrawn from the scray and passed onto a winding machine or the like from which the bulked yarn may be taken, the heating and cooling taking place while the yarn is in a substantially tensionless condition.

3,380,133

DEVICE FOR SECURING WARP THREADS

Hugo Meierhofer, Uster, Switzerland, assignor to Zellweger, Ltd., Uster, Switzerland

Filed Dec. 8, 1965, Ser. No. 512,345

Claims priority, application Switzerland, Dec. 18, 1964, 16,435/64

8 Claims. (Cl. 28—44)

In a machine for drawing in warp threads clamps slideable transversely to the threads are provided in engagement with the tapes securing the ends of the threads. Also, spiked rollers having their axes of rotation parallel to the threads may engage on opposed sides of the tapes to secure it from movement in the direction of the threads.

3,380,134

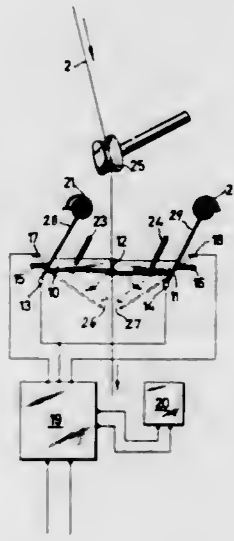
DEVICE FOR DETECTING FLAWS ON RUNNING THREADS

Fritz Anders, Neumunster, Germany, assignor to Phrix-Werke Aktiengesellschaft, Hamburg, Germany

Filed June 16, 1966, Ser. No. 558,083

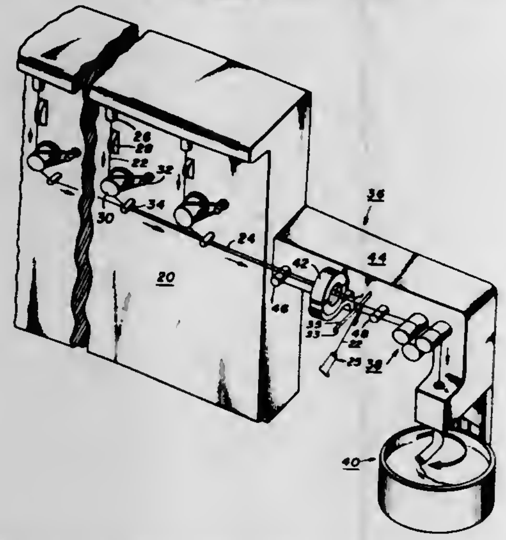
Claims priority, application Germany, June 19, 1965, P 37,086

11 Claims. (Cl. 28—64)



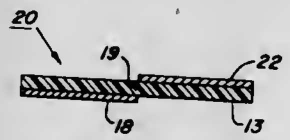
In a flaw detector for detecting flaws on running threads, a pair of plates are arranged with respective edge portions overlapping. Each overlapping edge portion is provided with a cut-out so that the cut-outs together define a thread passage of square cross-section in which the thread runs freely. A pair of springs maintain the plates in operative position but permit their deflection to an indicating position if a thicker thread portion passes through the thread passage. A quality control device is arranged to become actuated when the plates are deflected.

3,380,135
TOW TIE-IN METHOD
Carl R. Wood, Gulf Breeze, and Joseph M. McCown, Pensacola, Fla., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed June 1, 1965, Ser. No. 460,417
8 Claims. (Cl. 28—72)



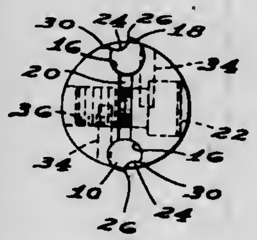
A method of incorporating a threadline into a moving tow by severing a threadline and blowing a loose end formed thereby into the tow by means of properly directed fluid jets.

3,380,136
METHOD OF MAKING CAPACITORS
Richard A. Wydro, Sr., Trenton, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed July 19, 1965, Ser. No. 472,889
7 Claims. (Cl. 29—25.42)



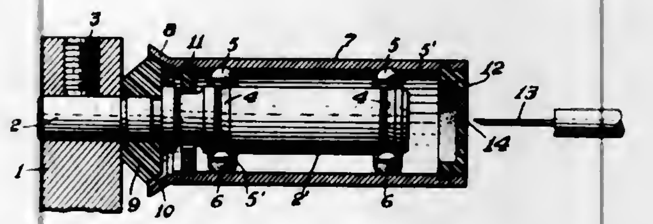
A dielectric tape is provided with a first metallic coating on one side thereof which first coating runs generally parallel with the length of the tape and with a second metallic coating on the other side of the tape which second coating runs generally parallel with the length of the tape but which does not overlap the first coating. The dielectric tape is folded along a first longitudinal line to bring the first and second coatings into an overlapping relationship and the tape is severed along a second line which is parallel to the first line and which runs between the metallic coatings. This permits a capacitor to be wound from a single tape supply.

3,380,137
CYLINDRICAL INSERT CUTTING TOOL
John D. MacPetrie, Bloomfield Hills, and Victor Milewski, Birmingham, Mich., assignors to The Valeron Corporation, a corporation of Michigan
Filed May 12, 1966, Ser. No. 549,524
7 Claims. (Cl. 29—105)



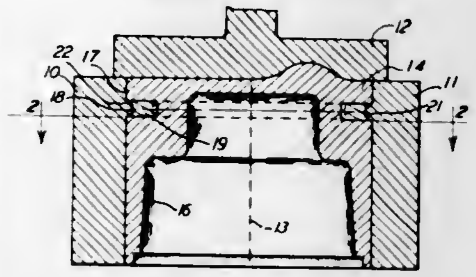
1. A cutting tool comprising a member rotatable about an axis extending therethrough and having a plurality of grooves provided at one end and on the outer periphery thereof concentrically of said axis, cutting inserts receptive within said grooves and formed to extend thereover and beyond the outer periphery of said member, a terminal opening formed in the end of said member and intersecting said grooves, and means extending through said member and across said terminal opening for closing said opening in part and holding said inserts retained in said grooves.

3,380,138
TEXTILE GUIDE ROLL STRUCTURE, PARTICULARLY FOR DRAWING MACHINES
Joseph Stelchele, Stuttgart-Wellimdorf, Germany, assignor to SKF Kugelagerfabriken Gesellschaft mit beschrankter Haftung, Schweinfurt, Germany, a company of Germany
Filed Dec. 22, 1966, Ser. No. 603,938
7 Claims. (Cl. 29—116)



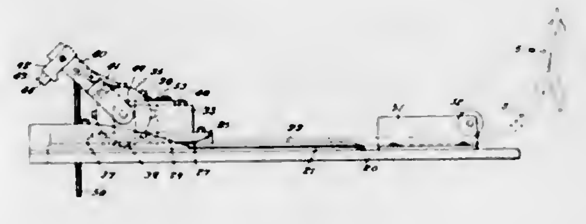
A roller for guiding textiles such as sliver which is to be drawn into a roving. The roller includes an outer one-piece tubular housing of cylindrical configuration having an exterior adapted to be engaged by the textile material which is to be worked, this tubular housing being formed at its inner surface with annular grooves which directly form the outer races for antifraction bearing elements, and the tubular housing being enlarged at least one end where it has an outwardly flaring, frusto-conical portion which is integral with the remainder of the tubular housing, the entire tubular housing being formed from a single section of pipe.

3,380,139
METHOD OF MAKING AN INSERT AND CAST PISTON COMBINATION
John S. Kis, Racine, and Robert M. Thelsen, Marinette, Wis., assignors to Alum-Alloy Casting Co., Racine, Wis., a corporation of Wisconsin
Filed Apr. 6, 1966, Ser. No. 540,770
5 Claims. (Cl. 29—156.5)



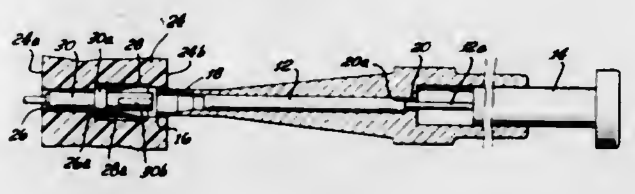
1. A method of making an insert and cast piston combination comprising the steps of positioning an insert ring in a casting mold of a diameter larger than that of said ring, said ring being spaced from the bottom of said mold and transverse to the retaining wall of said mold, pouring molten metal into said mold to form a piston with said ring being visable after removal of the piston from the mold, said metal contacting said insert ring on all sides of said insert ring except the outer side on the outer diameter of said insert ring, and said molten metal extending radially beyond the cylinder defined by said outer side with the radial extent being sufficient to provide that when said metal is hard it can be inspection-cut on a turning machine without cutting said insert ring while cutting uniformly along the entire length of said piston, solidifying said molten metal, inspection-cutting said piston on a turning machine along the length of said piston and to a radial depth short of said insert ring, finish turn-cutting said piston and said insert ring along the entire length of said piston and to a radial depth sufficient to finish-cut said outer side of said insert ring, and cutting a groove in said insert ring for reception of a piston ring.

3,380,140
MACHINE FOR ATTACHING INSULATOR PODS TO ELECTRICAL CONNECTORS
Frank G. Champ, Wethersfield, Conn., assignor to The Seeburg Corporation, Chicago, Ill., a corporation of Delaware
Filed Dec. 1, 1965, Ser. No. 510,899
7 Claims. (Cl. 29—203)



A machine for attaching to electrical connectors insulator pods which are integrally contained on a strip in the form of pairs of opposed halves that are folded over a connector, pressed together into interlocking engagement and severed from the strip.

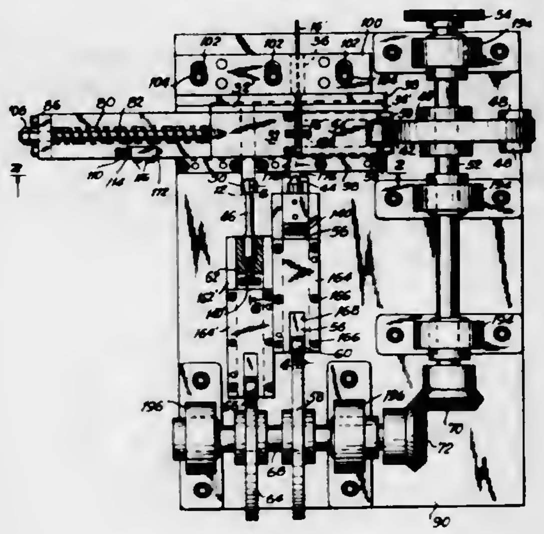
3,380,141
CONTACT TERMINAL EXTRACTION TOOL
David Rofer, Monterey Park, Calif., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed Feb. 10, 1966, Ser. No. 526,533
6 Claims. (Cl. 29—203)



A contact terminal extraction tool having a forward cylindrical section for insertion into the bore containing the terminal and proportioned to disengage locking tangs retaining the terminal locked in the terminal block. An adjoining section of the tool is proportioned to be resiliently expanded as it is pressed over the end of the enclosed terminal, thus permitting extraction of the terminal without damage.

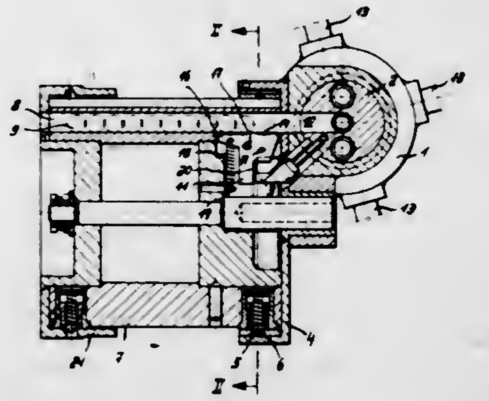
3,380,142
APPARATUS FOR APPLYING CAN LEADS
Seymour Wilens, Wantagh, Martin Sievers, West Islip, and Lothar Achatz, Babylon, N.Y., assignors to The Staver Company Incorporated, Bay Shore, N.Y., a corporation of New York
Filed Apr. 26, 1966, Ser. No. 545,433
13 Claims. (Cl. 29—203)

1. Apparatus for applying can leads to cans for electrical components, said cans having a small bottom hole to receive the lead wire, said apparatus comprising a split die acting as a clamp to receive and hold a lead wire, a punch and means to reciprocate the same in the direction of the lead wire to upset and head the wire a short distance from its end, a second punch to feed the can in the direction of the lead wire to place the bottom hole



over the end of the wire as far as the head and to stake or rivet the end of the wire, and means to release the split die in order to discharge the lead wire with the attached can.

3,380,143
APPARATUS FOR LOADING STUD WELDING GUNS
Willy Veldgen, Gummersbach-Rospe, and Kurt Clemens, Dieringhausen, Germany, assignors to L & C Steinmuller G.m.b.H., Gummersbach, Germany
Filed Mar. 3, 1966, Ser. No. 531,597
Claims priority, application Germany, Mar. 4, 1965, St 23,454
12 Claims. (Cl. 29—212)



1. An apparatus for loading stud welding guns, which includes: a housing, transfer sleeve means movable in said housing from a stud-receiving station to a stud transfer station and vice versa, said sleeve means having a receiving channel and a discharge channel communicating with said receiving channel for discharging a stud into a stud welding gun, a magazine rotatably arranged at said housing and having a plurality of stud-receiving passages substantially parallel to the axis of rotation of said magazine and substantially evenly distributed about said axis, said passages being successively movable into a stud-receiving position for receiving studs from a stud supply source and also being successively movable into alignment with said receiving channel in said sleeve means when the latter occupies its stud-receiving station, said sleeve means being operable to transfer a stud received in said stud-receiving channel to said stud discharge channel when occupying a transfer station, and control means

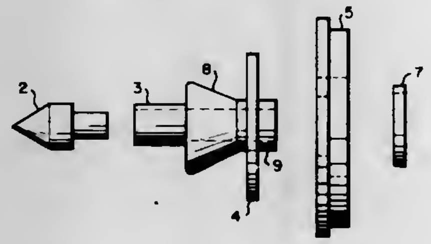
associated with said stud-receiving passages and operable in response to the movement of said sleeve means to its stud-receiving station to release one stud at a time to said stud-receiving channel.

3,380,144
DYNAMIC ALIGNMENT DEVICE FOR RING AND TRAVELER TYPE WINDING APPARATUS

Joseph E. Cunningham, Eckhart, Md., assignor to Celanese Corporation of America, New York, N.Y., a corporation of Delaware

Filed Apr. 8, 1966, Ser. No. 541,254

10 Claims. (Cl. 29—407)



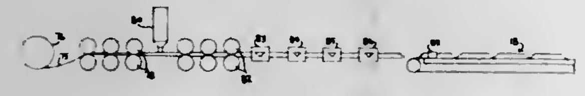
1. In a ring and traveler winding device a dynamic alignment apparatus for aligning spindles, rings and balloon guides, said device comprising a flanged sleeve member adapted to be axially and rotatably mounted on said spindle and a ring fitted disc having markings disposed thereon, said markings being designed to be obscured by said flanged sleeve member when said spindle is out of alignment.

3,380,145
METHOD OF FABRICATING MULTIPLE GLAZING UNIT

Charles E. Stroud, Natrona Heights, and Herbert C. Cerutti and Thomas H. Hughes, Sarver, Pa., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

Original application Jan. 8, 1964, Ser. No. 336,600, now Patent No. 3,280,523, dated Oct. 25, 1966. Divided and this application Aug. 2, 1965, Ser. No. 476,506

3 Claims. (Cl. 29—411)



1. In a method of forming a rectangular spacing element having mitered corners for a multiple glazing unit, the steps comprising forming a channel having a base, two extending sides and an open portion oriented upwardly; depositing desiccant into said channel through said open portion; closing said channel to form a tube containing the desiccant; cutting three 90 degree notches at spaced locations along said tube; and bending said tube at right angles at the three notches to form a rectangular spacing element.

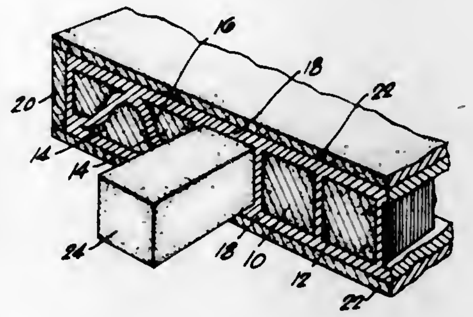
3,380,146
CONTAMINATION BARRIER AND METHOD

Henry W. Babel, Northbridge, Calif., Robert I. Jaffee, Columbus, Ohio, and Bernard B. Moss, Los Angeles, Calif., assignors, by direct and mesne assignments, of one-third to The Battelle Development Corporation, Columbus, Ohio, a corporation of Delaware, and two-thirds to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland

Filed Oct. 19, 1965, Ser. No. 497,719

10 Claims. (Cl. 29—423)

A roll-welding process wherein the cover sheets and spacer material used in the process may be mechanically, as well as chemically, removed from the structure that had been welded by this process. Those surfaces of the cover sheets and spacer material that are in abutment with the structure have a barrier opposing the migration of contamination from the sheets and spacer material into the material of the structure, thus providing for easier separation of the structure from the cover sheets and spacer material after heat and pressure have been applied. In one embodiment a high carbon content in steel cover sheets and spacer material becomes a barrier opposing migration of iron into titanium structures during the roll-welding process.

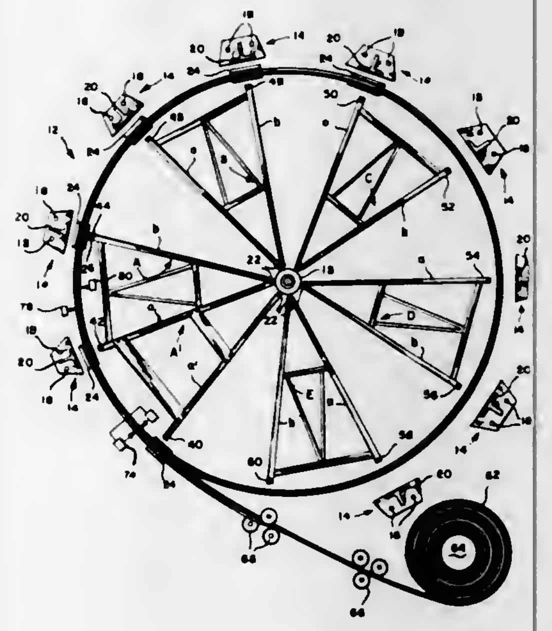


3,380,147
METHOD OF MAKING A CIRCULAR BUILDING STRUCTURE

Eldon O. McDonald, Rte. 1, Box 34, Neosho, Wis. 53059

Filed Mar. 25, 1966, Ser. No. 537,373

1 Claim. (Cl. 29—429)



1. The method of manufacturing a circular structure comprising the steps of

placing a number of drive assemblies on a preformed base in a circle of predetermined diameter substantially at equal distances apart, each drive assembly being located above the base a distance greater than the preceding drive assembly with the last drive assembly located a distance above the first drive assembly substantially equal to the width of the sheet metal which is to be wound into the silo,

feeding a strip of sheet material having a width substantially equal to the distance between the first and last drive assemblies into the first drive assembly in a vertical position, continuously feeding the strip through the first drive assembly and through each subsequent assembly until the lower edge passes the last drive assembly and comes into contact with the top of the incoming sheet steel,

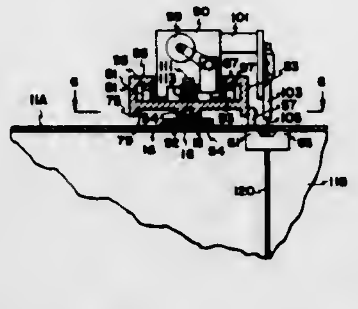
continuously welding the lower edge of the sheet steel to the top of the incoming sheet steel to form a spirally wound circle, continuously rotating said circle and welding sheet steel to the bottom until it reaches the desired height and welding preformed sections to the top and bottom of the spirally wound section.

3,380,148
METHOD OF GUIDING AND LOCATING WELDING EQUIPMENT FOR SUBSEQUENT WELDING

Jerome W. Nelson and Glenn E. Faulkner, Columbus, Ohio, and Harry C. Cook, Orange, N.J., assignors, by direct and mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware

Original application Oct. 16, 1961, Ser. No. 145,307, now Patent No. 3,196,245, dated July 20, 1965. Divided and this application Mar. 3, 1965, Ser. No. 451,084

3 Claims. (Cl. 29—464)



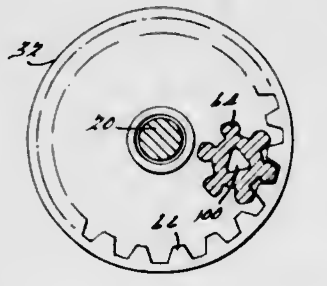
A method for quickly and accurately fastening the necessary welding equipment guide means in accurate predetermined relationship relative to the end of the pipe section. A preliminary guide means is first attached to the pipe end in accurate relationship, and thereafter a primary track guide means is in turn fastened to the pipe in fixed relation to the preliminary guide means, no subsequent adjustment of the welding equipment mounted upon the track is necessary in order to obtain accurate control of the welding equipment path of travel.

3,380,149
METHOD OF AND APPARATUS FOR ASSEMBLING ODOMETER

Rex R. Holbrook, Ann Arbor, Mich., assignor to King-Seeley Thermos Co., Ann Arbor, Mich., a corporation of Michigan

Original application Apr. 9, 1964, Ser. No. 358,494. Divided and this application Dec. 27, 1965, Ser. No. 560,988

6 Claims. (Cl. 29—464)



1. The method of assembly of an odometer comprising the steps of mounting a plurality of rolls on a common shaft one roll at a time, interconnecting each roll by drive means, mounting said drive means on a common alignment shaft one by one between each of said rolls, and removing said common alignment shaft for said drive means after all of said rolls have been mounted.

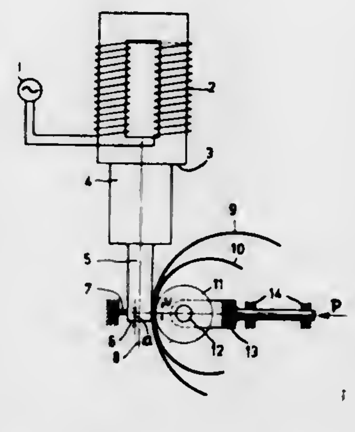
3,380,150
METHOD AND DEVICE FOR ULTRASONIC WELDING

Henricus Petrus Cornelis Daniels, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Continuation of application Ser. No. 349,706, Mar. 5, 1964. This application July 31, 1967, Ser. No. 657,421

Claims priority, application Netherlands, Dec. 9, 1963, 289,893

12 Claims. (Cl. 29—470.1)



An ultrasonic welding method and apparatus for joining first and second workpieces includes a vibrating member vibrated along a given axis. A movable support member is located adjacent the free end and to one side of the vibrating member and sandwiches the workpieces therebetween. In the preferred embodiment, the support member includes a roller free to rotate about an axis perpendicular to said given axis. The roller and vibrating member are urged together under a preselected force such that said workpieces are simultaneously welded together and propelled in a direction parallel to said given axis.

3,380,151
FUSION-JOINING COARSE-SURFACED HIGH CARBON FERROUS METALS TO METALS

Richard Parsons, New York, N.Y., assignor to Oakite Products, Inc., New York, N.Y., a corporation of New York

No Drawing. Filed Feb. 9, 1962, Ser. No. 172,117

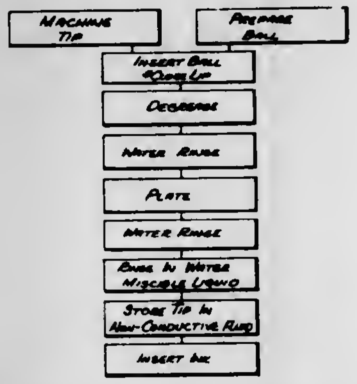
14 Claims. (Cl. 29—488)

1. The method of fusion-joining to a coarse-surfaced high carbon content ferrous metal object, a part composed of a fusion-joinable metal which ordinarily can be fusion-joined readily to a low carbon steel, but which may be fusion-joined to a coarse-surfaced high carbon content ferrous metal ordinarily in only a limited way and under specially different conditions, which method comprises cleaning from at least the portion of said ferrous metal object, which will be in the fusion junction, any soil which could prevent electroplating on such portion an adherent electrodeposit of iron; thereafter electroplating on at least such portion of said ferrous metal a firmly adherent at least masking electrodeposit of iron, while said at least cleaned portion which is to be in the fusion junction is immersed as a cathode in an aqueous iron-plating bath having a pH of from 7 to about 3.0 and containing dissolved therein an organic sequestering agent in an amount substantially sufficient for any iron derivative in the bath to be present as the iron chelate of said sequestering agent; removing the thus iron-plated ferrous metal from said bath and any plating solution adhering to said bath; and thereafter fusion-joining said fusion-joinable metal to the said ferrous metal object at such iron-plated portion and by any simpler fusion-joining method generally readily applicable to fusion-joining to a low carbon steel.

3,380,152

WRITING IMPLEMENT

Gary L. Wilcox, Fort Madison, Iowa, assignor, by mesne assignments, to Textron, Inc., Providence, R.I., a corporation of Rhode Island
Filed Oct. 18, 1965, Ser. No. 497,077
10 Claims. (Cl. 29—527)

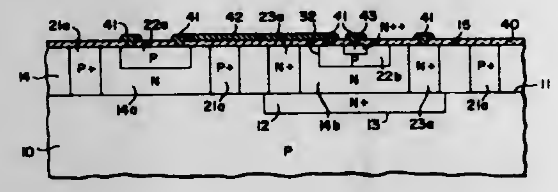


1. The method of making a ball type ink dispensing implement which consists of forming a socket in a metallic tip having an electrochemically active exterior surface, preparing a ball having an electrochemically passive surface, confining said ball within said socket with a portion thereof exposed for free universal rotation, immersing said assembly in a plating bath, depositing on said tip a thin metallic coating, removing said assembly from said bath, promptly rinsing said assembly to remove residual material from said plating bath, and thereafter maintaining said assembly in a non-conductive fluid until ready for inking.

3,380,153

METHOD OF FORMING A SEMICONDUCTOR INTEGRATED CIRCUIT THAT INCLUDES A FAST SWITCHING TRANSISTOR

John D. Husher, Ellicott City, Md., and Paul M. Kisinko, Greensburg, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 30, 1965, Ser. No. 500,461
4 Claims. (Cl. 29—577)

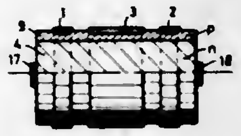


1. In a method of forming a semiconductor integrated circuit that includes at least one fast switching transistor, the steps comprising: forming in p-n junction relation with a surface of a substrate of a first type of semiconductivity a region of a second type of semiconductivity; forming an epitaxial layer of said second type of semiconductivity on said surface covering said region, said layer having a resistivity substantially greater than that of said region; depositing a first quantity of doping impurity capable of imparting said first type of semiconductivity on a surface of said layer in a pattern for isolating functional elements of the integrated circuit; depositing a second quantity of doping impurity capable of imparting said first type of semiconductivity on said surface in a first isolated portion hereof, said first quantity amounting to a substantially greater concentration of doping impurity per unit area than said second quantity; depositing a third quantity of doping impurity capable of imparting said second type of semiconductivity in a pattern surrounding said second quantity of doping impurity; heating the structure to drive simultaneously said first and third quantities of doping impurity through said layer to form an isolation wall and a collector wall, respectively, and said second quantity of doping impurity to a position within said layer to form a transistor base region, forming an additional region of said second type of semiconductivity in said base region to serve as an emitter region; and forming ohmic contacts at least to said collector wall and said base and emitter regions.

3,380,154

UNIPOLAR DIFFUSION TRANSISTOR

Karl Siebertz, Munich-Obermenzing, and Richard Wiesner, Munich, Germany, assignors to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany
Original application Nov. 24, 1959, Ser. No. 855,171, now Patent No. 3,152,294, dated Oct. 6, 1964. Divided and this application Sept. 10, 1964, Ser. No. 395,450
6 Claims. (Cl. 29—571)

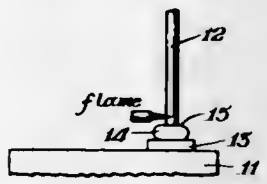


A process of producing unipolar transistors in which a doping material producing the opposite conduction type is diffused into the surface of a low resistance semiconductor crystal, and if desired also diffusing a second doping material producing the same conduction type therein, to respectively form a thin surface zone or thin intermediate zone of high resistance, contacting said high resistance zone with two barrier free electrodes and contacting one of the zones of the crystal by an electrode disposed between said two electrodes.

3,380,155

PRODUCTION OF CONTACT PADS FOR SEMICONDUCTORS

Darrall P. Burks, Williamstown, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed May 12, 1965, Ser. No. 455,057
3 Claims. (Cl. 29—591)



A flanged lead is bonded to a metallized area on a semiconductor chip. The lead is then flamed-off immediately adjacent the flange so as to melt any remaining lead and the external surface of the flange to thereby leave a smooth surfaced contact pad.

3,380,156

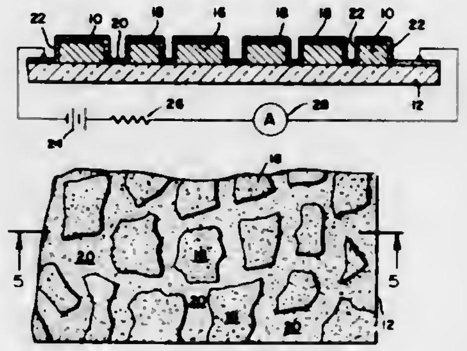
METHOD OF FABRICATING THIN FILM RESISTORS

Douglas E. Lood, Rodondo Beach, Rueben S. Spriggs, San Pedro, and John L. Rogers, Hermosa Beach, Calif., assignors to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Filed Nov. 15, 1965, Ser. No. 507,956
11 Claims. (Cl. 29—620)

1. A method of fabricating an electrically resistive mesh film, comprising:

producing a multiplicity of closely spaced unconnected islands of oxidizable metal on an electrically insulative substrate;

oxidizing the top and side surfaces of said metal islands to render the surfaces electrically insulative and to insulate the islands from each other;

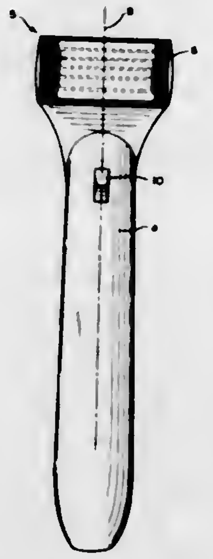


and filling the spaces between said islands with electrically conductive material to form a network of high electrical sheet resistance.

3,380,157

ELECTRIC RAZOR WITH APPROXIMATELY CYLINDRICAL HANDLE AND CYLINDRICAL CUTTING SURFACE AT AN ANGLE THERETO

Eugene Matichard, Ambilly Haute-Savoie, France, assignor to Etablissement Aesup, Vaduz, Liechtenstein, a firm of Liechtenstein
Filed May 28, 1965, Ser. No. 475,030
Claims priority, application Switzerland, May 29,1964, 7,044/64
3 Claims. (Cl. 30—43.92)

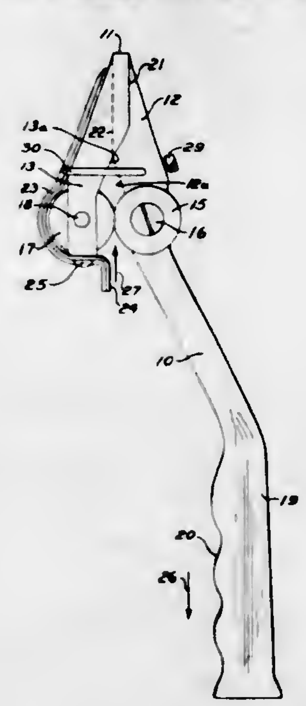


1. An electric razor comprising an approximately cylindrical body forming a handle, a cutting head comprising a grid and movable inner cutting means cooperating therewith, said cutting head being mounted at one end of said handle and projecting forwardly and upwardly therefrom, and a driving motor within said body for driving said movable cutting means, said handle having a cross-sectional area of about 5 sq. cm. and a length greater than the breadth of the user's hand, said cutting head having an area cutting surface in the shape of a convex substantially cylindrical sector with the axis thereof at right angles to the axis of said handle, said area cutting surface having an arcuate dimension of at least about 3 cm. and extending in the axial direction thereof beyond said handle on each side thereof, said area cutting surface being substantially offset from the axis of the handle in the cutting direction thereof and the secant plane of the cutting surface intersecting the axis of the handle beyond the cutting head and making a substantial included acute angle therewith within the range of approximately 20 to 35 degrees.

3,380,158

CUTTING TOOL

Edward M. Du Bois, 5054 Pensacola, Dayton, Ohio 45439
Filed Mar. 23, 1966, Ser. No. 536,811
2 Claims. (Cl. 30—233)

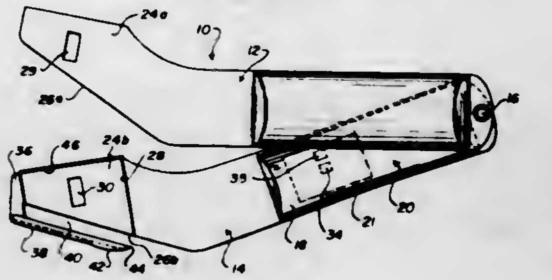


A cutting tool having a pair of offset cutter rolls each rotatably mounted on one of a pair of spaced apart legs diverging angularly from an interconnecting bar. At least one of the legs serves to deflect sheet material away from the cutting plane after the material has been cut by the rolls.

3,380,159

CUTTING DEVICE

Emanuel A. Winston, 2925 W. Touhy Ave., Chicago, Ill. 60645
Filed Feb. 25, 1966, Ser. No. 530,003
5 Claims. (Cl. 30—293)



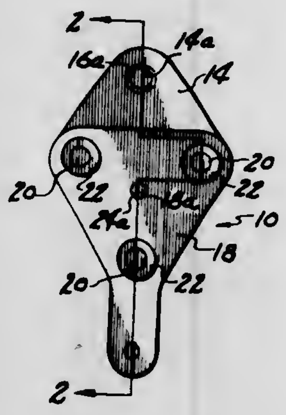
A cutting device for opening shipping containers and the like consisting of a handle with an adjustable slot at the lower end, and a runner at the extreme lower end with a pointed tip to penetrate the walls of the shipping container and with a cutting blade across said slot to cut the adjacent wall of said container without damage to the contents.

3,380,160

PIERCING PUNCH DEVICE

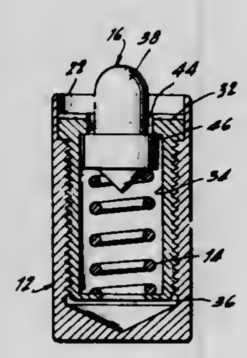
Walter Carl Kirchberger, Menomonee Falls, and Dennis Edwin Nelson, Milwaukee, Wis., assignors to Globe-Union Inc., Milwaukee, Wis., a corporation of Delaware
Filed Oct. 23, 1965, Ser. No. 502,919
2 Claims. (Cl. 30—362)

A device for punching holes in the partition walls of a battery case is disclosed. The device is intended for portable operation and includes spaced parallel die and punch plates with respective die and punch parts positioned at portions of the plates spaced from a driving mechanism. The punch and die plates are easily slipped over the partition wall of the battery so that the die and



punch are properly located to form the hole. The device includes guide pins and a stripper plate for ease of operation.

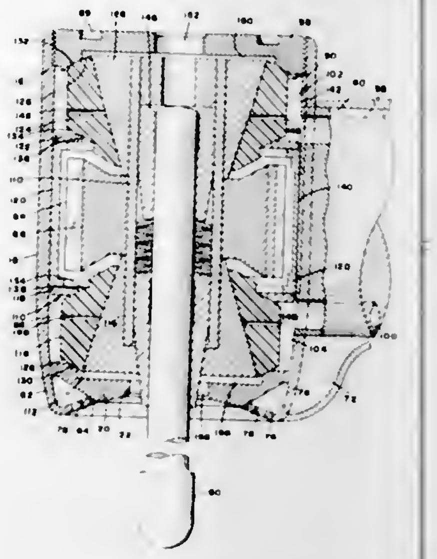
3,380,161
DETENT FOR AN ARTIFICIAL TOOTH
Bernard Weissman, 304 Ashland Place, Brooklyn, N.Y. 11217
Filed July 22, 1965, Ser. No. 474,105
3 Claims. (Cl. 32—5)



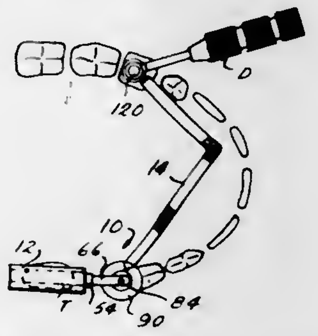
The invention is directed to a detent device for removably securing a dental prosthesis in position, said device comprising a tubular casing, a detent plunger disposed in said casing, said plunger having an end portion projecting externally of said casing, a spring disposed within said casing urging said plunger externally thereof, and stop means carried by said casing for limiting the external projection of said plunger therefrom.

3,380,162
AIR TURBINE MOTOR WITH RESILIENTLY BIASED ADJUSTABLE TAPERED BEARINGS
William R. Heathe, York, Pa., assignor to The Dentists' Supply Company of New York, York, Pa., a corporation of New York
Continuation-in-part of application Ser. No. 498,281, Oct. 20, 1965. This application Oct. 5, 1966, Ser. No. 584,596
16 Claims. (Cl. 32—27)

An air turbine motor having a rotor on a shaft supported by combination radial and thrust air bearings each comprising cooperating stator and rotor bearings having complementary tapered bearing surfaces, axially variable yieldable means extending between said stator bearings, and positioning means operable in opposition to said variable yieldable means to move said one of said stator bearings axially to establish a desired running clearance between said stator and rotor bearings.



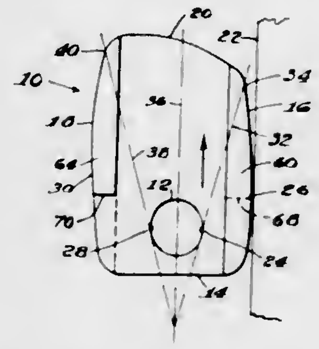
3,380,163
PRECISION INTRA-ORAL INSTRUMENT
Robert D. Westerman, 108 Nebraska Road, Dyess AFB, Tex. 79607
Filed July 2, 1964, Ser. No. 379,881
12 Claims. (Cl. 32—67)



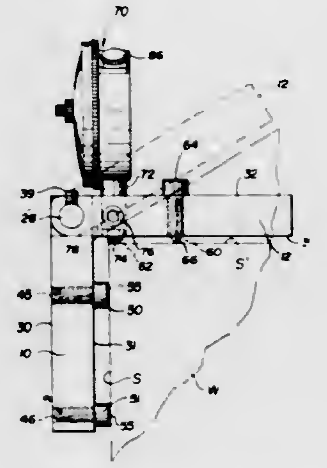
5. An intra-orally stabilized dental drilling guide comprising a stabilizer bite block adapted to be received between maxillary and mandibular dental arches; means mounting a ball socket on said bite block; a ball received by said ball socket; means on said ball socket means for selectively immobilizing said ball at any desired angular position thereof; parallelizing arm means mounted on said ball and extending outwardly therefrom; and means positioned on the parallelizing arm adjacent the outer extent thereof for receiving a bur carrying dental handpiece; the ball socket mounting means comprising a non-circular channel directed longitudinally of the bite block intermediate the upper and lower extent of the bite block and a non-circular arm slidably received in said channel, said socket being secured to the forward end of said non-circular arm; the ball socket comprises an elongated upwardly and forwardly extending upper yoke portion, an elongated downwardly and forwardly extending lower yoke portion, a pressure pad received at the forward extent of the two yoke portions, and means for moving one of the pressure pads toward the other pressure pad to immobilize the ball received in said socket.

3,380,164
DRAFTING TOOL
Joseph Norbedo, 300 Summit Ave., Brighton, Mass. 02135
Filed Nov. 17, 1966, Ser. No. 595,257
2 Claims. (Cl. 33—42)

A flat substantially rectangular sheet plastic tool having a curved edge and an opening for a line drawing instrument arranged so that when the tool is moved along a guide the line drawn will be parallel to and equidistantly spaced from the guide. Arranged so that an inked line will not be smeared by movement of the tool in the direction of the line being drawn.

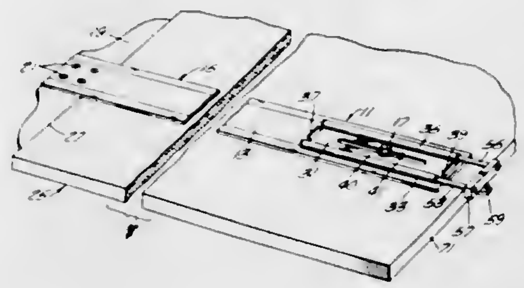


3,380,165
ANGLE GAUGE
Robert P. Urban, 3856 W. 227th St., Fairview Park, Ohio 44126
Filed Oct. 6, 1965, Ser. No. 493,494
8 Claims. (Cl. 33—75)



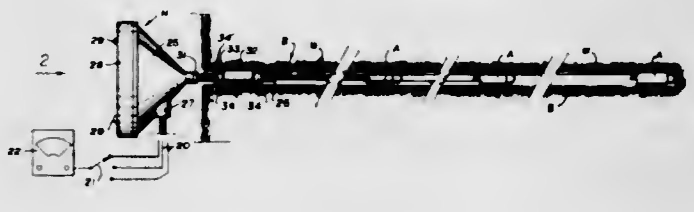
An adjustable angle gauge for checking and measuring the deviation of two adjacent surfaces of a work piece relative to a desired predetermined angular relationship, the gauge has two pivotally connected rigid members, each with three, fixed, non-aligned projections for contacting the work piece. One of the three projections on one of the members is movable relative to the member and is connected with an indicator.

3,380,166
T-SQUARE STABILIZER
James E. Hoyle, 25408 Highway 66, Barstow, Calif. 92311
Filed Aug. 22, 1966, Ser. No. 580,845
3 Claims. (Cl. 33—80)



A device is disclosed for attachment to a T-square blade so as to cause the T-square head to be pressed firmly against the working edge of the T-square. The device maintains the working edge of the T-square blade in alignment with the working edge of the drawing board. The upper surface of the device can be constructed so as to form a tray for the storage of supplies such as pencils and erasers. When the device is attached to a modified adjustable-head T-square, the T-square can be tilted upward or downward.

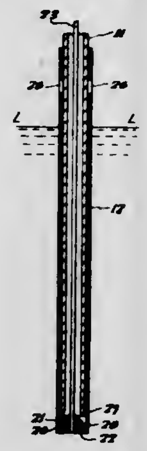
3,380,167
BOREHOLE EXTENSOMETER
John F. Abel, Jr., Golden, and Egon A. Wieselmann, Denver, Colo., assignors to Terrametrics, a division of Patrick Harrison, Inc., Golden, Colo., a corporation of Florida
Filed Dec. 22, 1964, Ser. No. 420,316
8 Claims. (Cl. 33—125)



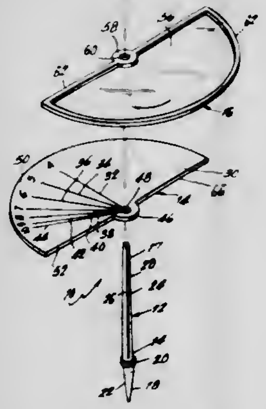
1. Apparatus for measuring rock movement in a borehole comprising:
- an anchor means adapted to be secured in the borehole at a selected position therein and to hold the end of a wire;
- a stretchable wire secured to the anchor means and adapted to extend to the mouth of the borehole;
- a support head at the mouth of the borehole;
- a cantilever spring means mounted upon the head and laterally disposed with respect to the wire, the outstanding end of said spring means being aligned with the wire and said spring means being adapted to flex in the direction of the borehole axis;
- means for connecting the wire with the spring means with sufficient tightness to stretch the wire and flex the spring means, whereby the wire and spring means are deflected together as an elastic system responsive to changes of length of the borehole and said spring means reflects both changes in length of the borehole and changes in wire tension caused by changes in the length of the borehole; and
- transducer recording means including a strain gauge affixed to said cantilever spring means for measuring the flexing of the spring means, whereby to permit determination of the rock movement, as indicated by changing of the borehole length between the anchor means and the support head.

3,380,168
LIQUID-LEVEL INDICATING MEANS
John Leonard Holden, "Hillcrest," Park Road, Haltwhistle, England, and Philip John Holden, B.S.A. Police Depot, P.O. Box 8005, Salisbury, Southern Rhodesia
Filed Nov. 3, 1965, Ser. No. 506,191
Claims priority, application Great Britain, Nov. 3, 1964, 44,749/64
8 Claims. (Cl. 33—126.4)

The purpose of the invention is to provide means for the indication of the level of liquid in a container, comprising an elongated cylinder depending into the container and having an extension projecting from the upper end of the container, and normally open valve means at the lower end of said cylinder such that a column of liquid entering the tube, and rising therein to the level of the liquid in the container, may be maintained and raised within the cylinder and into said extension, wherein it can be inspected against gauge markings.



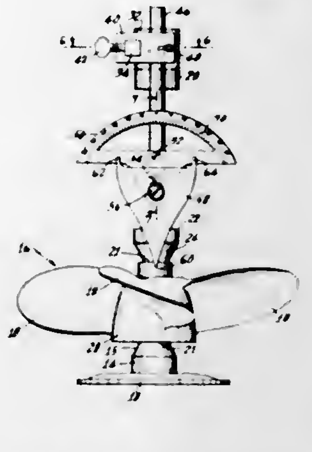
3,380,169
PIE AND CAKE DIVIDER
Joseph Ungar, 118 Coleridge St., Brooklyn, N.Y. 11235, and Art Miller, 8 Roosevelt Ave., Larchmont, N.Y. 10538
Filed Oct. 19, 1965, Ser. No. 498,008
1 Claim. (Cl. 33—174)



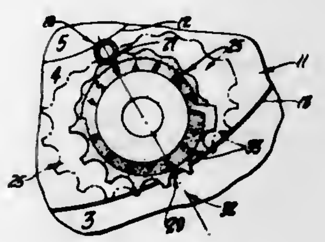
A pie and cake divider comprising a bifurcated tapered standard having a lower end for insertion into a pie and an upper end for clampingly holding a lower plate. The lower plate is semi-circular in shape, while the upper plate is also semi-circular in shape, both being provided with spacing ribs. The spacing ribs of the lower plate hold the lower plate above the pastry, while the spacer ribs of the upper plate facilitate rotation thereof above the lower plate.

3,380,170
GAUGE
James G. Read, 14719 Plumosa Drive, Jacksonville Beach, Fla. 32050
Filed Oct. 22, 1965, Ser. No. 502,246
8 Claims. (Cl. 33—174)

A propeller pitch and radius gauge including a base member, a first vertically upstanding cylindrical shaft mounted on the base member, a first conical hub mounted on the base member and mounted to the first shaft and a second conical hub having a passage therethrough slidably and adjustably mounted on the first shaft with the first shaft passing through the passageway thereof, the first and second hubs being adapted and arranged to engage a propeller when the propeller is mounted between the hubs with the first shaft passing through the bore of the propeller. The gauge further includes a pitch and radius measuring mechanism adjustably mounted on the upper portion of the first shaft above the second hub. This measuring mechanism includes an adjustable member slidably mounted on the upper portion of the first shaft, an arm connected to the adjustable member and extending outwardly therefrom generally perpendicular to the first upstanding shaft, with the arm being provided with dimension indicia to measure the radius of a propeller when the measuring mechanism is positioned adjacent the circumference of a propeller to be measured, a slidable member adjustably mounted on the arm and a second vertically upstanding shaft generally parallel to the first shaft adjustably mounted to the slidable member. The measuring mechanism also includes an arcuate scale element mounted to the second shaft adjacent its lower end which has indicia to determine the pitch of a propeller blade when the measuring mechanism is positioned adjacent and across the surface of a propeller blade to be measured, and further includes a rotatable indicator adjacent the lower portion of the scale element. The indicator has a single pointer on one of its ends for use in measuring the radius of a propeller and a pair of spaced pointers on its end opposite to the single pointer for use in measuring the pitch of a propeller blade with the single pointer indicating the pitch on the scale element.

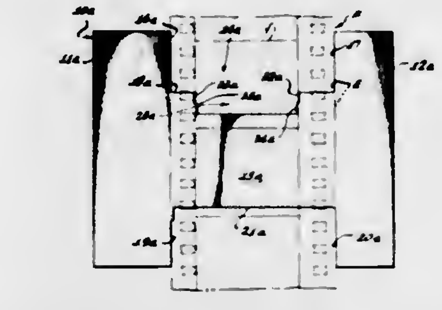


3,380,171
ARCHERY SCORE DETERMINING MEANS AND PROCESS
Georges Ovila Rouleau, 19104 Woodcrest, Harper Woods, Mich. 48236
Filed Feb. 17, 1966, Ser. No. 528,124
8 Claims. (Cl. 33—174)



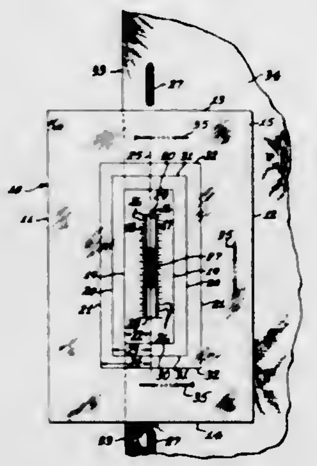
An archery score determining gage in the form of a disc-like member having a set of arrow shaft engaging sockets indented from and disposed around one-half of its circumferential edge and an oppositely positioned set of corresponding sockets indented from and disposed around the other half of its circumferential edge. The sockets of each set are formed on a circular arc, the radii of which are different and equal, respectively, to that of different size arrow shafts. The corresponding matching, oppositely positioned, sockets of each set are disposed on a respective diameter of the disc-like member and spaced apart from their centers equal to the radial distance between immediately adjacent target boundaries.

3,380,172
FILM GAUGE
Harlan L. Baumbach, 14332 Mulholland Drive, Los Angeles, Calif. 90024
Filed May 10, 1966, Ser. No. 548,968
4 Claims. (Cl. 33—180)



A gauge for motion picture film comprising an H-shaped plate whose upper and lower notches can receive a strip of film looped over its bridge piece, with the latter having a straight edge over which the film can be flattened for precise measurement. The distance between the legs of the H-shaped plate is equal to maximum permissible film width, and the distance between a step on the inside edge of one leg of the inside edge of the other is equal to minimum permissible film width. A stepped notch formed in the bridge piece permits determination of proper locations for longitudinal lines on the film, such as sound track boundaries.

3,380,173
BUTTONHOLE SEWING GUIDE
Edna Pasqualetti, 1702 W. Flower St., Phoenix, Ariz. 85015
Filed Nov. 16, 1964, Ser. No. 411,384
1 Claim. (Cl. 33—190)



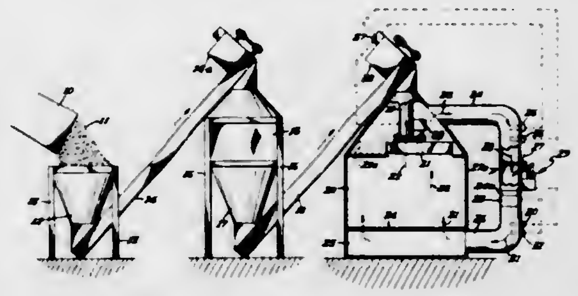
1. A buttonhole sewing guide comprising in combination:

(A) rectangular sheet of pliable transparent plastic material having an elongated slot formed therein having side edges extending parallel to the longer sides of said sheet to determine the width of said buttonhole;

(B) laterally disposed graduation lines longitudinally spaced along and issuing at right angles from said side edges of said slot for determining the length of said buttonhole,

(C) concentrically arranged rectangular parallel edge reference lines on said sheet surrounding said slot and parallel to the edges of said sheet, the side edges of said slot arranged to be selectively aligned with the edge of the garment to receive said buttonholes so as to determine various positions of said buttonholes relative to said garment edge.

3,380,174
METHOD AND APPARATUS FOR CONDITIONING GRAIN
Jay L. McClaren, Garden City, Kans. (Box 142, Kandiyohi, Minn. 56251)
Filed Aug. 15, 1966, Ser. No. 577,565
9 Claims. (Cl. 34—26)



1. A method for conditioning grain, said method comprising the steps of

supplying supply air under pressure and at predetermined conditions of temperature and humidity into a substantially closed bin having wet grain therein,

circulating the supply air through the bin and the wet grain contained therein whereby moisture within the wet grain is transferred to the supply air as it passes upwardly through the grain resulting in return air having a higher humidity and a lower temperature than the supply air,

receiving the return air into a return duct,

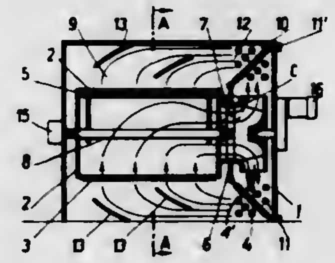
measuring the temperature and humidity of the return air,

adding wet grain into the closed bin in response to predetermined conditions of the measured return air,

blending ambient air with the return air in a predetermined amount in response to predetermined humidity required of the supply air, and

heating the return air in combination with the predetermined amount of ambient air to the predetermined temperature of the supply air thereby providing supply air available to be supplied under pressure to a closed bin, the supply air having predetermined conditions of temperature and humidity.

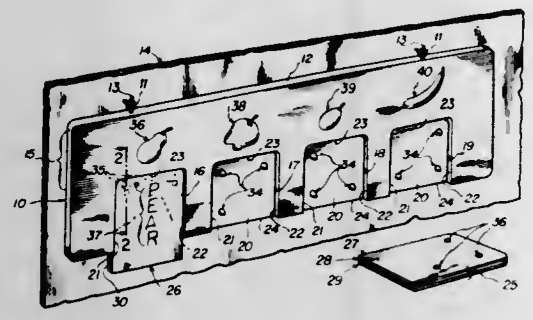
3,380,175
ROTARY SIEVE DRUM TREATING DEVICE
Heinz Fleissner and Gerold Fleissner, Egelsbach, near Frankfurt am Main, Germany, assignors to Anstalt fuer Patentdienst, Vaduz, Liechtenstein
Filed Nov. 26, 1965, Ser. No. 509,935
Claims priority, application Germany, Nov. 27, 1964, A 47,706
32 Claims. (Cl. 34—115)



The present disclosure relates to an apparatus for the treatment of various types of materials, for example, textile materials, wherein the treatment medium, for example, air, is conveyed through the apparatus in a non-turbulent manner, thus providing a uniform and effective treatment of said material. This is accomplished by providing a transmission area between the fan chamber and the treatment chamber of a sieve drum which is substantially void of any partition means. The present disclosure also relates to the vertical arrangement of a sieve drum apparatus.

3,380,176
SELF-CORRECTING EDUCATIONAL DEVICE, GAME AND ASSOCIATIVE DISPLAY

Frederick R. Kling, Point Pleasant, Pa., and Robert Serrell, Princeton, N.J., assignors to Educational Testing Service, Princeton, N.J., a corporation of New York
Filed June 2, 1966, Ser. No. 554,892
9 Claims. (Cl. 35—9)

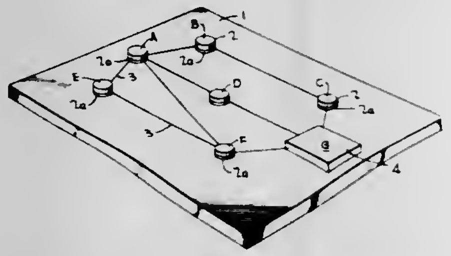


An educational and game device in which a base structure having a face for disposition in an upright plane and provided with at least one framed recess has associated therewith a group of separate panels each of which is selectively, loosely receptive in the framed recess, the framed recess having a backwall and an open drop-out bottom side. Paired mutually attractive magnetic elements are fixed in the recess backwall and each panel and provide a magnetic force of sufficient strength to hold the panel in the recess when the back face of the panel is juxtaposed with the backwall, but which is insufficient to prevent drop-out of the panel from the recess if the panel is spaced sufficiently from the recess backwall.

The base structure adjacent the recess is provided with an intelligence symbol and the panels are also provided with intelligence symbols but the symbols on only certain of the panels relate with that on the base structure to convey a meaningful message. The backwall of the framed recess and the back face of each panel are provided with protuberances and cavities which are arranged in coded pattern providing that only protuberances and cavities of the backwall and those certain panels which cooperate to convey a meaningful message interfit thereby allowing said certain panels to be received in the recess with the back face closely juxtaposed with the backwall.

3,380,177
CRITICAL PATH AND PROJECT EVOLUTION REVIEW PLANNING DEVICE

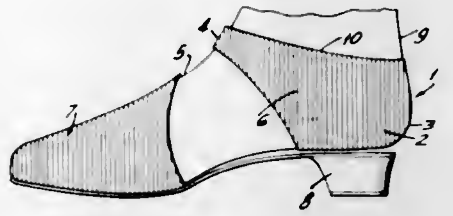
Heinz R. Wagner, Zurich, Switzerland, assignor to Ruegg-Naegeli & Cie Aktiengesellschaft, Zurich, Switzerland, a corporation of Switzerland
Filed Aug. 25, 1965, Ser. No. 482,440
Claims priority, application Switzerland, Sept. 2, 1964, 11,440/64; June 21, 1965, 8,640/65
37 Claims. (Cl. 35—24)



A planning device for critical path techniques and the like wherein a plurality of holder members are selectively positionable and detachably secured to a base plate. Flexible elongated connecting elements are then attached between various desired holder members. Each holder member corresponds to one of several events which is desired to be represented, whereas the flexible elongated connecting elements between the holder members represent activities which are expected to happen between the events represented by the holder members. Accordingly, a method of planning is provided utilizing critical path and project evolution techniques.

3,380,178
HEEL GARMENT AND COMBINATION FOOTWEAR AND HEEL GARMENT

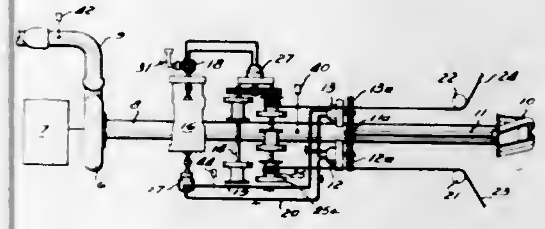
Sarah Haig, 811 Noble Ave.,
Bronx, N.Y. 10472
Filed Apr. 8, 1966, Ser. No. 541,352
4 Claims. (Cl. 36—2.5)



A heel garment and combination foot wear and heel garment providing a heel covering underlying the heel of a foot with the sides of the garment extending upward to engage the rear and sides of the foot. An integral strap either over the instep or an extending strap from the underlying portion to a toe of the foot maintains the garment in fixed position on the foot.

3,380,179
AUTOMATIC CONTROL OF SWING SPEED FOR DREDGES

Fred J. Schmidt, Baltimore, Md., assignor to Ellicott Machine Corporation, Baltimore, Md., a corporation of Maryland
Continuation-in-part of application Ser. No. 591,193, Nov. 1, 1966. This application Mar. 20, 1967, Ser. No. 633,653
8 Claims. (Cl. 37—58)

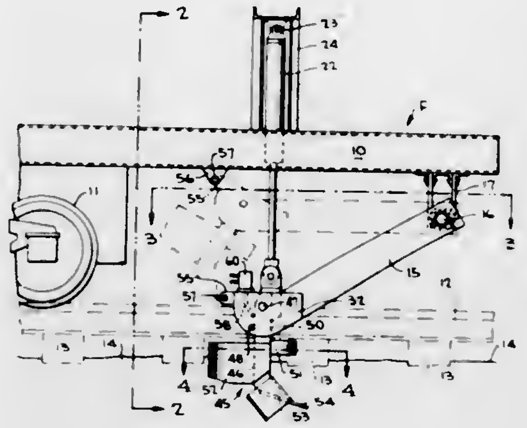


Automatic speed control for the transverse swing of a dredge cutter comprising a command signal and condition sensors leading to a comparator so that the speed of the motor which induces swing may be varied in accordance with sensed dredging conditions including cutter load discharge pressure and suction pipe pressure, and cutter torque.

3,380,180
BALLAST CLEANING APPARATUS

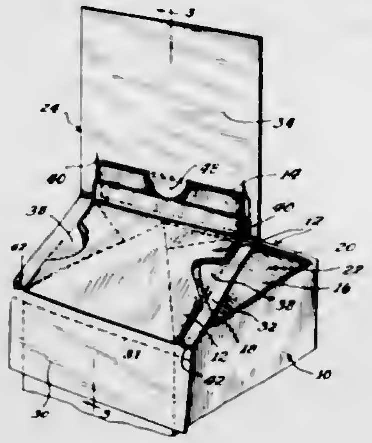
Martin J. Speno, Syracuse, N.Y., assignor to Frank Speno Railroad Ballast Cleaning Co., Inc., Ithaca, N.Y., a corporation of New York
Filed May 10, 1965, Ser. No. 454,588
10 Claims. (Cl. 37—105)

A scarifier assembly supported from a flatcar to engage the ballast of the roadbed near the ends of the ties and comprising a rigid frame carried by the car at a free end of which an excavating tool is carried. A guide shoe is connected to the tool for operative engagement with the ties to properly position the tool and the frame is yieldingly urged toward the ties to maintain the shoe in engagement with them. The tool is connected to the frame for yielding movement and secured against such yielding by a shear pin. The frame itself is swingable between its operative raised and lowered positions respectively by a suitable fluid actuated unit.



3,380,181
ADVERTISEMENT ATTACHMENT FOR GABLE-TOP CONTAINERS

Bernard Karel, 311 N. Des Plaines St.,
Chicago, Ill. 60606
Filed May 23, 1966, Ser. No. 552,117
4 Claims. (Cl. 40—312)

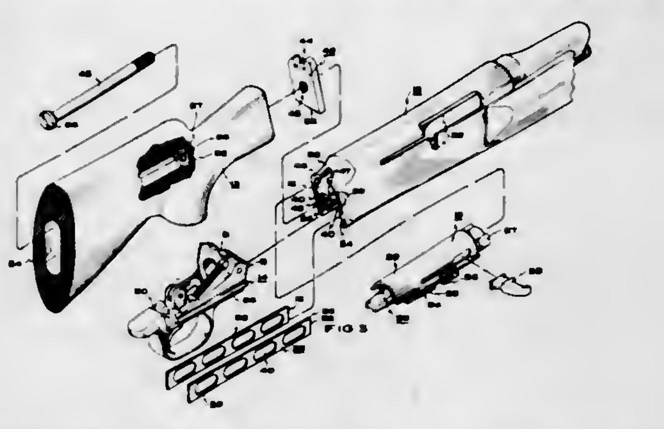


An advertisement attachment for gable-top containers formed of a single blank of material having a section adapted to extend above the top of the container for advertising copy, with said section having a tab cut therefrom to engage and lock with the top rib of the gable top and with another section of the attachment having triangular-shaped attaching means which are positioned inside the side spaces of the gable-top container.

3,380,182
RECEIVER-STOCK ASSEMBLY FOR FIREARM

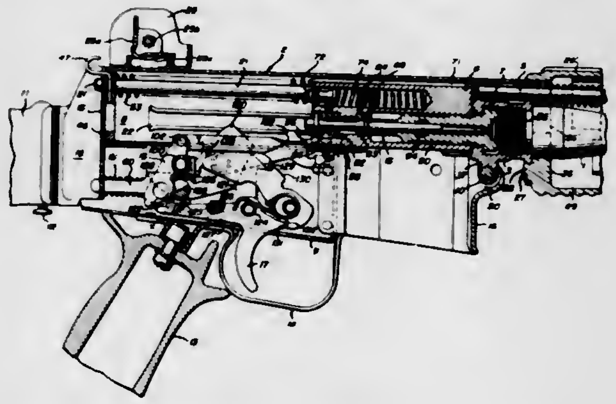
Bruce W. Browning, Ogden, Utah, assignor to Browning Industries, Incorporated, Morgan, Utah, a corporation of Utah
Filed Jan. 3, 1967, Ser. No. 606,844
7 Claims. (Cl. 42—75)

The present invention presents an improved receiver-stock assembly for firearms. The assembly is easily disassembled, admits of slideable removal of the trigger assembly and provides, upon disassembly, ready access to the open interior of the receiver, this for cleaning, replacement, or other purposes. Blind attachment means for locking the stock to the receiver is facilitated.



3,380,183
UPPER HANDGUARD FIXEDLY MOUNTED ON BARREL ASSEMBLY BY BREECHBLOCK GUIDE RODS

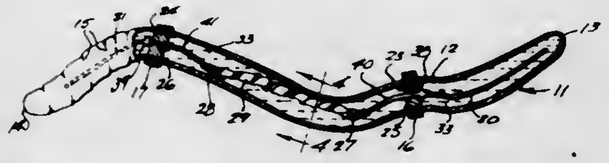
Arthur Miller, Costa Mesa, Charles H. Dorchester, Newport Beach, and George C. Sullivan, North Hollywood, Calif., assignors to Armalite, Inc., Costa Mesa, Calif., a corporation of California
Continuation-in-part of application Ser. No. 432,198, Feb. 12, 1965, now Patent No. 3,318,192, dated May 9, 1967. This application Mar. 10, 1967, Ser. No. 622,340
3 Claims. (Cl. 42—75)



A rifle of the lock action type having a barrel mounting means for mounting the barrel assembly on the receiver assembly, and at least one guide rod mounted in the receiver assembly for guiding the bolt means, the improvement including an apertured member extending from the barrel mounting means and adapted to be engaged by a lug on the handguard, and means carried by the handguard for receiving the guide rod, to fixedly mount the handguard on the barrel assembly.

3,380,184
ANIMATED FISH LURE

Joseph I. Fernandez, 15415 Woodard Road,
San Jose, Calif. 95124
Filed Apr. 19, 1966, Ser. No. 543,697
8 Claims. (Cl. 43—26.2)

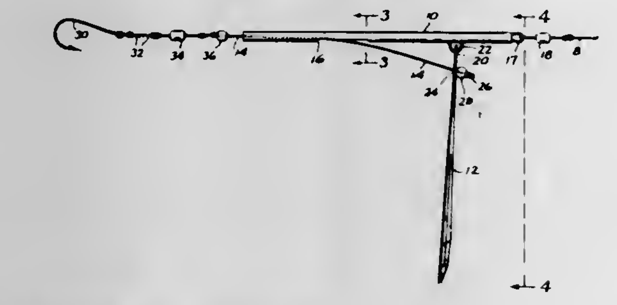


1. An animated lure device comprising an elongated flexible casing having closed ends and being substantially in the form of a simulated worm, spaced supports mounted in said casing, respective shaft elements journaled substan-

tially axially in said supports and having opposite outer extensions directed toward the respective closed ends of the casing, and an elastic band in the casing connecting said shaft elements and being adapted to be wound up in a twisted configuration by rotating one of the ends of the casing relative to the other end thereof.

3,380,185
FISHING LURE

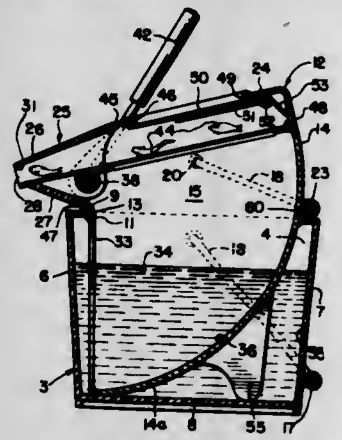
Charles E. Jensen, deceased, late of Portland, Oreg, by Audrey L. Johnson, administratrix, 5515 SW. Canyon Court, Portland, Oreg. 97221
Filed Jan. 14, 1966, Ser. No. 520,810
6 Claims. (Cl. 43—42.11)



1. A fishing lure comprising
- (a) an elongated body adapted to be drawn lengthwise through the water and having a guideway on its trailing portion,
- (b) means connecting the leading end of the body rotatably to a fish line,
- (c) a spoon,
- (d) means pivotally connecting the spoon to the leading portion of the body,
- (e) a flexible connector slidably disposed in the guideway longitudinally thereof, and extending outwardly from said guideway at both ends,
- (f) means connecting the leading end of the connector to the spoon a spaced distance outwardly from its point of pivotal connection to the body,
- (g) and means connecting the trailing end of the connector to a fish hook.

3,380,186
MINNOW BUCKET

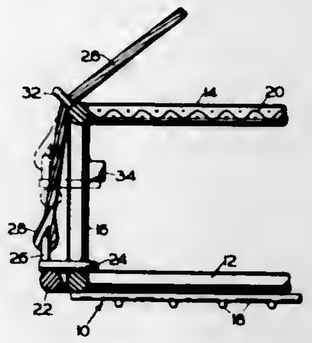
Norman W. Donner, 3807 S. Maplewood Ave., Chicago, Ill. 60618
Filed Aug. 23, 1965, Ser. No. 481,843
10 Claims. (Cl. 43—56)



A minnow bucket comprising inner and outer containers, a screen pivotally connected to the inner container, a spout at one end of the screen, and mechanism for tilting the screen to net the minnows out of the inner container and gravitate them to the spout to meter the minnows into the user's hand, the spout being tilted to return any minnows therein into the inner container upon the screen being pivoted into the inner container to return the minnows thereinto.

3,380,187
TRAP FOR CATCHING CRABS

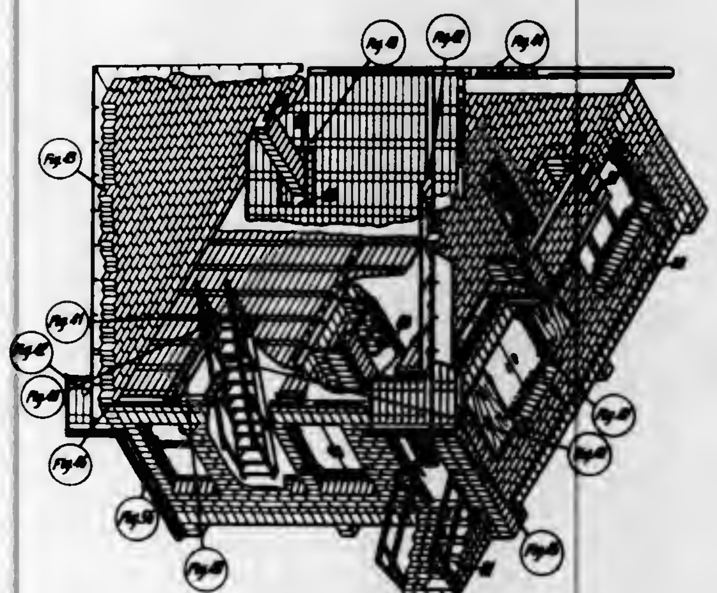
Peter F. Werstlein, 1515 SE. Clinton, Portland, Oreg. 97202
Filed June 28, 1965, Ser. No. 467,482
1 Claim. (Cl. 43—100)



The invention includes a housing having upper and lower annular frame members connected in parallel, vertically spaced relation by upright posts. The opening for the trap is around the sides, the top and bottom having a mesh covering to confine crabs in the trap but allowing water to pass therethrough. An outer ring, to which a lifting line is attached, is connected slidably to the upright posts. Stops are provided on the posts to position the ring in trap closing relation when the lifting line is pulled up.

3,380,188
CONSTRUCTION KIT INCLUDING WALL, ROOF, BEAM AND FLOOR ELEMENTS

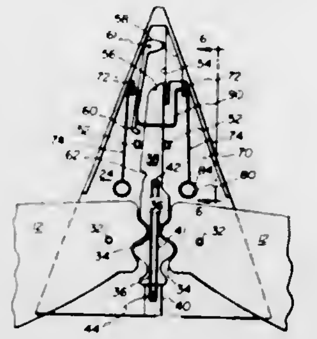
Edmond Baudoux, Villepreux, France, assignor to Etablissement Dic, Vaduz, Liechtenstein, a corporation of Liechtenstein
Filed Jan. 29, 1965, Ser. No. 428,936
Claims priority, application France, Feb. 12, 1964, 963,470
15 Claims. (Cl. 46—19)



A construction toy which includes a plurality of building elements of different shapes and profiles including elements for walls, corners, frames, posts, beams, floors, roofs, stairs and elements for linking and binding the parts together all of which are connectable to each other by means of mating tongues and grooves or in some instances by gluing, so as to permit the construction of toy houses and other types of building structures.

3,380,189
FOLDED WING AEROSPACE CRAFT

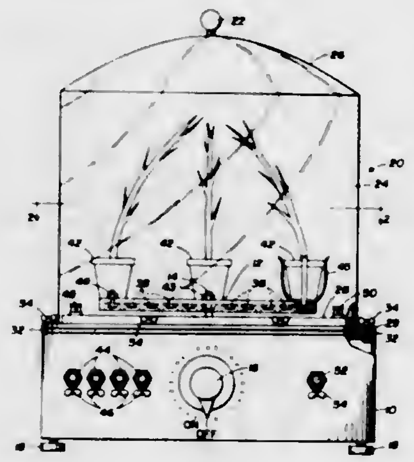
William J. O'Millian, 642 S. Hydraulic, Wichita, Kans. 67211
Filed June 7, 1965, Ser. No. 461,978
12 Claims. (Cl. 46—80)



A folded wing model aircraft houses inertia operating means, keeper means and latch means (for permitting unfolding of wings, under force of a rubber band or the like, at the top of aircraft flight) in a thin, triangular sandwich inserted in a slot in the aircraft fuselage, and includes the features of a rearwardly extending weighted arm achieving inertia release by upward and forward pivoting, teeth on the inner ends of wings mating with grooves on a latch piece, and replaceable wing tips.

3,380,190
METHOD AND APPARATUS FOR DEMONSTRATING TROPISTIC PRINCIPLES

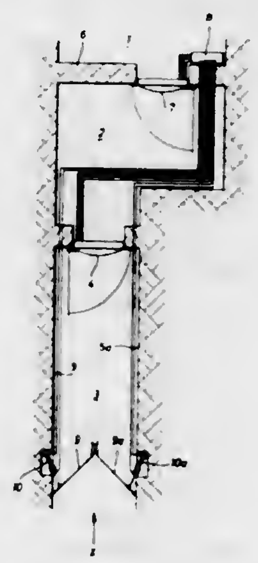
Charles R. Granger, R.R. 2, Tama, Iowa 52339
Filed Mar. 18, 1965, Ser. No. 440,858
4 Claims. (Cl. 47—58)



1. An appartaus for demonstrating the geotropic characteristics of living organisms such as plants and the like, said apparatus comprising a base, a member rotatable above said base about a vertical axis, means for securing growing plant to said member at varied distances from its center of rotation and at its center of rotation, a cylindrical shaped transparent cover removably supported on said base and enclosing said rotatable member while providing for an unobstructed view from all sides of a plant secured to said rotatable member, means for removably securing said cover to said base and providing an airtight seal therebetween, means for variably controlling the speed of said rotatable member, means for admitting gases into and discharging gases from the airtight enclosure formed by said base and cover, and means for controlling the pressure within said enclosure.

3,380,191
ARRANGEMENT FOR CONTROLLING THE FLOW OF PEOPLE IN THE ENTRANCE OF AN AIR-RAID OR OTHER SHELTER

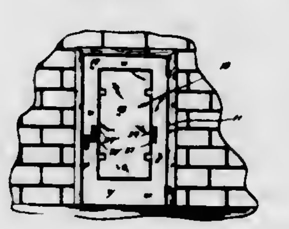
Joachim Neeff and Rudolph Seiz, Bochum, and Michael Funk, Bischmisheim via Saarbrucken, Germany, assignors to Bochumer Eisenhutte Heintzmann & Co., Bochum, Germany
Filed Mar. 8, 1965, Ser. No. 439,135
Claims priority, application Germany, Mar. 9, 1964, B 75,804
13 Claims. (Cl. 49—49)



1. An arrangement for controlling the flow of people boundary walls defining a passage to said entrance; a swingable door including at least one leaf mounted on one of said boundary walls and movable between a closed position blocking the passage and including a given angle with one of said walls and a plurality of positions in each of which said one leaf includes with said one wall an angle smaller than that given angle and defines an opening gap increasing as said angle decreases; at least one guide means extending along said one wall; means guiding the edge of said leaf remote from said opening gap shiftable along said guide means and swingable about said edge in such of; at least one supporting lever pivotally connected at one end thereof to the other edge of said leaf and pivotally connected at the other end thereof to a fixed pivot at said one wall at a location nearer to said entrance than said other edge of said leaf; and moving means cooperating with said leaf for forceably moving the latter be-a manner that said one edge is in said closed position nearer to said entrance than in the other positions thereto an entrance comprising, in combination, two fixed tween said positions thereof.

3,380,192
FIRE DOOR

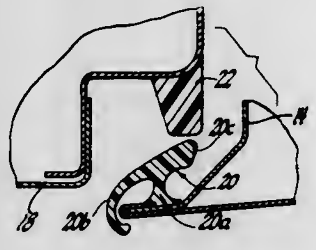
Thomas P. McKenna, North English, Iowa 52316
Filed Mar. 21, 1966, Ser. No. 535,813
2 Claims. (Cl. 49—62)



A fire door including a frame means hingedly secured at one side to a support means and having a removable panel detachably mounted in the frame means. A locking means normally maintains the panel within the frame means and may be unlocked to permit the panel to disengage from the frame means.

3,380,193
RETRACTABLE PROTECTOR FOR VEHICLE DOOR

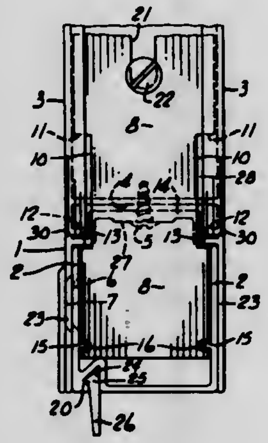
Ronald C. Hill, Pleasant Ridge, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 10, 1966, Ser. No. 533,349
6 Claims. (Cl. 49—462)



A protector for the free edge of a swinging door. A strip of resilient material is mounted on the free edge of the door inboard of the outer door surface. The strip is formed with a hook portion which is held by an actuator member in a retracted position inboard of the outer door surface when the door is closed. Upon opening the door, the resiliency of the material causes the hook portion to swing around the edge of the door, the edge being received in the bight of the hook.

3,380,194
EXPANDER

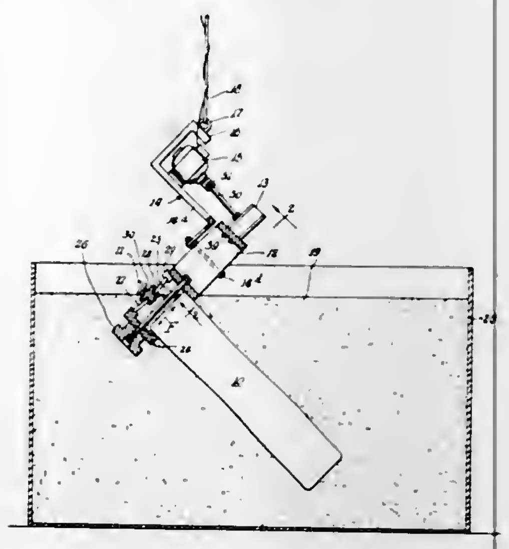
Alexander J. Biro, Indiana, Pa., assignor to Season-All Industries, Inc., a corporation of Pennsylvania
Filed May 23, 1966, Ser. No. 552,073
8 Claims. (Cl. 49—482)



1. An expander for a closure having perimetral ends forming a plurality of corners consisting of an outwardly open channel having its web secured to the perimetral end of the closure to be extended, said channel extending for substantially the full length of said end, a second channel of substantially the same length as the first and having its side flanges slidably fitting in telescopic relation the side flanges of said first channel, cover plates adjustably secured to the closure adjacent its corners and extended over the respective ends of said channels to substantially close the same, and interlocking means between each of said covers and the ends of said second channel to support the latter in its telescoped position.

3,380,195
RESONANT APPARATUS FOR CLEANING WITH LOOSE GRANULES

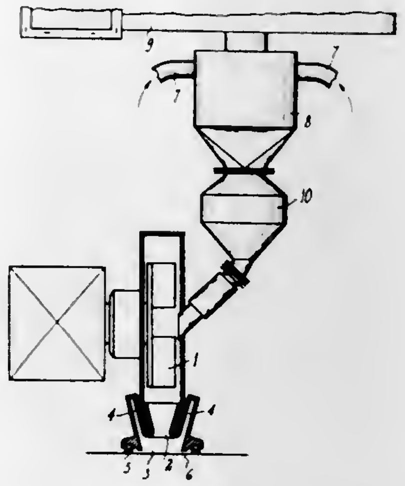
Albert G. Bodine, Jr., Los Angeles, Calif. (7877 Woodley Ave., Van Nuys, Calif. 91406)
Continuation-in-part of application Ser. No. 274,975, Apr. 23, 1963. This application Jan. 5, 1965, Ser. No. 423,559
10 Claims. (Cl. 51—7)



Apparatus for treating metal parts by immersing the parts in loose granules of cleaning material and coupling the parts and the material to an elastic member that is vibrated resonantly.

3,380,196
SURFACE TREATING APPARATUS

Georges Anthony Mabille, Villepreux, France, assignor to Promecam Sisson-Lehmann, Saint-Denis, Seine, France, a corporation of France
Filed Jan. 19, 1965, Ser. No. 426,487
6 Claims. (Cl. 51—9)

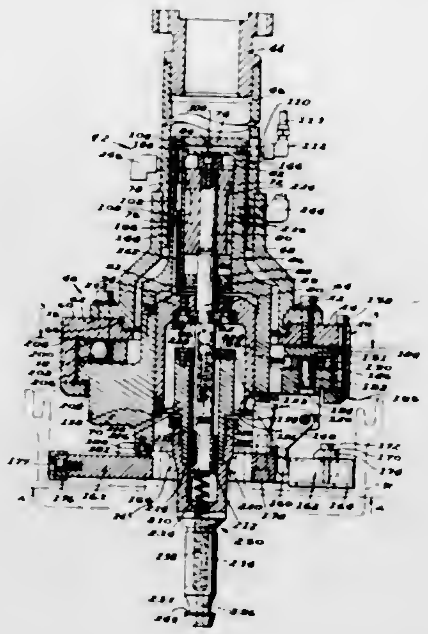


A mobile surface treating apparatus including centrifugal impeller means for impelling a concentrated stream of particulated material against a surface to be treated, and means for collecting the particulate material after the same has impinged on the surface and for feeding the material back to the centrifugal impeller means by suction.

3,380,197
HONING TOOL

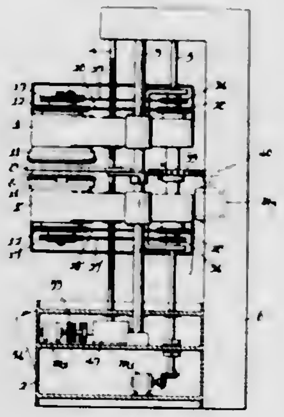
Paul Fitzpatrick, Bloomfield Hills, Mich., assignor to Micromatic Hone Corporation
Filed Sept. 20, 1965, Ser. No. 488,337
4 Claims. (Cl. 51—34)

A brake drum honing tool having means to provide for eccentric adjustment of the honing tool by lateral movement, which includes a bronze ring having radially extending recesses spaced at 90 degrees with respect to each other and pin means to allow movement of said honing tool body with respect to the drive shaft assembly. To locate and retain the honing tool onto a workpiece, a locator arbor is mounted to the arbor holder and adapted to lock on or hold the workpiece in a stationary position as the shiftable abrasive members of the honing tool reciprocate and rotate irregardless of eccentricity or misalignment.



3,380,198
PARALLEL PLANE HONING EQUIPMENT

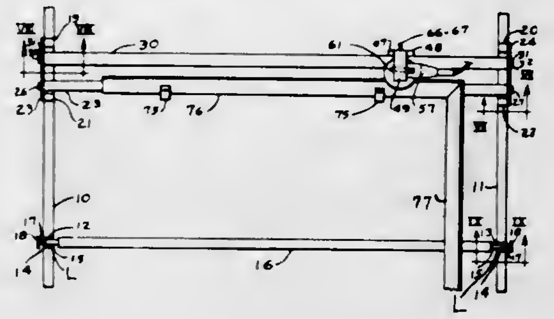
Susumu Takada, 53-1 Shirasagi-cho, Fukuoka-shi, Japan
Filed Feb. 24, 1966, Ser. No. 529,864
Claims priority, application Japan, May 20, 1965, 40/29,713
4 Claims. (Cl. 51—54)



1. A parallel plane honing equipment, comprising
a bed,
a threaded spindle rotatably mounted in said bed,
guide poles secured in said bed and disposed parallel with said threaded spindle,
two sliding arms movable toward and from each other, respectively, by rotation of said threaded spindle and guided in the movements by said guide poles,
rotating members having a flange disposed in said sliding arms and having a passage,
disks including a wheel grinder slidably disposed in said passage,
eccentric means for reciprocating said disks in said passage,
means for turning said rotating members,
means for adding pressing torque to the surfaces of said wheel grinder, and
a holder secured in said bed and adapted to support a workpiece to be ground.

3,380,199
RECONDITIONING DEVICE FOR GROUND-WORKING SWEEP BLADES

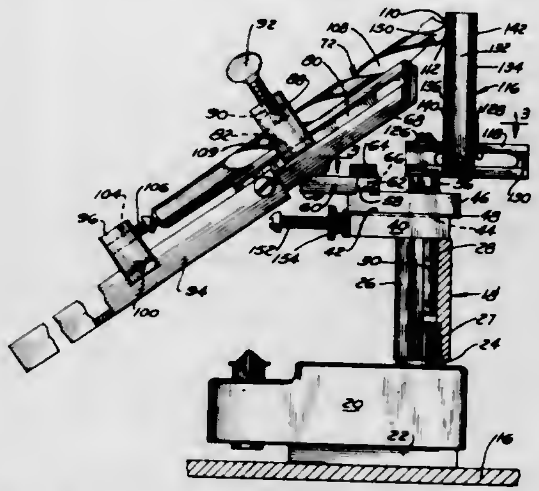
John L. Bradstreet, Dighton, Kans. 67839
Filed June 30, 1965, Ser. No. 468,297
1 Claim. (Cl. 51—56)



This invention is a device for holding a V-shaped blade for grinding and sharpening the blade and consists of a frame work for holding the sweep blade in proper position relative to a power driven grinding unit that is a part of the machine for sharpening the sweep blade.

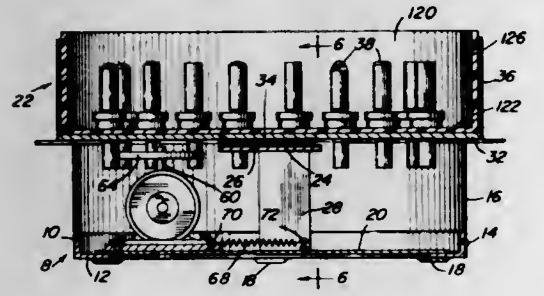
3,380,200
DRILL GRINDING MACHINE

Ralph S. Kirwin, 10 Gates St., Crystal Lake, Ill. 60014
Filed Oct. 12, 1964, Ser. No. 403,189
15 Claims. (Cl. 51—124)



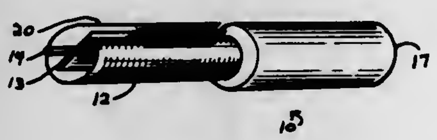
1. A drill sharpener comprising, in combination: an abrasive wheel having a flat surface; means for mounting the abrasive wheel for rotation about an axis normal to the flat surface; a releasable drill clamp having a drill alignment axis for securing a drill in a fixed position on said clamp with the longitudinal axis of the drill parallel to the drill alignment axis and the cutting end of the drill exposed for grinding; a support structure disposed between the releasable clamp and the means for mounting the abrasive wheel for positioning the drill clamp relative to the wheel, said support structure having a first part mounted on the means for mounting the abrasive wheel and a second part mounted on the drill clamp and pivotally mounted on the first part for rotation about an axis parallel to the flat surface of the wheel, the drill alignment axis of the clamp being disposed at an acute angle to a first plane containing the pivotal axis and the first plane being normal to a second plane, said second plane containing the drill alignment axis of the clamp and being parallel to the pivotal axis, said support structure including adjustable means for positioning the drill alignment axis of the clamp relative to the pivotal axis by adjusting said drill clamp and said pivotal axis while maintaining the relation of said elements.

3,380,201
POWER-OPERATED TOOLS
Norman S. Patterson, 17037 S. Oak Park Ave.,
Tinley Park, Ill. 60477
Filed Jan. 20, 1966, Ser. No. 521,785
6 Claims. (Cl. 51—134.5)



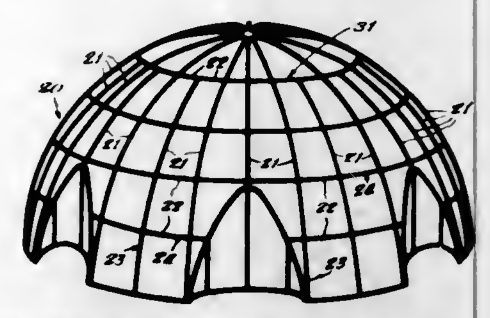
1. In a multiple power-operated tool support, the combination of a base, a turntable mounted on said base to be turnable about a centrally disposed vertical axis, a plurality of tool supporting spindles rotatably mounted on said turntable to rotate on their respective longitudinal axes, said spindles being radially spaced about said centrally disposed vertical axis and with their longitudinal axes disposed parallel thereto, said spindles each including a lower portion protruding through the turntable, a motor mount pivotally supported on said base beneath the turntable to swing on an axis disposed parallel to said longitudinal axes of the spindles and the vertical axis about which the turntable is turnable, said mount supporting an electric motor and a horizontally disposed drive wheel rotatably driven by said motor, said drive wheel being located to engage the lower portion of an adjacent porting an electric motor and a horizontally disposed drive wheel rotatably driven by said motor, said drive wheel located to engage the lower portion of an adjacent pair of said spindles, said turntable being rotatable about its said vertical axis to selectively locate any adjacent two of said spindles in engagement with the drive wheel, and resilient means releasably holding said drive wheel into driving engagement with the lower portion of the two spindles so located to effect rotation thereof.

3,380,202
SOLDER FITTING CLEANING TOOL
Joseph E. Hartinger, Brown County, Wis.
(725 Turek St., Green Bay, Wis. 54302)
Filed Jan. 25, 1966, Ser. No. 525,002
3 Claims. (Cl. 51—364)



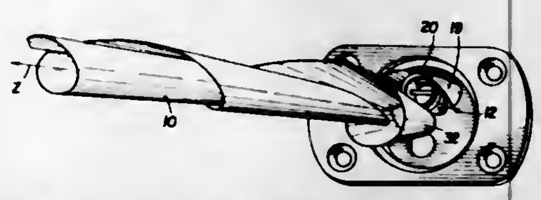
1. A solder fitting cleaning tool comprising, in combination, a cylindrical, rubber-coated sleeve of spring steel with a slot bent to the inside of the sleeve and secured to a handle by a steel drive shaft which is soldered to the inside trailing end of the cylindrical sleeve, and which uses a readily replaceable abrasive cleaning material.

3,380,203
MODULAR FREE-SPAN CURVILINEAR STRUCTURES
Paul L. Peterschmidt, Deerfield, Ill., assignor to Diversification Development Inc., Chicago, Ill., a corporation of Illinois
Filed Nov. 2, 1964, Ser. No. 408,145
2 Claims. (Cl. 52—81)



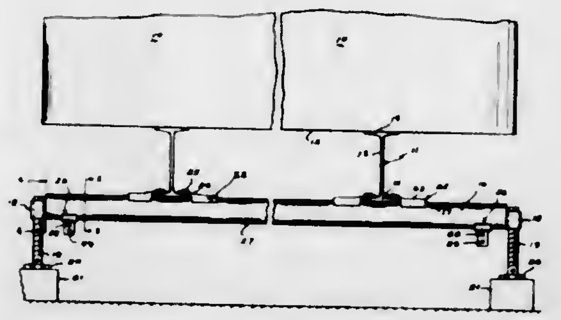
1. A self-supporting, modular free-span continuously vertically curvilinear enclosure structure which comprises a plurality of curvilinear load bearing vertical tubular compression modules having a first noncircular cross-sectional dimension, a plurality of horizontal tubular compression and tension bearing reinforcing modules of a second and smaller cross-sectional dimension, connection means internal said compression modules connecting said compression modules to said reinforcing modules at load bearing joints, said connection means comprising unitary joint elements internal said compression modules having projecting figure eight-shaped end portions, said connected compression modules and reinforcing modules forming a fully self-supporting load bearing curvilinear framework, each of said compression and reinforcing modules having a length equal to the distance between adjacent load bearing joints, said compression modules being joined end to end by said connecting means to define a plurality of continuously curvilinear load bearing vertical arches, said reinforcing modules being joined end to end by said connecting means to define a plurality of tubular members extending horizontally across said structure, and surfacing means fully supported by said framework forming a substantially enclosed structure.

3,380,204
AXIALLY PROJECTABLE STEM DEVICE
John Arthur Fry, Willowdale, Ontario, and Henry James Taylor, Don Mills, Ontario, Canada, assignors to The De Havilland Aircraft of Canada Limited
Continuation-in-part of application Ser. No. 387,162, Aug. 3, 1964. This application June 14, 1965, Ser. No. 463,840
5 Claims. (Cl. 52—108)



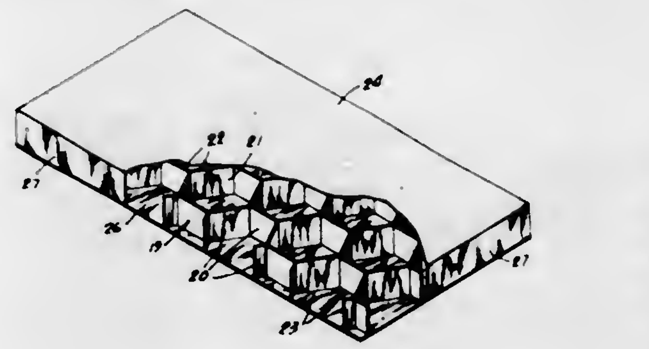
1. An axially projectable stem device comprising: a stem strip of thin spring metal defining a tubular element having overlapping side edges when free; a storage container for said strip in the form of a cup-like structure having an end wall, a side wall and an open end the depth of said cup structure being substantially equal to the width of said strip at least, an anchorage post in said cup of a length conforming substantially to the depth thereof and rigidly mounted eccentrically with respect to the side wall thereof to define a storage coiling space for said strip therein; means pivotally connecting one end of said strip to said post; and releasable means for retaining the remainder of said strip coiled within itself within the storage space beside said post.

3,380,205
FOUNDATIONS FOR TRAILER TYPE HOMES
Raymond G. Ratchford, Dayton, Ohio, assignor to Ratchford Tool Corporation, Englewood, Ohio, a corporation of Ohio
Filed May 7, 1965, Ser. No. 454,118
6 Claims. (Cl. 52—126)



A foundation for a portable home or like supportable structure including beam means adjustable relative to ground surface and having anchor means slidable thereon by which a structure resting on the beam means may be releasably attached for stable installation.

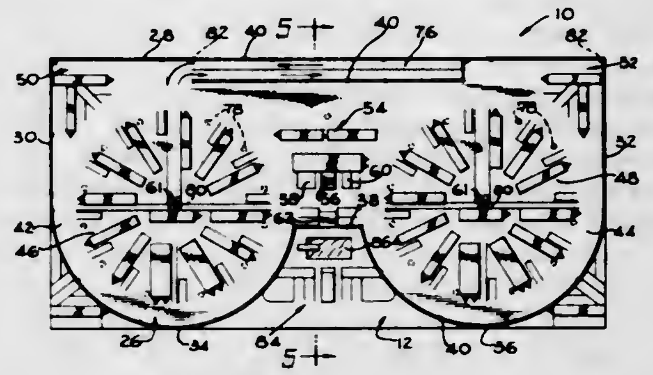
3,380,206
LAY-IN ACOUSTICAL CEILING PANEL WITH FLEXIBLE DIAPHRAGMS
Richard G. Barnett, Deerfield, Ill., assignor to The Soundlock Corporation, Highland Park, Ill., a corporation of Delaware
Filed Sept. 29, 1965, Ser. No. 491,242
11 Claims. (Cl. 52—145)



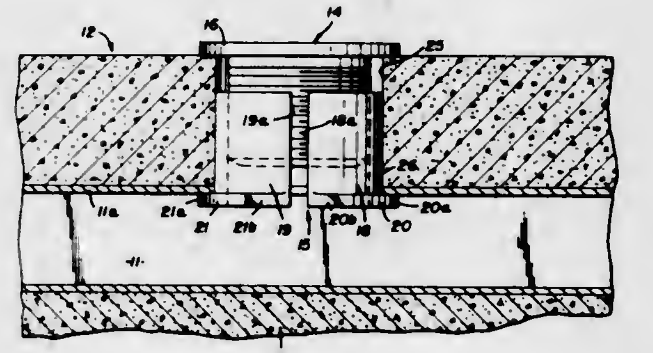
A lay-in acoustical panel for use with a suspended ceiling in which a core stock comprising a section of wall portions is sandwiched between first and second sections of flat, thin flexible facing sheets, the wall portion section forming cells which are sized and the flexibility of the facing sheets being selected to form flexible diaphragms for each individual cell responsive in unison to audible sound frequencies with a diaphragmatic action, thereby permitting the lay-in panel to function as an acoustical unit.

3,380,207
HIGH RISE MOBILE HOME STRUCTURE
David L. Wilson, 1931 E. Meats St.,
Orange, Calif. 92667
Filed July 26, 1965, Ser. No. 474,604
1 Claim. (Cl. 52—176)

The structure is a structure of a plurality of superposed floors which are each arranged to receive a plurality of mobile homes and thus is a high rise mobile home structure. The structure has first and second roadways on each floor and is arranged with the supporting pillars positioned inwardly of the roadways to eliminate obstructions which would make mobile home movement and positioning upon the several floors more difficult. Furthermore, the ramps are of such size and sufficiently easy grade to permit the movement of mobile homes to positions upon the various floors. Access by automobile and by other means is provided to each floor.

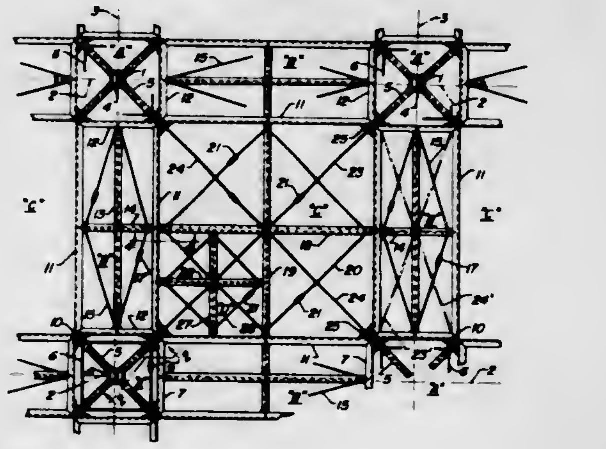


3,380,208
ELECTRICAL FLOOR DUCT ADAPTOR FITTING
Donald S. Cook, 31 Hiawatha Ave.,
Westerville, Ohio 43081
Filed June 16, 1966, Ser. No. 558,123
2 Claims. (Cl. 52—221)



An adaptor fitting adapted to be positioned in an opening in an electrical duct embedded in a floor comprising a split or sectional retainer sleeve assembly with a flange arrangement for engaging the opening when a cooperating adaptor bushing is positioned therein. Removal of the adaptor fitting is possible by first removing the bushing and then removing the retainer sleeve assembly.

3,380,209
PRESTRESSED FRAMING SYSTEM
David B. Cheskin, 407 S. Dearborn,
Chicago, Ill. 60605
Filed Mar. 16, 1964, Ser. No. 352,222
5 Claims. (Cl. 52—223)

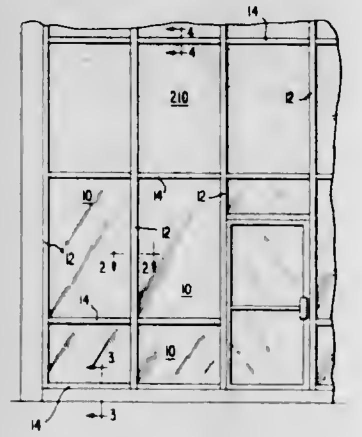


1. A prestressed framing system for building structures which comprises in combination, spaced columns, a canti-

levered shear-head section from each of the spaced columns, and intermediate rectangular frame sections connected therebetween in a two directional manner, with each of said shear-head sections and each of said intermediate frame sections having intersecting beam members therein and at least one high tensile strength tensioning member traversing each of the sections in a single plane and slidably connected to the outer end portions of said intersecting beam members therein whereby to provide prestressing in each of such members and increased allowable loadings for predetermined sized members.

3,380,210
FRAME MEMBER ASSEMBLIES FOR WALL STRUCTURES

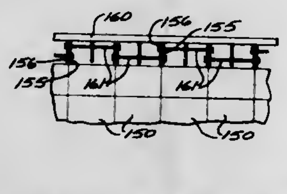
Harry B. Neal and Daniel C. Ehrlich, Atlanta, Ga., assignors to Anaconda Aluminum Company, Louisville, Ky., a corporation of Montana
Filed May 7, 1965, Ser. No. 453,934
7 Claims. (Cl. 52—235)



A frame member assembly for a panel wall structure including a pair of elongated structural members each having a pair of flanges formed thereon, with interlocking means formed on the flanges of each pair in position to engage the interlocking means of the other pair to releasably retain the members in assembled relation. The two structural members are provided with opposing panel clamping arms to releasably clamp and support the peripheral edge of a wall panel when the members are assembled.

3,380,211
SHAPES AND METHOD FOR LINING A ROTARY KILN

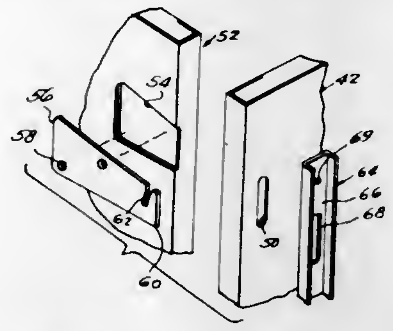
Roger Snellman, Birmingham, Mich., assignor to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 11, 1965, Ser. No. 463,988
11 Claims. (Cl. 52—249)



The combination of a lining and a vessel characterized by a generally circular or arcuate cross-section along a substantial portion of a horizontal or nearly horizontal longitudinal extent, the lining being comprised of two types of brick a first type of which is arranged to wedge in position a second type of brick to form said lining, the second type of brick being conventional in shape.

3,380,212
CLAMPED CORNER JOINT

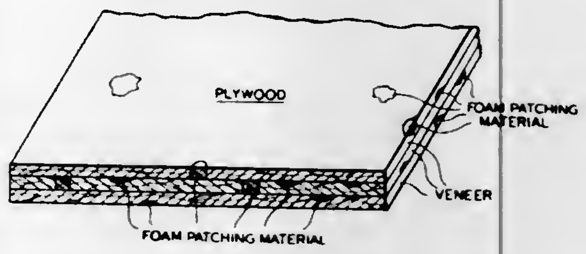
Frank J. Bompadre, 2755–75 Philmont Ave., Holland, Pa. 18966
Filed Oct. 23, 1964, Ser. No. 406,080
1 Claim. (Cl. 52—282)



1. Means for securing a pair of walls in abutting relationship, with one wall normal to the other, one of said walls having formed in one of its faces and adjacent an edge, a series of trapezoidal depressions each receiving a flat trapezoidal member secured therein and having an end projecting beyond said edge; the other of said walls having formed therein adjacent an edge thereof a series of openings spaced to receive said ends with said ends projecting beyond said other of said walls, the projecting portion of said ends each having a notch in its upper edge, said notches being inclined toward the wall through which said ends project; a releasable elongated securing member having a web and a plurality of spaced slots therein, the spacing between said slots corresponding to the spacing between said flat trapezoidal members, each slot receiving a projecting end of a trapezoidal member with an edge of said web bounding each slot seated within said notches, the inclination of said notches causing the two walls to be tightly drawn together, means releasably securing said elongated member to said outer wall.

3,380,213
UPGRADING WOOD PANELS

Seymour Hartman, Mahopac, and Frederick G. Snook, Pawling, N.Y., assignors to U.S. Plywood-Champion Papers Inc., a corporation of New York
Filed Oct. 8, 1964, Ser. No. 402,637
11 Claims. (Cl. 52—309)



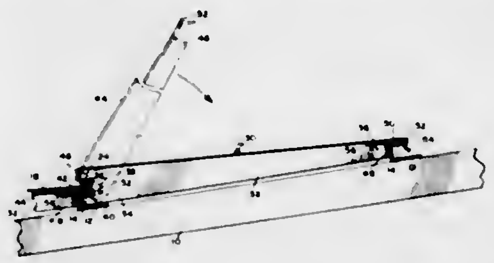
4. A plywood panel which comprises a core, a face ply and a rear ply, both face and rear plies bonded to said core, at least one of said plies characterized by having a void defect containing rigidly affixed in said void a polyurethane foam, said plies being bonded together and said polyurethane foam being secured in position by the adhesive nature of the foam when subjected to a pressure of 50–225 p.s.i., and a temperature from about 250° F. to 450° F.

3,380,214
METAL SHINGLE SUPPORT CLIP

Norman C. Stevens, San Diego, Calif., assignor to Perma-Shake Manufacturing Corp., National City, Calif., a corporation of California
Filed Apr. 11, 1966, Ser. No. 541,556
5 Claims. (Cl. 52—478)

This support clip for shingle panels has as primary features the addition of means for snapping the clip into place

on the roof purlins without requiring tools or bending of the clips, and means to support the overlaid shingle panels so that they may be walked on without damage, the latter means involving a vertical web portion on the clip with a tread flange on its upper edge to engage the undersurface of and to supporrt any shingle panel laid over the clip.



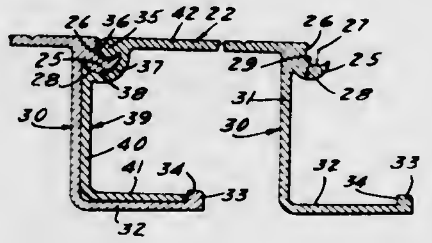
3,380,215
SIDING

Steven W. Schaefer, Mentor, David A. Godes, Lorain, and Gary C. Fulmer, Columbus, Ohio, assignors, by direct and mesne assignments, to Diamond Shamrock Corporation, a corporation of Delaware
Filed June 7, 1965, Ser. No. 461,842
3 Claims. (Cl. 52—522)

An improved siding, preferably of rigid plastic such as extruded polyvinyl chloride, is provided with fastening means so that it can be installed without the use of nails or screws. The configuration of the siding panel readily lends itself to installation over pre-existing wooden or composition siding. If one panel becomes damaged, the damaged panel easily can be removed and replaced without disturbing adjacent panels.

3,380,216
TRAILER ENCLOSURE CONSTRUCTION

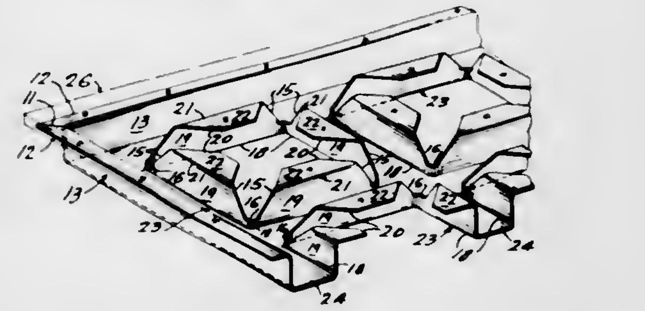
John R. Spence, San Pedro, Calif., assignor to Pike Trailer Co., Los Angeles, Calif., a co-partnership
Filed Oct. 21, 1965, Ser. No. 500,421
6 Claims. (Cl. 52—595)



An interlocking extruded modular panel section having a hook-shaped flange on one edge with a concave upper side formed by a semi-cylindrical longitudinally extending groove and a convex underside formed by an enlarged cylindrical surface in eccentric relation to the groove surface and cooperating therewith to taper the flange towards the hook point, an elongate angle portion with one leg extending from the base of the hook and its other leg extending in the general direction of the hook and having an upturned end; a flange on the opposite edge margin of the panel formed by a circular beaded edge portion having a surface complementary to that of the other edge groove, and an elongate groove subtending the beaded edge having surfaces complementary to those of the hook-shaped flange, and an elongate angle portion extending from the underside of the subtending groove adapted to nest with the other edge angle portion of an adjacent connected panel section and interlock behind the upturned end thereof, whereby adjacent panels can be edge connected by a double interlock which will be increasingly more tightly wedged as load forces are increased.

3,380,217
RAISED FLOOR PLATE

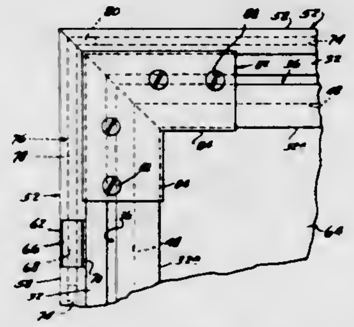
John S. Mikus, Toledo, Ohio, assignor to National Lead Company, New York, N.Y., a corporation of New Jersey
Filed July 15, 1965, Ser. No. 472,269
3 Claims. (Cl. 52—630)



The invention discloses a stamped floor plate for raised floors comprising a relatively heavy upper plate and a reinforcing body including webs affixed to and extending downwardly from the upper plate to a lower plate from which the webs are formed. A peripheral web is formed from the lower plate and is welded to the underside of the upper plate. The upper plate extends outwardly to receive a plastic lip which forms a recess into which a decorative finishing material for the floor is inserted.

3,380,218
EXTRUDED METAL DOOR FRAME AND HINGE ASSEMBLY

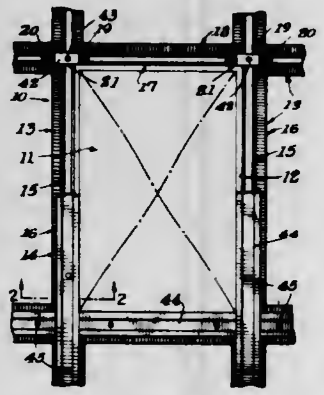
George A. Fabich, R.D. 1, Wampum, Pa. 16157
Filed Apr. 15, 1966, Ser. No. 542,821
3 Claims. (Cl. 52—656)



A frame assembly comprising: a plurality of elongated extruded members mitered together at meeting ends to define a rectangular frame, each of said members having a longitudinal groove substantially midway of its width, the groove of one member meeting that of another at said mitered ends; each of said grooves having on its confronting inner faces a plurality of parallel, elongated splines; angle brackets overlying each pair of meeting ends, and screws penetrating said brackets and engaging the splines of the meeting grooves.

3,380,219
UNIT-MOUNTING AND CIRCULATION-SEALING FRAME

Joseph Madl, Jr., 990 Volante Drive, Arcadia, Calif. 91006
Filed May 16, 1966, Ser. No. 550,535
10 Claims. (Cl. 52—664)



1. A unit-mounting and circulation-sealing frame comprising:

(a) a plurality of elongated, transversely spaced channel members having sides and a connecting web and provided with flange portions extending from the longitudinal sides of said members across the web thereof,

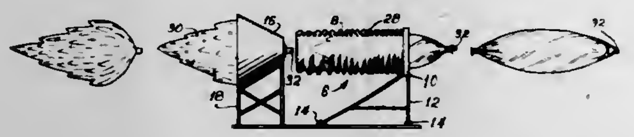
(b) a plurality of transverse channel members spanning between the longitudinal channel members and provided with flange portions extending from the sides of said members across the webs thereof and terminating in spaced relation to the ends of the latter channel members,

(c) air-sealing members interposed between the said ends of the transverse channel members and the sides of the longitudinal channel members and adjacent portions of the flanges of the latter members, and

(d) means to connect the ends of the transverse channel members to the longitudinal channel members and to place the air-sealing members in compression laterally therebetween.

3,380,220
PLASTIC BAG TREE PACKAGING

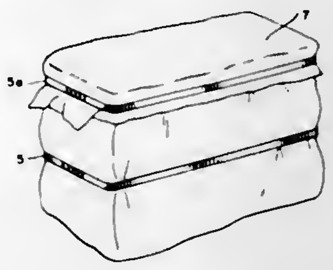
Walter E. Jennings, Midland, Stewart E. Watson, Bay City, and William H. Borough, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Sept. 3, 1963, Ser. No. 305,940
10 Claims. (Cl. 53—24)



Method and apparatus for packaging trees, especially Christmas trees, in a continuous process fashion wherein each tree is slipped through a funnel and then through a sleeve with a supply of tubular film thereon to invert the tube inside itself and to enclose the tree being packaged.

3,380,221
BALE PACKAGING

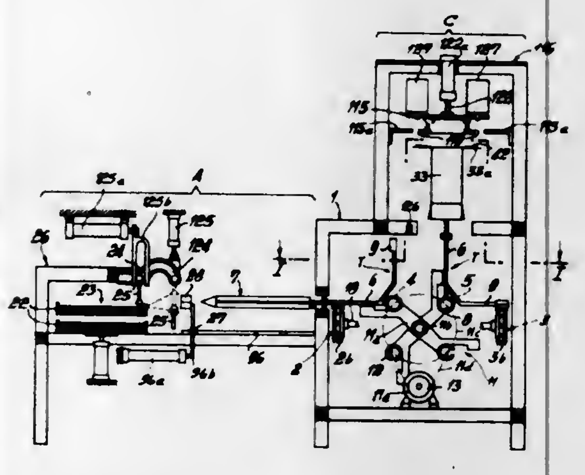
Hans Thiele, Kassel, Germany, assignor to Spinnfaser Aktiengesellschaft, Kassel-Bettenhausen, Germany
Filed Feb. 18, 1966, Ser. No. 528,568
Claims priority, application Germany, Feb. 25, 1965, S 95,664
3 Claims. (Cl. 53—24)



1. A process for packaging a compressed fibrous bale which comprises: applying a plurality of first endless fastening bands in locked position around the lateral circumference of a compressed and longitudinally wrapped fibrous bale, said bands holding said bale under compression and the two outermost bands adjacent the outer open ends of the bale being detachable therefrom; covering each open end face of said bale with an end cap in the form of a flexible wrapping material with its edges extending inwardly along the longitudinal surfaces of the bale; applying a second endless band over the edges of each end cap around the lateral circumference of the bale to fit snugly thereon without compressing the bale; and detaching each of said outermost first endless fastening bands whereby the resulting expansion of the longitudinal surfaces of the bale adjacent its two ends clamps said end cap edges between said second endless band and the wrapped bale.

3,380,222
METHOD AND APPARATUS FOR FILLING, SEALING, AND PACKING OF BAGS AND SIMILAR CONTAINERS

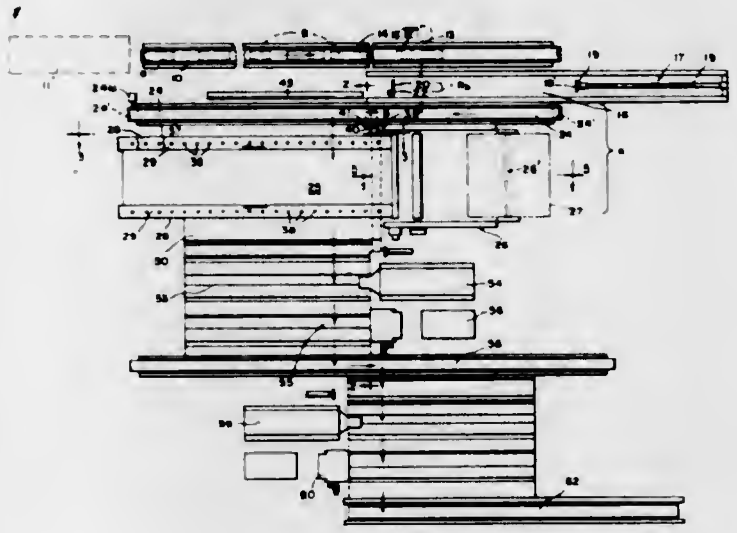
Karl Heinz Bergmann, Lampertheim, and Werner Schadowski, Mannheim-Sandhofen, Germany, assignors to Zellstoffabrik Waldhof, Mannheim-Waldhof, Germany
Filed Sept. 21, 1964, Ser. No. 397,746
Claims priority, application Germany, Sept. 21, 1963, Z 10,369; June 19, 1964, Z 10,921
55 Claims. (Cl. 53—27)



1. A method of enclosing and anchoring collapsible bags of the type having an open end and a closed end in collapsible boxes of the type having two pairs of opposed flaps at one end thereof, comprising the steps of expanding a substantially horizontally disposed collapsed bag; expanding a substantially horizontally disposed collapsed box; introducing the bag into the box in a substantially horizontal direction so that the closed end of the bag is located substantially in a substantially vertical plane between the pairs of opposed flaps; turning the box together with the bag therein vertically through substantially 90° so that the closed end of the bag is located substantially in a substantially horizontal plane with the open end facing downwardly; folding one pair of opposed flaps to closed position; introducing an adhesive substance between the closed substantially horizontal end of the bag and at least one of the flaps; and folding the closed end of the bag, together with the other pair of opposed flaps, over the one pair of flaps to close the one end of the box and to simultaneously retain the closed end of the bag between the pairs of opposed flaps so as to anchor the bag to said one end of the box.

3,380,223
COUNTER ROLL FINISHING SYSTEM

Ronald J. Jasper and George W. Gustafson, Hoquiam, Washington, assignors to Lambs-Grays Harbor Co., Inc., Hoquiam, Wash.
Filed Oct. 23, 1965, Ser. No. 503,506
8 Claims. (Cl. 53—66)

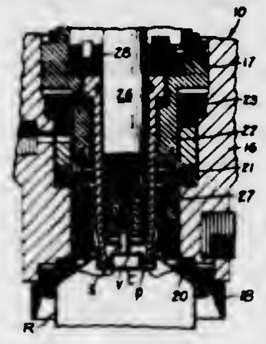


1. A counter roll finishing system comprising in combination; infeed conveyor means, plug press means for seating core plugs in opposite ends of each roll advanced thereto from the infeed conveyor, a wrapping table, transfer conveyor means operable between said table and said press for receiving a plugged roll and advancing the same adjacent said table, wrapper dispenser means for dispensing a wrapper strip onto said table at the rate of conveyor advancement of the roll, wrapper cut-off mechanism actuated by counter roll advancement to cut off a wrapper strip of corresponding length, means for discharging the roll across the table causing the wrapper strip to be rolled thereabout, first and second crimper means for crimping the respective ends of the wrapper, and first and second header means for applying an end head to the respective crimped ends of the wrapper.

3,380,224
AEROSOL CONTAINER SEALING APPARATUS

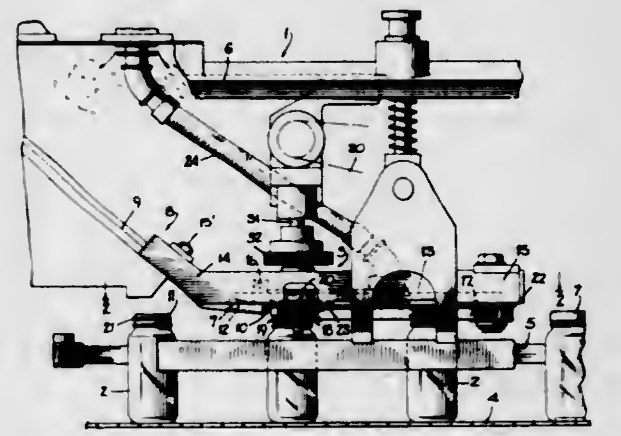
Roy S. Rousseau, Bettendorf, Iowa, assignor to The Kartridg Pak Co., Davenport, Iowa, a corporation of Iowa
Filed Feb. 15, 1966, Ser. No. 527,577
5 Claims. (Cl. 53—88)

A filling machine for aerosol containers which employs a sealing head adapted to seat on the top of the container and carrying a vertically reciprocating collet with sealing jaws for expanding the side walls of the valve cup and a collet engaging plunger operative for crimp sealing the same to the rim of the mouth of the container, and an axially adjustable sizing device which is frictionally held in a downwardly opening axial bore in the bottom of the plunger and in turn has a downwardly opening bore for receiving the valve assembly so that it limits the movement of the valve pedestal relative to the valve cup and restrains the same against abnormal distortion or dislocation while the cup is crimp sealed onto the rim of the container mouth.



3,380,225
CAP APPLICATOR

Charles S. Ochs and Wilbur A. Nungesser, Lancaster, Ohio, assignors to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware
Filed Oct. 12, 1965, Ser. No. 495,038
9 Claims. (Cl. 53—110)



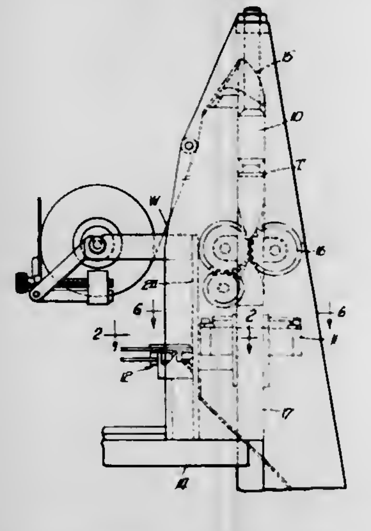
1. A cap applicator for applying screw-type caps to containers carried through a container sealing machine on a moving container support comprising the combination of means for feeding caps to the tops of moving containers, a cap positioning member including a vacuum cap support means mounted beyond said cap feeding means for engaging and positioning caps at the rims of containers passing therebelow on the support, and cap rotating means mounted adjacent to said cap positioning member for turning caps onto the containers.

3,380,226
PACKAGING MACHINE

Alan C. Tracy, Davenport, Iowa, assignor to The Kartridg Pak Co., Davenport, Iowa, a corporation of Iowa
Filed Mar. 21, 1966, Ser. No. 536,083
8 Claims. (Cl. 53—138)

1. In a machine for continuously forming a series of packages, which machine is characterized by a hollow filling mandrel through which a product is fed, mechanism for advancing a continuous tube over the mandrel and a mechanism adjacent the end of the mandrel for dividing the filled tube and applying closure forming clips thereon which mechanism comprises a frame mounted for reciprocation in the direction of movement of the advancing tube, tube constricting and closure clip applying heads mounted in said frame for movement toward and from said tube so as to engage the tube at axially spaced points

for constricting a substantial section thereof at each engagement, mechanism for forming and separating from a pair of round metal strips generally C-shaped closure clips, said clip forming mechanism comprising an anvil member mounted for reciprocating movement in a path generally parallel with and adjacent the path of movement of the advancing tube, co-operating movable forming members for shaping the closure clips around the anvil at one point in its path of movement, means to move the anvil from a position in register with said forming members for receiving the closure clips thereon to a position in the path of movement of one of said constricting heads for delivery of successive pairs of closure clips to said head, and said head having pocket forming members resiliently urged into gripping engagement with the closure clips so as to retain the same in the pockets while the anvil retracts and while the head is moved into position for clinching the clips about the constricted portions of the tube, and the other of said constricting heads having co-operating means for clinching the clips about the constricted portion of the tube and for forcing the clip gripping members to a retracted position during the clinching operation so as to release the clips and permit withdrawal thereof from the pockets as said heads are moved away from each other.



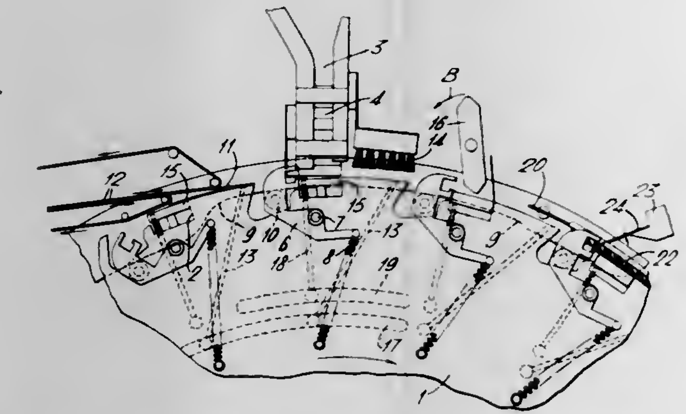
3,380,227
PACKING OR WRAPPING MACHINE OF THE MOULD WHEEL TYPE

Derek Henry Youngman, William Charles Henson Bridger, and James Gagg, London, England, assignors to The Molins Organisation Limited, London, England, a corporation of Great Britain

Filed Feb. 4, 1965, Ser. No. 430,350

Claims priority, application Great Britain, Feb. 20, 1964, 7,136/64

16 Claims. (Cl. 53—171)



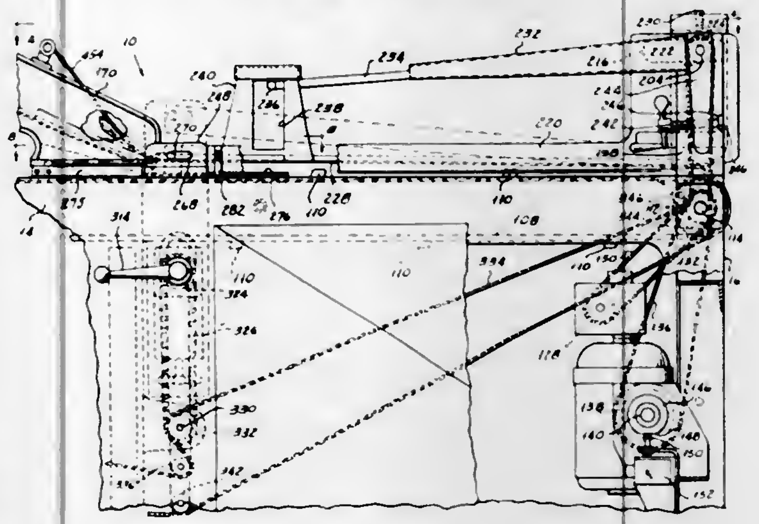
A wrapping machine comprises a continuously rotating mould wheel with peripheral recesses over which wrapping sheets are fed and into which articles, removed from a magazine by pushers on the mould wheel, are inserted by a rotary presser with said sheets interposed, a rotary folder then folding a projecting portion of the sheet over the trailing face of the article and further folding devices including heat sealers completing the wrapping of the article. In one embodiment articles wrapped singly on a first mould wheel are transferred to a further wheel for wrapping in groups.

3,380,228
BOX LIDDER

Lawrence A. Platt, Bonner Springs, Kans., assignor to Stephens Industries, Inc., Kansas City, Mo., a corporation of Missouri

Filed June 30, 1964, Ser. No. 379,233

6 Claims. (Cl. 53—315)



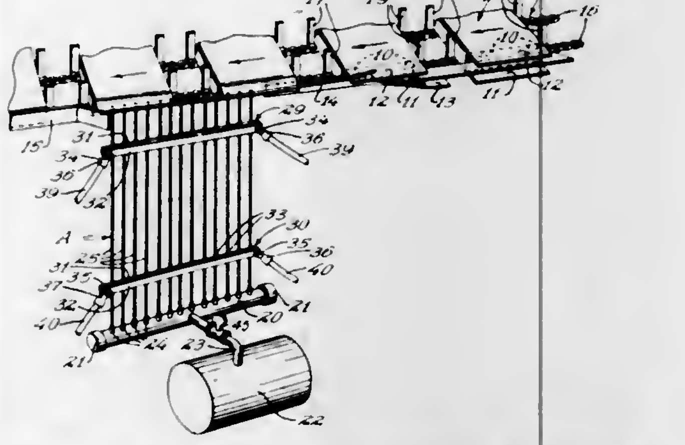
1. Box lidding apparatus for assembling lids on bottoms in an assembly zone including in combination means for releasably holding a lid in a position to be engaged by a bottom being advanced through said zone, means for advancing a bottom through said zone and means for bowing an end wall of said box bottom inwardly as it moves through said zone.

3,380,229
APPARATUS FOR HEAT SEALING THERMOPLASTIC SURFACES

Iver L. Nelson, Minneapolis, Minn., assignor to Waldorf Paper Products Company, St. Paul, Minn., a corporation of Minnesota

Filed May 12, 1965, Ser. No. 455,200

12 Claims. (Cl. 53—375)



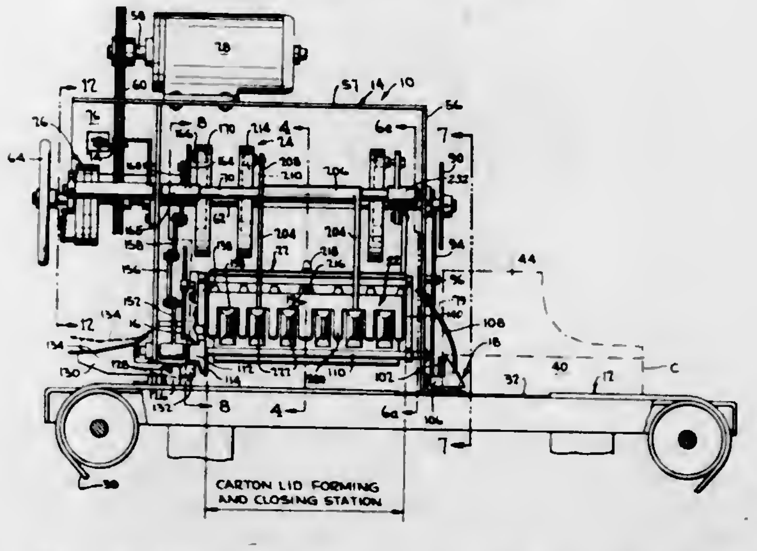
This invention describes an apparatus for sealing a pair of surfaces in face contact at least one of the surfaces bearing thermoplastic material. A plurality of metal tubes are connected to an air manifold, and are heated to a temperature in excess of the temperature necessary to render the thermoplastic material tacky. Air blown through the tubes and between the surfaces or against said one surface renders the thermoplastic tacky so that the surfaces may be sealed. The tubes are preferably heated by securing longitudinally spaced electrodes to the tubes and applying a current to the electrodes.

3,380,230
LID FORMING AND CLOSING APPARATUS

Le Roy F. Carkhuff, Morris, Ill., assignor to Diamond International Corporation, New York, N.Y., a corporation of Delaware

Filed July 8, 1965, Ser. No. 470,475

13 Claims. (Cl. 53—376)



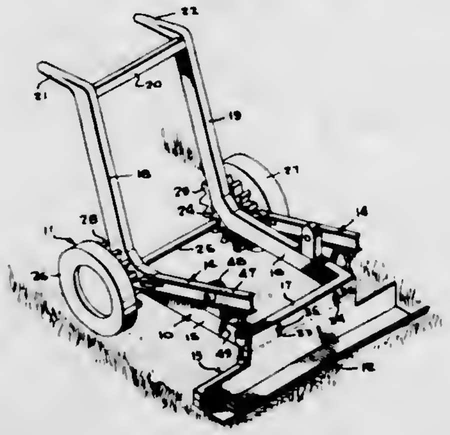
Apparatus for continuously orienting filled cartons and forming viewing and ventilation slot portions in the lid for protecting the carton contents, i.e., eggs or the like, which slot portions strengthen the carton and enhance the appearance thereof, and also closing the carton and forming a complete package.

3,380,231
GRASS CUTTING APPARATUS

Thomas Gaskins, Palmdale, Fla. 33944

Filed Feb. 19, 1965, Ser. No. 434,032

9 Claims. (Cl. 56—26.5)



A grass cutter having a tranverse flat bottomed grass engaging and bending member which bends grass to a horizontal position for cutting by a cutting blade simultaneously movable laterally and vertically to engage and cut the grass.

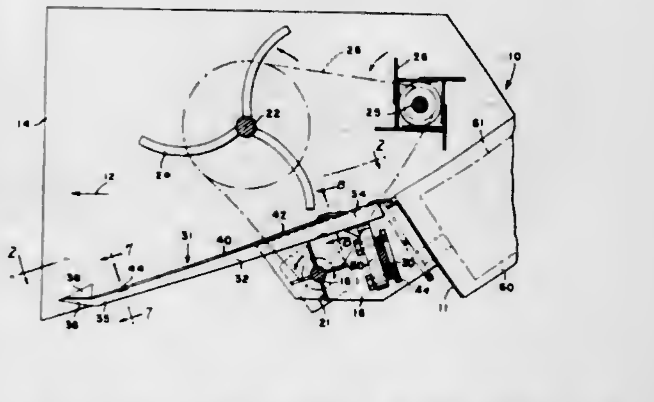
3,380,232
COTTON STRIPPER

Henry J. Jezek, 1204 E. Downs Ave., Temple, Tex. 76501

Filed Aug. 13, 1965, Ser. No. 479,474

11 Claims. (Cl. 56—34)

1. A cotton stripper machine comprising a frame adapted for ground travel in a forward direction, a mounting member on said frame and extending generally horizontally transverse to said direction of travel, a plurality of elongated stripper fingers extending in spaced side by side relation to each other, each finger having a body inclined downwardly and forwardly from an upper rearward end to a free lower forward end, means connecting the rearward end of each body to said mounting member, each body having a generally rectilinear top surface, a stripper plate mounted on the top surfaces of each body parallel thereto and having a portion laterally slidable thereon, each stripper plate having a substantial portion of its length wider than its associated body and projecting



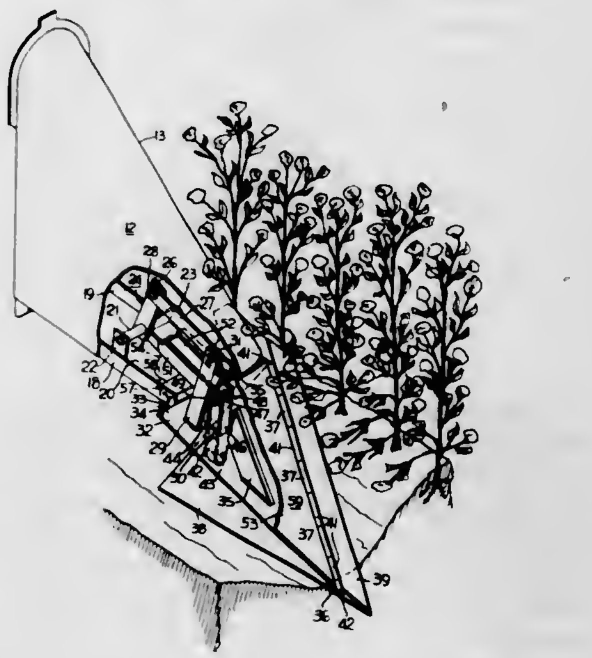
laterally on opposite sides thereof, means fixedly connecting a forward end only of each stripper plate to its body forward end, a retainer projecting over the rearward end of each plate and which prevents upward movement of the plate rearward end relative to its body and permits lateral movement of said rearward end, the body of each finger being relatively rigid and unbendable in a vertical direction and relatively flexible and bendable in a lateral direction whereby each body forward end and the rearward end of the stripper plate on it may move laterally relative to the body rearward end and in opposite directions, respectively, relative thereto.

3,380,233
PLANT DIVIDER FOR HARVESTERS

Rector C. Fergason, La Porte, Ind., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed May 17, 1965, Ser. No. 456,399

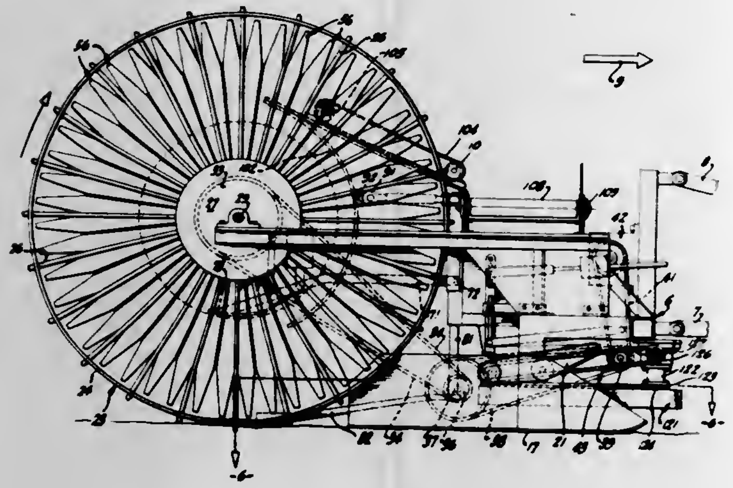
10 Claims. (Cl. 56—119)



A row crop divider including interconnected linkage which provides a plant lifting and crop directing function efficient on level and hilled ground.

3,380,234
LETTUCE HARVESTER

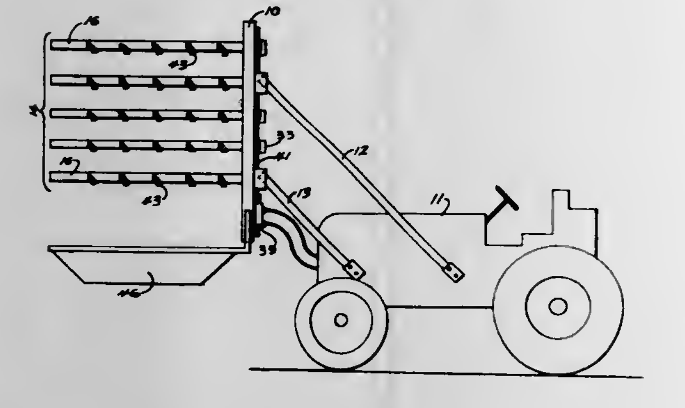
Roger E. Garrett, Davis, Calif., assignor to The Regents of the University of California, Berkeley, Calif.
Filed June 5, 1964, Ser. No. 373,011
14 Claims. (Cl. 56—327)



1. A lettuce harvester comprising a frame, means for supporting said frame for advancement in a field containing growing lettuce heads, means on said frame for emitting a signal upon encountering one of said lettuce heads acceptable for havesting, means on said frame for grasping a lettuce head, means for urging said grasping means into grasping position, means fore restraining said grasping means from moving into grasping position, and means responsive to said signal for inactivating said restraining means.

3,380,235
MECHANICAL FRUIT PICKER

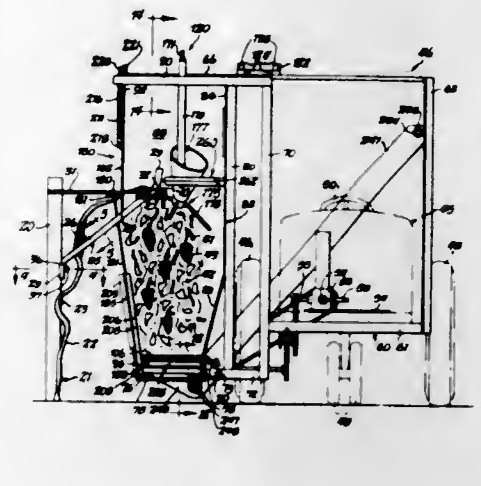
Alexander Smith and Burton D. Baggs, Jr., both of Box 1763, Sanford, Fla. 32771
Filed July 2, 1965, Ser. No. 469,202
9 Claims. (Cl. 56—328)



A mechanical fruit picker embodying a multiplicity of picker bars mounted horizontally on a panel with means to insert and retract the bars among the branches of a tree. Each picker bar has pivotally mounted thereon a plurality of retractile picker arms. Means are provided to extend the picker arms to fruit engaging position when retracting the picker bars and to move them to positions parallel to the picker bars when inserting the picker bars among the branches of the tree. Each picker arm is provided with a plurality of picker fingers to engage the fruit when the picker bars are being withdrawn. Suitable means are provided to operate the panel with its multiplicity of picker bars and picker arms.

3,380,236
APPARATUS FOR HARVESTING GRAPES

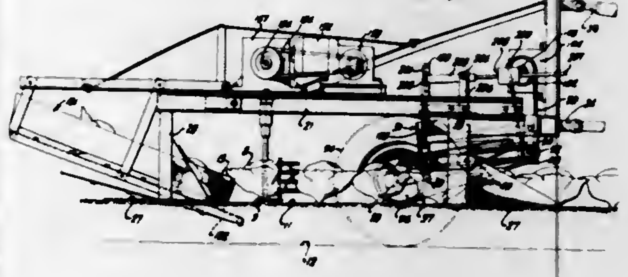
Edwin Stanley Shepardson, Ithaca, N.Y., assignor to New York State Concord Grape Production Research Fund, Inc., a corporation of New York
Continuation-in-part of application Ser. No. 99,507, Mar. 30, 1961. This application Apr. 16, 1965, Ser. No. 449,394
18 Claims. (Cl. 56—330)



For the harvester, the vines are supported by a trellis so constructed that the fruit bearing canes hang as a curtain over an unobstructed space from a generally horizontal trellis wire. The mobile harvester is propelled alongside this curtain and has a hub freely rotatable about a generally upright axis and reciprocated or shaken vertically and provided with fixed radial arms which walk in a horizontal direction through the curtain of vines and engage the underside of the trellis wire. The fruit shaken off by these arms falls into a way provided by walls one of which is made of shutters which are pushed aside by parts of the trellis and the bottom of which is a conveyor. The arms are supported and shaped to maintain contact with the underside of the trellis wire and provision is made for adjusting the hub vertically or horizontally as may be required.

3,380,237
LETTUCE HARVESTER

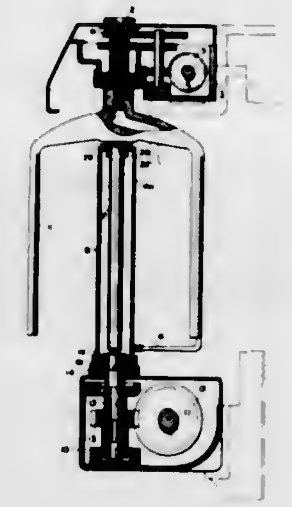
Roger E. Garrett, Davis, Calif., assignor to The Regents of the University of California, Berkeley, Calif.
Filed Jan. 3, 1964, Ser. No. 335,550
30 Claims. (Cl. 56—327)



1. A lettuce harvester comprising a frame adapted to be advanced over a lettuce head, means on said frame for contacting the top of said lettuce head and establishing the particular vertical height of said top of said lettuce head, a lettuce head cutter on said frame, and means on said frame responsive to vertical movement of said contacting means only above said particular height for operating said cutter to sever said lettuce head.

3,380,238
FLY FRAME

Hidejiro Araki, Aichi-gun, and Kenji Tsujioka, Kariya, Japan, assignors to Toyoda Automatic Loom Works, Ltd., Kariya, Japan
Filed Sept. 29, 1966, Ser. No. 583,010
8 Claims. (Cl. 57—52)

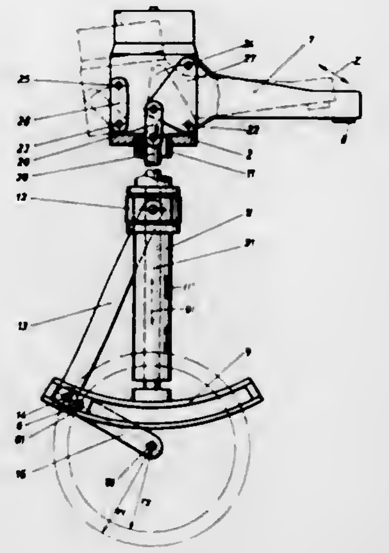


A fly frame having an upper rail and a bobbin rail, a plurality of flyers mounted on the upper rail and each having at its central portion a bobbin guide arbor adapted to support and guide the upper end of a bobbin during the bobbin winding and building motion, the bobbin rail having a bobbin driving mechanism thereon and a plurality of bobbin drive shafts thereon coupled to the bobbin driving mechanism and each having a short supporting member mounted on the extension of each bobbin drive shaft for supporting the lower end of a bobbin in driving engagement therewith, and means coupled to the bobbin rail for lowering the bobbin rail and the bobbin driving mechanism therein a distance equal to the length of the bobbin and said short supporting plug plus a marginal clearance which is sufficient to allow the bobbins to be freely shifted laterally without any interference from the said guide arbor.

3,380,239
APPARATUS FOR THE REMOVAL OF FULL COPS ON RING SPINNING AND RING TWISTING MACHINES

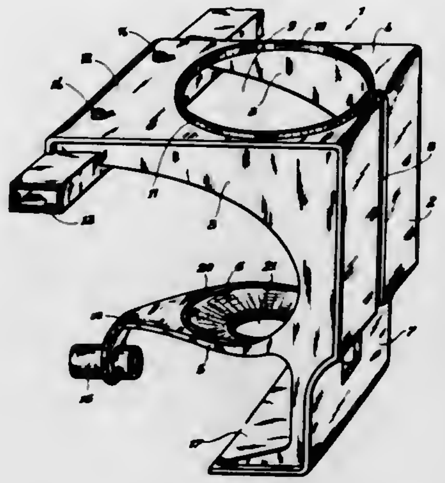
Eberhard Grimm, Ingolstadt, Germany, assignor to Deutscher Spinnereimaschinenbau Ingolstadt, Ingolstadt (Danube), Germany, a corporation of Germany
Filed Nov. 16, 1966, Ser. No. 594,827
Claims priority, application Germany, Nov. 19, 1965, D 48,686
8 Claims. (Cl. 57—53)

The invention is directed to an improvement in doffing apparatus for copping machines, wherein the copping machine includes an auxiliary element disposed over the spindles from which cops are to be removed. The auxiliary element prevents lifting the cop vertically upward along the axis of the spindle by a cop removing means which engages the top portion of the cop and lifts it vertically from the spindle. According to the invention, the gripper which lifts the cop off a spindle is moved outwardly of the copping apparatus as it is raised, and the gripper passes over a path avoiding interference with the auxiliary element of the copping machine. The outward movement of the cop as it is lifted, in consequence of the outward movement of the gripper, is permitted by a taper between the cop and spindle. The doffing apparatus is of the type that travels at a constant speed along the copping apparatus, and automatically removes the cops during such travel. The apparatus is provided with means for eliminating relative movement of the cop and spindle, in the direction of travel of the doffing apparatus, during the time that the cop is being removed. The movement according to the instant invention, providing outward movement of the gripper, is coordinated with the mentioned operation wherein relative movement between the cop and spindle, in the direction of travel of the doffing apparatus, is eliminated.



3,380,240
DOUBLE TWISTING MACHINE

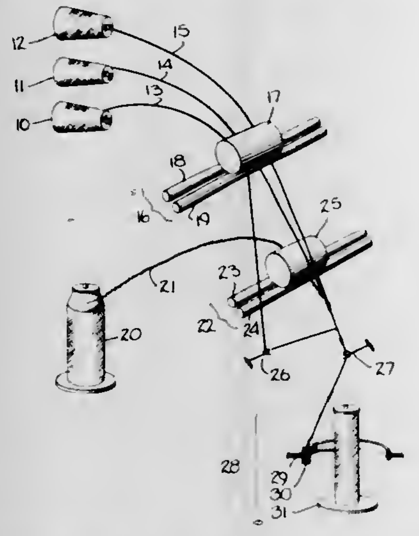
Gustav Franzen, Neersen, near Krefeld, Germany, assignor to Palitex Project-Company, GmbH, Krefeld, Germany
Filed Oct. 14, 1965, Ser. No. 495,815
Claims priority, application Germany, Oct. 14, 1964, P 35,269
20 Claims. (Cl. 57—58.83)



The present invention relates to a textile machine unit for use in connection with a two-for-one twisting machine, which is characterized primarily by a block shaped housing having a top wall and a bottom wall with a balloon-confining wall section and a front wall with a threading slot, one of said walls being provided with means for detachably connecting said housing to a two-for-one twisting frame, while a spindle bearing casing is arranged substantially coaxially with regard to said balloon-confining wall section and in fixed connection therewith.

3,380,241
SILKLIKE SLUB YARN AND METHOD OF MAKING SAME

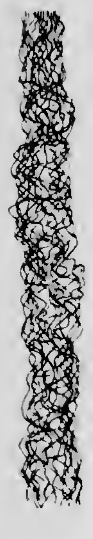
Ray Frank Callaway, Lincolnton, N.C., assignor to Celanese Corporation, a corporation of Delaware
Filed Dec. 3, 1964, Ser. No. 415,695
8 Claims. (Cl. 57—139)



A novel slublike yarn is produced by forwarding at least two ends of pre-formed yarn to a twist zone while simultaneously feeding to the twist zone at a lesser speed a roving whereby the roving is pulled apart into discrete slublike segments and because of the twisting together of the pre-formed yarn ends the discrete slublike segments of roving are locked in place.

3,380,242
YARN AND METHOD OF MAKING SAME

Alfred Richmond, Robert Albert King, and Alexander Henderson Gentle, Spondon, near Derby, England, assignors, by mesne assignments, to American Enka Corporation, Enka, N.C., a corporation of Delaware
Filed Feb. 11, 1958, Ser. No. 714,601
Claims priority, application Great Britain, Mar. 1, 1957, 6,876/57
3 Claims. (57—140)

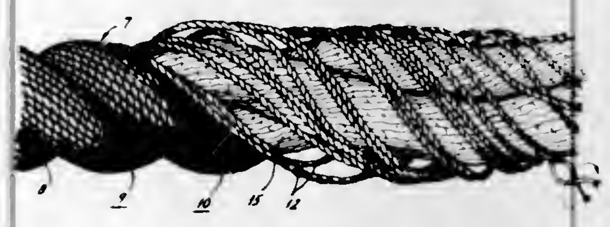


1. The process of imparting a persistent crimp to synthetic linear polymeric filaments and yarns which comprises feeding the same to a plasticizing stream of a compressible fluid having a temperature of at least about 300° F. in which the individual filaments, while in a plastic state and under substantially zero tension, are separated from each other and crimped individually while whipping about in the turbulent plasticizing stream, the crimp having a random, three-dimensional, curvilinear, extensible configuration, and setting the crimp thereby imparted to the said filaments.

3. A continuous filament yarn comprising a plurality of entangled but physically separate filaments, each of said filaments being individually permanently fixed by a crystalline molecular structure in a persistent, random, three-dimensional, sinuous, curvilinear, extensible crimp and being substantially free from ring-like loops.

3,380,243
PLASTIC CORDAGE

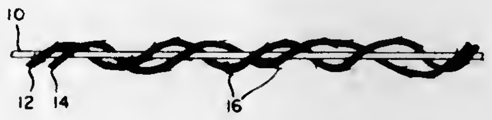
Robert L. Stanton, Maplewood, N.J., assignor to American Manufacturing Company, Inc., Brooklyn, N.Y., a corporation of Delaware
Filed July 26, 1965, Ser. No. 474,788
14 Claims. (Cl. 57—144)



A strand of a rope has a core which comprises highly elongated plastic bands which have been tightly compressed against one another and lie essentially parallel to one another. These bands are not twisted prior to the compression; the only twist they exhibit is due to the twist imparted to the strand as a whole.

3,380,244
CORE-SPUN ELASTIC YARN PRODUCT AND PROCESS

Robert S. Martin, Charlotte, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Feb. 1, 1966, Ser. No. 524,026
6 Claims. (Cl. 57—152)



A method for preparing an elastic yarn comprising core-spinning uncrimped, stretched continuous filaments of a segmented elastomer with a sheath of two types of inelastic staple fibers (self-crimpable fibers and low strength non-crimpable fibers) heat setting the resulting core-spun yarn under tension, and plying the heat-set core-spurn yarn with a second core-spun yarn of the same type of inelastic staple fibers.

The high-bulk elastic composite yarn comprises a core-spun yarn having an initially stretched elastic core (as described above) which is helically surrounded by a sheath of two types of elastic staple fibers (as described above), the sheath being in engagement with the core, but free of adhesion thereto. This first core-spun yarn is plied with a second core-spun yarn of the same type of inelastic staple fiber. The yarns of this invention are characterized by good bulk, cover, stretch, and pill-resistance.

3,380,245
ENGINE WITH EXHAUST DRIVEN SUPERCHARGER AND AFTERBURNER AIR SUPPLY CONTROLS

Stanley H. Mick, St. Clair Shores, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 20, 1965, Ser. No. 515,112
5 Claims. (Cl. 60—13)

1. An internal combustion engine having a combustion chamber,

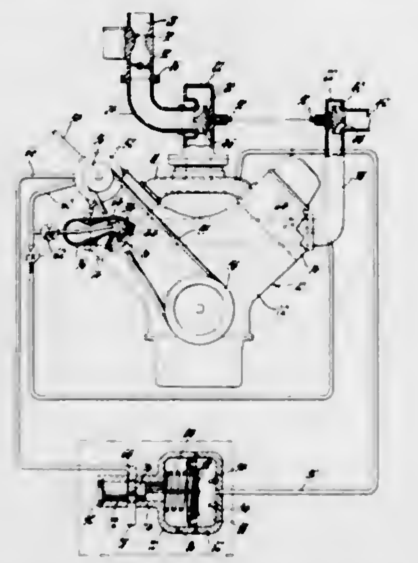
a fluid induction system to feed the combustion chamber,

an exhaust system to carry exhaust fluid from the combustion chamber and

a supercharger connected with both the induction and exhaust systems and adapted to utilize energy in the exhaust fluid to increase the pressure of fluid in the induction system

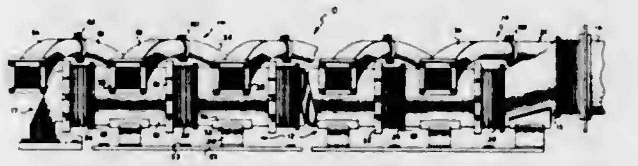
wherein the improvement comprises

fluid supply means including a fluid pump separate from the supercharger and having an outlet connected with the exhaust system between the combustion chamber and the supercharger and adapted to supply combustion supporting fluid to react with combustible substances discharged from the combustion chamber as part of the exhaust fluid and thereby increase the exhaust energy available to the supercharger, said supply means being responsive to predetermined maximum fluid pressures in the induction system to limit the supply of combustion supporting fluid to the exhaust system, whereby creation of excessive pressures in the induction system by the supercharger is avoided.



3,380,246
EXHAUST MANIFOLD SYSTEM FOR INTERNAL COMBUSTION ENGINES

Millard F. Dowell, Erie, Pa., assignor to General Electric Company, a corporation of New York
Filed Jan. 3, 1966, Ser. No. 518,308
13 Claims. (Cl. 60—13)

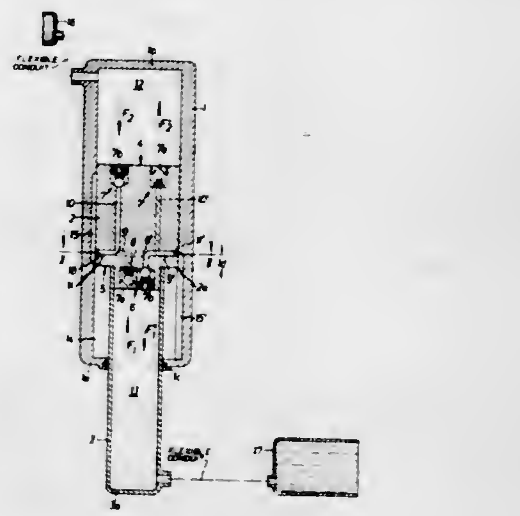


An exhaust manifold, for a turbo-supercharged internal combustion engine, having a single central conduit and a plurality of branch pipes for the various cylinders, which pipes have sections of progressively decreasing cross-section in the direction of flow and curve to meet the conduit at a relatively small angle to the direction of gas flow in the conduit.

3,380,247
HYDRAULIC ARRANGEMENT INCLUDING A PISTON PUMP WITH ADJUSTMENT AND REVERSIBLE OUTPUT

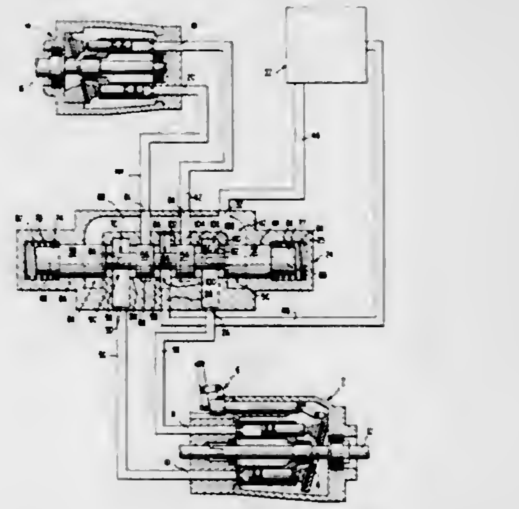
Paul Jacques Colmerauer, Paris, France, assignor to Hoesch Aktiengesellschaft, Dortmund, Germany
Filed May 23, 1966, Ser. No. 552,173
Claims priority, application France, June 2, 1965, 19,260
16 Claims. (Cl. 60—52)

A pump arrangement including a cylinder member, a piston member slidably guided in the cylinder member, a hollow piston rod connected to the piston member and projecting in a sealed manner through one end of the cylinder member, and valves and passage means providing communication between the interior of the hollow piston rod and the cylinder spaces to opposite sides of the piston member, wherein the position of one of the members relative to the other is adjustable from a neutral position to an adjusted position to either side of the neutral position to change the magnitude and direction of the output of the pump during oscillation of one of the members relative to the other about the adjusted position.



3,380,248
CLOSED CIRCUIT FLUID, MOTOR, PUMP AND RESERVOIR SYSTEM AND TRANSMISSION VALVE THEREFOR

Michael A. D'Amato, West Des Moines, Iowa, assignor to Delavan Manufacturing Company, West Des Moines, Iowa, a corporation of Iowa
Filed Apr. 20, 1966, Ser. No. 543,917
7 Claims. (Cl. 60—53)



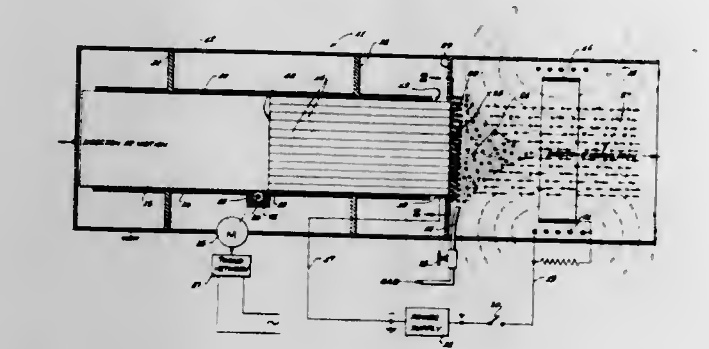
A reversible fluid pump having two fluid ports is connected via a transmission valve both to a fluid motor which is reversible according to which of two fluid ports receives pressure fluid from the pump, and also to and from a fluid reservoir. The transmission valve has a multiple spool and cooperating lands and grooves, the spool moving between three discrete positions in accordance with direction of pressure fluid delivered from one or the other or neither of the pump ports. When pressure fluid is delivered from either pump port, the transmission valve establishes a pressure fluid path to a corresponding motor port and a return fluid path from the other motor port to the reservoir and back from the reservoir to the then low pressure port of the pump. When pressure fluid is delivered from neither pump port, the spool blocks fluid flow to and from the motor ports, thereby blocking movement of the motor. The system is characterized by the absence of check valves.

3,380,249
PROPULSIVE DEVICE

Benjamin B. Meckel, Los Angeles, Calif., assignor to Physics Technology Laboratories, Inc., La Mesa, Calif., a corporation of California

Continuation-in-part of application Ser. No. 180,212, Mar. 13, 1962. This application Feb. 21, 1966, Ser. No. 532,519

22 Claims. (Cl. 60—202)



22. A method of propulsion comprising:

bombarding a surface of a fuel material capable of being sputtered with particles of sufficient energy to cause ejection of a neutral particle beam from said surface; directing said neutral particle beam in the desired direction of thrust; and

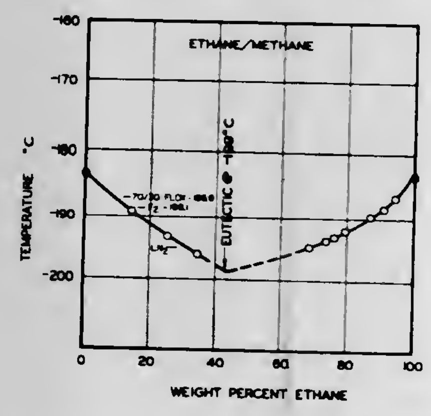
replenishing said fuel material at said surface as said surface is sputtered.

3,380,250
BI-PROPELLANT ROCKET SYSTEM

Thomas A. Whatley, Santa Clara, Calif., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Nov. 18, 1964, Ser. No. 412,209

10 Claims. (Cl. 60—204)



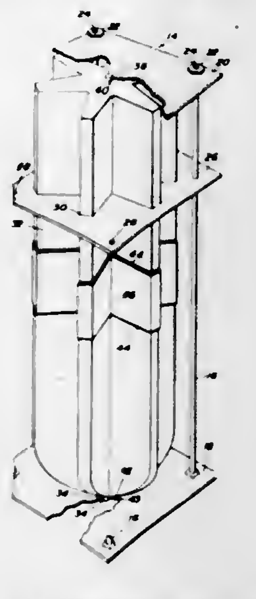
5. In method for operating a cryogenic propellant motor wherein a cryogenic liquid oxidizer and a cryogenic liquid fuel are injected from separate sources into a combustion chamber and reacted therein to produce hot combustion gases, the improvement wherein the sources of said oxidizer and said fuel are maintained at a predetermined temperature no greater than about —186° C.; said oxidizer has a boiling point between about —186° C. and said predetermined temperature, and said fuel is a high density fuel having a freezing point below said predetermined temperature.

3,380,251
IGNITION CONTROL OF SOLID PROPELLANT ROCKET ENGINES

Bobby M. Wall, Brigham City, Utah, assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

Original application Mar. 3, 1963, Ser. No. 265,790. Divided and this application Mar. 1, 1966, Ser. No. 530,834

6 Claims. (Cl. 60—219)



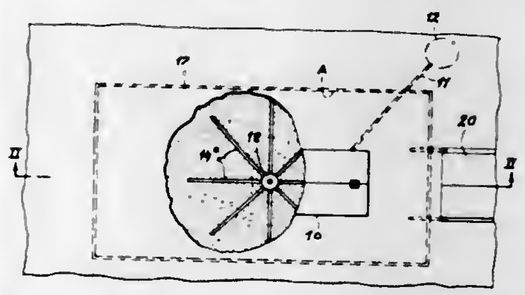
3. The method of selectively predetermining the pressure pattern produced in a rocket engine subsequent to ignition by a solid propellant grain having an internal cavity extending throughout its length to provide an internal surface area subject to ignition comprising the steps of applying a band of combustion-inhibiting composition around the internal surface area of the propellant grain subject to ignition, and varying the area and location of the band of inhibitor to vary the pressure produced by the burning propellant and the period of time required to burn the propellant.

3,380,252
INSTALLATION FOR PRESERVING FRESH-WATER SUPPLY

Clarence Renshaw, 45 Sutton Place S., New York, N.Y. 10022

Filed Mar. 18, 1965, Ser. No. 440,771

1 Claim. (Cl. 61—1)



Impermeable underground barrier extending partly into the ground water below the soil surface to confine an area of an accumulating precipitation without materially impeding the communication between ground water inside and outside the barrier.

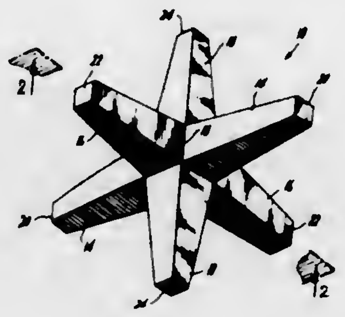
3,380,253
APPARATUS FOR CONTROLLING EROSION

Lawrence Vita, 1521 SW. 21st St., Fort Lauderdale, Fla. 33305

Filed Feb. 21, 1966, Ser. No. 528,999

5 Claims. (Cl. 61—3)

Apparatus for controlling erosion caused by moving water, consisting of a plurality of six-pronged jacks each molded integrally of concrete with the six prongs extending in different directions from a common central core of the same size as the base of the prongs. Each prong is in the shape of an elongated truncated pyramid having four planar sides defining sharp corners and the prongs of the adjacent jacks piled in random order are adapted to interlock to form a self-supporting rigid vertical structure such as an artificial reef having interconnecting small sharp-edged apertures.

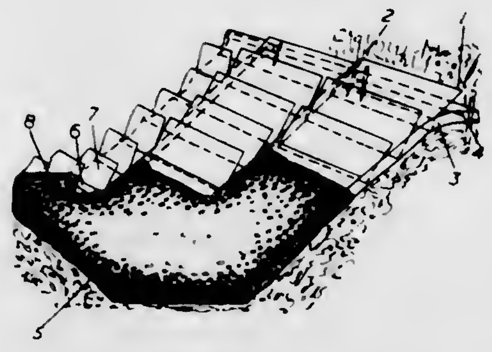


3,380,254
PROTECTIVE LININGS AND METHOD OF FORMING THE SAME IN WATERCOURSES

Mario Rossi, Bologna, Italy, assignor to S.p.A. Officine Maccaferri, Bologna, Italy

Filed Oct. 30, 1964, Ser. No. 407,746

12 Claims. (Cl. 61—7)



1. A protective lining for water courses and other exposed soil surfaces, said lining comprising a series of closed rectangular wire mesh containers which are substantially longer than they are wide and have a thickness not exceeding about ten percent of their width, said containers being joined together side by side and packed with stones the interstices of which packing are at least on the exposed face of the lining at least partially filled with a flexible binding material having flow characteristics and impervious to water, said binding material forming a protective coating on said wire mesh at least on the exposed face of the lining, each filled container forming a coherent mattress which is flexible and able to conform to the surface of the underlying soil.

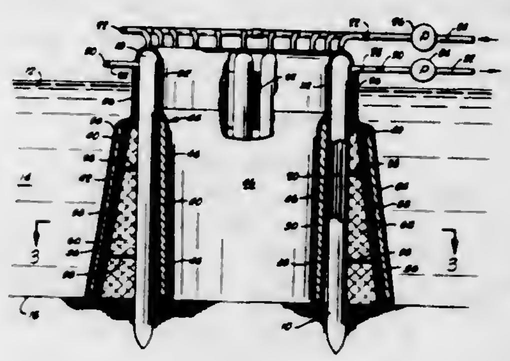
3,380,255
UNDERWATER ICE STRUCTURE AND METHOD FOR CONSTRUCTING SAME

Carl E. Schroeder, Jr., Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

Filed Sept. 22, 1965, Ser. No. 489,117

15 Claims. (Cl. 61—34)

Apparatus and method for forming a cofferdam comprising a plurality of substantially vertical refrigerant-carrying tubes, thermal insulation along the opposite sides of the tubes and spaced therefrom to define an open space



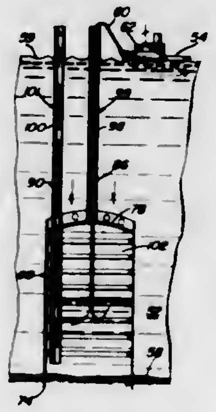
include the tubes, and a metal strip barrier at the upper ends of the tubes.

3,380,256
UNDERWATER DRILLING INSTALLATION AND METHOD OF CONSTRUCTION

Dimitri Issaiewitch Rebikoff, Fort Lauderdale, Fla., assignor to Rebikoff Oceanics, Inc., Fort Lauderdale, Fla., a corporation of Delaware

Filed Jan. 25, 1966, Ser. No. 522,869

2 Claims. (Cl. 61—46.5)



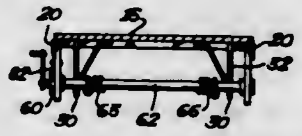
1. A method of installing a caisson on the bottom of a body of water which comprises providing a tubular caisson having one end open for being driven into the bottom of a water body and having a bulkhead extending thereacross in spaced relation to said one end for forming a working chamber therebetween and a shaft connection to said bulkhead for establishing communication between said chamber and the upper surface of the water body, immersing said caisson in the water body with said one end seated on the bottom of the water body and said bulkhead submerged in the water body, establishing communication between said chamber and the upper surface of the water body by a shaft extending from said shaft connection, and removing water from said chamber to cause the water pressure above said bulkhead to drive the caisson into the bottom of the water body.

3,380,257
PORTABLE DOCK

Robert Gillman and Michael R. Linder, both of Dassel, Minn. 55325

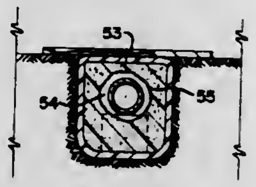
Filed May 20, 1966, Ser. No. 551,802

5 Claims. (Cl. 61—48)



A portable dock having a reinforced support structure on which is mounted wheel supports at one extremity of the same, the wheel supports being relatively movable by sleeves mounted on the same which are raised and lowered to engage the reinforced support structure to move the dock relative to the wheel supports. The sleeves are moved by a pulley and cable system operated from a remote winch positioned on the reinforced support structure.

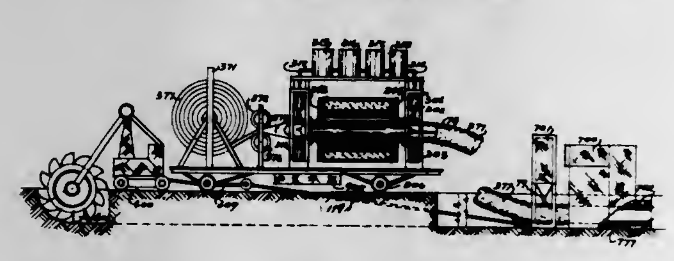
3,380,258
METHOD OF MOLDING INSULATION ABOUT A METAL PIPE
Homer F. Young, Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Jan. 22, 1965, Ser. No. 427,256
4 Claims. (Cl. 61—72.2)



4. A method of installing in a field installation insulated metal pipe having high service temperatures in the range from 300° to 800° F. which comprises:

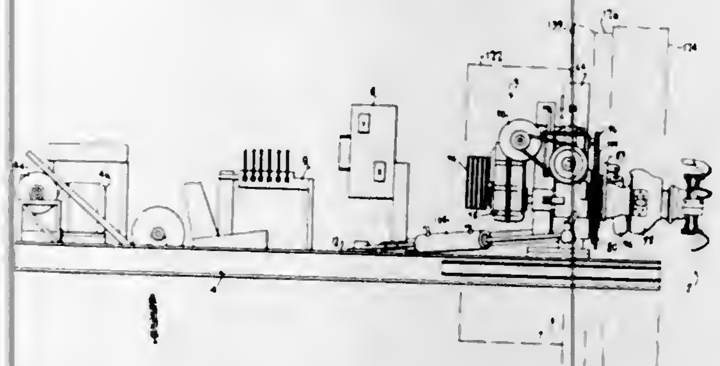
(a) digging a trench adapted to receive said pipe and exceeding the size of said pipe by the amount of desired insulation;
(b) lining said trench with a non-porous water-resistant material;
(c) spacing said pipe in said trench by means of suitable thermally non-conductive supports;
(d) introducing into said trench, along said pipe, a mixture which, upon curing, is converted into a rigid cellular epoxy resin which surrounds said pipe;
(e) thereafter, maintaining the temperature of said pipe at no more than about 160° F. for a sufficient time to permit the cure of said resin to be substantially complete;
(f) thereafter increasing the temperature of said pipe up to its service temperature in said range;
(g) and, after said cure is at least substantially complete, removing an undesired excess of resin foam and covering the exposed surface of the foam with a weather-resistant material.

3,380,259
MANUFACTURE OF REINFORCED COMPOSITE CONCRETE PIPE-LINE CONSTRUCTIONS
David Rubenstein, 2750 2nd Ave., San Diego, Calif. 92103
Continuation-in-part of applications Ser. No. 392,075, Aug. 19, 1964, and Ser. No. 391,987, Aug. 25, 1964. This application Oct. 24, 1965, Ser. No. 522,336
13 Claims. (Cl. 61—72.2)



This patent application relates to methods and apparatus for the manufacture of polymeric-resin-composition - fiber reinforced - cast - in - place - porous - structural - material - concrete - pipe - lines. Pipe - liners are provided on-site by make-up and processing apparatus and placed in a ditch dug by a self-propelled ditcher which hauls said apparatus on a trailer-processing rig which provides said pipe-liner. The said pipe-liner acts first as a forming means for casting a concrete cover component of the pipe-line and remains in place as a polymerized-polymeric - resin - composition - fiber - reinforced - pipe-liner. A concrete placing machine is hauled over the pipe-liner in the trench and concrete or other porous structural material placed around, about, over and under the pipe-liner, thus making a reinforced concrete pipe-line having corrosion resistant features.

3,380,260
TUNNEL-BORING MACHINE
Narciss Albert Redl, 405 Hilliard St., Saskatoon, Saskatchewan, Canada
Filed Nov. 30, 1964, Ser. No. 414,763
Claims priority, application Canada, July 31, 1964, 908,472
6 Claims. (Cl. 61—84)



1. A tunnel boring machine comprising a frame; a work head operatively mounted on said frame adjacent one end thereof being adapted to excavate a tunnel face; a conveyor on said frame for transferring cuttings from the work head and tunnel face to the rear portion of the machine; said frame including:

(a) A base portion;
(b) A column secured to said base portion, said work head being swingably and slidably mounted on said column;
(c) First hydraulic means for raising and lowering the work head on the column; and
(d) Second hydraulic means pivotally connected at one end of the frame and at its other end to the work head for securing the latter on said column and to said tunnel face;

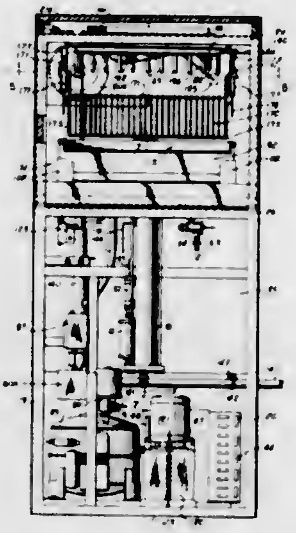
said work head including:

(1) Cutting means defining the radius of said tunnel;
(2) First drive means adapted to actuate said cutting means;
(3) A universal joint connecting said cutting means and said first drive means; and
(4) Second drive means adapted to rotate the cutting means and the universal joint so as to form the periphery of said tunnel;

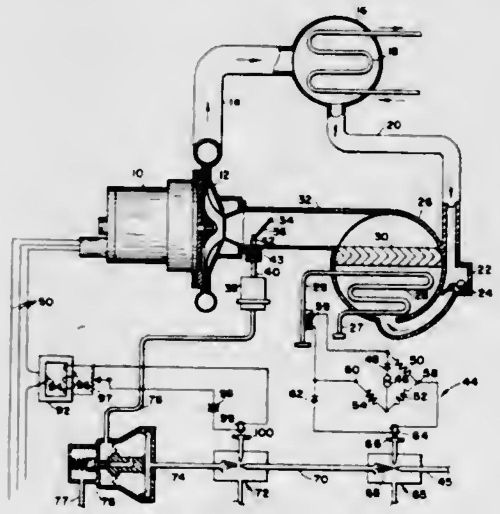
means for providing angular movement of said work head with respect to the longitudinal axis of said machine; means for providing angular movement to the universal joint with respect to the work head as well as the first and second drive means whereby the cutting means may undercut obstructions in the face of the tunnel; and a walking beam arrangement for moving said machine along a defined path of excavation.

3,380,261
METHOD AND APPARATUS FOR MAKING ICE
Grover E. Hendrix, 2054 Alhambra St., Dallas, Tex. 75217, and Charles M. Tunnell, 3923 Lawnview Ave., Dallas, Tex. 75227
Filed Apr. 4, 1966, Ser. No. 539,876
22 Claims. (Cl. 62—138)

1. An ice making machine comprising: a refrigerating mechanism including a motor compressor unit, a condenser, a liquid receiver, and an evaporator cooling member; a plurality of depending cooling nipples mounted at spaced intervals along said evaporator member; water container means for holding a body of water; means for moving said water container into and out of position to dispose the water therein in heat exchanging relationship with the nipples; means for reducing the volume of water in said water container exposed to the cooling nipples for reducing the volume of water required to form bodies of ice on said nipples; defrosting means for freeing ice formed on the nipples from the nipples while the water container is out of position in which the water is in heat exchanging relationship with the cooling nipples; means for draining and refilling said water container means with water while said water container means is out of position disposing the water therein in heat engaging relationship with the nipples to provide a fresh body of water for each freezing operation; and means for gathering the ice removed from the nipples in a place of storage.

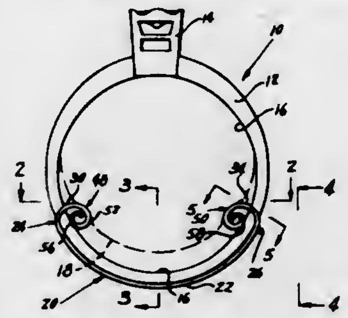


3,380,262
REFRIGERATION APPARATUS WITH LOAD LIMIT CONTROL
Robert G. Miner, La Crosse, Wis., assignor to The Trane Company, La Crosse, Wis., a corporation of Wisconsin
Filed Nov. 21, 1966, Ser. No. 595,754
17 Claims. (Cl. 62—209)



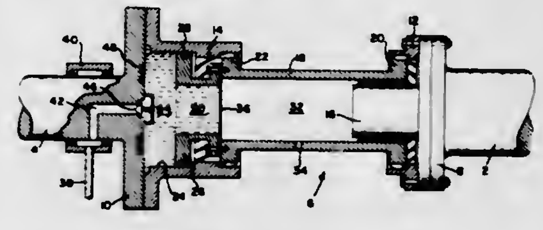
This invention relates to refrigeration apparatus having control means including fluid devices for operating the apparatus at a capacity which corresponds with the refrigeration load on the apparatus and limiting the capacity of the compressor of the refrigeration apparatus to prevent exceeding a maximum safe current through the driving motor of the compressor.

3,380,263
RING GUARD HAVING SLOTTED ENDS
Nathan Astor, 5 Hidley Extension, Troy, N.Y. 12180
Filed Aug. 17, 1965, Ser. No. 480,266
9 Claims. (Cl. 63—15.6)



An attachment to reduce the effective inner diameter of a ring including an arcuate length of a resilient material having ends in coil form and slotted to receive sections of the ring therein in a "snap-on" connection, the coiled ends simultaneously making bearing engagement with the inner surface of the ring and extending towards the center of the ring against the finger.

3,380,264
TORQUE SENSITIVE DISCONNECT COUPLING
Marshall G. Moore, Danvers, Mass., assignor to General Electric Company, a corporation of New York
Filed Sept. 30, 1966, Ser. No. 583,183
10 Claims. (Cl. 64—28)

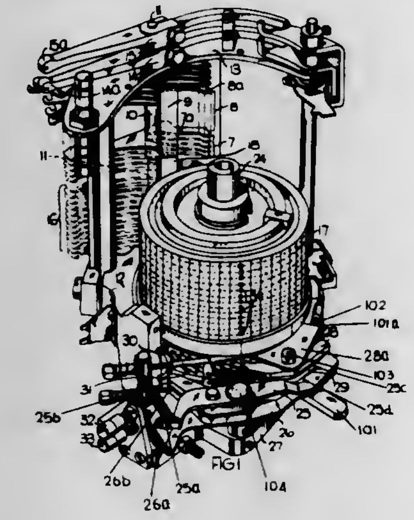


1. A disconnect coupling comprising:

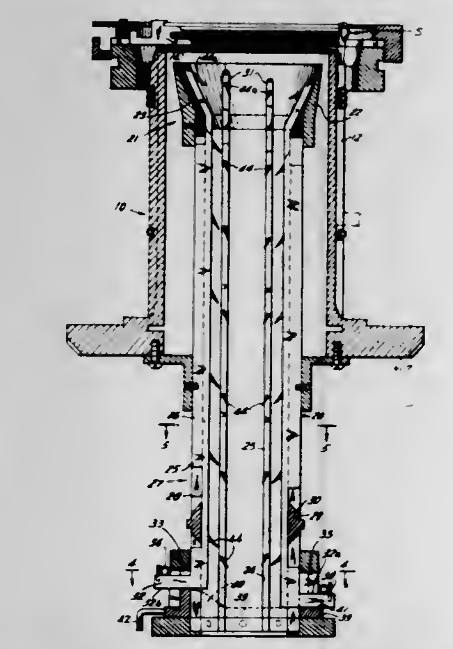
a first gear fixedly mounted to a driving member,
a second gear fixedly mounted to a driven member and coaxial with said first gear,
a generally cylindrical member having first gear teeth on the first end portion thereof mating with said first gear and having second gear teeth axially displaced from said first gear teeth and mating with said second gear, said member disposed coaxially with said first and second gears, and being axially slidable so as to disengage at least one set of gear teeth,
at least one of said gears having helical teeth arranged to provide an axial force on the member in response to torque between said driving and driven members,
one end of said cylindrical member defining a piston, said piston slidably disposed within a fluid chamber,
means to relieve pressure of the fluid within said chamber when said torque urges said cylindrical member and said piston against the fluid in said chamber at a predetermined pressure.

3,380,265
KNITTING MACHINES
Roland Peberdy, Leicester, England, assignor to The Bentley Engineering Company Limited, Leicester, England
Filed Sept. 1, 1964, Ser. No. 393,515
Claims priority, application Great Britain, Sept. 5, 1963, 35,048/63
8 Claims. (Cl. 66—14)

A patterning mechanism in a circular knitting machine of the opposed needle cylinder type has a pattern drum adapted to have patterning projections set up at selected peripheral locations in a plurality of axially spaced rings, selector levers appropriated one to each ring of projection locations on the drum for operation as the drum is racked around, by projections set up on the drum, each lever being movable between an operative location in which it is disposed for actuation by an appropriate projection on the drum and an inoperative position in which it is not so disposed. These levers are sub-divided into two banks associated with different groups of rings of projection locations on the drum, one bank being further subdivided into two sub-groups, control means including bluffing means common to said two sub-groups and operable in two steps successively to move first one and then the other of the two sub-groups of selector levers en bloc to inoperative position, and further control means operable to move the selector levers of the other bank en bloc to inoperative position.

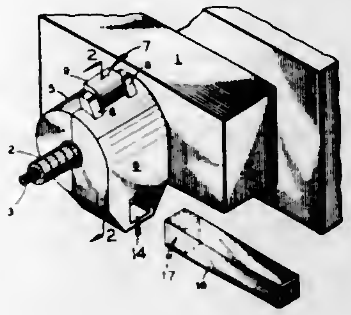


3,380,266
ATTACHMENT FOR CIRCULAR KNITTING MACHINE
Andrew John Williamson, 213 Circle Drive, SW., and William Porter Chesnutt, Jr., 503 Linden Circle, NE., both of Athens, Tenn. 37303
Filed Oct. 24, 1965, Ser. No. 504,656
1 Claim. (Cl. 66—150)



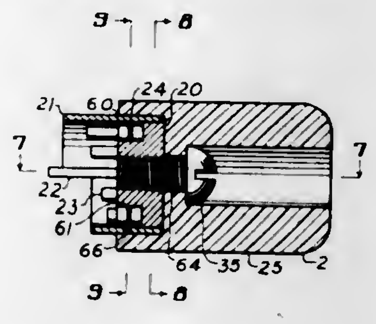
The present disclosure describes a pull down mechanism for a circular knitting machine, causing the stitches to be pulled down from the sinkers, minimizing the possibility of the formation of irregular or skipped stitches or the like. The knitting machine is provided with a delivery cylinder which carries an upwardly outwardly flaring portion having a plurality of spaced vertically extending shed bars.

3,380,267
SEALING DEVICE FOR VEHICLE SPEEDOMETERS
William E. Winchester, 6375 SW. 42nd St., Miami, Fla. 33155
Filed Feb. 28, 1966, Ser. No. 530,490
5 Claims. (Cl. 70—232)



A sealing device including a hollow housing for enclosing and sealing a cable. The housing is formed of two parts which are hinged at one end and are provided with an interfitting lock at the other end opposite the hinge. The lock is formed by a cavity in one of the halves and a projection on the other half which flexibly interfits in the cavity.

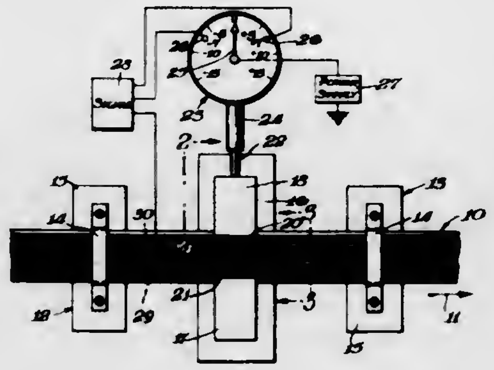
3,380,268
PIN TUMBLER LOCK
Harlan Knox Perrill, 359 S. Westgate Ave., Los Angeles, Calif. 90049
Filed Feb. 7, 1966, Ser. No. 525,643
10 Claims. (Cl. 70—363)



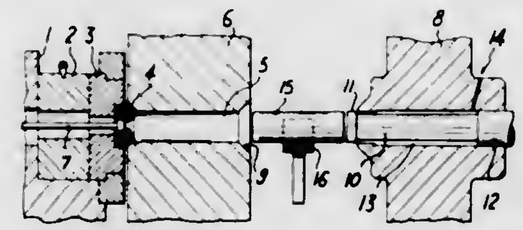
The device of the invention is an improved axial pin tumbler combination lock and key. In this type of lock there are circularly arranged pin tumblers in the body and in the rotatable barrel of the lock which are actuatable by a key having extending plungers or pins for actuating the tumblers in the lock for locking and unlocking. The improvements in the lock reside in the provision of a skirt on the key which engages in an annular groove in the barrel of the lock, these parts being configurated so that the key is operative in only one angular position. Further, a double set of bores alternately arranged is provided in the body of the lock with pin tumblers in the bores so related to the bores in the barrel that in both the lock and the unlocked positions of the lock itself, the pins in the barrel are in a position such that the combination of the lock is not exposed and not susceptible to picking.

3,380,269
AUTOMATIC TERMINATION
Howard W. Arnold, Fred S. Eldreth, and Wilbert L. Gore, Newark, Del., assignors to W. L. Gore & Associates, Inc., Newark, Del., a corporation of Delaware
Filed Oct. 23, 1965, Ser. No. 503,327
16 Claims. (Cl. 72—4)

A tool is provided for working on a work-piece, such as a ribbon cable, positioned in the tool, the tool having reciprocating elements that act in a plane substantially perpendicular to said work-piece to effect cutting, bending and the like of said piece which can be passed through a testing device on its way to said tool. The testing device comprises supports and at least one guiding element; a means to measure distance deviations in said cable is employed for control purposes.



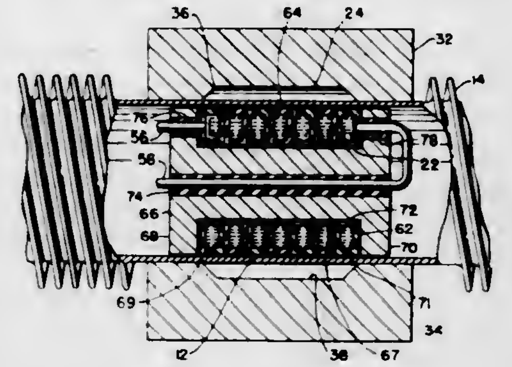
3,380,270
PLUGGING SYSTEM FOR EXTRUSION CONTAINERS
Charles Sauve, Versailles, France, assignor to Commissariat a l'Energie Atomique, Paris, France
Filed June 23, 1965, Ser. No. 466,225
Claims priority, application France, July 3, 1964, 980,629
3 Claims. (Cl. 72—45)



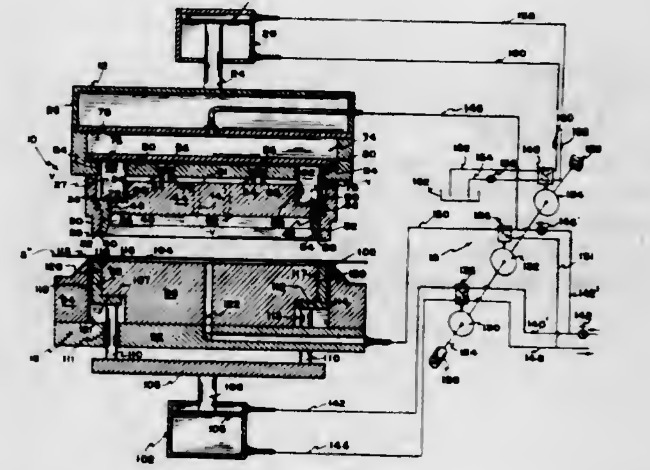
An extrusion device has a chamber closed at one end by a die to receive the billet and the other end of the chamber is closed by a plug in which a ram and ramrod are slidably mounted. A lubricant reservoir is formed between the ramrod and the plug and movement of the ramrod and ram when the plug is in position closing the chamber forces lubricant under high pressure around the billet prior to and during extrusion of the billet.

3,380,271
STRUCTURE FOR AND METHOD OF TUBE EXPANSION
Edward P. Habdas, Dearborn, Mich., assignor to Calumet & Hecla, Inc., Allen Park, Mich., a corporation of Michigan
Filed July 12, 1965, Ser. No. 470,980
19 Claims. (Cl. 72—56)

Structure for expanding plain sections of finned tubing or the like, including a die having an annular internal recess for positioning over the section of the tubing to be expanded, a source of electric energy, means connected to the source of electric energy and adapted to be extended into the tubing to the section thereof to be expanded for providing a mechanical tube expanding force on the section of the tube to be expanded in response to a signal from the signal source and such method of tube expansion. In one modification the means for providing an expanding force on the section of tube includes a radially expandable hollow coil having a conducting liquid therein connected to the source of electrical energy and means for concentrating the flux lines at the inner diameter of the coil on energizing the coil. In a second modification the means for providing a tube expanding force comprises a liquid within the tube and means for initiating an electric arc at the section of tube to be expanded in response to a signal from the signal source.



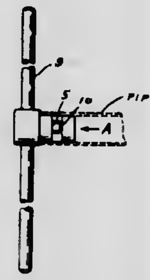
3,380,272
APPARATUS FOR FORMING FOIL CONTAINERS
Stanley J. Halter, Mundelein, Ill., assignor to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware
Filed Dec. 27, 1965, Ser. No. 516,330
7 Claims. (Cl. 72—57)



1. An apparatus for explosively forming a blank of relatively thin foil material and the like into a container of a selected configuration having substantially smooth walls and marginal edges comprising the combination of a reciprocating ram and a platen adapted to cooperate with the ram in forming the container, cooperating surfaces on the ram and platen for engaging and clampingly sealing the outer marginal portion of the container therebetween and from the atmosphere upon bottoming of the ram, certain of said cooperating surfaces also being slidably arranged relative to each other whereby during actuation of said ram and prior to the bottoming thereof they will also effect an ironing and smoothing of the outer peripheral edge of said marginal portion and a bending of the outer peripheral edge of said outer marginal portion relative to the remainder thereof, means for directing a fluid at a relatively high pressure and a relatively high velocity against one side as well as the inner portion of the container during the clampingly sealed engagement of the marginal portion of the container with the said cooperating surfaces of the ram and platen to explosively form, and container backup means on the ram disposed in opposed relationship to said fluid directing means for engaging and forming the inner portion of the container during the direction of the relatively high velocity fluid under relatively high pressure thereagainst.

3,380,273

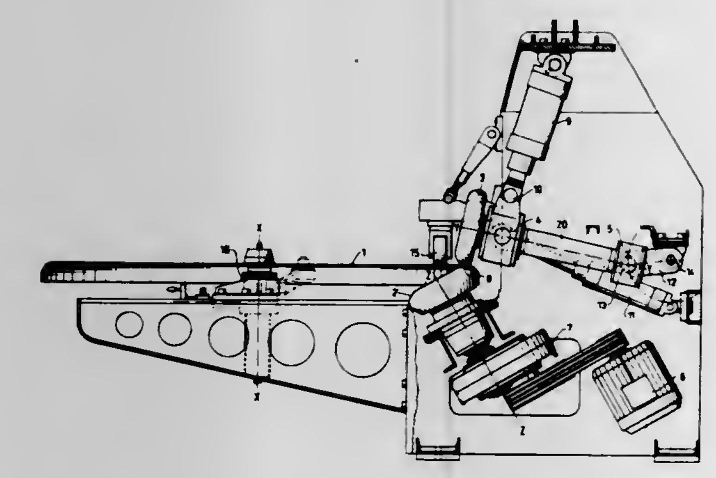
Alfred Champion, % Kings Langley Engineering Co. Limited, Station Road, Kings Langley, Hertfordshire, England
Filed Apr. 12, 1965, Ser. No. 447,202
Claims priority, application Great Britain, Jan. 7, 1965, 716/65
1 Claim. (Cl. 72—75)



A swaging tool comprising a longitudinal shank to enter the pipe end, a transverse slot in the shank, a ball disposed in the slot and resting upon a hardened metal insert which is let into a longitudinal eccentric slot in the shank the arrangement being such that when the tool is turned in one direction the ball is moved to the deep end of the slot so that it is flush or only slightly above the level of the shank surface and when the tool is turned in the other direction the ball is moved to the shallow end of the slot so that the ball projects radially beyond the shank surface and swages the pipe.

3,380,274
BORDERING MACHINE AND METHOD OF BORDERING PLATES BY MEANS OF THE MACHINE

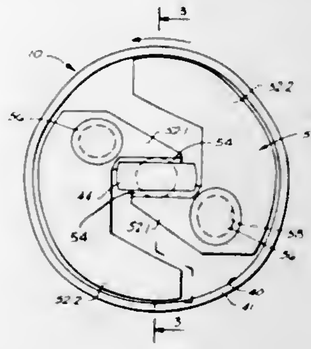
John Olov Gustavsson, Assen, Netherlands, assignor to Pullmax Aktiebolag, Gothenburg, Sweden, a corporation of Sweden
Filed Dec. 16, 1964, Ser. No. 418,667
Claims priority, application Sweden, Dec. 18, 1963, 14,157/63
8 Claims. (Cl. 72—85)



A machine for flanging the edge of a plane or dished plate comprises means supporting the plate for rotation, a forming roller engaging one side of the plate and having a curved cross section and a pressure roller engaging the opposite side of the plate at approximately the location of the forming roller. The pressure roller has a curved cross sectional contour and is carried by a shaft which is supported by a first bearing adjacent the pressure roller and a second bearing spaced from the pressure roller. Both of the bearings are on the opposite side of the pressure roller from the center of rotation of the plate. The second bearing is pivotally supported and coordinated means is provided for moving the first bearing both parallel to the shaft and perpendicular to the shaft to apply controlled pressure to the pressure roller in a direction toward the forming roller. Preferably the second bearing is supported by link means pivotally connected to the second bearing and to a fixed support. The means for moving the first bearing is preferably operated by fluid pressure.

3,380,275
SPIN FORMING DEVICE

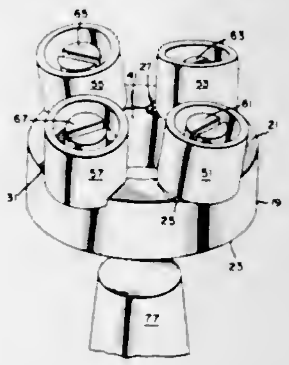
George P. McGraw, Jr., Downers Grove, Ill., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 13, 1965, Ser. No. 513,493
4 Claims. (Cl. 72—121)



An apparatus for forming a solid electrode at each end of a wound foil capacitor by axially spin swaging each end of the capacitor and simultaneously spin swaging a chamfer onto the circumferential edge of each end of the capacitor by applying a predetermined force with a sloping, movable swaging tool.

3,380,276
CUP PLUG EXPANDER

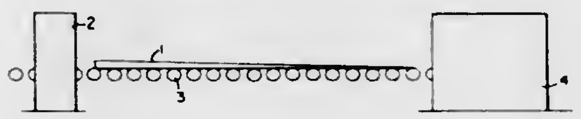
Frank E. Dudley, 12 Center St., Westmont, N.J. 08108
Filed May 20, 1966, Ser. No. 551,668
8 Claims. (Cl. 72—122)



1. A device for expanding a cup-shaped plug in the wall of an engine block comprising,
a circular base having opposed, substantially parallel faces, said base being of a size to fit within said plug,
a substantially circular aperture through said block, the axis of said aperture being substantially perpendicular to said opposed faces,
a plurality of inclined planes cut in the surface of one of said opposed faces, each of said planes terminating in a shoulder substantially perpendicular to said face,
a hollow cylindrical roller on each inclined plane having one end thereof adjacent said associated inclined plane,
means for mounting said rollers to said plane so that they are free to rotate and free to move a predetermined amount both along said inclined planes and laterally thereof for engagement with the walls of said cup-shaped plug,
said rollers having a diameter such as to extend within said aperture and without said circular base, and
rotatable mandrel means for insertion within said aperture and engagement with said rollers so as to rotate said rollers up said inclined plane and outwardly against said walls of said plug.

3,380,277
PROCESS FOR GAUGE CONTROL IN HOT ROLLED SHEET AND STRIP

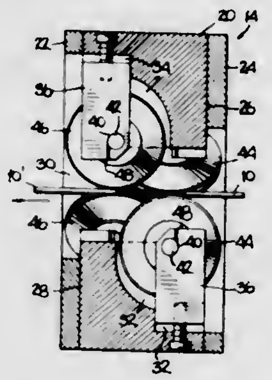
Walter Harold Mulflur, Sault Sainte Marie, Ontario, Canada, assignor to The Algoma Steel Corporation, Limited, Sault Sainte Marie, Ontario, Canada
Filed Jan. 12, 1966, Ser. No. 520,224
Claims priority, application Canada, Oct. 4, 1965, 948,078
7 Claims. (Cl. 72—200)



A method for ensuring that hot rolled metal sheet or strip has a uniform thickness after rolling is described. In the method a hot slab is rolled to a wedge shape which is subsequently rolled to sheet or strip, thin end first thereby ensuring a large heat sink in the material rolled last. The material produced by the process is also easier to coil, pickle and otherwise treat as the finishing temperature is uniform throughout.

3,380,278
METHOD AND APPARATUS FOR DRAWING SOLID WIRE STOCK

Elmer D. Dilling, Las Vegas, Nev., assignor to Titanium Metals Corporation of America, New York, N.Y., a corporation of Delaware
Continuation-in-part of application Ser. No. 257,607, Feb. 11, 1963. This application Oct. 21, 1965, Ser. No. 499,186
12 Claims. (Cl. 72—224)

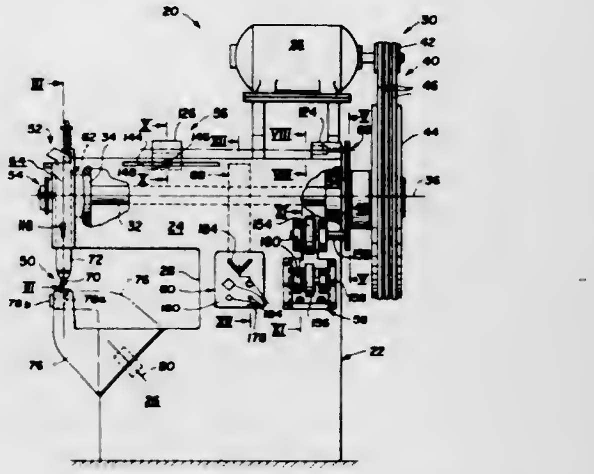


A wire forming tool made up of sets of rolls with grooved peripheries which combine to define rolling apertures of selected configuration and size for reducing the diameter of metal wire pulled therethrough.

3,380,279
METALWORKING APPARATUS

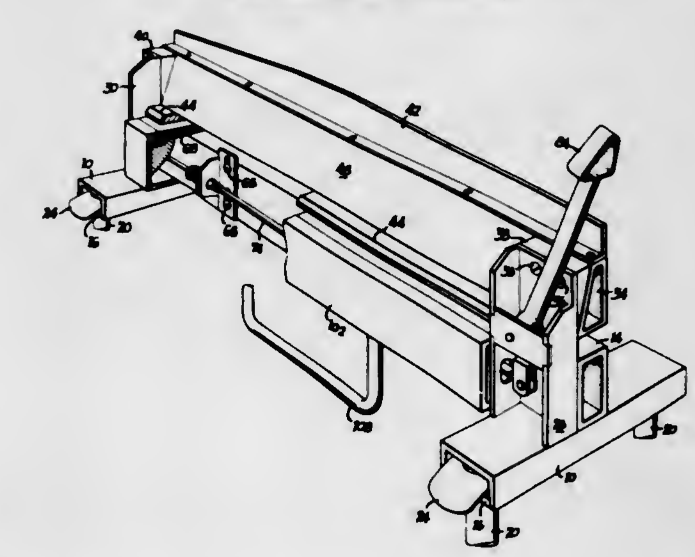
Richard E. Lang, 100 Grienbriar Drive, Carnegie, Pa. 15106
Filed Mar. 24, 1966, Ser. No. 537,046
8 Claims. (Cl. 72—294)

1. Apparatus for performing multiple work-operations on workpieces of various shapes and sizes, comprising a main frame having horizontal upper and lower arms and a vertical portion connecting corresponding ends of said upper and lower arms; a drive shaft extending through said upper arm and supported therein for rotation about its longitudinal axis; a die block carried at the forward end of said lower arm and having at least one die opening therein; a ram member; housing means at the forward end of said upper arm for supporting said ram member for vertical reciprocation toward and away from said die block; means including an eccentric cam for connecting said ram member to said drive shaft whereby said ram member is reciprocated once for each revolution of said drive shaft; a punch bit carried by said ram member and positioned to enter said die opening; cooperating cutter members, one carried by said housing means and the other secured to said ram member and reciprocable therewith, said cooperating cutters being adapted to notch a workpiece; means including a disc member carried at the end of said drive shaft for deforming an elongated workpiece into a spiral configuration; a support member projecting from said housing means adjacent said deforming means and positioned to support a workpiece during deformation; and drive means operatively connected to said drive shaft including clutch means for rotating said drive shaft through a single revolution, whereby said disc member is rotated through a single revolution and whereby said ram member is reciprocated toward and away from said die block and simultaneously causes (a) a punch bit to enter and be retracted from said die opening, and (b) said other cutter member to reciprocate past said one cutter member.



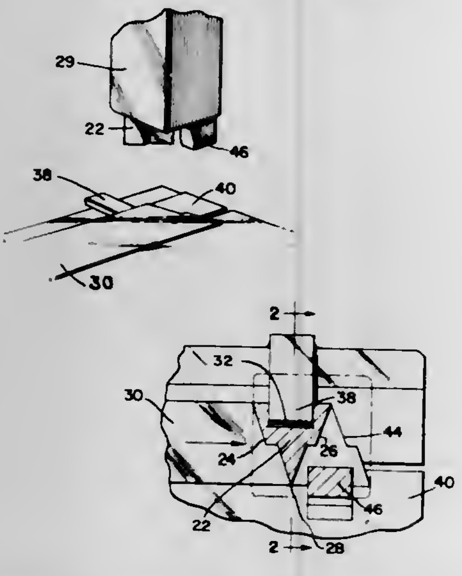
3,380,280
SHEET METAL BENDING BRAKE

Ralph H. Wise, Columbus, Ind., assignor to Van-Mark Products Corporation, Detroit, Mich., a corporation of Michigan
Filed Sept. 16, 1965, Ser. No. 487,838
7 Claims. (Cl. 72—319)



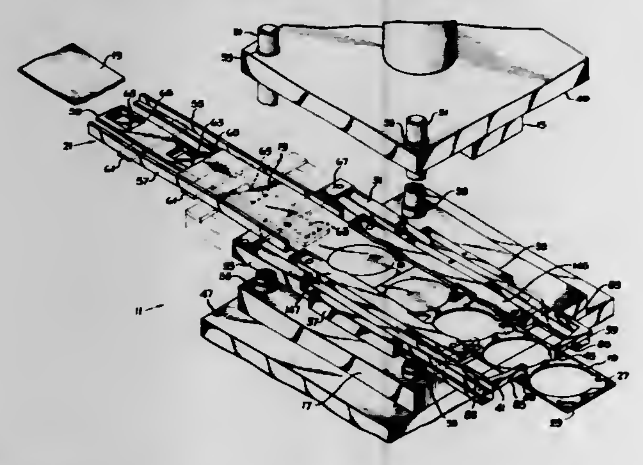
The disclosure includes a brake for bending sheet metal material wherein parallel frame members are secured to a base in fixed and spaced apart relationship with a platen fixed to one frame member and an independent clamping table is movably secured to the other frame member and is arranged to be moved into and away from clamping relation with the platen.

3,380,281
MECHANISM FOR AND METHOD OF MAKING GLAZIERS' POINT
Charles Wesley Skinner, 181 Torrey St.,
Brockton, Mass. 02457
Filed Oct. 6, 1964, Ser. No. 401,864
1 Claim. (Cl. 72—330)



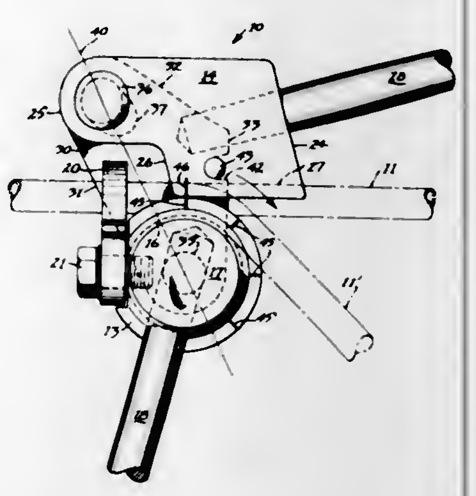
Mechanism is provided for making glaziers' points from a metal strip, the points being generally triangular in shape, with an upstanding tongue near the base of the triangle. The mechanism comprises an anvil having apertures therethrough the two dies which descend into the apertures to sever two points simultaneously from the metal strip and at the same time bend the tongue of one of the points vertically upward and the tongue of the other point downward.

3,380,282
METHOD AND APPARATUS FOR FORMING BLANKS
Joseph A. Scaletta, Chicago, Roland E. Miller, Orangeville, and John Valek, Cicero, Ill., assignors to National Dairy Products Corporation, Chicago, Ill., a corporation of Delaware
Filed Aug. 9, 1965, Ser. No. 478,295
9 Claims. (Cl. 72—335)



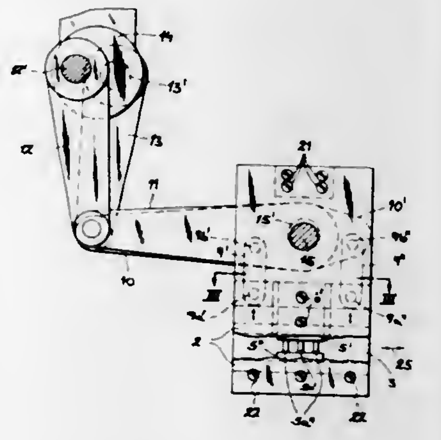
Method and apparatus for performing work on strip stock, in which the strip is an uncoiled essentially planar form and is advanced through one or more work stations by a pushing force applied at its trailing edge and by a pulling force applied against the edge of an aperture provided in the strip.

3,380,283
TUBE BENDING TOOL
Frank R. Wilson, Memphis, Tenn., and John H. Stanley, Euclid, Ohio, assignors to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Jan. 11, 1965, Ser. No. 424,535
6 Claims. (Cl. 72—387)



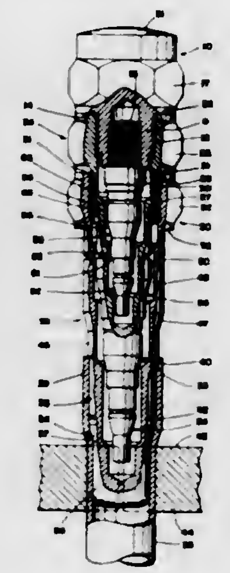
A tube bending tool including a shoe, a circular arbor and an elongated link pivotally connected by pins at opposite ends of the link to the shoe and arbor, respectively; the distance between the pivot pins being greater than the sum of the radius of the arbor seat and the distance between the shoe pin and the longitudinal axis of the shoe seat, and releasable means for locking the shoe and arbor in a closed position in which the arbor seat and shoe seat engage the tube.

3,380,284
DEFORMING DEVICE FOR ELONGATED ELEMENTS
Heinz Breuer, Giese-Strasse 19, Duren,
Rhineland, Germany
Filed Jan. 27, 1966, Ser. No. 523,402
Claims priority, application Germany, Jan. 28, 1965,
R 39,754
9 Claims. (Cl. 72—450)



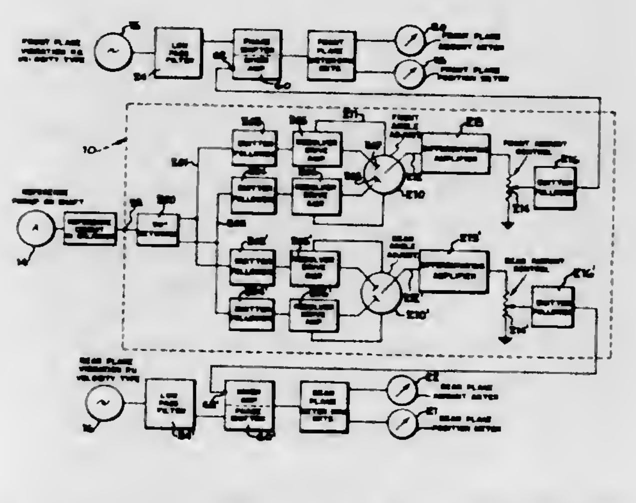
1. A device for the deformation of elongated elements, comprising a support structure; anvil means on said support structure; ram means slidably mounted on said support structure for movement toward and away from said anvil means, said ram means and said anvil means being provided with respective cooperating tool parts adapted to impart to said elements a desired configuration upon engagement of said elements between said tool parts as said ram means is shifted toward said anvil means; a pair of levers pivotally mounted on said support structure and individually swingable thereon; respective link means pivotally connecting each of said levers with said ram means for shifting same toward and away from said anvil means; crankshaft means rotatable for displacing said ram means; and respective connecting rods pivotally connecting said levers with said crankshaft means for individual movement of said levers thereof to shift said ram means.

3,380,285
SWEDGING TOOL
Frank R. Wilson, Memphis, Tenn., assignor to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Jan. 14, 1965, Ser. No. 425,419
3 Claims. (Cl. 72—477)



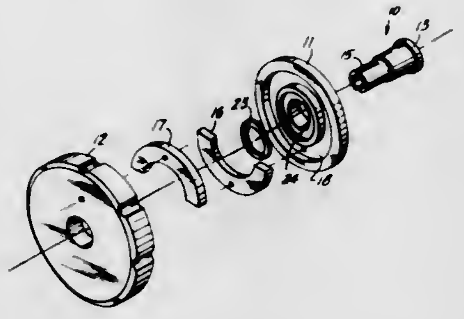
A tool for swedging tubes comprising a body for receiving hammer blows and one or more die sections removably attached directly to the body and having anvil portions for expanding the ends of tubes.

3,380,286
METHOD AND APPARATUS FOR CALIBRATING UNBALANCE ANALYZERS
Richard E. Porter, Columbus, Ohio, assignor to Abex Corporation, a corporation of Delaware
Filed June 11, 1965, Ser. No. 463,315
10 Claims. (Cl. 73—1)



4. A method of calibrating a rotating assembly unbalance analyzer of the type utilized to balance a rotating member of an assembly while said rotating member is being driven at a speed within a selected range, said analyzer including two vibration pickups for sensing vibrations in first and second correction planes, and circuit means respectively responsive to each of said pickups for producing an electrical unbalance signal to provide an indication of the position and amount of unbalance in each of said planes, said method comprising the steps of rotating an unbalanced rotating assembly at a speed within said selected range, generating a reference sine wave having a frequency corresponding to the rate of rotation of the rotating member, sensing the unbalance in one of said planes with one of said vibration pickups, producing a first unbalance signal therefrom, utilizing said reference sine wave to generate a first calibration signal effective to cancel out said first unbalance signal, vectorially adding said signals utilizing said reference sine wave to generate a second calibration signal effective to cancel out said second unbalance signal, vectorially adding said last named signals, thereafter adding a known weight in a known position to said rotating assembly adjacent to the first correction plane thereof, rotating said assembly and sensing the unbalance thereof with one of said vibration pickups, producing a third unbalance signal therefrom, and adjusting components of said analyzer so that said analyzer indicates the correct amount and position of said added weight, removing said weight from the first correction plane, mounting a known weight in a known position upon said rotating assembly adjacent to the second correction plane thereof, rotating said assembly and sensing the unbalance thereof in the second correction plane with the other of said vibration pickups, producing a fourth unbalance signal therefrom, and adjusting components of the analyzer, whereby the analyzer indicates the correct amount and position of the added weight in the second correction plane, and adjusting components of said analyzer in a second to first cross plane circuit of the analyzer to eliminate erroneous readings of the front meter due to the second to first cross plane effect.

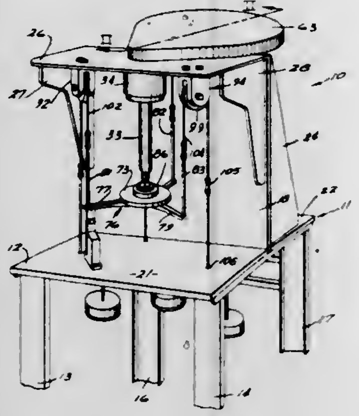
3,380,287
TORQUE MEASURING DEVICE
Alexander Onyskin, 56 Anoatok,
Huntington, N.Y. 11743
Filed Oct. 19, 1965, Ser. No. 497,617
4 Claims. (Cl. 73—1)



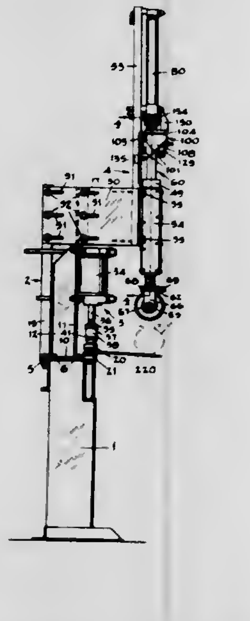
An apparatus for measuring the torque of a rotating component by the use of two disks which are mounted on the shaft of a rotatable component and rotating the disks relative to each other to form an unbalanced mass. The amount of rotation relative to each other being calibrated so that the relative rotation of the disks is a measure of the torque required to rotate the shaft of the component.

3,380,288
ROLLING CONTACT TEST MACHINE
Robert H. Bradley, Garden Grove, Calif., assignor to Industrial Tectonics, Inc., Ann Arbor, Mich., a corporation of Michigan
Filed Sept. 17, 1965, Ser. No. 488,029
14 Claims. (Cl. 73—9)

A rolling contact test machine for testing a multiball specimen including platform suspended by plural flexible elements beneath a rotatable drive spindle. The multiball specimen is supported on the platform opposite the end of the spindle. The flexible elements are led over pulleys and are provided with weights for urging the specimen with a preselected force against the end of the drive spindle while allowing the specimen to orient itself with respect to the spindle for uniform loading of the balls of the specimen. Test chambers are supportable on the platform for housing the specimen and spindle end in controlled environments including cryogenic, high temperature and pressurizable environments.

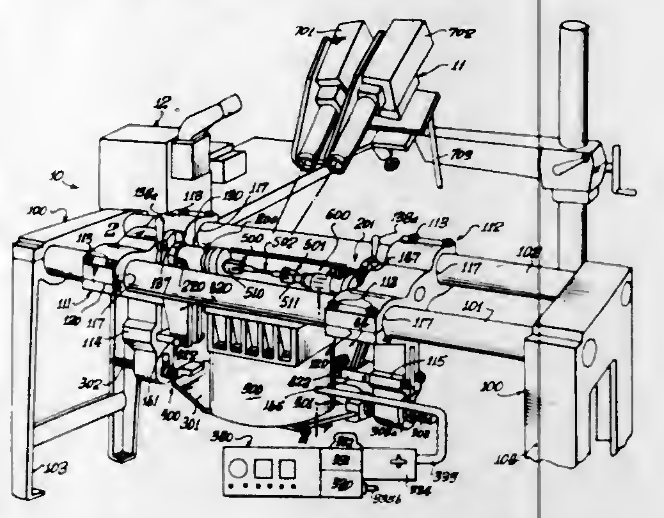


3,380,289
TESTING APPARATUS
Emmett L. Walters and James H. Boicey, Toledo, Ohio, assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
Filed June 10, 1965, Ser. No. 462,865
4 Claims. (Cl. 73—12)



An impact testing apparatus for production testing automobile windows having mounting holes drilled along their edges. The sheets are cantilever mounted in a manner which simulates actual mounting conditions and a weight is dropped a predetermined distance to fall at a predetermined point on the surface of the sheet. Operation is semi-automatic so that when the weight is manually released from a latched position its downward movement actuates a lifting member which returns it in position to strike the next sheet. Upon return of the weight to the latched position the lifting member is automatically moved to an out-of-the-way position to permit free fall of the weight.

3,380,290
DYNAMIC TESTER WITH TESTING BETWEEN HYDRAULIC LAUNCHING OF TEST MASSES AND INELASTIC COLLISIONS
Gunnar P. Michelson, Santa Barbara, Calif., assignor, by mesne assignments, to Plas-Tech Equipment Corporation, Natick, Mass., a corporation of Massachusetts
Filed Dec. 6, 1965, Ser. No. 511,925
10 Claims. (Cl. 73—12)

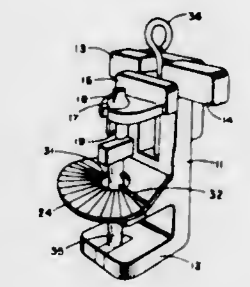


1. A dynamic tester for subjecting a test specimen to a dynamic load along a test specimen longitudinal axis, which tester includes:

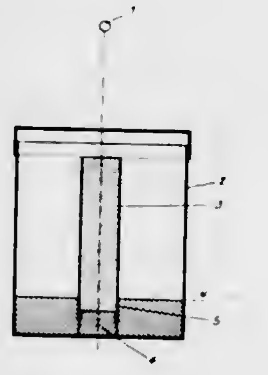
- a frame disposed around a test specimen location, said location being characterized by a longitudinal axis for longitudinal disposition of a test specimen;
- a pair of track means mounted in said frame along said longitudinal axis, one at each end of said test specimen location;
- a pair of moveable mass means, one moveable on each of said track means;
- a pair of test specimen attachment means, one for attachment at each end of a test specimen in said test specimen location, said attachment means being supported between said moveable mass means, and connected thereto during at least part of the time during an operation of said tester;
- a hydraulic accumulator;
- pump means for introducing a compressible liquid into said hydraulic accumulator up to a pre-selected pressure;
- a hydraulic cylinder means;
- a pair of pistons in said cylinder, each of said pistons being adapted to move outwardly away from a central region in said cylinder;
- releasable valve means between said hydraulic accumulator and said central region of said cylinder to permit the sudden introduction of hydraulic liquid under high pressure from said hydraulic accumulator into said central region; and
- a pair of mechanical transmission means, one at each end of said cylinder, said means being in driven engagement with said pistons, and in driving engagement with said moveable masses, whereby release of hydraulic fluid from said accumulator to said cylinder operates to launch said pair of moveable masses in opposite directions along said longitudinal axis.

3,380,291
MEASUREMENT OF ELASTIC BEHAVIOR AT LOW TEMPERATURES
Angus F. Wilson, Cochituate, Mass., assignor to the United States of America as represented by the Secretary of the Army
Filed July 6, 1965, Ser. No. 469,952
12 Claims. (Cl. 73—15.6)

A method for determining the elastic behavior of an elastomer at low temperatures which comprises deforming an elongate sample of the elastomer by twisting the same about its long axis, lowering the temperature of the sample until it will maintain its deformed condition without mechanical restraint, removing restraint at one end of the sample and increasing the temperature of the sample until it begins to recover its elastic properties as evidenced by movement of the sample as it returns to its non-deformed condition.



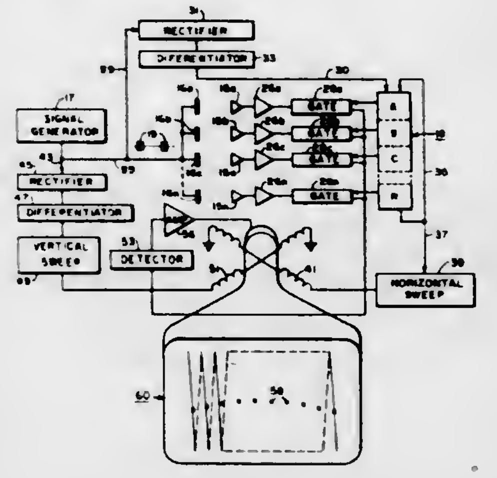
3,380,292
DISTRIBUTION OF FLUIDS IN A MEDIUM
Jacques François Marie Le Fournier, l'Hautil par Triel, France, assignor to Compagnie d'Exploration Petroliere, Paris, France, a French anonymous company
Filed Jan. 28, 1966, Ser. No. 523,722
Claims priority, application France, Jan. 29, 1965, 3,649, Patent 1,431,080
7 Claims. (Cl. 73—38)



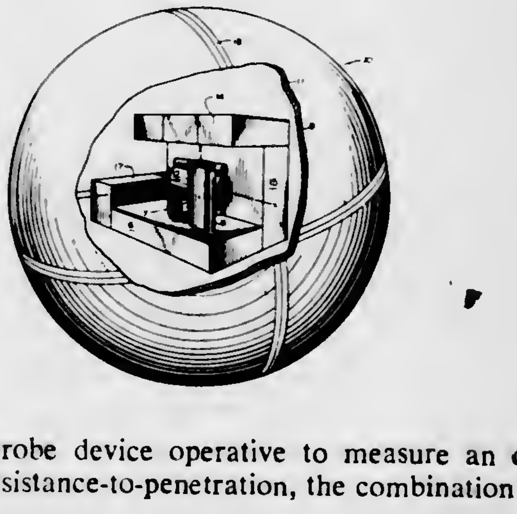
The distribution of two immiscible fluids in a porous medium can be studied by replacing them in a test specimen with hardened plastic of different colors. To do this, a binary fluid system imitating the physical behavior of the binary system to be studied is introduced into a porous medium, at least one of the fluids being a thermosetting resin. The necessary hydrostatic head is duplicated by centrifuging the specimen while the resin hardens. The other fluid is represented by a liquid thermosetting resin of different color, which is introduced simultaneously with or subsequently to the first liquid resin.

3,380,293
ULTRASONIC INSPECTION APPARATUS
John H. Murphy, 2339 Tilbury Ave., Pittsburgh, Pa. 15217
Filed May 20, 1965, Ser. No. 457,398
10 Claims. (Cl. 73—67.7)

Ultrasonic inspection apparatus, and more particularly apparatus for measuring the contour of the surface of a solid object such as sheet steel or other substantially solid material, both moving and stationary. A plurality of ultrasonic transmitter-receiver pairs are positioned over the width of the object. The signals reflected from the object surface are displayed on a cathode ray tube indicator as a series of spots across the face of the tube and have a configuration indicative of the contour of the object.



3,380,294
INERTIAL IMPACT PROBE INSTRUMENT
John C. Redmond, Fort Worth, Tex., assignor to General Dynamics Corporation, Fort Worth, Tex., a corporation of Delaware
Filed Aug. 24, 1964, Ser. No. 391,591
1 Claim. (Cl. 73—82)

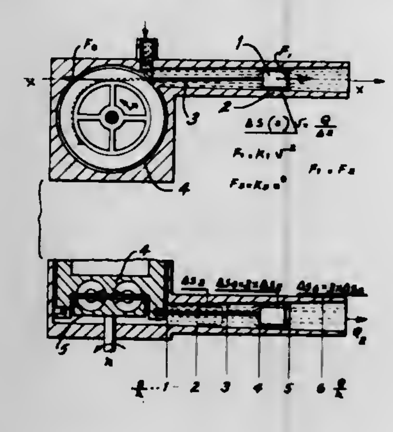


1. In a probe device operative to measure an object material's resistance-to-penetration, the combination comprising:

- (A) a spherical hard metal capsule defining an enclosure, and carrying
- (B) an electrical energy power source mounted within said enclosure,
- (C) at least one orthogonal decelerometer operatively associated with said power source and suitably disposed and mounted within said enclosure,
- (D) at least one input channel for electrical pulses emanating from said decelerometer and leading into a subcarrier means,
- (E) a subcarrier having at least one oscillator, operatively associated with prime carrier means,
- (F) a prime VHF carrier, frequency modulated by the input from said subcarrier and having at least one RF oscillator for emitting VHF band crystal controlled signals,
- (G) a transmitter for receiving input from said prime carrier operable to provide RF signal emission for telemetering,
- (H) at least one polarized, phased band, omnidirectional antenna in operative association with said prime carrier, said antenna being peripherically disposed about said spherical capsule probe,

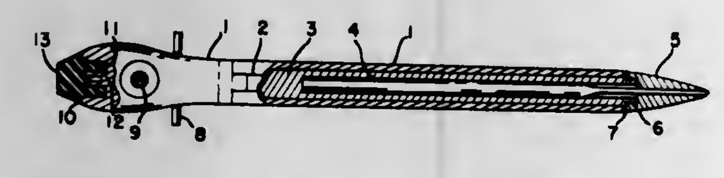
(I) at least one relatively thin metallic outer shell defining an enclosure for said metal capsule spaced therefrom and substantially concentric therewith, and further having suitably disposed non-conductive spacer material between said outer shell and said metal capsule such that no electrical contact exists between said outer shell and said inner capsule.

3,380,295
DEVICE FOR DIRECTLY MEASURING THE RATIO BETWEEN A FLUID FLOW AND A ROTARY SPEED
Julio Cesar Santos da Silva Bento, Rua S. Joao de Brito 2, Linda-a-Velha, Portugal
Filed Jan. 25, 1966, Ser. No. 522,866
10 Claims. (Cl. 73—114)



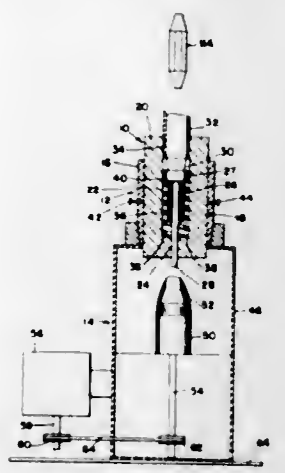
A device for instantaneously measuring the ratio between the flow of a fluid and a rotary speed. The fluid is directed through a conduit to act on a float therein so as to urge the float in a given direction along the conduit. A freely rotatable body is operatively connected with the float so as to be urged to turn in a given direction in response to the action of the fluid on the float. A rotary member is hydraulically coupled with the rotatable body in a manner providing the possibility of 100% slip between the rotary member and the rotatable body, and the hydraulic coupling causes the rotary member to urge the rotatable body to turn in a direction opposite to the direction in which it is urged to turn by the float. Thus, in a position of equilibrium the rotatable body and the float will have positions, respectively, which are indicative of the ratio between the fluid flow and the speed of rotation of the rotary member, and by indicating either the angular position of the rotatable body or the position of the float along the conduit it is possible to give an instantaneous measurement of the ratio between the fluid flow and the speed of rotation of the rotary member.

3,380,296
TIRE GAUGE AND MARKING DEVICE ASSEMBLY
Orlando A. Malanga, 3551 Paul Jones Ave., San Diego, Calif. 92117
Filed Mar. 15, 1966, Ser. No. 534,507
2 Claims. (Cl. 73—146.3)



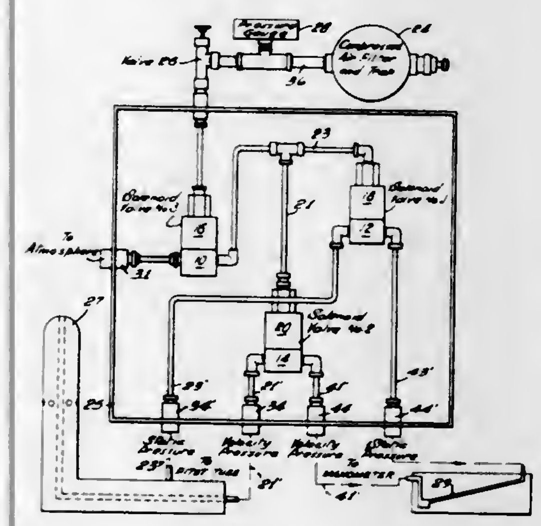
A combination tool that permits the garage mechanic to remove and set valve cores, to gauge the fluid pressure in an inflated tire, and to mark reference points on tires as well as fill out tags and records associated with the repair project. The marking device is mounted in a hollow outer end of the pressure gauge stem which has piston means at its inner end responsive to tire pressure. At the closed end of the cylinder there is provided an axially directed valve core wrench, and a removable eraser especially shaped to conform to the working opening of the wrench.

3,380,297
FUZE-TESTING APPARATUS
Walter N. Stewart, Willingboro, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed Dec. 3, 1965, Ser. No. 511,570
6 Claims. (Cl. 73—167)



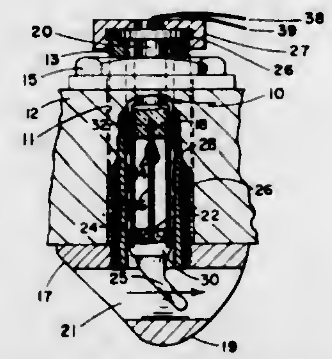
A device for testing point detonating fuzes consisting of a tube having a spring retractable plunger at the bottom which detonates the fuze when an octagonal shaped striker is dropped thereon through the tube.

3,380,298
DEVICE FOR PURGING PITOT TUBES
Victor Wendell Hanson, Garden City, Mich., assignor to Ajem Laboratories, Inc., Livonia, Mich.
Filed June 11, 1965, Ser. No. 463,079
3 Claims. (Cl. 73—182)



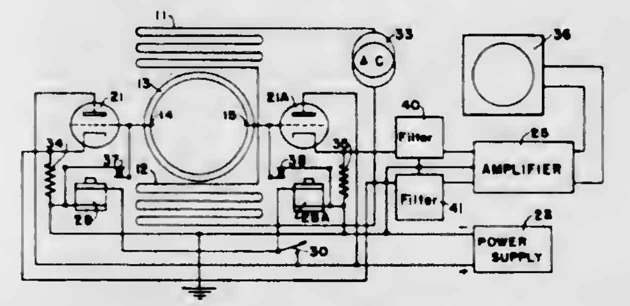
1. A device for maintaining accuracy of readings of a Pitot tube with manometer which comprises three-way valve means adapted to connect the static side of the Pitot tube, alternatively, with the static side of the manometer or a supply of gas under pressure; a second three-way valve means adapted to connect the velocity pressure side of the Pitot tube with the velocity pressure side of the manometer or with a supply of gas under pressure; a third valve means adapted, alternatively, to connect both of said valves to, and cut off both of said valves from, a supply of said gas under pressure and, alternatively, to open them to the atmosphere to exhaust said gas therefrom, and means for operating all of said valves in appropriate sequence.

3,380,299
BOAT SPEEDOMETER
Malcolm Seymour, South Bristol, Maine, assignor to Prototypes, Inc., South Bristol, Maine, a corporation of Maine
Filed Apr. 4, 1966, Ser. No. 539,982
7 Claims. (Cl. 73—186)



A marine speedometer of the vane type having a flexible beam secured to the vane to flex in response to movement of the vane. Strain gauges mounted on the beam are used to determine the amount of flexure and the beam is surrounded and enclosed by a waterproof sleeve.

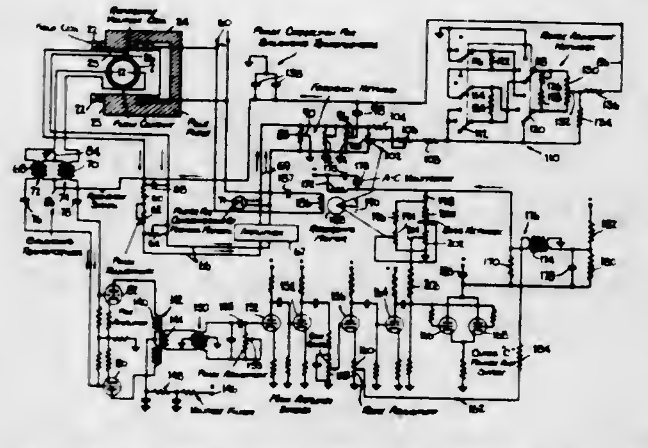
3,380,300
ELECTROMAGNETIC FLOWMETER FOR ENGINE EXHAUST GASES
Stanley Lehrer and John C. Holme, Pompton Lakes, N.J., assignors to Astrosystems International, Inc., a corporation of New Jersey
Filed May 28, 1965, Ser. No. 459,577
3 Claims. (Cl. 73—194)



An electromagnetic flowmeter for the hot ionized gases issuing from the throat of a rocket or jet engine. Two adjustable electromagnetic windings create a magnetic field which separates ions and electrons in the gases and directs them to electrodes which are connected to a measuring circuit. The measuring circuit includes a noise filter, means for eliminating static charges prior to making a measurement, and an oscillograph for showing wave forms.

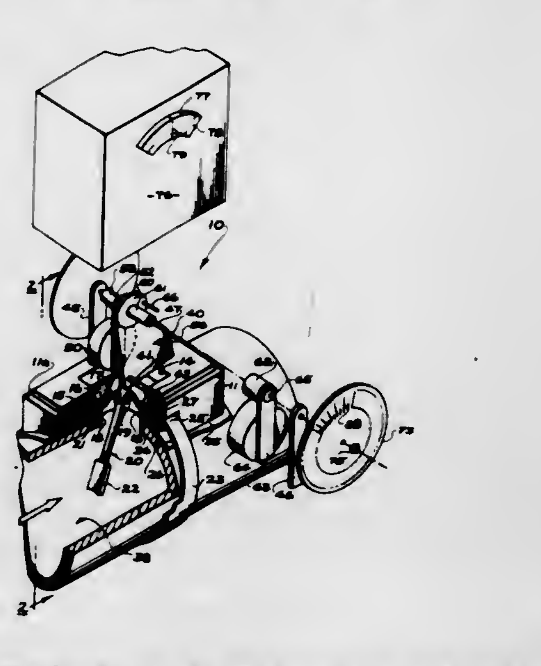
3,380,301
MAGNETIC FLOWMETER FOR MAGNETIC SLURRIES
Elmer D. Mannherz, Southampton, and Roy F. Schmoock, Ivyland, Pa., assignors to Fischer & Porter Co., Warminster, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 350,488, Mar. 9, 1964. This application May 4, 1966, Ser. No. 547,671
8 Claims. (Cl. 73—194)

A magnetic flowmeter to measure the flow velocity of magnetic slurries, such as those involved in the processing of magnetic iron ore, the flowmeter comprising an electromagnet to establish a magnetic field across a conduit through which the slurry flows, electrodes being disposed in a line extending perpendicularly with respect to this field to intercept signals generated by the flow of slurry through the conduit, a reference coil being located in a portion of the magnetic field to have induced therein a reference voltage proportional to the flux through the conduit, the relationship between the reference voltage



and the signals being determined in order to indicate the flow velocity of the slurry.

3,380,302
FLOWMETER
Ralph J. Gelinas, Sherman Oaks, Calif., assignor to Unicon Systems Incorporated, Van Nuys, Calif., a corporation of California
Filed May 26, 1965, Ser. No. 458,848
10 Claims. (Cl. 73—228)

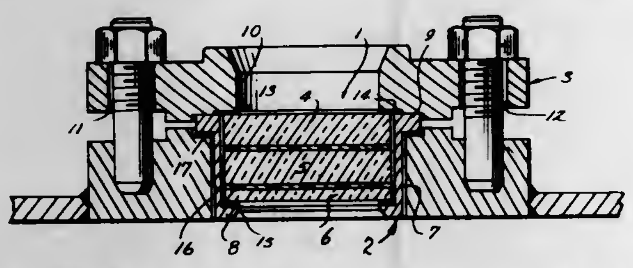


A flowmeter having a pivoted arm with one end in the path of flow of a fluid and the other end geared to a shaft totatable in response to displacement of the arm due to fluid flow and providing a measure of such flow, and biasing means in the form of a plurality of pendulous weights mounted on the shaft for coaxial pivotal movement about the shaft axis and sequentially moved with rotation of the shaft for increasing bias on the arm with increase in its displacement.

3,380,303
SIGHT GLASS FOR REACTION VESSELS
Gene Le Roy, Rte. 1, Box 510, Maplewood Estates, Scott Depot, W. Va. 25560
Filed Oct. 22, 1965, Ser. No. 502,660
4 Claims. (Cl. 73—334)

1. A sight glass for reaction vessels and the like comprising a lens, a ferrule receiving said lens, a gasket at one end of the lens and ferrule, compression means overlying said end of the gasket and ferrule, and means for pressing said compression means against said end of the ferrule and said gasket, there being a groove between a portion only of said compression means and a portion only of said end of the ferrule to receive said gasket so that, when said compression means is pressed against

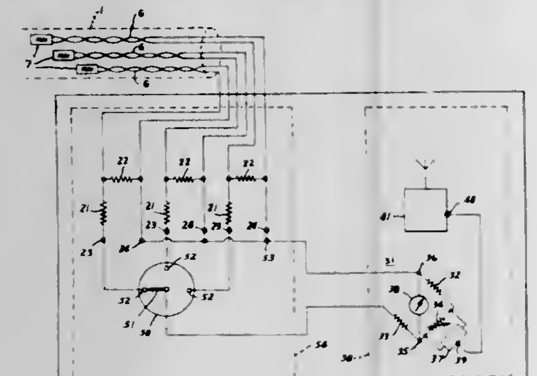
said gasket and said ferrule, another portion of the compression means will be in direct contact with another por-



tion of said end of the ferrule, thereby limiting pressure against said gasket.

3,380,304
REMOTE STATION FOR OCEANOGRAPHIC DATA SENSING

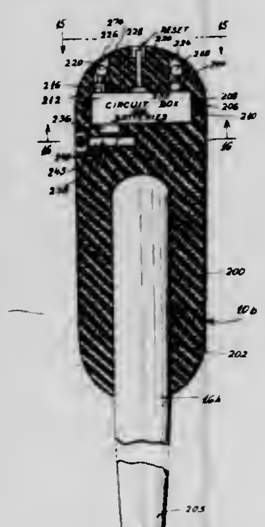
Stephen Zysk, Stratford, Conn., and Tore E. Borg, Syracuse, N.Y., assignors to General Electric Company, a corporation of New York
Filed Nov. 26, 1965, Ser. No. 510,005
3 Claims. (Cl. 73—342)



A system for sensing the temperature of the ocean at vertically spaced points. A cable having a plurality of pairs of conductors is suspended from a buoy. Each pair of conductors is connected through a thermistor located at a different level. A read out device in the form of a stepping switch and bridge circuit is connected to a radio transmitter. Each conductor pair is connected to its individual compensating network so that signals indicative of the temperature at the various levels are sequentially transmitted.

3,380,305
BASEBALL AND BASEBALL BAT TOY

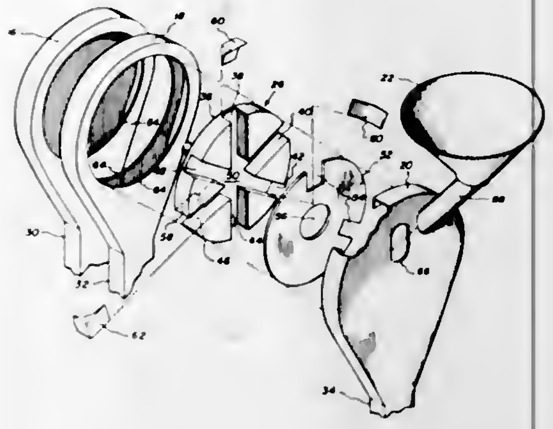
Ralph Charell, 57 E. 88th St., New York, N.Y. 10028
Filed June 13, 1966, Ser. No. 557,199
2 Claims. (Cl. 73—379)



This invention concerns an appliance or device which can be installed in a bat, racquet, club, ball or other implement used in a game to measure and indicate the magnitude of striking force applied to the implement.

3,380,306
METHOD AND MEANS FOR DIVIDING AN AGGREGATE SAMPLE

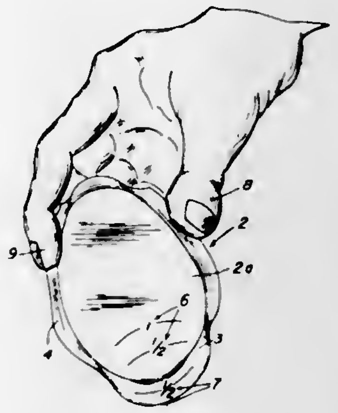
Louis A. Pazandak, deceased, late of Minneapolis, Minn., by the Northwestern National Bank, executor, Minneapolis, Minn., assignor to C. J. O'Heron and P. J. Platzer
Filed Oct. 20, 1965, Ser. No. 499,100
6 Claims. (Cl. 73—424)



1. A method of dividing a quantity of aggregate into a plurality of representative fractional portions, comprising the steps of rotating a multiplicity of channels about a common central axis, admitting said aggregate to said common central axis while said channels are rotating for dispersion of said aggregate through said channels, and separately collecting the material flowing through at least two of said channels.

3,380,307
LID SCOOP

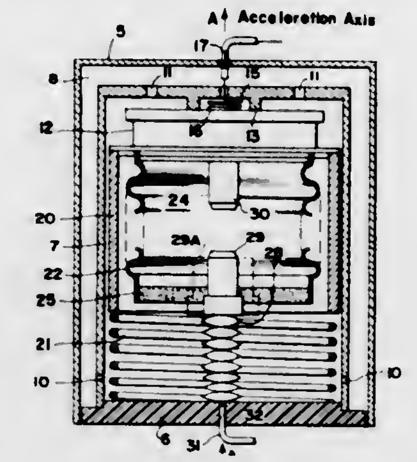
William De Frank, Rochester, N.Y., assignor to C. H. Stuart & Co., Inc., Newark, N.Y., a corporation of New York
Filed Feb. 7, 1966, Ser. No. 525,534
8 Claims. (Cl. 73—427)



A lid **2** including a flexible body portion **2***a* adapted for closure of an opening of a container **1**. The lid **2** is easily deformable into the shape of a handle adapted to be received in the opening of the container **1**. The lid includes a large scoop portion **3**, extending on only a portion about the lid, integral with the body portion **2***a*. A flexible peripheral side flange **4** extending around the entire periphery of the lid **2** is adapted for securing the lid **2** to the container **1** and is integral with the scoop **3**.

3,380,308
INTEGRATING ACCELEROMETER

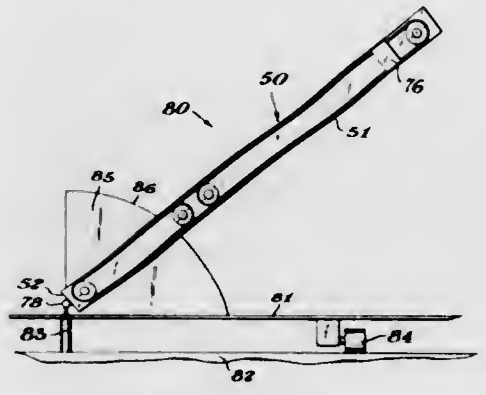
Arthur R. Burch, Minneapolis, and James H. Snyder, Minnetonka Village, Minn., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Aug. 27, 1965, Ser. No. 483,383
4 Claims. (Cl. 73—503)



An integrating accelerometer device having an inertially-movable piston element mounted in a cylinder oriented axially on the movement or flight axis and connected at one end of a bellows element to move therewith coaxially from a normal seated position and provide a compression force on the air therein. A fixed porous orifice disk provides a closure means for the opposite end of the bellows element and leakage through which the compression force on the air therein is gradually released. Electrical contact means, carried by the orifice disk for electrical circuit control in connection with fixed electrical contact means connected with the piston element, blanks part of the orifice area to control the leakage rate and timing, and a cylindrical spring-loaded inertial reset weight contacts the piston and resiliently holds it in the seated position prior to operational movement, when it releases the piston element.

3,380,309
MECHANICAL LINKAGE

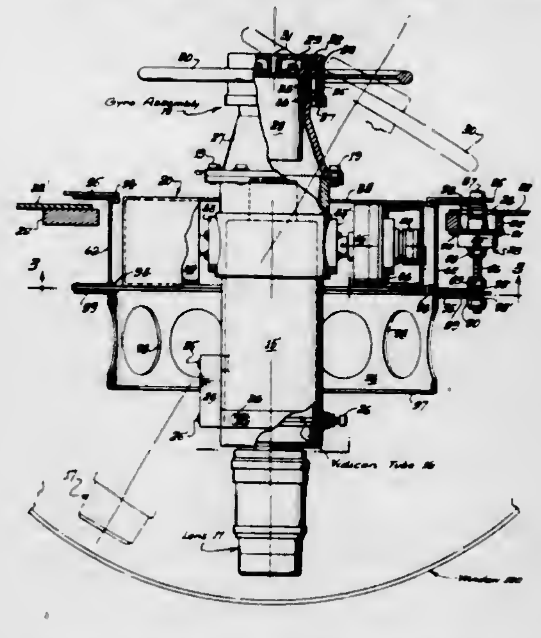
Douglas S. Chisholm, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Mar. 21, 1966, Ser. No. 535,797
7 Claims. (Cl. 74—1)



1. An apparatus for the multiplication of linear motion comprising a frame, the frame having a first end, a second end, a first wheel disposed adjacent the first end, a second wheel disposed adjacent the second end, a movable support, first and second movable wheels affixed to the movable support, the movable support being slideably positionable along the frame, a motion transmitting means extending from a point adjacent the first end of the frame about the first movable wheel, from the first movable wheel to the first wheel, about the first wheel, from the first wheel to the second wheel, about the second wheel, from the second wheel to the second movable wheel and to a location generally adjacent the second end of the frame.

3,380,310
STABILIZATION SYSTEM

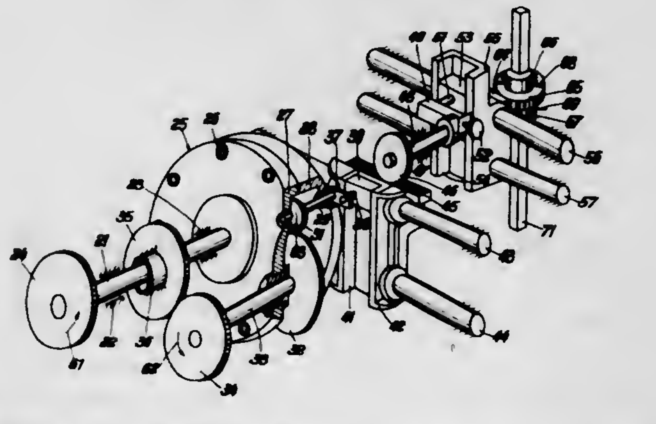
Anthony Di Tommaso, Montclair, Walter C. Martin, Glendora, and Daniel C. McKown, Chino, Calif., assignors to General Dynamics Corporation, Pomona, Calif., a corporation of Delaware
Filed June 2, 1964, Ser. No. 371,990
21 Claims. (Cl. 74—5.22)



1. In a camera carriage for air vehicles the combination with a main supporting member adapted to be rigidly attached to an airframe of an air vehicle; a first gimbal assembly operatively connected to said supporting member through a plurality of shock mount means, a second gimbal assembly operatively connected to said first gimbal assembly, camera supporting means operatively connected to said second gimbal assembly, and a gyro means operatively mounted on one end of said camera support means such that the gyro means longitudinal axis is aligned with the camera supporting means longitudinal axis.

3,380,311
APPARATUS FOR CONVERTING UNIFORM ROTARY MOTION INTO INTERMITTENT RECIPROCATING MOTION

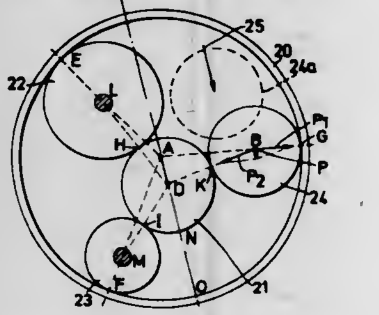
Willi Muskulus, Bergen-Enkheim, Germany, assignor to Balzer & Droll, Bergen-Enkheim, Germany
Continuation of application Ser. No. 423,157, Jan. 4, 1965. This application Oct. 20, 1966, Ser. No. 588,218
Claims priority, application Germany, Jan. 11, 1964, B 74,955; July 9, 1964, B 77,602
13 Claims. (Cl. 74—52)



A device for converting uniform rotary motion to intermittent reciprocating motion includes a driven planet carrier, a planet wheel of radius X carried by the planet carrier with its axis at a distance 3X from the axis of the planet carrier and a crank of radius 1/3X rigid with the planet wheel; means are provided to cause the planet wheel to rotate about its own axis at the rate four times the rate of rotation of the planet wheel; this achieves a standstill of a member connected to the crankpin four times in each revolution of the planet wheel.

3,380,312
FRICTION GEARING

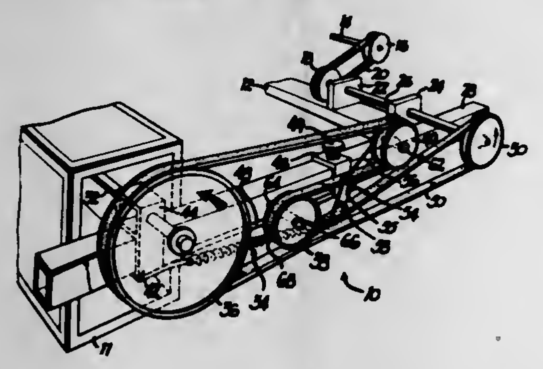
Ulrich Max Willi Barske, 6901 Altneudorf, near Heidelberg, an der Klinge, Germany
Filed Sept. 22, 1965, Ser. No. 489,217
Claims priority, application Great Britain, Sept. 24, 1964, 39,030/64
16 Claims. (Cl. 74—206)



A friction gear comprising a rotatable ring roller forming an internal cylindrical race and an inner roller located eccentrically within the said ring roller and forming an external race and three intermediate rollers located in angularly spaced relation to each other so that each contacts with the said races for drive, the gear being operable in either direction of rotation with the same system of rollers, and the sum of the degrees of freedom of movement in the plane perpendicular to the roller axes being not more or less than six, two degrees of freedom of movement being permitted to one of the intermediate rollers and the ring and inner rollers having each two degrees of freedom in said plane or one such roller having two degrees of movement in said plane and the remaining two degrees of movement to complete the six being divided one each to the other two intermediate rollers.

3,380,313
REEL DRIVE MECHANISM

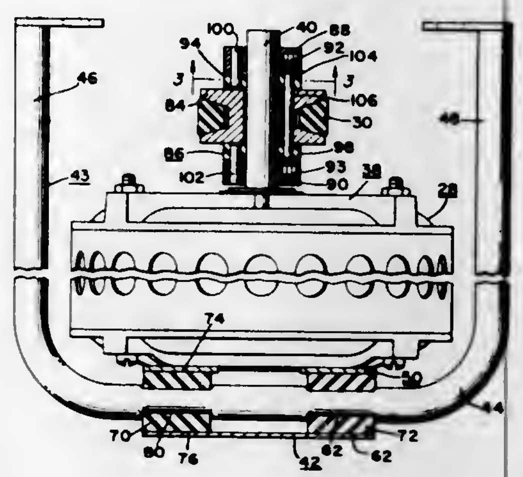
Shelly A. Bulin, Davenport, Iowa, assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed Mar. 4, 1966, Ser. No. 531,682
3 Claims. (Cl. 74—227)



An adjustable drive mechanism having a drive element trained over a pair of idler pulleys, one pulley being fixed and the other movable, to compensate for movement of a driven sheave in a fore and aft direction in relation to a driving sheave. The movable idler is connected to a support for the driven sheave and is slidable with the driven sheave along a beam which carries the driving and driven sheaves and the idlers.

3,380,314
MOTOR VIBRATION DAMPING SYSTEM

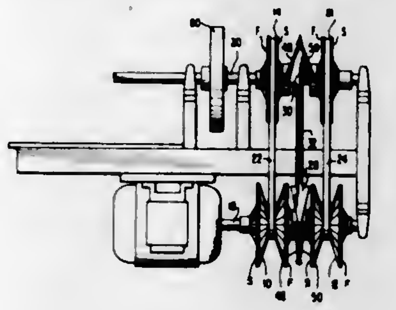
Edwin H. Halsted, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 23, 1966, Ser. No. 529,508
4 Claims. (Cl. 74—228)



In preferred form, a motor vibration isolating system and pulley belt tensioning device for a domestic washer in which a motor is resiliently mounted to a bracket fixed to the washer container that defines a horizontal pivot axis about which the motor is spring biased to increase belt tension between a drive pulley driven by a vertical shaft of the motor through a reflexible coupling and a driven pulley driving the washer spin and agitate mechanisms.

3,380,315
VARIABLE SPEED GEAR

Reginald S. Emerson, 34 Highlands Road, Buckingham, Buckinghamshire, England
Filed Oct. 12, 1965, Ser. No. 495,232
Claims priority, application Great Britain, Oct. 14, 1964, 41,917/64
5 Claims. (Cl. 74—230.17)



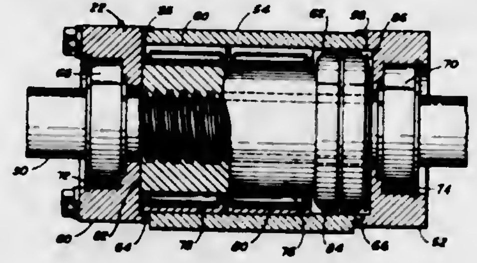
A variable speed drive including a pair of parallel shafts each carrying at least two expansible-contractible pulleys and belts trained around the corresponding pulleys on the shafts. The pulleys each comprise an axially fixed half and an axially movable half and the pulley halves are arranged on their respective shafts to maintain the belts substantially at right angles to the shafts.

3,380,316
TWO-SPEED DRIVE

Alvin H. Wilkinson, Tulsa, Okla., assignor to Auto Crane Company, Tulsa, Okla., a corporation of Oklahoma
Filed Dec. 5, 1966, Ser. No. 599,252
5 Claims. (Cl. 74—424.8)

The two-speed drive includes a sometimes rotatable nut mounted on a rotatable screw shaft; the nut and the screw have threads of the same pitch although the rotatable nut has a greater thread diameter than that of the screw shaft; the nut is mounted eccentrically such that one side of the nut threads will engage one side of the screw shaft threads.

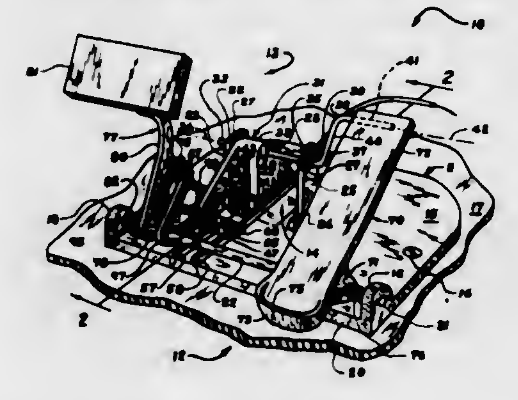
The nut is spring loaded against a friction plate. Under a non-load condition, when the screw shaft is rotated, the nut will not rotate but will move longitudinally at a relatively high speed until the drive encounters an opposing force of sufficient magnitude to cause the spring to flex.



When the spring flexes the nut will move out of engagement with the friction surface and will be free to rotate; this action will shift the drive into low speed where the horizontal travel of the nut is a function of the difference in rotational speeds of the nut and the screw shaft.

3,380,317
ENGINE CONTROLS

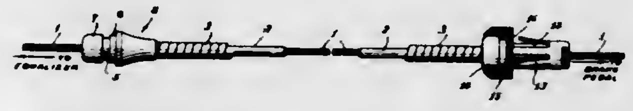
Jon L. Liljequist, Arlington Heights, Ill.
(801 S. Elmhurst Ave., Mount Prospect, Ill. 60056)
Filed Apr. 26, 1965, Ser. No. 450,665
14 Claims. (Cl. 74—479)



Engine controls for controllably varying the increase and decrease of engine output and characterized in its preferred embodiment by an accelerator pedal and a decelerator pedal resembling an automotive accelerator and brake. The controls also include lost motion built into the movement of the accelerator to prevent an accidental and unwanted increase in engine output and/or structure by which the decelerator is disconnected from the throttle during its non-use but is arranged to be reconnected preferably immediately upon depression thereof by the operator.

3,380,318
CABLE ASSEMBLY

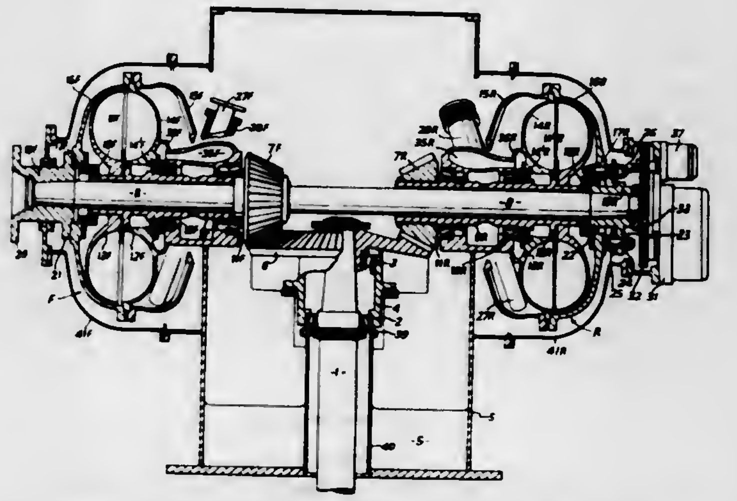
Andrew R. Henning, Battle Creek, Mich., assignor to Shakespeare Company, Kalamazoo, Mich., a corporation of Michigan
Filed Aug. 10, 1965, Ser. No. 478,597
11 Claims. (Cl. 74—501)



A cable assembly is provided comprising a cable having an outer helical metal sheath, an inner plastic tubular liner, and a flexible cable disposed within the liner. An end fitting in the form of a ferrule is applied at an end of the cable. A suitably designed mold having a mold cavity designed to form a ferrule is placed around the end of the cable and a plastic material is injected under heat and pressure into the mold cavity to form an end fitting having one end adapted to be affixed to a base such as a brake housing, and having the other end molded directly on and affixed to both the helical metal sheath of the cable and the inner plastic liner.

3,380,319
TWO-SPEED GEARS

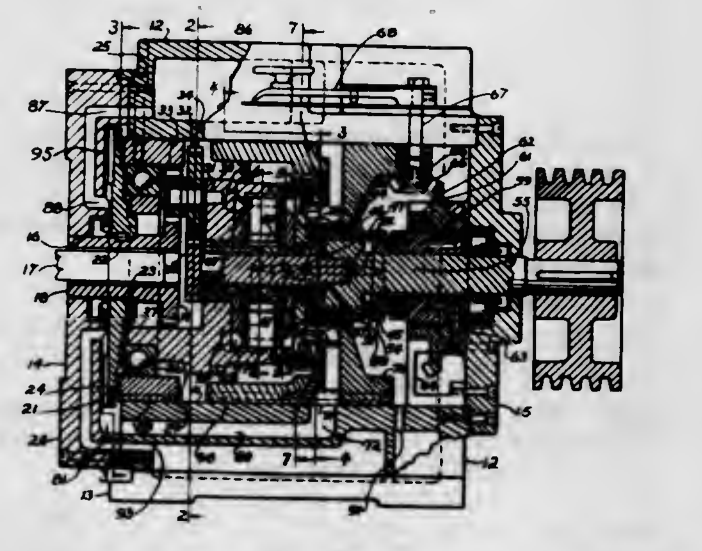
John Bilton, Hampton, England, assignor to Fluidrive Engineering Company Limited, Isleworth, Middlesex, England
Filed Oct. 20, 1965, Ser. No. 498,879
Claims priority, application Great Britain, Sept. 7, 1965, 38,224/65
2 Claims. (Cl. 74—718)



In a forward and reverse gear comprising an output bevel gear wheel in which mesh two diametrically opposed bevel pinions, each bevel pinion is mounted on a hollow shaft supported in bearings in a support structure and the outer end of each hollow shaft carries a controllable slip coupling, by its output member, the input members of the controllable slip couplings being fixed to an input driving shaft for the forward and reverse gear.

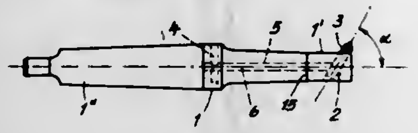
3,380,320
HYDRAULIC SUPER-CHARGED VARIABLE TRANSMISSION

Ambrose E. Zierick, 5700 Arlington Ave., Riverdale, New York, N.Y. 10471
Filed Dec. 6, 1965, Ser. No. 511,734
8 Claims. (Cl. 74—794)



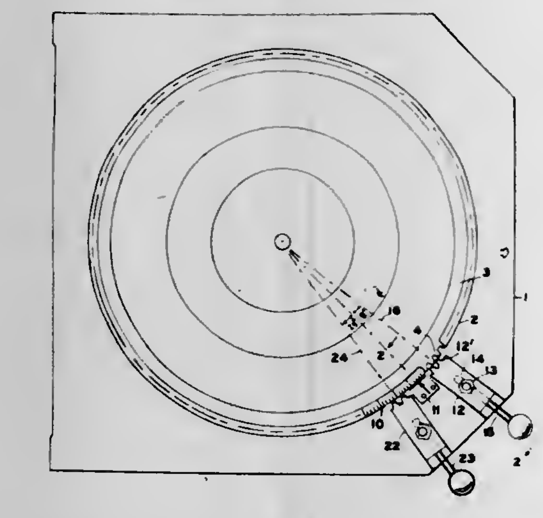
An infinitely variable transmission including a fluid pump utilized as a clutch between two elements of a planetary gear set and a fluid impeller connected to the input shaft used to supercharge the pump.

3,380,321
BORING BAR
Willi Schäffler, 49 Ulmenweg, 8400 Winterthur, Switzerland
Filed Mar. 2, 1966, Ser. No. 531,114
Claims priority, application Switzerland, Mar. 9, 1965, 3,363/65
6 Claims. (Cl. 77—58)



A boring bar having an elongated body with a boring head at one end thereof provided with a bore inclined to the axis of the boring-bar body and slidably receiving a boring tool which is clamped by an axially extending push rod whose beveled face bears against the tool and which is biased axially by a set screw threaded into the body at the other end of the axial bore so that the conical tip of the screw cams another beveled face of the push rod in the direction of the boring tool; a measuring device is provided for ascertaining and setting the extent of projection of the tool and includes a sleeve adapted to fit over the head of the boring bar and having a slot into which the tool projects. A screw aligned with the tool-receiving bore is provided in the sleeve for advance of the tool which co-operates with a feeler on the sleeve of an indicator dial.

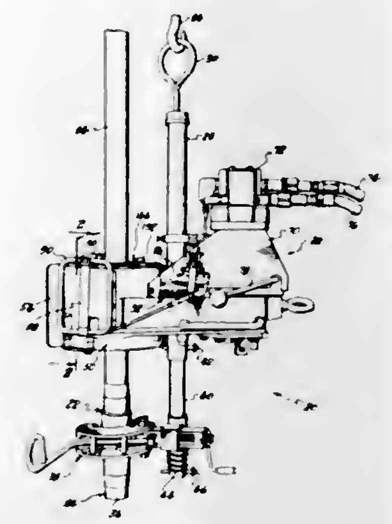
3,380,322
ANGULAR WORK INDEXING TABLE
Andre R. Brault, North Merrick, N.Y., assignor to OPTOmechanisms, Inc., Plainview, N.Y.
Filed Feb. 4, 1966, Ser. No. 525,045
2 Claims. (Cl. 77—64)



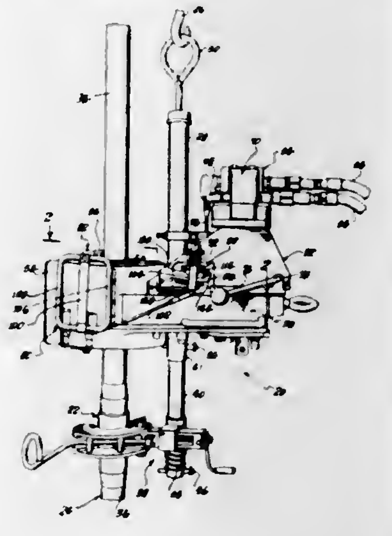
An angular indexing table rotatably mounted on a base and having gear teeth on its periphery. A calibrated dial on the table and an index mark on the base, and at least two indexing means mounted on the base and adapted to engage the gear teeth to index the table.

3,380,323
POWER WRENCH
Andrew B. Campbell, San Marino, Calif., assignor to Hillman-Kelley, Los Angeles, Calif., a partnership
Filed Feb. 15, 1966, Ser. No. 527,720
2 Claims. (Cl. 81—54)

A power wrench comprising a housing, an annular rotor rotatable relative to the housing, a reversible motor for rotating the rotor in either direction, a jaw assembly carried by the rotor and rotatable relative thereto about the rotor axis, a brake for restraining the jaw assembly to enable the rotor to rotate relative thereto, a double acting cam system for closing the jaw assembly in response to rotation of the rotor relative to the jaw assembly in either direction, a first set of stops on the rotor and the jaw assembly for preventing rotation of the rotor relative to the jaw assembly in one direction to prevent the cam system from closing the jaw assembly, a second set of stops on the rotor and the jaw assembly for preventing rotation of the rotor relative to the jaw assembly in the other direction to prevent the cam assembly from closing the jaw assembly, and a control system for selectively interengaging the stops of the first set and the stops of the second set. The control system includes a control lever extending circumferentially of the rotor and sloping downwardly in the direction of jaw-closing rotor rotation.

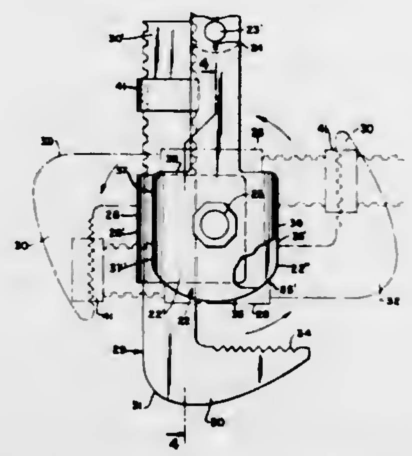


3,380,324
POWER-WRENCH CONTROL SYSTEM
Fred J. Hillman, Long Beach, Calif., assignor to Hillman-Kelley, Los Angeles, Calif., a partnership
Filed Apr. 18, 1966, Ser. No. 543,280
10 Claims. (Cl. 81—54)



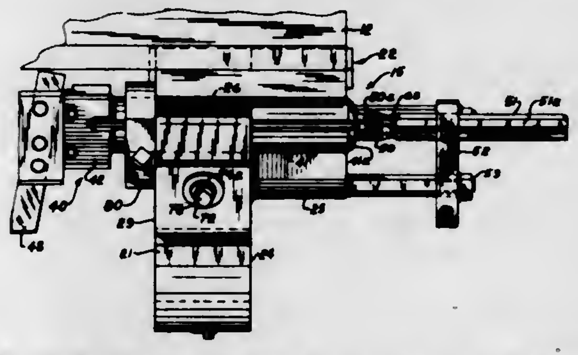
A control system for a power wrench which includes a housing, a jaw-carrying rotor rotatable in opposite directions, a reversible motor for rotating the rotor in opposite directions, and motor actuating means selectively movable from a neutral position into two operating positions for selectively energizing the motor for rotation in opposite directions, the motor actuating means being biased toward its neutral position. The control system includes a manually-operable control for selectively moving the motor actuating means from its neutral position into its operating positions, a releasable latch for selectively latching the motor actuating means in one of its operating positions to prevent it from returning to its neutral position, and mechanism for releasing the latch as the rotor approaches a predetermined angular position relative to the housing so that the motor actuating means returns to its neutral position to deenergize the motor.

3,380,325
SWIVEL PIPE WRENCH
Gottlieb G. Kessler, Anamoose, N. Dak. 58710
Filed Nov. 30, 1966, Ser. No. 597,924
3 Claims. (Cl. 81—100)



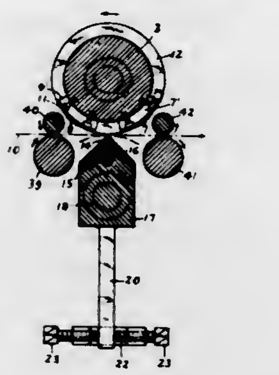
A pipe wrench having an elongated handle with a pair of enlarged head members in parallel relation with one another, a U-shaped strap pivotally mounted to the head members, a jaw having a lateral leg portion with the lateral leg portion slidably inserted within the U-shaped strap member and within the head members with one edge of the leg portion adjacent the apex of the U-shaped strap and the other edge adjacent the pivotal mounting, a collar adapted to be threaded onto the remote ends of the lateral leg portion for abutting the one edge of the head member thereby limiting the movement of the jaw members away from the opposite edges of the head member, said jaw and lateral leg portion and being adapted to pivot about said pivotal mounting with said U-shaped strap to enable said jaw and head members to receive objects there between at various angles about the head members.

3,380,326
TOOLHOLDER
Lewis W. Waddy, Cleveland, Ohio, assignor to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio
Filed Mar. 2, 1966, Ser. No. 531,309
6 Claims. (Cl. 82—34)



1. A toolholder comprising a support for supporting a cutter holder, said support having a portion for receiving a portion of the cutter holder with the cutter holder movable relative thereto, a stop member engageable with a part of said cutter holder to limit movement thereof relative to said support in one direction, micrometer adjustment means for adjusting accurately the position of said stop member to effect an accurate positioning of said cutter holder, means for clamping said cutter holder to said support when so accurately positioned and means connected with said support and carrying said stop and including a plate member secured to one side of said support and spaced therefrom and a rod member supported by said plate and carrying said stop.

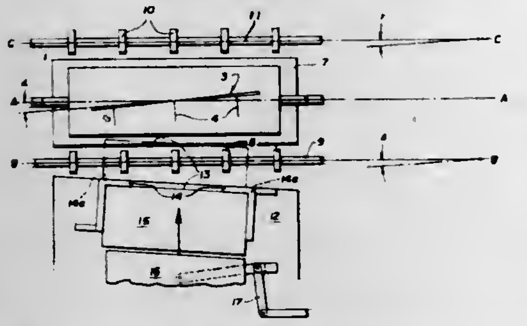
3,380,327
CUTTING DEVICE FOR CUTTING WEBS AND BLANKS
Kurt Stemmler, Irlich, near Neuwied Birkenweg, Germany, assignor to Richard Winkler, Rengsdorf ober Neuwied, and Kurt Dunnebier, Gladbach am Birkenhang, Germany
Continuation-in-part of application Ser. No. 361,607, Apr. 14, 1964. This application Jan. 13, 1966, Ser. No. 520,422
Claims priority, application Germany, Dec. 23, 1963, W 35,866
5 Claims. (Cl. 83—100)



1. A cutting apparatus for cutting a profile in a continuously advancing sheet material moving through a definite path, with portions of the profile being cut in at least two substantially different angular relationships to the direction of movement of the material, said cutting apparatus including: means for advancing sheet material to be cut through a definite path, a cylinder having an axis of rotation and having a cylindrical surface disposed adjacent the material being advanced through said definite path, means providing a support for said cylinder and enabling its rotation about said axis, cutting means carried by said cylinder and having cutting edge portions extending outwardly from the surface of said cylinder, said cutting means having cutting edge portions extending along the surface of said cylinder at substantially different angular relationships to each other, all points on said cutting edge portions projecting from the surface of said cylinder to the same radial extent from the axis of rotation of said cylinder, a stationary rigid counter member disposed at the opposite side of the path of movement of the advancing sheet, said member having a hard and smooth surface extending transeversely of the direction of movement of the moving material and adapted to firmly hold successive small areas of the latter within the path of movement of said cutting edge portions, means for supporting the counter member and retaining it in predetermined fixed position, means for adjusting said supporting means to slightly vary the position of said counter member relative to the path of movement of the material and to vary the closeness of said hard and smooth surface of the counter member to the path of movement of said cutting edge portions of said cutting means, said adjusting means being adapted to fixedly position said area of the counter member in such close relation to the path of movement of said cutting edges as to insure the production of a profile cut in the advancing material, means connected with said rotating cylinder for providing suction to severed sections of said material for retaining the same on said cylinder as they are severed from the advancing material, and means connected with said cylinder for subsequently applying pressure to said sections to dispose of the same as they are carried into another position upon rotation of said cylinder.

3,380,328
ROTARY DIE CUTTER

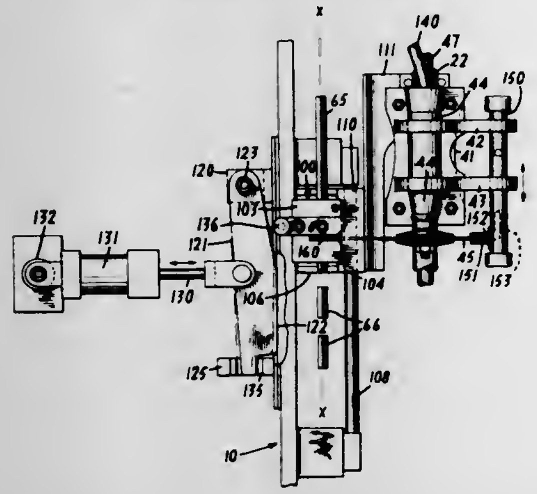
Merrill D. Martin, 2 Mall Court,
Oakland, Calif. 94611
Filed Dec. 8, 1965, Ser. No. 512,368
3 Claims. (Cl. 83—156)



A die rule layout of helical configuration fixed on the outer surface of a rotating cutting cylinder of a rotary die cuter. The helix of the configuration is inclined to the longitudinal axis of said cylinder at an angle from one quarter of an inch to one-half of an inch per foot. Feed rollers and takeoff rollers, the longitudinal axes of which are parallel with the axis of said cutting cylinder. A feed table and means to feed supply blanks to said feed rollers one blank at a time in such position that the advancing edge of each blank is inclined relatively to the longitudinal axis of the cutting cylinder at an angle equal to said helix angle. The thrust of the cutting action of said rule is received by an anvil beneath said cylinder.

3,380,329
CONTINUOUS ROD CUTTER

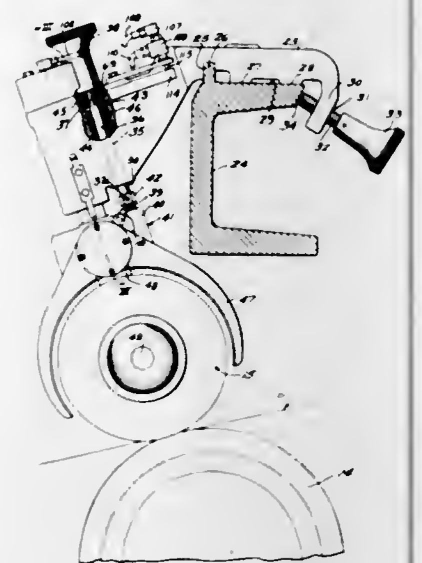
George L. Mathe, Floyd G. Boothe, Jr., and Richie H. Dickerson, Richmond, Va., assignors to Philip Morris Incorporated, New York, N.Y., a corporation of Virginia
Filed Apr. 6, 1966, Ser. No. 540,691
17 Claims. (Cl. 83—169)



Apparatus suited for cutting a continuous length article advancing in a fixed longitudinal course at uniform speed into sections of predetermined length in which a rotary cutter blade rotatable in a plane transverse to said longitudinal course and its independent drive means are mounted on a rocker frame adjacent said longitudinal course for reciprocating movement parallel with said course, rotary cam means being used to reciprocate the rocker frame one cycle each time the article advances a distance equal to the predetermined length. Another cam means is employed to oscillate the rocker frame laterally of the longitudinal course one cycle concurrently with the reciprocating movement of the rocker frame to move the cutter blade into and out of cutting contact into the article, the other cam means impairing uniform velocity of oscillation to the rocker frame during the time the cutter blade is in cutting contact with the article. A clamping device is provided to hold the article during cutting and is reciprocated in unison with the rocker frame.

3,380,330
TOP SLITTER ADJUSTMENT

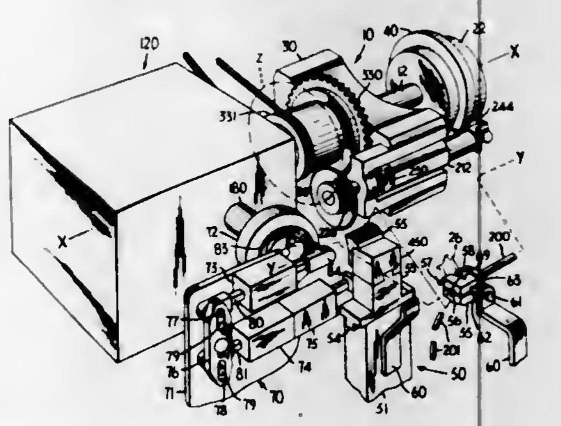
William J. Gilmore, Glenolden, Pa., assignor to Beloit Eastern Corporation, Downingtown, Pa., a corporation of Delaware
Filed Nov. 23, 1965, Ser. No. 509,305
7 Claims. (Cl. 83—482)



A top slitter device for dividing a paper web longitudinally into a number of separate strips, the slitting device having a slitting blade or cutting wheel which is disposed above the moving web and a slitter band which coacts with the cutting wheel to provide a scissor-like action. The slitter device is mounted by means of a hanger bracket above the web, and the cutting wheel is carried on an arm which is slidably disposed to be movable substantially perpendicular to the plane of the web. A pneumatic piston is provided to move the cutting wheel into engagement with the slitter band, and spring means provide a return to move the cutting wheel out of engagement with the band. In addition, motor means are provided to move the cutting wheel axially toward the band to provide the indicated scissor-like action therewith. Spring return means are provided to move the cutting wheel away from the band when disengagement is required.

3,380,331
APPARATUS FOR SECTIONING MOVING ARTICLES

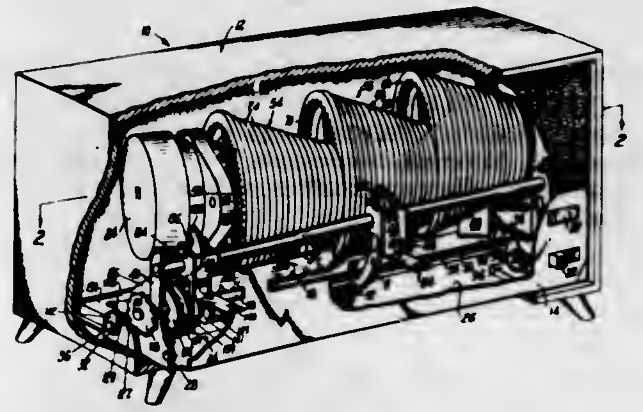
Floyd G. Boothe, Jr., and George L. Mathe, Richmond, Va., assignors to Philip Morris Incorporated, New York, N.Y., a corporation of Virginia
Filed Apr. 6, 1966, Ser. No. 540,583
11 Claims. (Cl. 83—338)



Apparatus suited for cutting a continuous length article advancing in a fixed longitudinal course at uniform speed into sections of predetermined length in which a rotary cutter disc and spindle to which it is fixed are mounted slidably in one arm of a plural arm rotor element rotatable in a plane transverse to the fixed longitudinal course, the sliding movement being in a path parallel with said course. Each complete rotation of the rotor element bodily revolves the cutter disc and its spindle in a predetermined circular path adapted to move the cutter disc into and out of cutting contact with the article. Concurrently the rotary cutter disc and spindle are reciprocated one cycle with each rotor element rotation, the longitudinal speed of the cutter disc and spindle during actual cutting being the same as that of the article. A clamping device is provided to hold the article during cutting and is reciprocated in timed relation with the reciprocating movement of the cutter disc, the longitudinal speed of the clamping device during the time the article is actually being cut being the same as that of the article and the cutter disc.

3,380,332
METRONOME

Elio W. Panicci, Meriden, and Edward J. Gutowski, Thomaston, Conn., assignors to Tele-Conn Enterprises, Inc., Wolcott, Conn., a corporation of Connecticut
Filed Mar. 12, 1965, Ser. No. 439,205
14 Claims. (Cl. 84—484)

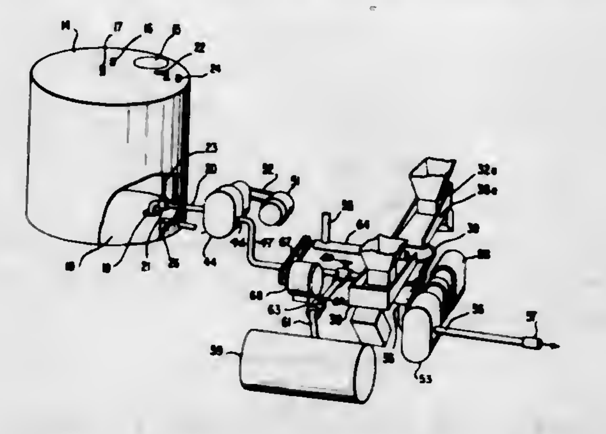


A metronome wherein a constant speed motor drives a plurality of frustoconical drums connected in tandem to drive the drums at different relative speeds with one surface segment of each of the drums positioned in a single linear plane tangential to the drums. Each of the drums is made up of a plurality of discs of different diameter having a different number of peripheral ratchet teeth selectively engageable with the pawl of a lever for actuating a rhythmic signal having a frequency correlated with the number of ratchet teeth on the disc engaged by the pawl.

3,380,333
SYSTEM FOR MIXING AND PUMPING SLURRY EXPLOSIVES

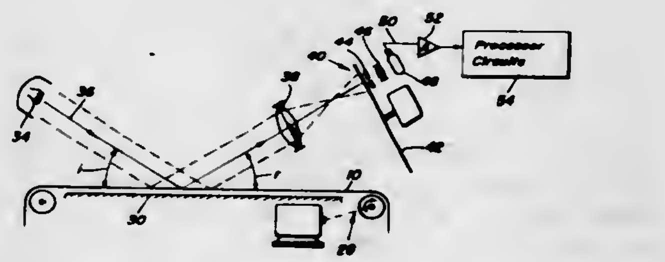
Robert B. Clay, Bountiful, and Melvin A. Cook, Lex L. Udy, and Douglas H. Pack, Salt Lake City, Utah, assignors to Intermountain Research and Engineering Company Inc., a corporation of Utah
Original application June 2, 1965, Ser. No. 460,792, now Patent No. 3,303,738, dated Feb. 14, 1967. Divided and this application Aug. 3, 1966, Ser. No. 569,993
21 Claims. (Cl. 86—20)

A self-contained automatically controllable apparatus for hauling, mixing and delivering thickened explosive slurry compositions to a borehole, includes a truck, a liquid, i.e. oxidizer solution tank mounted on the truck, bins for particulate solid ingredients also mounted on the truck, a mixing station in the form of funnel or analogous container, power-operated means for feeding the solution and other solid particulate ingredients to the mixing station at independently variable and controllable rates, cycle timing and control means, a power-operated mixer, and pumps and hose delivery means for moving the mixed slurry to the borehole before it sets up or thickens sufficiently to interfere substantially with such delivery.



3,380,334
OPTICAL SCANNING SYSTEM USING SPECULAR REFLECTIONS

William Fischer, Silver Spring, Md., assignor, by mesne assignments, to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Oct. 29, 1963, Ser. No. 319,778
2 Claims. (Cl. 88—1)



An optical scanning system which relies upon specularly reflected light for an ordinary scanner to distinguish between a desired information trace, e.g. a curve, and undesired marks such as graph lines on the same surface (e.g. graph paper) as the information trace.

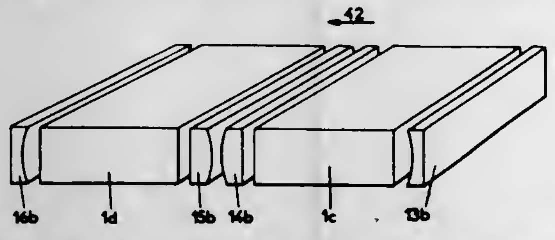
In cases where the surface and marks thereon exhibit similar or substantially similar specular reflection characteristics and the information trace does not, an optical system is arranged to form an image of the trace and its background primarily from specular reflections from the surface and marks. This entails selection of the angularity of the axis of a light source and an image forming lens with respect to the surface. Such an image will contain the dark information trace but not the marks owing to the specular reflections therefrom. Accordingly, that image containing only the dark information trace on a comparatively bright background is examined by a conventional scanner.

3,380,335
OBSERVATION PORT

Serge Clave and Marcel Clave, both of
9 Rue Olivier-Metra, Paris, France
Continuation-in-part of application Ser. No. 170,579, Feb. 1, 1962. This application Feb. 28, 1964, Ser. No. 348,904
13 Claims. (Cl. 88—1)

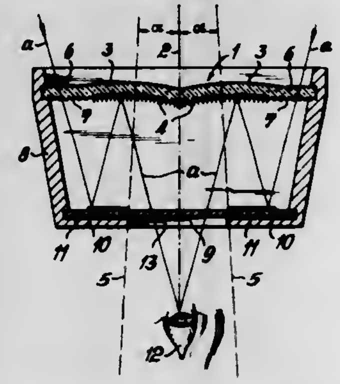
1. An improved observation port comprising in combination afocal optical field reducing and field enlarging means in optical alignment with each other, each afocal optical means comprising plano-concave and plano-convex lenses separated by a distance equal to the difference be-

tween their focal lengths, and transparent means made of a material affording protection against radiation from one side of the port to the other, said transparent means being positioned in the optical path between the plano-convex and plano-concave lenses of at least one of said field reducing and enlarging means.



3,380,336
VIEWER FOR PHOTOGRAPHIC CAMERAS

Friedrich Papke, Braunschweig, Germany, assignor to Voigtlander A.G., Braunschweig, Germany
Filed Feb. 25, 1964, Ser. No. 347,182
Claims priority, application Germany, Feb. 28, 1963, V 23,717
8 Claims. (Cl. 88—1.5)

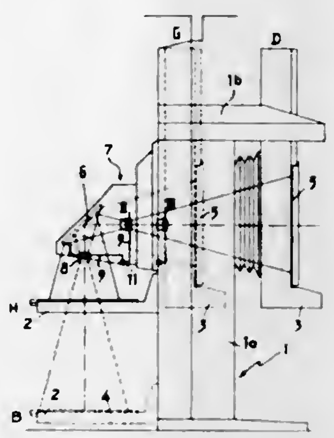


A camera viewfinder for imaging frame limits at infinity. The viewfinder has a housing provided with a rear wall formed with a window through which the operator can look into the viewfinder. A pair of concave semi-transparent reflectors which are symmetrically situated with respect to the optical axis of the viewfinder are situated forwardly of and directed toward the rear of the viewfinder and respectively have focal planes situated rearwardly of the reflectors. A pair of spaced frame limit sections are situated on opposite sides of the rear window of the viewfinder respectively at the focal planes of the concave reflectors to be imaged thereby at infinity, and the concave reflectors respectively have optical axes which are inclined with respect to the optical axis of the viewfinder and which converge toward the subject which is sighted through the viewfinder. The pair of spaced frame limit sections respectively at the focal planes of the concave reflectors can be in the form of highly reflecting frame limits illuminated through light entering through windows situated laterally beyond the reflectors or the frame limit sections may themselves be in the form of images situated at flat reflectors which are at the focal planes, respectively, and in either case the imaging provided by the concave reflectors combines the images in the viewing field of the viewfinder into a single frame limiting image.

3,380,337
PHOTOGRAPHIC REPRODUCING APPARATUS

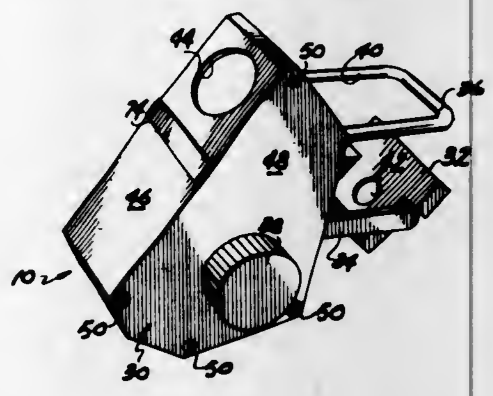
Henri Dacquay, 180 Ave. de Paris, Chatillon sous Bagneux, France
Filed Jan. 28, 1965, Ser. No. 428,684
Claims priority, application France, Feb. 3, 1964, 962,439; Dec. 24, 1964, 999,924
10 Claims. (Cl. 88—24)

1. Photographic reproduction apparatus of the vertical type comprising a translatable document carrier and a translatable film carrier arranged in mutually perpendicular planes, and an optical image transfer element and an objective positioned between said document carrier and said film carrier to obtain on said film an image of the document, a frame positioned between said transfer element and one of said carriers and mounting said objective, and means mounting said frame for translatory movement relative to said optical image transfer element, along an optical axis intersecting said optical transfer element, from one determined working position to another determined working position to vary the scale of reproduction.



3,380,338
METHOD AND APPARATUS FOR COMPUTING COLOR BALANCE CHARACTERISTICS AND PREPARING IMPROVED COLOR PRINTS

Robert W. Mitchell, St. Joseph, Mich., assignor to Heath Company, Benton Harbor, Mich., a corporation of Delaware
Filed Aug. 10, 1965, Ser. No. 478,665
20 Claims. (Cl. 88—24)

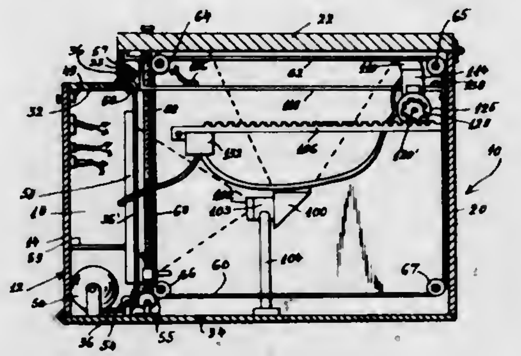


1. Apparatus for computing color balance by adjusting the color of projected light from a color source, said apparatus comprising housing means, a neutral light source disposed within said housing means, display means secured to said housing means for displaying said neutral light source and said projected light in contiguous relationship, filter support means in said housing means and in the path between one of said sources and said display means, and filter means in said support means to balance the color of light from said sources.

3.380,339
PHOTOELECTRIC FOLLOWUP SYSTEM

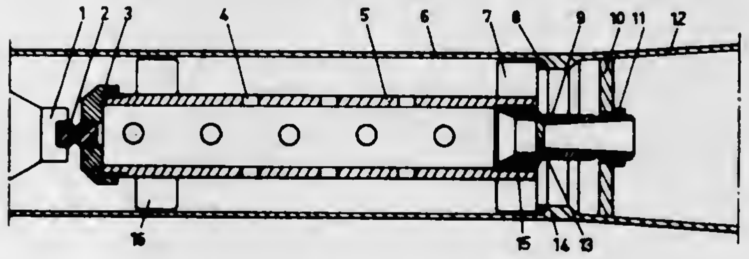
Mortimer Moss, 133—01 Booth Memorial Ave., Flushing, N.Y. 11355
Filed Aug. 27, 1965, Ser. No. 483,234
14 Claims. (Cl. 88—24)

1. A scanning system for a camera or the like, comprising a support for a subject to be scanned, an elongated scanning lamp fixture, means supporting said lamp fixture to illuminate a long narrow area extending across said subject, first motor means operatively connected to said lamp fixture for moving said fixture in a straight first path perpendicular to the illuminated area of the subject, a film holder for supporting photographic film in a vertical plane, an opaque shutter supported adjacent to said film holder in an optical path between said film and subject, said shutter being disposed in another vertical plane parallel to a section of said film and having a straight slot extending across said shutter to expose a narrow area of said film to an image of the long narrow illuminated area of said subject, a lens disposed in said optical path for focusing said image on said film section, a pair of spaced photoelectric cells carried by said shutter, said cells being disposed laterally of opposite edges of said slot to receive light from said light fixture, second motor means operatively connected to said shutter to drive the same so that the slot moves perpendicular to said narrow area of the film, said first and second motor means being operative independently of each other, braking means connected to said second motor means, and circuit means interconnecting said photoelectric cells and braking means to coordinate speed of drive of said shutter with speed of movement of said image on said film.



3,380,340
RECOIL-FREE WEAPON

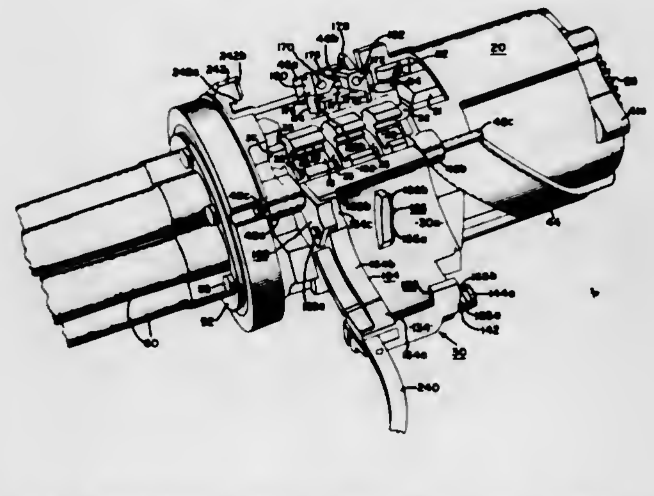
Johan Erik Herman Bergman, Hagersten, and Nils Edvard Haglund, Eskilstuna, Sweden, assignors to Forsvarets Fabriksverk, Eskilstuna, Sweden, a corporation of Sweden
Filed May 19, 1966, Ser. No. 551,344
Claims priority, application Sweden, June 22, 1965, 8,224/65
9 Claims. (Cl. 89—1.703)



A recoilless firearm having a firing tube which is open at both ends, the rear end of the firing tube having an exhaust nozzle; a high pressure combustion chamber of smaller calibre is inserted in the rear end of the firing tube and connected by an interruptable connection to a projectile in the firing tube in front of the combustion chamber; the combustion chamber also having a rear exhaust opening provided with a nozzle, the combustion chamber being longitudinally located in the firing tube by means of position-determining means, so that the nozzle of the combustion chamber is surrounded by the nozzle of the firing tube, whereby the gas pressure forces acting on the combustion chamber at the moment of explosion substantially compensate each other so that the combustion chamber will not be thrown out forwardly or backwardly at any appreciable speed.

3,380,341
SAFING MEANS FOR HIGH RATE OF FIRE MULTI-BARREL AUTOMATIC WEAPON

Robert E. Chiabrandy, Burlington, Vt., assignor to General Electric Company, New York, N.Y., a corporation of New York
Filed Dec. 21, 1966, Ser. No. 603,573
5 Claims. (Cl. 89—12)



1. An improved multi-barrel, high rate of fire automatic weapon comprising:

a generally cylindrical housing having cam means on an internal peripheral surface thereof;

an externally-powered rotor assembly coaxially supported within said housing for relative rotation with respect thereto, said rotor assembly including a body portion having a plurality of guide ways circumferentially spaced about the periphery and a plurality of barrel receiving ports at one end thereof, a plurality of cartridge-carrying bolts each slidably received in one of said rotor ways, each of said bolts having follower means cooperating with said housing cam means for longitudinal reciprocal movement of said bolts with respect to the rotor assembly and a firing pin assembly including a hammer radially projecting outwardly of the bolt;

means for actuating said firing pin assembly including a mainspring and a plurality of lever members pivotally mounted in said housing and operably connected between said mainspring and said hammer, wherein respective ones of said lever members are sequentially engaged and disengaged by said hammer, responsive to said longitudinal reciprocal movement, to pivot said lever members for successively compressing and releasing said mainspring;

a cover member pivotally mounted on and forming a sector of the generally cylindrical housing when closed, said member including,

(1) cam means on an interior surface thereof,

(2) a first mounting pad extending along a lateral edge of the cover and projecting upwardly of the exterior surface thereof and having a central bore therethrough, said bore including an axially aligned recess of reduced diameter at one end thereof, said mainspring being received in the larger portion of said bore,

(3) a first slot extending transversely of said first pad approximately tangentially to the cross-sectional arc of said housing sector, said first slot underlying the recessed portion of said bore,

(4) a second slot in a plane extending generally perpendicular to and intersecting said first slot and said recess,

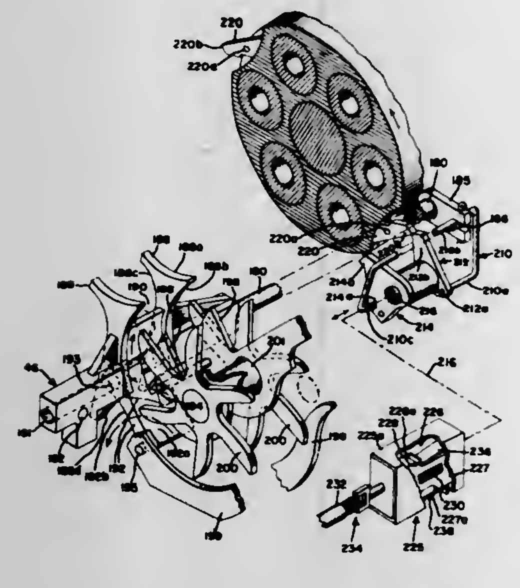
(5) a second pad adjacent said first pad and said second slot;

a plunger member for said mainspring having one end slidingly received in said bore recess, the other end thereof having a shoulder restraining said mainspring in the larger portion of said bore, said shoulder normally contacting one of said lever members;

a pin extending transversely of said plunger adjacent said one end thereof and received in said second slot for movement inwardly and outwardly thereof;

a latching arm pivotally mounted on said second pad, said latching arm having an intermediate portion thereof slidingly received in said first slot inwardly of said pin, wherein said latching arm is movable outwardly of said first slot to engage said pin, thereby moving said plunger out of contact with said lever member to make said mainspring inoperable to fire said weapon.

3,380,342
CLEARING MECHANISM FOR HIGH RATE OF FIRE MULTI-BARREL AUTOMATIC WEAPON
Robert E. Chiabrandy, Burlington, Vt., assignor to General Electric Company, a corporation of New York
Filed Dec. 21, 1966, Ser. No. 603,574
6 Claims. (Cl. 89—12)



1. In a high rate of fire automatic weapon having a plurality of barrels circumferentially arranged about a common axis, an externally-powered rotor assembly supporting said barrels, and a plurality of cartridge-carrying bolts received in axial ways in said rotor for reciprocal longitudinal movement therealong to and from a cartridge firing station, the improvement of means for clearing said weapon at cessation of power to the rotor, said clearing means comprising:

a trip member mounted on the periphery of the rotor and projecting outwardly thereof;

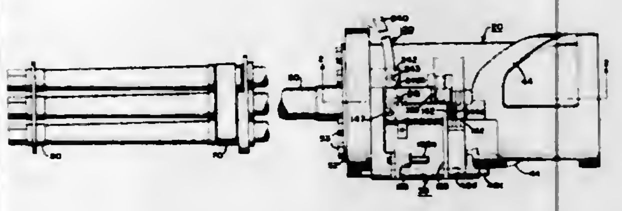
sensing means including first and second cam members, one of said cam members being contacted by said relatively moving trip member when the rotor power source is energized, the other of said cam members being alternatively contacted by said trip member when said power source is de-energized;

an ammunition feeder mechanism including,
  a plurality of sprockets
  a feeder shaft rotatably supporting said sprockets adjacent the rotor body, and
  a plurality of guide members cooperating with said sprockets for delivery of live cartridges from a storage area to the weapon; guide means accepting cartridges from said feeder mechanism,

said guide means including,
  a body portion having means for mounting said body portion to the weapon intermediate the feeder mechanism and the bolts,
  a plurality of fingers spaced axially of said guide means body portion and having, respectively, first aligned arcuate surfaces cooperating with the relatively moving sprockets to receive live cartridges supported thereby and second aligned arcuate surfaces, said second and first aligned arcuate surfaces joining at a point on each of the fingers having its locus identical with the transfer point of said cartridges from said sprockets to said fingers, and
  a connecting shaft rotatably supported in said guide body portion and linked to said cam members; and a clearing switch member affixed to said connecting shaft,

said switch member being pivotable through an imaginary line joining said loci in response to rotation of said connecting shaft caused by movement of respective ones of said cam members, whereby when said one of said cam members is contacted by said trip member said switch member pivots to a first position wherein live cartridges are directed to said first aligned arcuate surfaces for transmission thereby to said bolts, and whereby when said other of said cam members is so contacted said switch member pivots to a second position wherein said cartridges are directed to said second aligned arcuate surfaces for ejection overboard of said weapon.

3,380,343
FIRING MECHANISM FOR HIGH RATE OF FIRE MULTI-BARREL AUTOMATIC WEAPON
Robert E. Chiabrandy, Burlington, and Douglas P. Tassie, St. George, Vt., assignors to General Electric Company, a corporation of New York
Filed Dec. 21, 1966, Ser. No. 603,645
12 Claims. (Cl. 89—12)



1. An improved multi-barrel, high rate of fire automatic weapon comprising:

a housing having a quasi-elliptical track on an internal peripheral surface thereof;

a plurality of cam means in said housing;

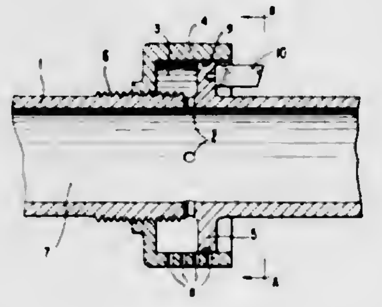
an externally powered rotor assembly coaxially located within said housing for relative rotation with respect thereto, said rotor assembly including a body portion having a plurality of guide ways circumferentially spaced about the periphery thereof, and a plurality of barrel receiving ports at one end thereof;

a plurality of bolt assemblies retained in said ways, each of said bolt assemblies including cartridge-carrying means at the forward end thereof cooperating with respective ones of said cam means to sequentially lock and unlock the bolt assembly in a well in said rotor body, follower means at the rearward end thereof engageable with said quasi-elliptical track for successive longitudinal reciprocal movement of said bolt assembly in said ways in response to said relative rotation, and a hammer axially slidable relative to said bolt assembly received in a recess therein intermediate the ends thereof, said hammer including a blade portion projecting laterally of the bolt assembly;

a mainspring mounted externally of the rotor and bolt assemblies;

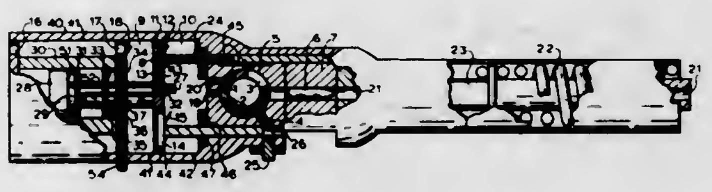
and a plurality of actuating members pivotally mounted in said housing and projecting radially inwardly thereof, said members being operably connected to said mainspring, said hammer blade portion sequentially engaging and disengaging respective ones of said actuating members during a predetermined period of said relative rotation for sequentially compressing and releasing said mainspring, whereby said hammer is driven forcibly into contact with a cartridge carried by said bolt assembly to fire said cartridge when said rotor assembly is in the locked position.

3,380,344
PRESSURE CONTROL DEVICE
Ludwig Bucklisch, Rhondorf, and Ludger Volpert, Spich, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany
Original application Oct. 1, 1964, Ser. No. 400,745, now Patent No. 3,307,451, dated Mar. 7, 1967. Divided and this application Jan. 3, 1967, Ser. No. 630,152
Claims priority, application Germany, Oct. 2, 1963, D 42,618
9 Claims. (Cl. 89—14)



A device for influencing the pressure of propellent charge gases within a barrel wherein an auxiliary pressure chamber is arranged outside of the barrel projectile guiding bore for allowing expansion of the propellant gases passing through an interconnecting aperture. The auxiliary chamber may be changed in volume and additionally have an adjustable aperture for allowing escape of the gases from the auxiliary chamber to the atmosphere to compensate for variations in propellent charge temperature. An indicator may be coupled to the adjustment for correlation with selected propellent charged temperatures.

3,380,345
ENGINE WEAPONS
Daniel Emmet Nelson, Aptos, Calif., assignor to General Kinetics Corporation, Monterey, Calif., a corporation of California
Filed Oct. 19, 1966, Ser. No. 587,757
4 Claims. (Cl. 89—7)



1. An engine weapon comprising:

an air cell with intake port, exhaust port and gear tooth;

an air cell seat in pivotable contact with the outside periphery of said air cell;

an intake channel, scavenging channel and exhaust channel in said air cell seat;

a clam type breech positioned at the outlet of the exhaust channel;

a bore at the opposite side of the breech from the air cell;

a cylinder with a large diameter and a small diameter connected to said bore;

a piston in slidable contact with the inside periphery of the large-diameter portion of said cylinder;

a piston sleeve in slidable contact with the small-diameter portion of the inside periphery of said cylinder and with the outside periphery of the air cell seat;

a compressor-recoil spring attached to an extension of said cylinder;

connector rods connecting said spring and said piston sleeve;

a gear tooth groove in one of said connector rods;

cams in said connector rods in slidable contact with said breech in spring-opposing relationship to said breech;

a breech spring in opening-pressure relationship to the breech;

a cylinder base;

ports with one-way inlet valves at the base of the cylinder;

ports with one-way inlet valves at the portion of the piston that is extended beyond the outside periphery of the sleeves;

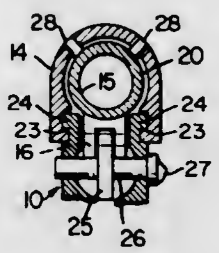
ports provided with one-way inlet valves and extended from the outside to the inside of said sleeves;

a compressor spring release means;

a fuel injection means; and

an ignition means.

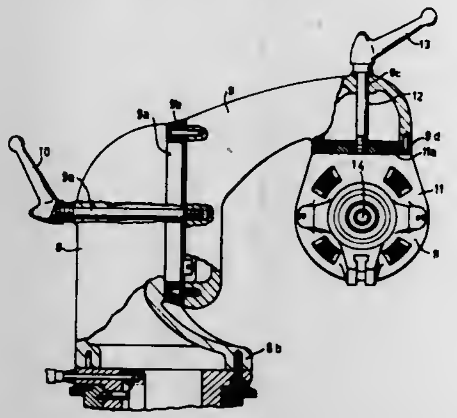
3,380,346
APPARATUS FOR IMPROVING ACCURACY OF SEMI-AUTOMATIC FIREARMS
Cassius P. Gustin, 1729 Ohio Ave., Modesto, Calif. 95351
Filed June 23, 1966, Ser. No. 559,855
6 Claims. (Cl. 89—196)



Apparatus for improving the accuracy of semi-automatic firearms in which a pair of studs is installed in the slide of a pistol at the barrel lug groove so that the barrel lug contacts the studs when the pistol is in the battery position.

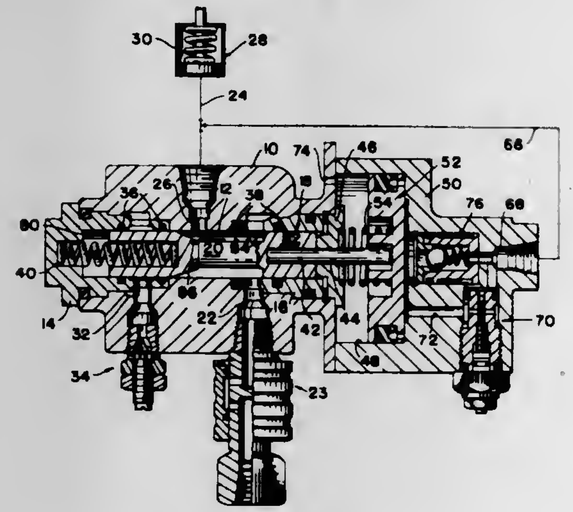
3,380,347
MACHINE TOOL
Robert Habib, 36 Quai Gustave Ador, Geneva, Switzerland
Filed May 17, 1966, Ser. No. 550,816
Claims priority, application Switzerland, May 21, 1965, 7,138/65
4 Claims. (Cl. 90—17)

In a machine tool which has a headstock with a spindle adapted to carry a wheel, the headstock is mounted on a support movable in a horizontal plane, an intermediate arm is pivoted on the support in a vertical plane and connects the headstock to the support. The headstock is pivoted to the arm in a plane perpendicular to the pivoting plane of the arm on the support. The headstock is positioned in such a way that the pivoting axis of the arm on the support passes through the axis of symmetry of the spindle of the headstock, regardless of the angular position of this arm with respect to the support.



3,380,348
PNEUMATIC RECIPROCATING VALVE

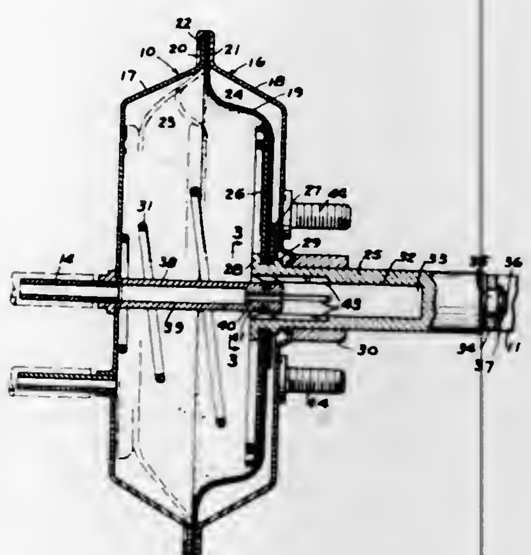
Kenneth K. Kroffke, Parma, Ohio, assignor to Airmatic Valve, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Aug. 15, 1966, Ser. No. 572,409
3 Claims. (91—318)



1. A pneumatic valve for effecting continuous timed reciprocation of a work piston or the like, comprising a valve body having a valve bore therein, an inlet port, an exhaust port and a work port opening into said bore, means supplying pressure fluid to said inlet port and means communicating said work port with one side of said work piston, a valve spool reciprocable in said bore and operable upon reciprocation thereof alternately to communicate said work port with said inlet and exhaust ports while closing the other of said two last-mentioned ports, spring means urging said spool in one direction to connect said inlet and work ports, a cylinder in said valve body, a piston reciprocable in said cylinder and connected to said spool, passage means communicating one end of said cylinder with said work port to shift said piston and valve spool in the opposite direction against the force of said spring means to connect said work and exhaust ports, an adjustable valve means in said passage means for metering the flow of pressure fluid to said one end of said cylinder to provide a time delay between the establishment of communication between said inlet and work ports and shifting of said spool in said opposite direction, said spool being adapted to open said exhaust port just prior to closing said inlet port and to open said inlet port just prior to closing said exhaust port so as to permit automatic reciprocation of said spool and work piston.

3,380,349
VACUUM MOTOR

George A. James, Dearborn, Mich., assignor to F & E Manufacturing Company, Wyandotte, Mich., a corporation of Michigan
Filed Aug. 31, 1966, Ser. No. 576,359
12 Claims. (Cl. 91—357)

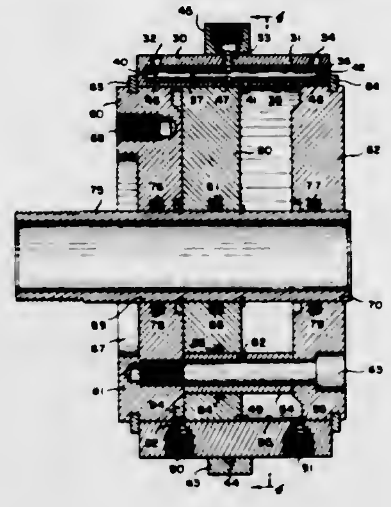


1. In a vacuum motor, the combination comprising
a housing,
a member within said housing dividing said housing into two chambers and movable therein to change the size of said two chambers,
a stem fixed to said member and projecting through one said chamber and an opening in said housing to the exterior,
said stem having a tubular closed end opening therein communicating with the other said chamber,
a tube fixed to said housing and extending through the other said chamber and into said opening in said stem,
a first inlet through said housing communicating with the interior of said tube,
a second inlet through said housing communicating directly with said other chamber,
interengaging means between said tube and said stem operable to provide a seal between said tube and said stem when said stem is moved inwardly of said housing,
whereby when vacuum is applied to said first inlet communicating with the interior of said tube, vacuum is applied to said other chamber and said stem is caused to be moved inwardly of said housing until said interengaging means produces a seal between said tube and said stem and thereafter when vacuum is supplied to said second inlet, vacuum is applied directly to said other chamber and said movable member is moved to cause said stem to move further within said housing.

3,380,350
ROTATING AIR CYLINDER UTILIZING AIR AS AIR SEAL

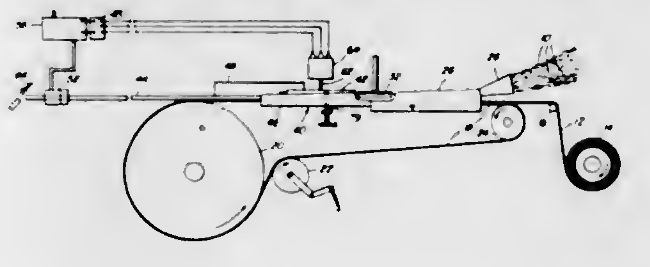
Phillip M. Stewart, Scotts, Mich., assignor to Midwest Gage Co., Inc., Kalamazoo, Mich., a corporation of Michigan
Filed Oct. 22, 1965, Ser. No. 502,027
7 Claims. (Cl. 92—106)

An apparatus comprising a housing, a shaft rotatively mounted in the housing, ducts for transferring a fluid from the housing to the rotating shaft to be transferred to a distal portion of the apparatus, and a combination fluid seal and bearing provided on each side of the duct entrance to the shaft in order to serve as both a fluid bearing for the rotating shaft and a seal to prevent fluid applied to the shaft from leaking out and to reduce bearing friction. Another apparatus utilizes a combined fluid bearing and seal for rotating end walls and a rotating and reciprocating piston.



3,380,351
CONTINUOUS ROD CIRCUMFERENCE MEASUREMENT AND CONTROL

Edward W. Cox and Ernest Cashwell, Richmond, Va., assignors to Philip Morris Incorporated, New York, N.Y., a corporation of Virginia
Filed Feb. 14, 1966, Ser. No. 526,986
11 Claims. (Cl. 93—1)

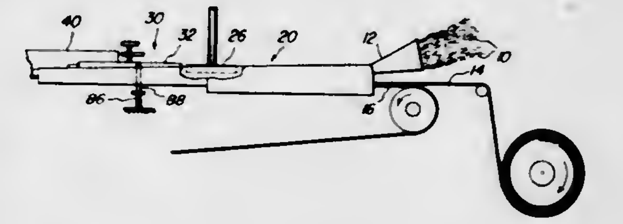


1. In a continuous rod forming machine in which a filler material is enclosed in a continuous wrapper strip to form the rod, the combination of a folder device through which the strip and filler are advanced to wrap the strip around the filler, the folder device including adjustable means for varying the size of the rod issuing therefrom, power means for operating said adjustable means, fluid gaging means through which the finished rod is advanced including a fluid conduit wherein the pressure various according to the size of the rod, a manometer device connected with said fluid conduit and responsive to variations of pressure therein, and means for controlling said power means in accordance with the response of said manometer device to variations of pressure in said fluid conduit to control the setting of said adjustable means and thereby maintain the rod size within predetermined limits.

3,380,352
ADJUSTABLE FILTER ROD FORMING PLATE ASSEMBLY

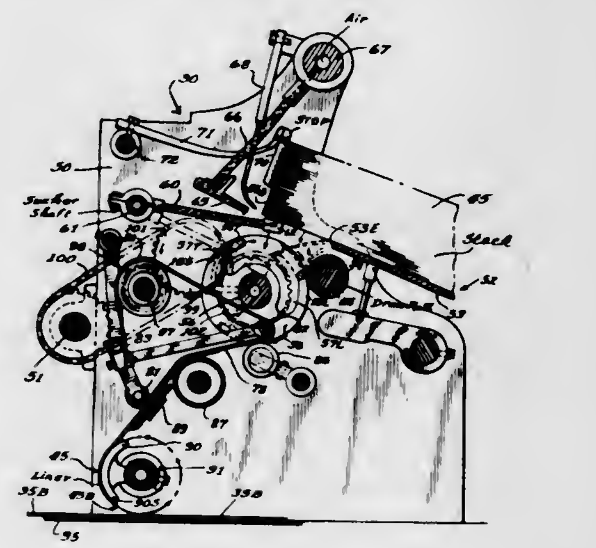
Albert M. Garton, Richmond, Va., assignor to Philip Morris Incorporated, New York, N.Y., a corporation of Virginia
Filed Feb. 14, 1966, Ser. No. 527,289
9 Claims. (Cl. 93—1)

1. In a continuous rod forming machine having a final wrapper mechanism including a base having a longitudinal groove therein through which a continuous wrapper strip with a filler material superposed thereon are advanced during formation of the rod to wrap the strip around the filler, an upper adjustable member having a longitudinal groove complemental to the groove in said base and shaped to fold down progressively an overlapping edge of the strip, mounting guide means supporting said adjustable member for movement laterally of the rod, and means for controlling the lateral position of said adjustable member comprising biasing means normally urging said member in one direction, and adjustable stop means opposing said biasing means for limiting the lateral positioning of said adjustable member.



3,380,353
APPARATUS FOR PRODUCING LINED ENVELOPES

Emerick J. Mittermayer, Norridge, Ill., assignor to American Envelope Company, a corporation of Illinois
Continuation-in-part of application Ser. No. 382,222, July 13, 1964. This application May 11, 1966, Ser. No. 549,299
7 Claims. (Cl. 93—61)



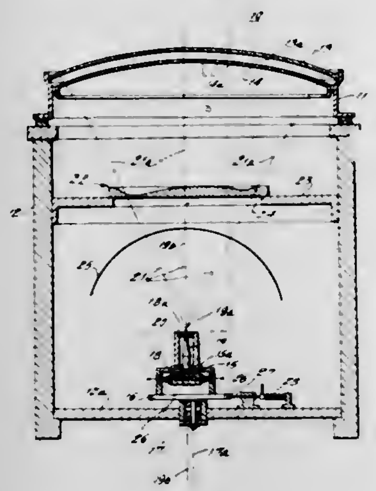
The present invention relates to a unit for depositing envelope liners on envelope blanks moving through a high-speed envelope manufacturing machine.

The unit, which is constructed to be attachable to existing high-speed machines, employs a series of smooth operating rotating segments to move the liners along a predetermined path and deposit them in timed relation on each envelope blank in a predetermined position with respect thereto.

3,380,354
LIGHT SOURCE FOR SHADOW MASK TUBES

Douglas Thornton, Chicago, Ill., assignor to National Video Corporation, Chicago, Ill., a corporation of Illinois
Filed Dec. 10, 1965, Ser. No. 513,033
9 Claims. (Cl. 95—1)

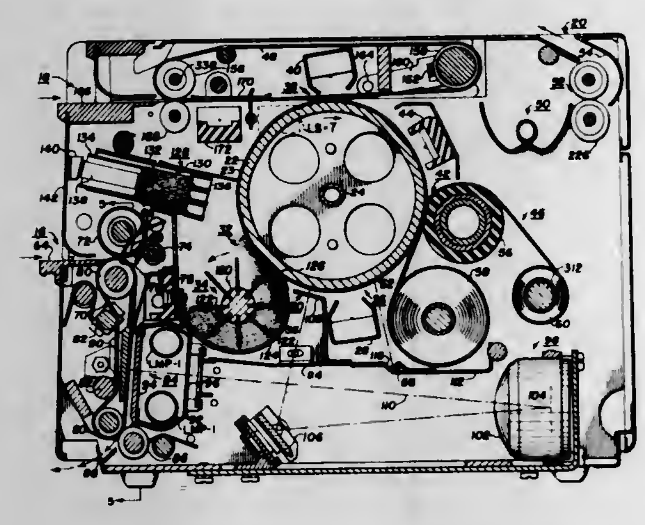
This invention broadly relates to a light source assembly useful in the production of shadow mask color tubes wherein the assembly deflects light rays from a light source in a manner so as to reduce light intensity of light rays impinging upon the central region of a shadow mask tube during the phosphor dot forming process, and so as to increase the intensity of light rays impinging upon the



region surrounding the central region of the tube face thereby substantially forming a cardiod shaped radiation pattern.

3,380,355
XEROGRAPHIC CLEANING APPARATUS

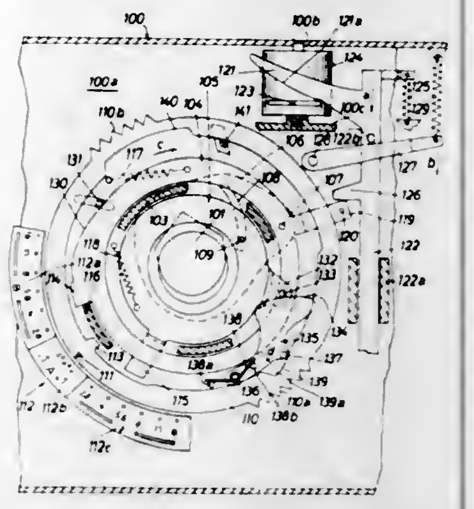
Roger H. Eichorn, Webster, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Oct. 22, 1965, Ser. No. 504,288
1 Claim. (Cl. 95—1.7)



1. In a xerographic reproducing apparatus wherein a xerographic drum is rotated through a series of processing stations including a drum cleaning station having a series of parallel shafts and a web of fibrous material extending from a supply roll mounted on one of the shafts to a take-up roll mounted on another of the shafts and urged into rubbing contact with the surface of the xerographic drum by a cleaning roll mounted on another of the shafts, the improvement comprising
- a first ratchet wheel secured to the shaft of the cleaning roller,
- a second ratchet wheel secured to the shaft of the take-up roller, and
- a first cam and a second cam mounted for rotation proportional to the rotation of the xerographic drum and means operated by the first and second cam to actuate the ratchet wheels sequentially so that the web is advanced by the cleaning roll and then taken up by the take-up roll to thereby continuously supply clean material to the drum surface.

3,380,356
ADJUSTABLE AUTOMATIC PHOTOGRAPHIC CAMERA

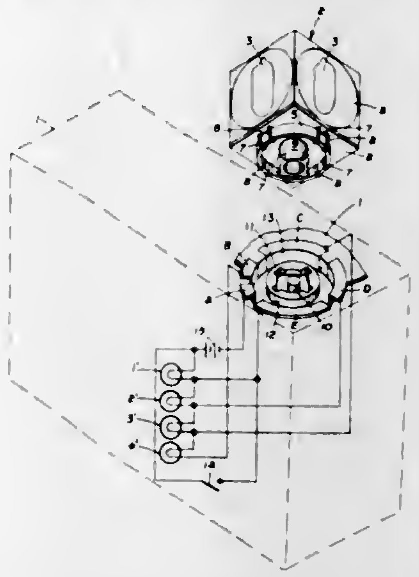
Gerd Kiper and Dieter Engelsmann, Unterhaching, Munich, and Joachim V. Albedyll and Rolf Schroeder, Munich, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germanv
Filed June 16, 1965, Ser. No. 464,511
Claims priority, application Germany, June 27, 1964, A 46,442
17 Claims. (Cl. 95—10)



A camera wherein a manually operated selector is movable between two extreme positions and through several intermediate positions. The camera is set for automatic operation in one intermediate position of the selector but the automatically selected diaphragm opening and/or exposure time can be changed by moving the selector from the one to another intermediate position.

3,380,357
MULTILAMP FLASH PHOTOGRAPHY SIGNAL MEANS INDICATING THE NUMBER OF SUCCESSIVE, GOOD FLASH LAMPS

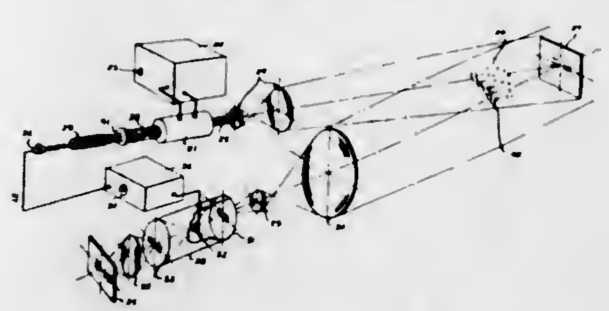
Donald M. Harvey, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed July 12, 1965, Ser. No. 471,012
6 Claims. (Cl. 95—11.5)



The signal means includes socket means for a plurality of flash lamps and an electrical circuit with a plurality of signal lamps connected to the socket such that the signal lamps indicate the number of successive, good flash lamps installed in the socket, starting with the flash lamp which is in the firing position. For any bad flash lamp the corresponding signal lamp and every successive signal lamp will be out.

3,380,358
RANGE GATED IMAGING SYSTEM

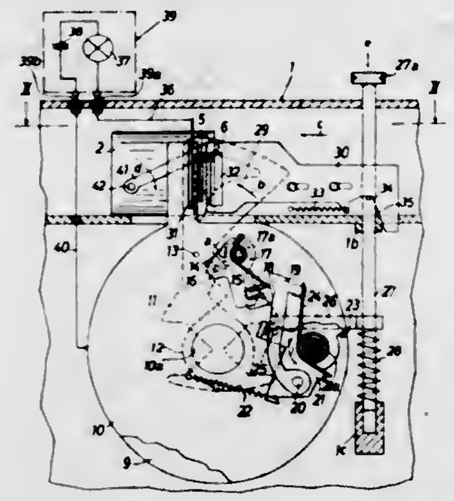
Don B. Neumann, 6722 Alter Road, Dayton, Ohio 45424
Filed Aug. 24, 1965, Ser. No. 482,308
4 Claims. (Cl. 95—11.5)



A range gated imaging system in which a Q-switched ruby laser illuminates objects to be photographer with a 60 nanosecond illuminating pulse of energy. Through a controlled delay the shutter grid of an image converter camera tube is opened for 50 nanoseconds after an elapsed time corresponding to the travel time of the energy pulse from the laser to the object to be viewed and return, thus the image formed by the camera is not degraded by the unwanted reflections of nearer and farther objects.

3,380,359
CAMERA FOR SYNCHRO-FLASH PHOTOGRAPHY

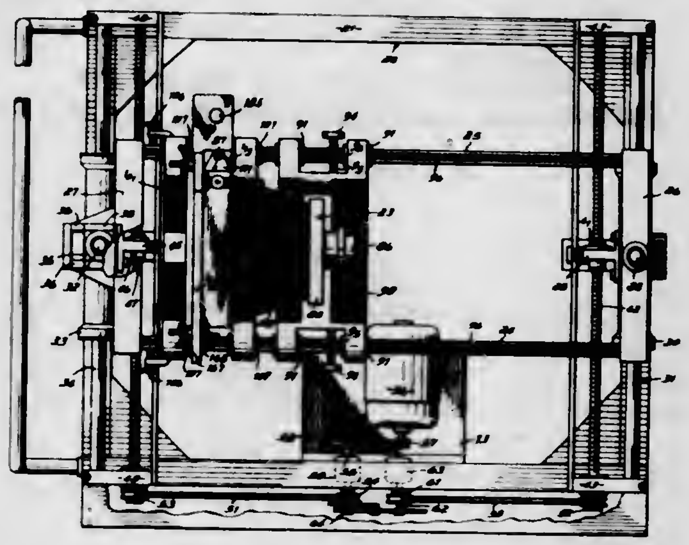
Franz Landbrecht, Unterhaching, Munich, Germany, assignor to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany
Filed Dec. 9, 1965, Ser. No. 512,623
Claims priority, application Germany, Dec. 17, 1964, A 47,912
10 Claims. (Cl. 95—11.5)



1. In a camera for synchro-flash photography, an exposure meter including a pair of interconnected movable current-conducting indicators having normally spaced portions; a diaphragm shutter including shutter means movable from a normal uncocked position in which the diaphragm shutter is closed to a plurality of cocked positions each of which corresponds to a diaphragm opening of a different size, said shutter means having a current-conducting tracking portion movable into engagement with one of said indicators to thereby displace the portion of said one indicator into engagement with the portion of the other indicator; a fixed current-conducting abutment for said other indicator; a flash unit including an electric circuit having a first terminal connected with said tracking portion and a second terminal connected with said abutment so that said circuit is completed through said indicators when the tracking portion engages said one indicator; and cocking means for moving said shutter means to a cocked position to thereby move said tracking portion first into engagement with said one indicator to complete said circuit and to thereupon move said tracking portion with said one indicator until the portion of said one indicator abuts against the portion of the other indicator whereby the movement of said shutter means is terminated subsequent to completion of said circuit and in a cocked position in which the size of said opening is a function of the angular position of said indicators.

3,380,360
CAMERA FOR TAKING PARALLAX PANORAMAGRAMS

Bruce W. Stockbridge, Thomas O. Patton, and Le Roy Bishop, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed May 27, 1965, Ser. No. 459,300
10 Claims. (Cl. 95—18)

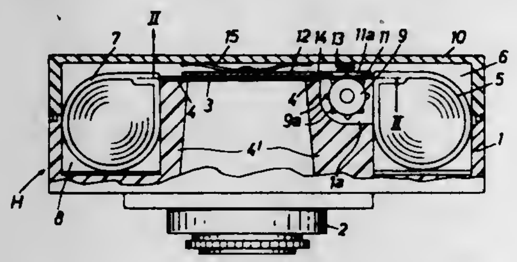


1. In a camera for taking parallax panoramagrams,
- a rear camera frame,
- taking screen means slidably mounted on said rear camera frame,
- an electrical pulse responsive stepping motor mounted on said frame for moving said taking screen means small preselected increments transversely of said rear camera frame,
- a film plate mounted on said rear camera frame,
- circuit means for operating said stepping motor, said circuit means comprising:
  - a multivibrator for generating pulses and having an output for said pulses connected to said stepping motor, and
  - means connected to said multivibrator for counting said pulses and terminating their flow to said stepping motor after a preselected number have been counted.

3,380,361
PHOTOGRAPHIC CAMERA WITH PRESSER PLATE MEANS

Alfred Winkler, Munich, Germany, assignor to Agfa Aktiengesellschaft, Leverkusen, Germany
Filed Apr. 7, 1965, Ser. No. 446,217
Claims priority, application Germany, Apr. 30, 1964, A 45,923
10 Claims. (Cl. 95—31)

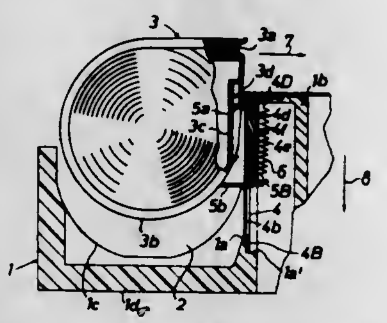
A photographic camera wherein the rear wall carries two panels of a composite presser plate. One panel is located behind a sprocket which serves to transport the film and is mounted between the chamber for the supply cartridge and a frame which defines the exposure opening. The other panel is located behind the frame and each of the panels is biased forwardly but the bias upon the other panel is less than upon the one panel. The width of the film channel in front of the one panel exceeds the width of the film channel in front of the other panel.



The film has a thickened leading end which can pass freely in front of the one panel but can move the other panel away from the frame.

3,380,362
CAMERA HOUSING

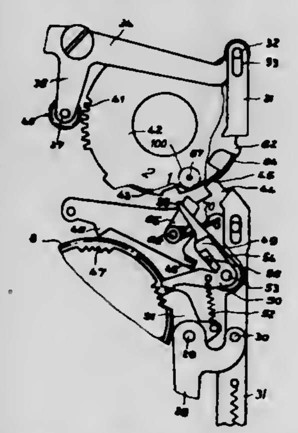
Alfred Winkler and Heinz Ernst, Munich, and Dieter Engelsmann, Unterhaching, near Munich, Germany, assignors to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany
Filed July 22, 1965, Ser. No. 474,078
Claims priority, application Germany, July 24, 1964, A 46,671
15 Claims. (Cl. 95—31)



The housing of a camera has a chamber for a film cartridge, and one wall of the chamber guides a spring-biased control member which is slidable in response to insertion of a properly oriented cartridge but is tilted when the user attempts to insert an improperly oriented cartridge. When tilted, the control member is automatically locked against sliding movement.

3,380,363
FILM WINDING MECHANISM FOR PHOTOGRAPHIC CAMERAS

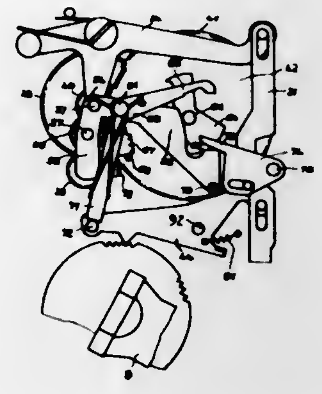
Friedrich Sommermeyer, Braunschweig, Germany, assignor to Rollei-Werke Franke & Heidecke, Braunschweig, Germany, a firm of Germany
Filed Sept. 29, 1965, Ser. No. 491,320
Claims priority, application Germany, Oct. 2, 1964, R 38,903
7 Claims. (Cl. 95—31)



3. A photographic camera having a closure member movable to a predetermined position upon completion of a film loading operation, feeding means for advancing film through successive increments, exposure counting means normally operatively connected to said feeding means to be advanced thereby from a starting position to successive increment positions up to a position representing the maximum number of normal exposures on normal length film, and means including a link movable through a predeterined range by the act of moving said closure member to its predetermined position, for opertively disconnecting said counting means from said feeding means so that said counting means may be returned from its advanced position toward its normal starting position, characterized by a manually shiftable control member movable from a first position to a second position, an abutment member shiftable between an ineffective position and an effective position effective to stop the return movement of said counting means in a position slightly in advance of its normal starting position, a cam portion on said link for moving said abutment member from its effective position to its ineffective position during the latter part of movement of said link through its said predetermined range, and means operated by movement of said control member between its two positions, for moving said link far enough to disconnect said counting means from said feeding means, but not far enough to cause said cam portion on said link to move said abutment member to its ineffective position, so that when said link is moved by shifting said control member, said counting means may return only to a position determined by said abutment member, and so that when closure member is moved to said predetermined position, said abutment member will be rendered ineffective by said cam portion and said counting means may return all the way to its normal starting position.

3,380,364
FILM COUNTER MECHANISM FOR PHOTOGRAPHIC CAMERAS

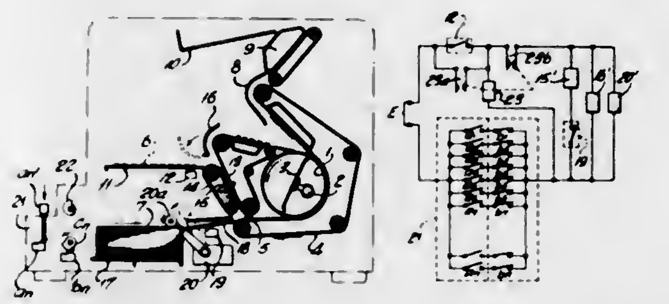
Gustav Bethmann, Braunschweig, Germany, assignor to Rollei-Werke Franke & Heidecke, Braunschweig, Germany, a firm of Germany
Filed Oct. 21, 1965, Ser. No. 500,013
Claims priority, application Germany, Nov. 4, 1964, R 39,168
10 Claims. (Cl. 95—31)



1. A photographic camera comprising a member adapted to be driven in one direction by advance of film to successive exposure positions, and counter mechanism normally driven by said member in a forward direction through a predetermined number of steps corresponding to different exposure positions of the film, characterized by reversing gear means operatively interposable between said member and said counter mechanism to cause movement of said member in said one direction to drive said counter mechanism in a reverse direction instead of a forward direction.

3,380,365
AUTOMATIC COPYING APPARATUS

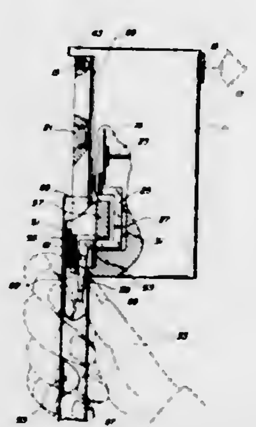
Minoru Umahashi, Tokyo, Japan, assignor to Kabushiki Kaisha Ricoh, Tokyo, Japan, a corporation of Japan
Filed Apr. 23, 1965, Ser. No. 450,416
Claims priority, application Japan, Apr. 28, 1964, 39/24,073
6 Claims. (Cl. 95—75)



A copying machine equipped with automatic electric control which will permit the operator to set the machine for any desired number of copies, and the machine will then produce this number and come to a halt.

3,380,366
CAMERA WITH A RETRACTABLE HAND GRIP

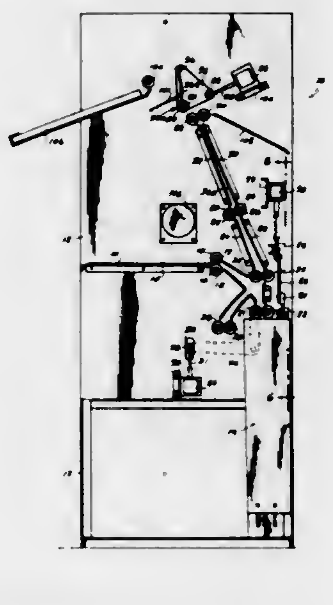
Richard J. Olson, Pittsford, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Sept. 2, 1965, Ser. No. 484,640
17 Claims. (Cl. 95—86)



1. In a camera having a casing member containing an optical system and a shutter and control mechanism selectively movable from an inoperative position to an operative position to actuate said shutter, a slidable closure element structure, a slidable trigger-support block, a film-trigger element supported upon the block and adapted for selecting said operative and inoperative positions of the shutter control mechanism, said slidable closure element structure being movably secured to the casing for holding the trigger support block adjacent thereto, said slidable closure element being also adapted to be moved between two limiting positions, means supported on the slidable closure structure for moving the trigger-supporting block between a first limiting position wherein the supported trigger is inoperative to control the shutter-control mechanism and to a second limiting position wherein connection between the trigger and the shutter control mechanism is operative, said slidable closure element in its first limiting position forming a closure for one portion of the casing and in its second limiting position providing a support handle for the camera, the said handle having a recess therein for permitting manual contact of the trigger in the second limiting position.

3,380,367
APPARATUS FOR THE AUTOMATIC PROCESSING OF PHOTOGRAPHICALLY EXPOSED MATERIALS

Jacob J. Ginsberg, Parsippany, N.J., assignor to Kenro Corporation, Cedar Knolls, N.J., a corporation of New Jersey
Filed Mar. 10, 1966, Ser. No. 533,141
15 Claims. (Cl. 95—89)

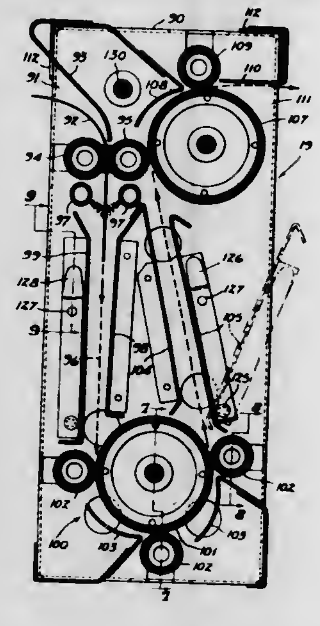


1. An apparatus for developing a photographically exposed emulsion on a matrix sheet and for transferring an image from the developed emulsion to a plate usable as an offset duplicating master, comprising a tank containing developing solution for the exposed emulsion on a matrix sheet, first means engageable with a matrix sheet to position the latter in said tank for development of its emulsion by said solution and thereafter to initiate withdrawal of the developed matrix sheet from said tank, pressing and conveying means engageable with the developed matrix sheet upon initial withdrawal from said tank and being operative to complete the withdrawal of the sheet from the tank and to move the sheet in a predetermined path toward a terminus thereof, means disengaging said first means from the developed matrix sheet upon engagement of the latter by said pressing and conveying means, means operative during withdrawal of the matrix sheet from said tank to feed a plate into facially abutting relation to the developed emulsion of the matrix sheet in advance of said pressing and conveying means so that the latter presses together the matrix sheet and plate and effects the transfer of an image to the plate from the developed emulsion during conjoint movement of the matrix sheet and plate in said path, and means disposed adjacent said terminus of the path and being operative to strip the matrix from the plate upon the emergence thereof from said path.

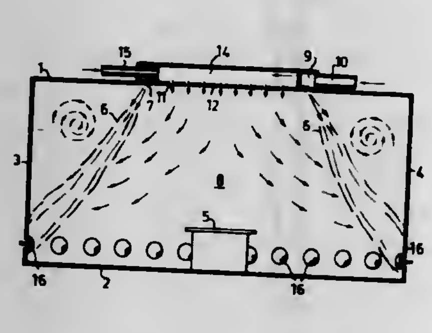
3,380,368
FILM PROCESSOR TRANSPORT MECHANISM

James L. Snarr, Cleveland Heights, Ohio, assignor, by mesne assignments, to Picker Corporation, White Plains, N.Y., a corporation of New York
Original application July 23, 1963, Ser. No. 296,999. Divided and this application Feb. 10, 1967, Ser. No. 615,175
6 Claims. (Cl. 95—94)

Film transport mechanism for automatic film processor especially suited for processing cut sheets of film such as X-ray film. The disclosed transport mechanism has spaced plates defining portions of a film feed path and a space into which replenishment fluid is fed in the manner which causes agitation and assures good processing fluid-to-film contact. The plates are pivotal outwardly for facile cleaning. The disclosed transport mechanism also has a novel roll construction in which a large feed roll and a pair of smaller feed rolls are biased together and into contact with the larger roll such that the inlet film path is between the smaller rolls and the outlet path is between the intermediate one of the three rolls and the large roll.



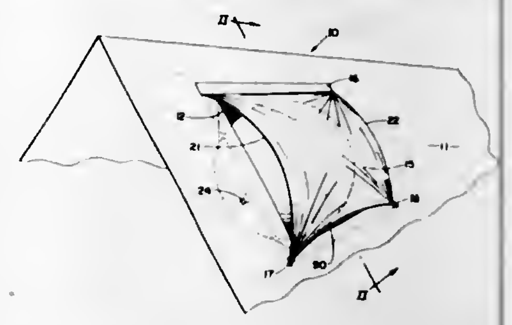
3,380,369
SYSTEM FOR VENTILATING CLEAN ROOMS
Claes Gustaf Allander, Kometvagen 9, Taby, Sweden
Filed Feb. 15, 1966, Ser. No. 527,686
Claims priority, application Sweden, Feb. 23, 1965, 2,308/65
3 Claims. (Cl. 98—36)



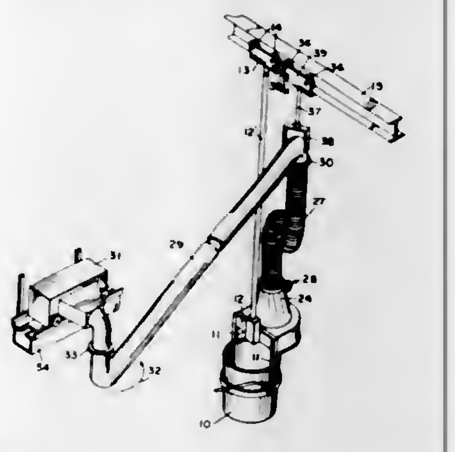
A room requiring a high purity of the air such as an operating room in a hospital is provided with a bounded space, for instance around the operating table, separated from the remainder of the room by an air curtain. Ventilated air of high purity is supplied to the bounded space through a perforated ceiling of said space, and the boundary air is supplied through a slot line encompassing said perforated ceiling. The air is exhausted through outlets near the floor of the room.

3,380,370
FOLDABLE AND ADJUSTABLE VENT
Richard G. Mack, 15th and Carmello,
Carmel, Calif. 93921
Filed Dec. 8, 1966, Ser. No. 600,200
3 Claims. (Cl. 98—37)

1. A vent for transportable structures, an aperture in the wall of the structure, a flexible and yieldable flap secured above said aperture and adapted to completely overlay the same, means for securing the flap at spaced intervals about said aperture, a porous stretchable member freely transmitting air therethrough secured below said aperture, means for securing said porous member around the perimeter of said aperture, and an inflatable member having a sealable valve loosely and removably retained in said aperture between said flat and said porous member, so that by regulating the amount of inflation or deflation the spacing between the flap and porous member may be varied.



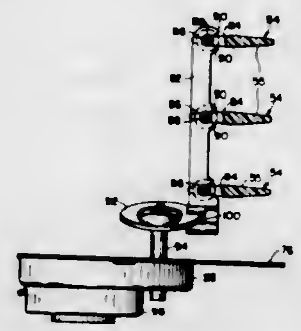
3,380,371
FUMES CONTROL SYSTEM INCLUDING MOVABLE HOOD
John R. Scheel, Anderson, Ind., assignor, by mesne assignments, to Hawley Manufacturing Corporation, Indianapolis, Ind., a corporation of Indiana
Filed Dec. 27, 1966, Ser. No. 604,929
10 Claims. (Cl. 98—115)



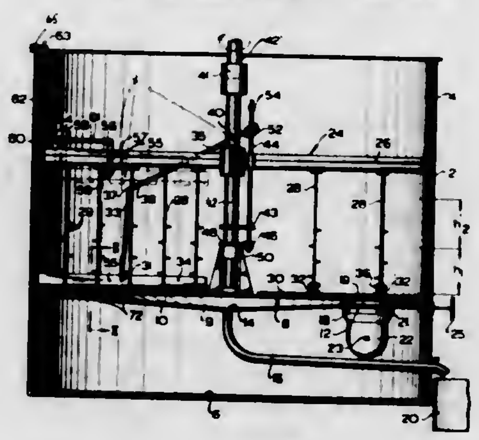
5. Ventilation means comprising an elongated duct, a chamber arranged to move longitudinally relative to said elongated duct, means providing continuous communication between said chamber and said elongated duct, conveyor means arranged to move in a predetermined path variably spaced relative to said elongated duct, hood means movable with said conveyor means, rigid duct means having one end swivelly connected to said chamber and its other end swivelly connected to said conveyor means, said rigid duct means providing a driving connection between said chamber and said conveyor means, the maximum distance of said path of said conveyor means from said elongated duct being determined by the length of said rigid duct means, means connecting said other end of said rigid duct means to said hood means, and means for exhausting said elongated duct, thereby exhausting said hood means.

3,380,372
AIR GUIDE STRUCTURE
Robert P. Perry, Greenville, Mich., assignor to Hupp Corporation, Cleveland, Ohio, a corporation of Virginia
Filed Aug. 1, 1966, Ser. No. 569,299
1 Claim. (Cl. 98—121)

1. Louver structure for guiding air flowing through an opening having top and bottom walls and end walls comprising a plurality of louvers adapted to extend horizontally across said opening from one end wall to the other, means supporting said louvers at their opposite ends for oscillation about horizontal axes, additional means supporting said louvers adjacent their midpoint for rotation about said horizontal axes, generally vertically extending link means attached to each of said louvers and movable therewith to connect said louvers for comovement about said horizontal axes, an essentially circular cam, and a motor drive assembly for rotating said cam about an essentially vertical axis, said cam having successively raised and relatively lowered peripheral portions and said drive link having a slot for the reception of the periphery of said cam to be driven thereby whereby, upon rotation of said cam, said link means is moved in an essentially vertical reciprocating path to oscillate each of said louvers about their horizontal axes.



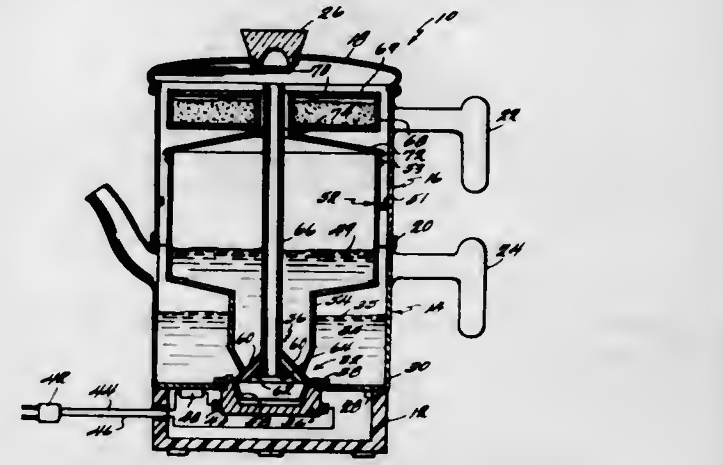
3,380,373
STRAINING VAT
Conrad Lenz, Annenhofstrasse 2, Freising, Germany
Filed Jan. 21, 1966, Ser. No. 522,161
Claims priority, application Germany, Mar. 10, 1965, L 50,170
14 Claims. (Cl. 99—278)



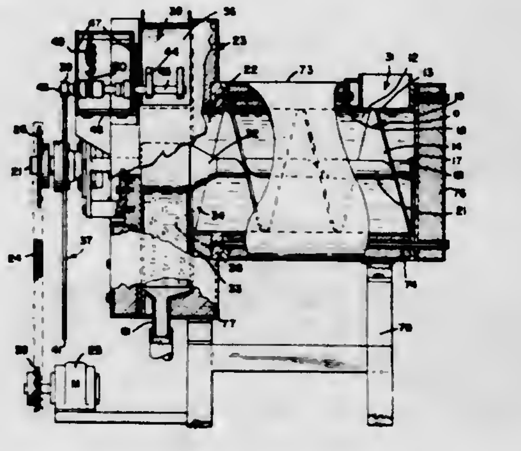
An upright cylindrical vat for straining wort from spent grains having a perforated false bottom, vertical cutter blades suspended from a coaxially rotatable and axially movable carrier for breaking the cake of spent grains on the bottom, and a scraper attached to the lower cutter ends for separating the cake from the bottom. A plow for discharging the cake is vertically movable in slots of the blades and moves upwardly relative to the carrier when the latter is raised.

3,380,374
LIQUID INFUSION DEVICE
William M. Lowerre, Jr., 201 Evergreen St., Apt. 8–3E, Vestal, N.Y. 13850
Continuation-in-part of application Ser. No. 451,100, Apr. 23, 1965. This application Aug. 24, 1966, Ser. No. 574,680
14 Claims. (Cl. 99—281)

An automatic drip-type coffee pot or the like comprises a water compartment, percolator pump associated with the water compartment, coffee-basket and brewed coffee compartment which is separate from the water compartment. An electric heating element and thermostat combination is associated with the percolator pump and with the brewed coffee compartment and serves the dual function of vaporizing increments of water in the percolator pump and maintaining the brewed coffee at an elevated temperature.



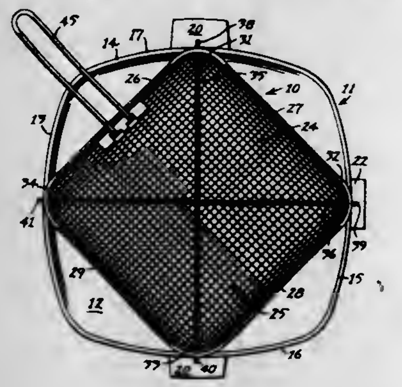
3,380,375
CONTINUOUS DEEP FAT FRYER
John O. Benson, Mayer, and Clifton Morrison, St. Paul, Minn., assignors to General Mills, Inc., a corporation of Delaware
Filed Aug. 1, 1967, Ser. No. 657,565
7 Claims. (Cl. 99—404)



A continuous deep fat fryer utilizing an auger completely enclosed in a cylindrical chamber which is filled with cooking oil. The auger carries food products from an input end to an output end at a predetermined rate of movement and also provides agitation of the product and insures complete immersion of the food product in the cylindrical chamber. The product is removed from the cooking oil by a paddle attached to the last lead of the auger. The auger cooperates with a cam operated jam free scoop to discharge the product after each revolution of the auger.

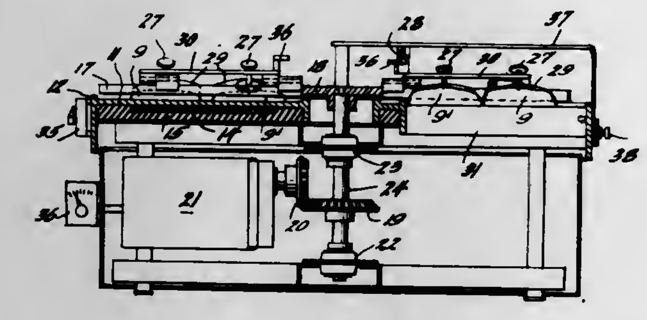
3,380,376
FRYER BASKET
Fritz Preis, Nashville, Tenn., assignor to Lasko Metal Products, Inc., Franklin, Tenn., a corporation of Pennsylvania
Filed Aug. 23, 1967, Ser. No. 662,661
2 Claims. (Cl. 99—413)

A fryer basket having four corners, equally spaced diagonally and adjacent each other, and a hook projecting diagonally from each corner, the basket being adapted to be received in frying position within a substantially square frying receptacle, and adapted to be supported upon the rim of the receptacle in a draining position



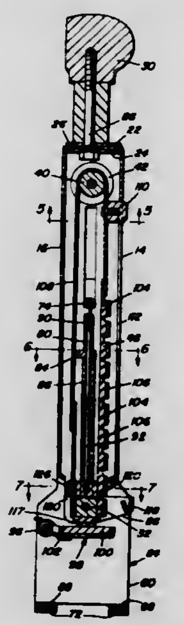
slightly elevated and rotated approximately 45° from the frying position.

3,380,377
AUTOMATIC DISPENSING FOOD GRILL
Harry William Alexander, Box 256, Rte. 1, Leesburg, Va. 22075
Filed Oct. 21, 1965, Ser. No. 500,063
3 Claims. (Cl. 99—423)



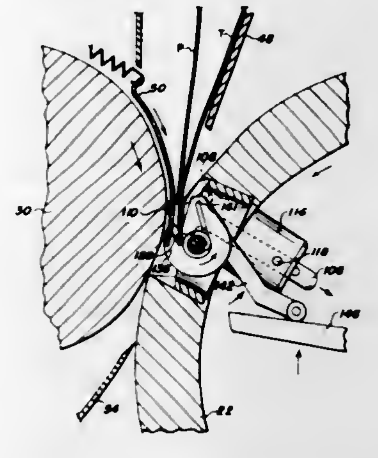
A grill is provided to toast one side of a sliced bun by clamping it with a pivoted flap on a heated surface for rotary motion about only a part of a 360° path. Discharge means is provided over the remainder of the path to permit the buns to drop by force of gravity. Variable toasting density is accomplished by the pressure of contact or by timing the travel path such as by varying motor speed.

3,380,378
SELF-INKING PRICE MARKER
Beverly E. Edwards, 201 W. Maple Ave., and Pelham G. Pearce, 300 S. Liveoak St., both of Geneva, Ala. 36340
Filed Aug. 18, 1966, Ser. No. 573,361
14 Claims. (Cl. 101—111)



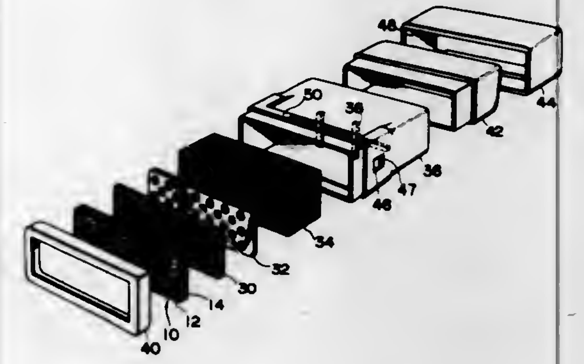
A frame from which transversely spaced sets of axially aligned rollers are journalled with endless flexible printing bands having printing indicia spaced therealong entrained about corresponding rollers of the sets of rollers, the rollers of one set of rollers including flat sides, the printing bands including means coacting with the flat-sided roller means keying the bands to the roller means for non-slip longitudinal movement therewith upon rotation of the flat-sided roller means, and abutment means supported from the frame for movement generally radially of the flat-sided roller means between a first position engaging corresponding flat sides of the flat-sided roller means so as to prevent rotation of the latter and a second position spaced sufficiently radially outwardly of the flat-sided roller means so as to allow free rotation of the flat-sided roller means without contact of the latter with the abutment means.

3,380,379
SHEET GUIDING MECHANISM FOR A REPRODUCTION MACHINE
Howard C. Davis and Harold E. Trumbull, Columbus, Ohio, assignors, by mesne assignments, to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Sept. 30, 1965, Ser. No. 491,562
3 Claims. (Cl. 101—132)



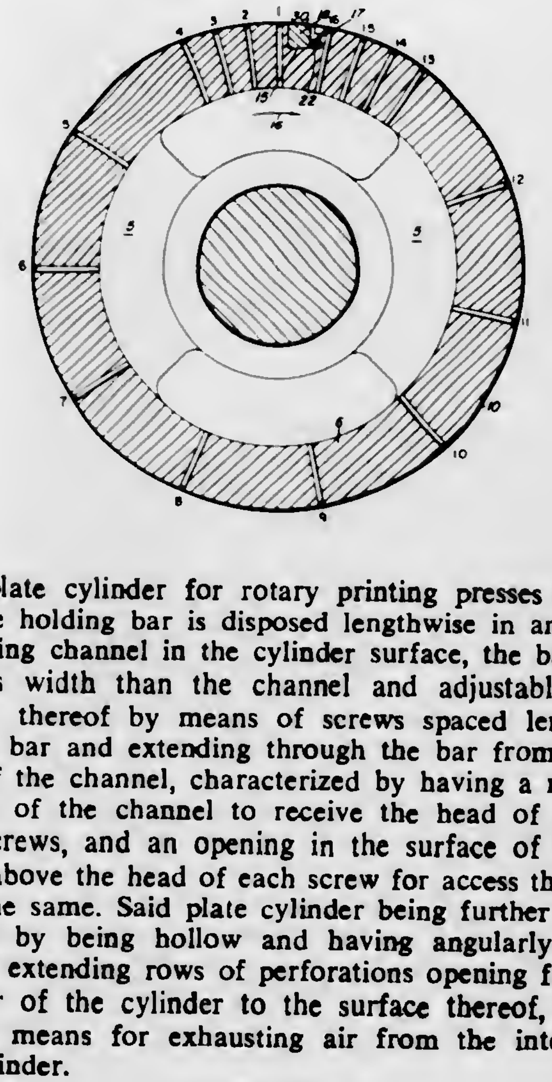
A pressure transfer reproduction machine for transferring ink from one sheet to another having a pressure roller and a sheet guide movable to and retractable from the nip of the drum and the roller to direct a transfer sheet thereto.

3,380,380
STAMP DEVICE INCORPORATING COMPOSITE POROUS MATERIAL
Takaji Funahashi, 1, 2-chome, Kita-takajo-machi, Nishi-ku, Nagoya, Japan
Original application Oct. 14, 1963, Ser. No. 315,951. Divided and this application Nov. 23, 1966, Ser. No. 596,625
Claims priority, application Japan, Oct. 29, 1962, 37/48,000
1 Claim. (Cl. 101—379)



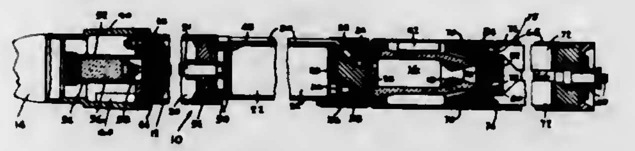
A multi-layer porous rubber member in which one of the porous rubber layers is foam rubber having therein a multiplicity of discrete fine cells and a multiplicity of normally closed pinholes operatively connecting the fine cells and which are openable to serve as valves, and in which another rubber layer which is contiguous to the one layer is spongy rubber material having therein a multiplicity of continuous fine cells communicating with one another in an extremely complicated manner, the exposed surface of the one rubber layer having thereat a multiplicity of normally closed pinholes which are openable to serve as valves. The porous rubber member can be incorporated in a stamping device and be filled with ink, and when pressed on a surface the pinholes in the one rubber layer will be opened to permit discharge of ink.

3,380,381
ROTARY PRESS PRINTING CYLINDER FOR CLAMPING FLEXIBLE PLATES
Ray D. Musgrave, Glenview, Ill., assignor to Western Printing Machinery Company, Schiller Park, Ill.
Filed Aug. 6, 1965, Ser. No. 477,679
3 Claims. (Cl. 101—415.1)



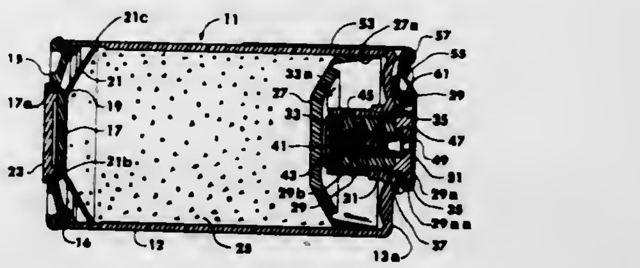
A plate cylinder for rotary printing presses wherein a plate holding bar is disposed lengthwise in an axially extending channel in the cylinder surface, the bar being of less width than the channel and adjustable transversely thereof by means of screws spaced lengthwise of the bar and extending through the bar from side to side of the channel, characterized by having a recess in a wall of the channel to receive the head of each of said screws, and an opening in the surface of the cylinder above the head of each screw for access thereto to turn the same. Said plate cylinder being further characterized by being hollow and having angularly spaced axially extending rows of perforations opening from the interior of the cylinder to the surface thereof, and by having means for exhausting air from the interior of the cylinder.

3,380,382
GUN LAUNCHED LIQUID ROCKET
Louis Jablansky, Fair Lawn, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed July 20, 1966, Ser. No. 566,696
4 Claims. (Cl. 102—49.8)



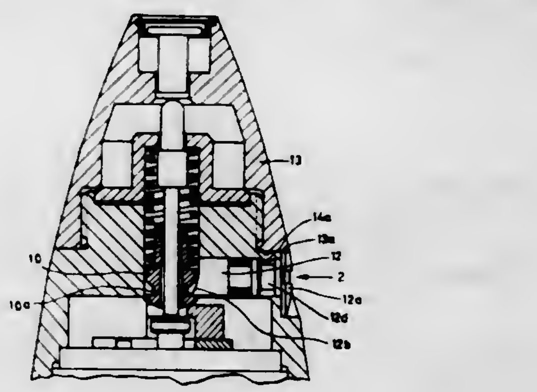
A rocket including a payload section, a combustion chamber and a hypergolic liquid fuel system. The fuel system including a tank containing an oxidizer, a tank containing a fuel, an injector interconnecting the tanks with the combustion chamber, and pressure responsive means actuated by a propellant charge and associated with the tanks for controlling the flow of oxidizer and fuel from the tanks into the combustion chamber.

3,380,383
DIRECTIONAL DISPENSING GRENADE
Robert W. Schnepfe, Jr., Timonium, Md., assignor to AAI Corporation, Cockeysville, Md., a corporation of Maryland
Filed May 26, 1965, Ser. No. 459,068
14 Claims. (Cl. 102—64)



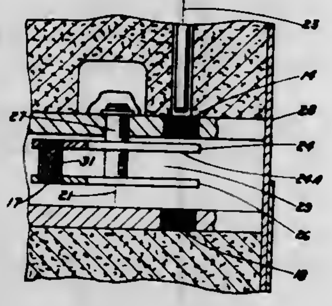
1. A grenade comprising
- a container having material-moving means for ejecting particle or fluid material from said container, and
- a chamber for containing particle or fluid material to be ejected,
- said container including a chamber cover spaced from said material-moving means and having a rupturable portion for rupture and ejection of material through the rupture opening,
- and a movable frusto-conical pressure transducer member disposed adjacent one end of said chamber and having a central opening therein, the smaller end of said transducer being disposed for concentration of pressure on said rupturable portion of said cover in response to pressure on said transducer member through pressurized contact thereof by said material.

3,380.384
SELF-DESTROYING FUSE
Paul Kaiser, Schramberg, Wurttemberg, and Josef Müller, Schramberg-Sulgen, Wurttemberg, Germany, assignors to Messrs. Gebruder Junghans Aktiengesellschaft, Schramberg, Wurttemberg, Germany, a corporation of Germany
Continuation of application Ser. No. 393,141, Aug. 31, 1964. This application Apr. 5, 1967, Ser. No. 649,754
5 Claims. (Cl. 102—71)



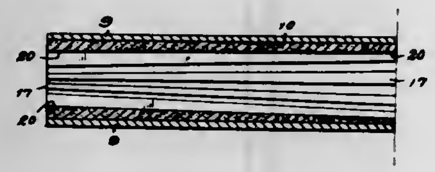
A self-destroying fuze having sensitive impact ignition as a self-destroying ignition device with a spring loaded hammer sleeve, a setting element to block the hammer sleeve operable from the outside of the fuze and the hammer sleeve having an external annular groove into which the setting element projects.

3,380,385
ENERGY-ABSORBING INTERRUPTOR
Gerald Lynn Hazelet, Urbana, and Larry Ervin Wilson, Champaign, Ill., assignors to The Magnavox Company, Fort Wayne, Ind., a corporation of Delaware
Filed Dec. 8, 1965, Ser. No. 512,452
18 Claims. (Cl. 102—76)



An energy-absorbing interruptor for explosive devices has a bendable or yieldable plate in the explosive train. In the unarmed position, the plate absorbs energy from a detonator to prevent explosion of the main charge.

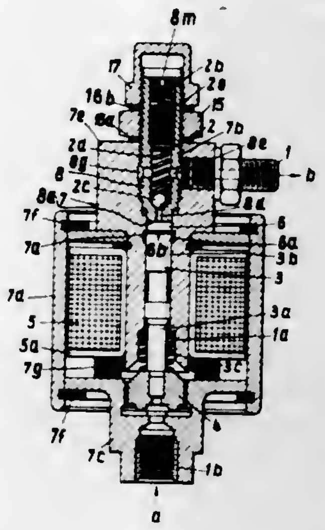
3,380,386
PROPELLANT GRAINS
Richard G. Guenter, Wilmington, Del., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed July 16, 1965, Ser. No. 472,743
3 Claims. (Cl. 102—99)



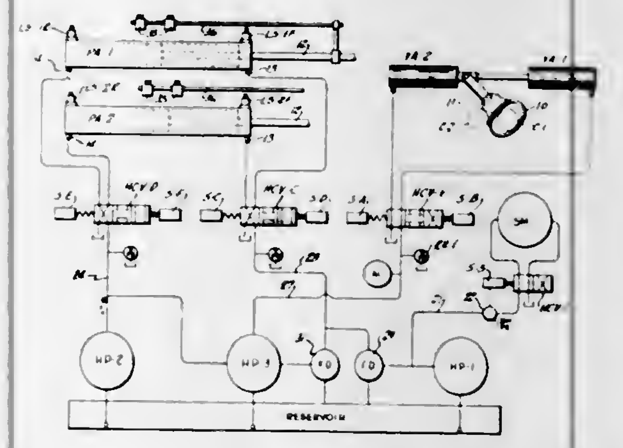
1. A propellant for rocket motors, which comprises a generally tubular propellant grain having a cylindrical outer surface and tapering internal surface and further having a forward end and a nozzle end, the internal diameter of said grain uniformly increasing from said forward end to said nozzle end, uniformly spaced radial projections extending longitudinally the full length of said grain and projecting radially from said internal surface toward a longitudinal axis of said grain, the radial depth of said projections reducing in dimension from the forward end to the nozzle end of said grain and defining a tapered axial passage.

3,380,387
RECIPROCATING PUMP
Siegfried Kofink, Zell (Neckar), Germany, assignor to J. Eberspaecher, Esslingen (Neckar), Germany
Filed Mar. 14, 1966, Ser. No. 534,062
Claims priority, application Germany, Mar. 13, 1965, E 28,877
10 Claims. (Cl. 103—37)

The invention relates to a reciprocating pump having a cylinder. The cylinder is provided with an inlet opening and, spaced therefrom, with a metering chamber. A piston is received in the cylinder and is reciprocable to perform alternating suction and working strokes. At least one axially extending groove is provided in the circumferential surface of the cylinder and communicates with the inlet opening and, when the piston performs a suction stroke, with the metering chamber. A wall member is received in the cylinder opposite the piston and bounds a portion of the chamber. The wall member is adjustable in the cylinder axially of the piston so as to permit changing of the volume of the chamber.



3,380,388
AUTOMATIC CONTROL SYSTEM FOR CONCRETE PUMP
Eugene L. Sherrod, Brookfield, Wis., assignor of one-half to Robert T. Sherrod, Milwaukee, Wis.
Filed Feb. 3, 1966, Ser. No. 524,675
10 Claims. (Cl. 103—49)

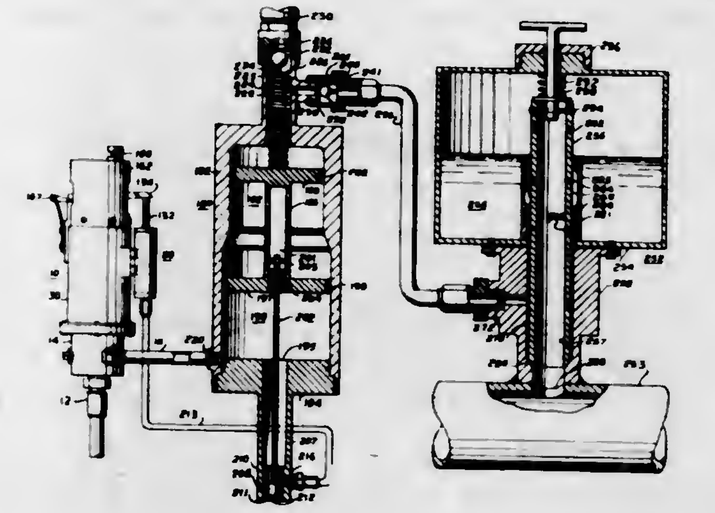


Each of a pair of pumping cylinders has its piston driven by a double-acting hydraulic cylinder and has a front and a rear limit switch to be actuated as the piston nears the end of each of its strokes and actuation of which effects stroke termination. A pump valve is shiftable between a pair of operating positions, at each of which it communicates one pumping cylinder with a supply of material to be pumped and the other with a delivery line. Shifting of the pump valve depends upon actuation of a rear limit switch of one pump cylinder and a front limit switch of the other. Intermediate its positions the shifting pump valve actuates another limit switch that initiates a new stroke of each pump piston.

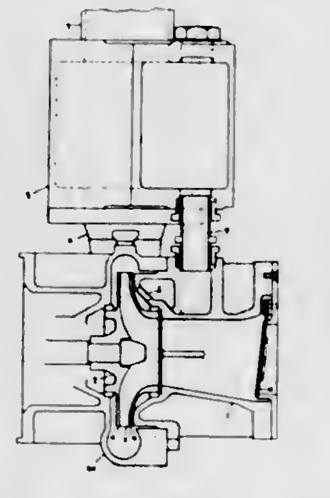
3,380,389
TIME CYCLE ACTUATOR
Robert E. Meynig, Rte. 2, Box 170–A, Tyler, Tex. 75701
Filed Apr. 18, 1966, Ser. No. 543,412
20 Claims. (Cl. 103—50)

An actuator comprises a first valve means adapted for movement from a first activated state to a second state over a predetermined time interval to maintain a source

of pressurized fluid closed off, an activator operative responsive to the fluid pressure to activate the first valve means to the first state, and a second valve means operative responsive to the fluid pressure when opened to apply pressure to the activator and release the pressure therefrom after another predetermined time interval.



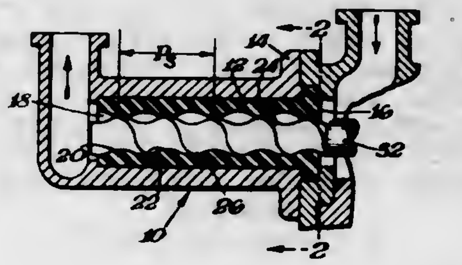
3,380,390
CENTRIFUGAL PUMPS
David Rachman, 29 Melrose Ave., Rutherglen, Scotland
Filed Mar. 3, 1966, Ser. No. 531,389
2 Claims. (Cl. 103—113)



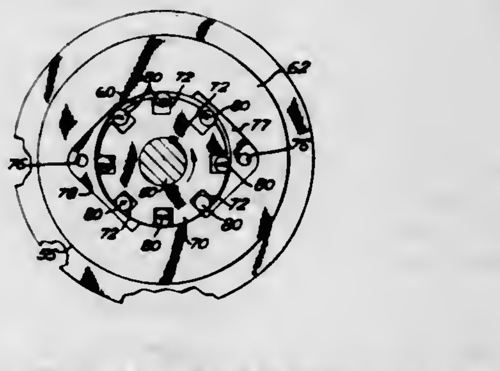
A centrifugal pump including a single impeller contained within a pump casing and incorporating blades disposed between shrouds having smooth unbroken outer surfaces. One or more nozzles communicating with the discharge side of the pump are directed into the pump casing and are so located that the line of discharge of the nozzle is offset from the axis of the impeller and intersects the outer surface of the shroud at an acute angle such that a jet of liquid issuing from the nozzle will impact against the shroud.

3,380,391
PUMP ROTOR
Willy John, Selb, Germany, assignor to Gebruder Netzsch, a company of Germany
Filed Sept. 16, 1966, Ser. No. 579,984
Claims priority, application Germany, Sept. 16, 1965, N 27,350; Mar. 12, 1966, N 28,195
4 Claims. (Cl. 103—117)

1. In a spiraled single screw pump rotor having a longitudinal axis and a circular cross-section the center of which spirals around the axis, the improvement according to which (a) the cross-section has a diameter at least five times the distance between its center and the axis, and (b) the spiral has a pitch at least two and one half times the cross-section diameter.

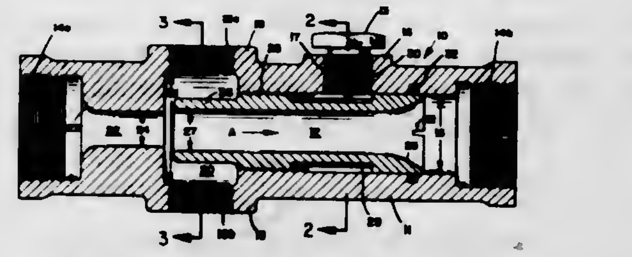


3,380,392
LOW-PRESSURE ROLLER PUMP
Jan H. Boers, Owatonna, Minn., assignor to The Owatonna Tool Company, Owatonna, Minn., a corporation of Minnesota
Filed May 12, 1966, Ser. No. 549,506
9 Claims. (Cl. 103—136)



A low-pressure roller pump having a pump body with a cylindrical recess therein and a cylindrical rotor member positioned in the recess of the pump body and eccentric therewith for rotation therein. The rotor member has notches with roller members therein and the pump body has a pair of passages for intake and exhaust of fluid which extend through the body between opposed surfaces thereon and with connecting recesses on the opposed body surfaces which connect the pair of passages to the cylindrical recess and the rotor member.

3,380,393
VARIABLE VENTURI INJECTOR
Adolph Nielsen, 8006 Iris St., Oakland, Calif. 94605
Filed Mar. 21, 1966, Ser. No. 535,851
6 Claims. (Cl. 103—271)



A variable venturi injector having a housing defining an injector aperture thereon, a throat section, and an adjustable venturi section axially movable in the housing, the venturi section having a cylindrical end section which extends toward the throat and defines a mixing chamber with the housing at the injector aperture, the venturi section being axially movable to contact the throat section to no longer define a mixing chamber.

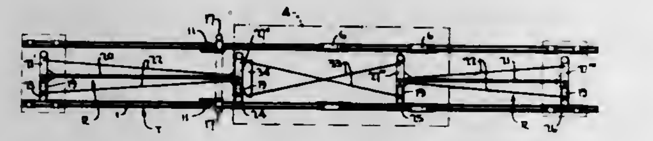
3,380,394
EQUIPMENT FOR DETERMINING THE GEOMETRIC CONDITION OF A TRACK AND CONTROLLING THE SLEW OR LIFT THEREOF

André Fornerod, Grandvaux, Switzerland, assignor to Matisa Materiel Industriel S.A., Lausanne, Switzerland, a corporation of Switzerland

Filed Aug. 26, 1966, Ser. No. 575,438

Claims priority, application Switzerland, Aug. 27, 1965, 12,082/65

13 Claims. (Cl. 104—8)



Equipment for measuring and recording the geometric condition of a railroad track as well as for controlling the slew or lift of a track section. The invention incorporates means capable of being coupled with a measuring bridge arrangement, during which time the force applying means for displacing the track section undergoing checking is rendered inoperable, in order to adjust the starting position for the track displacement by balancing the comparison signal of the measuring bridge arrangement with the actual momentary position of the track section which is being checked. Further means cooperate with the measuring bridge arrangement for adjusting for a desired displacement of the track section. The track section is then shifted by the pre-set desired displacement so that the measuring bridge arrangement is again balanced.

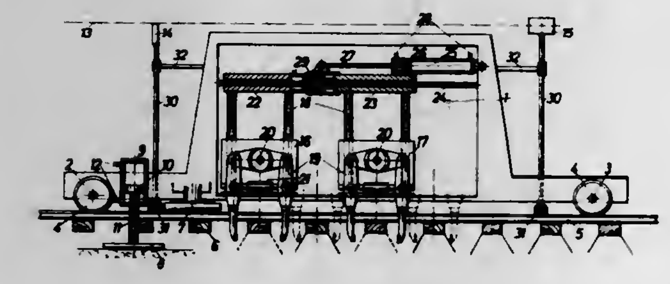
3,380,395
APPARATUS FOR TAMPING BALLAST

Franz Plasser and Josef Theurer, both of Johannesgasse 3, Vienna, Austria

Filed Oct. 12, 1965, Ser. No. 495,123

Claims priority, application Austria, Nov. 30, 1964, A 10,077/64; Nov. 30, 1964, A 10,076/64

6 Claims. (Cl. 104—12)



A railway track tamping apparatus wherein two or more tamping tool assemblies spaced longitudinally of the apparatus are coupled together in a group for simultaneous movement of the group of assemblies in the direction of elongation of the track.

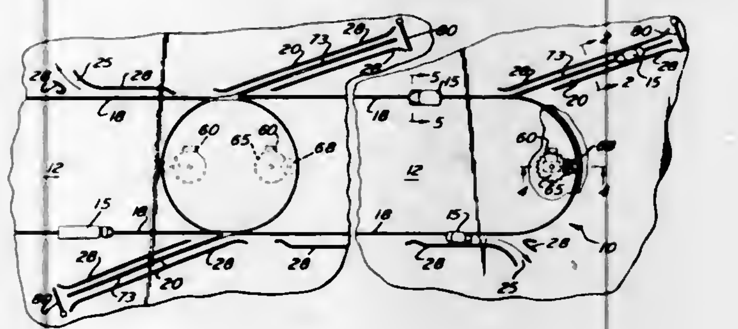
3,380,396
VEHICLE CONVEYING MEANS

John D. Willis, 2024 W. Venango St., Philadelphia, Pa. 19140

Filed Dec. 28, 1965, Ser. No. 516,965

9 Claims. (Cl. 104—172)

Machinery for high speed transportation of motor vehicles between distant points, comprising a roadway having a surface communicating between said distant points, a continuous conveyor forming an elongated loop with sides thereof parallel to said roadway, means supporting said conveyor for travel thereof at high speed with respect to said roadway, means to drive said conveyor at a high rate of constant speed, coupling means, spaced at desired intervals along said conveyor, for engagement with individual of said motor vehicles, pulling said vehicles therewith along said surface at high speed, to thereby transport them between said distant points, and entrance ways including means for accelerating said motor vehicles to said high rate of constant speed of said conveyor for a smooth engagement between said coupling means and said motor vehicles.

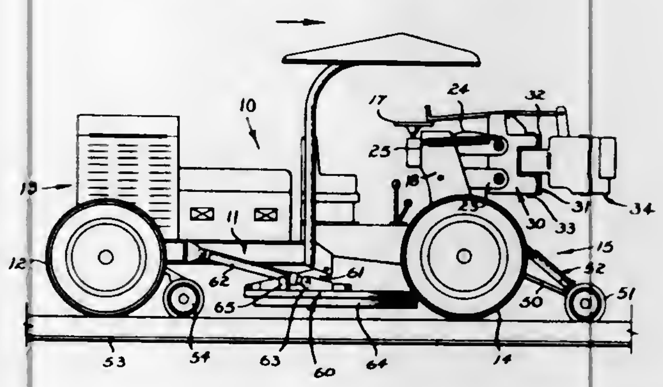


3,380,397
CONVERTIBLE RAIL-HIGHWAY LOCOMOTIVE

William J. Yard, Cavan, South Australia, Australia, assignor to Australian Railway Equipment Supply Company, Proprietary Limited and Trak-Chief Manufacturing Proprietary Ltd., both of Cavan, South Australia, Australia

Filed Dec. 23, 1965, Ser. No. 515,825

3 Claims. (Cl. 105—26)



A shunting vehicle useable for railway or highway purposes and having a coupling block suitable for coupling the vehicle to a railway truck, the coupling block being pivotal with respect to the shunting vehicle chassis and being raised or lowered by a ram acting through a parallel arm arrangement.

3,380,398
MONORAIL LOCOMOTIVE

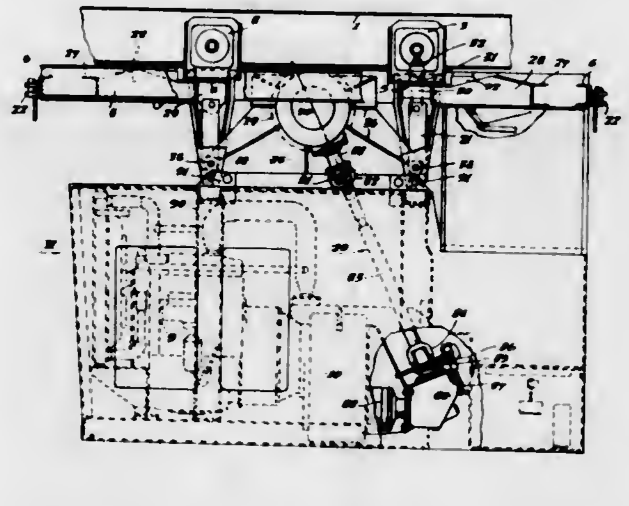
Ralph Wainwright, Wakefield and George Valentine Nash, Hoylandswaine, near Sheffield, England, assignors to Qualter, Hall & Co. (Sales) Limited, Barnsley, England, a company of Great Britain and Northern Ireland

Filed Apr. 13, 1965, Ser. No. 447,856

Claims priority, application Great Britain, Apr. 17, 1964, 16,105/64; Jan. 18, 1965, 2,131/65

7 Claims. (Cl. 105—30)

A monorail locomotive having improved tractive operation is obtained by the construction which comprises a monorail locomotive which comprises a rigid body, running wheels fixedly but rotatably attached to said body for supporting engagement with a face of a monorail track to hold the body in a fixed attitude relative to the track, a drive unit swingably mounted to said body, a drive motor fast with the body, a driving and braking wheel extending from said swingably mounted drive unit to engage another face of the track adjacent that of the running wheels, means for transmitting force from said motor to said driving and braking wheel, said drive unit being swingably mounted by means of pivoted swinging link arms, and means for urging the driving and braking wheel into engagement with said another face of the track, when the driving wheel tends to run on the track at a speed greater than that at which the locomotive body is moving the wheel runs in advance of the body with respect thereto and when the wheel tends to run on the track at a speed less than that at which the body is moving, the wheel runs behind the body with respect thereto and acts as a brake, in each position displacement results of the drive unit on the swinging link arms in an arcuate path approximately parallel to the track thus varying the pressure with which the driving and braking wheel engages said another face of the track.

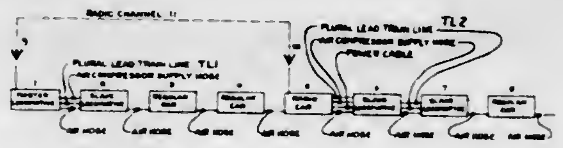


3,380,399
REMOTE CONTROL AND SUPERVISION SYSTEM FOR A RAILROAD TRAIN

George G. D. Southard, Galion, and Tonis Tilk, Columbus, Ohio, assignors to North Electric Company, Galion, Ohio, a corporation of Ohio

Filed June 30, 1965, Ser. No. 468,292

20 Claims. (Cl. 105—61)



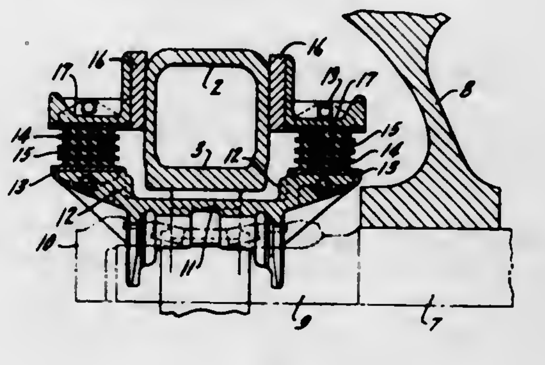
Arrangements in a remote control and supervisory system using solid state components including a master locomotive having equipment for controlling a slave locomotive via a radio link and for receiving indications of conditions at the slave locomotive over such link, the master locomotive means transmitting a word every thirty seconds which comprises address, information and check bits, the information bits defining a comprehensive recapitulation of all controls, and receiving a corresponding word message in return. Primary and secondary sync signals and a primitive polynomial code are used to provide integrity in the transmissions. If the report back shows a discrepancy, the master locomotive repeats its words every three seconds until the word received back is in agreement. If an alarm condition arises at the slave station, the system breaks into the thirty second routine, and transmits a single word updating the status of controls and alarm indications.

3,380,400
CUSHIONED LATERAL MOTION AXLE ADAPTOR

Franklin D. Barber, Chicago, Ill., assignor to Standard Car Truck Company, Chicago, Ill., a corporation of Illinois

Filed July 8, 1965, Ser. No. 470,378

4 Claims. (Cl. 105—218)



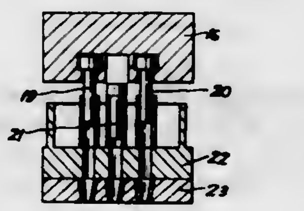
The invention involves the use of an adaptor which rides on the anti-friction bearing of a railroad car axle. It fits in the window in the car frame to hold the adaptor against substantial horizontal movement perpendicular to the axle while the adaptor itself is free to move vertically with respect to the car frame, being cushioned by laterally projecting shelves on the adaptor and the frame between which are held cushions made up of parallel rigid plates with interposed sheets of elastomeric material between them to permit both horizontal and vertical displacement of the shelves together with interlocking members on frame and adaptor to limit longitudinal movement of the adaptor with respect to the frame.

3,380,401
MANUFACTURE OF CONFECTIONERY

Hans Arthur Faerber, Castle Cove, New South Wales, Australia, assignor to Nid Pty., Limited, Alexandria, near Sydney, New South Wales, Australia, a corporation of Australia

Filed Oct. 20, 1965, Ser. No. 498,948

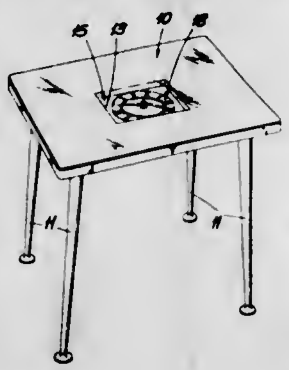
3 Claims. (Cl. 107—8)



In a confectionery moulding machine having a plurality of pumps for depositing confection substance into moulds and a plunger head grooved in its underside to receive and hold a first group of plungers associated with certain pumps for reciprocating the plungers to operate the pumps; the concept of providing one or more apertures in the underside of the plunger bar for freely receiving one or more additional pump plungers to render them inoperative by virtue of relative movement between the plunger bar and the additional pump plungers when the plunger bar is moved to reciprocate the first group of pump plungers.

3,380,402
TABLES

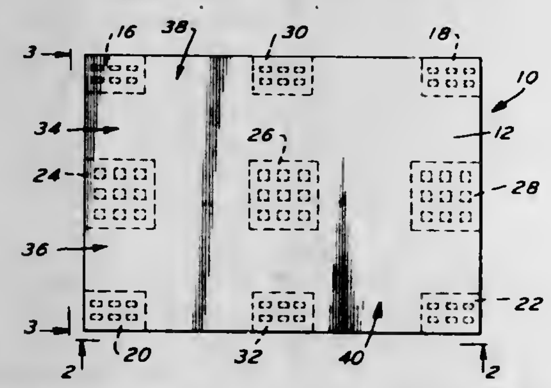
William Gordon Simpson, 15 Glemsford Drive, Hertfordshire, Harpenden, England
Filed May 23, 1966, Ser. No. 551,985
Claims priority, application Great Britain, May 24, 1965, 21,915/65
2 Claims. (Cl. 108—50)



A table has an aperture in its horizontal surface, a clock detachably secured to the underside of the said surface, the face of the clock being visible through the aperture, and a transparent panel extending over at least the area of the clock face.

3,380,403
PALLET

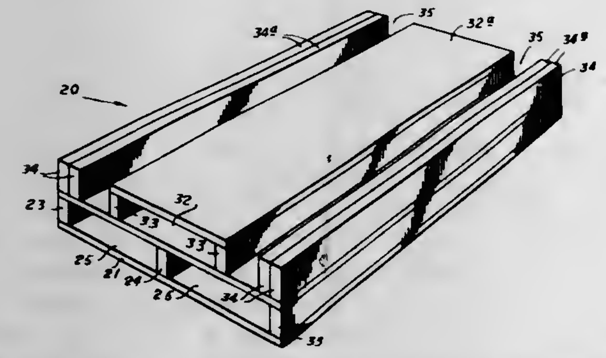
Matthew Andrew Sullivan, Elkins Park, Pa., assignor to Sullifoam, Incorporated, Willow Grove, Pa., a corporation of Pennsylvania
Filed Mar. 13, 1967, Ser. No. 622,808
4 Claims. (Cl. 108—51)



An expendable pallet is provided having spaced apertured blocks of rigid foam polymeric material bonded to a layer of corrugated paperboard or sandwiched between layers of such paperboard.

3,380,404
CARGO HANDLING AND STORAGE APPARATUS

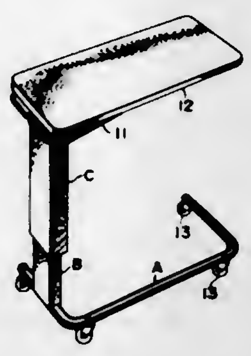
Melvin E. Shell, P.O. Box 698, Gorman, Tex. 76454
Filed Nov. 28, 1966, Ser. No. 597,308
7 Claims. (Cl. 108—52)



A cargo handling and storage support apparatus having supporting surfaces for supporting cargo thereon and provided with openings for fork lift trucks forks whereby the support apparatus may be used to lift the cargo supported thereon and having means providing access for the fork member of a fork truck lift beneath the cargo on the support means open to permit the fork member to lift the cargo from the support means. In one form the support apparatus is reversible to permit the cargo to be lifted by the fork member on the support apparatus by the fork lift truck and to permit the cargo to be lifted from the support apparatus by the fork lift truck regardless of the position of the support apparatus.

3,380,405
OVERBED TABLE

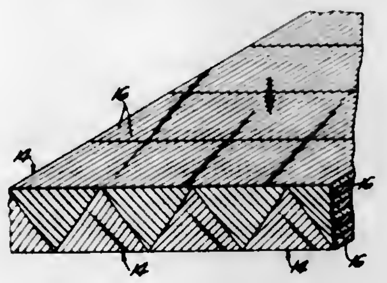
Chester J. Barecki, Grand Rapids, and Frans Semplonius, Wyoming, Mich., assignors to American Seating Company, Grand Rapids, Mich., a corporation of Delaware
Filed Nov. 25, 1966, Ser. No. 597,067
2 Claims. (Cl. 108—136)



The overbed table comprises an inner column supported upon a mobile base and outer column telescopically receiving the inner column and supporting a laterally-extending table, cooperating locking means being provided within the columns, permitting the outer column to be moved freely upwardly but preventing downward movement, unlocking levers extending from the outer column at the top thereof and opposite the laterally-extending table movable only in an upward direction for releasing the locking means to permit downward movement of the table and outer column.

3,380,406
COMPOSITE DESIGN FOR TRANSPARENT ARMOUR

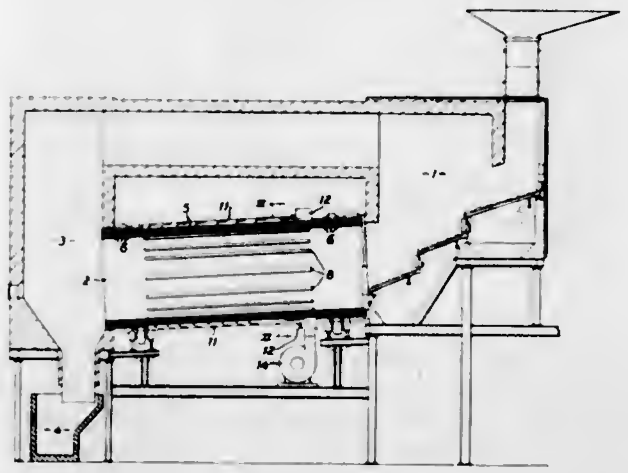
Rex Beach Gosnell, San Diego, Calif., assignor to Whittaker Corporation, Los Angeles, Calif., a corporation of California
Filed Apr. 28, 1965, Ser. No. 451,441
18 Claims. (Cl. 109—80)



This patent describes a novel transparent armor material having a surface adapted to receive impact comprising a layer of an organic high molecular weight polymeric matrix having contained therein a plurality of high modulus reinforcing members having at least one major plane surface disposed at an acute angle with respect to the surface of the armor adapted to receive impact.

3,380,407
ROTARY INCINERATORS FOR WASTE AND REFUSE MATTER

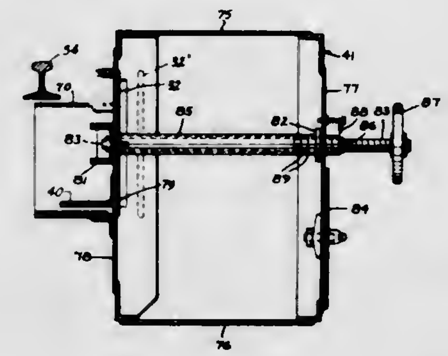
Nils Fredrik Nilsson, Landskrona, Sweden, assignor to Aktiebolaget Landsverk, Landskrona, Sweden
Filed Sept. 2, 1966, Ser. No. 576,956
Claims priority application Sweden, Sept. 15, 1965, 11,994/65
2 Claims. (Cl. 110—14)



A rotary incinerator having an inlet and outlet at its opposite ends, and spaced inner and outer shells defining an air space. The inner shell has a refractory brick lining including a number of longitudinally extending brick layers which project inwardly into the combustion chamber beyond the remaining bricks at spaced intervals around the lining to define ribs for enhancing intermixture and revolution of the refuse matter. Discharge passages are provided in the ribs for introducing air into the combustion chamber from the air space between the shells. Flap valves are provided in the air space to control the flow of air through the discharge passages; the flap valves being movable outwardly to fully open the discharge passages when the flap valves are located in the lower section of the incinerator during rotation, and inwardly to partially close the air discharge passages when in the upper sector.

3,380,408
AIR SUPPLY TO CHAIN GRATE

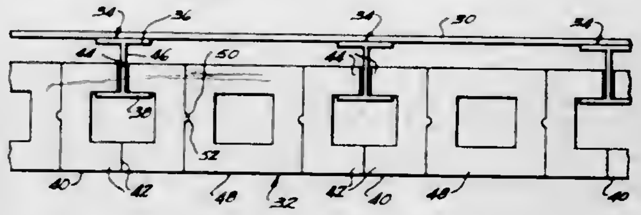
Russell C. Rivers, Boylston, Mass., assignor to Riley Stoker Corporation, Worcester, Mass., a corporation of Massachusetts
Continuation-in-part of application Ser. No. 558,195, May 31, 1966. This application Mar. 30, 1967, Ser. No. 633,343
5 Claims. (Cl. 110—40)



1. A traveling grate, comprising an endless chain, grate clips fastened to the chain to define upper and lower runs, an air chamber between the runs, a first vertical wall extending parallel to the chain and closing one side of the chamber, a second vertical wall spaced from and parallel to the first vertical wall, the two walls defining an air duct, an aperture through the first wall through which air may pass from the air duct to the air chamber, a support extending across the aperture, a control rod extending through the first wall and rotatably mounted in the said support, a tube slidably carried by the rod, a damper carried by the tube at a right angle thereto, and threaded means extending between the tube and rod so that when the rod is rotated the tube and damper move toward or away from the aperture.

3,380,409
AIR-COOLED WALL CONSTRUCTION FOR INCINERATORS

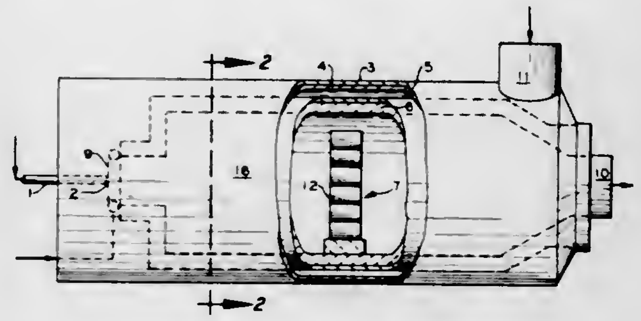
Arnold R. Olsen, Brooklyn, N.Y., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed June 13, 1966, Ser. No. 557,311
9 Claims. (Cl. 110—56)



The present invention relates to air cooled wall construction for use in incinerators. The construction consists of an outer wall, structural members vertically secured to the interior of the wall, for example, I-beams, and a refractory wall composed of multiple courses of cylindrical refractory tile aligned vertically to provide continuous air passages through the courses and air inlet means for the air passages.

3,380,410
BURNER APPARATUS

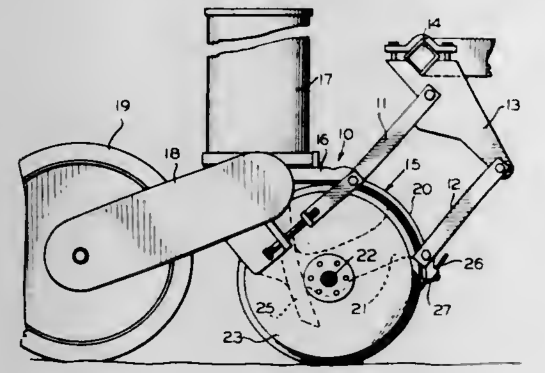
Charles R. Venable, Jr., Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Sept. 7, 1966, Ser. No. 577,664
1 Claim. (Cl. 110—97)



Burner apparatus comprises a hollow, tubular, horizontally disposed refractory lined chamber having planar lower interior side and bottom walls in the vicinity of a flame impingement baffle downstream of the burning zone in said chamber which baffle comprises a plurality of stacked cylindrical elements supported by said planar interior side and bottom walls and being supported by frictional engagement between said elements the axes of which are parallel to the major axis of the burner chamber.

3,380,411
BALK REMOVER FOR PLANTERS

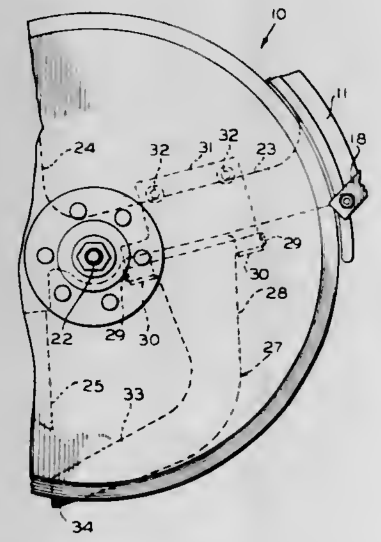
John W. Orendorff, Downers Grove, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 501,922
2 Claims. (Cl. 111—63)



In a double disk furrow opener for planters and the like the disks converge forwardly and their earth-penetrating lower edges are spaced, forming a central ridge or balk which is leveled by the provision of a flexible rod which is adjustably connected at its upper end to the disk support and extends downwardly to a location between the disks in engagement with the balk. The flexibility of the rod allows it to oscillate laterally facilitating removal of the balk.

3,380,412
BALK REMOVER FOR PLANTERS

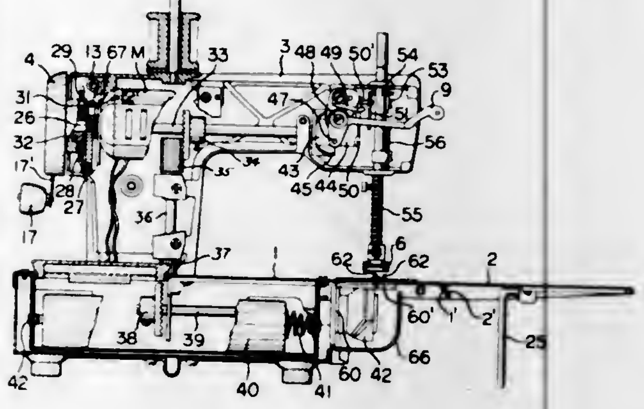
Donald E. Connor, Plainfield, and Dario E. Lienemann, Westmont, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 502,000
4 Claims. (Cl. 111—63)



In a double-disk furrow opener for planters and the like the disks converge forwardly and their earth-penetrating lower edges are spaced, forming a central ridge or balk which is leveled by the provision of a balk remover pivotally mounted on the disk support and extending downwardly between the disks into engagement with the balk in advance of the location at which the speed is dropped, the pivotal mounting of the balk remover allowing it to swing laterally between the disks.

3,380,413
TOY SEWING MACHINE

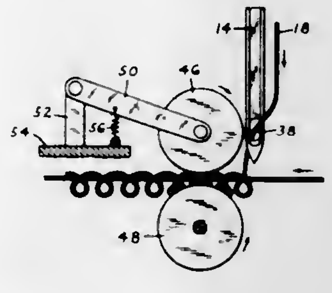
Shigeaki Kuramochi, 24–17 Koishikawa 5-chome, Bunkyo-ku, Tokyo, Japan
Filed Oct. 13, 1965, Ser. No. 495,456
2 Claims. (Cl. 112—1)



A toy sewing machine capable of carrying out sewing in the same manner as a real sewing machine having a changeover switch changing over an electric motor to rotate positively or reversely, and a free-wheeling mechanism provided between a spindle carrying a handle for hand rotation thereof and a transmission system, whereby the spindle rotates in the desired direction when the electric motor rotates in the positive direction, and the spindle does not rotate when the motor rotates in the reverse direction.

3,380,414
TUFTING MACHINE

William H. Gray, Richmond, Va., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Dec. 29, 1965, Ser. No. 517,410
1 Claim. (Cl. 112—79)

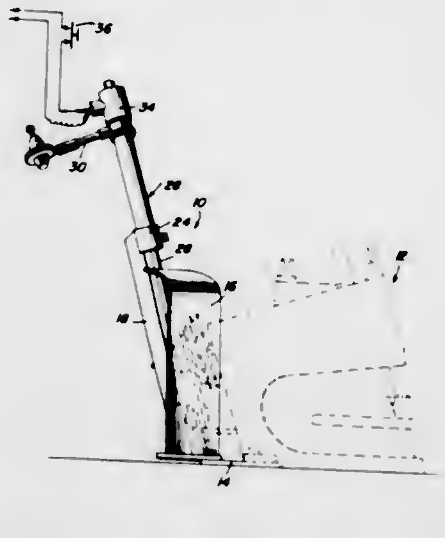


An improvement in tufting machines which prevents the pulling out of newly formed tufts of yarn by stray filaments on the tufting needle. A pair of rollers is located immediately forward of the tufting needle to receive the tufted material (e.g. tufted carpet) between and in pressural contact with the rollers. This serves to hold the newly formed tufts in place and to resist any forces normally encountered during the tufting operation which tend to pull out the tufts. The roller surfaces which contact the tufted material may be smooth, serrated, or coated with a material similar to the tufted yarn (e.g. nylon).

3,380,415
NEEDLE BAR AND PRESSURE FOOT LIFTING ATTACHMENT WITH BRAKE

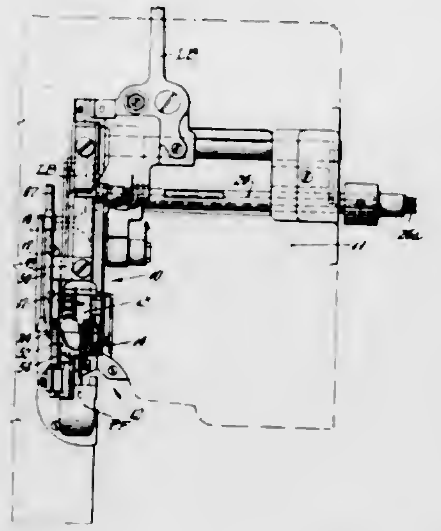
John D. Proffit, Clarksville, Tenn. (205 Gilbert Drive, Hopkinsville, Ky. 42240), and Edward P. Lisenby, % Hayes Garment Co., Hopkinsville, Ky. 42240
Filed Oct. 1, 1965, Ser. No. 491,917
15 Claims. (Cl. 112—219)

A positioning disk secured to the drive pulley of a sewing machine for moving the needle bar and pressure foot to the upper retracted positions. The disk is angularly displaced for needle bar positioning purposes by a piston operated drive disengaged from the disk at the end of the needle bar positioning stroke of the piston. A brake is then engaged with the disk to hold the needle bar and the pressure foot in the retracted positions.



3,380,416
THREAD CUTTING DEVICE

Edwin O. Du Buis, Pearl River, and Edward L. Cucksey, Upper Nyack, N.Y., assignors to Willcox & Gibbs Sewing Machine Company, New York, N.Y., a corporation of New York
Filed May 18, 1966, Ser. No. 551,011
13 Claims. (Cl. 112—252)

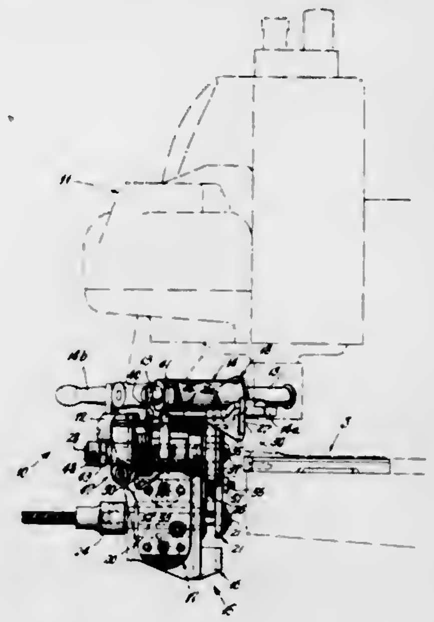


A thread cutter having a movable blade which is actuated to produce a cutting operation on a thread chain in response to a pulse of energy from a capacitor under control of a control means sensitive to the detection of the presence or absence of a fabric in sewing position.

3,380,417
CUTTING DEVICE FOR SEWING MACHINES

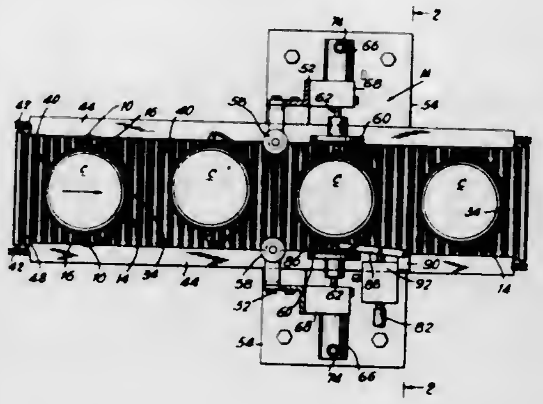
Francis P. Tamburro, Teaneck, N.J., assignor to Willcox & Gibbs Sewing Machine Company, New York, N.Y., a corporation of New York
Filed June 20, 1966, Ser. No. 558,957
5 Claims. (Cl. 112—252)

A cutting device for sewing machines having a movable blade pivotally mounted on an adjustable base member to provide accurate positioning of the movable blade and the shear angle and is separate from the fixed blade so as to leave a clearance around the fixed blade so that material can be fed thereover without interference. The movable blade is carried on a floating carrier and is yieldingly urged into accurate contact with the fixed blade throughout the entire shearing action with a required shearing pressure.



3,380,418
BAILING MACHINE

Paul Sheppard Eckhoff, Oyster Bay, N.Y., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed June 22, 1965, Ser. No. 465,951
9 Claims. (Cl. 113—1)



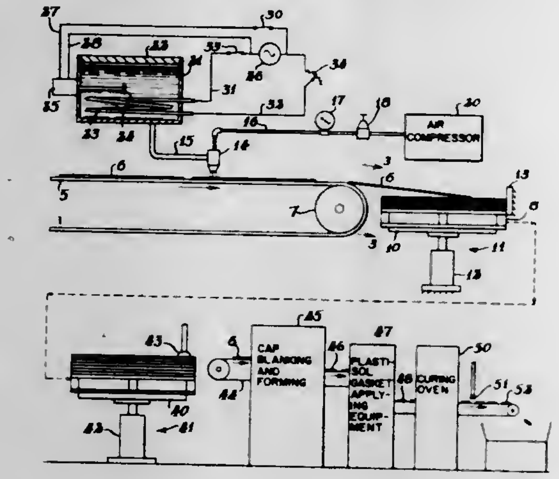
A machine for inserting bails having cutting barbs at their ends into the bail ears of cans being conveyed along a runway. A pair of pressure members in lateral alignment with each other on opposite sides of the runway are moved through an operating stroke at high speed against the sides of a bail, the barbs of which are temporarily engaged on the bail ears so that the bails cut through the ears to permanently secure the bail to the can.

3,380,419
METHOD OF MAKING CLOSURE CAPS

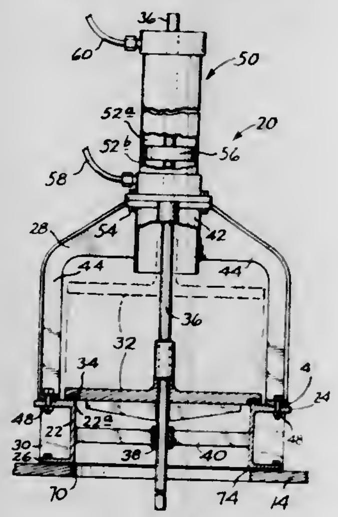
John J. Moloney, Chicago, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Oct. 10, 1963, Ser. No. 315,333
2 Claims. (Cl. 113—121)

1. In the method of making closure caps of the class described wherein sheets of tinplate having prepared surfaces are fed into cap blanking and forming machinery to form cap shells therefrom, plastisol gasket forming material is then deposited within each cap shell, and the

gasket depositions are cured by heating the caps to elevated temperatures in the range of about 400° F.–475° F., the improvement which comprises applying to the surfaces of said sheets which become the exterior of said shells a coating formed from a heated solution of paraffin wax containing from 1 to 30% by weight of polyolefin resin which resin does not volatilize materially during said curing of said plastisol gasket depositions.



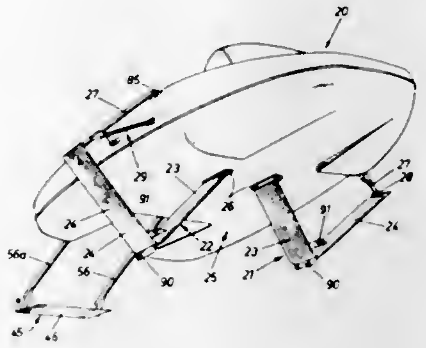
3,380,420
SALVAGING APPARATUS
George T. Frederick Divine, 3337 NE. 132nd Ave., Portland, Oreg. 97230
Filed Feb. 8, 1966, Ser. No. 525,965
7 Claims. (Cl. 114—50)



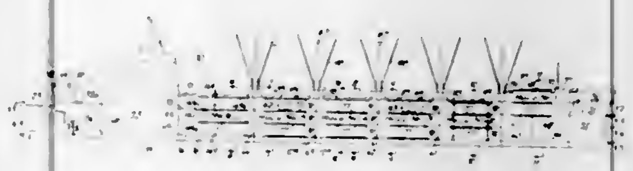
Salvaging apparatus for a submerged container, with means for controlling the pressure of air admitted to the container relative to the pressure of water outside of the container in the form of a passage in the container through which air may escape, valve-closure means adapted to open and close such passage, and remotely controlled biasing means for exerting a biasing force on such closure means, such biasing means comprising a fluid-operated ram which tends to extend by the introduction of fluid at different pressures to opposite sides of a piston in the ram.

3,380,421
HYDROFOIL CRAFT
Josef F. Lstiburek, 157 Richard Clark Drive, Downsview, Ontario, Canada
Filed July 11, 1966, Ser. No. 564,318
4 Claims. (Cl. 114—66.5)

A small watercraft hydrofoil system including a fixed incidence hydrofoil means positioned at a single longitudinal station on the craft hull in a position substantially beneath the centre of gravity of the loaded craft and such that when the craft is foil-borne, the weight of the craft is fully supported by the single hydrofoil means and the centre of pressure of the hydrofoil means is coincident with or slightly aft of the centre of gravity of the craft. A variable incidence stabilizer plate means extending beneath the craft aft of the hydrofoil means and adjustable in horizontal angle relative to the longitudinal axis of the craft permits the attitude of the craft and the angle of attack of the hydrofoil means to be readily controlled. The hydrofoil means and the variable incidence plate means are adapted for retraction upwardly, thus facilitating land transportation, launching and beaching of the craft.



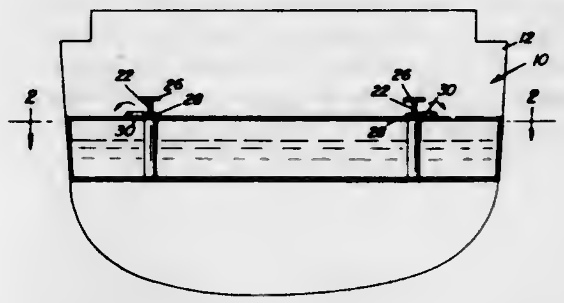
3,380,422
CARGO VESSEL
Nicholas Bachko, Port Washington, N.Y., assignor, by mesne assignments, to United States Lines, Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 13, 1966, Ser. No. 520,482
36 Claims. (Cl. 114—72)



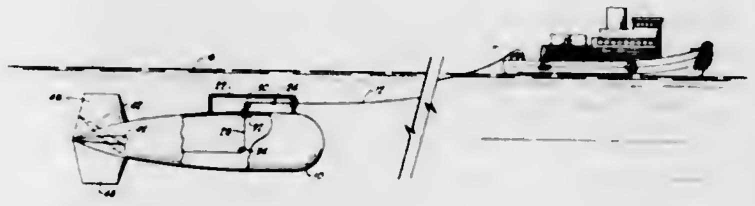
Movable and removable container guides; container guide elements attached to undersides of between-deck hatch covers to provide continuous hatchway guides when covers are swung vertically and latched; roller-mounted container guide elements movable to and from operational positions adjacent hatchway; upwardly swingable container guide elements; laterally telescoping container guide elements; latch-receiving apertures in such container guide elements for latching pallets, vans, etc. at elevational locations within hatchway; movable and removable roll-on, roll-off vehicle cargo ramps.

3,380,423
SHIP STABILIZER
Sheldon B. Field, Floral Park, N.Y., assignor to John J. McMullen Associates, Inc., New York, N.Y., a corporation of New York
Filed Mar. 31, 1966, Ser. No. 539,169
10 Claims. (Cl. 114—125)

A passive tank stabilizer housing a liquid body in a free surface condition at all times and having a geometry so as to impart substantially no internal damping to liquid passage. The tank damping coefficient is variable by means of adjustable damping members arranged to define two wing tanks and an interconnecting channel within the tank. The damping members can be rotated and locked in different angular positions to vary the cross section available for liquid passage so as to adjust the tank damping coefficient to an optimum value according to the conditions of the tank and the ship at sea.

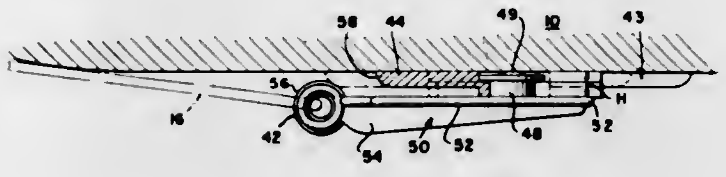


3,380,424
VESSEL ARRESTING APPARATUS
John E. Bowker, Cohasset, and Robert M. Cashman, Hingham, Mass., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Mar. 17, 1966, Ser. No. 535,207
16 Claims. (Cl. 114—235)



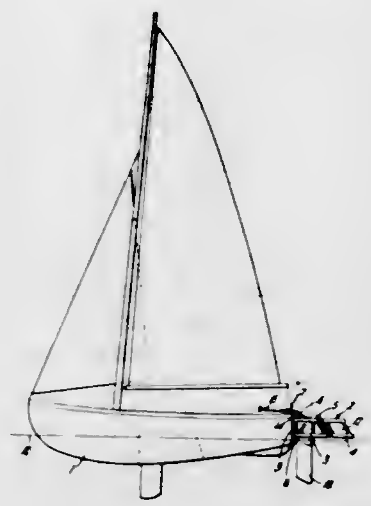
The present invention contemplates structure for arresting for forward motion of a towed, water-borne vessel. In general the structure disclosed herein includes a water-borne vessel which is moved through the water by means of a towline affixed to a mother ship. Carried by the vessel are pivotal arresting vanes which are connected to the towline so as to move to a position to arrest the forward motion of the vessel when the tension in the towline between the mother ship and the towed vessel is reduced.

3,380,425
SURFBOARD
Henry Allen Wilson, 1000 Eldorado Ave., Clearwater Beach, Fla. 33515
Filed May 10, 1966, Ser. No. 548,920
4 Claims. (Cl. 114—235)



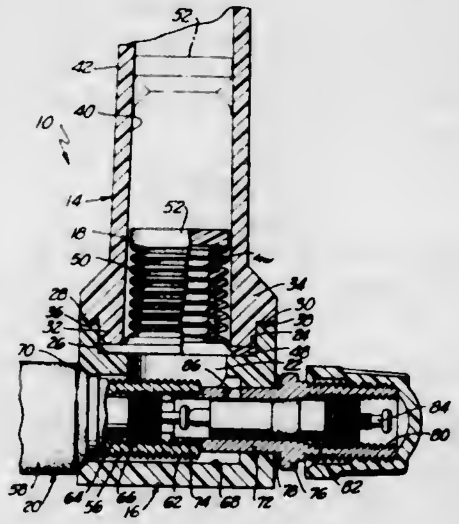
A surfboard provided with means for securing a rope to the undersurface. When the rope is secured to the board and pulled by a towing craft the leading edge of the board is engaged by the rope to be lifted to provide a safe planing angle for the board.

3,380,426
STEERING AND PROPULSION OF WATERCRAFT
Victor N. Davies, Thames View 21, Leigh Park Road, Leigh-on-Sea, England
Filed Oct. 19, 1966, Ser. No. 587,923
Claims priority, application Great Britain, Oct. 21, 1965, 44,703/65; Sept. 15, 1966, 41,275/66
9 Claims. (Cl. 115—28)



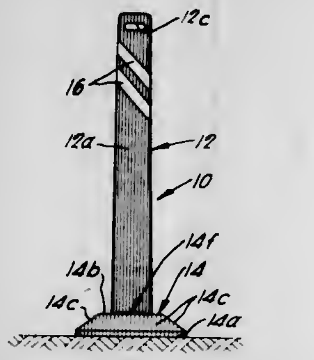
A boat steering and propelling device includes a blade mountable selectively in a fore or aft part of a carrier. The carrier parts may hold the blade in a raised position or in an operative position below the water-line of the boat. The carrier fore part is pivoted to the stern of the boat and the aft part is hinged to the fore part. The blade acts as a rudder when in the operative position in the fore part and as a propeller when in the operative position in the aft part. The fore part may be manipulated from the boat by a tiller.

3,380,427
DIRECT MOUNTING TIRE GAGE
Paul Rubin, 12582 Garnet St., Garden Grove, Calif. 92641
Continuation-in-part of application Ser. No. 434,178, Feb. 18, 1965. This application May 10, 1966, Ser. No. 549,012
3 Claims. (Cl. 116—34)



This invention is directed to a direct mounting tire gage. The tire gage comprises a bellows indicator and an indicator chamber in an indicator housing in which it moves. The indicator chamber is closed by the bellows indicator, so that the bellows indicator is positioned within the transparent indicator housing where pressure is substantially equalized across the bellows. The other side of the bellows, of course, is in communication with the interior of the vehicle tire for which it is indicating pressure. This communication is through the base of the indicator, to which bellows indicator and the indicator housing are secured. The base of the indicator has a bore therethrough. While there are two embodiments for mounting the direct mounting tire gage of this invention, in both cases the valve stem of the tire is positioned in the bore. In one case, an opening is provided in the side of the stem below the tire valve therein. This opening is in communication with the interior of the base and the interior of the bellows. In the other case, an adaptor is secured into the tire stem. This adaptor has a tire valve therein, and causes the normal tire valve to be opened. The space between these valves is in communication with the interior of the base and the interior of the bellows. In both cases, the opening through the base is sealed with respect to the tire valve structure so that leakage to the outside is prevented.

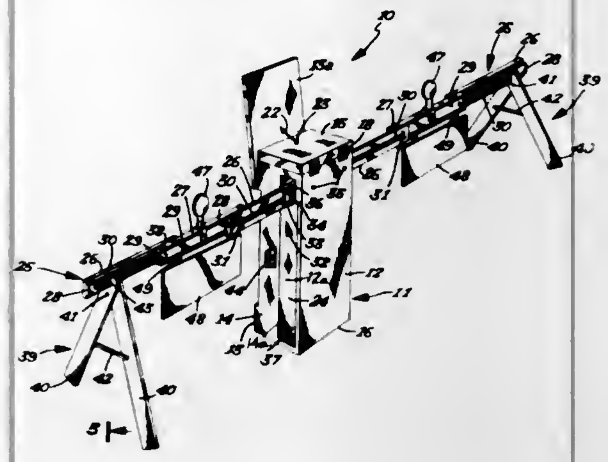
3,380,428
TRAFFIC GUIDE POST
Kenneth A. Abrams, Riverside, Calif.
(5923½ 85th St. NE., Marysville, Wash. 98270)
Filed Dec. 20, 1965, Ser. No. 514,785
2 Claims. (Cl. 116—63)



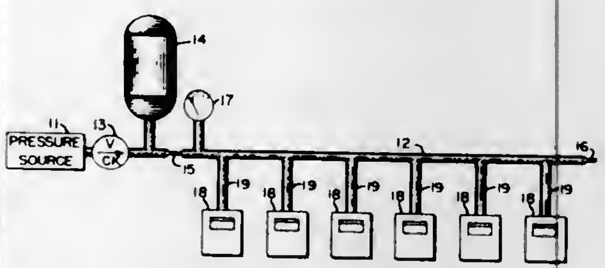
A traffic guide post comprising a post member with an enlarged lower end and a relatively flat base member which fit together with the post member extending upwardly through an opening in the base member. The opening in the base member snugly accommodates the enlarged lower end of the post member to help hold it upright. The base member is hollowed to hold water, for weight stabilizing purposes, and has an opening in its top through which the water can be poured. The post member is sufficiently flexible to yield when struck by a car to prevent damage to the car.

3,380,429
TRAFFIC WARNING DEVICE
Frank A. Moinicken, 735 South St., and Michael G. Auspos, 726 Hull Road, both of Anoka, Minn. 55303
Filed Feb. 23, 1966, Ser. No. 529,277
6 Claims. (Cl. 116—63)

1. A portable collapsible barricade and warning device comprising an elongate casing adapted to be oriented in upstanding relation on a supporting surface, and having a hollow interior formed by a top, bottom, front, rear and opposed side walls, an elongated intermediate wall in said casing spaced from said rear wall and forming a compartment therewith, said side walls each having an elongate vertically extending slot therein opening into said compartment, a pair of elongated longitudinally extensible and retractable barrier structures each including a plurality of elongated arm members, means interengaging interconnecting adjacent arm members of each barrier structure together to permit said members to be readily adjusted from a retracted position wherein said members are disposed in side-by-side relation to a sequentially extended position wherein one arm member extends longitudinally beyond the end of its adjacent arm member, means hingedly connecting one of said members of each barrier structure to said casing at a point located interiorly of said compartment to permit each barrier structure to be pivoted about a substantially horizontal axis between a collapsed position wherein each barrier structure is positioned within said compartment, and an extended position wherein each barrier structure projects outwardly from said compartment, a pair of leg structures each detachably engaging one of said barrier structures and cooperating with said casing to support said barrier structures in a horizontal position, said leg structures being detachable from said barrier structures for storage in said casing.

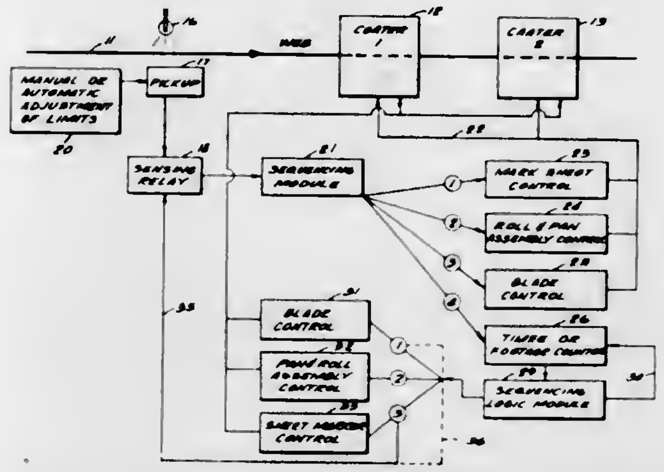


3,380,430
PNEUMATIC FIRE ALARM SYSTEM
Joseph E. Hogel, River Grove, Ill., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed May 13, 1966, Ser. No. 549,927
7 Claims. (Cl. 116—65)



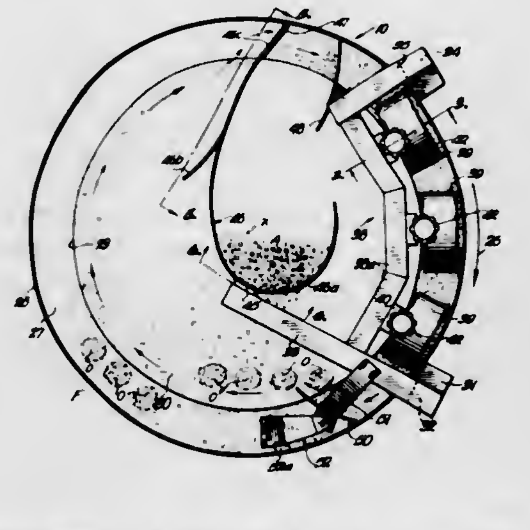
1. An alarm system, comprising:
pressure source means;
conduit means connected to said pressure source means and including a first and a second pressure restriction, said first restriction disposed between said pressure source means and said second restriction with said second restriction being constantly open and bleeding the fluid supplied by said pressure source means to atmosphere;
a plurality of bleed-type alarm stations connected to said conduit means between said first and second restrictions by individual connecting means, each of said alarm stations in non-bleed position under no-alarm conditions, each of said alarm stations openable to an adjustable bleed position, and each of said alarm stations adjusted to a different bleed position to establish a discrete pressure in said conduit means upon opening said alarm station to said bleed position;
and alarm indicator means connected between said first and second restrictions for sensing the pressure in said conduit means.

3,380,431
REDUCING SHEET BREAKS AT ROLL COATERS
Marion A. Keyes, South Beloit, Ill., and Robert J. Farrell, Beloit, Wis., assignors to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Filed Jan. 5, 1966, Ser. No. 518,802
2 Claims. (Cl. 118—8)



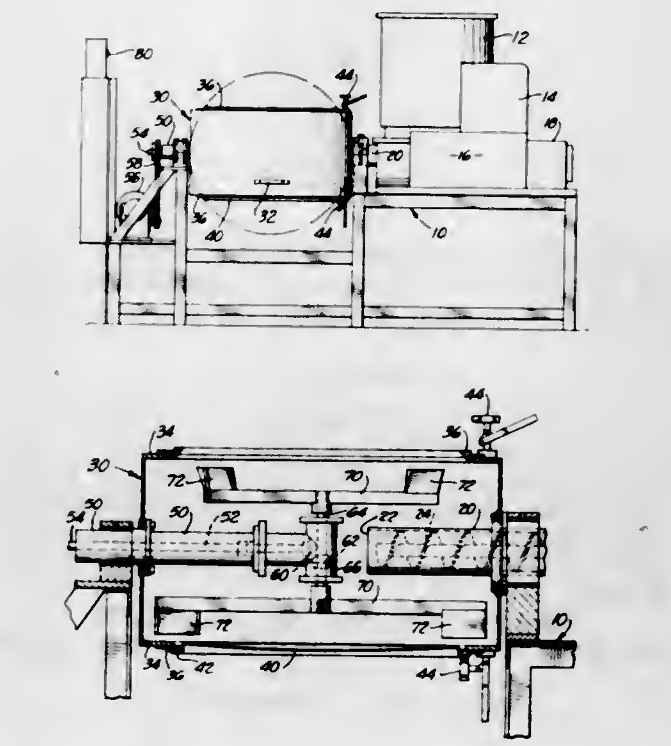
An apparatus for detecting flaws in a travelling paper web or the like and for adjusting subsequent work stations in the machine automatically so that the web is not broken at the flaw and marking and readjusting the machine after the flaw has passed the subsequent station.

3,380,432
MACHINE FOR BREADING FOOD PRODUCTS
Edgar Hester and La Vaun C. Price, Lincoln, Nebr., assignors to Edco, Inc., Lincoln, Nebr., a corporation of Nebraska
Filed June 15, 1966, Ser. No. 557,791
9 Claims. (Cl. 118—16)



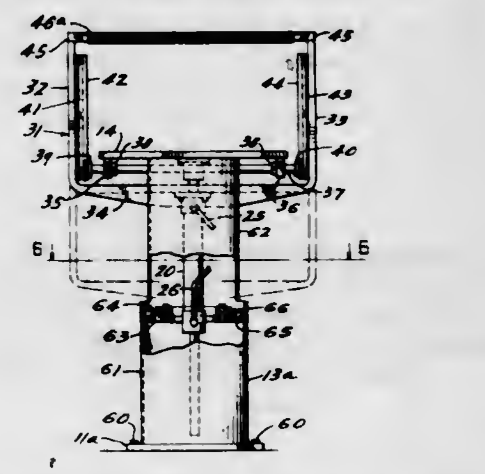
A continuously rotating horizontal turntable has a peripheral trough in which products to be breaded are laid in successive fashion. As the turntable rotates, the products are covered automatically by a scraper mechanism which serves to intercept and move crumbs outwardly from the center portion of the turntable into the trough. The turntable carries the covered products through a pressure zone and thereafter a plow-like element removes the breaded products from the trough toward the center of the turntable from whence they can be removed. A portion of the crumbs remain in the trough to form a bed on which the succeeding products are laid.

3,380,433
APPARATUS FOR APPLYING A PARTICULATE MATERIAL TO AN OBJECT
Albert F. Gerlovich, Fanwood, N.J., assignor to Rheem Manufacturing Company, New York, N.Y., a corporation of California
Filed Sept. 14, 1964, Ser. No. 396,125
4 Claims. (Cl. 118—111)



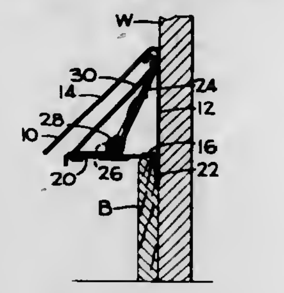
Method and apparatus for applying a particulate material to a metallic object such as the head or the bottom of a metal shipping container so as to form a substantially uniform coating on one surface thereof.

3,380,434
DECORATIVE PAINTING FIXTURE
Elmer L. Faber, Toledo, Ohio, assignor to Deco Tools, Inc., Toledo, Ohio, a corporation of Ohio
Filed Aug. 27, 1965, Ser. No. 483,124
3 Claims. (Cl. 118—500)



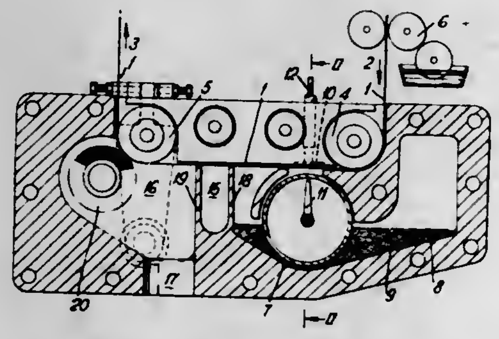
A painting fixture having a base, hollow body defining opposed vertical openings, and a work platform mounted on the upper end of the body. A mask support having a transverse cross member and upwardly extending arms is moved upwardly and downwardly by a fluid cylinder mounted within the body. A mask holder is mounted on the upper ends of the arms and a mask held by the holder is moved into and out of registry with a workpiece positioned on the work platform. Cooperating members on the mask support and the work platform prevent rotation of the mask support relative to the work platform.

3,380,435
WORK ATTACHED PAINT SHIELD
Emil J. Wagner, San Jose, Calif., Charlotte B. Wagner, surviving spouse of said Emil J. Wagner, deceased
Filed Feb. 9, 1967, Ser. No. 614,851
3 Claims. (Cl. 118—505)



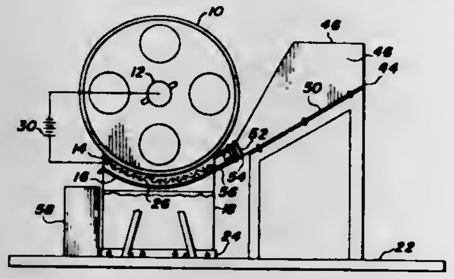
A paint shield for wall baseboards or similar structures which includes an elongated plate together with holding elements for releasably attaching the plate to the baseboard.

3,380,436
PRINTING APPARATUS
David Theodore Nelson Williamson, Douglas William Ballantyne Muir, and Brian Frank Chapman, London, England, assignors to Molins Machine Company Limited, London, England, a corporation of Great Britain
Filed Mar. 21, 1966, Ser. No. 535,790
Claims priority, application Great Britain, Mar. 26, 1965, 12,978/65
12 Claims. (Cl. 118—637)



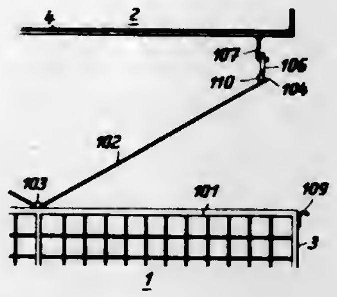
Printing apparatus is disclosed comprising means for feeding a strip to be printed past an applicator which applies adhesive to areas to be printed, then past a powder reservoir where powder is propelled on to the strip by an electric field which is switched on as each area of adhesive passes, and lastly to a cleaner which removes excess powder.

3,380,437
TRANSVERSELY RECIPROCATING FLUIDIZED BED DEVELOPMENT APPARATUS
Karl J. Swyler, Webster, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed July 21, 1966, Ser. No. 566,842
4 Claims. (Cl. 118—637)



Xerographic apparatus for developing latent electrostatic images with a fluidized bed of two-component developer material. The developing apparatus includes a developer supporting plate positioned beneath a rotatable latent electrostatic image-bearing surface to be developed. The plate is constrained for reciprocation transverse to the direction of rotation of the image-bearing surface. A development electrode is positioned adjacent the surface to be developed for improved development capabilities. Means are also provided for feeding a quantity of fresh developer into the development zone across the developer supporting plate.

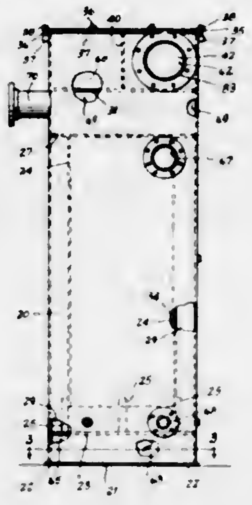
3,380,438
REARING DEVICE FOR ANIMALS, ESPECIALLY FOR PIGLETS
Heinrich Biehl, Witzhave, near Trittau, Hamburg, Germany
Filed May 20, 1966, Ser. No. 551,646
Claims priority, application Germany, Dec. 11, 1965, B 84,944
9 Claims. (Cl. 119—22)



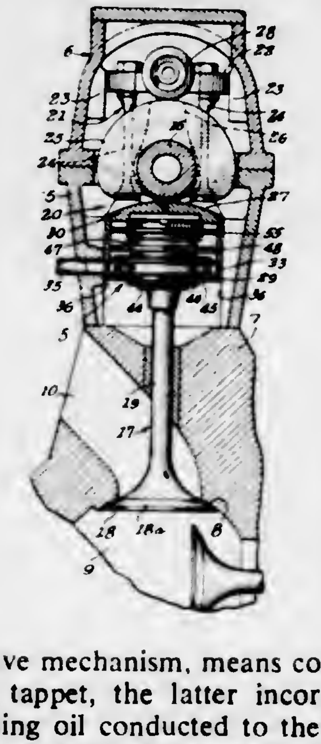
1. A rearing device for animals, especially for piglets, adapted to be set up in an air-conditioned room, comprising cages disposed in several stories, a set of cages including a front, rear, bottom and side walls being arranged in at least one row in each story and the bottoms of said cages consisting of openwork floor, a common cover flap extending across the top of all cages of each set in at least one of the lower stories and being pivotably mounted on said top about a pivot means located substantially above the rear walls remote from the upper front edge of said row of cages, a movable retaining member disposed at the front edge of said cover flap and lying near said upper front edge of said row with the flap in the closed position, said device including a snapping member suitably mounted below the next higher row of cages and adapted to be releasably connected with said retaining member whereby the cover flap is held in the opened position to provide access to the interior of a row of cages, a flat tray adapted to receive excrements dropping through said floors and being mounted under each set of cages, a cleaning member in said tray being displaceable relative thereto by means of a driving mechanism, distribution means arranged to disperse cleansing liquid on to a zone of said tray, said zone being disposed at one end of said tray within the path of relative displacement of said cleaning member, and an outlet disposed at the other end of said tray for said excrements and said liquid.

3.380.439
WASTE HEAT RECOVERY SYSTEM
Marion L. Baker, Glendale, Mo., assignor to St. Louis Shipbuilding-Federal Barge, Inc., St. Louis, Mo., a corporation of Missouri
Filed July 25, 1966, Ser. No. 567,537
10 Claims. (Cl. 122—7)

The apparatus, especially adapted for using waste heat from the cooling system and from the exhaust of an internal combustion engine, combines a vapor separator space into which the cooling liquid is introduced in a swirling manner, with a vaporizer space having an exhaust heat exchanger. The separator space and vaporizer space are one within the other and connected together top and bottom. The swirling liquid in the separator raises the hydraulic head in the separator space, which raises the liquid level in the vaporizer space, owing to means at the bottom of the apparatus to restrain the swirling of the liquid in the vaporizer space.



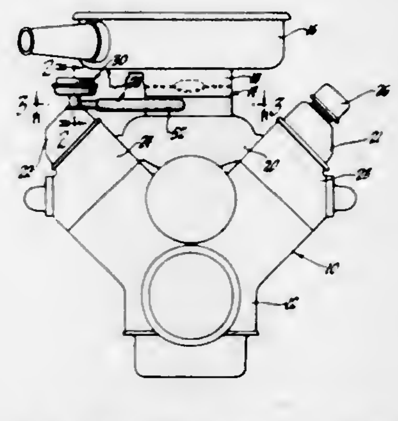
3,380,440
OIL-DAMPED VALVE-SEATING COMPENSATOR
Niel C. Thuesen, 6021 Compton Ave., Los Angeles, Calif. 90001
Filed June 5, 1967, Ser. No. 643,732
7 Claims. (Cl. 123—90)



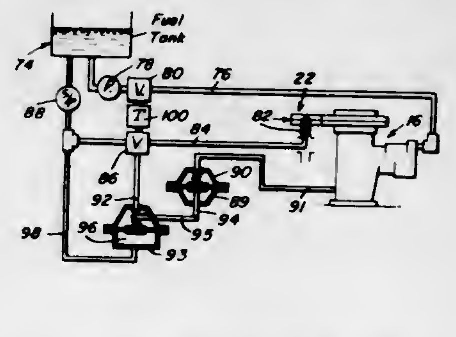
In a poppet valve mechanism, means connecting a poppet valve and a tappet, the latter incorporating piston means for bypassing oil conducted to the interior of the tappet to provide oil-damped compensation to allow the poppet valve to properly seat under conditions in which the disc valve is warped out of its true flat shape due to an uneven heating of said disc valve.

3,380,441
CRANKCASE VENTILATION FLOW REGULATOR VALVE
Donald B. Lewis, Lapeer, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 23, 1965, Ser. No. 481,716
3 Claims. (Cl. 123—119)

A flow regulator valve for the crankcase ventilation system of an internal combustion engine wherein a conical plunger connected to a manifold pressure-responsive diaphragm cooperates with an outlet orifice to regulate the flow of blowby gases. The plunger and the orifice are dimensioned so as to maintain an annular flow area in the ventilation system under all operating conditions.



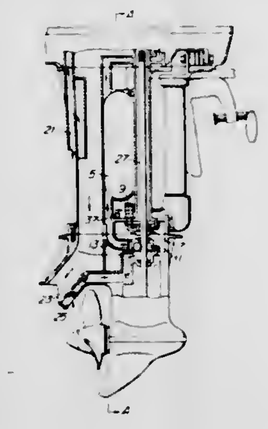
3,380,442
FUEL EVAPORATING ECONOMIZER FOR INTERNAL COMBUSTION ENGINES
Arthur O. Johnson, Miami, Fla., assignor to Advance Research and Engineering Corporation, Dade County, Fla., a corporation of Florida
Filed Sept. 3, 1965, Ser. No. 484,857
13 Claims. (Cl. 123—127)



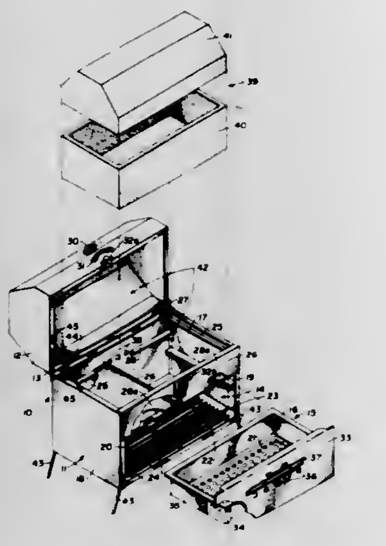
A fuel evaporating apparatus for use in conjunction with a conventional carburetor and including exhaust gas heated as well as electrical resistance heated fuel vaporizing chamber means operative to heat, vaporize and discharge fuel vapor into the engine intake passages with which the carburetor is operatively associated, the invention further including means for inversely varying the flow of liquid fuel to the conventional carburetor and to the fuel vaporizing chamber responsive to the effective temperature of the fuel vaporizing chamber whereby the associated combustion engine may be started by using the conventional carburetor and slowly converted from operation by fuel injected by the conventional carburetor to fuel vapors discharged by the fuel vaporizing means as the fuel vaporizing chamber is gradually heated to full operating temperature subsequent to operation of the associated combustion engine being initiated.

3,380,443
LUBRICANT COOLING ARRANGEMENT FOR OUTBOARD PROPULSION APPARATUS
Hiroshi Tado, Suita-shi, and Mitsuhiro Ota, Nagahama-shi, Japan, assignors to Yanmar Diesel Engine Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Dec. 2, 1964, Ser. No. 415,350
Claims priority, application Japan, Dec. 6, 1963, 38/91,172
2 Claims. (Cl. 123—196)

An outboard propulsion apparatus having an internal combustion engine driving an output member and a closed housing disposed between the engine and the output member. A vertically extending partition separates the housing into two sections, one of which is formed into an oil sump, and the other of which has an oil cooler core disposed therein. The exterior surfaces of the core and the interior surfaces of the latter section together define a water jacket section through which cooling water is circulated so that it simultaneously cools oil passing through the core and in the sump.

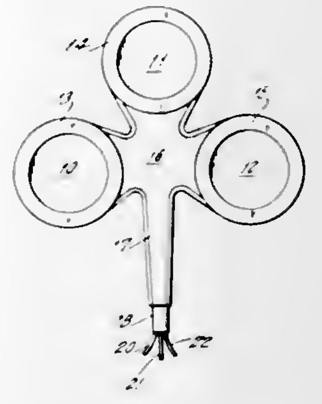


3,380,444
TRANSPORTABLE COOKING AND STORAGE APPARATUS
James E. Stalker, Richardson, Tex., assignor to Home Metal Products Company, Plano, Tex., a corporation of Texas
Filed Mar. 31, 1966, Ser. No. 539,029
4 Claims. (Cl. 126—25)



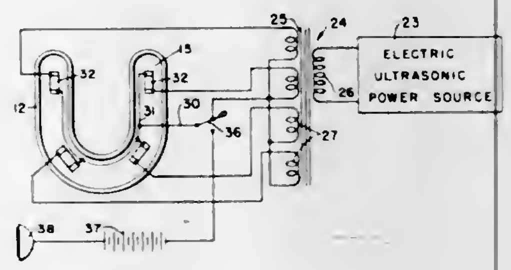
1. A compact, transportable cooking and storage apparatus, comprising, in combination:
(a) a cavity-defining cabinet including a base and a lid pivotally mounted thereon,
(b) rail means carried by said base intermediate the top and bottom thereof,
(c) a briquette tray adapted to be supported by said rail means and adapted to be inserted and removed from said base, the bottom of said tray and the bottom of said base defining a space therebetween upon insertion of said tray,
(d) a removable grill adapted to be stored within the space defined between the bottom of said tray and the bottom of said base and upon removal from said space to be supported by said base above said tray; and
(e) a storage chest adapted to be received within the cavity defined by the base and lid of said cabinet when said grill has been removed from the top of said base and stored within the space defined between the bottom of said tray and the bottom of said base.

3,380,445
ELECTRICAL PICKUP STRUCTURE FOR ELECTROCARDIOGRAPHS AND THE LIKE
Jordan D. Frasier, Orange, Calif., assignor to International Rectifier Corporation, El Segundo, Calif., a corporation of California
Filed Sept. 24, 1965, Ser. No. 489,915
5 Claims. (Cl. 128—2.06)



An electrical pickup structure for an electrocardiograph consisting of three electrodes mounted in the lobes of a cloverleaf shaped flexible support having a thin central web. The leads for each of the electrodes are taken out through a common stem.

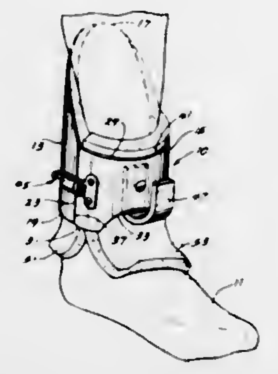
3,380,446
DENTAL APPLICATOR
Leonard G. Martin, 1 Roseld Ave.,
Deal, N.J. 07723
Filed Sept. 3, 1965, Ser. No. 484,897
6 Claims. (Cl. 128—24)



A dental applicator for cleaning and treating the teeth and gums with sonic vibrations, electrolytic currents, and a continuous flow of liquids in and around the teeth having a jacket for both upper and lower jaws with space around the teeth but having a sealing means at the gums above the line of the teeth. Conduits for the entrance and exit of cleaning liquids are provided and ultrasonic vibrations may be applied to the cleaning liquid by placing transducers in the jackets or in the entrance or exit conduits.

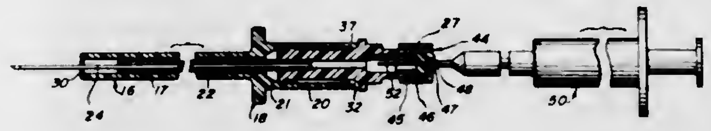
3,380,447
ANKLE DEVICE FOR SUPPORTING AN INDIVIDUAL IN AN INVERTED POSITION
Robert M. Martin, 90 N. Hudson Ave.,
Pasadena, Calif. 91101
Filed Oct. 19, 1965, Ser. No. 497,767
9 Claims. (Cl. 128—75)

1. In a device of the class described,
an inversion boot adapted for attachment to a person's leg including a first jaw member having opposite ends and a second jaw member having opposite ends,
said first jaw member hingedly secured at one of its ends to one end of said second jaw member,



means detachably securing said other end of said first jaw member to said other end of said second jaw member.
and a hook means secured to one of said first and second jaw members.

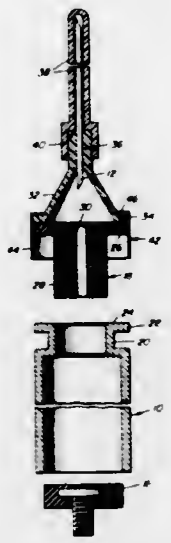
3,380,448
CERVICAL-PUDENDAL INDWELLING CATHETER SET WITH TISSUE PIERCING MEANS
Max S. Sadove, Oak Park, George R. Ryan, Waukegan, Glenn L. Beall, Wildwood, and Henry M. Scislowicz, Lake Bluff, Ill., assignors to Abbott Laboratories, Chicago, Ill., a corporation of Illinois
Filed Nov. 24, 1964, Ser. No. 413,512
5 Claims. (Cl. 128—215)



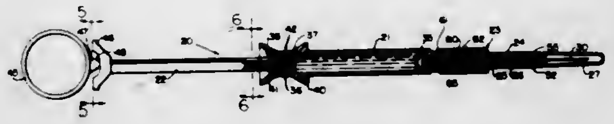
A cervical-pudendal indwelling catheter set especially suited for transvaginal nerve block regional anesthesia in obstetrics and gynecology. This set includes a closed outer sleeve housing a slidably mounted catheter having a hypodermic needle sealingly secured to the distal end thereof. The proximal end of the catheter is sealingly attached to a slidable combination reseal injection site and locking member which cooperates with a collar on the proximal end of the sleeve to displace and lock the catheter in an operating position. During operation, the catheter is displaced so the needle pierces the end wall of the outer sleeve, and is inserted into tissue. Anesthetic is introduced at the reseal site by injection, for flow through the catheter and needle into tissue.

3,380,449
CARTRIDGE WITH BURSTABLE SEAL
Stanley J. Sarnoff, 7507 Hampden Lane,
Bethesda, Md. 20014
Continuation-in-part of application Ser. No. 383,305, July 17, 1964. This application Nov. 2, 1964, Ser. No. 408,423
9 Claims. (Cl. 128—218)

A hypodermic cartridge consisting of a vial with fluid therein has a plunger at one end of the vial and a stopper at the other end, said stopper in part having a distendable diaphragm. Held to the vial at the stopper end is a conical transparent shield supporting a hollow needle, the inner end of which extends into the shield. Upon plunger operation the fluid will distend the diaphragm which will burst allowing fluid to flow to and through the needle. Also, a needle guard closely surrounds the needle.



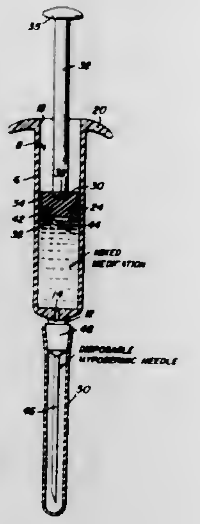
3,380,450
STERILE DISPOSABLE PLASTIC PREFILLED SYRINGE
William H. Adelberger, Coral Gables, Fla.
(3823 Shannon Road, Cleveland Heights, Ohio 44118)
Filed May 10, 1965, Ser. No. 454,618
10 Claims. (Cl. 128—218)



This invention is in the art of sterile hypodermic injection devices which are prefilled at a central source of supply by a wholesale drug manufacturer, for example, and delivered to the ultimate user, such as doctors, dentists, medics, and others. After the sealed in medication contained in the ampule is used for injection, including an aspiration action when desired, the entire device may be thrown away since it is made of relatively inexpensive material. Means are provided for the use and sheathing of multiple lengths of needles, easy disposal of the thumb ring, when not desired, and other advantages are clearly set out in the following detailed objects, descriptive specification and related patent drawings.

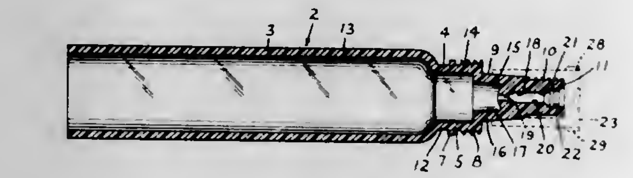
3,380,451
TWO COMPARTMENT SYRINGE
Robert E. Porter and Cloyd J. Sorensen, Jr., both of 1734 Machado St., Oceanside, Calif. 92054
Filed June 14, 1965, Ser. No. 463,520
5 Claims. (Cl. 128—218)

A disposable syringe assembly comprises a syringe barrel separated into upper and lower material storage compartments by a slidable partition member in the form of a plug of resilient material having a central recess open to the upper compartment and at the bottom of which is a flap valve that opens only when the plunger that slidingly enters the open upper end of the barrel is pushed in to exert pressure on the material in the upper compartment. The plunger and partition member are so shaped that when the plunger has been pushed into engagement with the partition member all of the upper compartment material is forced through the valve into the lower compartment, and the plunger and partition member are locked together during mixing of the materials in the lower compartment. Then further inward displacement of the plunger moves the partition member down to discharge all of the mixture out of the barrel through the usual hypodermic needle.



3,380,452
UNIVERSAL DISPOSABLE CARTRIDGE FOR PARENTERAL ADMINISTRATION OF DRUGS

William F. Elias, West Chester, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 1, 1964, Ser. No. 415,005
2 Claims. (Cl. 128—221)



A disposable cartridge for parenteral administration of drugs wherein the cartridge comprises a unitary body of plastic material having molded therein, structures adapting said cartridge for attachment thereto any of (1) a sterile cap; (2) a luer type needle; (3) a permanently attached cannular; (4) a removable needle guard; as well as (5) for use as or with a hypodermic syringe which may have a screw-thread or an abutment for maintaining the cartridge in the syringe.

3,380,453
LIVESTOCK CERVICAL TUBE

James W. Leveille, Madera, Calif., assignor of fifty percent to Lester J. Gendron, Madera, Calif.
Filed Oct. 22, 1965, Ser. No. 502,124
3 Claims. (Cl. 128—260)

3. A livestock cervical tube comprising:

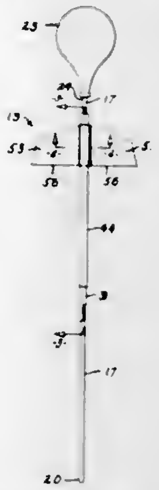
(a) an elongated hollow tube having a length sufficient to reach and deposit semen adjacent the cervix;

(b) an elongated sleeve encompassing said tube for relative translational motion therebetween;

(c) means on said sleeve for limiting the extent of vaginal penetration of said sleeve to a predetermined amount;

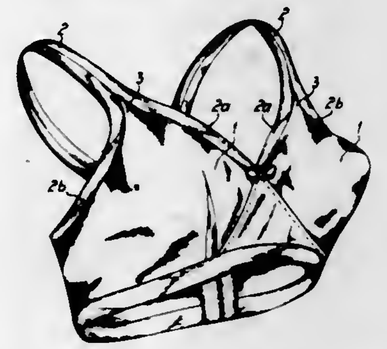
(d) a thin flexible slip cover interposed between said tube and said sleeve, said slip cover including a flap at one end foldable over the penetrating end of said tube, said slip cover being translatable with said tube through said sleeve for a predetermined distance; and,

(e) means for limiting the extent of translation of said slip cover to said predetermined distance, further translation of said tube being thereafter effective to unfold said flap and expose said penetrating end of said tube.



3,380,454
BRASSIERE HAVING ELASTIC SHOULDER STRAPS AND EDGING

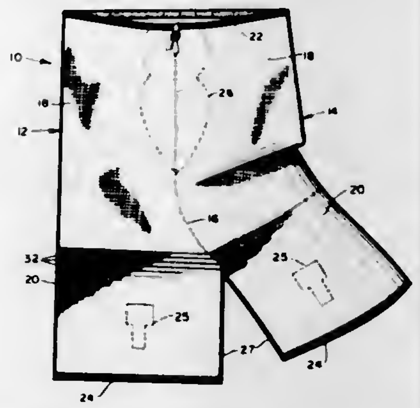
Heinrich Hoelscher, Heubach, Wurttemberg, Germany, assignor to Triumph Intertrade Aktiengesellschaft, Zurzach, Aargau, Switzerland, a firm
Filed July 23, 1965, Ser. No. 474,345
Claims priority, application Germany, Jan. 29, 1965, T 27,902
4 Claims. (Cl. 128—483)



A brassiere having shoulder straps which are split at least in the front of the garment or both in front and in the back and where the split portions of the straps support the upper front, side and rear edges of the corresponding parts of the garments.

3,380,455
UNDERGARMENT

Stanley Glogover, Yonkers, N.Y., assignor to De Luxe Girdlecraft Co., Inc., New York, N.Y., a corporation of New York
Filed Dec. 19, 1966, Ser. No. 602,973
8 Claims. (Cl. 128—528)



1. An undergarment comprising: an upper portion of resilient material for surrounding the hip area of the user to provide firm control, said upper portion being constructed of material having a plurality of generally parallel elastic threads forming rows extending in a direction to enclose the hip area of the user, said generally parallel threads being inter-connected at spaced points to form said rows by a plurality of intermediate threads extending between said generally parallel members; and leg-encompassing portions of resilient material integrally formed with said upper portion for surrounding the thigh areas of the user, said leg-encompassing portions being constructed of the same material as said upper portion with said parallel threads having been omitted at intervals along the length of said leg-encompassing portions to provide control of the thigh of the user that is less restrictive than the control provided by said upper portion.

3,380,456
TOBACCO PRODUCT

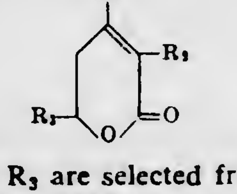
Donald L. Roberts and Joseph N. Schumacher, Winston-Salem, N.C., assignors to R. J. Reynolds Tobacco Company, Winston-Salem, N.C., a corporation of New Jersey
No Drawing. Filed Aug. 2, 1965, Ser. No. 476,686
15 Claims. (Cl. 131—17)

1. A tobacco product having added thereto an amount sufficient to alter the flavor or aroma of the tobacco product of a compound selected from the group consisting of 3,5,5-trimethyl-2-cyclohexene-1,4-dione, 2,6,6-trimethyl-1,4-cyclohexanedione, 4-methylene-3,5,5-trimethyl-2-cyclohexen-1-one, 3,5,5 - trimethyl-2-cyclohexenone, 4-hydroxy-2,2,6-trimethylcyclohexanone and 4-hydroxy-3,3,5-trimethylcyclohexanone.

3,380,457
TOBACCO PRODUCT

Joseph N. Schumacher, Wilmer A. Rohde, and Donald L. Roberts, Winston-Salem, N.C., assignors to R. J. Reynolds Tobacco Company, Winston-Salem, N.C., a corporation of New Jersey
No Drawing. Filed Aug. 2, 1965, Ser. No. 476,687
12 Claims. (Cl. 131—17)

1. A tobacco product having added thereto an amount sufficient to alter the flavor or aroma of the tobacco product of a compound selected from the group of compounds having the formula

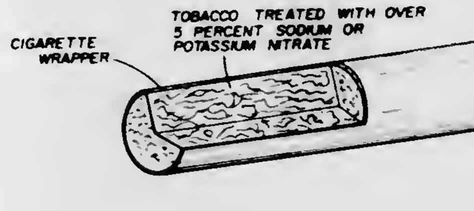


Formula I

wherein R_1, R_2 and R_3 are selected from the group consisting of hydrogen and alkyl groups with at least one of such substituents being alkyl.

3,380,458
METHOD FOR PRODUCING A CIGARETTE WITH LOW TAR YIELD

George P. Touey and Robert C. Mumpower II, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Feb. 15, 1966, Ser. No. 527,457
6 Claims. (Cl. 131—17)

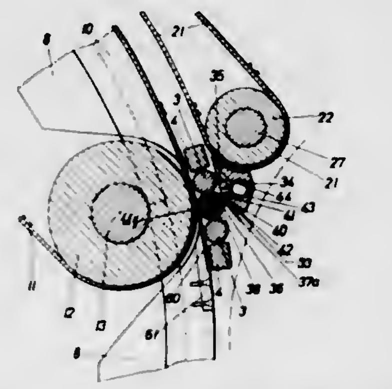


TOBACCO TREATED WITH OVER 5 PERCENT SODIUM OR POTASSIUM NITRATE
CIGARETTE WRAPPER

1. In a smoking product consisting essentially of natural tobacco leaf material, the improvement which comprises adding thereto 5.5 to 10 percent by weight of a nitric acid salt selected from the group consisting of the nitric acid salt of sodium, nitric acid salt of potassium, or mixtures thereof, said salt being intermixed with said leaf material for reducing at least partially the smoke condensate products produced when the leaf material is smoked.

3,380,459
DEVICES FOR ATTACHING MOUTHPIECES TO ELONGATED ARTICLES SUCH AS CIGARETTES OR CIGARS

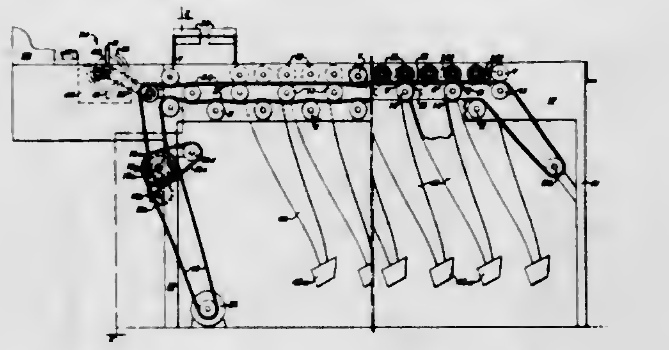
Alfred Schmermund, 62 Kornerstrasse, Gevelsberg, Westphalia, Germany
Filed Oct. 19, 1965, Ser. No. 497,977
Claims priority, application Germany, Oct. 21, 1964, Sch 35,993
3 Claims. (Cl. 131—94)



The invention relates to the provision in a device for attaching mouthpieces to elongated articles such as cigarettes or cigars in which groups of elongated articles and mouthpieces are received in the chambers of a rotatable drum acting as a conveyor, of marginal flanges on the drum between which bars are provided having a pair of rotatable rollers laterally of each bar, one on each side of each bar, the spaces between the rollers or adjacent bars forming the groups receiving chambers, the rollers and bars being so dimensioned that the rollers bear against the group in the chamber.

3,380,460
TOBACCO STRIPPERS AND/OR GRADERS

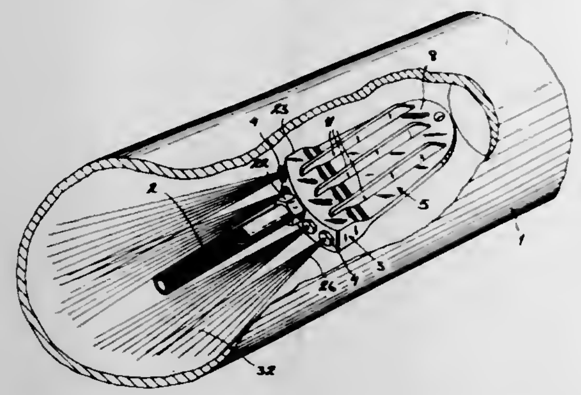
Frank Fuis, Jr., Norris, and Charles L. Moulton and Carl J. Green, Knoxville, Tenn., assignors to True-Grade, Incorporated, Oak Ridge, Tenn.,
Filed Oct. 5, 1965, Ser. No. 493,043
11 Claims. (Cl. 131—131)



This tobacco grading apparatus has a mechanism for delivering individual tobacco leaves to a roller conveyor mounted on a horizontal surface with one or more exit gates intervening between the rollers. At the entrance to the conveyor there is a light sensitive device which records the color of the leaves and triggers the appropriate gate so that a conveyed tobacco leaf can be exited to a collector positioned under the gate. The mechanism for delivering tobacco leaves can be a stripper which severs the leaves from the stalk. The stripper includes a rotary chuck with a stationary knife that severs the tobacco leaves as the stalk is drawn through the chuck.

3,380,461
PIPE-CLEANING HEAD

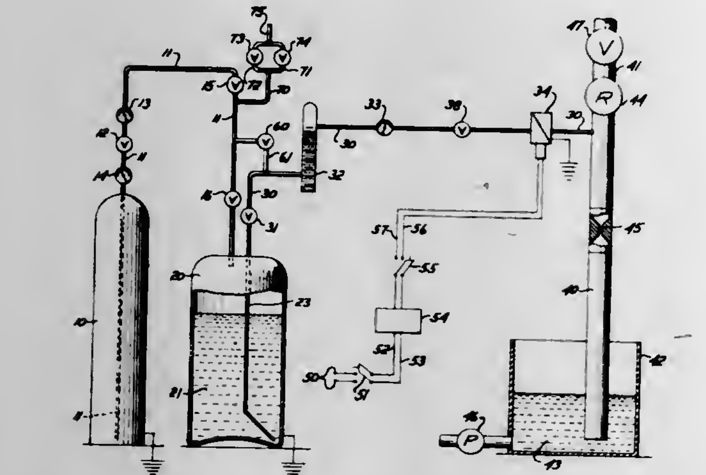
Wolfgang Maasberg, Duisburg, and Otto Taufer, Rumeln-Kaldenhausen, Germany, assignors to Firma Woma-Apparatebau W. Maasberg & Co. G.m.b.H., Rheinhausen, Germany, a corporation of Germany
Filed June 2, 1966, Ser. No. 554,906
Claims priority, application Germany, June 2, 1965, W 39,267
9 Claims. (Cl. 134—167)



1. A self-propelled head for the cleaning of waste conduits, comprising a generally flat nozzle body having a rear nozzle portion and a guide portion connected with and extending forwardly over said nozzle portion; a generally planar array of nozzles mounted in said nozzle portion for directing respective jets of a cleaning liquid rearwardly from said body, said guide portion having a skid plane for supporting said body upon its advance through a waste conduit including an acute angle with the plane of said array; and pipe means connected with said body for supplying a liquid at high pressure to said nozzles.

3,380,462
METHOD AND APPARATUS FOR THE USE OF ACROLEIN

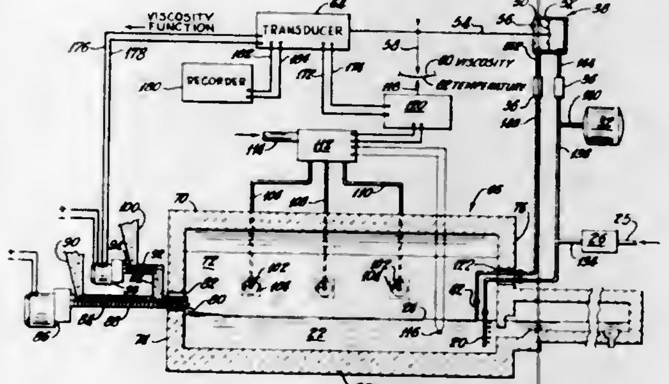
John R. Schieber, Holland, and Otto H. Preis, Jenkintown, Pa., assignors to Betz Laboratories, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 372,889, June 5, 1964. This application Dec. 29, 1966, Ser. No. 619,880
5 Claims. (Cl. 137—3)



1. A method for adding acrolein to aqueous process fluids, comprising flowing said fluids first through a pressure regulator and then through a reducing orifice to provide a controlled pressure zone between said pressure regulator and said reducing orifice, injecting a gas substantially devoid of oxygen and inert to acrolein at a pressure in excess of the pressure of said controlled pressure zone into a vessel containing acrolein and from which oxygen is excluded, to displace said acrolein from said vessel to said controlled pressure zone and admix said acrolein with said fluids, passing said acrolein through regulator means prior to its entry into said controlled pressure zone to control the flow of said acrolein, and terminating the displacement of said acrolein in response to the termination of the flow of said fluids.

3,380,463
VISCOSITY MEASURING PROCESS AND APPARATUS

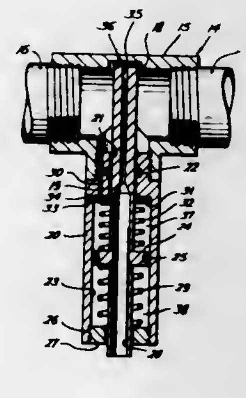
William C. Trethewey, Newark, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed July 30, 1965, Ser. No. 476,042
22 Claims. (Cl. 137—4)



Method and apparatus for measuring the viscosity of liquid materials directly, particularly molten glass, wherein a selected rate of gas bubble formation beneath the surface of a liquid provides a highly viscosity-sensitive back pressure signal on the constant volume stream of gas used to produce the bubbles.

3,380,464
THERMOSTATIC FREEZING VALVE

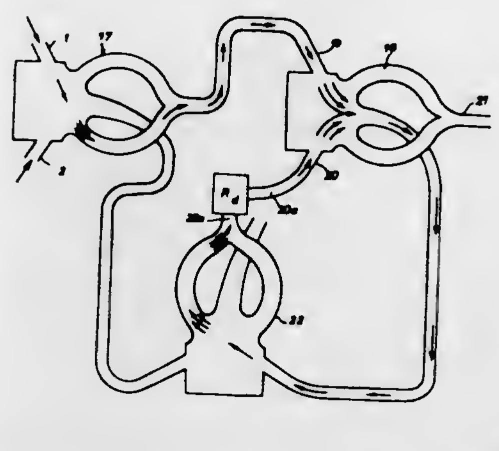
Bryant P. Arterbury and Roy B. Wheeler, Houston, Tex., assignors of one-third to Roy L. Arterbury, Houston, Tex.
Filed Apr. 8, 1965, Ser. No. 446,584
4 Claims. (Cl. 137—60)



A temperature responsive valve adapted to be installed in a water line to protect against freezing which opens a bleed opening responsive to freezing of water in the valve actuator to provide a flow of water in the water line whereby freezing of water in the line is prevented.

3,380,465
PNEUMATIC OR HYDRAULIC ADDING CIRCUIT

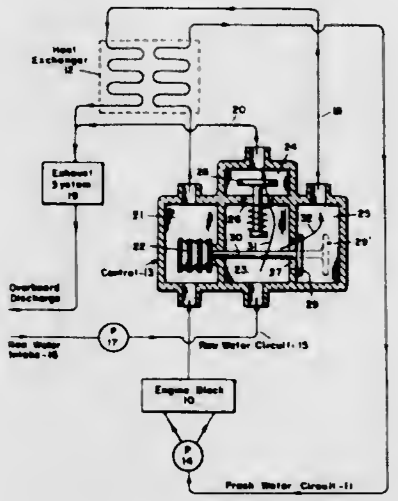
Janos Rona, Bordeaux, Gironde, France, assignor to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France, a company of France
Filed Jan. 20, 1964, Ser. No. 338,709
Claims priority, application France, Jan. 22, 1963, 922,311
3 Claims. (Cl. 137—81.5)



A pneumatic or hydraulic adding logic circuit, usable with the binary rotation system, comprising two elements with the output from the first element being connected to an input of the second element, the other input to said second element being connected to a delay element connected to each of the outputs of the second element to thereby receive the combined signals issuing therefrom.

3,380,466
THERMOSTATIC BY-PASS VALVES

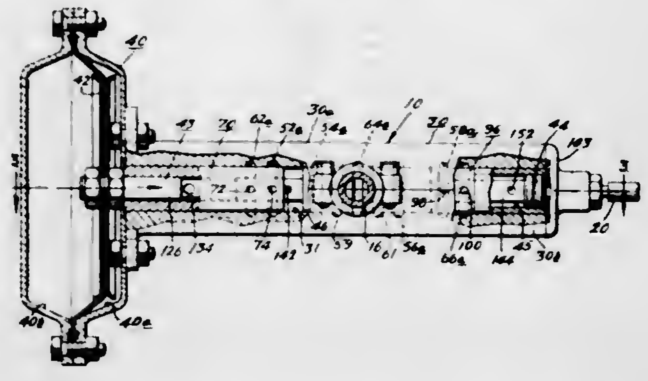
Salvatore S. Sarra, Miami, Fla., assignor to The Daytona Marine Engine Corporation, Daytona Beach, Fla.
Filed Feb. 14, 1966, Ser. No. 527,125
1 Claim. (Cl. 137—87)



A valve housing having a flow chamber for first coolant containing a thermostat. The housing also has inlet, outlet and by-pass chambers for a second coolant, with outlet and by-pass valve ports therebetween. An outlet valve actuated by the thermostat cooperates with the outlet valve port to control flow of the second coolant from the inlet to the outlet chamber. A spring-biased pressure relief valve cooperates with the by-pass valve port to divert flow of second coolant from the inlet to the by-pass chamber when the outlet valve is closed.

3,380,467
PROPORTIONING APPARATUS

Charles H. Diehl, Jr., Springfield, and Harry A. Eberhardt, King of Prussia, Pa., assignors to Hale Fire Pump Company, Conshohocken, Pa., a corporation of Pennsylvania
Filed Dec. 21, 1965, Ser. No. 515,318
9 Claims. (Cl. 137—99)



1. Proportioning apparatus for mixing a primary fluid and an additive fluid comprising a main valve housing having a ~~main bore; inlet~~ and discharge means communicating with said main housing, an additive chamber, a housing mounted at one end of said main housing having a member dividing the housing into a pair of chambers, a valve shaft adapted for reciprocating movement in said main bore and being connected at one end to said member and a shuttle spool in the main housing adapted for axial movement relative to said valve shaft between a first limit position establishing fluid communication between said inlet means and one of said chambers and fluid communication between said other chamber and said outlet means whereby flow of primary fluid from said inlet means effects axial movement of said valve shaft in one direction, and a second limit position establishing fluid communication between said inlet means and said other chamber and fluid communication between said one chamber and said discharge means whereby flow of primary fluid from said inlet means effects axial movement of said valve shaft in a direction opposite said one direction, back and forth axial movement of said valve shaft operable to draw predetermined quantities of additive into said additive chamber and discharge the same to said discharge means.

3,380,468
FLUID INFUSION APPARATUS

Norman Chip Folden, Hacienda Heights, Calif., assignor to Ke Marc Research Div. The Vigilantes, a nonprofit corporation of California
Filed June 18, 1964, Ser. No. 376,126
3 Claims. (Cl. 137—101.19)

1. Apparatus for infusing fluid concentrate into the water flow within a closed conduit of an irrigation system, of the type having a shut-off valve in the conduit and with said apparatus connecting into the conduit at a location adjacent to and downstream from the valve where a back pressure occurs in the conduit whenever the valve is opened to permit flow therethrough, and where negative pressure occurs whenever the valve closes, and comprising, in combination therewith:

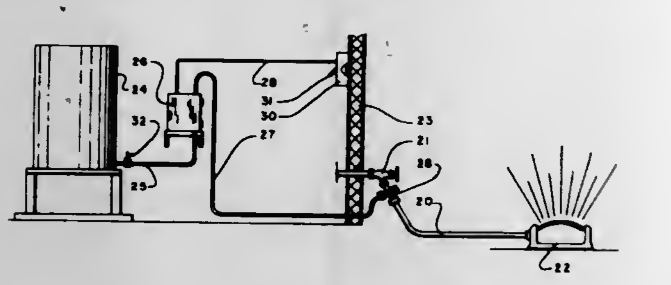
(a) a container adapted to hold a supply of fluid concentrate;

(b) a fluid line extending from the container and to the conduit at said location adjacent to and downstream from the valve where said back pressure, responsive to opening the valve, and said negative pressure, responsive to closing of the valve, are felt in the fluid line;

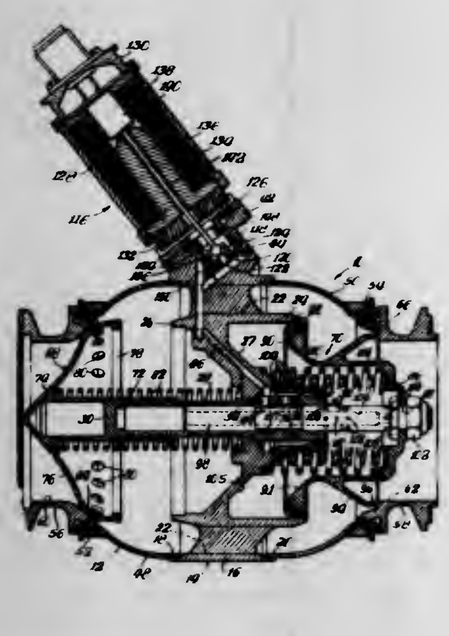
(c) a positive displacement pump in the fluid line including an electrical power circuit adapted to operate the pump when the circuit is closed, said pump being adapted to pump fluid concentrate through the fluid line from the container and to the conduit at a selected constant rate;

(d) a pressure-responsive control means in the fluid line below the infusion pump, including a normally open switch in the power circuit, adapted to close responsive to the said back pressure created by opening the valve, and to open responsive to a drop in back pressure created by closing the valve; and

(e) a pressure relief, air-intake valve in the conduit adjacent to the juncture of the fluid line and the conduit adapted to open to admit air to the conduit responsive to said negative pressure whenever the aforesaid valve closes, whereby to prevent siphon action in said conduit from creating a flow of concentrate through the fluid line after opening of the switch stops the pump from operating.

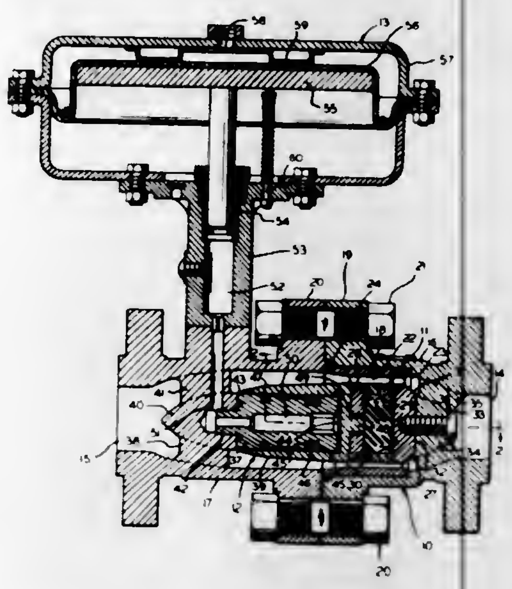


3,380,469
VALVE ASSEMBLY
Paul G. Salerno, Glenview, Robert P. Smith, Lincolnwood, and Malcolm A. Sime, Des Plaines, Ill., assignors to Vapor Corporation, Chicago, Ill., a corporation of Delaware
Filed July 16, 1965, Ser. No. 472,570
5 Claims. (Cl. 137—219)



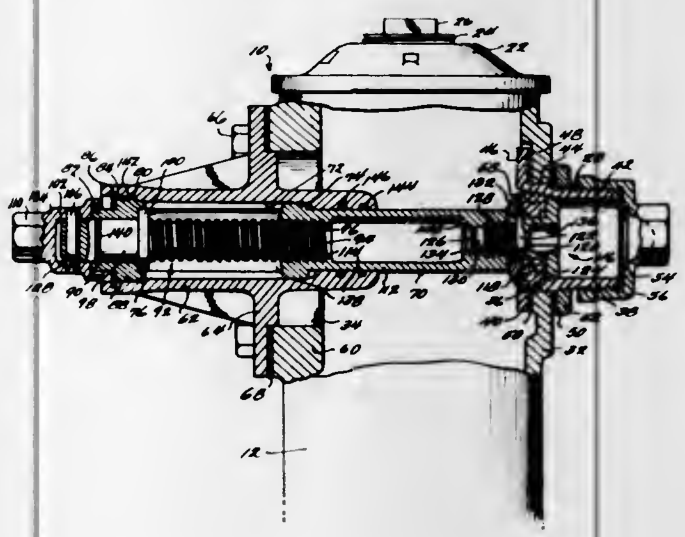
A valve assembly including shut-off means responsive to control means, and having dash-pot means for retarding the speed of opening of the valve to minimize impact forces resulting from the valve obtaining full open position.

3,380,470
FLOW REGULATOR WITH RADIALLY EXPANDING ELASTOMERIC BLOCK
Jesse L. Culpepper, Jr., and Norman H. Sachnik, Houston, Tex., assignors to Texsteam Corporation, Houston, Tex., a corporation of Texas
Filed Nov. 30, 1965, Ser. No. 510,648
1 Claim. (Cl. 137—269)



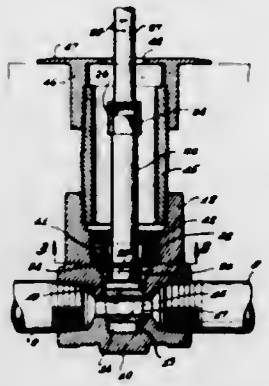
Fluid flow regulator having a radially expandable block of elastomeric material for varying fluid flow through a tubular body, including a liner that may be replaced by a liner of another size.

3,380,471
WET-BARREL FIRE HYDRANT
Frank H. Mueller and John J. Smith, Decatur, Ill., assignors to Mueller Co., Decatur, Ill., a corporation of Illinois
Filed Aug. 24, 1965, Ser. No. 482,222
6 Claims. (Cl. 137—298)



A self-contained valve operating unit for a wet-barrel fire hydrant including an operating nut slidably secured in a detachable sleeve and having a valve member on its free end, and an operating member threadably secured to the operating nut and forming an effective seal with the outer end of the sleeve so as to cooperate with the operating nut to define a lubricant reservoir within the sleeve. This self-contained valve operating unit can be removed as an entity from the hydrant barrel without the hazard of damaging the lubricant seal.

3,380,472
GAS LIGHTER VALVE
Joseph T. Leighton, 5245 Topeka Drive, Tarzana, Calif. 91356
Continuation-in-part of application Ser. No. 346,478, Feb. 21, 1964. This application Apr. 14, 1966, Ser. No. 549,103
5 Claims. (Cl. 137—360)



1. A gas valve adapted for use within enclosed spaces having substantially no ventilation, said valve being adapted to prevent the escape of gas into such space, and being operated by a key located in a relatively well-ventilated space, the valve including:

a housing having connectors adapted to receive inlet and discharge conduits and make a sealing fit therewith;

a rotatable valve member between said connectors, selectively adjustable to establish or interrupt a passageway for gas from said inlet to said discharge conduit;

a stem attached to said valve member and operable to rotate said member;

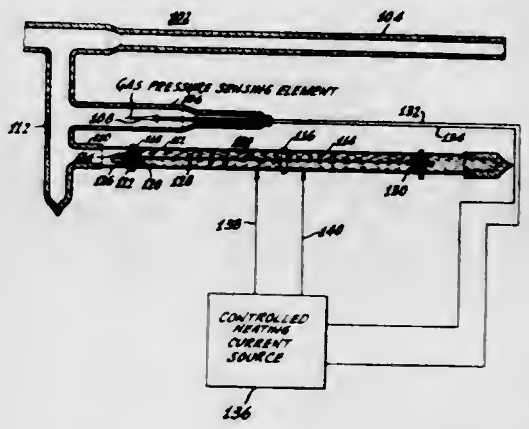
separable coupling means attached to said housing and surrounding said stem, said coupling means and said connectors providing the only points of access to the interior of said housing;

threaded means making a sealing fit with said coupling means and extending therefrom toward said well ventilated space;

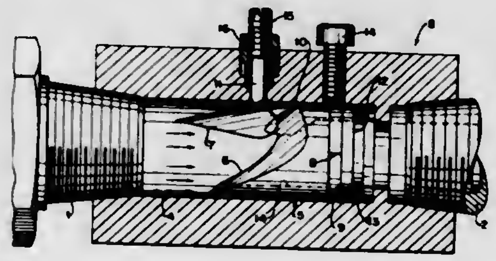
and a plate adapted to bear against a partition separating said well ventilated space from said space having substantially no ventilation, said plate engaging said threaded means and having an opening through which said key may extend to engage and rotate said stem, whereby, when said inlet and said discharge conduits are sealingly connected to their respective connectors, any leakage from said valve is conducted by said threaded cylindrical means to said relatively well-ventilated space, thereby preventing the accumulation of gas in said space having substantially no ventilation.

3,380,473
GAS LEAK VALVE DEVICE
Manfred E. Moi, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Sept. 27, 1965, Ser. No. 490,341
16 Claims. (Cl. 137—487.5)

1. A gas leak valve device for selectively permitting gas to be introduced from a gas-reservoir first enclosure into a second enclosure, said device comprising a valve including a valve seat member composed of a relatively hard material which is located at the junction between said first and second enclosures, said valve seat member having a hole of predetermined shape and predetermined size extending therethrough interconnecting said first and second enclosures, wherein the boundary between the face of said valve seat member adjacent said second enclosure and that end of said hole therethrough which is proximate to said second enclosure forms a sharp edge, a movable valving element composed of a relatively soft material, said valving element including a conical-surfaced portion the cross section of which has said predetermined shape and varies from a first given size smaller than said predetermined size to a second given size larger than said predetermined size, said valving element being disposed in said second enclosure with said conical-shaped portion thereof oriented to fit into said hole of said valve seat member and engage the sharp edge thereof, and a stiff longitudinal resistive member in said first enclosure having one end thereof secured to said first enclosure and the other end thereof attached to said valving element, said longitudinal resistive member being composed of a material having a substantial coefficient of thermal expansion, the length of said longitudinal resistive member at a first given temperature thereof being such as to maintain said conical-shaped portion of said valving element in tight engagement with the sharp edge of said valve seat member, whereby said sharp edge of said relatively hard valve seat member bites into said relatively soft valving element to form a breakable gas seal, the length of said longitudinal resistive member at a second given temperature thereof being such as to maintain said valving element in spaced relationship with respect to said valve seat member to permit gas to leak into said second enclosure from said first enclosure at a rate dependent on the amount of said spacing, the amount of said spacing depending upon the value of said second given temperature, and said device further including electrical means for applying a controlled heating current through said longitudinal resistive member to control the temperature thereof in accordance with the root mean square magnitude of the current therethrough.

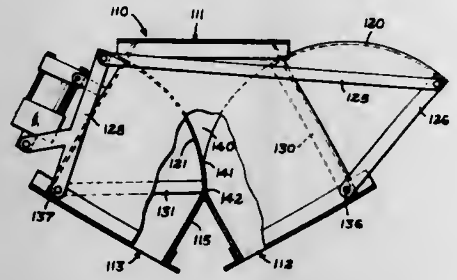

GAS PRESSURE SENSING ELEMENT
CONTROLLED HEATING CURRENT SOURCE

3,380,474
FLAP VALVE DEVICE
Wallace R. Mills, Mountain Lakes, N.J., assignor, by mesne assignments, to International Controls Corp., Fairfield, N.J., a corporation of Florida
Filed Aug. 5, 1965, Ser. No. 477,425
9 Claims. (Cl. 137—517)



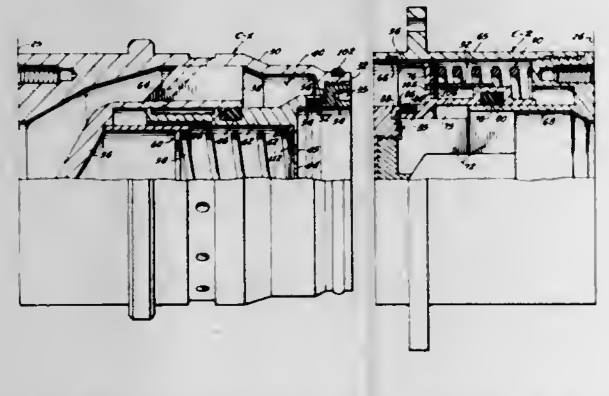
A flapper type valve to restrict fluid flow when the flow exceeds a given value. The valve includes a conduit means having inner coaxial bore portions of different diameters which define between themselves, at the upstream end of the smaller bore portion, a valve seat toward which the fluid flows. A flapper has a closed position engaging this valve seat and an open position situated adjacent and extending along the inner surface of the conduit means which defines the bore portion of larger diameter. This flapper is urged to its open position by an elongated leaf spring which has an upstream end which is fixed to the downstream end of the flapper. The flapper has a width which gradually increases from its upstream end toward its downstream end so that it is of a gradually increasing width. The increasing width of the flapper from its upstream toward its downstream end, as well as lobes thereof between which the upstream end of the leaf spring is located, compensate for the decrease in the length of the lever arm acting on the leaf spring to turn the latter as the length of this lever arm decreases from the upstream toward the downstream end of the flapper, so that in this way the forces with which the fluid acts upon the flapper are equalized.

3,380,475
GATE VALVE
George W. Armstrong, % O. B. Armstrong & Son, 284 Dayton Drive, Fairborn, Ohio 45324
Filed June 24, 1965, Ser. No. 466,718
18 Claims. (Cl. 137—609)



Blade type gate valves are disclosed in single and diverter types. In some cases, the valve blades are mounted on arms of differing radii to give a camming action as the valve blade closes, and incorporating self-closing seals for the sides of the blade and for the blade slot. A diverter valve employs curved blade surfaces in which the back of one blade acts as a diverter for the material flowing through the valve to deflect and direct the material into the adjacent outlet, free of areas on which the material may hang up or accumulate.

3,380,476
FLUID COUPLING WITH VACUUM ASSISTED VALVE ELEMENTS
Jorge Torres, Los Angeles, Calif., assignor to Purolator Products, Inc., Rahway, N.J., a corporation of Delaware
Filed Apr. 3, 1964, Ser. No. 357,244
10 Claims. (Cl. 137—614.05)

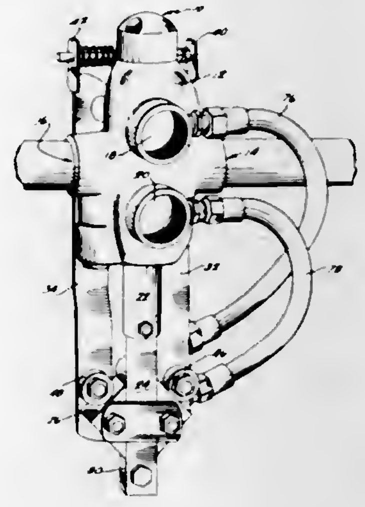


1. In a fluid coupling assembly wherein a first coupling body mates telescopically with a second coupling body and in doing so abuts and retracts a normally closed valve member in the second body to open position to permit fluid flow through the assembly, the improvement comprising:

said coupling body and said valve member being shaped and dimensioned to telescope together in a sliding manner to form a suction chamber that contracts as the two bodies close together and expands as the two bodies subsequently move apart; and

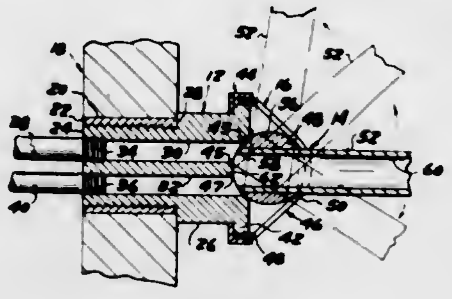
means to seal said suction chamber against inflow of air while permitting outflow of air, whereby mating of the two coupling bodies forms and contracts the suction chamber with consequent expulsion of air therefrom and subsequent relative movement apart of the two coupling bodies creates a vacuum in the suction chamber to pneumatically couple the valve member with the first coupling body to cause the valve member to follow the first coupling body to the closed position of the valve member before the telescoping relation between the two coupling bodies is broken thereby to substantially prevent spillage of fluid from the interior of the second coupling body.

3,380,477
HYDRAULIC CONTROL REVERSING VALVE
Harvey M. Wenger, Holland, Mich., assignor to Big Dutchman, Inc., Zeeland, Mich., a corporation of Michigan
Filed Mar. 11, 1965, Ser. No. 439,039
6 Claims. (Cl. 137—624.14)



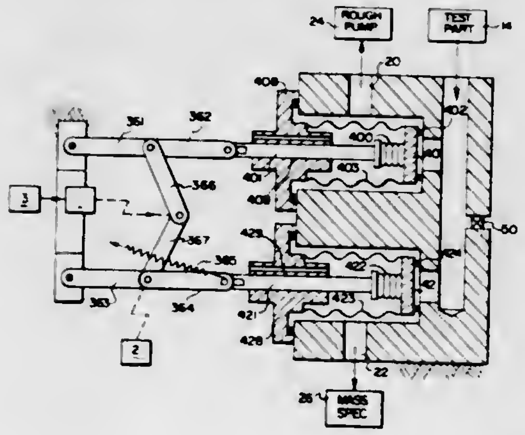
A valve body with an internal valve member which is movable to control the flow of hydraulic fluid through the valve body, into and out of various preselected ports in the body. A linkage is connected to the internal valve member and extends outwardly through the valve body, and an actuating cam member is slidably attached to this linkage outside the valve body for movements toward and away from the latter between a pair of spaced stops attached to the linkage. The cam member has a pair of hydraulically actuated piston members which are extendable therefrom in response to hydraulic pressure coupled from the valve body to bear against one or the other of the aforesaid stops to thereby move the cam member toward the opposite stop. The cam member also has external lobes formed thereon against which a spring-loaded cam follower mechanism acts to exert a force which first opposes the movement of the cam member occurring in response to one or the other of the aforesaid pistons, and which at a given point on the cam lobe suddenly augments the force applied to the cam member by its piston to move the cam member against the stop toward which it has been moved previously only by the piston, to thereby move the cam member, the stop, the linkage, and the internal valve member to a position in which the fluid flow through the valve body is reversed. Following this, the aforesaid sequence is reversed by operation of the other hydraulic piston and the other stop on the linkage.

3,380,478
HOT AND COLD WATER MIXING FAUCET
Harry F. Garrison, 7470 Gerald, Warren, Mich. 48092
Filed Mar. 25, 1965, Ser. No. 442,600
1 Claim. (Cl. 137—625.41)



A mixing faucet for mixing hot and cold water in varying proportions has a stationary structure with hot and cold water passageways therethrough with closely-adjacent outlet ports opening into a concave spherical or cylindrical seat and a movable structure including a spout having a convex spherical or cylindrical coupling portion matingly engaging the seat and having therein a discharge passageway with an inlet port movable past the outlet ports of said stationary passageways sliding engagement of said coupling portion with said seat so as to vary the proportions of hot and cold water emerging from said spout by moving said spout laterally relatively to said stationary structure.

3,380,479
VALVE ASSEMBLY AND ACTUATING LINKAGE THEREFOR
Benjamin Bassan, Framingham, and Walton E. Briggs, Lynnfield, Mass., assignors to National Research Corporation, Cambridge, Mass., a corporation of Massachusetts
Filed Oct. 23, 1965, Ser. No. 503,744
9 Claims. (Cl. 137—627.5)



1. An improved high vacuum valve assembly and operating linkage therefor, comprising, in combination:

(a) a first reciprocating bellows valve with an actuating stem loosely connected to a bellows valve at the forward end of the stem, a flange extending outwardly from the stem, a pre-loaded spring between said flange and the valve head, a metal cover, a metal bellows extending from said cover to the valve head and surrounding the spring, an elongated bearing in said cover accommodating the actuating stem, the length of the bearing being at least twice the diameter of the valve stem,

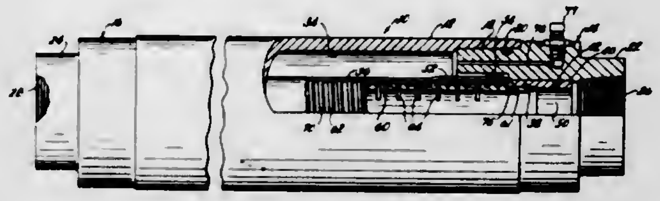
(b) a second reciprocating bellows valve constructed like the said first valve and having a direction of valving motion parallel to the first valve whereby the axes of motion of the first and second valves lie in a common plane,

(c) a first toggle joint connected between a fixed pivot and the actuating stem of said first valve and comprising a pair of lever arms with a common intermediate pivot, each lever arm consisting of a pair of links symmetrically arranged about said plane of motion,

(d) a second toggle joint connected between a fixed pivot and the actuating stem of said second valve and constructed like said first toggle joint, and

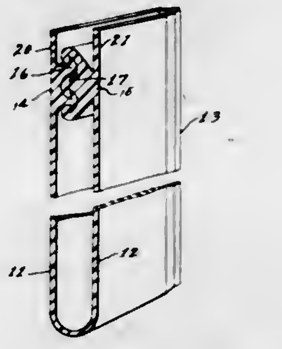
(e) a third toggle joint connected between the intermediate pivots of said first and second toggle joints and constructed like said first and second toggle joints.

3,380,480
SURGE CUSHIONING MEANS FOR HIGH PRESSURE FLUID SYSTEM
William J. Bleasdale, Box 3625, Cleveland, Ohio 44119
Continuation-in-part of application Ser. No. 438,553, Mar. 10, 1965. This application Apr. 21, 1966, Ser. No. 544,267
11 Claims. (Cl. 138—30)



Cushioning means for a liquid pressure system including a liquid chamber and a fluid chamber with pressure liquid and pressure fluid being supplied to the respective chambers is provided. A flexible diaphragm is secured to the container intermediate the chambers. A diaphragm support is provided in the liquid chamber and such support has groove means therein on the side thereof adjacent the diaphragm and apertures connect the groove means to the opposite side of the diaphragm support. Means are positioned in the groove means and have lateral clearance.

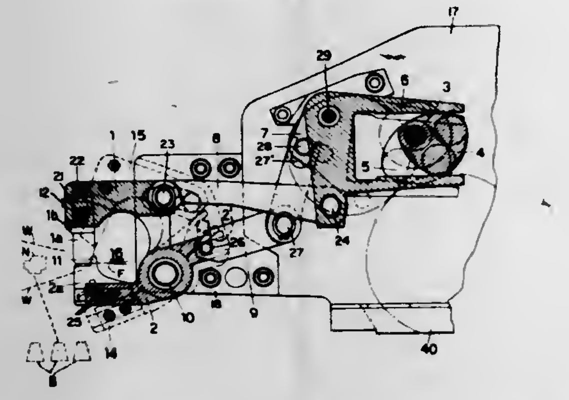
3,380,481
CLOSED TUBE WITH FASTENER MEMBERS
Otto Karl Kraus, Rego Park, N.Y., assignor, by mesne assignments, to Minigrip, Inc., New York, N.Y., a corporation of New York
Filed Mar. 2, 1962, Ser. No. 176,926
4 Claims. (Cl. 138—118)



An elongated flexible closed one-piece tube having integrally formed longitudinally continuous interlocking elements formed thereon for slitting, cutting and sealing to form closeable and reusable pouches or bags therefrom.

3,380,482
DEVICE FOR POSITIVELY CUTTING THE WEFT IN A SHUTTLELESS LOOM HAVING A CONTINUOUS WEFT-SUPPLY MECHANISM

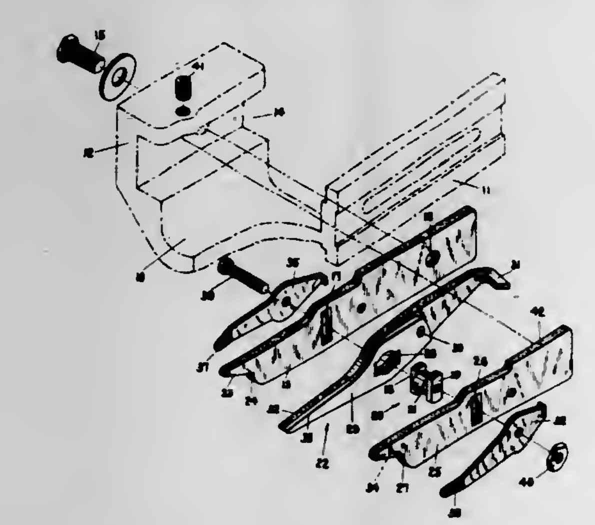
Vittorio Scherillo, Florence, Italy, assignor to Nuovo Pignone S.p.A., Florence, Italy, an Italian company
Filed May 10, 1966, Ser. No. 548,978
Claims priority, application Italy, May 15, 1965, 10,934/65
5 Claims. (Cl. 139—122)



A weft cutting device for a shuttleless loom of the type having a rotatable crankshaft, and a weft selector mechanism for selecting one of a plurality of wefts to be drawn into the shed by an insertion needle each time the crankshaft rotates, the device has a pair of triangularly shaped cams secured to a drive shaft that rotates once per revolution of the crankshaft, a pair of cutters connected to the cams to be pivoted positively thereby about a common axis, and a finger projecting from one of the cutters to guide the selected weft between the shearing edges of the cutters as the needle moves the weft into the warp shed.

3,380,483
THREAD CUTTER AND CLAMPING MECHANISM FOR LOOMS

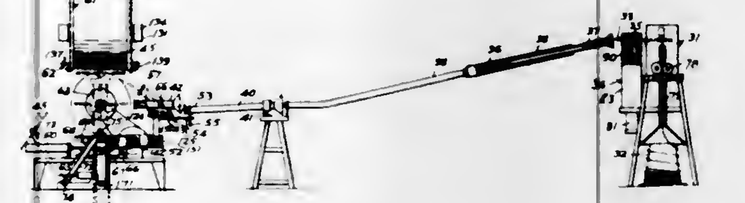
Noyes W. Bridgham, Mendon, Mass., assignor, by mesne assignments, to John Donald Marshall and Horace L. Bomar, trustees
Filed June 16, 1966, Ser. No. 557,957
3 Claims. (Cl. 139—263)



An adjusting means for the cutting and clamping members of a thread cutter in a bobbin-change loom with which independent adjustments may be made to the cutting and clamping edges. The possibility of overadjusting to an excessive pressure is eliminated by using an internally threaded pivot stud having flat-sided flange members separating its pivotal surface.

3,380,484
APPARATUS AND METHOD FOR MAKING VENTILATING UNITS FOR SEAT PADS

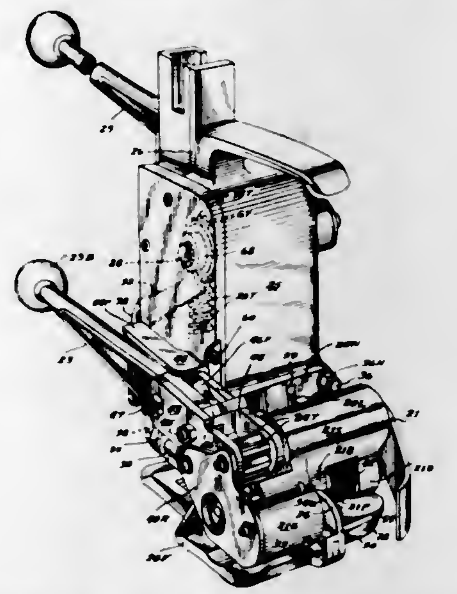
Arthur Kraszeski, Newburgh, N.Y., assignor to R. O. Kent Corp., Newburgh, N.Y., a corporation of New York
Filed Feb. 23, 1966, Ser. No. 529,505
23 Claims. (Cl. 140—1)



1. A machine for wrapping coiled wire around a frame comprising
  a reciprocating turntable adapted releasably to hold a frame,
  a reciprocating carriage adapted to guide coiled wire around the frame to form connected rows, and
  frame rotating means for rotating the frame when the frame has been released by the turntable.

3,380,485
STRAPPING TOOL

Robert F. Plattner, Chicago Heights, and Peter Kirsinas, Hazel Crest, Ill., assignors to Interlake Steel Corporation, Chicago, Ill., a corporation of New York
Filed May 13, 1965, Ser. No. 455,400
28 Claims. (Cl. 140—93.4)

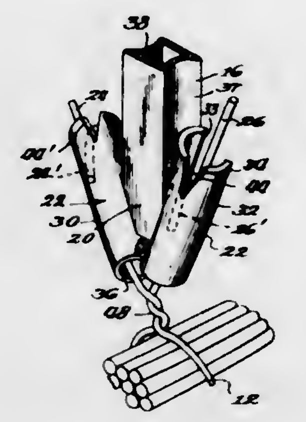


A strapping tool for tensioning and sealing together the ends of strap loop encircled about an object, having a stationary sealing mechanism housing with a removable strap support pad to provide access to the sealing mechanism and a wear-resistant and improved arrangement of journal mechanism for the tensioning mechanism. A variable mechanical advantage drive mechanism is positioned to actuate the joint forming mechanism to maximize the force required for joint formation. Improved strap shearing mechanism, strap guiding mechanism and joint forming mechanism is also provided.

3,380,486
WIRE TWISTING TOOL

John Yonan, 2243 W. Berwyn Ave., Chicago, Ill. 60625
Filed Mar. 9, 1965, Ser. No. 438,352
2 Claims. (Cl. 140—118)

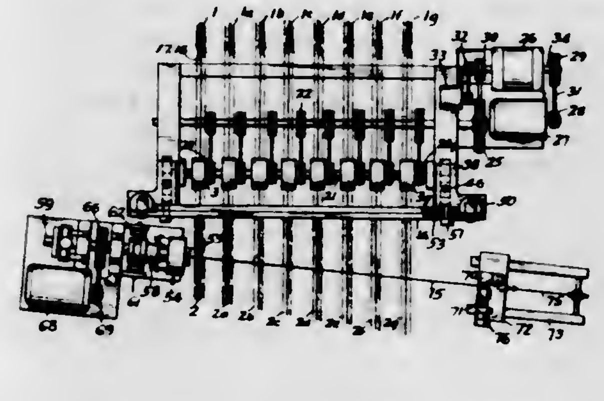
A tool for facilitating the twisting of the free ends of a binding wire. A pair of wire engaging sleeves positioned at an acute angle with respect to each other on the end of an elongate shank portion of the tool, such that their respective axes diverge toward the opposite end



of the elongate shank portion; V-shaped notches cut in each sleeve to facilitate gripping of the wire ends upon use of the tool.

3,380,487
MACHINE FOR ASSEMBLING ARTIFICIAL TREES, BRANCHES AND THE LIKE

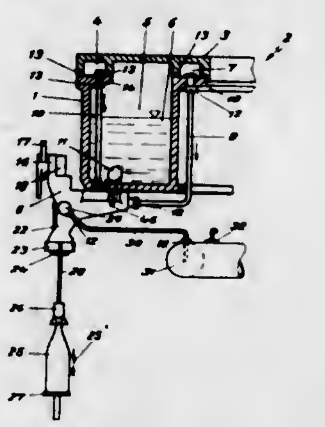
Arthur Kraszeski and Stephen D. Kent, Newburgh, N.Y., assignors to R. O. Kent Corp., New York, N.Y., a corporation of New York
Filed Sept. 14, 1965, Ser. No. 487,253
34 Claims. (Cl. 140—149)



The machine operates sequentially through its cycle to assemble automatically enough spaced apart twig-forming straight garlands to form substantially conventional artificial tree branches having a number of long twigs. Each garland has transversely projecting fragile artificial needles held between a pair of twisted garland wires. A set of such preformed garlands longer than the required twig lengths, is safely and simultaneously advanced without damage to the needles so that each individual garland may, if desired, be advanced a different distance from that advanced by other garlands. When the end portions of the advanced garlands are in position interposed between and across a pair of limb wires in a twister mechanism, the assembly of wires and garlands are clamped together. After clamping and before twisting of the limb wires to fix the garlands to the limb wires, all the garlands are cut at the same time to separate a twig from each, though the twigs may all be of the same length or of different lengths. After the clamped twigs are cut free from their respective garlands, the limb wires are twisted. After twisting, the twister opens and discharges the assembly preparatory to the repetition of the cycle. Suitable electrical and air controls and actuators are provided for the automatic operation of the various mechanisms.

3,380,488
VALVED FILLING DEVICE FOR FILLING CARBON DIOXIDE-CONTAINING BEVERAGES INTO A VESSEL AND METHOD FOR DOING SO

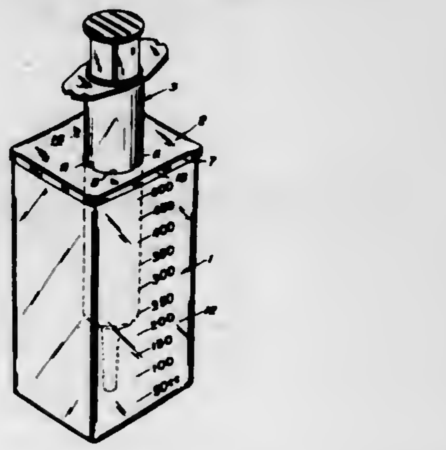
Wilhelm Herbst, Worms-Pfiffligheim, Germany, assignor to Enzinger-Union-Werke AG
Filed Oct. 19, 1965, Ser. No. 497,854
Claims priority, application Germany, Mar. 31, 1965, E 29,009
15 Claims. (Cl. 141—6)



That method of filling with liquid a container having a filling opening, comprising, sealing the opening from atmosphere, filling the container with gas to a predetermined pressure, introducing liquid under pressure into the container while conducting gas therefrom through a conduit to a confined back gas chamber, opening said conduit to restricted flow of gas to atmosphere when the container is partially filled with liquid, to reduce pressure in the container, increase the rate of flow of liquid thereinto, and establish a pressure differential between said back gas chamber and container, closing the conduit between said container and back gas chamber by and in response to said pressure differential while permitting continued escape of gas to atmosphere, and cutting off flow of liquid into the container after the liquid has risen to said filling opening.

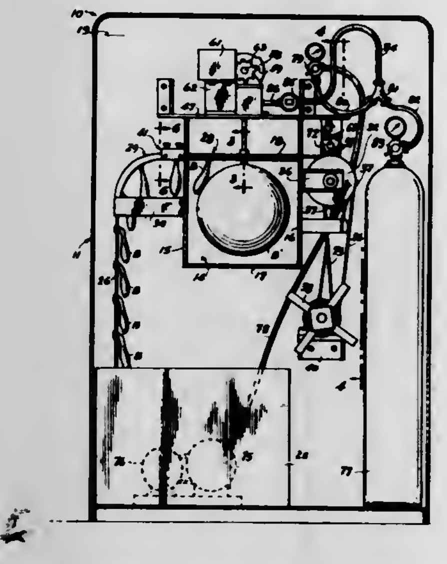
3,380,489
MEDICAL CONTAINER WITH CLOSURE

Andrew Harautuneian, Gardena, Calif., assignor to Pharmaseal Laboratories, Glendale, Calif., a corporation of California
Filed Aug. 26, 1965, Ser. No. 482,873
2 Claims. (Cl. 141—27)



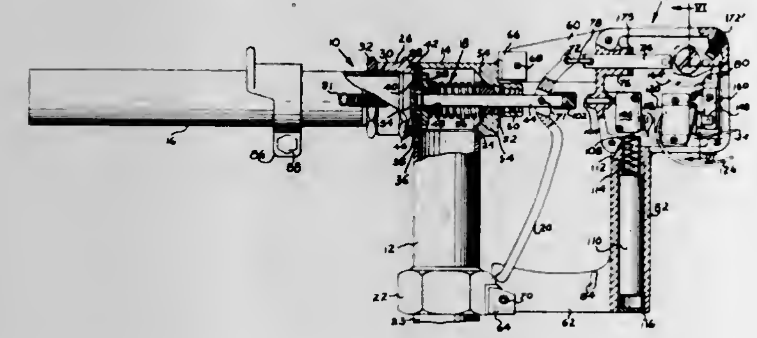
A container for filling a hypodermic syringe with liquid and for holding the syringe at various depths within the container, in which the container has a lid opening surrounded by a flexible skirt with inwardly extending vertical ribs whereby distortion of the skirt portions between the ribs is effected when a tapered barrel of a hypodermic syringe is progressively inserted into the skirt.

3,380,490
BALLOON VENDING MACHINE
Carl H. Ellenberg, Bayside, Arnold Weinstein, Westbury, Donald D. Litt, Scarsdale, and David B. Jaroff, New York, N.Y., assignors to Miner Industries, Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 11, 1966, Ser. No. 519,992
11 Claims. (Cl. 141—167)



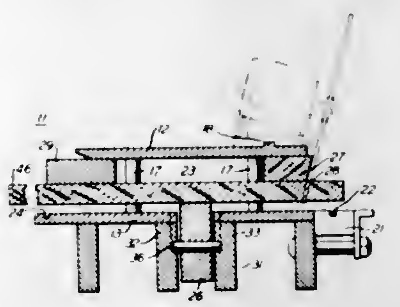
A balloon vending machine has balloons frictionally retained at their necks in spaced openings of a flexible belt which is intermittently advanced across a compartment opening to the exterior of a cabinet so as to register each balloon, in succession, with a nozzle moved toward and away from the belt in such compartment, and gases for inflating a balloon in the compartment are supplied to the nozzle when the latter is moved toward the belt and engaged with the balloon registered therewith, whereupon the inflated balloon can be separated from the belt and withdrawn from the compartment. Each balloon neck preferably has a check valve therein, and, after inflation of each balloon, the nozzle is further moved toward the belt to act on the respective check valve for removing the valve and balloon neck from the belt opening.

3,380,491
UNIVERSAL ELECTRIC NOZZLE
Lester P. Rosell, Dayton, and Richard D. Pentecost, Eaton, Ohio, assignors to Emco Wheaton, Inc., Dayton, Ohio, a corporation of Ohio
Filed Mar. 26, 1965, Ser. No. 442,982
11 Claims. (Cl. 141—209)



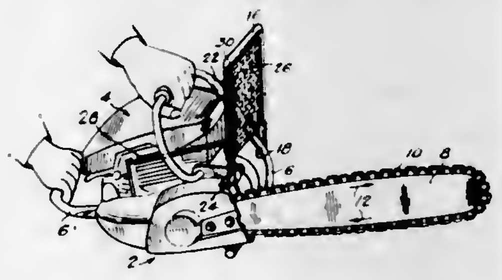
An automatic tank filling nozzle which fills the tank to a predetermined level and then closes a valve in the nozzle. The nozzle is provided with an actuator disabling linkage which seats the valve and prevents subsequent opening of the valve when the tank is full. Operation of the disabling linkage is controlled by an electromagnetic latch device whose operation is in turn controlled by a pressure switch connected by tubing to the nozzle outlet. When the level in the tank rises to a point above the lower end of the tubing it causes an increase in pressure in the tubing which is sensed by the pressure switch which in turn initiates closing of the valve through the disabling linkage.

3,380,492
SAW AND MITER GUIDE
Leo J. Konopka, 72 Rockwood Road, Florham Park, N.J. 07932
Filed Apr. 21, 1966, Ser. No. 544,295
5 Claims. (Cl. 143—6)



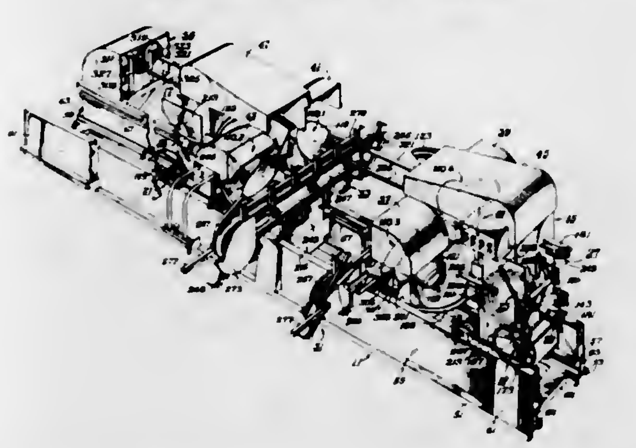
1. A saw and miter guide comprising:
upper and lower tables each having front, side, and rear edges;
the upper table comprising means for supporting a power-driven rotary saw in such a manner that the rotary blade of the saw overhangs a first side edge of the upper table;
means extending substantially from the front to the rear of the upper table for guiding the saw along a substantially straight line;
means comprising a flat saw-penetrable member attached to the bottom surface of the upper table, overlapping the first side edge of the upper table, and extending in a plane parallel to the upper table, for giving a visual indication of the path of the rotary saw blade and for displacing a workpiece from the upper table;
means comprising a plurality of support posts for supporting the upper table on the lower table;
a housing mounted in the lower table;
a clamping member mounting in the housing;
and means for elevating the clamping member for clamping a workpiece against the saw-penetrable member.

3,380,493
SAFETY GUARD FOR CHAIN SAW
Joseph H. Giroux, 301 Princess St., Dalhousie, New Brunswick, Canada
Filed July 6, 1966, Ser. No. 563,289
7 Claims. (Cl. 143—32)



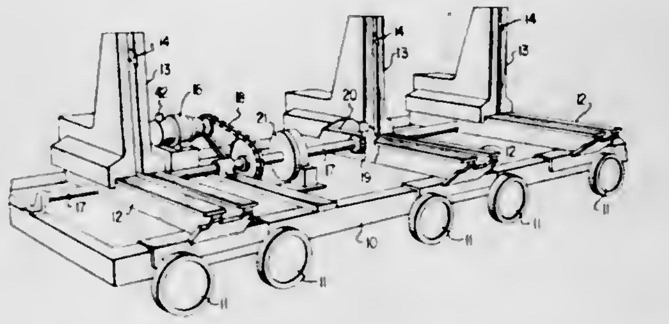
1. A safety guard for chain saws of the type having a motor, motor housing, handles, a chain saw guide bar, and saw chain, said guard comprising a frame and an extendible guard strip pivotally secured to the saw housing or handles adjacent the innermost end of the guide bar, the frame and guard strip being pivotable from a position away from the saw chain to a position adjacent with the saw chain, and said guard strip being extendible upon contact with the saw chain to protectively cover the chain along the upper edge of the guide bar.

3,380,494
WOOD COMPONENT MEMBER CUTTING APPARATUS
George L. Mayo, 4513 S. Edgewood Terrace, Fort Worth, Tex. 76119
Filed Apr. 15, 1966, Ser. No. 542,889
24 Claims. (Cl. 143—38)



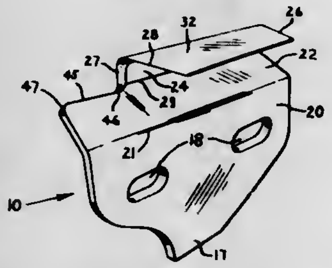
1. A wood component member cutting machine comprising:
(a) a main frame structure;
(b) a front and a rear saw assembly support structure, each including pivot support means;
(c) first, second, third, and fourth saw assemblies;
(d) each said saw assembly including an electric motor driven circular saw, and a parallelogram linkage mechanism;
(e) each said parallelogram linkage mechanism including a base link and a support link;
(f) a carriage assembly mounted on said main frame structure for traverse longitudinally of said main frame structure;
(g) means mounting said front saw assembly support structure on said main frame structure and means mounting said rear saw assembly support structure on said carriage assembly;
(h) means mounting the parallelogram linkage mechanisms for said first and second saw assemblies to said front saw assembly support structure in juxtaposed relation, with said respective base link fixed relative to said pivot support means, with one of said parallelogram linkage mechanisms upstanding and the other depending from said pivot support means, with respective base link pivot axes aligned by means of respective common pivot shafts, and with a front common pivot axis defined by a line which is normal to the points of intersection of the longitudinal axes of respective support links and base links;
(i) means mounting the parallelogram linkage mechanisms for said third and fourth saw assemblies to said rear saw assembly support structure in juxtaposed relation, with said respective base link fixed relative to said pivot support means, with one of said parallelogram linkage mechanisms upstanding and the other depending from said pivot support means, with respective base link pivot axes aligned by means of respective common pivot shafts, with a rear common pivot axis defined by a line which is normal to the points of intersection of the longitudinal axes of respective support links and base links, and with said front and rear common pivot axes parallel and lying in a common plane;
(j) means mounting the electric drive motor of a respective circular saw to a respective parallelogram linkage mechanism such that a chord of said respective saw coincides with a respective said front and rear common pivot axis;
(k) means for supporting workpieces for passing same between said saw pairs at a predetermined level relative to said front and rear common pivot axes;
(l) and respective means for moving said respective pivot linkage mechanisms to position said saws in selected relative angular positions, and means for fixing said saws in the selected relative angular position.

3,380,495
DIGITAL ELECTRONIC SETWORKS CONTROL FOR SAWMILLS
Clement Walker Weston, Jr., Shreveport, La., assignor to Corinth Machinery Company, Inc., Corinth, Miss., a corporation of Mississippi
Filed Dec. 30, 1965, Ser. No. 517,569
16 Claims. (Cl. 143—120)



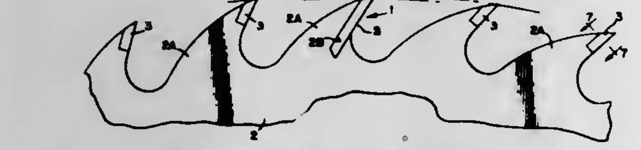
1. A digital electronically controlled setworks for automatically advancing the head blocks of a sawmill carriage to a selected position for cutting a predetermined width of board comprising in combination:
prime mover means, having command signals applied thereto, coupled to the head blocks of said sawmill carriage for selectively advancing and retracting said head blocks in response to said command signals;
transducer means coupled to said prime mover means and generating a signal in the form of a pulse train the number of pulses of which is proportional to the advancement of said head blocks on said carriage;
electronic digital counter means coupled to said transducer means and being responsive to said pulse train to provide a first and a second output signal after a first and a second predetermined number of pulses of said pulse train have been counted;
reset circuit means coupled to said digital counter means for selectively setting and resetting said counter means in accordance with a control signal;
selector means, for determining a desired width of board to be cut by said sawmill, coupled to said digital counter means for encoding said counter means to produce said first output signal when said first predetermined number of pulses are counted and said second output signal when said second predetermined number of pulses are counted;
switch means, coupled between said counter means, said prime mover means and also to said reset circuit and being responsive to said first output signal to transmit a decelerate command signal to said prime mover means and being responsive to said second output signal to transmit a stop command signal to said prime mover means as determined by the time delay occurring between said first and said second predetermined number of pulses counted by said digital counter means; and
control means coupled to said switch means applying a set signal thereto whereupon said switch means removes said decelerate and said stop command signal from said prime mover means and transmits a first and a second forward speed command signal to said prime mover means and transmits said control signal to said reset circuit for selectively setting and resetting said digital counter means.

3,380,496
CUTTER LINK FOR SAW CHAIN
Emil H. Hill, 6316 SE. 65th Ave.,
Portland, Oreg. 97206
Filed Oct. 20, 1965, Ser. No. 498,300
1 Claim. (Cl. 143—135)



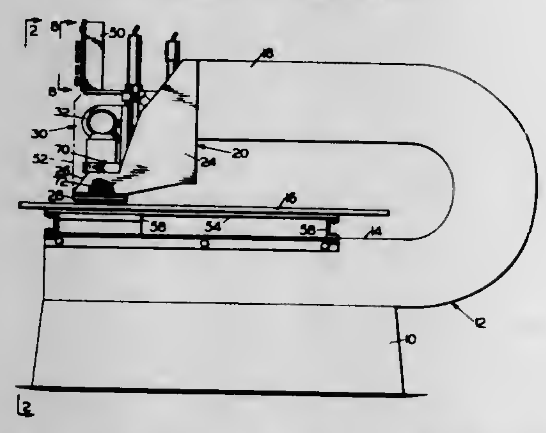
A chisel bit type cutter link for a saw chain made by bending a flat strip of metal having a bevelled edge portion. The bevelled surface on the strip forms the top face of the top plate portion of the cutter. This reduces the bending angle so that a high carbon or stainless steel may be formed by a simple and inexpensive stamping operation instead of the costly investment casting process heretofore required for such steels.

3,380,497
PLANING SAW
Donald R. La Velle, 2225 E. Main St.,
Cottage Grove, Oreg. 97424
Filed Jan. 17, 1966, Ser. No. 521,073
1 Claim. (Cl. 143—140)



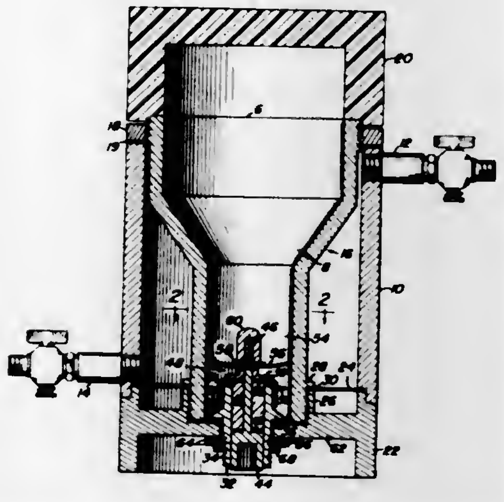
A saw body having both cutter and planer teeth mounted along its periphery for simultaneously cutting and planing the surface of a kerf formed in the material being sawn. A plurality of planer teeth of the same configuration are disposed in a rearwardly inclined manner relative to peripheral movement of the saw and have rounded ends with the outer end of each planer tooth travelling a path slightly inward of a path of the outer end of a cutter tooth.

3,380,498
PANEL ROUTER
Sherburne W. Spelbrink, 428 Simpson,
North Bend, Oreg. 97459
Filed Nov. 5, 1965, Ser. No. 506,475
5 Claims. (Cl. 144—69)



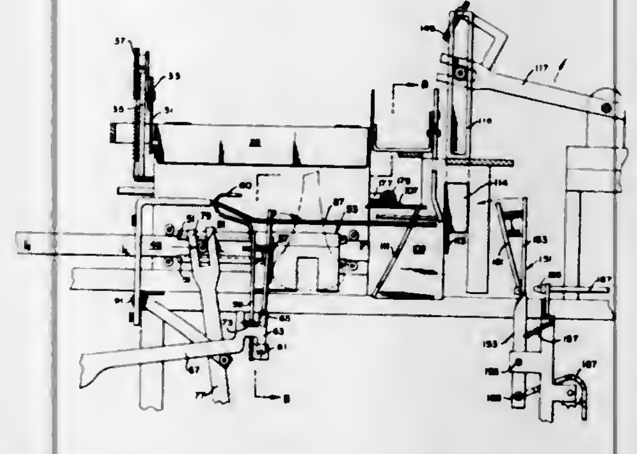
A panel router having a carriage movable horizontally along guide rails between a fixed stop and one of several other stops, the intermediate ones of which are movable out of the path of the carriage so that it has a variable length of travel. A turret on the carriage mounts a pair of router units having cutters of different widths and swings one or the other of such units into cutting position. Thus the length of carriage travel determines the length of the resulting recess, whereas the width of recess is determined by the router unit selected. The length and width of cut are preselected by actuating appropriate selector switches on a control panel. Power to swing the turret, move the carriage and position the stops is provided by air cylinders which are controlled by solenoid valves.

3,380,499
PULSATING TISSUE-HOMOGENIZER
Frank J. Vocci and Milton E. Wirth, Baltimore County, Md., assignors to the United States of America as represented by the Secretary of the Army
Filed May 5, 1966, Ser. No. 548,366
6 Claims. (Cl. 146—68)



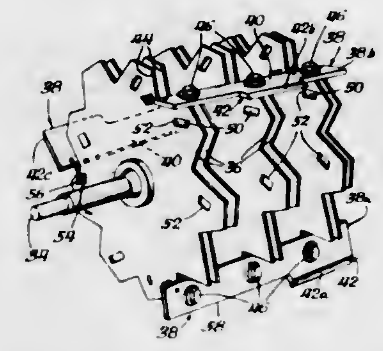
This invention relates to a pulsating tissue-homogenizer having an upright container; generally cylindrical cooling sleeve; means for forming a liquid tight joint between the sleeve, upright container, and the container base portion; and a power driving means wherein the improvement comprises providing said homogenizer with a shearing mechanism having a hub with staggered shearing pins extending radially from the hub; said hub mounted on the drive shaft connected to the power driving means.

3,380,500
BROCCOLI CUTTER
Cecil W. Alpen, 148 Glen Drive, Aptos, Calif. 95003
Filed Nov. 26, 1965, Ser. No. 509,722
4 Claims. (Cl. 146—78)



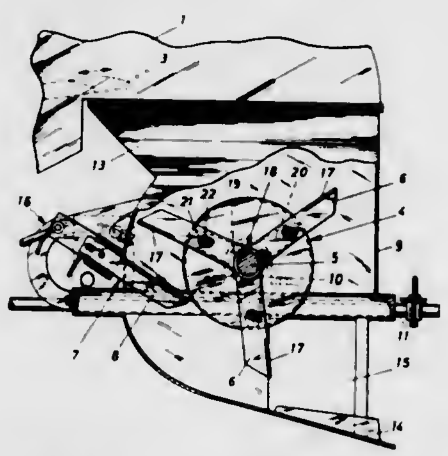
A cutter for broccoli and similar vegetables wherein a pair of guide arms grip the stem of the broccoli, leaving the head extending below the guide arms and a pusher element pushes the broccoli between the guide arms and into a knife whereby the broccoli is severed.

3,380,501
FORAGE HARVESTER HAVING CUTTER HEAD WITH OFFSET CUTTING EDGES
Manfried L. Hoch, Lockport, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 501,998
3 Claims. (Cl. 146—107)



A cutter comprising a support and a plurality of combined knife and fan members wherein the members extend substantially the full length of the cutter and each having a projection extending thereahead and serving as a cutting portion, and the cutting portions of each member being offset axially entirely from each of the other cutting portions.

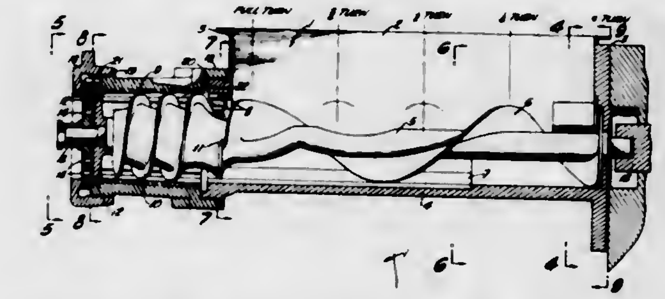
3,380,502
STRAW CHOPPER ATTACHMENT FOR COMBINE
Anton Bertil Grönberg, Ottum, Sweden
Filed Jan. 12, 1966, Ser. No. 520,294
Claims priority, application Sweden, Jan. 15, 1965, 516/65
2 Claims. (Cl. 146—123)



A rotor for use in combination with a row of fixed, spaced-apart grate knives for disintegrating straw and the like comprises a rotor shaft carrying a plurality of arm crosses and a rotor knife held to each side of each arm. A spanner rod passes through each row of associated arms and rotor knives to prevent radial movement of the rotor knives relative to the rotor shaft. Pivotal movement of the rotor knives relative to their respective arms is prevented by a variety of different arrangements.

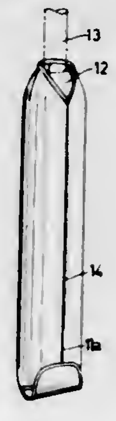
3,380,503
MEAT GRINDER
Earl W. Rees, 12110 Shoemaker Ave.,
Whittier, Calif. 90605
Filed Mar. 31, 1965, Ser. No. 444,317
2 Claims. (Cl. 146—189)

The meat hopper has cutting splines in the bottom thereof positioned only in the forward three-quarters, the rear one-quarter being free of splines. The neck portion hopper is provided on its inner surface with tapered cut- which is attached to the forward discharge end of the ting splines which converge from the end of the neck portion adjacent the hopper toward the other end of the neck portion, these splines being interrupted by a gap. A sharp cutting blade rotatably mounted in the hopper comprises substantially one revolution of its length. A grinding spline



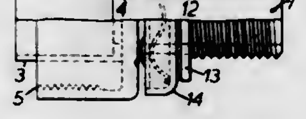
carried by the forward end of the cutting blade shaft cooperates with the cutting splines in the neck portion, the end of the grinding spline adjacent to the cutting blade extending in a radial direction and having a sharp cutting edge.

3,380,504
CURLING BROOM COVER
Harry W. Green, North Vancouver, British Columbia, Canada, assignor to Kurl King (Broom Protectors) Limited, Saskatoon, Saskatchewan, Canada, a corporation
Filed Oct. 31, 1966, Ser. No. 590,716
Claims priority, application Canada, Nov. 12, 1965, 945,114, Patent 758,743
4 Claims. (Cl. 150—52)



A curling broom cover consisting of a sheath of waterproof fabric proportioned to snugly fit the corn of a curling broom. One end of the sheath is shaped to form a collar which fits the upper end of the corn, and the other end of the sheath is provided with a flap which can be folded around the free end of the corn and fastened in place.

3,380,505
CAPTIVE CAP NUTS
Samuel Heath, Faringdon, England, assignor to The Plessey Company Limited, Ilford, Essex, England, a British company
Filed May 13, 1966, Ser. No. 549,861
4 Claims. (Cl. 151—41)

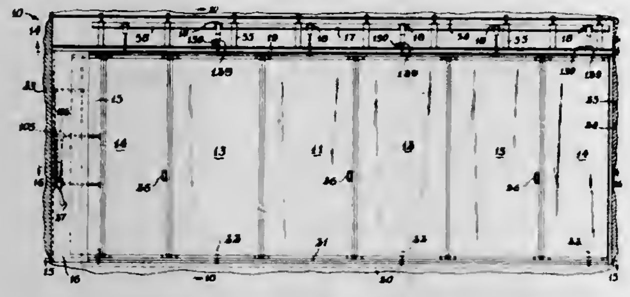


Accidental unscrewing of a captive cap nut under vibration is counteracted by click stops provided by a pressure plate on the stem, this plate co-operating with the rear face of the nut and being resiliently supported by a spring washer against a circlip on the stem, and engaging a keyway to prevent its rotation on the stem.

3,380,506
MOVABLE SPACE DIVIDER STRUCTURE

Charles R. Good, Springport, and Donald S. Harris, New Castle, Ind., Robert L. Lindahl, Trenton, Mich., and Bennett W. Merrill, New Castle, Ind., assignors to New Castle Products, Inc., New Castle, Ind., a corporation of Indiana

Filed July 29, 1963, Ser. No. 298,367
4 Claims. (Cl. 160—40)

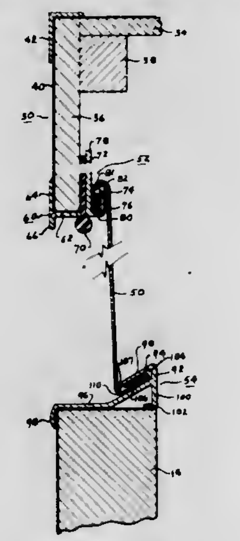


2. In a folding space divider assembly wherein a plurality of panels are arranged for coplanar positioning in end-to-end sealing engagement, each panel being movably suspended from a supporting structure, said panels extending from top edge sealing engagement with said supporting structure into bottom edge sealing engagement with a floor structure, the improvement comprising each panel having laterally spaced and at least substantially coextensive face plates formed from structurally stable and acoustically limp and acoustically impermeable material, support means attached to each of said plates and interconnected transversely of said panel at pheriperally spaced intervals to provide a unitary structure without establishing continuous sound transferring rigidity between said plates, separate limp fiber blanket means overlying the inner face of each plate, said blanket means being separated centrally of said structure to define an internal air space which is at least substantially co-extensive with said plates, and retainer means holding said fiber blanket means against the inner face of each of said plates in unsecured relation to permit slight movement relative thereto.

3,380,507
FLEXIBLE SIDE WALL HOLDER

Lloyd J. Bontrager, Goshen, Ind., assignor to Star Tank and Boat Company, Goshen, Ind., a corporation of Indiana

Filed Oct. 22, 1965, Ser. No. 501,571
8 Claims. (Cl. 160—327)



A side wall structure for vehicles such as trailers, campers and the like having an extensible top movable vertically with respect to the body of the trailer, in which a flexible cloth or plastic material is secured to the lower edge of the top and the upper edge of the body. The flexible material folds inwardly when the top is lowered onto the body, and the lower securing means includes an outwardly facing channel which is enclosed by the top when the top is in its lowered position.

3,380,508
PROCESS OF CASTING A REACTIVE METAL

Anthony Saia and Ralph E. Edelman, Philadelphia, Pa., assignors to the United States of America as represented by the Secretary of the Army

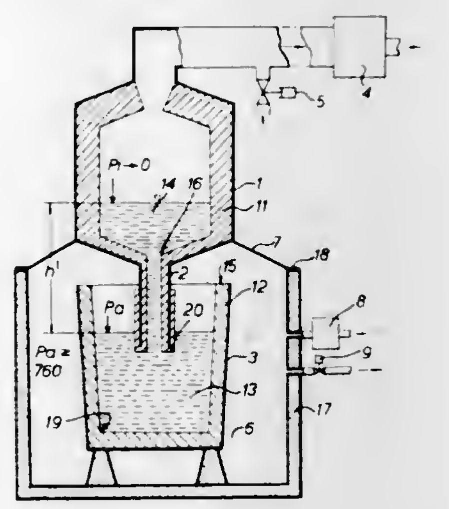
No Drawing. Filed Sept. 29, 1965, Ser. No. 491,463
2 Claims. (Cl. 164—42)

A foundry mold material for use in the casting of reactive metals and alloys thereof which consists essentially of a carbonaceous foundry material and minor amounts of a clay type foundry sand binder and water.

3,380,509
METHOD OF PRESSURE TREATMENT OF METALLIC MELTS, ESPECIALLY STEEL MELTS

Robert Hentrich and Alfred Randak, Geisweld, Germany, assignors to Stahlwerke Sudwestfalen AG., Geisweid, Germany

Filed Aug. 16, 1965, Ser. No. 546,107
Claims priority, application Germany, Aug. 17, 1964, St 22,553
8 Claims. (Cl. 164—62)



Method and apparatus for treating and casting molten metal in which molten metal is transferred from a treatment vessel to a supply vessel and then at least a part of the metal is returned to the treatment vessel and is then again returned to the supply vessel, and molten metal is transferred from the supply vessel to a mold vessel for solidification therein, the metal being subjected to a pressure greater than atmospheric during at least at a part of the time it is in the treatment vessel and in said mold vessel.

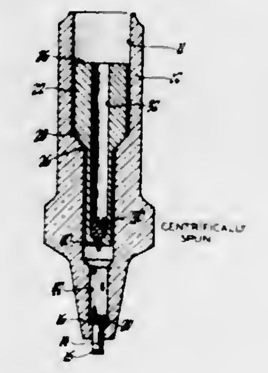
3,380,510
SILVER CASTING METHOD FOR SPARK PLUG ELECTRODES

John I. Jalbing, Millington, and Ernest H. Myers, Flushing, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 21, 1965, Ser. No. 499,233
4 Claims. (Cl. 164—108)

A method of casting a mass of silver about the head above a spark plug center electrode is disclosed. A silver mass is melted in a dispenser which is in communication with the spark plug insulator centerbore. The dispenser

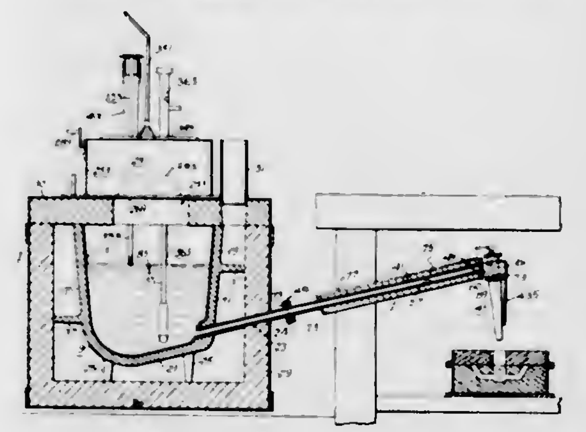
is positioned at a distance from the center electrode head which will permit the silver mass to progressively fill the insulator centerbore directly around and above the center electrode head. The spark plug assembly including the dispenser is subjected to centrifugal force which causes the silver to pass from the dispenser in a fine stream onto the center electrode head so that the molten silver which first touches and surrounds the center electrode head solidifies sufficiently to act as a seal which prevents the remainder of the molten silver from leaking out around the center electrode.



3,380,511
APPARATUS FOR AUTOMATICALLY FILLING A RECEPTACLE

James Samuel Campbell, 74 Sleepy Hollow Lane, Orinda, Calif. 94563

Filed May 25, 1964, Ser. No. 369,669
2 Claims. (Cl. 164—155)

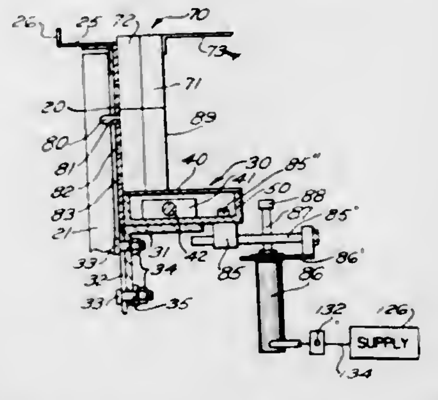


1. Apparatus for filling a receptacle to a predetermined level comprising
  a holder for material to be poured into such receptacle, said holder having a useful capacity to fill a plurality of said receptacles,
  a pouring passageway extending from said holder,
  a nozzle assembly affixed to the end of said pouring passageway and including a nozzle,
  means for establishing a flow of material from said nozzle by way of said pouring passageway,
  a receptacle supporting platform at a vertical spacing from said nozzle assembly,
  means for reducing the vertical spacing between said platform and said nozzle assembly whereby to bring a receptacle to a position with said nozzle in the receptacle and in proximity to the floor thereof,
  means, following engagement of the tip of said nozzle assembly by rising level of material during pouring, for separating said platform and nozzle assembly while maintaining such engagement between said nozzle assembly and the rising level of such material during such pouring, said means for separating said platform and nozzle assembly including liquid level sensing means having a sensing component carried by said nozzle assembly and adapted to enter said receptacle with said nozzle assembly, and means responsive to contact of said flowable material with said sensing component for producing a separating movement between said platform and nozzle assembly during said contact,
  and means for shutting off such flow of material upon the filling of such receptacle to such predetermined level.

3,380,512
MOLDING APPARATUS WITH SELECTED MOLD PIVOTING MEANS

Edward Garabedian, 83 Walnut St., East Providence, R.I. 02914

Filed May 12, 1964, Ser. No. 366,836
5 Claims. (Cl. 164—341)

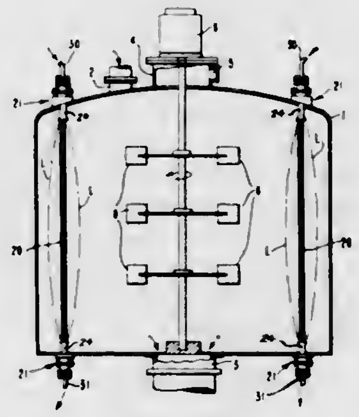


2. A molding apparatus comprising a frame, an upright back plate fixed to said frame having a plurality of openings therein, a mold separate from said plate having a front part and a back part and a gate at one edge, a shelf extending at generally right angles to said plate to an extent to support the mold, means to hold the mold parts together while liquid is poured into the mold, said front part having a handle and said back part having a single pin entering a selected one of said openings and about which said mold may be pivoted by manual manipulation of said handle for discharging the mold material from said gate.

3,380,513
HEAT EXCHANGE ARRANGEMENT

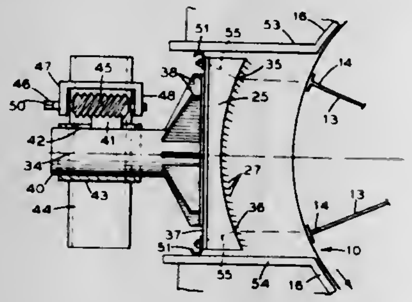
Louis Thompson Staats, Jr., Lewisville, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Sept. 26, 1966, Ser. No. 581,985
6 Claims. (Cl. 165—1)



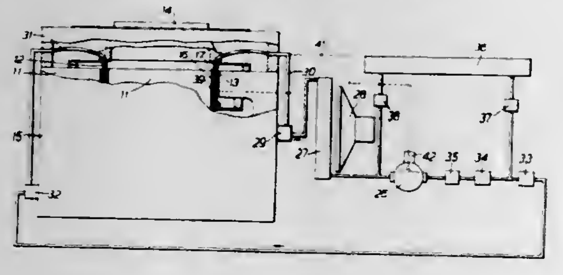
A heat exchange apparatus and process utilizing a housing with inlet and outlet means and a fluid displacing means mounted in the housing, the housing also containing at least one bundle of relatively small fluid-carrying flexible tubular elements secured in position at the ends of the bundle. The fluid displacing means and bundle of tubular elements are arranged in the housing so that when the housing contains a fluid and the fluid displacing means is actuated, the fluid and tubular elements are kept in substantially continuous lateral movement which is sufficient to prevent deposition and build-up on the tubular elements of solid material separated from the fluid.

3,380,514
RADIAL AND AXIAL SEALS FOR A REGENERATIVE AIR HEATER
Albert Eisenstein, Akron, Ohio, assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed Feb. 24, 1966, Ser. No. 529,688
4 Claims. (Cl. 165—9)



A seal for a rotary regenerative heater wherein a plurality of sealing blocks are positioned radially and axially of the rotor to cooperate with surfaces of the rotor to avoid leakage between the heating fluid and the fluid being heated. Each of the blocks is supported on the heater housing for adjustable movement in a plane including the axis of rotor rotation so as to maintain a preferred surface to surface relationship of the seals in all adjusted positions.

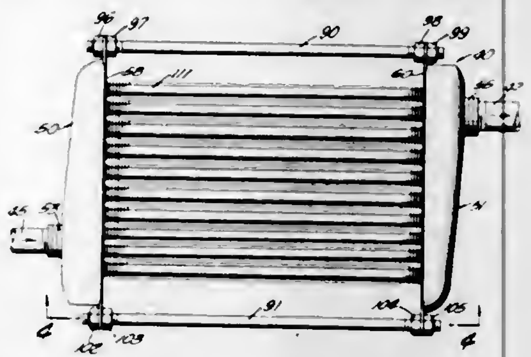
3,380,515
ELECTROMECHANICAL VIBRATORS
Peter Grootenhuis, London, and James Walter Gearing, St. Leonards-on-Sea, England, assignors to Derritron Limited, London, England, a company of Great Britain
Filed Oct. 24, 1965, Ser. No. 504,728
Claims priority, application Great Britain, Oct. 28, 1964, 44,034
10 Claims. (Cl. 165—40)



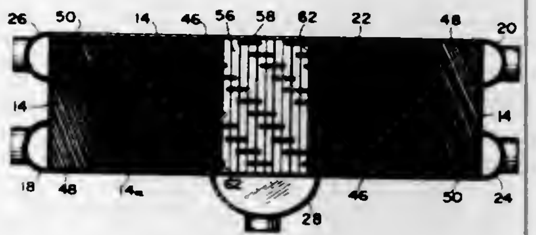
This invention relates to improved moving coil elements that vibrate axially in an annular air gap between inner and outer pole pieces of a magnet in electromechanical vibrators. The moving coil comprises two tubular layers of conductors coaxially mounted one within the other with supporting means between them in the form of spacer elements to permit coolant to be circulated through the moving coil element itself.

3,380,516
HEAT EXCHANGER INCLUDING TUBE EXPANSION MEANS
Minton W. Kaye, Pasadena, Calif., assignor to Raypak Company, Inc., a corporation of California
Filed June 17, 1966, Ser. No. 558,361
1 Claim. (Cl. 165—81)

A heat exchanger having spaced elongated integral headers held spaced apart by tie rods at their ends. Tubes extend between the headers and into openings having O-ring seated in internal grooves. Each header is provided with longitudinal flanges on opposite sides for sealing engagement with portions of a firebox.



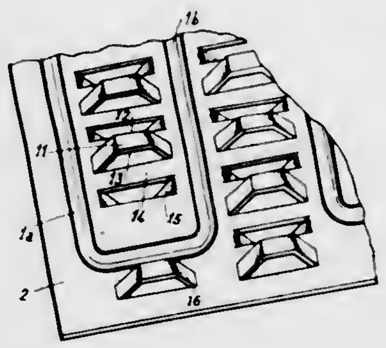
3,380,517
PLATE TYPE HEAT EXCHANGERS
Alan G. Butt, La Crosse, Wis., assignor to The Trane Company, La Crosse, Wis., a corporation of Wisconsin
Filed Sept. 26, 1966, Ser. No. 582,155
14 Claims. (Cl. 165—166)



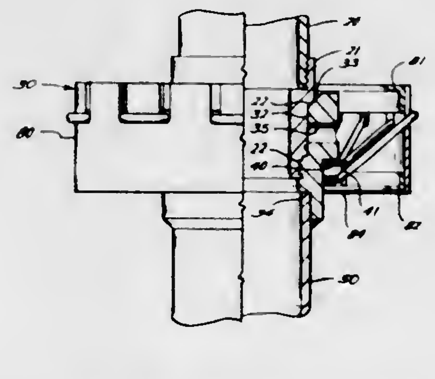
1. A plate type brazed heat exchanger comprising a plurality of separator plates of generally similar configuration spaced in superposed substantially parallel relationship along a first axis; means sealingly connecting adjacent separatory plates along the margins thereof thereby defining fluid passages between said separator plates; means for conducting heat exchange fluid from one end to the other end of each of said passages in a direction generally parallel to a second axis extending parallel to said separator plates; a baffle plate disposed in one of said passages intermediate the ends thereof interposed in spaced substantially parallel relationship to said separator plates that define said one passage; a first heat exchange fin packing member disposed in said one passage at one face of said baffle plate and oriented to conduct heat exchange fluid in a direction generally parallel to said second axis; a second heat exchange fin packing member disposed in said one passage at the other face of said baffle plate oriented to conduct heat exchange fluid in a direction generally parallel to a third axis extending perpendicular to said first axis and transverse to said second axis; a third heat exchange fin packing member disposed in said one passage downstream of said baffle plate and having fins extending from one separator plate to the other one of said separator plates defining said one passage; and a port extending through said sealing means adjacent to and communicating with said second heat exchange fin member.

3,380,518
FINNED HEAT EXCHANGER
André Canteloube, 10 Ave. de Bretteville, Neuilly-sur-Seine, France, and Italo Taverna, 80 Blvd. de Valmy, Colombes, France
Filed Feb. 15, 1966, Ser. No. 527,714
Claims priority, application France, Feb. 26, 1965, 7,159, Patent 1,434,385
3 Claims. (Cl. 165—171)

A finned heat exchanger comprises a plate carrying a sinuous tube, and fins stamped from the material of the plate between and perpendicular to the lengths of the tube. The stamped fins are arched bridges extending alternately from opposite sides of the plates and having between at least some of them flat fins comprised by remaining portions of the plate. The bridges extend outwardly from the plane of the plate farther than the tubes. The flat fins between the bridge-type fins may be at an acute angle to the plate.



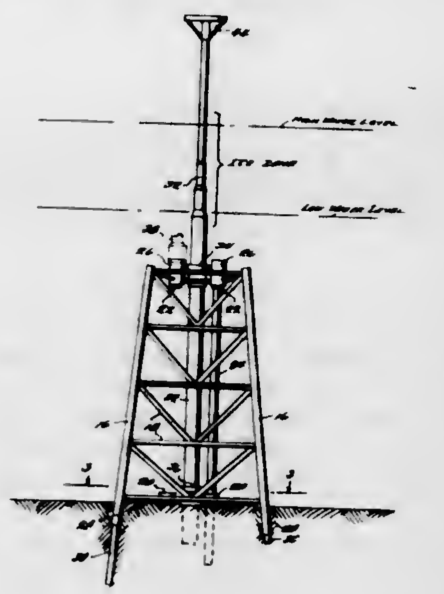
3,380,519
LANDING BASE
John H. Fowler, Houston, Tex., assignor to Rockwell Manufacturing Company, Houston, Tex., a corporation of Pennsylvania
Filed Nov. 3, 1965, Ser. No. 506,244
13 Claims. (Cl. 166—.5)



An underwater well landing base and method for installing same. A skeleton landing base form is non-rigidly attached to a casing head which is in turn fastened to a conductor casing. The skeleton form comprises a cylindrically formed sheet affixed at its upper and lower ends to angle iron rings. A thin sheet of material closes the lower end and provides non-rigid attachment of the form to the casing head. Reinforcing bars are attached and laced between the casing head and the outer portion of the form.

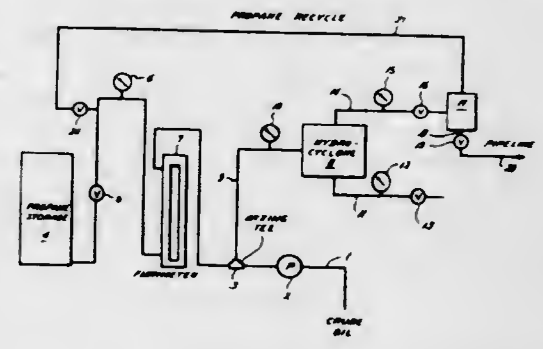
To install the landing base, the conductor casing, casing head and skeleton form are lowered to the floor of a body of water. The subsurface is penetrated with the conductor casing until the skeleton form contacts and conforms to the subsurface. At this time the reinforcing bars are placed in stress. Then a surface casing is installed telescopically in the conductor casing with an annular space therebetween. A surface casing head connected to the upper end of the surface casing seals the annular space from the body of water. Cement is pumped down through the surface casing, back up the annular space, and outwardly through ports in the casing head into the skeleton form and allowed to set forming a prestressed landing base integral with the casing cement and conforming to the subsurface.

3,380,520
DRILLING AND PRODUCTION PLATFORM
Floyd T. Pease, Houston, Tex., assignor to The Offshore Company, Houston, Tex., a corporation of Delaware
Filed Feb. 8, 1966, Ser. No. 525,936
14 Claims. (Cl. 166—.5)



1. A template structure for use in underwater well drilling operations and for supporting submerged devices associated with a producing well comprising:
a guide and support frame structure for anchoring to an underwater floor at a drilling site,
guide sleeve means connected to said frame for guiding drive pipe means into the drilling site from a drilling rig located above the surface of the water,
wellhead protector means carried by said frame for encasing and supporting wellhead means of a completed producing well, and
a rigid control line access tube carried by said frame and communicating between the frame and the surface of the water, whereby control lines may be connected between the wellhead means and a surface station for remotely controlling well operations.

3,380,521
SECONDARY RECOVERY OF CRUDE OIL
Robert H. Friedman, Houston, Tex., assignor, by mesne assignments, to Getty Oil Company, Los Angles, Calif., a corporation of Delaware
Filed July 26, 1965, Ser. No. 474,809
14 Claims. (Cl. 166—8)

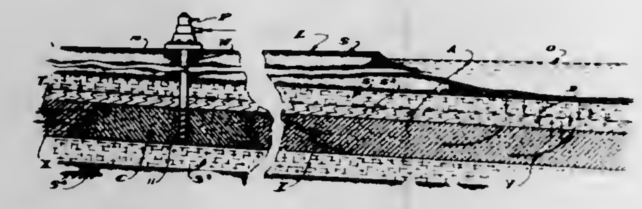


A process for the recovery of crude oil involves separating an asphaltic fraction from the crude oil, using a portion of the crude resulting from the separation to generate steam, and employing the steam in the recovery of the crude oil from the formation. The deasphalted crude oil can be transported to a refinery more easily, and the separated asphaltic fraction is a relatively cheap source of heat for enhancing the recovery process.

3,380,522
METHOD OF INHIBITING SALINE WATER INTRUSION INTO FRESH WATER AQUIFERS

Winfield S. Payne, Jr., % Payne Oilfield Equipment Leasing Co., P.O. Box 197, Long Beach, Calif. 90801, and Marion Dudley Hughes, 4420 Myrtle Ave., Long Beach, Calif. 90807

Filed June 8, 1965, Ser. No. 462,190
11 Claims. (Cl. 166—9)

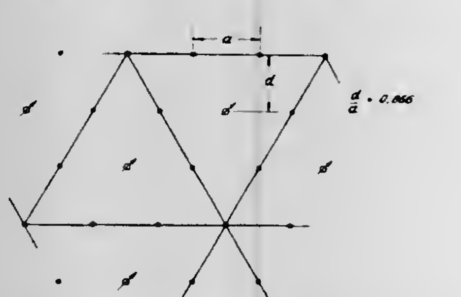


The method of stopping the horizontal advance of saline water in a substantially horizontally extending fresh water aquifer between substantially impermeable strata in the earth which comprises, drilling a well into the aquifer in advance of the intruding saline water and then injecting a slurry containing an aggregate of non-toxic granules through the well and into the aquifer under pressure to urge the granules out into the aquifer and into tight bridging engagement with each other and with the strata above and below the aquifer to establish an impermeable bridging mass in the aquifer in advance of the intruding saline water.

3,380,523
10-WELL DELTA PATTERN FOR SECONDARY RECOVERY

Donald L. Hoyt and Anthony F. Altamira, Houston, Tex., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

Filed June 28, 1966, Ser. No. 561,080
8 Claims. (Cl. 166—9)



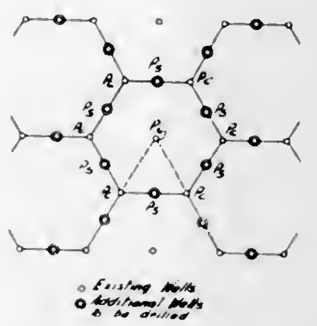
1. A method of producing hydrocarbons from an underground hydrocarbon-bearing formation involving wells located at the vertices and on the sides of a triangle and a well located therewithin which comprises introducing fluid into said formation via the well located within said triangle, and producing hydrocarbons from said formation via the wells located at said vertices and on said sides of said triangle until breakthrough at the wells on said sides of said triangle of the fluid introduced into said formation, and thereupon ceasing producing hydrocarbons from said wells on said sides of said triangle while still producing hydrocarbons from the wells located at said vertices of said triangle and introducing fluid into said formation through said well within said triangle.

3,380,524
13-WELL HEXAGON PATTERN FOR SECONDARY RECOVERY

Anthony F. Altamira and Donald L. Hoyt, Houston, Tex., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

Filed June 28, 1966, Ser. No. 561,108
9 Claims. (Cl. 166—9)

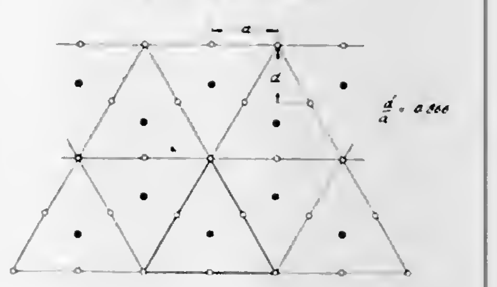
1. A method of producing hydrocarbons from an underground hydrocarbon-bearing formation involving wells located at the vertices and on the sides of a hexagon and a well located therewithin which comprises introducing fluid into said formation via the well located within said hexagon, producing hydrocarbons from said formation via the wells located on said sides of said hexagon until breakthrough thereat of said fluid introduced into said formation, and thereupon respectively ceasing introducing fluid and producing hydrocarbons via said wells within said hexagon and on said sides, and commencing introducing fluid into said formation via the side wells and initiating producing hydrocarbons at said wells located at said vertices of hexagon.



3,380,525
7-WELL DELTA PATTERN FOR SECONDARY RECOVERY

Anthony F. Altamira and Donald L. Hoyt, Houston, Tex., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

Filed June 28, 1966, Ser. No. 561,110
10 Claims. (Cl. 166—9)



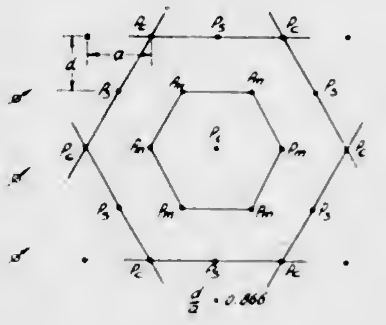
1. A method of producing hydrocarbons from an underground hydrocarbon-bearing formation involving wells located at the vertices and on the sides of a triangle and a well located therewithin which comprises introducing fluid into said formation via the wells located at said vertices of said triangle, producing hydrocarbons from said formation via the wells located on said sides of said triangle until breakthrough thereat of said fluid introduced into said formation, and thereupon respectively ceasing introducing fluid and producing hydrocarbons via said wells at said vertices and on said sides, and commencing introducing fluid into said formation via the side wells and initiating producing hydrocarbons via said well located within said triangle.

3,380,526
19-WELL DOUBLE HEXAGON PATTERN FOR SECONDARY RECOVERY

Anthony F. Altamira and Donald L. Hoyt, Houston, Tex., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

Filed June 28, 1966, Ser. No. 561,146
9 Claims. (Cl. 166—9)

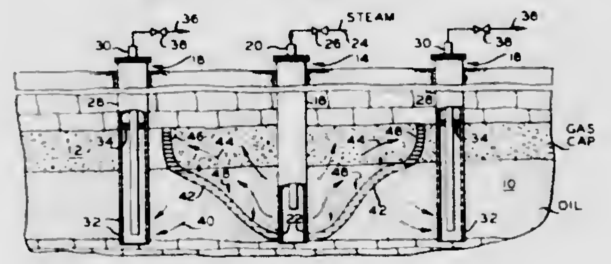
1. A method of producing hydrocarbons from an underground hydrocarbon-bearing formation involving a pattern unit of wells located at the vertices and on the sides of a hexagon and wells located therewithin including a central well which comprises introducing fluid into said formation via the wells located on the sides of said hexagon, and producing hydrocarbons from said formation via the wells located at said vertices of said hexagon until breakthough of the fluid introduced into said formation thereat, thereupon ceasing introducing fluid via said side wells and introducing fluid into said formation via the wells at said vertices of said hexagon and producing hydrocarbons via said wells within said hexagon until breakthrough of said fluid introduced into said formation into said last mentioned wells producing hydrocarbons other than said central well, and thereafter ceasing producing hydrocarbons at the breakthrough wells while continuing producing hydrocarbons via said central well until breakthrough of the introduced fluid thereat.



3,380,527
OIL PRODUCTION BY VERTICAL STEAM DRIVE

Emery M. Craighead, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Oct. 21, 1965, Ser. No. 500,424
9 Claims. (Cl. 166—11)



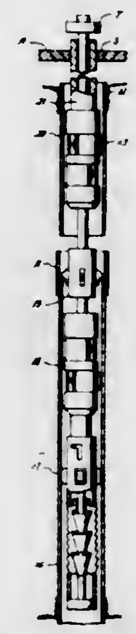
Oil is produced from an oil stratum adjacent and open to a gas stratum, the strata being penetrated by an injection well and a production well, by injecting steam either directly into the gas stratum, only, or directly, into a section of the oil stratum remote from the gas stratum, only, to form a condensate barrier in the gas cap and apply steam pressure downwardly on the oil in the oil stratum while opening the production well to flow from the oil stratum only at a level remote from the gas stratum.

3,380,528
METHOD AND APPARATUS OF REMOVING WELL PIPE FROM A WELL BORE

Archie Durwood Timmons, Morgan City, La., assignor to Tri-State Oil Tool Industries, Inc., Bossier City, La., a corporation of Delaware

Filed Sept. 24, 1965, Ser. No. 489,975
14 Claims. (Cl. 166—14)

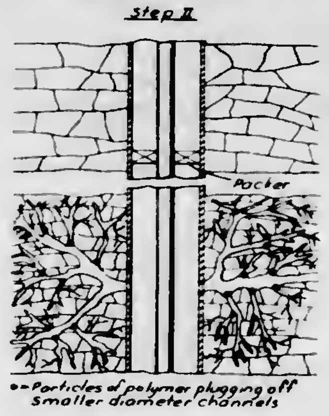
The method of removing a section of casing from a well bore and a gripping tool. The method includes the steps of positioning a first gripping tool supported on a first string in a well bore below the casing joint to be unthreaded, lowering a second gripping tool on a second string downwardly over the first string and positioning the second tool above the joint to be unthreaded, rotating the tubing strings in opposite directions to cause the tools to engage the casing and transmit torque thereto whereby the joint is unthreaded and the string above the joint may be removed after removal of the tools and their respective strings. The gripping tool includes a mandrel having cam surfaces spaced longitudinally apart on its exterior and gripping members mounted on the mandrel with each such member engaging one of the cam surfaces. This abstract is neither intended to define the invention of the application which, of course, is measured by the claims, nor is it intended to be limiting as to the scope of the invention in any way.



3,380,529
METHOD OF ACIDIZING A FLUID-BEARING FORMATION

Alfred R. Hendrickson, Tulsa, Okla., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Oct. 23, 1964, Ser. No. 405,960
8 Claims. (Cl. 166—33)


Step II
Packer
•–Particles of polymer plugging off smaller diameter channels

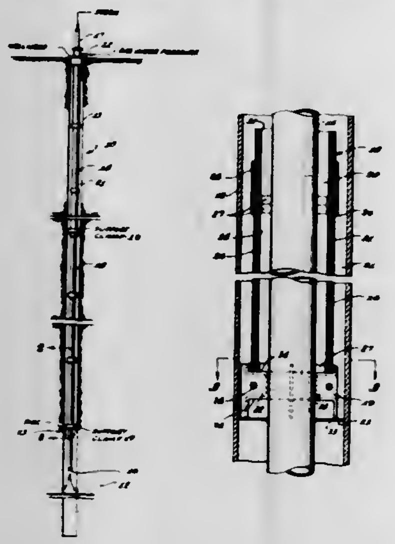
A method of acidizing earthen formations, chemically reactive to low pH liquid media which is performed in two steps, the first being an injection down a wellbore into the formation of an acidic liquid, at less than fracturing pressure, to initiate chemical attack on the formation and the second being an injection of an acidic liquid containing dispersed therein a compressible polymer materal of specified particle size, substantially insoluble in the acidic liquid, at sufficient pressure to force the polymer particles progressively into the newly formed smaller channels close to the wellbore, thereby at least partially plugging them and resulting in the injected acidic liquid being forced along the more open channels to effect acidic attack at greater distances from the wellbore.

3,380,530

STEAM STIMULATION OF OIL-BEARING FORMATIONS

Malcolm F. McConnell, 3940 Valley Meadow Road, Encino, Calif. 91316; Robert P. Cabeen, 4619 Grand Ave., La Canada, Calif. 91011; and Warren W. Hedstrom, Sunnyridge Road, Rolling Hills, Calif. 90274

Filed Apr. 1, 1966, Ser. No. 539,385
25 Claims. (Cl. 166—40)



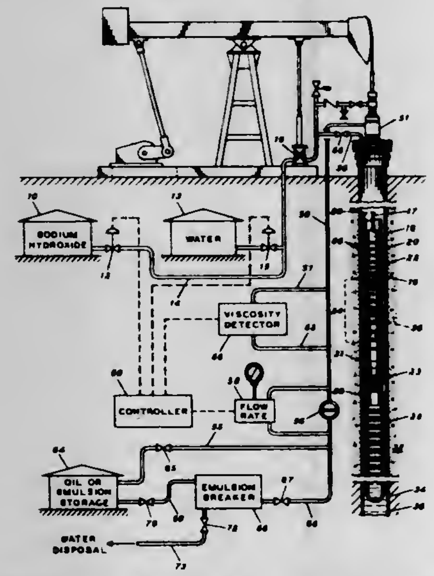
Steam stimulation of oil bearing formations including the steps of forcing a gas through the annulus around the steam injection pipe at a pressure at least sufficient to prevent steam emerging from the lower end of the pipe from rising above a restriction in the annulus adjacent the oil strata, while restricting heat losses from the steam injection pipe with a column, surrounding the pipe, of a thin metallic sheet material that is loosely confined. Steam injection pipe insulators incorporating such columns of thin metallic sheet that are loosely restrained by double-walled sleeves detachably connected to the steam pipe, or in an annulus permanently defined around the steam pipe, and with provision for fluid sealing ends of the insulators.

3,380,531

METHOD OF PUMPING VISCOUS CRUDE

Clayton D. McAuliffe, Fullerton, Ralph Simon, Whittier, and Carl E. Johnson, Jr., Laguna Beach, Calif., assignors to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

Continuation-in-part of application Ser. No. 503,210, Oct. 23, 1965. This application May 18, 1967, Ser. No. 642,284
16 Claims. (Cl. 166—45)



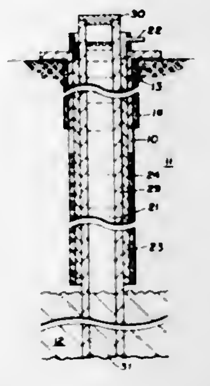
The invention is directed to improving the pumpability of crude oil from a well by forming a low viscosity oil-in-water emulsion near the pump in the well.

3,380,532

METHOD OF COMPLETING A WELL

Evin L. Cook, Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York

Filed Dec. 21, 1965, Ser. No. 515,464
16 Claims. (Cl. 166—46)



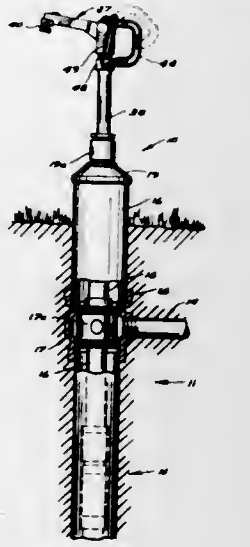
This specification discloses a process for completing a well into the earth whereby liquid drilling fluid employed during the drilling of the well does not enter the earth formation in which the well is completed. In the process, the well is drilled conventionally with liquid drilling fluid to a point in the vicinity of the top of the formation. Casing is then cemented in the well. Thereafter, a hollow liner which may be a closed end or open end liner is mechanically driven into the formation as by a pile driver, a hydraulic jar, or a vibration generator. Next, fluid communication is established between the interior of the liner and the formation.

3,380,533

HYDRANT FOR PITLESS WELL UNITS

Homer L. Andrew, Superior, Wis., assignor to Duplex Manufacturing Company, Superior, Wis., a corporation of Wisconsin

Filed Mar. 11, 1966, Ser. No. 541,433
11 Claims. (Cl. 166—88)



1. A hydrant for use in a pitless well installation of the type including a well casing having the upper end thereof disposed above the surface of the ground, a water distributor member within the casing below frost level for directing water from the well into a lateral discharge line, said hydrant including:

(a) a hydrant nozzle arranged for positioning above ground level;

(b) a conduit within the casing above the distributor arranged to receive water from the distributor for delivery to said nozzle;

(c) valving means cooperatively associated with said conduit shiftable into at least an open position to permit the flow of water into said conduit and a closed position permitting water to drain from said nozzle directly into the well; and

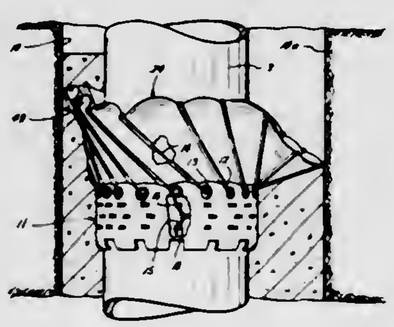
(d) means for shifting said valving means into selected position.

3,380,534

WELL BORE CLEANER AND CEMENT DISPERSER

Elmer D. Hall, Weatherford, and Jesse E. Hall, Jr., Houston, Tex., assignors to Weatherford Oil Tool Company, Inc., Houston, Tex., a corporation of Texas

Filed Apr. 25, 1966, Ser. No. 544,914
5 Claims. (Cl. 166—173)



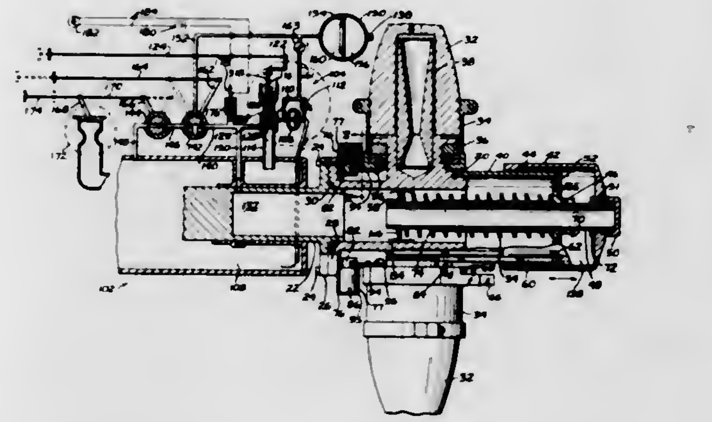
A collar received about a well casing has radially or tangentially projecting ribs or spines with intervening flexible webbing which is inclined and cupped by the flowing fluid to form generally helical, flow-directing passages which cause swirling of the fluid and forceful impinging of the fluid against the well bore for cleaning of the same.

3,380,535

CONSTANT SPEED AND REVERSIBLE AIRCRAFT PROPELLER

David Biermann, Piqua, Ohio, assignor to Hartzell Propeller, Inc., Piqua, Ohio, a corporation of Ohio

Filed Dec. 27, 1965, Ser. No. 516,388
13 Claims. (Cl. 170—160.2)



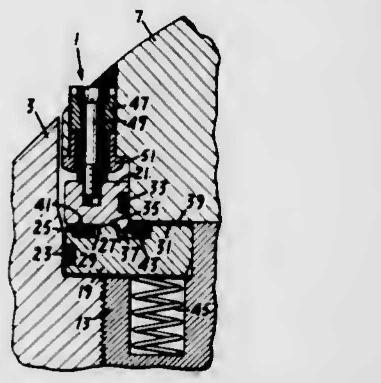
Variable pitch propeller in which the blades are movable from reverse pitch to high pitch and are spring urged toward high pitch position and are movable toward reverse pitch position by a fluid motor; with a first centrifugally operable stop which prevents movement of the blades to reverse pitch when the propeller speed is above a predetermined speed and a second centrifugally operable stop which prevents movement of the blades to high pitch position when the propeller is halted in a normal manner; together with a hydraulic system to control the supply of fluid to the fluid motor.

3,380,536

PROPELLER SEALING DEVICE

Lennart Anders Pehrsson, Kristinehamn, and Olof Johan Gerhard Hedberg, Karlstad, Sweden, assignors to Aktiebolaget Karlstads Mekaniska, Werkstad, Karlstad, Sweden, a company of Sweden

Filed July 10, 1967, Ser. No. 652,285
9 Claims. (Cl. 170—160.23)



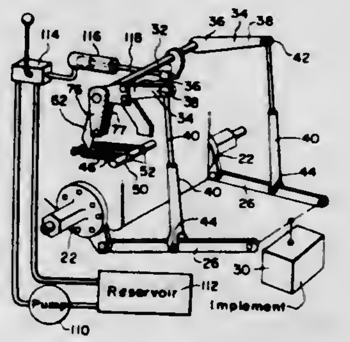
A sealing device for a variable-pitch blade of the type used in, for example, ship propellers, water turbines, and pumps, and in which the blade is mounted for pivotal movement in a blade-carrying member. The sealing device, which is located in an annular space between the blade and the blade-carrying member, comprises at least two sealing rings, one of which is fitted to and forms a seal with the member and the other of which is fitted to and forms a seal with the blade. The sealing rings are mounted for displacement relative to the blade and the blade-carrying member between two alternative positions, and two compressible seal elements are carried by the sealing rings in positions such that one is placed in operative sealing engagement when the sealing rings are in one of their alternative positions and the other is placed in operative sealing engagement when the sealing rings are in their other alternative position. A mechanism is provided to shift the sealing rings and thus to shift the sealing function from one of the compressible elements to the other upon, for example, some indication of wear or failure of the first compressible element.

3,380,537

IMPLEMENT WEIGHT TRANSFER DEVICE

James Morkoski, Clarendon Hills, Ill., assignor to International Harvester Company, a corporation of Delaware

Filed Aug. 4, 1965, Ser. No. 477,199
12 Claims. (Cl. 172—445)



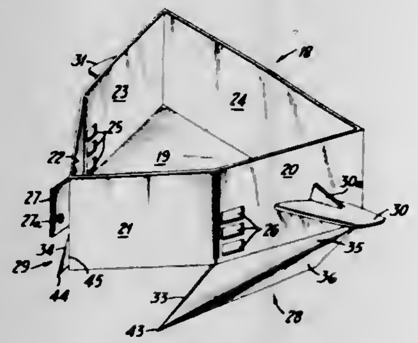
1. A hitch assembly for an implement and tractor, said tractor including a longitudinally extending body having front and rear portions, ground-engaging drive members supporting the rear portion of said tractor body, a rotatable rockshaft connected to said implement and being mounted for rotation along an axis transverse the body at a rear portion thereof, means to rotate said rockshaft to raise and lower said implement, said hitch assembly comprising:

implement support means pivotally mounted on the rear portion of said body, and extending rearwardly of said tractor, said implement being connected to said support means, lift means having first and second ends and being secured to said rockshaft at said first ends for rotation therewith, said lift means extending rearwardly, link means connected pivotally between said lift means second end and said support means whereby said support means and implement are raised upon rotation of said rockshaft in a first direction and said support means and implement are lowered upon rotation of said rockshaft in a second direction;

and resilient means secured to a rear portion of said tractor body and arranged to oppose rotation of said lift means beyond a predetermined position in said second direction, whereby upon rotation of said lift means in lowering said implement beyond said predetermined point, a portion of the weight of said implement is transferred to said tractor at a position over the rear drive members thereof.

3,380,538
MEANS AND METHOD FOR FORMING SEEDLING BEDS

Harry Ganteaume T., HDA "San Pablo," Turmero,
Edo. Aragua, Venezuela
Filed Oct. 16, 1964, Ser. No. 404,464
6 Claims. (Cl. 172—701)

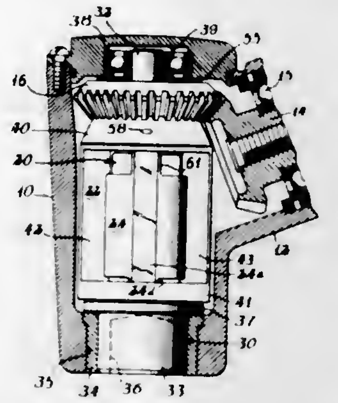


A plow to provide subterranean compressed plant seedling beds, having two spaced digging tools suspended below a platform and superstructure rising above the platform. The plow is operated through the ground at a fixed level with the digging tools and at least a portion of the platform below the unplowed ground level. Forwardly and downwardly angled leading edges of the digging tools assist in providing said operation below ground level. A channel converging toward the rear of the plow is defined, as the plow operates, by the under surface of the platform and the inner surfaces of the digging tools. Furrows are formed by the digging tools, and a compressed seedling bed is formed between the furrows and below the original unplowed ground level from the soil passing through the convergent channel.

3,380,539
IMPACT CLUTCH

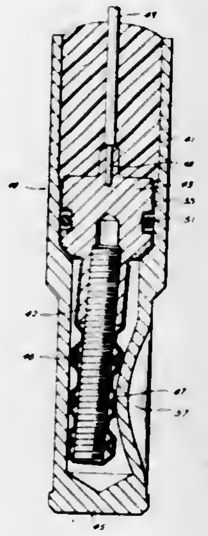
Frank A. Kaman, Prospect Heights, Ill., assignor to Skil Corporation, Chicago, Ill., a corporation of Delaware
Filed Sept. 8, 1964, Ser. No. 394,682
8 Claims. (Cl. 173—93.5)

1. An impact clutch comprising a rotatable anvil having a pair of longitudinally extending jaws both facing in the same rotary direction of the anvil and being offset from each other axially of the anvil, a pair of hammers mounted by common support means for relative rotation around said anvil and for rocking movement, between clutched and de-clutched positions, about separate axes parallel with and spaced from the axis of rotation of the anvil, said hammers being of substantially the same length and being in alignment with each other axially of the anvil, said hammers each having a jaw adapted to deliver in the clutched position of the hammers a rotary impact to said anvil through said jaws thereof, respectively, the jaws on respective hammers being positioned axially thereof such that there is only one pair of jaws in any plane perpendicular to the longitudinal axis of the anvil which impact with each other during relative rotation between the anvil and the hammer in one direction, cam means for simultaneously clutching the hammers once for every revolution of the hammers relative to the anvil thereby to deliver a balanced impact blow to the latter, and separate cam means for de-clutching the hammers.



3,380,540
SELECTIVE FIRING APPARATUS

Roger Q. Fields, Houston, Tex., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas
Filed May 9, 1966, Ser. No. 548,450
11 Claims. (Cl. 175—4.55)

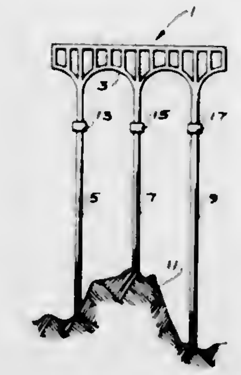


9. As a subcombination, an arming switch adapted for use with well apparatus comprising: a tubular member of electrically conductive material; an electrical conductor disposed in said tubular member and normally spaced from the interior surfaces thereof; means for fluidly sealing said electrical conductor within said tubular member and means for establishing electrical contact between said conductor members upon inward collapse of said tubular member.

3,380,541
SONIC METHOD AND APPARATUS FOR INSTALLING COMPLEX STRUCTURES

Albert G. Bodine, Jr., 7877 Woodley Ave.,
Van Nuys, Calif. 91406
Filed Oct. 4, 1965, Ser. No. 492,553
18 Claims. (Cl. 175—19)

A method and apparatus is disclosed herein for driving prefab.icated structures having a plurality of longitudinal support members or piles into the earth. Independently acting acoustical driving apparatus coupled to each support member generates elastic waves in the members causing them to be driven downwardly. For asymmetrical structures, a fixed bias or balancing mass is affixed to permit the generated standing wave to be isolated from the lateral superstructure. Coupling means are provided between the longitudinal supports and the lateral superstructure for eliminating parasitic vibrations and flexure therein.



3,380,542
RESTORING LOST CIRCULATION IN A WELL DRILLED WITH AN OIL BASE DRILLING FLUID

Elmer E. Clear, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Feb. 21, 1966, Ser. No. 528,807
6 Claims. (Cl. 175—72)

Oil-base drilling fluid, containing a slurry of diatomite and asbestos, is used to restore lost circulation during well drilling operations.

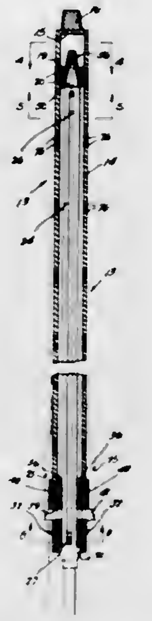
3,380,543
DIRECTIONAL WELL-DRILLING APPARATUS

Renic P. Vincent, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed Jan. 19, 1966, Ser. No. 521,704
7 Claims. (Cl. 175—73)

Apparatus for drilling straight wells includes at the bottom of a rotary drilling string a tubular spring joint, a stabilizer attached to the bottom of the spring joint, a universal joint below the stabilizer and the bit attached to the bottom of the universal joint. A side thrust mechanism may be included in the universal joint. The side thrust universal joint can be used alone for directional drilling. A particular universal joint having very large bearing areas for transmitting thrust and torque is disclosed.

3,380,544
WELLHOLE NOTCHER

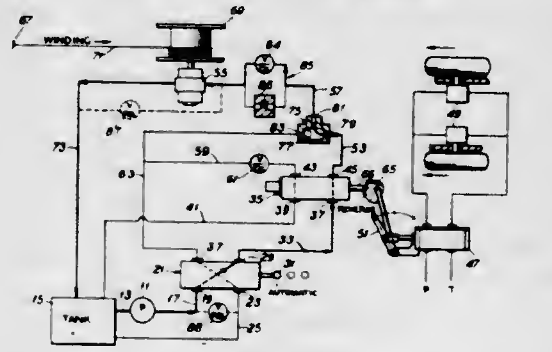
George S. Grubb, 514 W. Walnut St.,
Titusville, Pa. 16354
Filed May 27, 1966, Ser. No. 553,574
9 Claims. (Cl. 175—289)



1. In a well bore notching apparatus, abutment means engageable with the bottom of a bore hole, movable cutter means slidably-receivable in the bore hole, and cooperating means on the cutter means and the abutment means to move portions of the cutter means horizontally responsive to vertical movement of the cutter means relative to the abutment means, and wherein said abutment means comprises a vertical guide member and means to limit downward movement of the guide member in the well bore, and said cutter means includes an elongated shell member adapted to be placed in the well bore and to slidably-receive said guide member, and movable cutter members slidably-mounted in the wall of the shell member for inward and outward horizontal movement through the wall, and wherein said cooperating means comprises cooperating cam means on the top end of the guide member and on the cutter members moving the cutter members horizontally responsive to vertical movement of the shell member relative to the guide member.

3,380,545
CABLE REEL CONTROL MECHANISM

James M. Kemper, Park Forest, Ill., assignor to Westinghouse Air Brake Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 15, 1966, Ser. No. 572,451
6 Claims. (Cl. 180—2)



1. In a movable machine having tram drive means energized through a power cable with one end portion wound upon a cable reel carried by the machine and another end portion fastened to a nip remote from the machine; tram control means for the tram drive means being selectively actuatable to "FORWARD" condition for tramming the machine away from the nip while pay-

ing off cable from the reel, to "REVERSE" condition for tramming the machine toward the nip while winding cable onto the reel, and to "NEUTRAL" condition for tramming in neither direction; a hydraulic control circuit for the cable reel including a pump, a pump divertor valve, a hydraulic motor-pump connected to drive the reel, and a tank arranged in series relation; the improvement comprising:

said divertor valve being selectively operable to one of the following three conditions—

an "ON" position in which the pump outlet is connected through the divertor valve to the inlet of the motor-pump,

an "OFF" position in which the pump outlet is connected through the divertor valve to the tank, bypassing the motor-pump, and

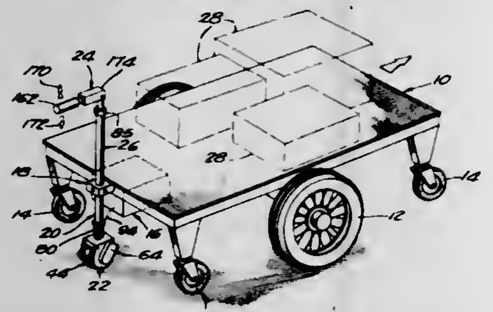
an "AUTOMATIC" position in which the pump outlet is connected through the divertor valve to the inlet of an auxiliary valve;

said auxiliary valve being operable responsive to operation of the tram control means to one of the following two conditions—

a position in which the pump outlet is connected through the divertor valve and the auxiliary valve to the tank in "FORWARD" condition of the tram control means; and

a position in which the pump outlet is connected through the divertor valve and the auxiliary valve to the inlet of the motor-pump in the "REVERSE" condition of the tram control means.

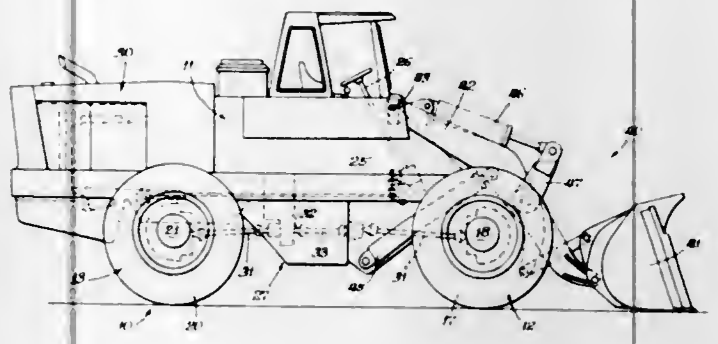
3,380,546
TRACTION DRIVE FOR SMALL VEHICLES
Rodney R. Rabjohn, 9850 Stanwin Ave.,
Pacoima, Calif. 91331
Filed Feb. 14, 1966, Ser. No. 527,294
5 Claims. (Cl. 180—15)



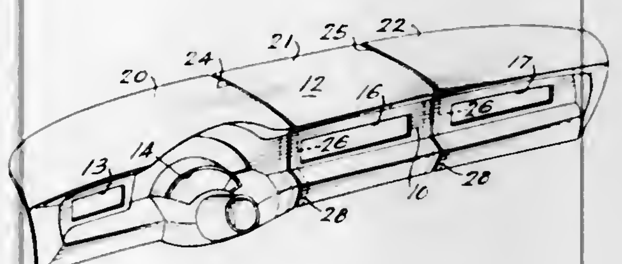
This invention provides a compact, steerable motor drive for small vehicles having a control operable either from a walking position behind the vehicle or from a riding position on the vehicle. A control assembly is provided, up and down movement of the handle determining the direction of motion, rotation of the handle about its longitudinal axis serving to vary the speed or rate of said motion, and angular displacement of the handle about the vertical axis resulting in steering control of the vehicle utilizing the invention. The traction drive of the invention may be attached as a fifth, or more, wheel to an existing vehicle, or any one or all of the wheels of a vehicle may be replaced with a like number of traction drives.

3,380,547
STEERING SYSTEM
Thorvald G. Granryd, Libertyville, Ill., assignor to International Harvester Company, a corporation of Delaware
Filed Dec. 23, 1964, Ser. No. 420,682
14 Claims. (Cl. 180—79.2)

1. In a multiple speed range vehicle, a steering system for providing a relatively high steering ratio and a relatively low turning rate during high speed range travel, and a relatively low steering ratio and relatively high turning rate during low speed range working, comprising: fluid motor means for turning the vehicle, steering pump means for supplying fluid under pressure to said fluid motor means, additional pump means for supplying additional fluid under pressure to said fluid motor means, control means which, upon being energized, directs the flow of fluid under pressure from both of said pump means to said motor means to effect vehicle turning, follow-up means operatively connected with said control means to terminate the flow of fluid responsive to a first vehicle turning angle for a predetermined amount of energization of said control means during high speed range travel, and to terminate the flow of fluid responsive to a second vehicle turning angle greater than said first angle for said predetermined amount of energization of said control means during low speed range working, and selector means which render said additional pump means ineffective to supply fluid under pressure to said motor means during high speed range travel whereby fluid under pressure is then directed to said motor means at a relatively low rate, said selector means rendering said additional pump means effective to supply fluid under pressure to said motor means during low speed range working whereby fluid under pressure is then directed to said motor means at a relatively high flow rate.

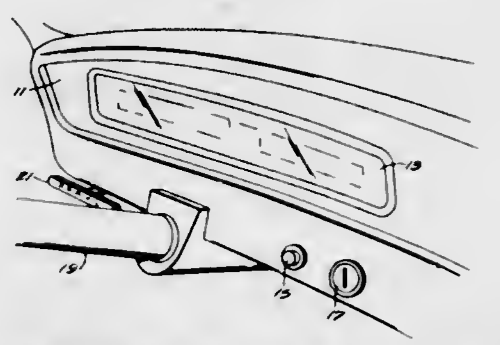


3,380,548
SAFETY INSTRUMENT PANEL FOR AUTOMOTIVE VEHICLES
Alfred F. Bauer, Toledo, Ohio, assignor to National Lead Company, New York, N.Y., a corporation of New Jersey
Filed June 1, 1966, Ser. No. 554,535
3 Claims. (Cl. 180—90)



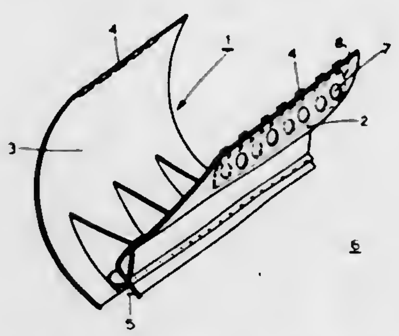
1. A die cast part for an automotive vehicle subject to impact in one direction comprising a plurality of die cast sections, said die cast sections being connected at least in a plane normal to the direction of impact by weakened areas, and bridge elements comprising highly ductile metallic members spanning said weakened areas and embedded in said die cast sections on each side thereof during casting.

3,380,549
SAFETY DEVICE CONTROLLING VEHICLE EMERGENCY BRAKE
Frances M. Hille, 735 Maple Heights Drive,
Galion, Ohio 44833
Filed May 5, 1966, Ser. No. 547,850
1 Claim. (Cl. 180—114)



There is disclosed structure for the prevention of automobile accidents by undesired release of the emergency brake. This structure includes an emergency brake rod extending substantially horizontally and formed with a substantially vertical hole into which a locking rod tends to drop when the brake is applied. A solenoid in series with the ignition switch and a manually operated switch is provided for raising the locking rod when it is desired to release the brake. However, the ignition must be turned on with a key and the manual switch intentionally operated.

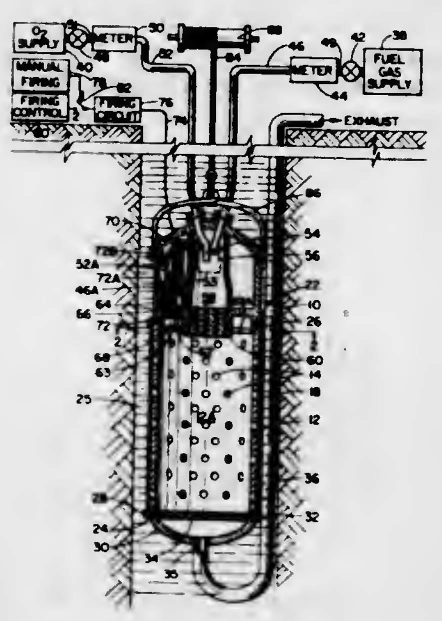
3,380,550
CONTROLLABLE PRIMING MEANS FOR THE CUSHION OF AIR CUSHION VEHICLES
Richard Stanton Jones, Cowes, Isle of Wight, England, assignor to Westland Aircraft Limited, Yeovil, England
Filed July 30, 1965, Ser. No. 476,059
Claims priority, application Great Britain, Aug. 28, 1964, 35,291/64
12 Claims. (Cl. 180—128)



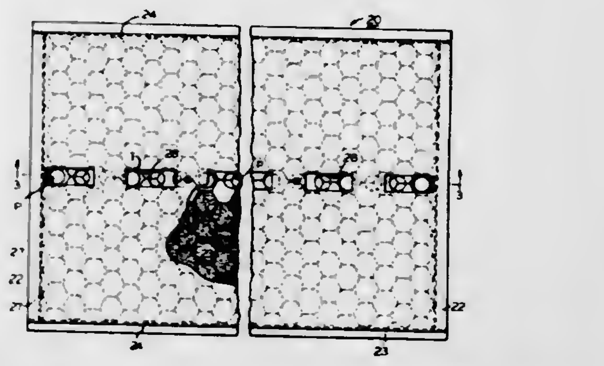
An air cushion vehicle with a flexible skirt including controllable priming means for priming the air support cushion.

3,380,551
GAS IGNITING SEISMIC SOURCE FOR WELL BORES
Harold M. Lang, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed Dec. 22, 1965, Ser. No. 515,653
16 Claims. (Cl. 181—.5)

A gas fired seismic generator for use in a body of fluid such as in a well bore. A perforated, elongated, rigid, tubular member has perforations which are completely surrounded by an elastic sleeve sealed at each end to the tubular member. An explosive gas mixing chamber is provided at the upper end of the tubular member. An exhaust conduit is connected to the lower end of the tubular member and extends to above the apparatus. A special gas mixing chamber having a flame arrester and a separate ignition chamber is provided and is preferred. The annular mixing chamber has a spark plug located opposite an opening so as to form a Mach stem upon collision of the two wave fronts which is essentially twice the pressure and temperature of either of the two colliding waves. This results in a jet projecting downwardly through the opening into the main combustion chamber.



3,380,552
ACOUSTICAL PANEL WITH HONEYCOMB CORE AND VENTILATION PASSAGEWAYS
Arthur W. Segil, South Highland Park, and Richard N. White, Des Plaines, Ill., assignors to Luminous Ceilings, Inc., Chicago, Ill., a corporation of Illinois
Filed Nov. 28, 1966, Ser. No. 603,077
2 Claims. (Cl. 181—33)

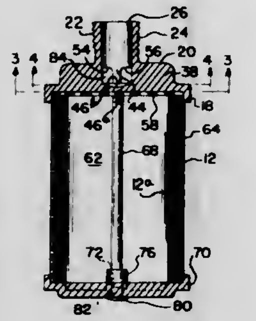


An acoustical panel particularly adapted to remove freely therethrough heated air of convection resulting from the operation of fluorescent fixtures located therebelow. The panel comprises a first panel with both large and small perforations and a sound-reflecting panel with only large perforations which are aligned with the large perforations in the first panel. A rigid honeycomb structure filled with sound deadening material is interposed between the two perforated panels and air passageways are provided through the honeycomb structure in alignment with the stated large perforations in the two panels. The small perforations in the first stated panel admit sound waves to the sound deadening material.

3,380,553
EXHAUST MUFFLER WITH EXPANSION CHAMBERS IN INLET COVER DOME
Stephen J. Gibel, 5846 Edgerton Road,
North Royalton, Ohio 44133
Filed Apr. 11, 1966, Ser. No. 541,702
4 Claims. (Cl. 181—56)

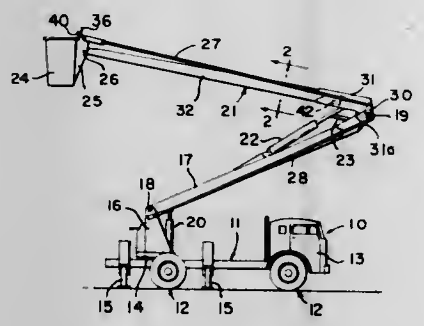
1. In a muffler adapted to silence the exhaust fluid pressure of a machine, a tubular open ended body, a

pair of cover members adapted to engage and close the ends of said body to form a silencing chamber, one of said cover members having a fluid inlet passageway through which exhaust fluid is adapted to enter the muffler, said one cover member further having an expansion chamber in communication with said inlet passageway, a diffuser member having a plurality of openings therein arranged intermediate said expansion chamber and said silencing chamber, said body having a plurality of apertures therein opening said silencing chamber to the atmosphere, and means for securing said body, diffuser member and cover members in assembled relationship.



3,380,554
TWO-WAY COMMUNICATIONS SYSTEM

Philip A. Duryee, 1115 41st E.,
Seattle, Wash. 98102
Filed Dec. 23, 1965, Ser. No. 541,865
4 Claims. (Cl. 182—46)

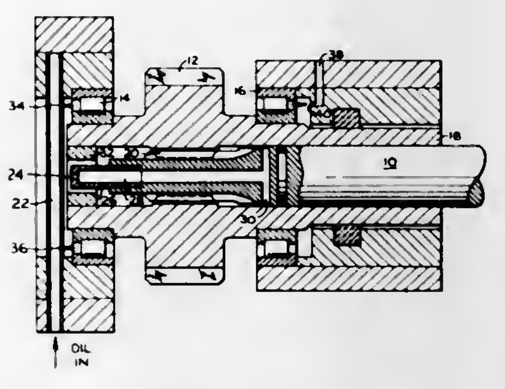


1. In combination, a vehicle with a frame and a cab on the frame, a dielectric aerial platform, boom means carried by the frame for elevating and training said aerial platform, said means including an elongated dielectric section adjoining said platform, hydraulic means for moving said boom means, dielectric control means from said aerial platform to said hydraulic means, and a two-way intercommunications system between said aerial platform and cab including a horn on said platform, a driver on said boom means separated by said dielectric section from said aerial platform, and dielectric tube means passing along said dielectric section and operatively interconnecting said horn and driver.

3,380,555
SYSTEM FOR LUBRICATION OF ROTATING ELEMENTS

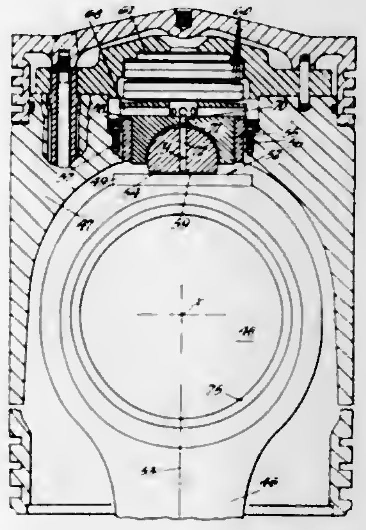
Jimmy D. Myers, Morton, and Wallace G. Stevens, Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Aug. 18, 1965, Ser. No. 480,588
1 Claim. (Cl. 184—6)

A system for lubrication of rotating elements and particularly for high speed rotating elements where it is undesirable to employ a bath of lubricant retained in the vicinity of the elements by seals or the like and including means to inject a lubricant into a space within which the elements are disposed and retain an adequate supply therein by the use of dams.



3,380,556
LUBRICATING MEANS FOR OSCILLATORY BEARINGS

Herbert A. Whitehead, Skellingthorpe, Lincoln, England, assignor to Ruston & Hornsby Limited, Lincoln, England, a company of Great Britain
Filed Oct. 18, 1965, Ser. No. 496,926
Claims priority, application Great Britain, Oct. 21, 1964, 42,837/64
2 Claims. (Cl. 184—6)



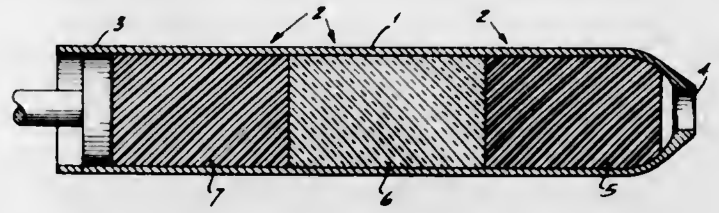
In the lubrication of uni-directionally loaded oscillating bearings, a cam and follower mechanism between associated relatively oscillating parts is arranged to separate the bearing surfaces to allow lubrication at that time in the operational cycle when the bearing load is lowest.

3,380,557
VARIABLE KINETIC ENERGY ABSORBER

Gerald H. Peterson, 1326 Armacost Ave.,
West Los Angeles, Calif. 90025
Filed Oct. 6, 1966, Ser. No. 584,718
5 Claims. (Cl. 188—1)

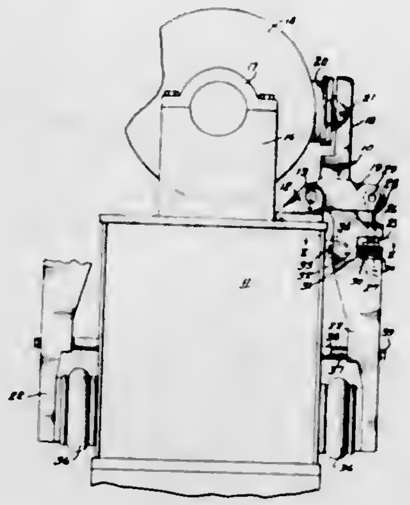
The invention relates to a kinetic energy dissipator having a cylinder, piston within said cylinder, and an extrusion orifice at the end of said cylinder opposite said piston, with different plastic materials within said cylinder between said piston and said orifice providing for different resistances to extrusion. A specific embodiment comprises three plastic materials with rubber at the front end near the orifice, lead in the middle portion of the

cylinder, and aluminum particles at the back end near the piston. This arrangement of the kinetic energy dissipator has different resistances to extrusion with movement of the piston toward the extrusion orifice with the least resistance for the rubber, next in resistance for the lead, and the most resistance for the aluminum particles.



3,380,558
SELF-ADJUSTING UNWIND BRAKE

Lawrence A. Moore, King of Prussia, Pa., assignor to Beloit Eastern Corporation, Downingtown, Pa., a corporation of Pennsylvania
Filed Dec. 6, 1966, Ser. No. 599,513
6 Claims. (Cl. 188—74)

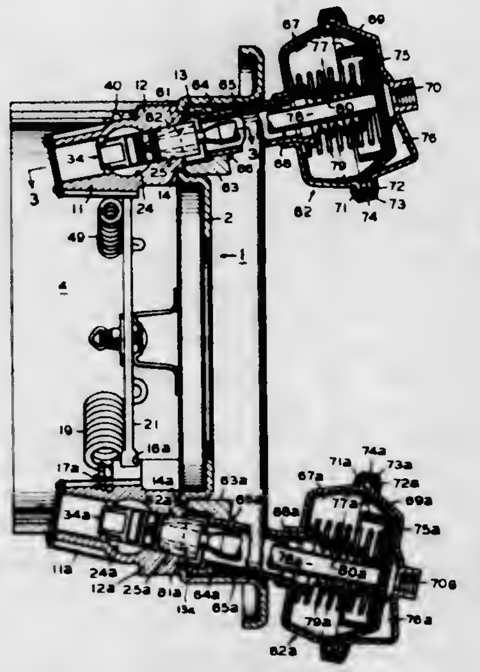


1. A brake assembly for controlling the retardation of rotation of a roll on a web unwinder, comprising:

a support including pivot means;
a brake drum rotatably mounted on said support and spaced from said pivot means;
a first arm having one end thereof connected to said pivot means and the other end thereof extending toward the surface of said brake drum;
a brake shoe mounted on said first arm at said other end and selectively engageable with said brake drum;
a second arm having one end thereof connected to said pivot means and the other end thereof adjacent said support;
a link connected between said first and second arms to cause said first and second arms to move together in the direction for applying braking force to said brake drum;
an expandible fluid receiving chamber mounted between said support and said other end of said second arm to urge said second arm about said pivot means thereby moving said other end of said first arm toward said brake drum to urge said brake shoe against said drum; and
adjustable means including a sensing member mounted on said support for sensing the distance of movement of said first and second arms about said pivot means to adjust the length of said link after said first and second arms have moved about said pivot means a predetermined distance.

3,380,559
FRICTION DEVICE

Allen K. McElwrath, Florissant, and Howard W. Field, Ferguson, Mo., assignors, by mesne assignments, to Wagner Electric Corporation, Newark, N.J., a corporation of Delaware
Filed Dec. 23, 1963, Ser. No. 332,390
8 Claims. (Cl. 188—78)

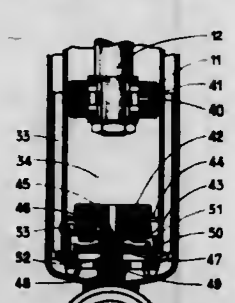


7. In a brake assembly adapted for coaction with a surrounding relatively rotatable drum, support means, at least two friction members mounted on said support means for outward displacement into frictional engagement with said drum, actuator means on said support means disposed between said friction members including opposed plungers movable therein and having their outer ends operatively connected with said friction members, a wedge member reciprocally movable substantially along its own axis between the adjacent inner ends of said plungers and having opposed inclined surfaces respectively adjacent to the inner ends of said plungers, and a unitary cage assembly movably mounted in said actuator means independently of said wedge member and plungers for translating axial movement of said wedge member in one direction into displacement movement of said plungers to effect the frictional engagement of said friction members with said drum including opposed arm portions extending substantially in planes intermediate said opposed wedge member surfaces and the inner ends of said plungers, respectively, roller means rotatably mounted about a fixed axis on said arm portions and in bearing engagement between said opposed wedge member surfaces and the inner ends of said plungers, and a resilient portion interconnecting said arm portions, said resilient portion being yieldable to provide displacement movement of said arm portions and roller means in a plane substantially normal to the axis of said wedge member to displace said plungers and move said friction members into frictional engagement with said drum upon the axial movement of said wedge member in the one direction, a fluid pressure responsive motor releasably engaged with said support means and said wedge member for driving said wedge member in the one direction, and abutment means on said cage assembly for engagement with at least one of said plungers to prevent displacement of said cage assembly from said actuator means when said motor is disengaged from said support means and said wedge member.

3,380,560

FLOW REGULATOR FOR FLUID WORKING DEVICES

Maurice Katz, 71 Rue Raynouard, Paris 16, France
Filed Mar. 4, 1965, Ser. No. 437,251
Claims priority, application France, Mar. 11, 1964, 966,889
23 Claims. (Cl. 188—88)

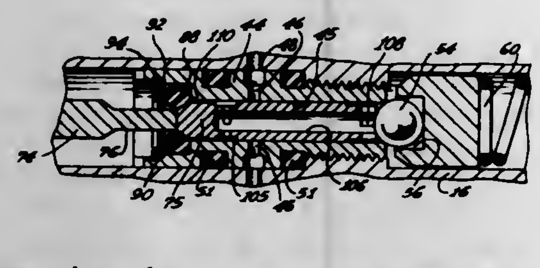


8. An interchangeable valve element adapted to be mounted on the piston and piston rod of a hydraulic damper to coact with a resilient washer means for providing a flow path of variable cross-section across the piston, said element comprising: a spool-shaped ring having a cylindrical wall portion receivable over the piston rod and engageable with a surface of the piston and a flange portion adapted to be spaced from the piston surface, said ring having an aperture extending through the cylindrical wall portion thereof and shaped to establish with said piston rod and said washer means predetermined flow characteristics under given damper operating conditions.

3,380,561

HYDRAULIC LOCKING DEVICE

Clyde R. Porter, 1737 Roscomare Road, Los Angeles, Calif. 90024
Filed Nov. 14, 1966, Ser. No. 594,205
4 Claims. (Cl. 188—96)



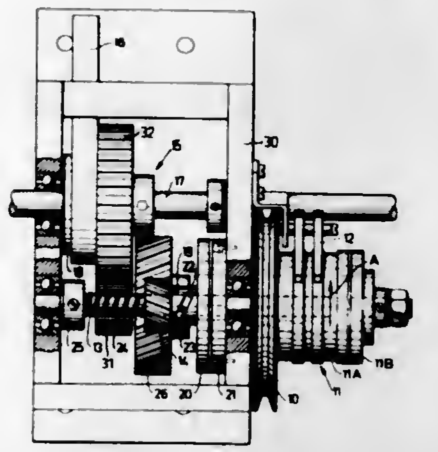
This invention relates to a hydraulic locking device that is adapted to extend and contract to hold two relatively movable members at selected positions relative to each other by means of fluid trapped on opposite sides of a piston slidably carried by one member and fixed to the other member. Manually operated valve means in the piston control fluid flow through radial and axial passages in said piston.

3,380,562

DRIVING MECHANISMS, PARTICULARLY FOR MOTOR-DRIVEN ADDRESS PRINTING AND LIKE MACHINES

Rolf Brorsson Dahlin, Hassleholm, Sweden, assignor to Citograf Aktiebolaget, Jamjoslatt, Sweden
Filed Oct. 3, 1966, Ser. No. 583,717
Claims priority, application Sweden, Oct. 8, 1965, 13,066/65
4 Claims. (Cl. 192—8)

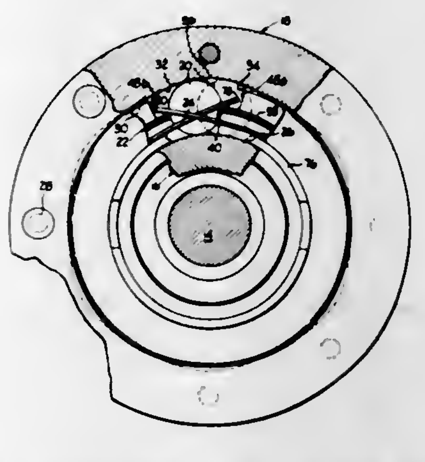
A driving mechanism for preventing back drive from a driven shaft including a unitized control mechanism consisting of a pinion gear, intermeshed with a second gear mounted on said driven shaft; a collar; and a first friction disk interconnected with an input shaft by means of a pin and spiral slot; wherein, a torque spring fixed to the input shaft and control mechanism biases the first friction disk into engagement with a second friction disk fixedly mounted on a frame to prevent back drive from the driven shaft; however, said spiral slot and pin also allows the input shaft, connected to a power source by means of an electromagnetic clutch, to axially and rotatably move the control mechanism away from the fixed disk until the pin has reached one end of the slot; thereinafter, said utilized control provides a direct drive between the input and output shafts.



3,380,563

TWO-WAY OVERRUNNING CLUTCH MECHANISM

Roy C. Bowers, Northbrook, and Russell E. Silberschlag, Glen Ellyn, Ill., assignors to Borg-Warner Corporation Chicago, Ill., a corporation of Illinois
Filed Mar. 14, 1966, Ser. No. 534,057
7 Claims. (Cl. 192—44)



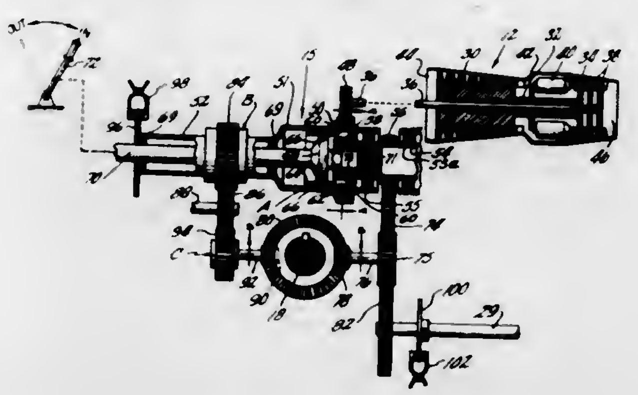
A two-way overrunning clutch is automatically conditioned for operation in either direction according to the direction of rotation of the input shaft. A drag spring engaged with the grippers has a portion wrapped about a nonrotatable member which serves to ground the gripper when the clutch is not rotating. Rotation of the clutch unwraps the drag spring from the nonrotatable member releasing the grippers for rotation with the clutch assembly.

3,380,564

ACCESSORY DRIVE FOR SINGLE TURBINE HELICOPTER

Frederick C. Beurer, Hamden, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Apr. 6, 1966, Ser. No. 540,586
1 Claim. (Cl. 192—45)

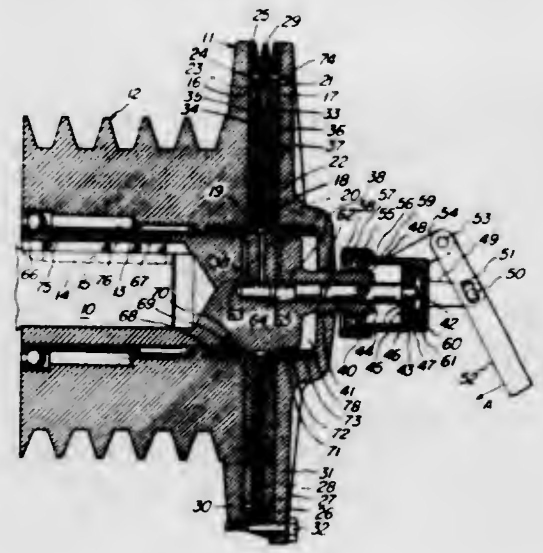
A power transmission system for a helicopter powered by a single free-turbine engine has an intermediate drive shaft between the free-turbine engine drive shaft and the driving train for the main rotor drive shaft and a manually operative selective freewheeling and lock-up device between the intermediate shaft and the drive train. An accessory drive shaft is driven from the intermediate shaft through a freewheeling and lock-up device or, during autorotation, is driven through a freewheeling and lock-up device from the helicopter main rotor drive shaft. A brake is provided to stop the intermediate shaft and connected engine drive shaft when it is desired to lock up the selective freewheeling and lock-up device.



3,380,565

CLUTCH

William H. Wilkinson, Upper Arlington, Ohio, assignor to Mobil Oil Corporation, New York, N.Y., a corporation of New York
Filed Feb. 3, 1966, Ser. No. 524,928
11 Claims. (Cl. 192—58)



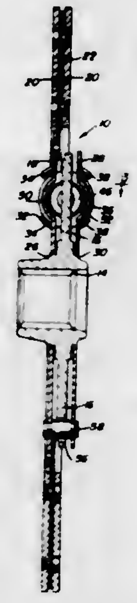
An improved clutch is provided in which a viscoelastic liquid is employed for transmission of power and also for controlling disengagement while the driving member of the clutch is still operative. The power supplied by the drive is utilized for disengaging the clutch.

3,380,566

FRICTION PLATE EMPLOYING VIBRATION DAMPER

Leo W. Cook, Royal Oak, Mich., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Dec. 30, 1965, Ser. No. 517,532
6 Claims. (Cl. 192—107)

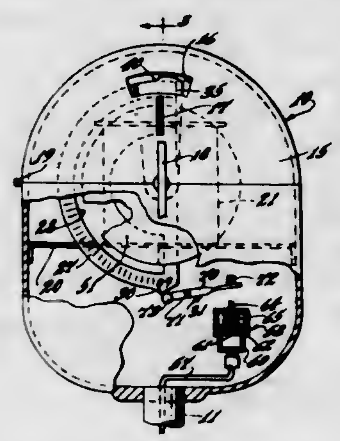
A vibration damper utilizes sets of aligned apertures in relatively rotatable members with provision made for the edges of the aligned apertures to position concentric nested coil spring members such that all spring members are engaged simulataneously on the application of drive torque and the inner coil springs are engaged at a time later than the outer coil spring on the application of a coast torque to the vibration damper assembly.



3,380,567

PARKING METER WITH TIME RENTAL VOIDING MECHANISM

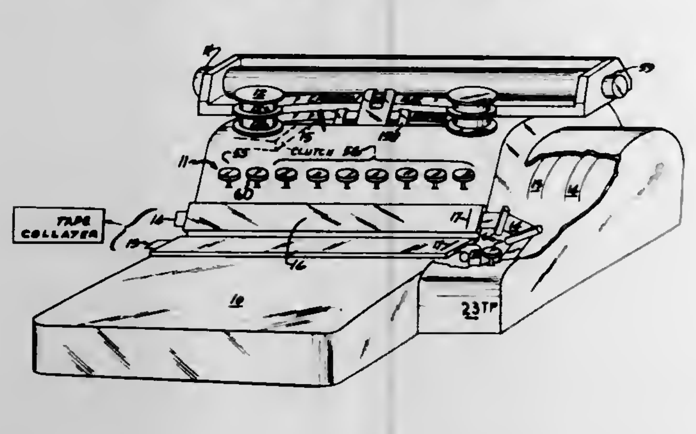
Clyde S. Bower, 820 W. Cobbs Creek Parkway, Yeadon, Pa. 19050
Filed Aug. 10, 1966, Ser. No. 571,544
7 Claims. (Cl. 194—84)



The invention relates to a parking meter which has rental time voiding mechanism and includes a clock having an operating shaft, a time indicator plate mounted on the shaft having an arcuate coin opening, a release plate between the time indicator plate and the clock for guiding a coin and having a coin discharge slot, a violation flag mounted rotatably on the side of the indicator plate remote from the clock, the flag being biased toward a void position, release means for holding the flag in an operating position, the flag having a coin opening, rotatable winding means including an operating plate adjacent the flag, the operating plate having a coin slot aligned with the coin opening in the flag and the coin opening in the same indicator plate at zero position, and rental time voiding means controlled by a departing automobile for activating the release means.

3,380,568
ONE-TWO DIMENSION CONVERTER CONTROL CIRCUIT FOR ERROR CORRECTING TYPEWRITER

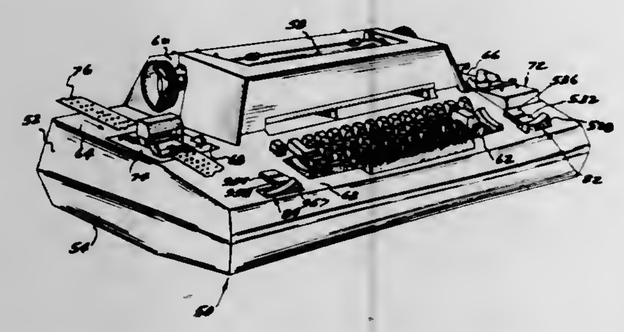
Paul R. Adams, Upper Montclair, N.J., and James Warren Whitesel, Western Springs, Ill., assignors to International Telephone and Telegraph Corporation
Filed Jan. 7, 1966, Ser. No. 532,020
27 Claims. (Cl. 197—20)



The invention coordinates the two dimensional address of the place where a type bar strikes a sheet of paper in a typewriter with the one dimensional address of the place where a corresponding character is perforated on a tape. This way, the typewriter and tape may follow each other—regardless of how the typewriter platen is moved or rolled. Correction means allows a typist to move the paper in a typewriter to any spot which she may select and there type a correction with a corresponding correction on the perforated tape. This way, the corrected tape may be fed through a typewriter to provide a corrected clean copy without requiring the typist to retype the original copy.

3,380,569
WRITING SYSTEM GENERATING CODE THAT DIFFERENTIATES BETWEEN PRINTING AND FUNCTIONAL OPERATIONS

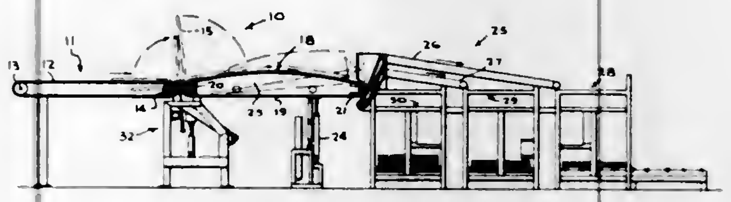
Paul E. Becking, Lake Orion, James D. Bungard, East Detroit, and Donald J. McCormick, St. Clair Shores, Mich., assignors, by mesne assignments, to Intercontinental Systems, Inc., Los Angeles, Calif., a corporation of California
Application June 7, 1966, Ser. No. 559,038, which is a continuation of application Ser. No. 227,767, Oct. 2, 1962. Divided and this application Nov. 14, 1966, Ser. No. 604,504
17 Claims. (Cl. 197—20)



There is herein disclosed transmitter apparatus associated with a printer or the like for providing an output code representative of printing operations and functional operations which includes means for providing output signals in accordance with an operational code of the typewriter utilized for printing operations and functional operations of the printer and for differentiating between printing operation signals and functional operation signals.

3,380,570
APPARATUS FOR CONVEYING AND TURNING PANELS IN A GRADE LINE

Ivy Stephen Jordan III, Mount Pleasant, S.C., assignor to The Cardwell Machine Company, Richmond, Va., a corporation of Virginia
Filed Dec. 5, 1966, Ser. No. 599,014
4 Claims. (Cl. 198—33)



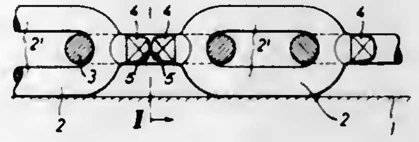
A visual grading line for transporting rectangular panels along a feed path with the long edges arranged transversely for visual inspection and sorting, including:

an in-feed conveyor belt unit transporting the panels individually in horizontal position; a panel-turner having elongated arms extending radially of and slidable longitudinally on a rotatable transverse shaft which are rotated through 90° to turn the panels upwardly through 180° and gravitationally slide to downwardly depend below the shaft when they reach substantially vertical position; and

means for supporting the transverse shaft for substantially vertical movement through a predetermined range from an upper position wherein components carried by the shaft intercept and abut the panels and a lower position wherein all components carried by the shaft are located below the path of travel of the panels to permit passage of the panels past the panel turner without turning of the panels.

3,380,571
ROUND LINK CHAIN FOR CHAIN CONVEYORS

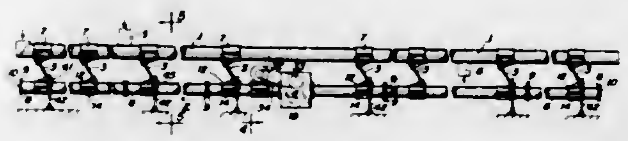
Werner Loreck, Dorstener Str. 344,
Wanne-Eickel, Germany
Filed Sept. 27, 1966, Ser. No. 582,415
Claims priority, application Germany, Oct. 2, 1965, L 51,772
6 Claims. (Cl. 198—168)



1. Link chain which comprises alternating first and second links interconnected to form a chain capable of extending in a longitudinal axial direction, said first links having a lug projecting from each corresponding outer end thereof and dimensioned to occupy when said chain is in said axial direction substantially the width of the adjacent space defined within the next corresponding second link thereat as well as a portion of the length of such space, the remaining portion of the length of such space being occupied correspondingly by the appropriate opposing lug of the next successive first link, said chain when in said longitudinal axial direction having only slight longitudinal clearance between the outermost portions of the opposing lugs occupying the common space of a corresponding second link and only slight lateral clearance between each said lug and the corresponding portions of said second link thereat.

3,380,572
VIBRATORY CONVEYOR

George W. Luger, Minneapolis, Minn., assignor to Hart-Carter Company, Chicago, Ill., a corporation of Delaware
Filed Sept. 29, 1965, Ser. No. 491,122
6 Claims. (Cl. 198—220)



1. A vibratory conveyor of the class described comprising,

(a) an elongate substantially rigid frame member having a plurality of individual hollow sections rigidly connected in end to end relation,

(b) an elongate conveying member formed to provide a channel for the flow of conveyed material therealong,

(c) a plurality of inclined spring beams spaced along said frame member for supporting said conveying member resiliently therefrom, and in parallel relation therewith,

(d) dry particulate weight means of predetermined mass distributed uniformly along the length of each section of said frame member,

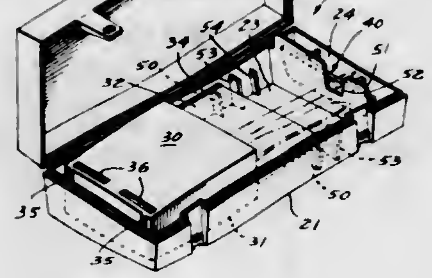
(e) drive means on said frame member intermediate its ends for applying directly thereto a cyclical force having major components parallel with the longitudinal axis of the frame member, and

(f) a plurality of vertically resilient helical compression springs spaced lengthwise of said frame member for supporting the same vertically from a suitable suspension means,

(g) each of said hollow frame sections being closed at its ends by a solid plate, whereby the particulate weight means operates to dampen the vertical vibration of said frame member produced by said drive means.

3,380,573
CASE FOR DISSECTING KIT

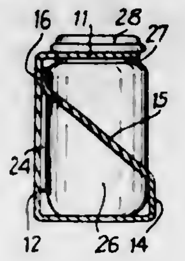
Gerald D. Gulotta, New York, N.Y., assignor to Clay-Adams, Inc., New York, N.Y., a corporation of New York
Filed July 18, 1966, Ser. No. 568,697
7 Claims. (Cl. 206—16)



A dissecting kit case comprised basically of only three main parts for containing dissecting instruments in a manner which facilitates their removal for quick and efficient use. The three main parts include an outer container, an instrument holder which may be held by the outer container in a longitudinal position or in an upright position so that the contained instruments extend upwardly therefrom, and an auxiliary stand. The auxiliary stand and the instrument holder are removable from the outer container, so that the holder may stand upright, outside of and divorced from the outer case, and if desired may be additionally supported in such a position by the auxiliary stand. The case is economically constructed of a plastic material and may be easily disassembled for cleaning purposes.

3,380,574
DISPLAY CARTON FOR BOTTLES

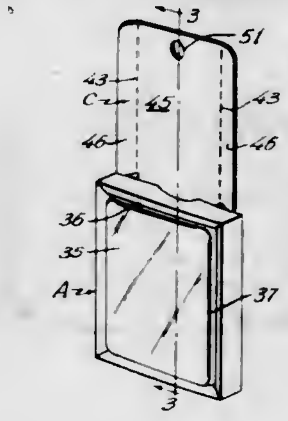
Pierre Le Coq de Kerland, 37 Blvd. d'Argenson, Neuilly-sur-Seine, Hauts-de-Seine, France
Filed June 7, 1967, Ser. No. 644,243
Claims priority, application France, June 24, 1966, 66,926
2 Claims. (Cl. 206—45.14)



A display carton for bottles, flasks, pots or like vessels having grooved necks, said carton being essentially constituted by a rectangular sheet of paperboard or like material, and preferably corrugated board. By means of five parallel folding lines, the sheet is divided into six parallel bands which are intended to form respectively a horizontal top wall provided along its edge with recesses each having the general shape of a portion of circumference extending over slightly more than 180° so as to engage in the grooves which are formed in the necks of the bottles and which are inserted in said recesses. Each recess is preferably provided with a flared entrance, a rear vertical wall, a base, a front vertical wall of lower height than the rear vertical wall, a sloping wall provided opposite to the recesses with sheared openings designed to accommodate the bottle bodies, and a flange which is intended to be folded flatwise against the internal face of the rear vertical wall.

3,380,575
DISPLAY PACKAGE

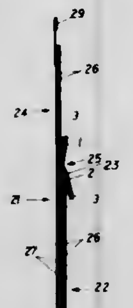
Russell J. Hennessey, St. Paul, Minn., assignor to Hoerner Waldorf Corporation, St. Paul, Minn., a corporation of Delaware
Filed Aug. 11, 1966, Ser. No. 571,839
7 Claims. (Cl. 206—45.34)



This invention relates to a display card used in combination with a paperboard tray enclosing an inverted plastic tray having flanged marginal edges. Liner flanges on at least two opposed walls of the paperboard tray engage the outwardly extending peripheral flange on the plastic tray to hold the trays assembled. The display card is accessible through a slot in one wall of the paperboard tray, the slot having its ends terminating short of the corners of the paperboard tray. The display card is provided with laterally extending projections which make one end of the display card substantially the full width of the paperboard tray. These projections are slidably engaged between the base of the paperboard tray and the peripheral flanges of the plastic tray.

3,380,576
TOBACCO POUCHES

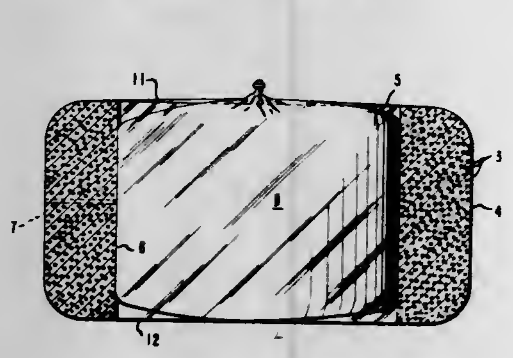
Karl Heinz Delmann, Gevelsberg, Westphalia, Germany, assignor to Alfred Schmermund, Gevelsberg, Westphalia, Germany
Filed June 9, 1966, Ser. No. 556,438
Claims priority, application Great Britain, June 21, 1965, 26,201/65
4 Claims. (Cl. 206—41)



A tobacco pouch is disclosed which comprises a pocket of sheet material, a flap of sheet material, and tape adhesively secured to an edge of the pocket and an adjacent portion of the flap to hermetically seal the pocket opening, the tape comprising a base of air-impermeable material provided with a continuous layer of a resealable adhesive, the tape having non-adhesive marginal surface portions extending along each side of the tape for facilitating removal of the tape from the pouch to open the pocket.

3,380,577
FILAMENT PACKAGE

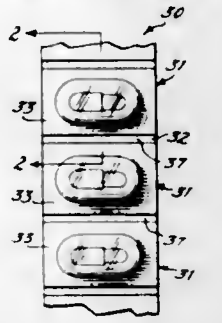
Robert Latham Washburn, Vienna, W. Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Apr. 10, 1967, Ser. No. 629,582
3 Claims. (Cl. 206—46)



Unraveling of filaments on the inside of a spoolless package is prevented by the insertion of an inflatable membrane, for example, a balloon within the package.

3,380,578
STRIP PACKAGE ASSEMBLY

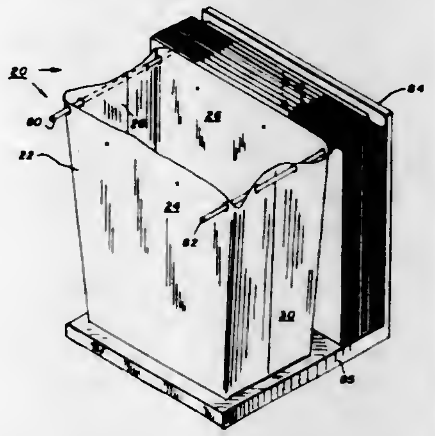
George C. Sparks, 101 Rorer St., Erdenheim, Pa.
Original application Mar. 4, 1964, Ser. No. 349,284, now Patent No. 3,333,393, dated Aug. 1, 1967. Divided and this application May 22, 1967, Ser. No. 639,962
9 Claims. (Cl. 206—56)



This invention relates generally to packaging, and is especially concerned with a novel strip package assembly for storage in coils and dispensing therefrom.

3,380,579
GROUPING OF FLEXIBLE BAGS

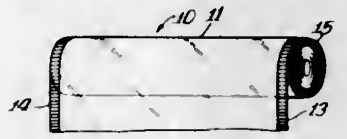
Patrick J. Pinto, Freehold, N.J., assignor to William E. Young, Stamford, Conn.
Filed June 20, 1967, Ser. No. 651,936
7 Claims. (Cl. 206—57)



A plastic film bag of automatic self-opening or square construction and grouped with like bags are provided with a pair of apertures extending through the face and back of the bag and with one aperture provided in each tuck or gusset. The pair of apertures are aligned when the bag is in a folded position. The bags are grouped together in lots such as fifty but may be more or less and are joined together as a group at their face and back so that all of the apertured holes in the group of bags are aligned.

3,380,580
ROLLED SHEET MATERIAL

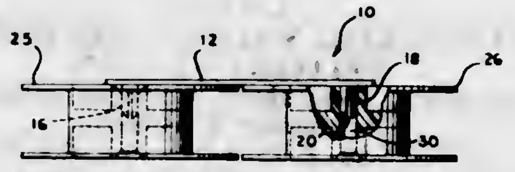
Harold Warp, Chicago, Ill., assignor to Flex-O-Glass, Inc., a corporation of Illinois
Filed June 24, 1966, Ser. No. 560,256
9 Claims. (Cl. 206—58)



A rolled sheet material having a side edge irregular in the direction of the thickness of the sheet, the mid-portion of the sheet extending between the side edges thereof being regular and the sheet material having a substantially constant thickness throughout.

3,380,581
RIBBON SPOOL MOUNTING BRACKET

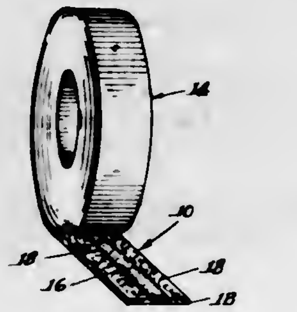
Walter D. Landgraf, 4808 W. 96th Place, Oak Lawn, Ill. 60453
Filed Dec. 15, 1964, Ser. No. 418,520
1 Claim. (Cl. 206—59)



1. A bracket holding a pair of identical ribbon spools in fixed justaposed relation, each spool having an axial hole for mounting the spool in a typewriter ribbon well, said bracket consisting of a flat elongated portion having a pair of pins projecting from a common surface thereof, the pins being spaced by a distance at least equal to the diameter of one of said spools, each pin having a slot extending longitudinally from the free end thereof toward said common surface and having a diameter sufficiently great to provide a resilient force fit with the interior of said axial hole, said slots extending transversely entirely through said pins, the lengths of said pins being sufficiently great to frictionally engage said axial holes when inserted therein, whereby upon insertion of each pin in the axial hole of a spool the pin is compressed slightly in a direction normal to its longitudinal axis and thereby grips said spool in releasable engagement.

3,380,582
INSULATING ARTICLE AND METHOD

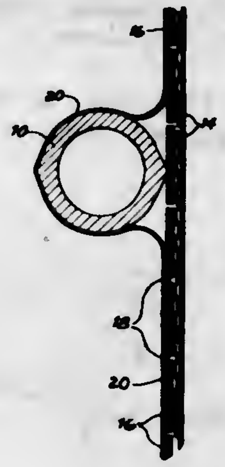
Wendell W. Moyer, Jr., Glen Ellyn, and Paul J. Kochalka, Chicago, Ill., assignors to Daubert Chemical Company, Oak Brook, Ill., a corporation of Illinois
Filed Sept. 3, 1965, Ser. No. 484,866
4 Claims. (Cl. 206—59)



An insulating article in roll form to be used for weather-stripping doors, windows, or the like, in conjunction with a heated knife edge or blade, comprising an elongated, flexible strip of a heat severable and fusible closed-cell type plastic material wound upon itself in the form of a roll. The strip of plastic material is adapted to be placed between structural elements to be weather-stripped and is capable of being simultaneously severed and fused when thusly placed by a heated blade, for example, at a temperature in the range of from about 200° F. to about 500° F., to provide a rigid, smooth, unbroken and weather resistant seal between the structural elements. The strip of plastic material has a thin film of an adhesive on at least one side thereof to enable the strip to be adhered to at least one of the structural elements preparatory to forming the weather-resistant seal between them.

3,380,583
PACKAGE

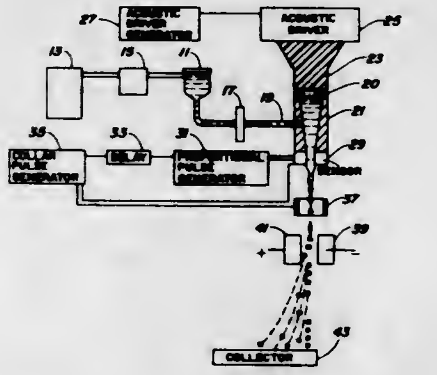
Harold S. Goodman, 51 Marcellus Drive, Newton Center, Mass. 02159
Original application Feb. 5, 1963, Ser. No. 256,429, now Patent No. 3,267,633, dated Aug. 23, 1966. Divided and this application June 6, 1966, Ser. No. 567,781
6 Claims. (Cl. 206—80)



A plastic skin package for an article of merchandise in which the article is placed on a backing board and a thin sheet of hot plastic film is draped over the article and laminated to the board around the article. Substantial dehydration of the article and of the board by heating prior to formation of the package permits some of the plastic film material to diffuse into the backing board to produce a firm and permanent bond therebetween.

3,380,584
PARTICLE SEPARATOR

Mack J. Fulwyler, Los Alamos, N. Mex., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed June 4, 1965, Ser. No. 461,566
3 Claims. (Cl. 209—3)



1. Apparatus for separating small particles suspended in a fluid in accordance with the amount of a selected characteristic of each particle comprising means for jetting the fluid, sensor means surrounding the path of the fluid jet for generating an analogue electrical quantity in response to the passage of a particle, means for acoustically pulsing the fluid jet to cause separation into droplets in a discrete separation zone, electrical charging means surrounding the jet path at the separation zone, electrical delay and charging means connected between said sensor and said electrical charging means having a period of delay equal to the time of passage of a particle passing from the sensor means to the droplet separation zone, electrical deflecting means supported symmetrically about

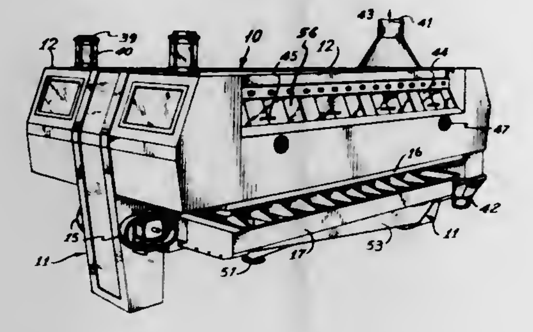
the path of the droplets, whereby each droplet containing a particle is deflected an amount corresponding to the amount of characteristic of the particle contained therein.

3,380,585
MATERIAL PURIFYING MACHINE

Felipe Salete, Mexico City, Mexico, assignor to Refaccionaria de Molinos S.A., San Antonio, Baja California, Mexico

Filed Oct. 15, 1965, Ser. No. 496,357

11 Claims. (Cl. 209—37)



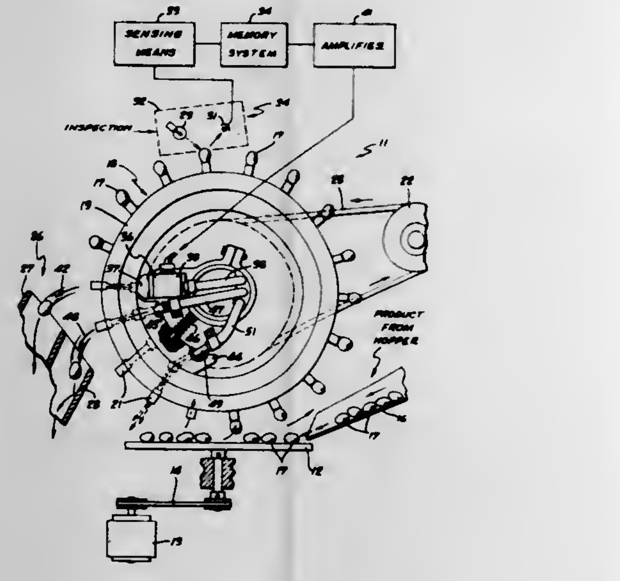
A particulate material purifying machine having sieve means mounted below an air suction chamber and extending in a substantially oblique orientation with respect thereto, along with sifting means for the particulate material spaced from and extending below the sieve means. Drive means are resiliently mounted on the machine frame and are operatively connected to the sieve means and to the sifting means for vibrating same.

3,380,586
SORTING MACHINE WITH MAGNETIC MEMORY

Charles W. Frobese and Stanley H. Van Wambeck, Houston, Tex., assignors to Mandrel Industries, Inc., Houston, Tex., a corporation of Michigan

Filed Oct. 15, 1965, Ser. No. 496,517

10 Claims. (Cl. 209—74)



Ferrule wheel conveyor sorting machine with magnetic memory for storing reject pulses developed when defective objects are conveyed past a classification station until such time the defective objects arrive at a sorting station whereat the reject pulses are effective to actuate an ejector for delivering the defective objects to a defective object collection point. The memory has a recording density that is only limited by the number and spacing of the conveyor ferrules and is adapted to use with a wide variety of conveyor wheels having different numbers of ferrules.

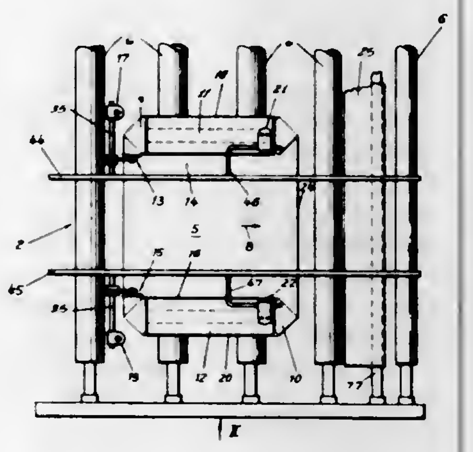
3,380,587
SACK-MAKING MACHINE INCLUDING A DELIVERY STATION

Willi Stork, Tecklenburg, Germany, assignor to Windmöller & Hölscher

Filed Sept. 1, 1965, Ser. No. 484,387

Claims priority, application Germany, Sept. 11, 1964, W 37,534

20 Claims. (Cl. 209—80)



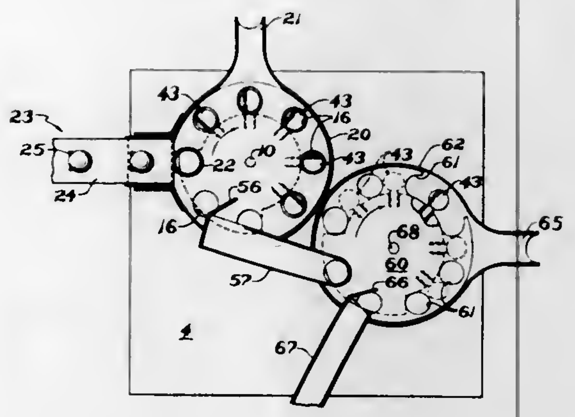
In a sack-making machine, a movable deflector interposed in the path of conveyance between a bottom laying station and a delivery station for diverting defective sacks from the delivery station to a waste delivery station, and a bottom checking sensing means for checking sacks moving along the path of conveyance and for actuating the movable deflector responsive to sensing a defective sack. The sensing means includes at least two sensing elements each of which upon sensing a defect operates one of a plurality of switch contacts of a release circuit for controlling the deflector.

3,380,588
GOLF BALL SIZER

Mathew Kuts, Akron, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

Filed Aug. 31, 1965, Ser. No. 484,080

7 Claims. (Cl. 209—87)



A testing apparatus having a pair of rotatable discs having a plurality of circumferentially spaced gauging holes cooperative with a plurality of circumferentially spaced adjustable cams which change the axes of the balls as the balls are rotated with the discs to present different diameters for gauging.

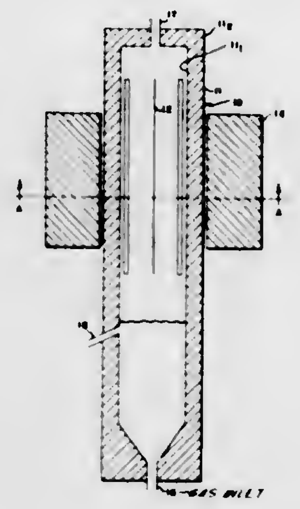
3,380,589
MAGNETIC SEPARATION

C F Gray, Baton Rouge, La., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed Oct. 23, 1965, Ser. No. 503,106

4 Claims. (Cl. 209—221)

A vertical tubular member with spaced vanes on its inner wall, containing a bed of fluidized material in its bottom is provided adjacent its upper end with a concentric, external rotatable ring containing opposed pole pieces to separate magnetic solids from an ascending fluid stream suspension.



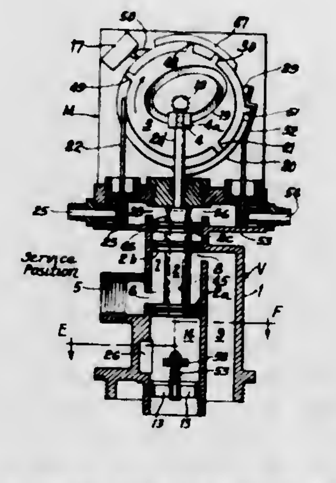
3,380,590
WATER SOFTENER HAVING A MAIN CONTROL VALVE AND AN AUXILIARY BRINE CONTROL VALVE

John R. Grayson, Arlington Heights, Ill.
(1950 E. Estes Ave., Elk Grove Village, Ill. 60007)

Filed Dec. 18, 1964, Ser. No. 419,488

10 Claims. (Cl. 210—134)

A water softening system having a main, timed, cam actuated, piston-type control valve comprising cam actuated drain and refill valves, and having an auxiliary brine control valve, the water softening system being constructed to perform treatment operation, primary backwash and simultaneous additional backwash operation, settling operation, brining operation, soaking operation, slow and fast rinsing operation and brine tank refill operation.



3,380,591
FLUID FILTER WITH AUTOMATIC CLEANING DEVICE

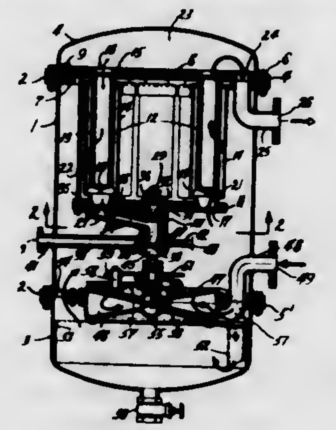
Jacques Muller, La Garenne-Colombes, Hauts-de-Seine, France, assignor to Rellumit, Inter, S.a.r.L., La Garenne-Colombes, Hauts-de-Seine, France, a corporation of France

Filed May 31, 1966, Ser. No. 554,054

Claims priority, application France, June 11, 1965, 20,445

4 Claims. (Cl. 210—143)

Filtering or separating equipment, particularly that type in which a filter device consists of a stack of grooved discs or washers through which the fluid is passed, having self-contained cleaning means which automatically and rapidly effect cleaning of a plurality of the filter elements used in the equipment, one at a time, while the filtering occurs, said cleaning means being driven by a hydraulic motor mounted in the housing.



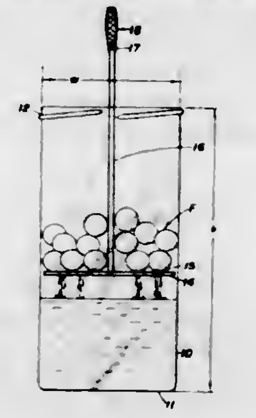
3,380,592
STRAINER TRAY WITH CENTRAL HANDLE

Robert Louis Arnold, R.R. 3, Fort William, Ontario, Canada

Filed Aug. 24, 1965, Ser. No. 482,101

1 Claim. (Cl. 210—244)

This specification discloses the combination of a jar having a uniform internal diameter and an open top of the same diameter with a removal tray for the contents of the jar. The tray comprises a flat disc with a diameter slightly less than the interior jar diameter and rests on the jar bottom. A handle in the form of a shaft upstands from the centre of the tray and has a height slightly less than that of the jar interior.



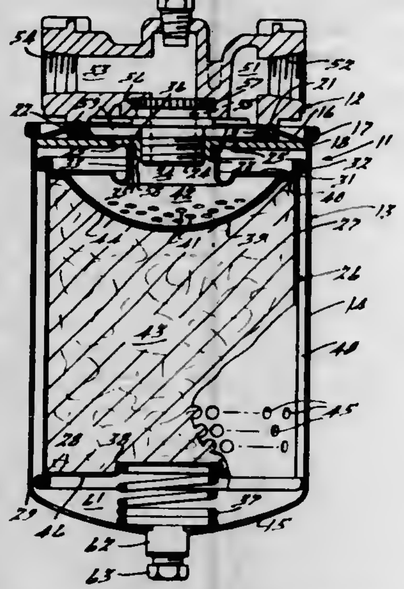
3,380,593
TWIST-ON, AXIAL FLOW FILTER ELEMENT

James R. Uhen, Burlington, and Bruce E. Reber, Racine, Wis., assignors to Walker Manufacturing Company, a corporation of Delaware

Filed Dec. 6, 1965, Ser. No. 511,922

3 Claims. (Cl. 210—356)

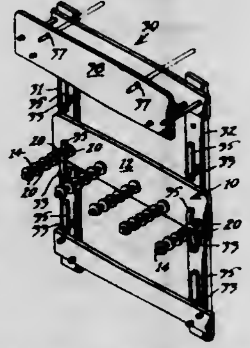
A throw-away type fluid filter particularly adapted for filtering diesel fuel oil consisting of a housing having fluid inlet and fluid outlet passages in one end wall and a filtering element affixed within the housing and inter-



posed in the path of fluid flow from the inlet to the outlet passage. The filter element is of the axial flow type.

3,380,594
RACK FOR PRE-TIED NECKTIES

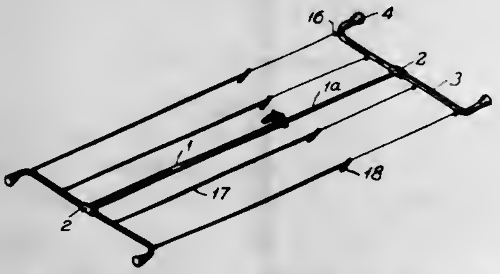
William Robert MacCluney, Rte. 1,
Ashland City, Tenn. 37015
Filed Aug. 26, 1965, Ser. No. 482,805
3 Claims. (Cl. 211—13)



A rack for pre-tied neckties, in which each necktie has a pair of wings extending laterally from both sides of the necktie knot. The rack includes a base adapted for mounting upon an upright surface, having at least two elongated parallel rods projecting horizontally from the base, and a plurality of stop members spaced apart longitudinally of the rods and spaced apart transversely in planes normal to the rods.

3,380,595
DRYING RACK

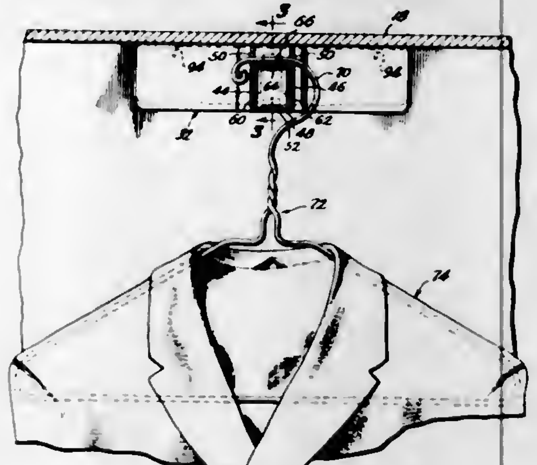
Svend E. Klausen, Spidslodden 15, and Carl A. Jacobsen, Spidslodden 13, both of Kastrup, Copenhagen, Denmark
Filed Mar. 18, 1966, Ser. No. 535,490
Claims priority, application Denmark, Mar. 23, 1965, 1,478/65
4 Claims. (Cl. 211—87)



The invention relates to a longitudinally adjustable drying rack provided with swingable bows at either end and adapted to expand so that it may be mounted between two parallel or substantially parallel walls without the use of nails, screws, bolts or similar conventional attachment means.

3,380,596
GARMENT SUPPORT MEANS

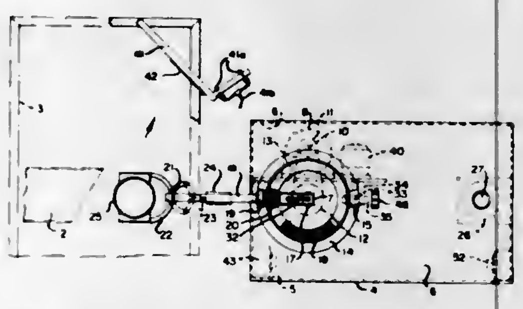
Louis A. Crowl, 5401 Chatham Road,
Baltimore, Md. 21225
Filed Jan. 21, 1966, Ser. No. 522,317
9 Claims. (Cl. 211—123)



The present invention is a garment support means having a pair of support portions at opposite ends thereof which fit over and are supported upon the side walls of a garment container or carton. A hanger engaging portion extends between the support portions and is provided with a plurality of spaced slots in the upper portion thereof for receiving the hook portions of wire hangers to support garments therefrom.

3,380,597
SAMPLE WEIGHING DEVICE

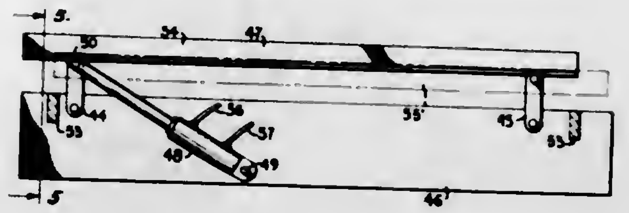
Jess Czetli, West Pikeland Township, Chester County, Pa., assignor to The Alan I W Frank Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 1, 1966, Ser. No. 530,977
6 Claims. (Cl. 214—2)



A sample weighing device comprising a rotary carrier, a sample container, means on the rotary carrier for releasably holding the sample container, a scale, means for driving the rotary carrier, means for stopping the rotary carrier when the sample container is atop the scale, means for releasing the sample container to seat upon the scale and means for dumping the contents of the sample container when the sample container is not atop the scale. The dumping means may include a pinion on the rotary carrier meshing with a fixed gear segment for turning the rotary carrier about a horizontal axis during its rotary movement. Means may be provided for tilting the rotary carrier when it is stopped with the sample container atop the scale to lower the sample container toward the scale. The rotary carrier may seat on a generally horizontal circular track having a section mounted separately from the remainder of the track and means may be provided for lowering that section to tilt the rotary carrier to lower the sample container toward the scale when the rotary carrier is seated on that section of the track and is stopped with the sample container atop the scale. Means may be provided to actuate the means for releasing the sample container upon tilting the rotary carrier to lower the sample container toward the scale.

3,380,598
RETRACTABLE BOARD HOLDER FOR PRINTING PRESSES

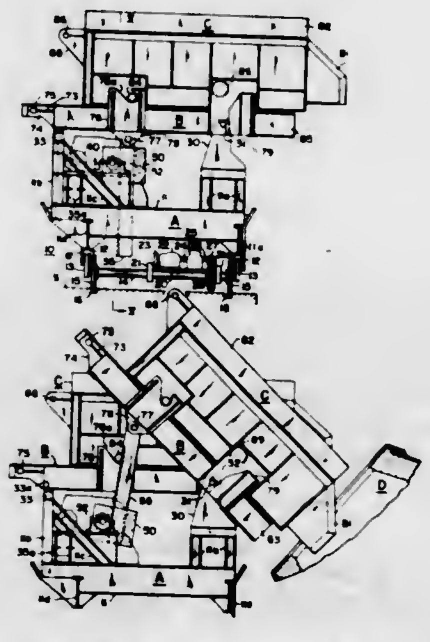
Clayton J. Marschhausen, 4630 E. 43rd Terrace,
North Kansas City, Mo. 64130
Filed Apr. 11, 1966, Ser. No. 541,760
2 Claims. (Cl. 214—6)



A sheet board holder for the output section of a sheet printing press includes a pair of elevated structural angles supported by members permitting the angles to move between inner and outer positions for alternately supporting the board at the side edges thereof and permitting the board to drop past the angles onto a stack below.

3,380,599
CHARGING MACHINE FOR FURNACES

Joseph Cugini, New Castle, Pa., assignor to Pennsylvania Engineering Corporation, New Castle, Pa., a corporation of Pennsylvania
Filed Jan. 14, 1966, Ser. No. 520,705
5 Claims. (Cl. 214—18)

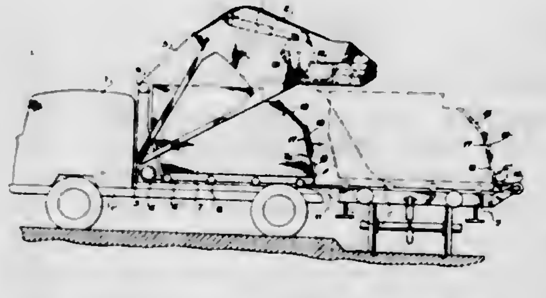


A scrap charging machine is provided that has a cradle frame for carrying a scrap box thereon. The cradle frame is pivotally-mounted adjacent its front end on a carriage frame of the machine and is tilted by a vertically-extending rack. The machine is adapted to be moved on a track to and from a furnace charging position. The rack is, at its upper end, pivotally-secured to a bifurcated fixed mount on a back end portion of the cradle frame and extends downwardly adjacent a back end portion of and within the charging machine through an open top end portion in alignment with the open bottom end portion of a swing housing for non-pivoting up and down or vertical movement therein and for swinging movement therewith. A motor drive mechanism including a speed reduction unit is carried on a superstructure of the carriage frame adjacent its back end and is operatively-connected to an output drive shaft that is journaled within bearing stands or fixed position supports on the structure. The drive shaft extends transversely and vertically-centrally through a back end portion of the swing housing and swingably or pivotally carries the housing thereon. A drive pinion is centrally-secured on the drive shaft within the housing and is adapted to mesh with gear teeth extending along a toothed back face of a lower end portion of the rack for tilting the carriage frame and the scrap box.

The drive shaft and the pinion thereon are positioned on a transverse or horizontal axial plane, and a group of at least three guide roller means are rotatably-positioned on vertically-aligned, transverse axial planes within the front end portion of the housing along an opposite, smooth, front face of the rack and in guiding engagement therewith. The group of roller means define a central vertical pass with the drive pinion along which the rack extends. A central guide roller means is located on the same horizontal or transverse axial plane as the drive shaft and the pinion and in a directly opposed relation therewith, an upper guide roller means has an upwardly-spaced relation with respect to the central guide roller means, and a lower guide roller means has a downwardly-spaced relation with respect to the central means. The rack is of I beam shape or section and its toothed back face is represented by a back flange and its smooth front face is represented by a front flange. Each guide roller means has flanged end portions overlapping adjacent opposite side edges of the front flange of the rack, and has a central portion that engages the front face of the front flange of the rack in such a manner as to positively retain the rack throughout its operation in a non-pivoting operating relation within the swing housing and in efficient meshing engagement with the drive pinion and, at the same time, permit the rack to pivot with the housing about the drive pinion during its actuation.

3,380,600
TRASH TRUCK HAVING REMOVABLE TANK

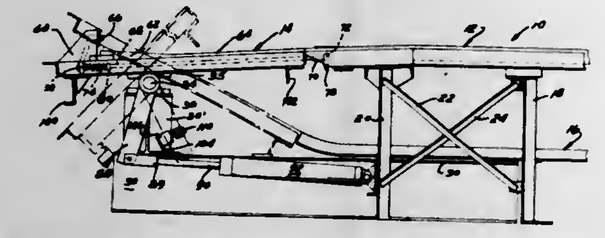
Rudolf Klanner, Munich-Obermenzing, and Max Roedel, Munich, Germany, assignors to Maschinenfabrik Augsburg-Nurnberg Aktiengesellschaft, Munich, Germany
Filed Mar. 22, 1966, Ser. No. 536,462
Claims priority, application Germany, Mar. 30, 1965, M 64,698
4 Claims. (Cl. 214—38)



A trash collecting truck has a trash tank removably carried on the truck chassis. A tail gate pivotally secured to the front end of the truck when in lowered position can push trash through a door opening in the rear end of the tank. When the tail is lifted clear of the tank by a winch carried by the truck, then the tank can be dragged off the truck onto another carrier such as a railroad flat car.

3,380,601
FOUNDRY DUMP MECHANISM

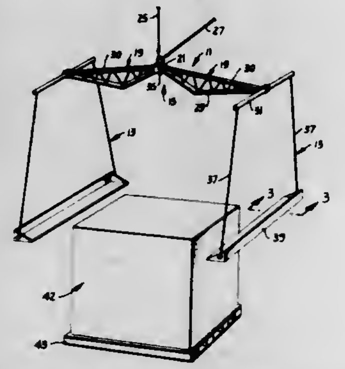
Bernard G. Witte, Newaygo, Mich., assignor to Newaygo Engineering Company, Newaygo, Mich., a corporation of Michigan
Filed Aug. 12, 1966, Ser. No. 572,113
8 Claims. (Cl. 214—46.22)



1. Mould car dump mechanism including a dump track section mounted on a transverse pivot axis intermediate its ends for pivoting between a first generally level car receiving position, a second dumping position tilted down toward one end, and a third car return position tilted down toward the second end; said dump track section having car stop means on said one end; releasable latch means for normally retaining said dump track section in said first position and having release actuator means positioned to be operated by a loaded mould car received by said dump track section; fluid cylinder means operably connected to said dump track section; and fluid pressure control means operably associated with said fluid cylinder means, including means to allow weight biased movement of said dump track section with a loaded car thereon from said first position to said second position, to cause movement of said dump track section with an empty car thereon from said second position to said third position, and to apply a pneumatic biasing force on said dump track section by said fluid cylinder means to shift it forceably from said third position back to said first latching position.

3,380,602
CARGO HANDLING APPARATUS

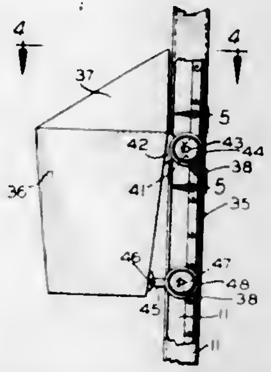
Harold H. Yanow, 528 15th Ave.,
San Francisco, Calif. 94118
Filed July 19, 1965, Ser. No. 472,803
16 Claims. (Cl. 214—95)



A cargo handling apparatus having a pair of cargo slings suspended from a hoist cable. The cargo slings are suspended from hanger arms which are biased outwardly to hold the cargo slings far enough apart to pass up and down on opposite sides of the cargo to be lifted. When the cargo engaging members are engaged under the opposite ends of a cargo pallet, and upward force is exerted on the hoist cable, the outward bias of the hanger arms is overcome and they move downwardly and together so that inward, as well as upward pull is exerted on the cargo engaging members. As soon as the cargo is set down and the upward force on the hoist cable is slacked off, the hanger arms swing the cargo slings apart so the unit may be lifted away from the cargo which has just been transported. A device is also provided for automatically hooking the cargo engaging members under the opposite ends of the cargo pallet preparatory to lifting the pallet and the cargo contained thereon.

3,380,603
HOIST

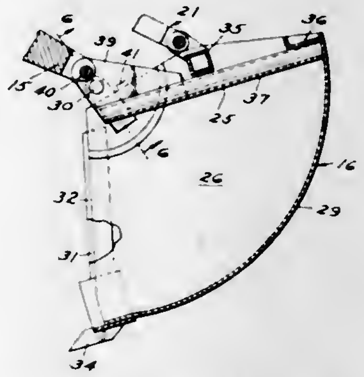
Willys H. Collins, Houston, Tex., assignor to Link Belt Company, a corporation of Illinois
Filed Oct. 23, 1965, Ser. No. 503,235
8 Claims. (Cl. 214—103)



A skip hoist employing a pair of laterally spaced parallel chains guided for movement along a defined path and having a bucket supportingly connected therebetween to laterally opposed points on spaced pitches of each of the chains in a manner permitting limited longitudinal motion of the bucket relative to the chains to compensate for the shortened distance between the connecting points during their movement through arcuate portions of the defined path.

3,380,604
BACKHOE BUCKET CONSTRUCTION

Albert H. Leese, Rochester, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed July 28, 1966, Ser. No. 568,557
5 Claims. (Cl. 214—138)

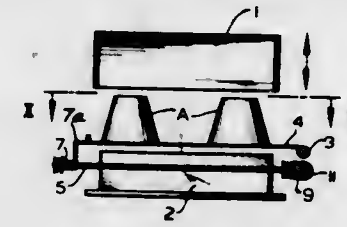


A backhoe bucket is provided with an ejector which also serves to mount the bucket on the end of a dipstick for articulation about a pair of parallel axes. Upon moving the bucket to dump position, the weight of the bucket and contents causes the bucket to drop slightly, rotating the ejector to force material from the bucket.

3,380,605
REMOVAL DEVICE FOR MOLDED ARTICLES MADE OF PLASTICS FROM A MOLDING DEVICE

Walter Usinger, Weben, Taunus, Germany, assignor to Erich Lendle & Co., Weben, Taunus, Germany, a corporation of Germany
Filed June 28, 1966, Ser. No. 561,077
Claims priority, application Germany, July 6, 1965,
L 51,055
5 Claims. (Cl. 214—300)

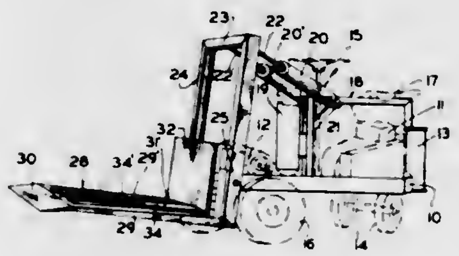
A device for removal of lightweight articles formed in a molding device, comprising a band adapted to be unwound from and wound upon a roller rotatably mounted adjacent to said molding device, for insertion of said band into the space between a core box and a superimposed mold box of said molding device and withdrawal



of said band from said space to permit said articles to be deposited upon said band from said mold box and to be removed from said space upon withdrawal of said band.

3,380,606
LIFT TRUCK

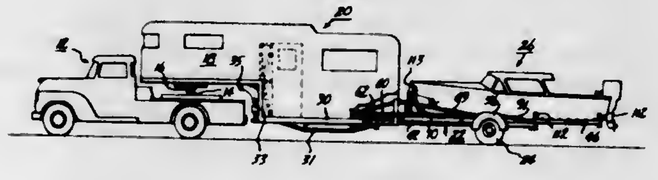
Lawrence R. Trumpore, 47 Ackerman St.,
Bloomfield, N.J. 07003
Filed Jan. 4, 1966, Ser. No. 518,664
5 Claims. (Cl. 214—505)



A self-propelled industrial lift truck, particularly adapted for the handling of materials contained in large baskets, such as tobacco leaves in wicker baskets, is described. The truck includes a generally horizontal platform having an inclined ramp at its forward end to facilitate driving the platform under a basket. A pneumatically operated load-grabbing pin mounted for longitudinal movement on the platform is adapted to engage the basket and draw it onto the platform. Additional pneumatic means are provided for tilting the load platform upwardly about a horizontal pivot axis to facilitate movement of the truck along a ramp by means of a liquid propane powered engine.

3,380,607
TRANSPORT EQUIPMENT

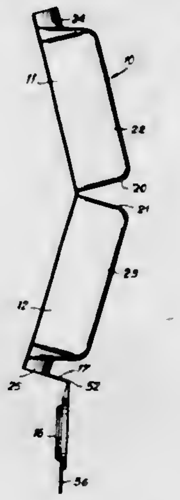
Charley E. Dale, Seattle, Wash., assignor to The Dale-Jones Corporation, Los Altos, Calif., a corporation of California
Filed Apr. 18, 1966, Ser. No. 543,349
7 Claims. (Cl. 214—505)



This invention concerns transport equipment and, more particularly, relates to a tractor vehicle and a trailer combination including a tandem frame telescopically associated with the trailer frame for extension and retraction to elongate or compact the load-carrying capacity of the trailer.

3,380,608
MOLDED INTEGRAL CAP AND CONTAINER

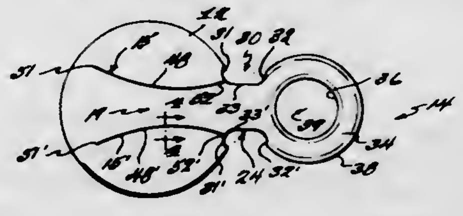
James Alan Morbeck, Elk Grove Village, Ill., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed June 14, 1966, Ser. No. 557,557
2 Claims. (Cl. 215—1)



A sheet plastic thermoformed blank for forming into a one-piece container having an integral closure wherein two complementary dished sections are integrally joined along one common edge and the integral closure is united to one of the dished sections.

3,380,609
ROLL-ON CROWN WITH RING TAB

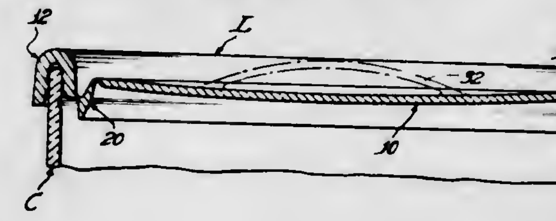
Vinson S. Potts, Cherry Hill, N.J., assignor to Crown Cork & Seal Company, Inc., Philadelphia, Pa., a corporation of New York
Filed Apr. 14, 1966, Ser. No. 542,632
6 Claims. (Cl. 215—40)



A roll-on type tear-off closure for containers having a depending ring tab connected to the tear strip body of the closure by a short flange. The tear strip is formed by arcuate score lines in the closure shell and the inner and outer edges of the ring tab are turned downwardly and toward one another to provide smooth gripping edges.

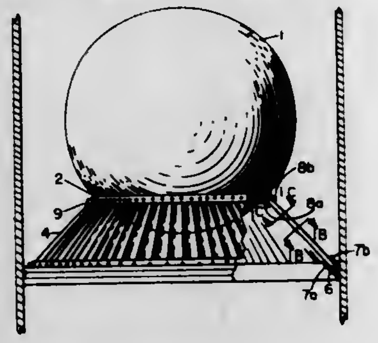
3,380,610
SNAP-ON LID FOR PLASTIC CONTAINER

Frank J. Krieps, Elmhurst, Ill., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed Oct. 13, 1966, Ser. No. 586,443
6 Claims. (Cl. 215—41)



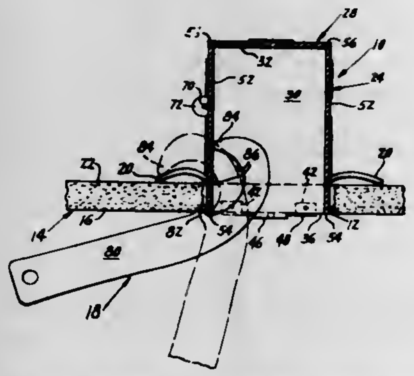
A flexible closure for the neck of a container including a skirt, a central wall, and an annular sealing member hingedly connecting the skirt to the wall and being deflectable from a non-sealing position located radially inwardly of the skirt to a sealing position wherein a portion of the sealing member extends radially outwardly of the skirt to snugly engage an inside surface of the container neck.

3,380,611
CRYOGENIC STORAGE CONTAINER
Harold E. Brougham, Arlington, and James J. Gilchrist, Irving, Tex., assignors to LTV Aerospace Corporation, Dallas, Tex., a corporation of Delaware
Filed Apr. 25, 1966, Ser. No. 544,996
13 Claims. (Cl. 220—1)



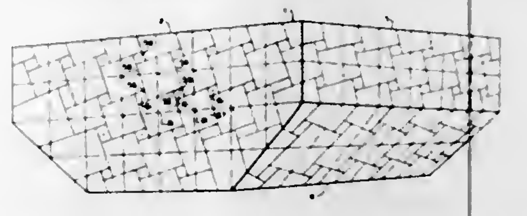
1. Apparatus for storing low-temperature liquids, comprising:
- an insulated container for storing low-temperature liquids under conditions of low heat-induced evaporation thereof and having a support-zone area defined at its surface by two, imaginary, parallel planes through the container at right angles to a centerline of the container;
- an upper support frame having a container-supporting surface in mating contact with and the complement of the container support-zone;
- a base frame with a flat supporting surface and having an outline similar to that of the upper support frame; and
- support means of a low thermal conductivity material having corrugations that extend along the axes of the supporting forces and having a contour for connection to the upper and base frames at each corrugation peak in a manner that provides a low heat leakage path from the container to the base frame and provides a means for supporting said container.

3,380,612
OUTLET BOX
Frank B. Mossburg, 5510 Southwick St., and Harold F. Campbell, 5515 Southwick St., both of Bethesda, Md. 20034
Filed Feb. 17, 1966, Ser. No. 528,036
7 Claims. (Cl. 220—3.6)



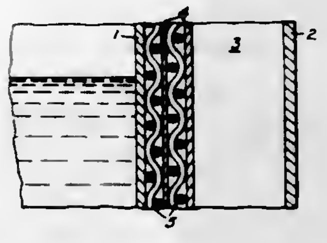
An electrical equipment housing for insertable mounting through an opening formed in a wall, the housing having an open face and lateral flanges projecting outwardly therefrom to engage the outer side of the wall and to prevent overinsertion of the housing, the housing further including weakened portions formed in the walls thereof and a tool engageable therewith to displace the weakened portions to form laterally projecting tongues engageable with the inner side of the wall to prevent withdrawal of the housing through the opening, and the flanges and tongues cooperating with one another to clamp and secure the housing fixedly on the wall.

3,380,613
CONTAINERS FOR VERY COLD OR VERY HOT LIQUIDS
Robert Glover Jackson, Hornchurch, Essex, England, assignor to Conch International Methane Limited, Nassau, Bahamas, a Bahamian company
Filed July 9, 1965, Ser. No. 470,791
Claims priority, application Great Britain, Sept. 9, 1964, 36,968/64
7 Claims. (Cl. 220—5)



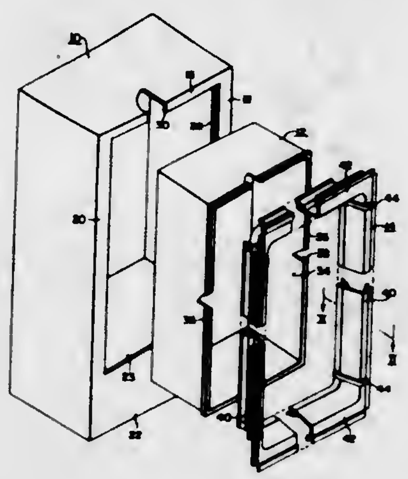
A container for liquefied gases comprised of extensible sheets of the type described in U.S. Patent No. 3,184,094, but adapted to the construction of a tank which has a trapezoidal cross-section such as cargo tanks in the fore-and-aft ends of a ship. The extensible sheets have zones in which non-intersecting but meeting corrugations bound an enclosed area and extend beyond such area to meet corresponding corrugations in an adjacent zone; to meet the required conditions for a trapezoidal tank, the enclosed areas near the common edge of two non-perpendicular sides of the tank are made rectangular rather than square, while the remaining enclosed areas are square.

3,380,614
THERMAL INSULATION UNDER VACUUM
Jean Lecomte, Paris, and Francois Gans, Gif-sur-Yvette, France, assignors to l'Air Liquide, Societe Anonyme Pour d'Etude et l'Exploitation des Procedes Georges Claude
Filed Nov. 20, 1963, Ser. No. 325,021
Claims priority, application France, Nov. 30, 1962, 917,160, Patent 1,348,589
4 Claims. (Cl. 220—9)



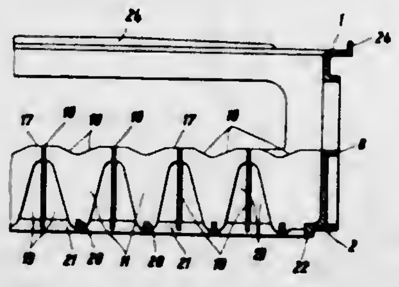
1. A heat insulating structure for containers for liquefied gases at low temperatures, comprising in an evacuated space between an inner and an outer wall, a plurality of reflective polished aluminum sheets spaced apart within said evacuated space and being substantially parallel to said container walls for reflecting infrared radiation, and intermediate spacing means comprising sheets of a woven fabric of polytetrafluoroethylene, in which there are empty spaces between the weft and the warp threads, said spacing means being disposed between said aluminum sheets and between said aluminum sheets and at least one of said container walls and in contiguous relation therewith, and possessing a high infrared transmission coefficient in the wavelength range for heat emission in the temperature zone in which said intermediate means is situated.

3,380,615
REFRIGERATION APPARATUS CABINET CONSTRUCTION
Michael H. Kessler, Grove City, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 17, 1965, Ser. No. 508,223
9 Claims. (Cl. 220—9)



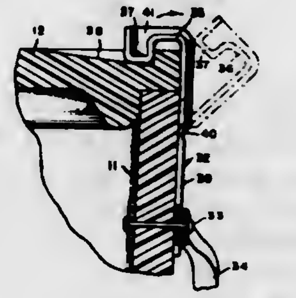
Refrigerator cabinet construction of the type having foamed-in-place thermal insulation including breaker strip means having opposite, substantial width, forked margins which fit with correspondingly dimensioned edge constructions on the liner and shell to formed enclosed overflow spaces to accommodate leaking of the expanding foam into the overflow spaces.

3,380,616
BOTTLE CRATE OF PLASTIC MATERIAL
Alexander Schoeller, Flugplatz, Gottingen, Germany
Filed Dec. 17, 1962, Ser. No. 245,112
3 Claims. (Cl. 220—21)



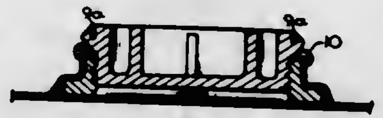
1. A one-piece molded plastic bottle transport crate, comprising a rigid upper frame, a rigid bottom frame disposed below and spaced apart from said rigid upper frame, side walls forming corner portions rounded on the outside and rigidly conecting and spacing said frames, integral partition means disposed inside of said crate and consisting of longitudinal and transverse walls at a predetermined distance from each other, said partition means being adapted to secure the bottles in their position, said bottom frame including a grid of bars forming the crate bottom, said bars intersecting each other substantially perpendicularly and supporting said partition means, said longitudinal and transverse walls of said partition means being cut-away near the points of intersection forming downwardly directed cut-outs, at least some of said longitudinal and transverse walls extending downwardly to and attached integrally to said bottom grid, said longitudinal and transverse wall parts being connected with each other only at the area in which they are raised, said corner portions of said side walls comprise corner supports and intermediate portions of said walls are disposed in the lower part of said crate between each pair of corner supports, and said corner supports have at least one reinforcing rib projecting outwardly therefrom,
- said reinforcing rib is curved on its outside, the curved line following substantially to the load line resulting from the load of crates superposed on a bottom crate.

3,380,617
CHEST LID RETAINING MEANS
Sol Kramer, Baltimore, Md., assignor to Life-Like Products, Inc., Baltimore, Md., a corporation of Maryland
Filed Feb. 3, 1966, Ser. No. 524,674
8 Claims. (Cl. 220—32)



Means are provided for retaining a lid on a chest in the form of a plastic strip having a linear depression defining a hinge line and means for securing the plastic strip in place which comprises a shank adapted to be disposed through an aperture of the material and a holding member on the outer end of the shank. The outer end of the shank may be provided with a groove, for example, to snap engage a lock washer.

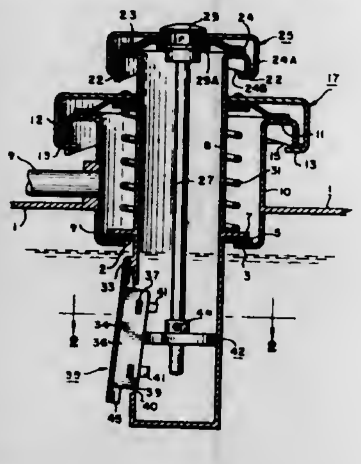
3,380,618
PLUGS FOR CONTAINER CLOSURES
Melville J. Phillips, Epping, New South Wales, Australia, assignor to Rheem Australia Pty. Limited, Rydalmere, New South Wales, Australia, a corporation of Australia
Filed Aug. 18, 1966, Ser. No. 573,378
Claims priority, application Australia, Sept. 1, 1965, 63,532/65
7 Claims. (Cl. 220—39)



A plastic closure plug for sealing the opening in the top of a drum container or the like in a leak proof manner is described. The plug includes a transverse base wall and an upwardly extending cylindrical side wall which is externally screw threaded at its lower end. A circumferential rim extends outwardly from the upper end of the side wall and defines a plug seating face adapted to sealingly engage a peripheral seat about the opening in the drum or the like. A circumferential groove extends into the upper end of the body portion at a location which is inwardly of the rim to permit inward flexing of the rim upon engagement of the rim with the seat in the opening so that any irregularities between the face and seat are accommodated to assure that a leak proof seal is obtained.

3,380,619
RADIATOR CAP

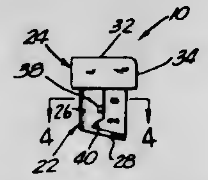
John R. Boddie, P.O. Box 60308, Houston, Tex. 77060
Continuation of application Ser. No. 366,579, May 11, 1964. This application Aug. 8, 1966, Ser. No. 573,157
9 Claims. (Cl. 220—44)



1. In combination:
an engine radiator of the pressurized liquid type;
an elongated housing engaging and extending into said radiator, said housing having an open upper end;
normally closed valve means in the portion of said housing extending into said radiator;
said valve means, when open, being adapted to admit water into the lower end of said housing, said valve means further being held closed by a positive pressure differential from the exterior of said housing to the interior thereof;
a sealing cap for the open upper end of said housing for providing a pressure-tight seal thereon; and
valve-opening means affixed to said sealing cap and extending into said housing for opening said valve means against differential pressure between the exterior and interior of said housing upon sealing of said cap to the upper end of said housing.

3,380,620
VENT DEVICE

Roy H. Dean, Dearborn, Mich., assignor to Roy Dean Products Company, Dearborn, Mich., a corporation of Michigan
Filed Sept. 30, 1966, Ser. No. 583,277
6 Claims. (Cl. 220—44)

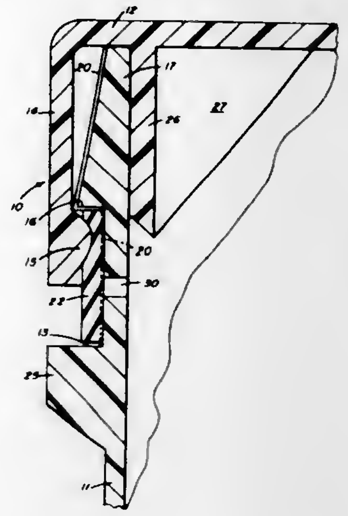


A rear axle housing apparatus for an automobile which includes an axle shaft and the housing therefor between which a grease lubricant is filled. A vent device is mounted on the housing to permit escape of air from the housing when thermal expansion of the lubricant and trapped air therein occurs as a result of temperature variations in the axle assembly which arise during normal driving conditions.

3,380,621
HERMETICALLY SEALED CONTAINER

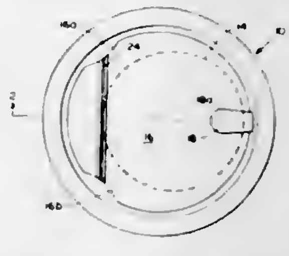
Arthur C. Rissberger, Jr., Webster, and Lawrence A. Ulmschneider, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Feb. 9, 1967, Ser. No. 614,929
7 Claims. (Cl. 220—44)

A container comprising a bottom and a reclosable cover both formed by a molding technique has a gasket arrangement which accommodates for any mold parting line formed in the container parts as the result of their being molded in order to provide a hermetic seal between the cover and the bottom. For venting the interior of the closed container when the pressure within the container exceeds that acting on the outside thereof, the bottom is provided with a normally closed pressure relief vent the valve of which may be formed by a component of said gasket arrangement but allows the container to be vented without breaking the seal between the cover and the bottom.



3,380,622
METHOD AND MATERIAL FOR HERMETICALLY SEALING CONTAINERS

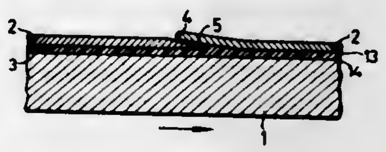
Arthur J. Garavaglia and Edward A. Fox, Cincinnati, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed Dec. 15, 1966, Ser. No. 601,889
9 Claims. (Cl. 220—53)



Ply materials for constructing a semi-rigid multi-ply lid and their arrangement and sequence of application in connection with the covering of an opening in a package to which the lid is to be attached by heat sealing.

3,380,623
LAMINATED BODY

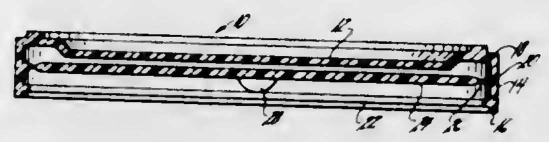
Eugen Langen and Kurt Pause, Grevenbroich, Germany, assignors to Maschinenfabrik Buckau R. Wolf Aktiengesellschaft, Grevenbroich, Germany
Filed July 11, 1966, Ser. No. 564,716
Claims priority, application Germany, July 10, 1965, M 65,910
12 Claims. (Cl. 220—63)



1. A laminated body comprising a pair of outer layers consisting of materials having first moduli of elasticity; and an inner layer sandwiched between and bonded to said pair of layers, the material of said inner layer having a modulus of elasticity smaller than that of either layer of said pair.

3,380,624
CONTAINER COVER ASSEMBLY

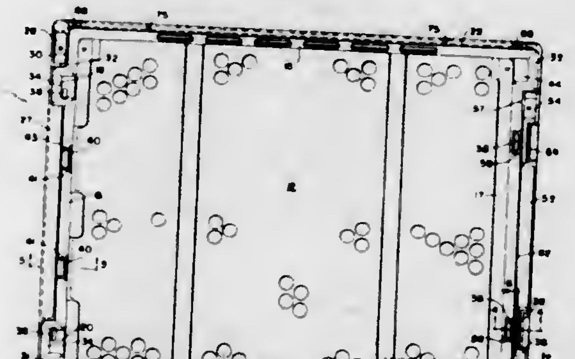
Gilbert Lincoln, 30 Braintree Drive, West Hartford, Conn. 06117, and Richard C. Lincoln, Jr., 31 Woodland St., Hartford, Conn. 06105
Filed Apr. 10, 1967, Ser. No. 629,487
6 Claims. (Cl. 220—93)



The invention comprises a cover assembly for a cylindrical container and includes a cover comprising an annular central portion formed with a peripheral flange having a pair of axially spaced, annular ribs on the inside surface thereof. A removable, annular element is supported within the cover by one of said ribs between the outer edge of the flange and the annular central portion. The other of said ribs cooperates with one end of a cylindrical container to secure the assembly in position on the container. The annular element is dimensioned whereby its diameter is slightly less than the inside diameter of the container permitting sliding movement thereof within the container when removed from the cover assembly to function independently thereof.

3,380,625
NEST AND STACK CONTAINERS

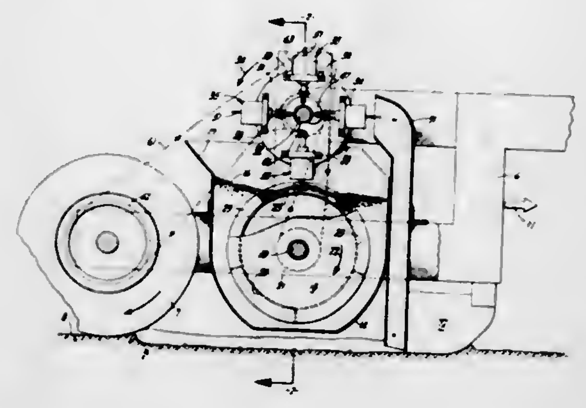
Elsmer W. Kreeger, Orchard Lake, Mich., assignor to Pinckney Molded Plastics, Inc., Pinckney, Mich., a corporation of Michigan
Filed June 27, 1966, Ser. No. 560,692
6 Claims. (Cl. 220—97)



The container of this invention is adapted to nest in a similarly oriented lower container of identical construction or to stack thereon when reversed end for end. The container has diverging side and end walls. Each end wall has two laterally spaced outwardly bulging generally vertical flutes, and two laterally spaced saddles adjacent the upper edge thereof. The flutes have feet at their lower ends adapted to stack upon the saddles of a reversely oriented lower container. Guide means extend along the upper edge of each end wall so as to guide the feet of a reversely oriented upper container during transverse movement thereof to a stacked relationship.

3,380,626
SINGLE SEED SELECTOR AND PLANTER

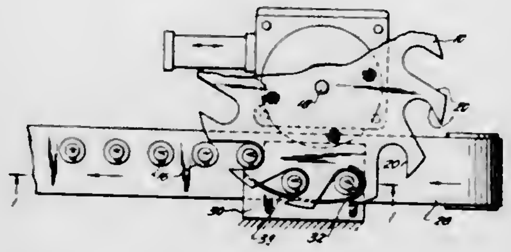
George R. Giannini, Davis, Calif., assignor to The Regents of The University of California, Berkeley, Calif.
Filed July 28, 1965, Ser. No. 475,359
4 Claims. (Cl. 221—200)



A single seed is selected from an open-top cup by vacuum provided in a tube by a piston movable in a cylinder carrying the tube. The piston is spring and cam actuated and the cylinder moves the tube from a position over the cup to another position at which the seed is discharged from the tube by a rise in tube pressure.

3,380,627
APPARATUS FOR RECEIVING AND CONVEYING ORIENTED ARTICLES FROM ORIENTING AND FEEDING APPARATUS

Samuel S. Aidlin, 214 Beaumont St., Brooklyn, N.Y. 11235
Filed Oct. 22, 1965, Ser. No. 501,735
19 Claims. (Cl. 221—224)

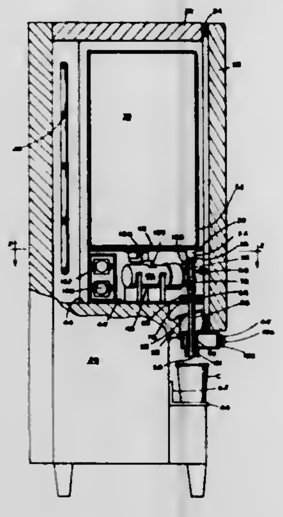


1. Apparatus for automatically conveying articles discharged from feeding apparatus having an outlet chute to a remote point of destination, comprising, in combination, an upright tubular chute section arranged to receive articles from said outlet chute, a constantly moving conveyor below said tubular chute, at a distance from the outlet opening thereof not less than the height of one of said articles, and rotatably movable means intermediate the conveyor and said tubular chute, at a distance from the outlet opening thereof less than the height of an article, for intermittently receiving and advancing an article from said tubular chute onto said conveyor.

3,380,628
LIQUID MEASURING DEVICE

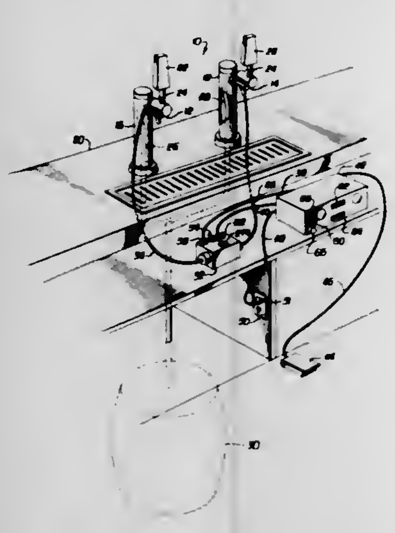
Herbert F. Cox, Jr., 406 Sedgwick Drive, Syracuse, N.Y. 13203
Filed Sept. 27, 1965, Ser. No. 490,455
11 Claims. (Cl. 222—1)

Measuring device employing a liquid measuring container having a disposable thin wall flexible liner therewithin adapted to fill out within the container with liquid from a source of liquid and having inlet and outlet valves for sequentially filling the liner, and permitting emptying by gravity, the device having means for rendering the device inoperative if insufficient liquid is available from the source to fill out the liner to the predetermined capacity of the measuring container.



3,380,629
BEVERAGE DISPENSING APPARATUS

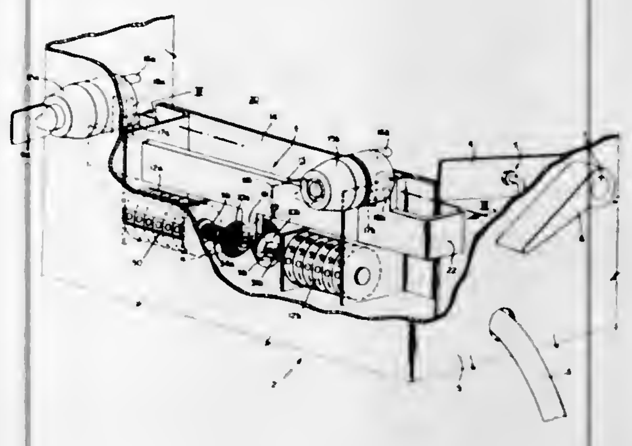
Joseph Kontra, Northridge, and Gerald F. Crate, Woodland Hills, Calif., assignors, by mesne assignments, to Gerald F. Crate, Woodland Hills, Calif.
Filed Nov. 4, 1964, Ser. No. 408,818
12 Claims. (Cl. 222—26)



2. A beverage dispensing device including a faucet assembly connected to a source of beverage for control of flow thereof, said faucet including a valve member, a solenoid operatively secured to said valve member and an electronic operator connected to said solenoid, said operator including an energizing circuit including a power controller provided with a relay and a normally closed cam-actuated switch, a correlating circuit automatically energized upon energization of said energizing circuit and provided with a timing mechanism operatively connected to said switch and operable when said switch is closed and non-operative when said switch is open, said mechanism correlated to the flow for controlling said power controller and the flow, a solenoid controlling circuit automatically energized upon energization of said correlation circuit and said energizing circuit, and interconnections disposed among said circuits.

3,380,630
TWO-KEY MULTIPLE TOTALIZER

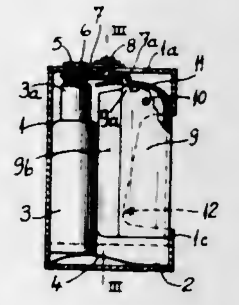
Ronald M. Wilson, Ambler, Pa., assignor to William M. Wilson's Sons, Inc., Lansdale, Pa., a corporation of Pennsylvania
Filed Dec. 13, 1966, Ser. No. 601,427
7 Claims. (Cl. 222—26)



This device relates generally to registering apparatus for fluid dispensers, and more particularly, to a manual controller for a multiple registering fluid dispensing apparatus, which controller selectively controls the operation of individual registering means in response to manual actuation of limited access selector means.

3,380,631
SELF-DEFENCE APPARATUS

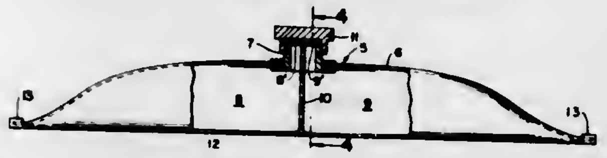
Roger P. Perrinjaquet, Geneva, Switzerland, assignor to Soprotec, Geneva, Switzerland
Filed Nov. 10, 1966, Ser. No. 593,485
Claims priority, application Switzerland, Nov. 16, 1965, 15,768/65
1 Claim. (Cl. 222—96)



A self-defence apparatus consisting of: a rigid case, a flexible capsule containing an anti-individual product and having an aperture, the flexible capsule being located in the case, means permitting the exertion of pressure on the capsule from the outside of the case whereby the product contained within the capsule is projected through the aperture, an opening in the wall of the case, a spring means for urging the capsule into a position in which its aperture of projection is applied on the wall of the case opposite the opening in the wall, and an obturator operable from the outside of the case and occupying on the one hand a position in which it is interposed between the capsule and the case for closing at the same time the opening of the capsule and the opening of the wall of the case and on the other hand an eclipsed position in which the openings are free, the obturator serving as a locking member acting on the lever for locking it in its rest position when the obturator occupies its working position.

3,380,632
COLLAPSIBLE CONTAINER

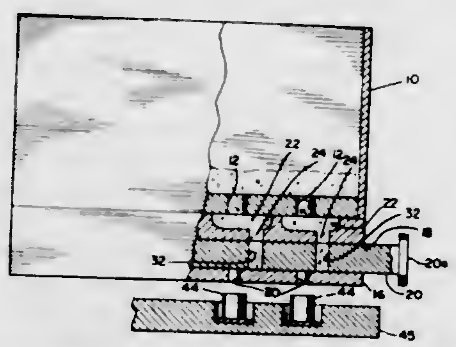
Henry A. Wilson, 1000 Eldorado Ave., Clearwater, Beach, Fla. 33515
Filed June 15, 1966, Ser. No. 557,812
4 Claims. (Cl. 222—94)



A collapsible container of tubular shape having a discharge nozzle located between the ends of the tube. A dividing wall is formed laterally of the tube to define separate compartments for packaging and use of different materials. In one form of the invention the nozzle is recessed within the longitudinal profile of the tube to protect it from injury. The bottom of the tube is flat to prevent rolling.

3,380,633
MULTIPLE CAVITY GUNPOWDER DISPENSER

Vern F. Du Bois, 1190 Welsh St., Golden, Colo. 80401
Filed Jan. 16, 1967, Ser. No. 609,673
4 Claims. (Cl. 222—137)

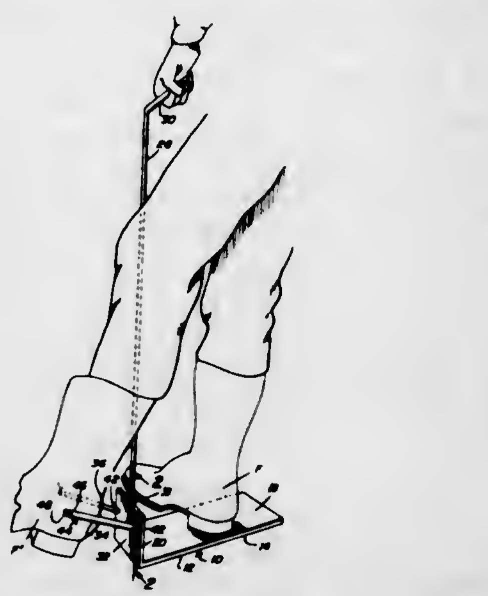


A very accurate gun powder dispenser for reloading empty cartridge cases has a hopper and a series of outlet bores in the bottom thereof. A cover member over the bottom of the hopper and the outlet bores has a series of elongated shallow cavities, each in communication with a bore which is positioned adjacent one end of the cavity. At the opposite end of each cavity is a downwardly directed outlet offset from the hopper outlet so there is no direct gravity flow of powder from the hopper through the cavity. A reciprocal member is mounted in frictional engagement in the cover member and is provided with a series of precise volume measuring bores positioned to register with the cavity outlets. The bottom of the cover member has a series of dispensing outlets offset from the cavity outlets for dispensing the powder, the shallow cavities permitting filling the measuring bores with powder under the same weight of powder so that the measuring bores are filled with the same amount of powder each time of filling, regardless of the height of the powder in the hopper.

3,380,634
BOOTJACK

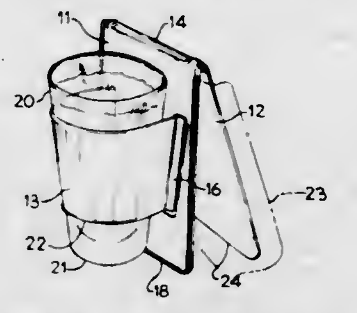
Albert A. Parish, Box 441, Earth, Tex. 79031
Filed Dec. 1, 1966, Ser. No. 598,404
8 Claims. (Cl. 223—116)

This application discloses a bootjack which has a foot stabilized base support and a perpendicular plate upstanding therefrom and having a face from which boot engaging rods outwardly project in diverging coplanar relationship so as to grippingly engage the heel portion of a boot or similar article of footwear for the placement and removal onto and from a wearer's foot of a boot or similar article of footwear with handle means upstanding from the perpendicular plate to be gripped by the user and with the rods being movably mounted and useful, apart from the base support, for pulling on a pair of boots.



3,380,635
POCKET CONTAINER FOR TUMBLER

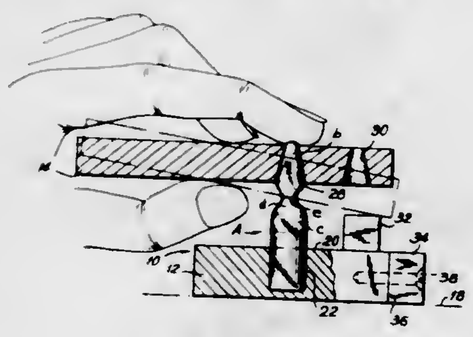
William R. Stone, 112 Apolena Ave., and Albert H. Whitaker, 111 Apolena Ave., both of Balboa Island, Calif. 92662
Filed June 19, 1967, Ser. No. 646,869
6 Claims. (Cl. 224—5)



A tumbler-holding device including a member having relatively stiff front and back flaps hinged together at one edge, the exterior of the front flap having a bottomless tapered flexible loop adapted to receive a tumbler of liquid, while the back flap may be inserted in a pocket. The hinged connection between the front and back flaps maintains the tumbler in an upright position even when the pocket is inclined forwardly.

3,380,636
AMPUL STAND AND OPENER

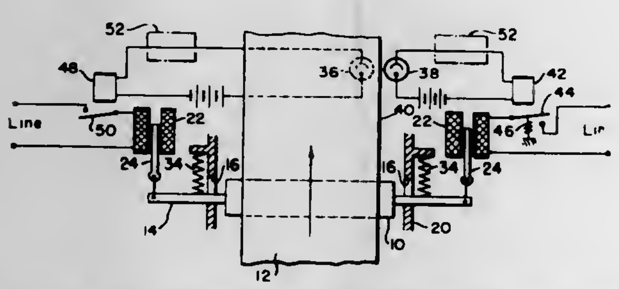
Meyer Ushkow and David Elliot Ushkow, both of 75—04 196th Place, Flushing, N.Y. 11366
Filed Jan. 13, 1966, Ser. No. 520,448
10 Claims. (Cl. 225—103)



A device for opening an ampul having at its top end a tapered tip which is adapted to be snapped off from the body of the ampul along a score line extending around the neck of the ampul, so that in this way access may be had to the interior of the ampul. The device includes a substantially rigid holding means for engaging and holding the ampul at the body thereof. A lever means is provided for engaging the tapered tip and snapping the latter from the body of the ampul at the score line thereof, and this lever means includes an elongated bar formed with a tapered opening passing therethrough. This tapered opening has a taper which matches the tapered tip of the ampul. The depth of this opening, however, is less than the length of the tapered tip, so that the exterior surface of the tapered tip of the ampul engages the entire surface which defines the tapered opening of the lever. In this way the lever engages the tapered tip without any play for securely snapping the tip from the body of the ampul.

3,380,637
SHEET GUIDING APPARATUS

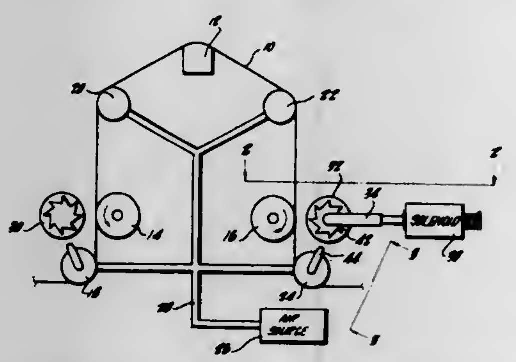
George P. Knapp, Waban, Mass., assignor to Mount Hope Machinery Company, Taunton, Mass., a corporation of Massachusetts
Continuation-in-part of application Ser. No. 337,779, Jan. 15, 1964. This application Oct. 4, 1965, Ser. No. 496,244
11 Claims. (Cl. 226—20)



A sheet guider operating with reduced over-corrective hunting. A guide roll is tilted rapidly to a fixed angle when the guided sheet is displaced from a predetermined path, without reference to the extent of the displacement, and is snapped back to a neutral position as soon as the sheet is restored to its path. In one form the ends of the roll are independently movable by separate actuators, the inactive end remaining stationary. The actuators are preferably double-acting types which apply a uniform driving force both on tilting and restoration to minimize the time delays. A slower rate of roll tilting than of snap return to the neutral position is an optional feature for further reduction of over-correction of small displacements.

3,380,638
PRE-ACCELERATED PINCH ROLLER FOR MAGNETIC TAPE TRANSPORT

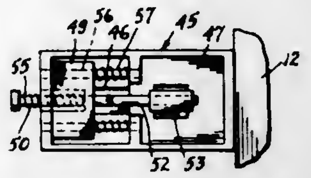
Johannes B. Groenewegen, Glendora, Calif., assignor to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California
Filed Sept. 23, 1966, Ser. No. 581,548
3 Claims. (Cl. 226—181)



1. A magnetic tape drive comprising a rotating capstan, a pinch roller, means rotatably supporting the roller, means for moving the roller into and out of rolling engagement with the capstan, means for guiding tape between the capstan and the pinch roller, a source of air under pressure, a small jet nozzle connected to said source, and impeller means on one end of the pinch roller, said jet nozzle being positioned to direct a jet of air against the impeller means for imparting rotation to the pinch roller.

3,380,639
APPARATUS FOR STAPLING SHEETS INTO PADS

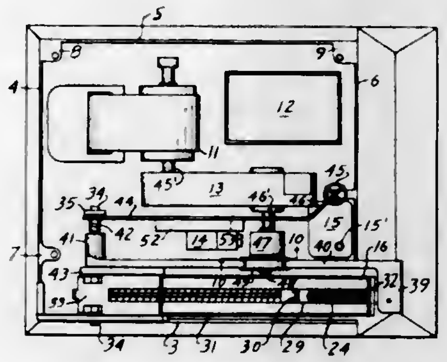
Dominick J. De Francis, 413 Eastman Road, and James M. Fooks, 31 Paschall Road, both of Wilmington, Del. 19803, and Louis T. Staats, Sr., Rte. 1, Lincoln University, Pa. 19352
Application June 24, 1965, Ser. No. 466,743, now Patent No. 3,248,033, dated Apr. 26, 1966, which is a continuation-in-part of application Ser. No. 275,289, Apr. 24, 1963, Divided and this application Feb. 24, 1966, Ser. No. 529,870
13 Claims. (Cl. 227—4)



An apparatus for stapling sheets into pads including an electrically actuated anvil provided on one side of a stapling station in transverse alignment with a stapler which is mounted on the opposite side of the stapling station for backing up and compressing a set of sheets in said stapling station against the staple driving force during the stapling operation and for clinching the staple driven through the set of sheets by said stapler, comprising an anvil bar projectable into and retractable from said stapling station and a solenoid for projecting said anvil bar in transverse alignment with said stapler and urging said anvil bar against said set of sheets while said staple is being driven. The anvil bar carries an inertia block reacting against the driving force of the stapler during the stapling operation. Also a resiliently compressible means is provided which reacts between the solenoid and the anvil bar to render the anvil bar self-adjusting in compensation for different thicknesses of material to be stapled.

3,380,640
STAPLING MACHINES

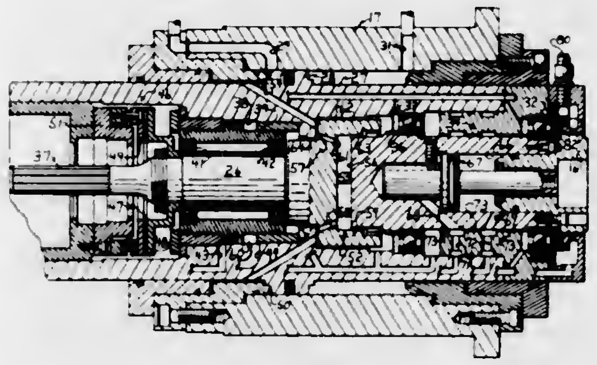
Paul Singerman, 742 S. Saybrook Ave., Los Angeles, Calif. 90022; William H. Smedly, 6012 Dudman St., Garden Grove, Calif. 92641; and Glenn H. Adkins, 8627 Vicki Drive, Whittier, Calif. 90606
Filed Oct. 21, 1965, Ser. No. 499,957
3 Claims. (Cl. 227—131)



An electromechanical stapler is disclosed for automatically stapling sheets of paper together. When the operator inserts the sheets to be stapled, the edge thereof triggers a switch and the paper is stapled without anything further being required of the operator. The stapler is ready for further use as soon as the stapled paper is removed therefrom.

3,380,641
DISCONNECT DRIVE FOR INERTIAL WELDER SPINDLE

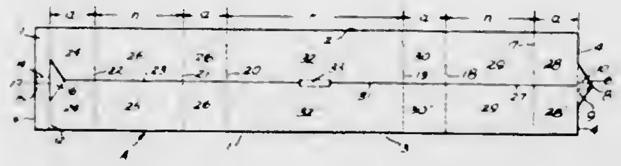
Gerald W. Deemie and Ira H. Sage, Peoria, Sasha Komsa, Washington, and Alphonzo Rakus and Ralph W. Yocum, Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed July 5, 1966, Ser. No. 562,743
13 Claims. (Cl. 228—2)



1. A disconnect drive for the spindle of an inertial welding machine of the kind in which end surfaces of two parts to be welded are pressed together while the stored energy of a rotating inertial weight rotates the parts in rubbing contact to heat the engaged surfaces to a plastic weldable condition, said disconnect drive comprising,
  a load cylinder attached to the machine frame,
  a tubular load piston mounted for axial movement within the load cylinder,
  a spindle mounted for rotation in one end of the tubular piston,
  and drive means for rotating the spindle and including a coupling member which is axially moveable within the tubular piston for connecting and disconnecting the drive means and the spindle during different parts of a weld cycle.

3,380,642
PARTITION STRUCTURES

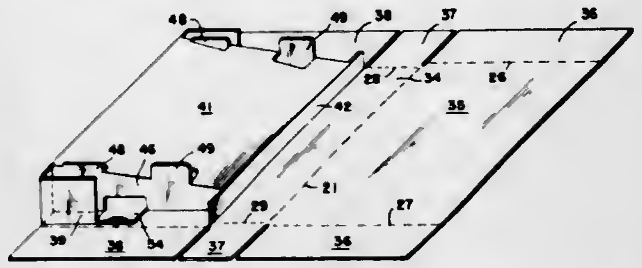
Joseph L. Kotowick, Richmond, British Columbia, Canada (% Crown Zellerbach Corp., 1 Bush St., San Francisco, Calif. 94104)
Filed Oct. 24, 1965, Ser. No. 504,735
20 Claims. (Cl. 229—15)



1. An insert blank adapted for rapid transformation into a cellular insert for dividing packing containers into cellular compartments; said insert blank comprising a sheet of flexible sheet material having side margins and end margins, an end tab projecting outwardly beyond one end margin of said sheet, and an end flap projecting outwardly from an opposite end margin of the sheet, said sheet having a center portion which is traversed by a score line interposed between said side margins, said sheet being cut out immediately inwardly from said end flap in the provision of an aperture which is adapted to receive said tab when ends of said sheet are folded over onto the center portion thereof, said sheet being cut between said center portion and said aperture along a line substantially colinear with said score line in the provision of a first slit line, said sheet being cut between said second score line and the inner margin of said tab along a line substantially colinear with said score line in the provision of second slit line, whereby each end of said sheet can be folded onto the center portion thereof so that said end tab can engage said aperture whereupon the folded sheet can be folded outwardly away from said tab and aperture along said score line to form an assembled cellular insert.

3,380,643
SHIPPING CARTONS

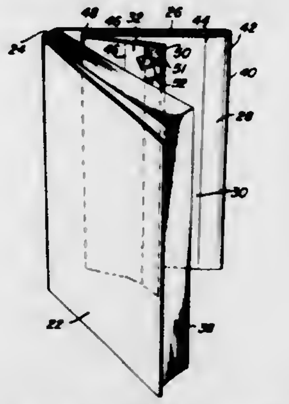
Roger A. Sorensen, St. Paul, and Paul F. Boeye, Mound, Minn., assignors to Northwestern Corrugated Box Company, Minneapolis, Minn., a corporation of Minnesota
Filed Feb. 25, 1966, Ser. No. 530,140
8 Claims. (Cl. 229—40)



A rectangular shipping carton for the reception of a book thicker at the spine than at the front thereof having a top within the carton forming with the bottom a wedge-shaped space for the reception of the book and having end walls disposed inwardly from the ends of the carton to protect the ends of the book, together with struts formed from said top and pads formed from said flanges for holding the top and end walls in position and constructed from a blank no wider throughout its length than the length of the cover plus the combined width of the ends of the carton.

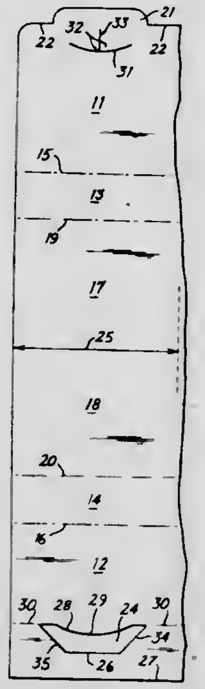
3,380,644
BOOK MAILING WRAPPER

Theresa H. d'Alessio, % d'Alessio Gallery, 8 Henderson Place, New York, N.Y. 10028
Filed Feb. 13, 1967, Ser. No. 615,579
4 Claims. (Cl. 229—40)



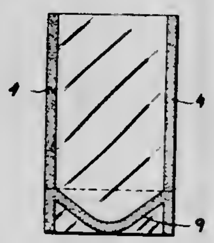
A combination book mailing wrapper-greeting card combination comprising a generally rectangular sheet generally including six integrally connected panels which cooperate to form a cover or overwrap for a plurality of book leaves secured to the wrapper or a book contained within the wrapper so as to adequately protect the face of the book during mailing of the book and its associated greeting or the like which comprises a portion of the outer surface of the wrapper.

3,380,645
GLUELESS INTERLOCKS FOR FOLDING BOX PANELS
Chester J. Pierce, Jr., Palo Alto, Calif., assignor to Certi-pak Corporation, New York, N.Y., a corporation of Delaware
Filed May 5, 1967, Ser. No. 636,436
4 Claims. (Cl. 229—40)



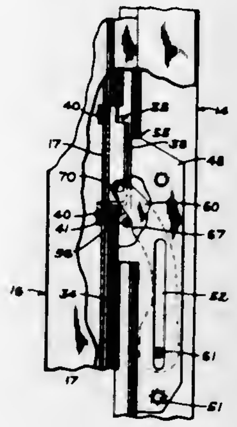
The present improvements are of a glueless interlock between two panels of a folding box of the general lock type in which a tongue on one panel is inserted in a slot in the other panel and is prevented from being withdrawn by a locking tab. As improved, the slot is formed as an aperture and the locking tab is formed in the body proper of the one panel outside the confines of the tongue, and is accommodated, except for its engaging tip, in the space provided by the aperture in the other panel.

3,380,646
CONTAINER OF PLASTIC MATERIAL AND METHOD OF PRODUCING SAME
Léon Doyen and Louis Doyen, both of 79 Rue de Bourgogne, Lyon, France
Filed Nov. 12, 1963, Ser. No. 322,887
Claims priority, application France, Nov. 14, 1962, 43,047
6 Claims. (Cl. 229—57)



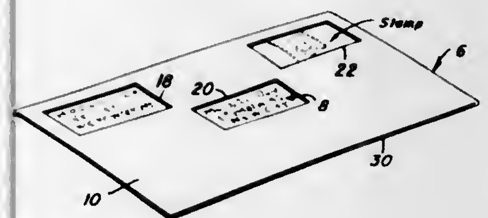
4. A generally flat self-supporting pouch type container comprising a pair of opposite flat side walls of bendable yet relatively stiff material, a gusset construction along one margin of said container interposed and normally folded inwardly between said side walls, said side walls along other margins of said container being sealed to each other in face-to-face relationship closely adjacent said other margins to provide such pouch with flat fin-type seams and with a product-containing area extending substantially the full extent of said side walls between said other margins; said gusset construction comprising a flexible gusset panel secured to marginal portions of said side walls and being folded inwardly therebetween, said flexible gusset panel being joined with said side-wall marginal portions along non-straight seal lines removed from said one margin which together define a non-rectangular stress-distributing generally elliptical unsealed area inwardly of said seal lines when said gusset is expanded.

3,380,647
LATCH UNIT FOR LONGITUDINALLY MOVABLE CLOSURES
Donald S. Harris, New Castle, Ind., assignor to New Castle Products, Inc., New Castle, Ind., a corporation of Indiana
Filed Oct. 6, 1965, Ser. No. 493,365
5 Claims. (Cl. 292—64)



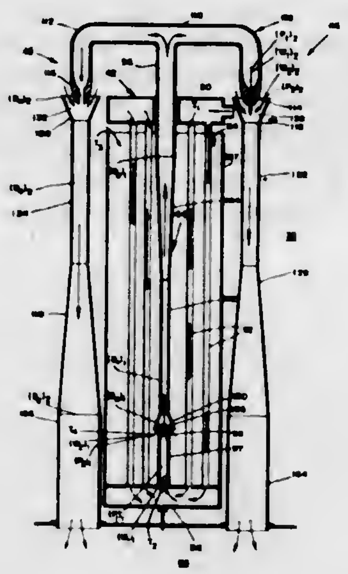
A door latch for folding doors which is operated by raising or lowering of the door handle in which the operating mechanism is contained within the lead post and which includes an operating bolt formed with a cam on its lower surface, and which projects outwardly to engage the keeper and then is drawn downwardly and inwardly within the lead post as the handle is lowered to form a positive operating latch.

3,380,648
REUSABLE ENVELOPE
Rose T. De Lyra, 9280 Harding Ave., Surfside, Fla. 33154
Filed Mar. 24, 1967, Ser. No. 625,709
5 Claims. (Cl. 229—71)



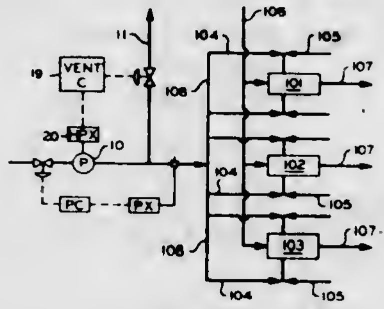
This disclosure has to do with a reusable two-way envelope having a plurality of windows and a companion insert; namely, a card wholly filling the receptacle portion. This card is reversible and also reusable and provided on opposite sides with selectively viewable indicia identifying the respective senders and recipients. Novelty is predicated, primarily at least, on the unique construction of the envelope, more particularly, specially constructed and usable closing flaps for (1) original mailing and (2) reusable return-to-sender mailing.

3,380,649
REACTOR PUMPING SYSTEM
John Martin Roberts, San Jose, Calif., assignor to General Electric Company, a corporation of New York
Filed Oct. 19, 1965, Ser. No. 497,787
4 Claims. (Cl. 230—102)



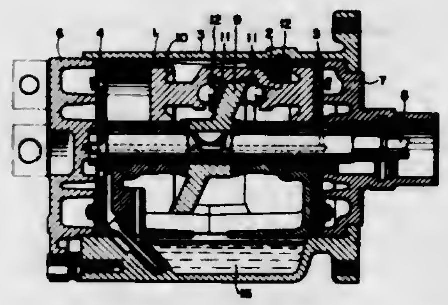
A feedwater driven jet pump system for circulating the coolant fluid in a nuclear reactor. The feedwater driving fluid and the driven coolant fluid are directed through a heat exchanger whereby the driving fluid cools the driven fluid to prevent it from flashing into steam at the pump inlet. Two jet pumps are arranged in series whereby each pump operates at a lower mass flow ratio to reduce sensitivity of flow rate to pressure variations across the reactor core.

3,380,650
COMPRESSOR CONTROL
John A. Drummond and Gerhard A. Gohlke, Borger, Tex., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Jan. 12, 1967, Ser. No. 608,902
1 Claim. (Cl. 230—114)



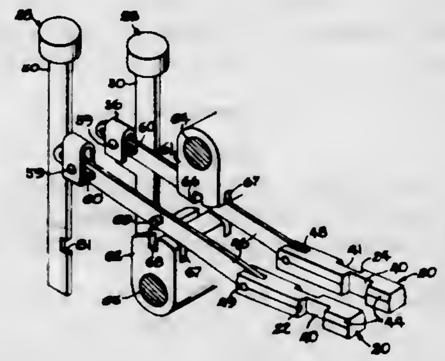
A compressor is controlled so as to;
(1) prevent surging by
  (a) sensing the compressor power consumption, and
  (b) venting sufficient air from the discharge line to stay above the surge point volume in response to the sensed pressure; and
(2) produce only the precise volume of air required at a given pressure by
  (a) sensing the pressure in the discharge line, and
  (b) restricting the movement of air into the compressor suction in response to the sensed pressure.

3,380,651
SWASH PLATE COMPRESSOR FOR USE IN AIR CONDITIONING SYSTEM FOR VEHICLES
Akira Niki, Kariya, Shōzō Nakayama, Chita-gun, and Masao Nakane, Kariya, Japan, assignors to Toyoda Automatic Loom Works, Ltd., Kariya, Japan
Filed May 27, 1966, Ser. No. 553,371
2 Claims. (Cl. 230—178)



A swash plate type of compressor for use in an air conditioning system for vehicles, comprising a composite cylinder block having cylinder bores therein, which cylinder block is provided with a longitudinal oil separating channel in communication with the both ends of the cylinder bores, and a rear cylinder head housing which is provided with a refrigerant, inlet ports and inlet channels in communication with the rear end of said longitudinal channel, the rear cylinder head having a channel for conducting refrigerant from said oil separating channel to said cylinder bores.

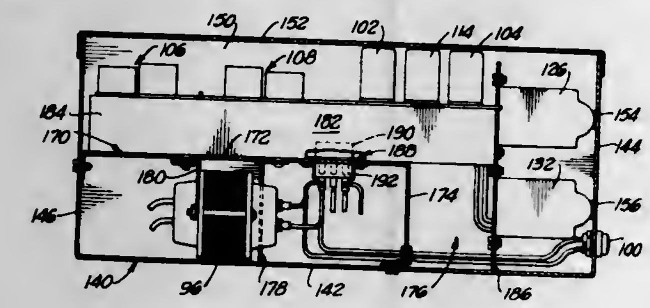
3,380,652
ENCODING MACHINE FOR DATA CARDS
William E. Hedderich, 1614 Grace, Rockford, Ill. 61103
Filed June 30, 1965, Ser. No. 468,214
11 Claims. (Cl. 234—117)



9. A machine for encoding cards, comprising, in combination, a means for receiving a card to be encoded, a member for movement in two directions relative to a card positioned in the receiving means and including cutting edges for cutting the card in two different manners responsive to movement of the member in the two different directions respectively, a mechanism for preselecting the direction of movement of said member, and an actuator for moving said member.

3,380,653
TIMING AND RECORDING APPARATUS FOR LIQUID DISPENSING SYSTEM
Scott E. Allen, Los Angeles, and William H. Nicola, Garden Grove, Calif., assignors to Swingspout Measure Co., Los Angeles, Calif., a corporation of California
Filed Jan. 17, 1966, Ser. No. 521,109
7 Claims. (Cl. 235—1)

A timing and recording apparatus for a beer dispensing system, comprising a housing containing removable timing and recording units corresponding in number to the number of bartending stations in the system. Each timing and recording unit is seatable on and adapted to be plugged into a base in the housing, which base supports a transformer for supplying power to the timing and recording unit. Glass and pitcher counters forming part of each timing and recording unit are visible through counter windows in the front wall of the housing.

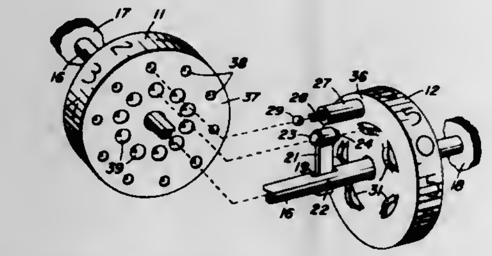


3,380,654

DRIVE MECHANISM FOR A MECHANICAL COUNTER

Winston F. Williams, Cedar Rapids, Iowa, assignor to Collins Radio, Cedar Rapids, Iowa, a corporation of Iowa

Filed May 11, 1967, Ser. No. 637,845
4 Claims. (Cl. 235—143)



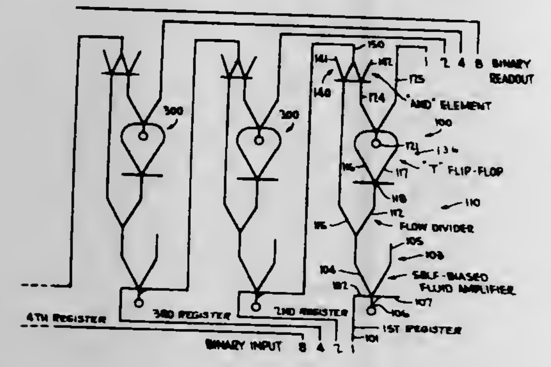
A counter mechanism which allows intermittent motion between a first and second counter wheel and which has a detent mechanism and a movable pawl which selectively allows relative motion between the counter wheels.

3,380,655

FLUERIC BINARY ADDER

Elmer L. Swartz, Falls Church, Va., assignor to the United States of America as represented by the Secretary of the Army

Filed Oct. 12, 1966, Ser. No. 587,376
3 Claims. (Cl. 235—201)



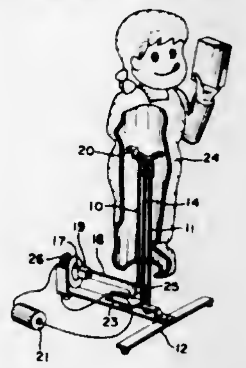
A flueric binary adder comprising a plurality of binary registers adapted to receive in parallel bits of binary information and yield a readout of the total. Each binary register includes a self-biased fluid amplifier which upon receiving a binary input diverts flow from the output or "zero" channel to which the amplifier is biased to a "one" output channel. Flow in the "one" output channel of the self-biased amplifier operates a bistable circuit yielding a binary readout. Should a subsequent input be received in the register unit, flow from the self-biased amplifier and the bistable circuit will coincide to produce a carry pulse from an AND circuit to operate a succeeding binary register.

3,380,656

DEVICE FOR IMPARTING HORIZONTALLY OSCILLATORY ROTATING MOVEMENT TO ARTICLES

Reijiro Ito, Tokyo, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Osaka, and Kokusai Display Kogyo Kabushiki Kaisha, Tokyo, Japan

Original application Aug. 30, 1965, Ser. No. 483,404, now Patent No. 3,325,759, dated June 13, 1967. Divided and this application Jan. 30, 1967, Ser. No. 630,158
Claims priority, application Japan, Sept. 4, 1964, 39/70,100; Nov. 24, 1964, 39/90,996; June 16, 1965, 40/48,551; June 30, 1965, 40/39,871
2 Claims. (Cl. 335—229)



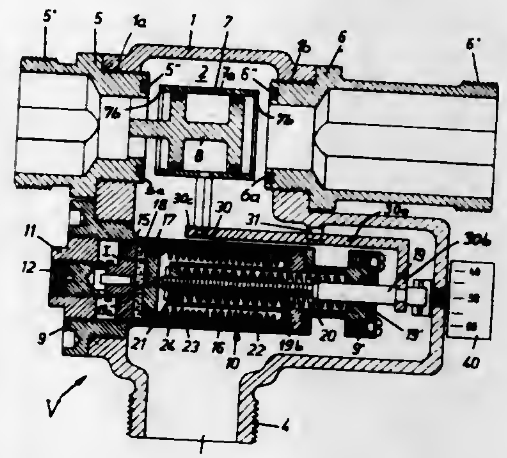
A device for imparting horizontal oscillatory movement to a display article mounted on an article mounting member movably mounted on a fixed base by a resilient means therebetween. A horizontal arm extends from the movable member and has a permanent magnet on the free end thereof. The fixed base has an electromagnet mounted thereon in opposition to the permanent magnet, in a rest position. Electrical contact means are provided on the fixed base and the movable member so that the electromagnet is energized through a closure of the contacts when the resilient means is in a rest condition to thereby impart a repulsive force to the permanent magnet thus causing oscillation of the movable member.

3,380,657

MIXING VALVE

Bernhard Meier, Grut, near Wetzikon, Switzerland, assignor to Albert Lins, Zurich, Switzerland

Filed May 6, 1966, Ser. No. 548,082
Claims priority, application Switzerland, May 11, 1965, 6,621/65
8 Claims. (Cl. 236—12)



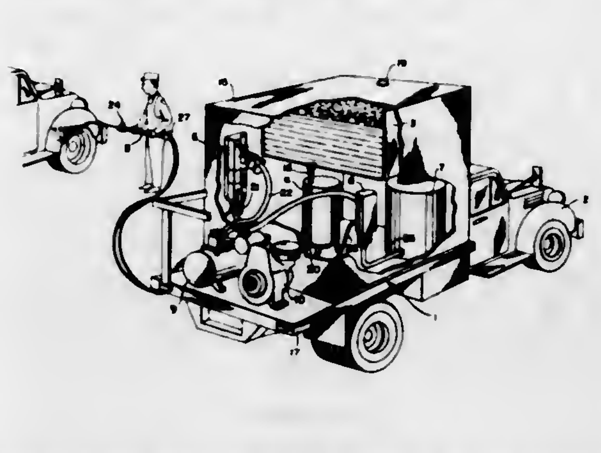
A mixing valve having a mixing chamber provided with hot and cold water infeed means is controlled by a valve means that includes a valve element longitudinally movable within said mixing chamber and arranged to cooperate with said infeed means; a temperature responsive feeler means, which includes a bellows means movable in parallel relation to the movement of the valve element, is also mounted in the mixing chamber; a longitudinally movable rigid means operatively interconnects said bellows means with said valve element to effect movement of said valve element by said bellows means.

3,380,658

PORTABLE POWER WASHING APPARATUS

Clarence J. Stasz, Cleveland, and Robert F. Swan, Parma, Ohio; said Swan assignor to Donald J. Basch, Cleveland, Ohio

Filed Oct. 22, 1965, Ser. No. 501,035
14 Claims. (Cl. 239—130)



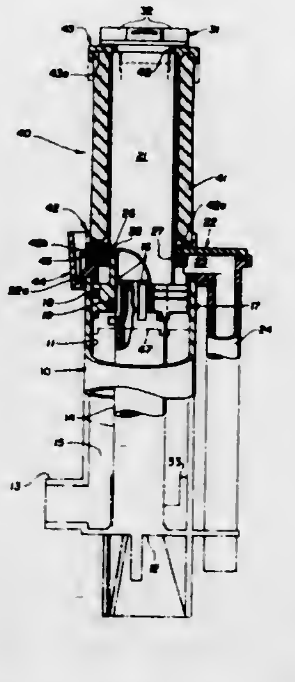
A method and apparatus for cleaning surfaces by spraying heated water through an airless spray nozzle onto the surfaces to be cleaned under substantial pressures.

3,380,659

POP-UP SPRINKLER SURROUNDED BY OPEN CELL RESILIENT MATERIAL

Wendell Seablom, 3712 Texas Drive, Santa Rosa, Calif. 95405

Filed Nov. 26, 1965, Ser. No. 509,910
3 Claims. (Cl. 239—205)



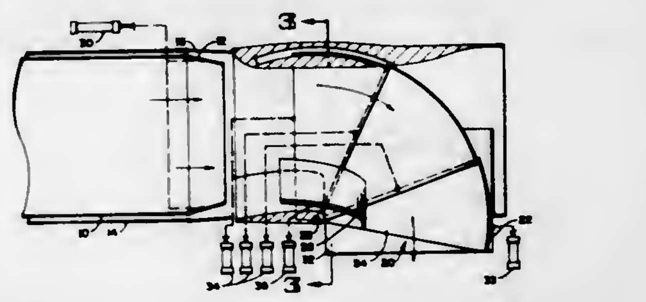
A hydraulically operated linear actuator, particularly is useful in a lawn sprinkler of the pop-up type, employs an expansible protector sleeve encircling the projectable stem of the unit. The expansible sleeve is of an open cell material whereby to absorb moisture and upon withdrawal of the projected member, captured moisture within the sleeve acts to purge dirt and other foreign matter therefrom.

3,380,660

VARIABLE AREA EXHAUST DEFLECTOR

Stanley J. Markowski, East Hartford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Apr. 28, 1966, Ser. No. 545,995
7 Claims. (Cl. 239—265.27)



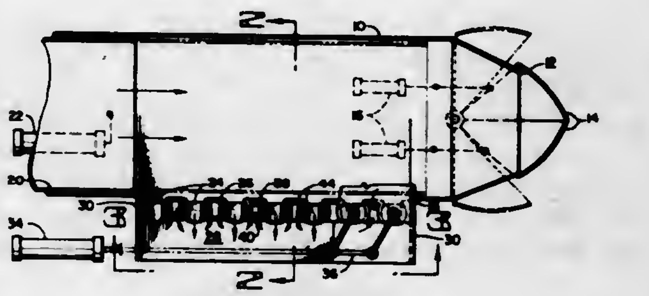
A deflection system for an aircraft gas turbine engine wherein a plurality of pivotally mounted deflector segments cooperate to define a vertically directed flow path for jet engine exhaust gases and wherein a movable body cooperates with one or more of the deflector segments to define a discharge area for the deflected gas, the movable body being movable to vary the discharge area after the deflector segments are in the deflecting position.

3,380,661

THRUST DEFLECTOR

Stanley J. Markowski, East Hartford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Apr. 12, 1966, Ser. No. 542,166
11 Claims. (Cl. 239—265.29)



An exhaust system for a deflected gas stream such as a gas turbine engine exhaust stream, the exhaust system having a number of rows of relatively small nozzles located across an exhaust opening. The nozzles are pivotally mounted along the sides of hollow structural members which also extend across the opening and through which ambient air is drawn by ejector action to provide a cooling flow for the exhaust structure.

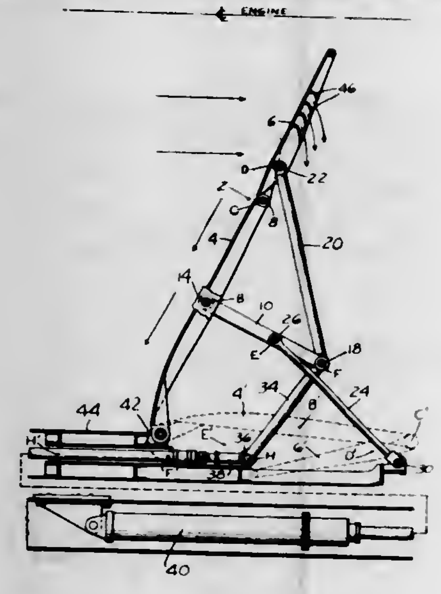
3,380,662

FOLDING FLAP THRUST REVERSER

Guy W. Miller, Vernon, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

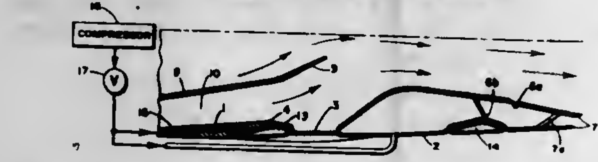
Filed Dec. 29, 1965, Ser. No. 517,291
10 Claims. (Cl. 239—265.37)

A jet engine thrust reverser segmented into two pivotably connected parts. In the operating position the two parts extend into the engine along a substantially straight line toward the center of the engine. In the stored position the part nearest the engine center during operation is folded with respect to the other part about the pivotable connection so that the reverser can be stored in a compartment shorter than the operative length of the reverser.



3,380,663
INFLATABLE APPARATUS FOR MAINTAINING CONTINUITY OF A VARIABLE CONTOUR OF AN ADJUSTABLE JET PIPE

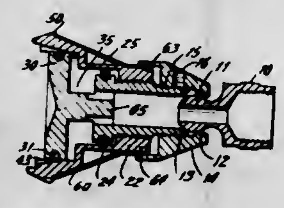
Louis Francois Jumelle, Paris, France, assignor to Société Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France, a company of France
Filed Dec. 13, 1965, Ser. No. 513,364
Claims priority, application France, Dec. 14, 1964, 998,537
3 Claims. (Cl. 239—265.43)



Controllable means for maintaining the continuity of a variable external contour of a jet pipe equipped with shutters, flaps or like movable members effecting adjustment thereof and connected to stationary casing portions at the downstream end thereof, such means including inflatable bodies secured to the outside surface of the jet pipe and straddling the connections between said movable members and said stationary portions.

3,380,664
ADJUSTABLE SHOWER HEAD

Leon C. Miller, Playa Del Rey, Calif., and Richard A. Mason, Orange, Conn., assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
Filed Mar. 16, 1966, Ser. No. 534,879
3 Claims. (Cl. 239—458)



An adjustable shower head including a housing movable axially with respect to an internal shower head core to selectively control the rate of flow through said head, core and housing preferably being molded from plastic material and the core including first and second spaced flanges of different diameters providing a discharge cavity therebetween, the inner extremity of the shower head core being provided with an internal passage communicating directly with a source of water supply, and a spider extending through said second flange and providing communication between the internal passage in said core and the discharge cavity defined between said first and second flanges.

3,380,665
MULTI-STAGE MILLING

Harry C. Jester, Westfield, and Robert S. McNeil, Red Bank, N.J., assignors to National Lead Company, New York, N.Y., a corporation of New Jersey
No Drawing. Filed Apr. 16, 1965, Ser. No. 448,890
6 Claims. (Cl. 241—5)

The present invention relates to an improved method for effecting pulverization of solid pulverulent materials. More specifically the invention is concerned with a method for increasing the throughput of a fluid energy mill while simultaneously producing a pulverized material having improved physical properties; this is characterized by milling the pigment in successive stages, separating the spent milling fluid from the milled pulverulent material of a preceding milling stage and introducing the milled material from said preceding stage into the next succeeding milling stage with additional unspent milling fluid and regulating the milling intensity of each stage, in terms of the weight ratio of lbs. of milling fluid to lbs. of pigment, so that the sum of the milling intensities of all stages is no more than the milling intensity required to effect comparable milling in a single stage.

3,380,666
PROCESS FOR OBTAINING POTASH VALUES FROM POTASH ORE

Kenneth S. Barnhill, Jr., Saskatoon, Saskatchewan, Canada, assignor to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada
No Drawing. Filed Aug. 9, 1965, Ser. No. 478,443
3 Claims. (Cl. 241—20)

Potash is obtained from potash ore by a beneficiating procedure in which coarser and finer fractions are reagentized separately and the reagentized finer fraction is subjected to froth flotation to give a concentrate which is combined with the reagentized coarse. The combination is then subjected to another froth flotation procedure to give a highly pure product without "middlings."

3,380,667
FREE-FLOWING CYANURIC ACID

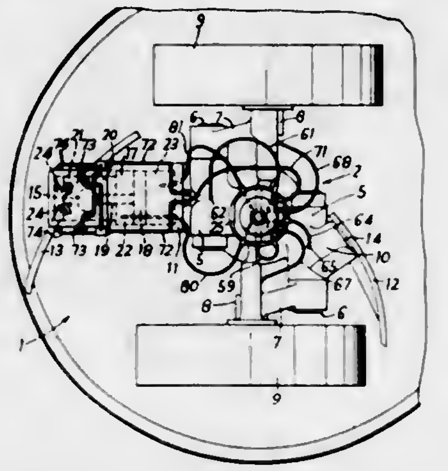
William P. Moore and Dale E. Elliott, Chester, Va., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Jan. 29, 1965, Ser. No. 429,131
8 Claims. (Cl. 241—30)

1. The process for producing free flowing cyanuric acid which comprises feeding finely divided cyanuric acid between rollers exerting a pressure on the cyanuric acid of at least 25,000 p.s.i., breaking the resulting compacted material into small pieces and air separating from fines a high flow granular product.

3,380,668
DISTRIBUTION OF LUBRICANT AND COMPRESSED AIR IN A MULLING MACHINE

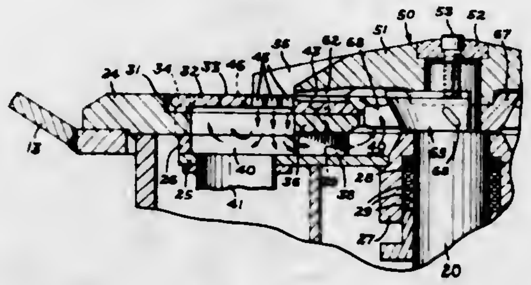
Thomas A. Parke, Oadby, England, assignor to Richards Structural Steel Company Limited, Leicester, England, a British company
Filed Jan. 26, 1966, Ser. No. 523,209
Claims priority, application Great Britain, Feb. 2, 1965, 4,390/65
3 Claims. (Cl. 241—38)

1. In a mulling and mixing machine of the kind specified incorporating a mulling assembly, a distributor unit comprising a head composed of a lower body portion and a spigot upstanding from said body portion, said spigot having therein at least two longitudinal ducts with lateral communications to the exterior of said spigot at upper end parts of the respective ducts, and said head being formed with a plurality of transfer ducts communicating with the lower end parts of said longitudinal ducts and leading to outlets at the periphery of the body portion, delivery lines coupling said outlets to parts of the mulling assembly to be serviced with lubricant and compressed air, and a stationary sleeve disposed around said spigot and having lateral inlets for lubricant and compressed air spaced along the length of said sleeve and passing through the thickness of said sleeve to register, at their inner ends, with annular channels communicating with the respective longitudinal ducts in said spigot.



3,380,669
PLURAL DEFIBERING ZONES IN A PULPING APPARATUS

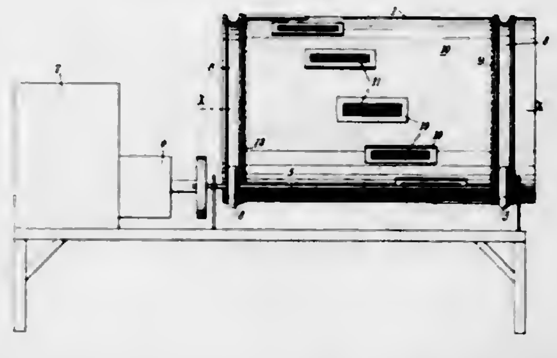
Derald R. Hatton, Middletown, Ohio, assignor to The Black Clawson Company, Hamilton, Ohio, a corporation of Ohio
Filed Apr. 11, 1966, Ser. No. 541,817
4 Claims. (Cl. 241—43)



1. In pulping apparatus including a tank adapted to receive a batch or a continuous supply of pulp material to be defibered, an improved pulping unit comprising a bedplate, a shaft extending normally to said bedplate, a rotor mounted on said shaft and having a plurality of vanes projecting outwardly over said bedplate in angularly spaced relation, a series of angularly spaced attrition bars formed on the underside of said rotor inwardly of said vanes and defining passageways therebetween, a corresponding series of angularly spaced attrition bars formed on the upper side of said bedplate defining passageways therebetween and positioned directly under said bars on said rotor, means defining a plurality of inlet openings within an annular portion of said bedplate under said vanes, means defining a chamber under said bedplate for connecting said openings to the innermost ends of said passageways defined by said bars, and drive means for rotating said rotor whereby said vanes cooperate with said inlet openings in said bedplate to provide a preliminary defibering action while forcing stock through said openings into said chamber, and said vanes also cooperate with said attrition bars to provide a centrifugal flow of stock from said chamber and through said passageways between said bars where the stock is subjected to a secondary defibering action.

3,380,670
ROTATING GRINDERS

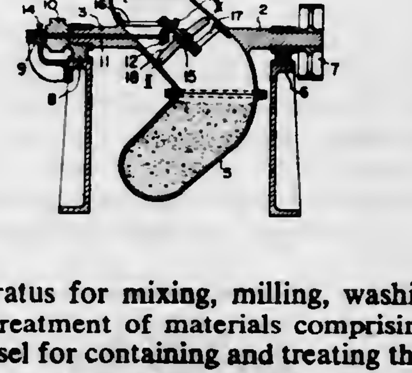
Léonel Louis Jean Baptiste Beudin, Paris, France, assignor to Bureau de Recherches Geologiques et Minieres, Paris, France
Filed July 23, 1964, Ser. No. 384,738
Claims priority, application France, July 23, 1963, 942,697
2 Claims. (Cl. 241—91)



The invention is concerned with a rotating grinder comprising a drum inside which are provided grinding bars resting upon the inner wall of said drum. The wall of the drum is provided with passages of a radial depth at least equal to the maximum dimension of the grains of material to be ground, the length of the passage in the direction of the drum being smaller than the axial length of the drum. Said passages communicate freely with the inside of the drum but at their outer ends they are provided with screens to prevent the outflow of the material grains not yet ground.

3,380,671
APPARATUS FOR MIXING, MILLING, WASHING, EXTRACTING, AND OTHER PROCESSES

Hisayoshi Kubodera, 19–10, 2-Chome, Shinbashi, Minato-ku, Tokyo-to, Japan
Filed Aug. 15, 1966, Ser. No. 572,351
Claims priority, application Japan, Aug. 24, 1965, 40/51,298
11 Claims. (Cl. 241—98)



1. An apparatus for mixing, milling, washing, extraction and like treatment of materials comprising, in combination: a vessel for containing and treating therewithin a material to be treated, said vessel having closed ends and a longitudinal centreline axis; a horizontal rotary shaft fixed to the vessel, the rotational axis of said shaft intersecting said centreline axis of the vessel at the longitudinal midpoint of the vessel; a rotary vane wheel adapted to rotate within the vessel about the centreline axis thereof at the longitudinal midpoint thereof, the

periphery of said rotary vane wheel being rotatable in close proximity to the inner wall surface of the vessel; a first driving device for rotating said horizontal rotary shaft; and a second driving device for rotating said rotary vane wheel.

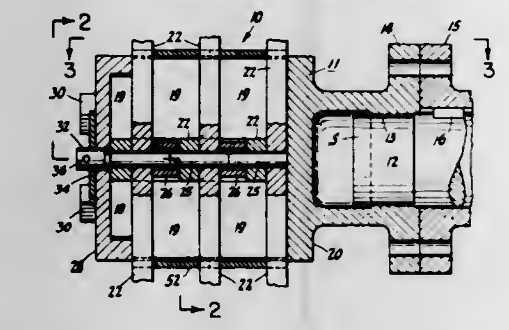
3,380,672
BEATER MILL HAVING IMPROVED BEATER ARM SUPPORT

Helmut Weispfenning, Neckartenzlingen, Germany, assignor to Kohlenscheidungs-Gesellschaft m.b.H., a corporation of Germany

Filed Dec. 6, 1965, Ser. No. 511,895

Claims priority, application Germany, Dec. 29, 1964, K 54,894

5 Claims. (Cl. 241—154)



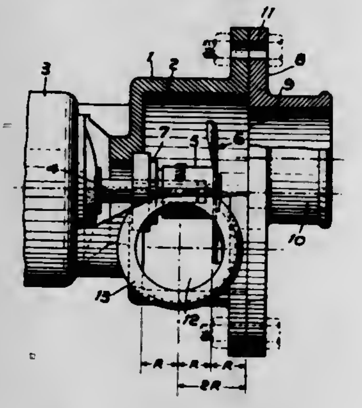
A beater arm support for a plurality of beater arm pairs, each pair having identical oppositely and radially extending beater arms which are mutually supporting. Radially and longitudinally extending slots for receiving the beater arms, and spacers between two beater arm pairs of a shape to accommodate a bore interiorly of the slots.

3,380,673
PUMP APPARATUS

Lee Van Lenten, Allendale, and Charles M. Van Dyk, Paterson, N.J., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed May 12, 1966, Ser. No. 549,562

9 Claims. (Cl. 241—191)



A pump is provided in which the housing encloses a cylindrical chamber having an offset axial inlet and a tangential outlet, and an impeller is mounted within said chamber having two angular vanes, each vane being formed to provide a radial cutting edge and a side shearing edge, to effectively cut paper wads and other fibrous material.

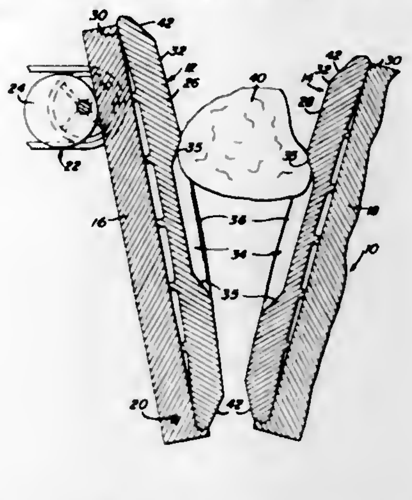
3,380,674
CRUSHER JAWS

Robert F. Bruns, Sioux Falls, S. Dak. (16411 Barnstable Circle, Huntington Beach, Calif. 92647)

Filed Oct. 15, 1965, Ser. No. 496,326

10 Claims. (Cl. 241—291)

A jaw member to be utilized in a rock crushing apparatus and the like which comprises a plate-like body member having a generally convex working face and a generally planar rear surface and wherein the convex face is provided with a centrally disposed concave region extending across a major portion of the width of the jaw member. The concave region terminates intermediate the ends of the face of the jaw member whereby the face portions of the jaw member adjacent the ends thereof are generally smooth. The concave region of the jaw member is provided with a plurality of longitudinally extending transversely spaced teeth and wherein the longitudinally disposed transversely extending sloping walls of the centrally disposed concave region of the jaw member are angled so as to significantly reduce belching of rock being crushed from between a pair of cooperating jaw members constructed in accordance with the invention.

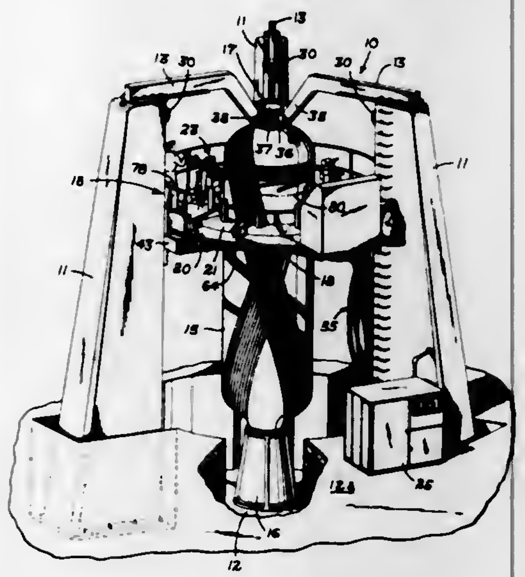


3,380,675
FILAMENT WINDING MACHINE

Joseph Baxter, Jr., Franklin, Ohio, Frank W. Fruitman, Arlington County, Va., and Richard W. Phelps, Fulton, N.Y., assignors to The Black Clawson Company, Hamilton, Ohio, a corporation of Ohio

Filed Feb. 5, 1965, Ser. No. 430,702

11 Claims. (Cl. 242—7)



1. Apparatus for wrapping a stationary mandrel with flexible strands of material comprising, a plurality of parallel support members spaced around the mandrel, first table means mounted on said support members and surrounding the mandrel, first drive means on said support members and said table means for effecting axial movement of said first table means, second table means mounted on said first table means between said first table means and the mandrel, means for effecting rotation of said second table means around the mandrel, a plurality of payoff head assemblies on said second table means for movement therewith to apply the strands on the outer surfaces of the mandrel in a predetermined pattern, said payoff head assemblies each including a rotary support post having one end rotatably secured to said second table means and extending parallel to the mandrel, a payoff arm on the other end of each of said rotary support posts extending generally tangentially toward the mandrel and adapted to swing with rotation of said rotary posts so that the payoff end of said arm is positioned in close proximity to the mandrel, rotary guide means on said payoff end of said arm for guiding the strands tangentially onto the mandrel, second drive means for moving said rotary support posts to position said payoff ends a preset distance from the mandrel, third drive means for rotating said rotary guide means to apply the strands to the mandrel in a flat tangential position even when the mandrel has a complex outer configuration, and control means for controlling and correlating each of said drive means to move said first and second table means and said payoff assemblies to enable the strands to be wrapped tangentially onto the mandrel in said predetermined pattern.

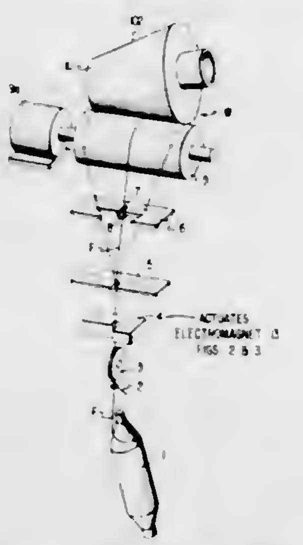
3,380,676
CUTTING MECHANISM FOR AUTOMATIC WINDING MACHINES

Rudolf Jenny, Thalwil, Switzerland, assignor to Maschinenfabrik Schweiter AG., Horgen, Switzerland, a corporation of Switzerland

Filed Aug. 2, 1965, Ser. No. 476,265

Claims priority, application Switzerland, Aug. 5, 1964, 10,226/64

11 Claims. (Cl. 242—19)



An improved cutting mechanism for automatic winding machines comprising a cutting element disposed in the neighborhood of the wind-up bobbin which cooperates with a normally ineffectual yarn catcher disposed in a vertical plane extending through substantially the central region of the wind-up bobbin. A yarn feeler cooperating with the yarn catcher element to render the same effectual upon the appearance of a yarn fault is operatively connected with a cutter element through an actuating means.

3,380,677
METHOD AND APPARATUS FOR INCREASING THE EFFICIENCY OF AUTOMATIC WINDING MACHINES

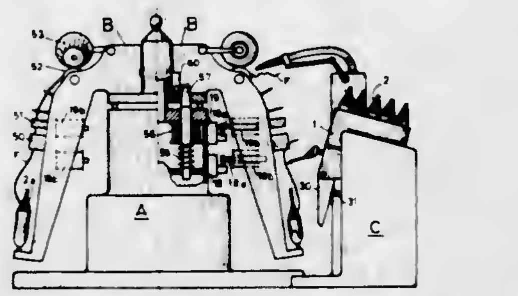
Jakob Stapfer, Adliswil, Zurich, Switzerland, assignor to Schweiter Engineering Works Ltd., Horgen, Switzerland, a corporation of Switzerland

Filed Aug. 24, 1964, Ser. No. 391,516

Claims priority, application Switzerland, Aug. 30, 1963, 10,787/63

15 Claims. (Cl. 242—35.5)

4. Control device for increasing the efficiency of automatic winding machines having a number of winding stations comprising a supply magazine for new delivery cops, means defining a preparatory delivery position for receiving a new delivery cop from said supply magazine which can be delivered to any one of said number of winding stations, supervising means for determining the presence of a new delivery cop in said delivery position, control circuit means operably coupled with said supervising means, said control circuit means including means responsive to said supervising means for preventing stoppage of a given winding station at which there has been determined the necessity for a new delivery cop when said supervising means has determined that no new delivery cop is present at said delivery position.

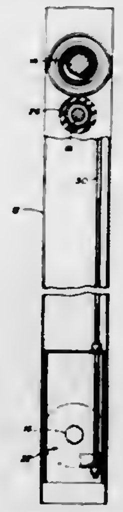


3,380,678
WEB TRANSPORT SYSTEM

Raymond D. J. Feasey and Lawrence A. Ulmschneider, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed June 6, 1966, Ser. No. 555,362

5 Claims. (Cl. 242—55.01)



1. A film transport system comprising a shaft, a unitary film support spool arranged for rotation about said shaft and comprising a substantially rigid central hub portion disposed substantially coaxial with said shaft and arranged to rotate thereabout, a substantially rigid constant diameter rim portion disposed about and having a larger diameter than said hub, at least one flexible member connecting said rim portion to said hub portion whereby said rim portion may rotate about said hub at varying radial distances, means for driving said spool comprising a driven roller arranged to rotate independently of said spool and upon radial deflection of said rim portion to contact and drive said spool.

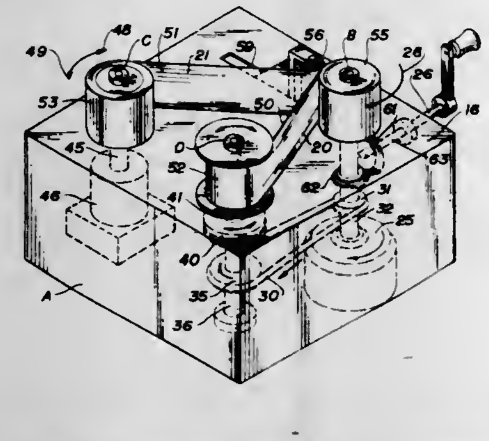
3,380,679
MAT PROCESSOR

John Komas, Sunnyvale, Marius Duncan Insley, Santa Clara, and George U. Palm, San Jose, Calif., assignors to Mark Systems Inc., Santa Clara, Calif.

Filed Apr. 25, 1966, Ser. No. 544,729

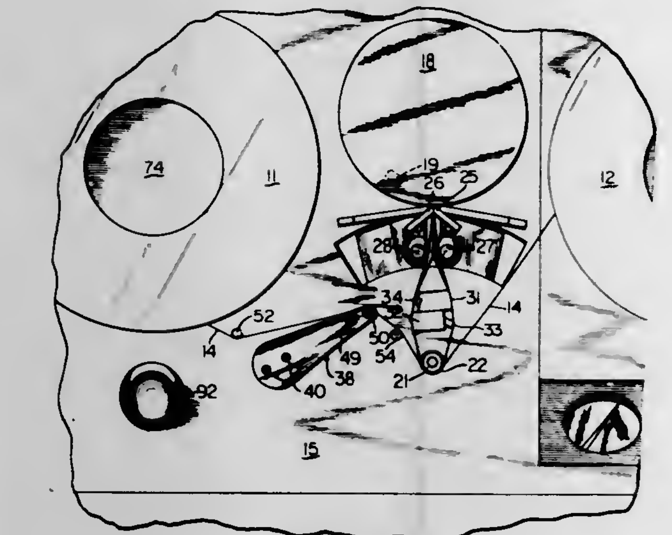
9 Claims. (Cl. 242—55.11)

A device for handling photographic films of the type which when mated in a common spool function to provide self-photographic processing in which an array of three spools are arranged to carry the film materials through the various reeling and unreeling steps. Spools are provided with drive and braking mechanisms which are appropriately arranged to obtain the prerequisite drive and tensioning functions to facilitate the reeling and unreeling of the film materials thereon.



3,380,680
METHOD AND APPARATUS FOR MAINTAINING PROPER TAPE TENSION ON A TAPE RECORDER

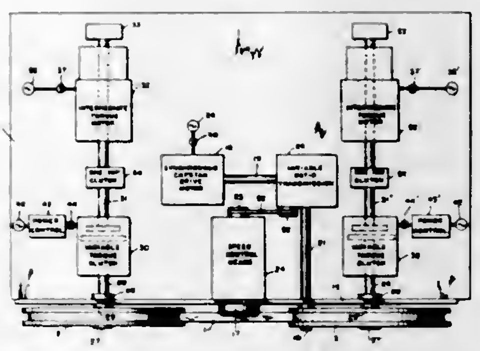
Thomas Judson Dunsheath, Glenview, and Delmar Ronald Johnson, Des Plaines, Ill., assignors to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Dec. 10, 1965, Ser. No. 512,947
7 Claims. (Cl. 242—55.12)



A tape tension control system is provided for use in a magnetic tape transducing apparatus of the isolated loop type wherein the tension in the transducing loop is influenced by the output tension between the takeup reel and the tape drive, the magnitude of this output tension being inversely related to the tape wrap radius on the takeup reel. The tape tension control system includes a servo system which responds to changes in input tension to produce an opposite change in the braking on the supply reel thereby reducing the change in input tension and hence any change in tension at the transducing means. However, the gain of the servo loop is not so great as to maintain the tension completely constant; rather, it is permitted to vary as the tape wrap radius of the supply reel varies. The effect of the change of the supply reel tape wrap radius on the tape tension at the transducer is made substantially complementary to the change in tape tension at the transducer occasioned by changes in the tape wrap radius on the takeup reel so that the two variations substantially offset one another.

3,380,681
TENSION CONTROLLED WINDING APPARATUS

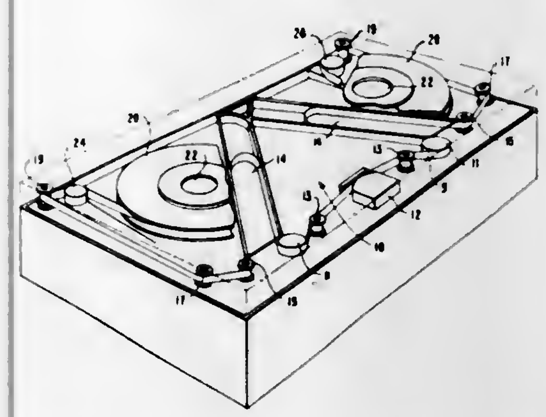
John L. Baldwin, Jr., Bethesda, and Donald E. Reed, Kensington, Md., and Ralph E. Walker, Washington, D.C., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Feb. 16, 1966, Ser. No. 529,185
7 Claims. (Cl. 242—55.12)



An apparatus for handling filament or tape elements that are to be wound on reels wherein a desired maximum tension is simply controlled. This result is achieved through the use of individually electrically actuated torque clutches for each of the two reels on which the tape is to be stored with a further provision for a one-way overriding clutch intermediate each driving motor and its associated torque clutch.

3,380,682
MAGNETIC TAPE TRANSPORT

Peter D. Georgantas, Playa Del Rey, and Ronald E. Loosen and Edward S. Kinney, Woodland Hills, Calif., assignors to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed May 2, 1966, Ser. No. 546,709
11 Claims. (Cl. 242—55.12)

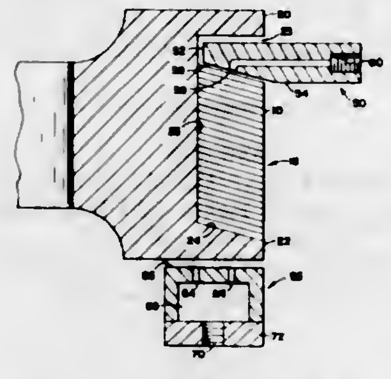


A magnetic tape transport in which the tape passes between two parallel planes. The tape in one plane is driven by capstan means, passes between a pair of buffer means and across a magnetic head assembly. The tape is supplied on take-up and supply reels in the second plane with the path of the tape traversing between the two planes along relatively long lines outside the magnetic head region.

3,380,683
TAPE TRANSPORT APPARATUS

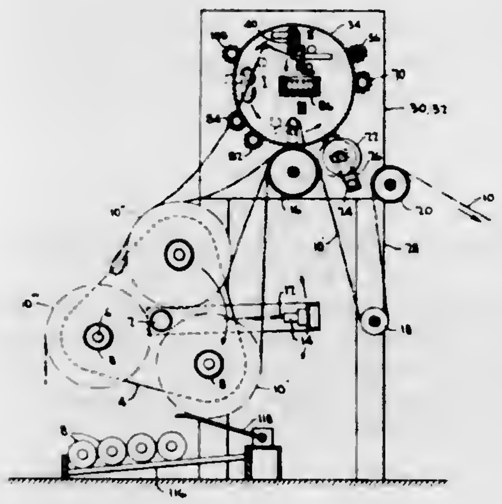
Mitsuru Yamamoto, Moorestown, and Thomas F. Carlin, Cinnaminson, N.J., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Sept. 7, 1966, Ser. No. 577,779
3 Claims. (Cl. 242—55.17)

Tape transport apparatus including a drum mounted for rotation about a vertical axis and having the lower rim flange beveled in its inner surface so as to allow thin tape to be stacked edgewise on the drum in a helix coil. An air bearing disposed between the rim flanges forces the tape to be uniformly stacked in the beveled rim flange. A second air bearing supports the drum in the area of the rim, directly opposite the first air bearing.



3,380,684
METHOD OF AND APPARATUS FOR THE CONNECTION OF CLOTH LAYERS AT THEIR ENDS

Max Vollenweider and Erwin Remund, Horgen, Switzerland, assignors to Sam. Vollenweider A.G., Horgen, Switzerland, a corporation of Switzerland
Filed Sept. 8, 1965, Ser. No. 485,832
Claims priority, application Germany, Nov. 5, 1964, V 27,079
15 Claims. (Cl. 242—58.4)

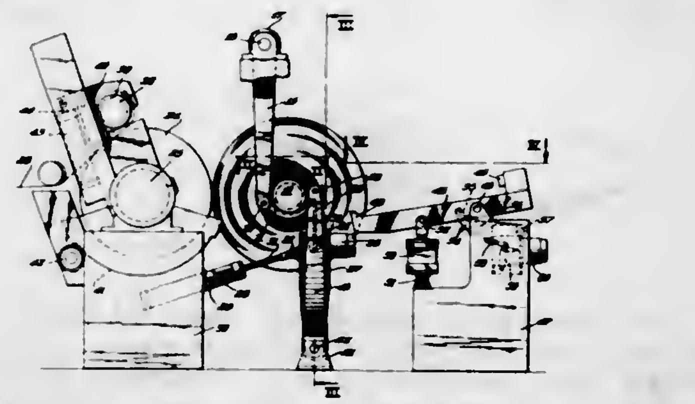


An improved method of and apparatus for the effective connection of first and second cloth layers or webs at their ends. The leading end portion of the second cloth layer to be connected to the first cloth layer is grasped and then moved at the same speed of travel as the first cloth layer. During movement of both cloth layers, a connection bond is applied therebetween to thus interconnect the leading end portion of the second cloth layer with the trailing end portion of the first cloth layer.

3,380,685
CONTROL APPARATUS FOR HORIZONTAL REEL

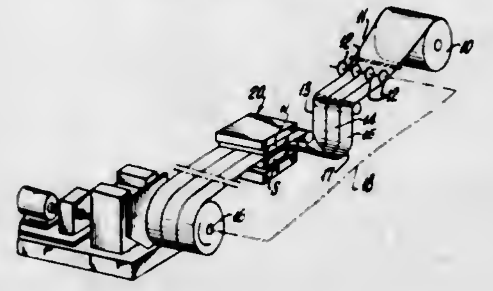
Elmer E. Crist and Jack L. Diltz, Beloit, Wis., assignors to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Filed July 5, 1966, Ser. No. 562,578
12 Claims. (Cl. 242—65)

A web winding apparatus having a core carrying means pivotally supported between the winder drum and a pickup device for removing the core from the web winding machine. The core is maintained in winding relationship with the winding drum by means of a pressurizing means such as an air motor. The core carrying means includes a core saddle which is mounted between upper and lower pivot arms and which thereby is carried substantially frictionless as the buildup on the core increases and as the core moves from the winder drum to the pickup mechanism.



3,380,686
APPARATUS FOR WINDING ELECTRICALLY CONDUCTING METAL STRIPS

Jean Gaudin, Montigny-les-Cormeilles, France, assignor to Societe de Constructions Mecaniques de Creil, a corporation of France
Filed June 23, 1966, Ser. No. 559,834
Claims priority, application France, June 25, 1965, 22,209
5 Claims. (Cl. 242—75.2)

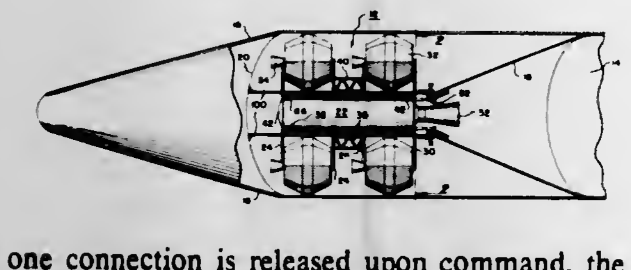


In winding strips of electrically conducting material upon an arbor with the strips being exposed, prior to winding, to a magnetic braking field, to maintain a substantially constant winding tension, difficulties have been experienced where the strips are previously slit into a plurality of juxtaposed partial strips to be simultaneously wound upon a common arbor. Due to variations of the tensions of the partial strips resulting from the slitting operations or other causes, the winding tensions of the strips vary accordingly. The difficulty is overcome by the provision of spaced rows of discrete braking magnets disposed across the total width of the partial strips with the magnets of each row being mutually spaced and adjacent rows being displaced laterally of the strips and relative to each other, to cause each of the partial strips to be subject to eddy current braking by the field of at least one of said magnets. The resultant individual braking of the partial strips in turn results in substantially uniform winding tensions of all the strips being wound upon the common arbor.

3,380,687
SATELLITE SPIN DISPENSER

Edwin H. Wrench and Erik C. Lindkvist, La Jolla, Barry A. Mendoza, La Mesa, Robert A. Close, La Jolla, William E. Gibb, Solana Beach, and John Ford, San Diego, Calif., assignors to General Dynamics Corporation, San Diego, Calif., a corporation of Delaware
Filed June 11, 1965, Ser. No. 463,163
13 Claims. (Cl. 244—1)

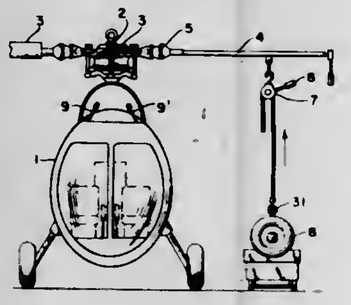
An apparatus for spinning and dispensing satellites in orbit. The dispenser, enclosed in a heat shield atop a non-spinning space booster, is rotated by a drive mechanism within the shield prior to being released. After release, the spinning dispenser releases one or more of its satellites by ground command. The satellites are connected to the dispenser by spaced pairs of connectors.



As one connection is released upon command, the satellite pivots about its other connection as a result of centrifugal force until reaching a pre-determined angular position, whereupon it is automatically released into orbit.

3,380,688
HELICOPTER HOIST

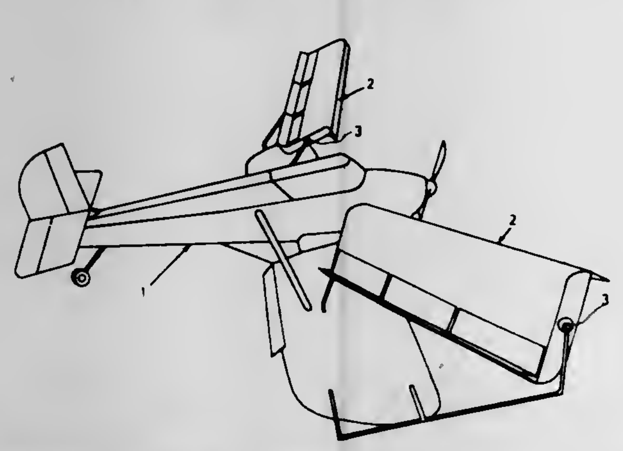
Roger S. Adams, 6801 20th St. N.,
St. Petersburg, Fla. 33702
Filed Oct. 13, 1966, Ser. No. 588,280
5 Claims. (Cl. 244—17.11)



1. In combination with a helicopter, a hoisting device capable of moving objects in horizontal, vertical and rotational planes with respect to said helicopter comprising a support member coupled to the rotor head of said helicopter, a carriage mounted for horizontal movement along said support and a hoist supported by said carriage.

3,380,689
STABILIZING SYSTEM FOR AIRCRAFT

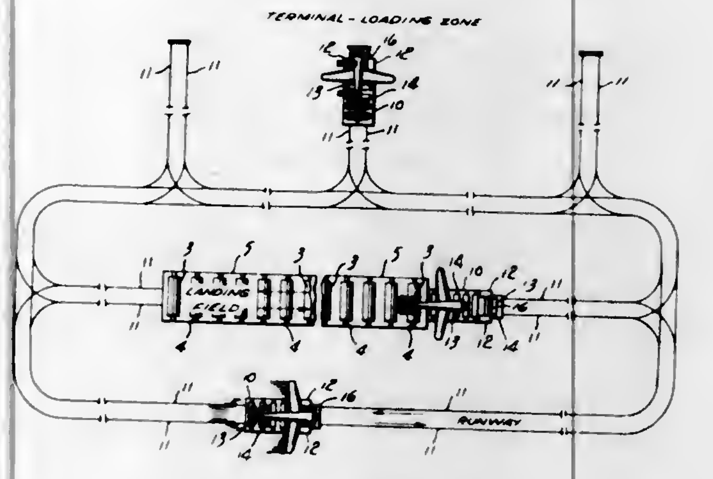
Rudolf Bucher, Goethestrasse 16, Zurich, Switzerland
Filed Apr. 12, 1966, Ser. No. 542,103
Claims priority, application Switzerland, Apr. 13, 1965, 5,148/65; Oct. 11, 1965, 13,976/65
4 Claims. (Cl. 244—39)



A stabilizing device for air rescue service aircraft wherein two stabilizing elements are mounted upon the wings of the aircraft. Each of the stabilizing elements may rotate about its longitudinal axis and they are mounted on the wings of the aircraft so that in normal horizontal position of the aircraft the longitudinal axis of each stabilizer extends forwardly and upwardly relative to the axis relative to the main axis of the aircraft and during flight the stabilizing elements may revolve by aerodynamic resistance so that the aircraft remains stabilized during a slow approximately vertical parachute-like descent. Each stabilizing element is provided with either a folding hinged flap or may be divided in a diagonal plane. The folding hinged flap provides a trough-shaped cavity.

3,380,690
AIRCRAFT LANDING SYSTEM

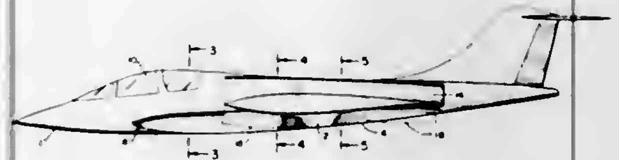
José Domínguez Rego, 600 Broad St., Newark, N.J. 07102
Filed Dec. 15, 1966, Ser. No. 601,967
2 Claims. (Cl. 244—114)



An aircraft landing field comprising a plurality of spaced rollers upon which the aircraft is landed. A rail car, operating on rail tracks and provided with a plurality of rollers, is arranged to receive the landed aircraft for transport to and from other areas of the field and to facilitate its take-off.

3,380,691
MINIMUM AIRFRAME FOR MAXIMUM EXTERNAL LOAD

Jean W. McComas, Islip, N.Y., assignor, by mesne assignments, to Fairchild Hiller Corporation, Hagerstown, Md., a corporation of Maryland
Filed July 23, 1965, Ser. No. 474,229
3 Claims. (Cl. 244—118)

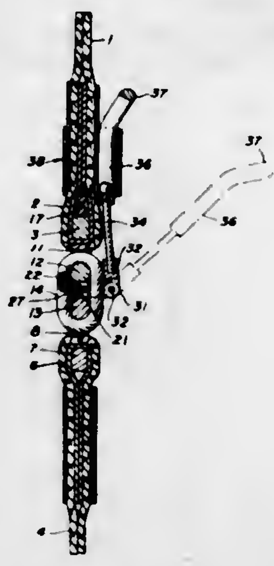


An aircraft fuselage having a pair of load carrying recesses disposed on the bottom of the fuselage symmetrically about the centerline of the fuselage and located in the aerodynamic shadow of the nose. Each of the recesses is open on the bottom and on the outboard side.

3,380,692
EMERGENCY RELEASE FOR WEBBING AND LINES

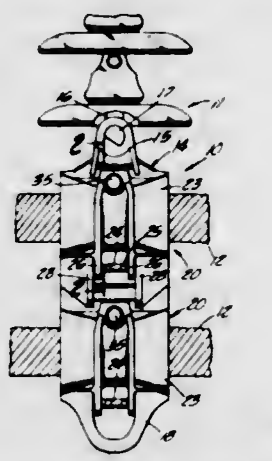
John A. Gaylord, San Rafael, Calif., assignor to H. Koch & Sons, Corte Madera, Calif., a corporation of California
Filed Nov. 25, 1966, Ser. No. 596,899
8 Claims. (Cl. 244—151)

The illustrative embodiment of the invention includes a pair of connector rings on the meeting ends of webbings or lines, and a cord coiled around the adjacent parts of the rings, correspondingly to the anticipated maximum load, the ends of the cord being tied together so as to hold the connection secure; a knife is held inside the coiled cord, and handle means are provided whereby the knife can be pulled to cut the cord for releasing the connection.



3,380,693
CABLE CLAMP WITH MEANS FOR DISTRIBUTING THE CABLE LOAD BETWEEN THE CLAMPING JAW AND THE CLAMP BODY

L. E. Lindsey, 222 Vista Ave., Pasadena, Calif. 91107
Filed Dec. 19, 1966, Ser. No. 602,999
1 Claim. (Cl. 248—63)

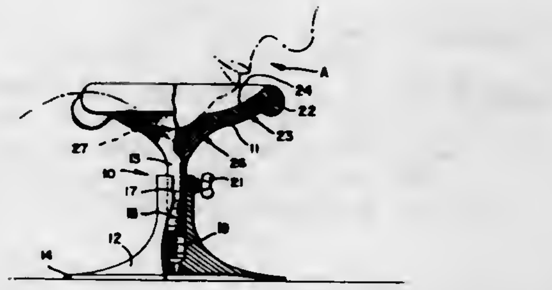


This invention relates to cable clamps and more particularly to an improved cable clamp suitable for use in supporting one or more power transmission cables in suspension from the lower end of a high tension insulator. The clamping jaw for each cable and the main body of the clamp have interfitting complementary lug and recess means positioned to internest and effective to distribute the load stresses between the jaw and the main body of the clamp. The interfitting parts provided for this purpose are positioned adjacent the upper side of the cable and each clamping jaw is connected to the main body by a horizontally disposed hinge pin crosswise of the lower end of the jaw.

3,380,694
HEADREST

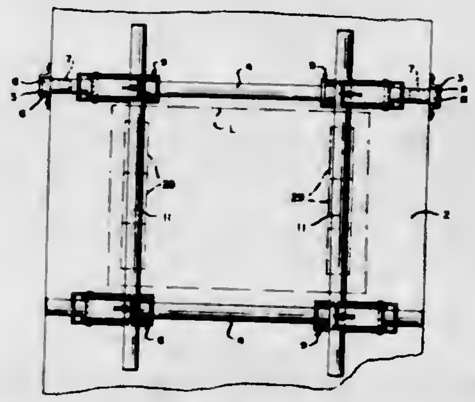
Woodrow W. Branner, 5919 Frazier Lane, McLean, Va. 22101
Filed Sept. 19, 1966, Ser. No. 580,455
7 Claims. (Cl. 248—118)

This invention relates generally to a device for supporting the head of a person while resting in a reclining or substantially prone position. In one such position he may rest his chin upon it. The device disclosed is a headrest having a base, which may be temporarily fixed in or on the ground, and a head supporting upper portion which is formed with a central depression for accommodating the chin of the user, and a trough extending radially from the depression to the periphery of the support to accommodate his throat, adjacent his chin. This head supporting upper portion may be suitably lined, and may also be adjustable vertically relative to the base to suit the comfort of the user.



3,380,695
MEANS FOR POSITIONING A LOAD ON A CARRIER

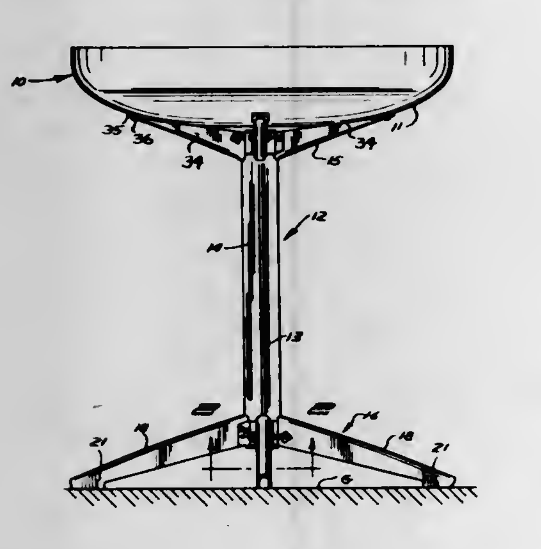
Philip Chambers, P.O. Box 42, Butler, Pa. 16001
Filed Mar. 7, 1966, Ser. No. 532,458
4 Claims. (Cl. 248—119)



In combination with a generally horizontal carrier such as a vehicle bed, generally parallel generally horizontal spaced apart elongated members, means for maintaining at least one of said members in position on the carrier, generally parallel generally horizontal spaced apart elongated load engaging elements disposed substantially at right angles to said members and connecting devices connecting together said members and load engaging elements, the connecting devices being adjustably positionable along said members and being maintained in desired adjusted positions by the weight of the load bearing on the load engaging elements. The connecting devices may have a hollow body portion through which an elongated member passes and a gripper for gripping the elongated member, the gripper being carried by the body portion for relative movement therebetween enabling the gripper to assume gripping position with respect to the elongated member upon application of the weight of the load bearing on the load engaging elements. The gripper may be pivotally mounted on the body of the connecting device and may comprise a mounting member and a contact member carried by the mounting member for relative movement therebetween enabling the contact member to assume proper contacting position with respect to the elongated member when the gripper moves to gripping position. The contact member may be pivotally mounted on the mounting member. The connecting device may have a serrated face portion for positively gripping an elongated member. The connecting device may have a slotted portion receiving a load engaging element and means for maintaining the load engaging element in the slotted portion, which means may comprise screw means threaded through a portion of the connecting device and bearing against a portion of the load engaging element facing outwardly of the slot.

3,380,696
SUPPORTING STANDARD FOR BARBECUE GRILLS OR THE LIKE

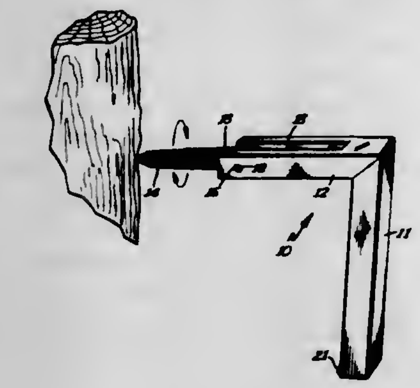
Ronald R. Pauly, St. Bonifacius, and Theodore H. Zbikowski, Fridley, Minn., assignors to Tonka Corporation, Mound, Minn., a corporation of Minnesota
Filed June 23, 1966, Ser. No. 559,773
2 Claims. (Cl. 248—188.7)



A pedestal for an upright post supporting a barbecue grill or the like. The pedestal comprises a plurality of identical feet extending radially from the lower end of the post with each foot having flanges at its inner end for connecting it to next adjacent feet to bend the feet inner ends tightly around the post.

3,380,697
PORTABLE STEPS FOR CLIMBING TREES OR POLES

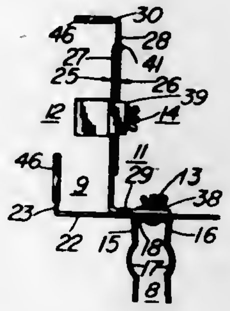
Norman J. Melcher, 4559 Jefferson St., Minneapolis, Minn. 55421
Filed Oct. 11, 1966, Ser. No. 585,938
5 Claims. (Cl. 248—216)



A portable step for climbing trees or poles is formed from square cross-section metal stock in the form of the letter L shape, the joining angle being more acute than a right angle, and having a screw with its shank pivotally secured within a recessed portion of the upper end of the stem member. The screw is pivotal to a position within the recess in the stem and remains so for carrying, while swinging outwardly to another position permitting pressure to be applied to the crossbar portion for driving the screw into a tree or pole, and then swinging the stem and crossbar into position for climbing.

3,380,698
BICYCLE HOLDER FOR TRANSISTOR RADIOS

Herbert S. Goldberg, 2849 W. Birchwood Ave., and Albert W. Volchenboum, 7524 N. Damen Ave., both of Chicago, Ill. 60645
Filed Oct. 26, 1966, Ser. No. 589,753
3 Claims. (Cl. 248—229)



1. A radio-carrier, for mounting on a vehicle, comprising,

(a) a supporting element structured for fixed attachment to the vehicle,

(b) an L-shaped member having a slot extending longitudinally of the longer arm thereof,

(c) a first pair of overlapping L-shaped brackets each having a slot extending longitudinally of the longer arm of each thereof, and a hole in the shorter arm of one of the brackets which shorter arm is disposed oppositely to the shorter arm on the other bracket,

(d) a second pair of overlapping L-shaped brackets each having a slot extending longitudinally of the longer arm thereof, and with the shorter arms extending in the same direction,

(e) a first bolt-nut combination for extending through the slot in the L-shaped member and through the hole in the short arm of the one of the first pair of brackets for securing the L-shaped member in adjusted position on the supporting element to dispose the short arm of member in predetermined spaced disposition relative to the first pair of L-shaped brackets, and anchoring the short arm of the one of the first pair of L-shaped members to the supporting element, and

(f) a second bolt-nut combination for extending through the slots in both pairs of brackets to clamp each pair in their relatively adjustable relationships and the pairs relatively adjustable to each other for relative disposition to clamp a radio between the short arms of the member and the two pairs of brackets.

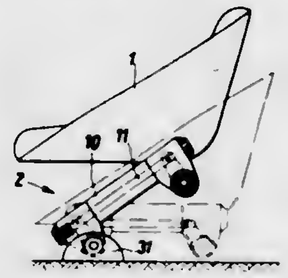
3,380,699
SOAP DISPENSER

Auguste Fumat, 1177 Brickell Ave., Rm. 104, Miami, Fla. 33131
Filed June 27, 1966, Ser. No. 561,643
5 Claims. (Cl. 248—309)

A soap dispenser for use in bathrooms and the like which can be used by a person having wet hands without subjecting him to the aggravation of having a bar of soap slip through his wet hands.

3,380,700
PARALLELOGRAM-TYPE SPRING ARRANGEMENT FOR SEAT CUPS

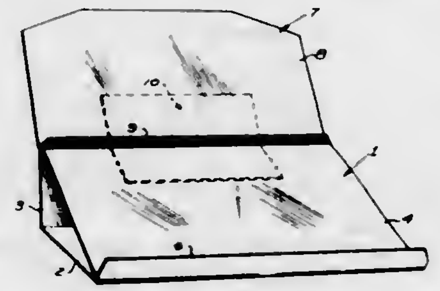
Wilhelm Wingen, Munich, Germany, assignor to Rupert Fritzmeier, Grosshelfendorf Luber, Munich, Germany
Filed Dec. 21, 1965, Ser. No. 515,311
Claims priority, application Germany, Dec. 23, 1964, F 44,798
7 Claims. (Cl. 248—399)



A vehicle saddle is supported at one end on a torsion spring, mounted at one end on a supporting spring, of parallelogram form, which, in turn is mounted at one end on the base, to give a spring supported saddle, held level under load.

3,380,701
PORTABLE READING DESK

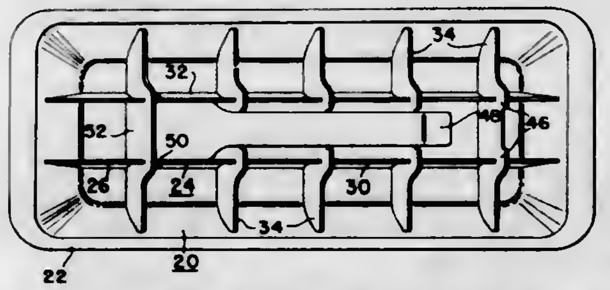
Logan C. Byars, 6311 Stafford Ave., Huntington Park, Calif. 90255
Filed Mar. 17, 1966, Ser. No. 535,099
2 Claims. (Cl. 248—459)



A portable reading desk utilizing two members formed of sheet material, one member is triangular in side aspect and forming a sloping book supporting surface having an upturned holding flange along its lower margin and a slot adjacent its upper margin. The other member also has a book supporting surface with a flange along its lower margin. In addition, a tongue extends from the second member through the slot in the first member to hold the second member above and back of the first member.

3,380,702
FREEZING TRAY

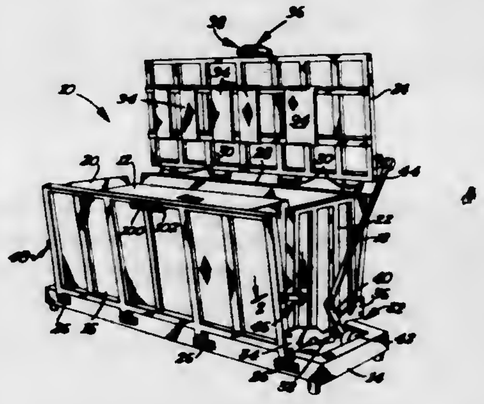
Robert M. Strahan, Vandalia, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 16, 1966, Ser. No. 527,826
4 Claims. (Cl. 249—71)



1. A freezing tray including a container pan having a bottom, a grid for dividing the interior of the pan comprising a longitudinal wall resting substantially upon the bottom of the pan and transverse movable walls resting upon and supported by said longitudinal wall above the bottom of the tray, said longitudinal wall comprising upper and lower portions longitudinally movable relative to each other, said upper portion having means for supporting said transverse walls with their bottoms above the bottom of the lower portion of the longitudinal wall, the bottom of said longitudinal wall extending to a lower level than the bottoms of said transverse movable walls.

3,380,703
SUPPORTING FIXTURE FOR FOAM-FILLED ARTICLES

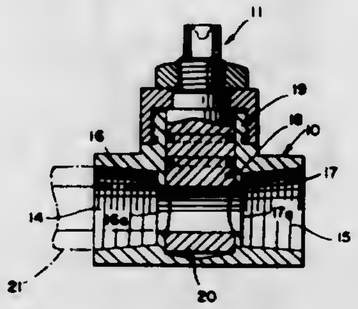
Thomas S. Zastrow, St. Paul, Minn., assignor to Remmele Engineering, Inc., St. Paul, Minn., a corporation of Minnesota
Filed Jan. 10, 1966, Ser. No. 519,504
14 Claims. (Cl. 249—172)



1. A fixture for providing mechanical support for a foamed-in-place resin filled article during expansion of said resin, the article having a plurality of angularly related surfaces, said fixture comprising a base member, a plurality of supporting panels mounted on said base member, each of said supporting panels being movable between a supporting position in parallel abutting relation to a surface of said article and a retracted position in spaced relation therefrom, powered latching means acting between two of said panels, and means for transferring the holding force of said latching means to the remaining panels whereby all of said panels will be held in their supporting positions when said latching means is engaged.

3,380,704
VALVE

Anthony R. Nugarus, Chicago, Ill., assignor to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts
Filed June 14, 1965, Ser. No. 463,660
4 Claims. (Cl. 251—89)

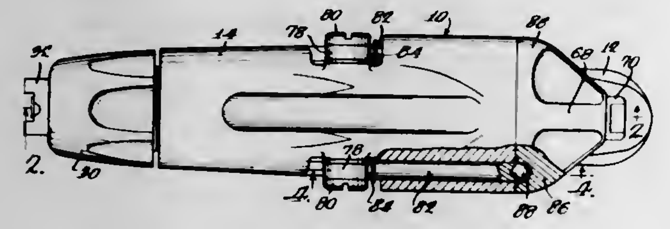


A control valve for handling high viscosity materials at elevated temperatures and pressures including a valve body having a cylindrical plug bore therein and coaxially aligned inlet and outlet ports, coaxially aligned openings through and normal to the plug bore communicating respectively with the inlet and outlet ports, seats formed in the body by the openings in the plug bore leading to the inlet and outlet ports, a cylindrical plug rotatably mounted in the plug bore and having a minimum of tolerance therewith and a transversely extending passageway coacting with the seats, and at least one O-ring around the periphery of the plug sealing with the plug bore.

3,380,705
SPRAY GUN

Bruno E. Enssle, Boulder, Colo., assignor to Binks Manufacturing Company, Chicago, Ill., a corporation of Delaware

Filed June 28, 1965, Ser. No. 467,635
12 Claims. (Cl. 251—89)

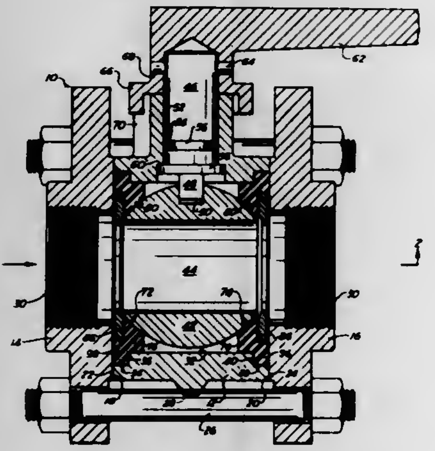


An airless paint spray gun characterized by safety features mitigating misuse of the gun and injury to human beings; specifically, a control knob for disconnecting the gun trigger from the fluid control valve for preventing inadvertent opening of the valve during cleaning, replacement of nozzles and the like, and a valve and valve seat arrangement such that a solid jet of fluid cannot issue from the gun when the nozzle is not in place. A further characterizing feature resides in a readily replaceable valve and sealing gland cartridge for airless spray guns facilitating cleaning and repair of the gun; said cartridge including a flexible link in the valve actuating means facilitating broad manufacturing tolerances.

3,380,706
BALL VALVE WITH REINFORCED SEALS

Domer Scaramucci, Oklahoma City, Okla., assignor to Balon Corporation, Oklahoma City, Okla., a corporation of Oklahoma

Filed June 21, 1965, Ser. No. 465,529
14 Claims. (Cl. 251—148)

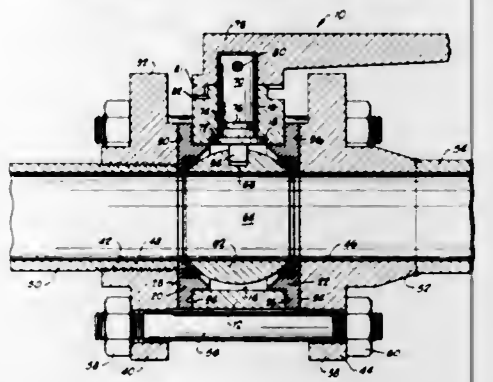


A ball valve of the floating ball type including a downstream seal comprising an elastic material portion clamped between the valve body and a downstream connector and extending radially inwardly into the valve chamber engaging the ball to provide a primary seal, and a reinforcing ring bonded to the downstream end of the elastic seal ring in a position to engage the downstream connector and provide a secondary, metal-to-metal seal against the ball in the event of destruction of the primary seal.

3,380,707
BALL VALVE

Domer Scaramucci, Oklahoma City, Okla., assignor to Balon Corporation, Oklahoma City, Okla., a corporation of Oklahoma

Filed Sept. 16, 1965, Ser. No. 487,831
5 Claims. (Cl. 251—148)

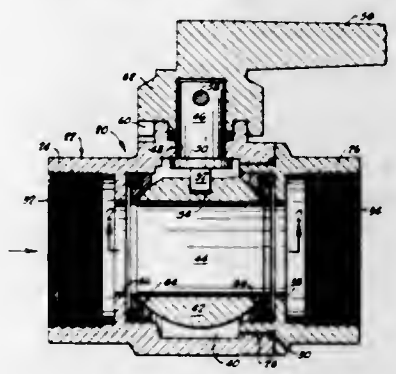


A ball valve assembly including a pair of flanged connecting members interconnected by bolts, and a tubular valve body positioned radially inside the bolts ad containing a valve ball. Seal rings are disposed radially inside the bolts between two opposed end faces of the valve body and the respective flanged connecting members. Each seal ring includes a sealing element mating with, and sealingly engaging, the ball, and an axial flange extending axially along, and engaging a portion of, the internal wall of the tubular valve body to thereby maintain the radially outer portion of the seal rings in position between the connecting members and the end faces of the valve body.

3,380,708
BODY PRESSURE RELIEVING VALVE AND SEALS THEREFOR

Domer Scaramucci, Oklahoma City, Okla., assignor to Balon Corporation, Oklahoma City, Okla., a corporation of Oklahoma

Filed Apr. 12, 1965, Ser. No. 447,246
12 Claims. (Cl. 251—172)



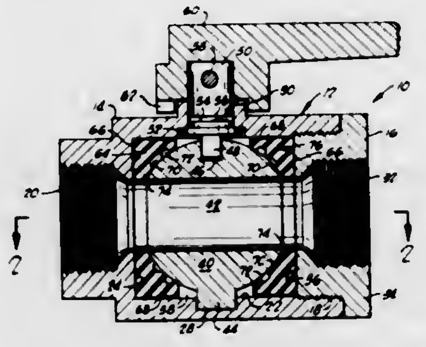
A valve having a floating valve member wherein excessive body pressure is relieved upstream. The upstream seat assemly is normally free to slide upstream away from the closed valve member, but in the event it becomes stuck against the valve member, a resilient seal at the outer edge of the seat assembly is deflected to a bypass position and excessive pressure bleeds around the seat into the upstream end of the valve.

3,380,709
VALVES AND SEALS THEREFOR

Domer Scaramucci, Oklahoma City, Okla., assignor to Balon Corporation, Oklahoma City, Okla., a corporation of Oklahoma

Filed Feb. 2, 1965, Ser. No. 429,874
10 Claims. (Cl. 251—172)

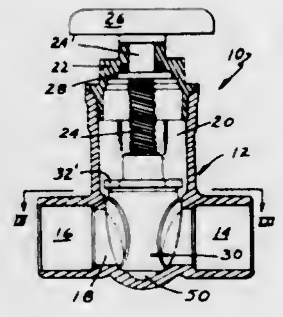
A resilient material, downstream valve seal having its inner peripheral portion wedged between the valve member and body and the outer peripheral portion free to flex toward and away from the valve member, with the seating surface of the seal having a plurality of annular grooves therein and the outer portion of the seating surface projecting into the path of movement of the valve member.



3,380,710
VALVE

Donald L. Pletcher, Bristol, and John D. Stalter, Elkhart, Ind., assignors to Nibco, Inc., Elkhart, Ind., a corporation of Indiana

Filed Feb. 28, 1966, Ser. No. 530,586
4 Claims. (Cl. 251—266)



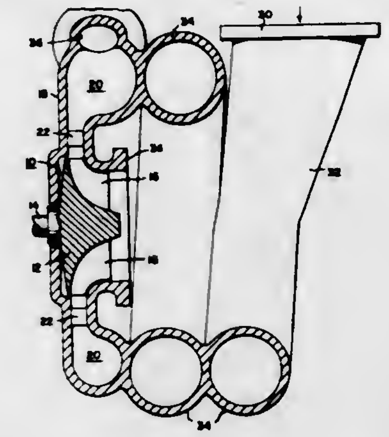
1. In a valve assembly having (1) a valve body with a through flow passageway including an inlet passage and an outlet passage and a valve seat region therebetween, said body also forming a chamber located generally on one side of said valve seat region and intersecting said valve seat region; (2) a bonnet on said body at said chamber with a stem carried thereby and extending into said chamber; and (3) a valve plunger threadably connected to said stem and movable axially and nonrotationally from said chamber into said valve seat region for closing the flow passageway; the improvement comprising: said valve plunger having a core and an outer lubricious, resilient, polymeric, non-absorbing, and nonswelling jacket of relatively low compressibility attached to said core; and said jacket being configurated to protrude toward both said inlet and outlet passages and having recess means down both sides to the bottom thereof, to engage said valve body in said valve seat region only around the peripheries of said inlet and outlet passages.

3,380,711
COMBINED SEPARATOR AND TURBINE

Ernest W. Blattner, Franklin, Karol Pilarczyk, Morrisville, and Michael Toth, Jr., Fallsington, Pa., assignors to De Laval Turbine Inc., Trenton, N.J., a corporation of Delaware

Filed Jan. 21, 1966, Ser. No. 522,091
6 Claims. (Cl. 253—76)

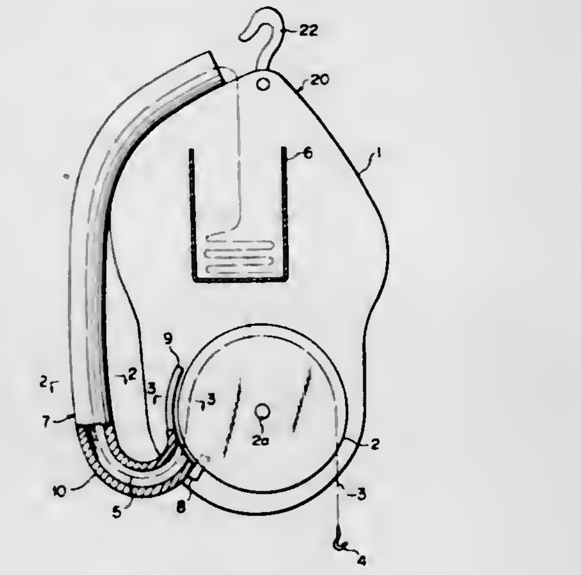
A combined turbine and centrifugal dust separator in which the dust particles are separated in the region between the discharge of the centrifugal separator and the inlet to the turbine whereby the high velocity in the separator is continued as a velocity of approach to the turbine nozzles.



3,380,712
DEVICE FOR GUIDING A LOAD CHAIN IN A HOISTING AND PULLING APPARATUS

Miyoshi Kito, 745 Seijo-machi, Setagaya-ku, Tokyo, Japan

Filed Oct. 26, 1966, Ser. No. 589,725
Claims priority, application Japan, Dec. 20, 1965, 40/78,069, 40/78,070
1 Claim. (Cl. 254—167)



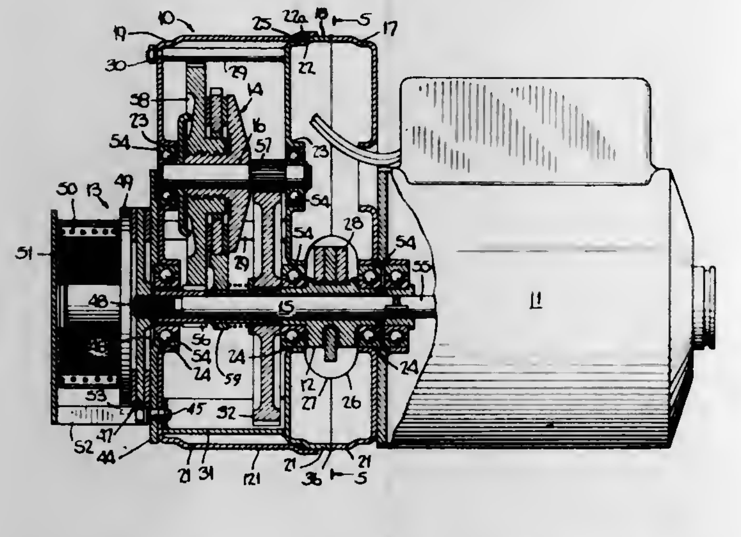
A hoisting device includes a rotatable sprocket for a link chain, the link chain extends downwardly from the sprocket on a load side and, on the free side, extends through a chain guide for guiding the links of the chain away from the sprocket and into a storing bucket. The chain guide includes a tubular element defining cross grooves which extend at substantially 90° and which are located to guide the chain downwardly in a smooth curve away from the sprocket and thence to the top of the storing bucket so that the chain can be fed into the bucket. In this arrangement the chain does not extend downwardly on the free side to interfere with the lifting of the load. The device also includes means for holding the chain onto the sprocket directly before the chain guide and means for lifting the chain off the sprocket directly at the chain guide for transportation through the guide to the storage bucket.

3,380,713
CASING FOR HOIST

George F. Quayle, Philadelphia, Pa., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio

Filed Oct. 28, 1966, Ser. No. 590,366

14 Claims. (Cl. 254—167)



A hoist casing formed by assembling three sheet metal members each having the same dish shape, including a flat bottom part and a wall part on the periphery of the bottom part. Two of the dish-shaped members are welded together at their rims so as to form a chamber for the load sheave of the hoist. The wall part on the third member has an extended portion which is secured to the bottom part of another member so as to enclose a relatively large chamber for a Weston brake and hoist gearing. Bearing openings are formed at the same position in each of the bottom parts of the dish-shaped members, and support shaft bearings in aligned relation to each other when the members are assembled. The wall parts of the two dish-shaped members that are welded together are equipped with reinforcing blocks that are juxtaposed to each other so as to form in effect a single block, in which is an opening for the shank of a support hook for the hoist.

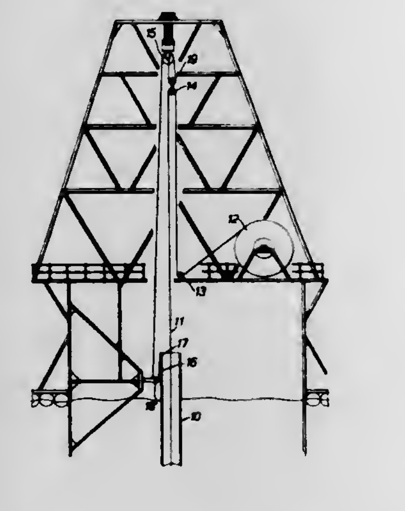
3,380,714
CORRECTION SYSTEM FOR USE IN CARRYING OUT LINE-OPERATIONS IN AN UNDERWATER BOREHOLE

Leonard Roy Martin, Caythorpe, near Lowdham, England, assignor to The British Petroleum Company Limited, London, England, a corporation of England

Filed Nov. 30, 1966, Ser. No. 598,023

Claims priority, application Great Britain, Dec. 6, 1965, 51,644/65

1 Claim. (Cl. 254—172)



A floatable rig for carrying out line-operations in an underwater borehole, the rig being provided with a correction system for the borehole-line, the system having a correction line connected to a point fixed relative to the earth and to a correction pulley in engagement with the borehole-line, by which the length of borehole cable payed out in response to the rise and fall of the tide and wave action, is adjusted to correct for the vertical motion of the floating rig.

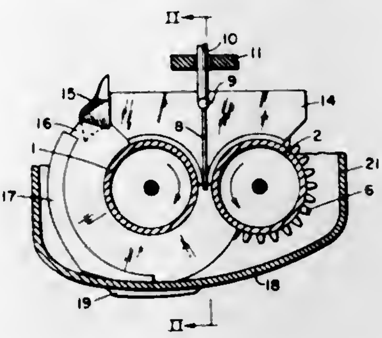
3,380,715
APPARATUS FOR TREATING HIGHLY VISCOUS MATERIAL

Bernard L. A. van der Schee, Arnhem, Netherlands, assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware

Filed Nov. 4, 1965, Ser. No. 506,326

Claims priority, application Netherlands, Nov. 20, 1964, 13,495, 13,496

6 Claims. (Cl. 259—6)



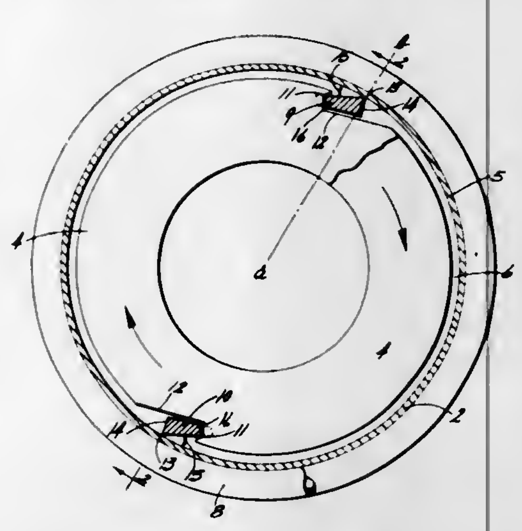
Apparatus for treating highly viscous materials, such treatment comprising blending, mixing or degasifying, including in combination: two cylindrical rollers positioned substantially parallel to end at a short distance from each other, a drive coupling adapted to connect the rollers to a source of power for rotation thereof in opposite directions, an inlet and outlet for the supply and discharge of the viscous material, and means for collecting and redepositing portions of the material which sink and drop off the rollers to a treating area thereon.

3,380,716
ICE CREAM FREEZER SCRAPER BLADE

Robert L. Arter, Crestline, Ohio, assignor to Bakk Engineering, Cleveland, Ohio, a copartnership composed of Robert L. Arter, Charles A. Blum, John H. Kappus, and J. Harry Koplin

Filed Nov. 23, 1965, Ser. No. 509,281

3 Claims. (Cl. 259—9)



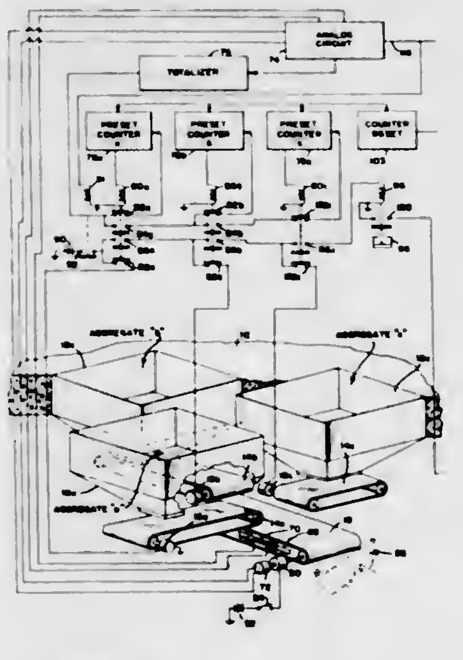
The scraping blade of this invention relies for good scraping pressure on the cylinder wall partly on centrifugal force and partly on the reaction of the ice cream on the front face of the scraping blade, which is inclined slightly forwardly from a radial plane. The blade shape and its pivotal mounting on the rotor are also important factors in its efficient scraping. It is of generally rectangular cross section, pivoted at the radially outer one of its trailing edges on the rotor and disposed at an acute angle of inclination relative to the cylinder wall with only its radially outer leading edge, which is defined by a substantially square corner of the blade section, in scraping contact with the inside of the cylinder, the scraping edge being defined at the radially outer end of a front face of the blade that is disposed in a plane inclined forwardly slightly relative to a plane disposed approximately radially relative to the cylinder. The leading scraping edge is in a substantially square corner portion of the blade section, may be defined on a forwardly extending radially outer portion of the blade section which is generally V-shaped for greater sharpness. Also, the front face of the blade may be given concave form behind the scraping edge.

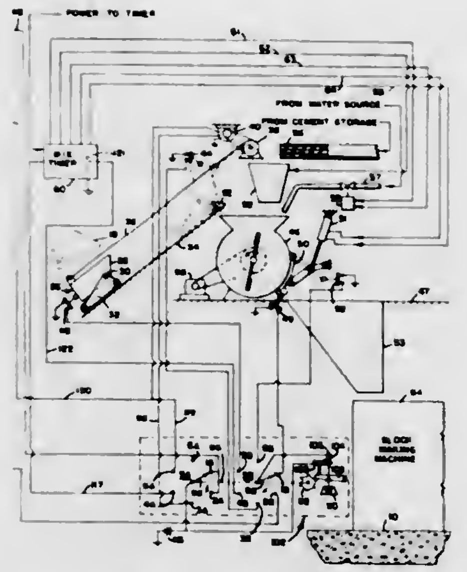
3,380,717
BINLESS BATCHING SYSTEM

George E. Adams and Ralph W. Adams, Ypsilanti, Mich., and Ralph A. Horton, St. Paul, Minn., assignors to Ramsey Engineering Company, St. Paul, Minn., a corporation of Minnesota

Filed May 12, 1967, Ser. No. 638,080

12 Claims. (Cl. 259—154)





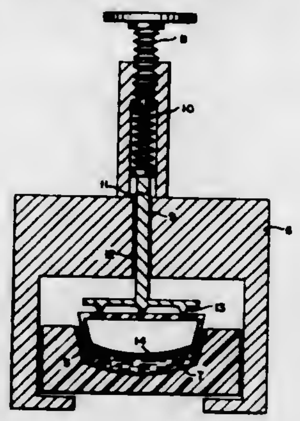
Subgrade hoppers with their inlets at substantially ground level allow the various aggregates to be dumped directly into the proper hopper or to have the aggregate stored alongside so that it can be pushed in as needed. The aggregates are withdrawn sequentially from the underground outlets of the hoppers and each aggregate is weighed in turn by a single conveyor scale. The accumulated material composed of the individually weighed aggregates is then forwarded to a mixer where cement and water are added.

3,380,718
PROCESS FOR MOLDING HIGH QUALITY PLASTIC LENSES

Charles W. Neefe, Big Spring, Tex., assignor to Neefe-Hamilton Research Company, Big Spring, Tex.

Filed July 20, 1964, Ser. No. 383,898

1 Claim. (Cl. 264—1)



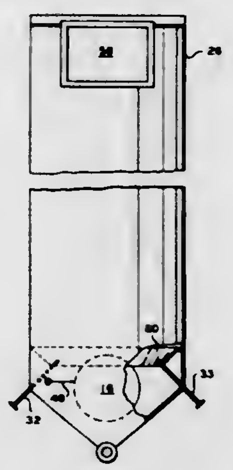
1. A process for making high quality plastic lenses from a monomer and two catalysts, one having a lower reaction temperature than the other and each capable of polymerizing said monomer comprising filling a concave mold with the liquid monomer and floating a convex mold upon the liquid monomer and applying pressure to the convex mold forcing said convex mold into the liquid monomer whereby the desired thickness of liquid monomer is present between the mold surfaces and heating the monomer to activate the lower temperature catalyst until a gel is formed and applying additional pressure to the convex mold forcing the mold surfaces against the gel material and increasing the pressure as the gel thickens into a solid and applying additional heat to activate the higher temperature catalyst and to complete the polymerization.

3,380,719
APPARATUS FOR QUENCHING HOT REACTOR GASES

Lawrence K. Murray, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Sept. 1, 1966, Ser. No. 576,757

3 Claims. (Cl. 261—115)

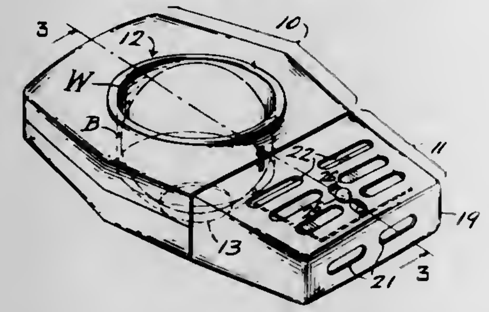


A vertical quench tower for carbon black and the like having a frusto-conically shaped baffle means positioned near the bottom thereof and extending partially into the inlet flow path. Upwardly and inwardly directed nozzles extend from the inside of the tower and are positioned below the baffle so that substantially only the nozzle tip thereof will extend through the baffle. Hot reactor gases passed through the inlet will be at least partially deflected through a 180° turn upon contacting the baffle to remove any undesired entrained solid particles. Any solid particles that had originally collected on the interior, of the vessel in the form of coke and then broken loose and fall, will be deflected by the baffles to avoid damage to the spray nozzles.

3,380,720
GOLF BALL WARMER

Alfred F. Bauer, Toledo, Ohio, assignor to National Lead Company, New York, N.Y., a corporation of New Jersey

Filed July 15, 1966, Ser. No. 565,621
3 Claims. (Cl. 263—5)

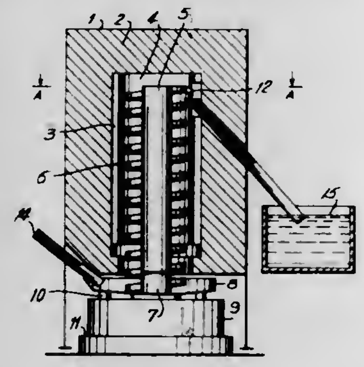


A device for warming golf balls having a catalytic type combustion device which is contained within a burner housing secured to one side of an annular space which provides a wick and fuel chamber. Extending transversely into the annular space is a golf ball aperture which has a diameter adapted to tightly receive the golf ball so that a ball positioned therein is in substantial contact throughout the periphery of the adjacent wall. Heat transfer from the combustion chamber to the ball is accomplished by conduction through the burner housing, the walls of the annular space to the inner wall in contact with the ball. The combustion chamber is isolated from the golf ball aperture so that products of combustion cannot directly heat or discolor the surface of the ball.

3,380,721
CONVEYOR FURNACE FOR HEAT-TREATMENT OF PARTS

Victor Grigorjevich Petrikov, Gorky, U.S.S.R., assignor to Zavod "Normal" USSR, Gorky, U.S.S.R.

Filed July 9, 1965, Ser. No. 470,706
4 Claims. (Cl. 263—6)

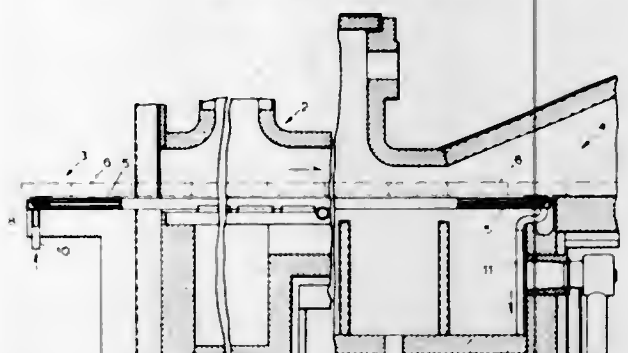


A heat-treatment furnace comprising a chamber containing heating means and a vertical guide carrying an external screw trough, the guide being secured to a bunker below the chamber which receives the parts to be treated and in turn is connected by means of spring supports to a fixed plate which supports an electromagnetic vibrator constituted by armatures mounted on the bunker or support plate and cores on the other one thereof, the interpolar gap between the armature and cores being adjustable to vary the amplitude and frequency of oscillation of the vibrator.

3,380,722
FURNACE FOR HEATING SLABS AND THE LIKE AND CONVEYOR FOR USE THEREON

George R. Sopchack, New Kensington, Pa., assignor to Titzel Engineering, Inc., Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 19, 1966, Ser. No. 602,710
7 Claims. (Cl. 263—6)



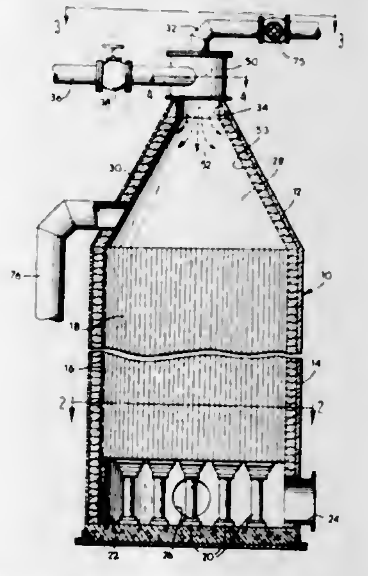
1. A conveyor for use in a furnace for heating slabs and the like comprising:

a hollow elongated supporting member,
means for circulating a cooling medium through the hollow supporting member,
a grooved track carried on the hollow supporting member,
a curved tubular guide at each end of the track extending into the interior of the hollow supporting member and a tubular guide inside the hollow supporting member extending lengthwise of the supporting member and connecting the inner ends of the curved tubular guides to form with the track a continuous elongated loop around which rolling elements may travel, and
a continuous progression of separate rolling elements in abutting contact movable around said elongated loop with their peripheries of those elements which are in the track projecting above the track so that the work pieces may be supported thereon.

3,380,723
BLAST AIR HEATING STOVE IN METALLURGICAL FURNACES AND THE LIKE

Kenneth W. Stookey, Markle, Ind. 46770

Filed Oct. 24, 1965, Ser. No. 504,820
8 Claims. (Cl. 263—19)

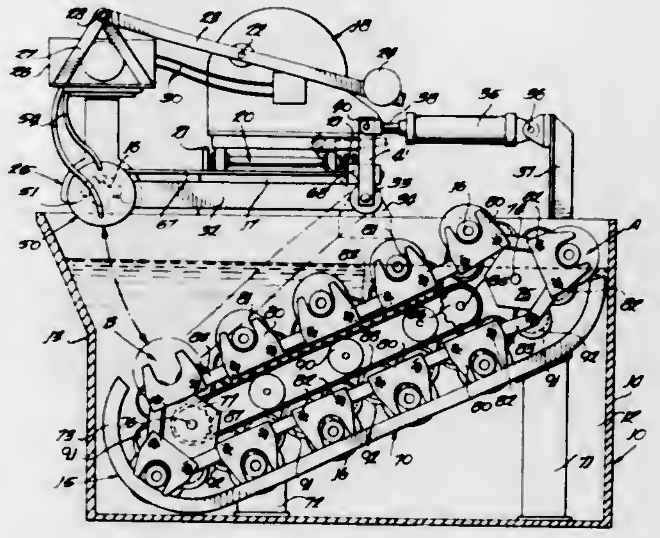


A blast air heating stove is provided with a combustion chamber at the top of the stove which is of a conical configuration and includes a slide valve which determines the degree of mixing of the fuel and air within the combustion chamber, such mixing determining the rate of flame propagation and flame length. The blast air heating stove does not require preheat of air or gas for attaining the proper flame speed, flame propagation, and so forth.

3,380,724
CRANKSHAFT INDUCTION HARDENING MACHINE

Philip E. Cary, Joliet, Ill., assignor to International Harvester Company, a corporation of Delaware

Filed May 6, 1965, Ser. No. 453,745
9 Claims. (Cl. 266—4)



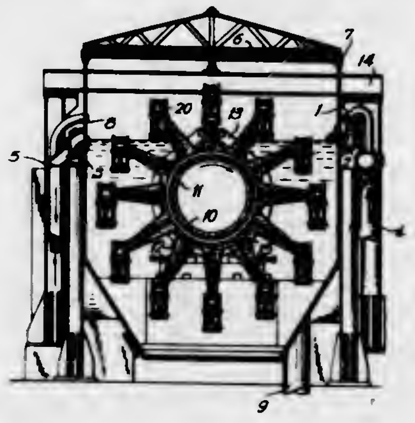
A machine for the heat treating of the pin bearings of a plurality of crankshafts including an intermittently moving conveyor located in a quench tank which is capable of moving the crankshafts in a step-by-step manner to and from an operative station and including arm means for operatively engaging each crankshaft when disposed at the operative station for removing the crankshaft from the quench tank, supporting the crankshaft while a pin bearing thereof is heated by electrical induction, and returning the crankshaft to the quench tank upon completion of the pin bearing heating step. The machine includes first drive means effective to continually rotate the crankshaft as it is being lifted from and returned to the quench tank and during the heating operation as well as second drive means associated with the conveyor for continuously rotating the crankshaft after it is returned to the quench tank subsequent to the heating operation and until it is discharged from the quench tank by the conveyor independently of the first mentioned drive means.

3,380,725
MACHINE FOR THROUGH QUENCHING OF ROLLED PROFILES, ESPECIALLY OF RAILWAY RAILS

Stanislav Vladimirovich Gubert, Moscow, and Dvoira Mosha Aronovna Rabinovich, Nizhny Tagil, U.S.S.R., assignors to Gosudarstvenny souzny Institute po proektirovaniu metallurgicheskich zavodov, Moscow, U.S.S.R.

Filed June 5, 1964, Ser. No. 372,924
9 Claims. (Cl. 266—6)

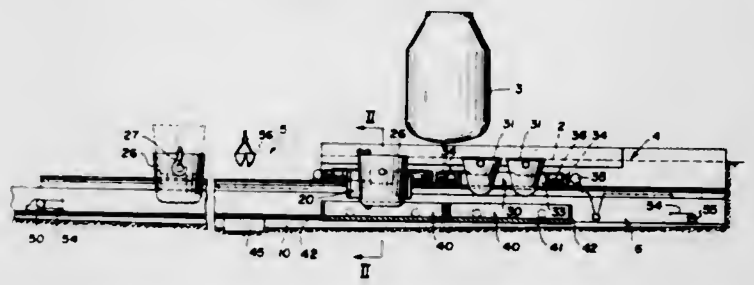
1. Apparatus for quenching railroad rails in a liquid medium, said apparatus comprising a tank for containing a liquid quenching medium, an intermittently rotatable drum in said tank, spiders mounted on said drum for rotation therewith, said spiders including radial arms, carriages having ends loosely mounted in arms of adjacent spiders such that said carriages occupy, under gravity, a substantially vertical position, and means on said carriages for engaging rails therein at a number of locations along each rail to hold the rails securely in a straightened condition in said carriages, the carriages and rails being immersed into the quenching medium as the drum rotates.



3,380,726
BASIC OXYGEN FURNACE PLANT

Ernst A. Mevissen, Coraopolis, and Ira W. Lakin, Volant, Pa., assignors to Dravo Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 8, 1966, Ser. No. 534,982
7 Claims. (Cl. 266—13)



1. In a basic oxygen furnace plant having a foundation area where a basic oxygen furnace is located with an elongated trench therebelow extending in each direction beyond the foundation, the invention comprising:

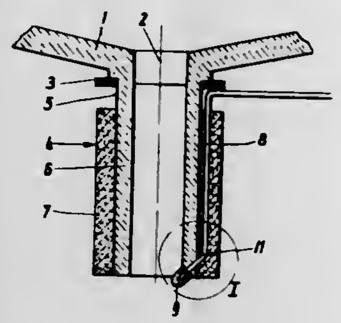
(a) an upper trackway extending along the trench,
(b) a ladle car and a slag pot car movable along said upper trackway,
(c) a ladle removably carried in the ladle car and a slag pot removably carried in the slag pot car,
(d) a runway extending along the trench below the upper trackway,
(e) a rubble receiving tray movable along said runway at a level below the ladle and slag pots on said cars whereby it may be positioned under said cars when the furnace is discharging into the ladle and slag pot, respectively, to collect any spillage, and
(f) means for moving the tray along the runway.

3,380,727
DEVICES FOR INTRODUCING GAS INTO A METAL MELT

Karl Rüttiger and Arnulf Diener, Dortmund, Germany, assignors to Dortmund-Horder Huttenunion Aktiengesellschaft, Dortmund, Germany

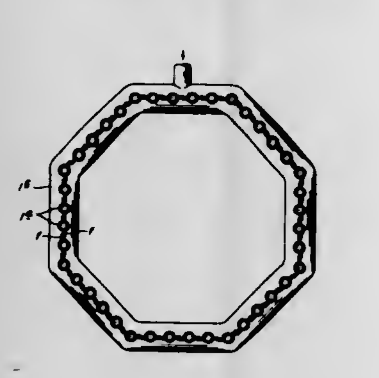
Filed Dec. 29, 1965, Ser. No. 517,219
Claims priority, application Germany, Jan. 9, 1965, D 30,466
5 Claims. (Cl. 266—34)

In a degasification plant including a vessel to receive the melt to be degasified, the vessel having an entry pipe for immersion in a ladle containing the melt, a device for introducing gas into the metal melt through the entry pipe of the degasification vessel, the device including a gas pipe for supply of gas, the pipe extending through the wall of the entry pipe and having a terminal end on the inner side of the latter and a cap, which is made of refractory porous material, detachably secured to the terminal end of the pipe, the cap projecting inwardly from the wall of the entry pipe and through which the gas is dispersed therein.



3,380,728
LIQUID COOLED WALL FOR CONFINING HOT GASES

Henry M. Baillie, Worth Township, Cook County, Ill., assignor to United States Steel Corporation, a corporation of Delaware
Filed Oct. 6, 1965, Ser. No. 493,504
3 Claims. (Cl. 266—35)

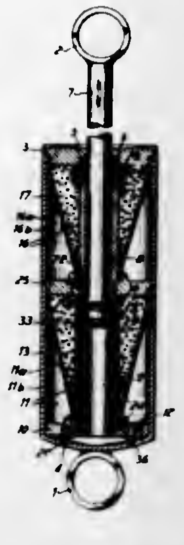


A liquid cooled wall for use in the forming of gas conduits or hoods. The wall is made of a plurality of modular elements having a pipe-like body portion and longitudinal fins protruding from opposite sides of the pipe body. The fins of adjacent elements overlap, but are free to slide relative to one another when heating or cooling causes expansion or contraction in the wall.

3,380,729
HYDROPNEUMATIC APPARATUS

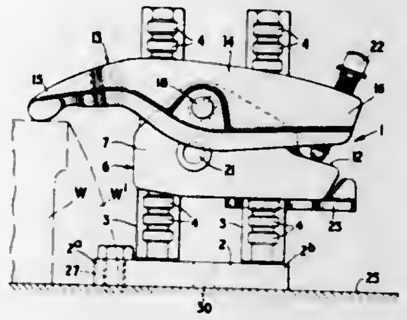
Hans-Jürgen Hoffmann, Hohenlimburg, and Manfred Löhr, Letmathe, Germany, assignors to Hoesch Aktiengesellschaft, Dortmund, Germany
Filed Apr. 11, 1966, Ser. No. 541,599
Claims priority, application Germany, Apr. 13, 1965, H 55,780
20 Claims. (Cl. 267—64)

1. A structure of the character described particularly for use as a shock absorber in automotive vehicles, comprising a cylinder and a plunger each connectable to one of two members which are movable toward and away from each other, said cylinder having a cylinder chamber and said plunger being reciprocable in said chamber; a working chamber and a storage chamber each containing a supply of gaseous and liquid fluid; first and second one-way valve means respectively connecting said cylinder chamber with said working chamber and said storage chamber to respectively permit flow of liquid fluid into said working chamber and from said storage chamber, said cylinder having first and second openings respectively connecting said cylinder chamber with said working chamber and said storage chamber and said plunger normally sealing said second opening.



3,380,730
WORKPIECE CLAMPING DEVICES

Leonard John Carver, Walsall, England, assignor to Carver & Co. (Engineers) Limited, Walsall, England, a British company
Filed Apr. 11, 1966, Ser. No. 541,560
Claims priority, application Great Britain, Apr. 15, 1965, 16,379/65
6 Claims. (Cl. 269—25)

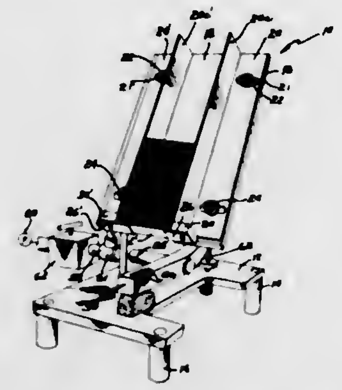


1. A clamping device comprising: a base; upstanding support means formed by a pair of spaced uprights on said base; carrier means formed by a carrier member, said carrier means being supportable on said upstanding support means, whereby to be adjustable for height relatively to the base, by projections provided on the one said means and slidingly engageable with openings provided in the other said means; and, for clamping the work-piece, a pivoted clamping jaw carried by the carrier member, said jaw being pivoted for up and down angular movement about an axis transverse to the direction in which the uprights are spaced, and the carrier member being bodily movable relatively to the uprights to slidingly disengage the projections from the openings to enable the carrier member to be moved from one height-adjusted position to another.

3,380,731
CLOTH LABEL SINGULATING METHOD AND APPARATUS

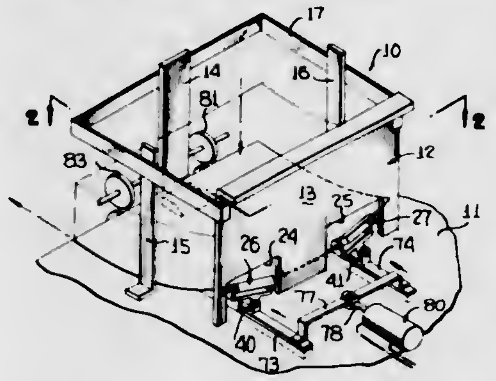
Melvin E. Larson and Carl W. Shaver, Grand Rapids, Mich., assignors to Rose Patch & Label Company, Grand Rapids, Mich., a corporation of Michigan
Filed Feb. 14, 1966, Ser. No. 527,013
11 Claims. (Cl. 271—20)

Apparatus for and method of singulating stacked porous articles of the cloth label type by a controlled flexing response of the exposed center portion of the endmost label supported on its ends to suction means controllably spaced therefrom, to flex such from its plane into engagement with the suction means, and by then retracting the suction means to pull the ends of the endmost label free from the stack. The apparatus automatically singulates successive labels as each previously singulated label is removed from the suction means, by using a constant bias of the suction means toward the label stack and a periodically applied vacuum operated bias of the suction means away from the stack and actuated in response to the presence of a label on the suction means to overcome the constant bias and retract the label from the stack, so as not to return to the stack until the label is removed from the suction means.



3,380,732
SHEET FEEDING APPARATUS

Justin Simpson, Elmhurst, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed May 18, 1966, Ser. No. 551,069
12 Claims. (Cl. 271—44)

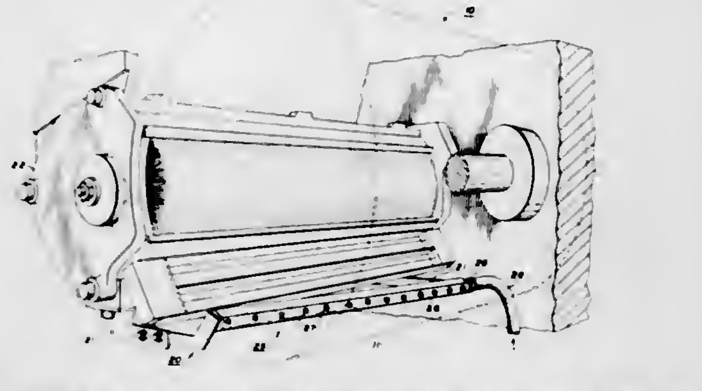


This invention relates to a novel apparatus for feeding sheets, and is particularly directed to an apparatus for feeding non-uniplanar sheet material elements, such as warped corrugated sheets, at relatively high operating speeds, and in the absence of excessive scrap generator. The apparatus includes a hopper having an opening and a pair of feed means opposite thereto mounted for universal movement in at least two different planes during the movement thereof toward the opening whereby the sheet material elements are fed toward the opening irrespective of the particular non-uniplanar configuration thereof.

3,380,733
SHEET-STRIPPING APPARATUS

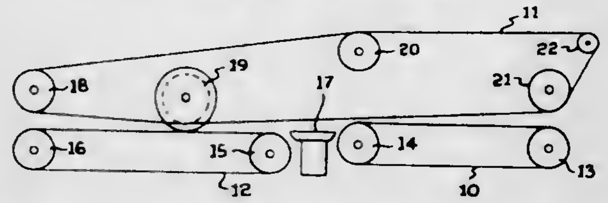
Vaidevutis C. Draugelis, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Nov. 1, 1965, Ser. No. 505,905
4 Claims. (Cl. 271—51)

Apparatus for separating a copy sheet, supporting a toner image, from a rotating xerographic drum wherein the bond between the sheet and drum is principally electrostatic. The apparatus includes a manifold having multiple parallel spaced discharge orifices supported in a non-parallel orientation with respect to the axis of rotation of the drum. Because of this orientation, when a jet of aeriform fluid is discharged through the manifold and orifices against the leading edge of a copy sheet rotating toward the orifices, the leading edge is stripped from the drum in a sequential manner to separate the entire sheet from the drum.



3,380,734
PAPERMAKING MACHINE

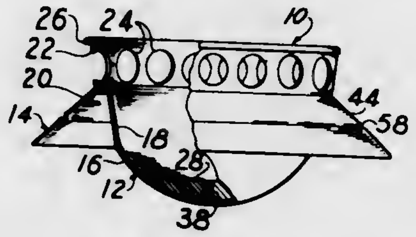
Edward P. Lanmer, Neenah, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Apr. 19, 1966, Ser. No. 543,647
4 Claims. (Cl. 271—76)



An air table positioned between discharge ends of high speed sheet carrying tapes and the sheet receiving ends of low speed sheet carrying tapes and having air discharge openings therethrough for discharging air upwardly through the table. The table is positioned adjacent to and approximately at the same level as the upper sheet carrying stretches of the low speed tapes and is positioned adjacent to the upper quadrant of a roll supporting the high speed tapes so that air discharged through the openings and traveling along the table surface holds a preceding sheet down due to the Bernoulli effect, and so that air from these openings travels along the upper quadrant of the high speed roll for blowing the leading edge of a succeeding sheet upwardly to cause it to clear the trailing edge of the preceding sheet.

3,380,735
ROCKABLE AND ROTATABLE AMUSEMENT DEVICE FOR CHILDREN

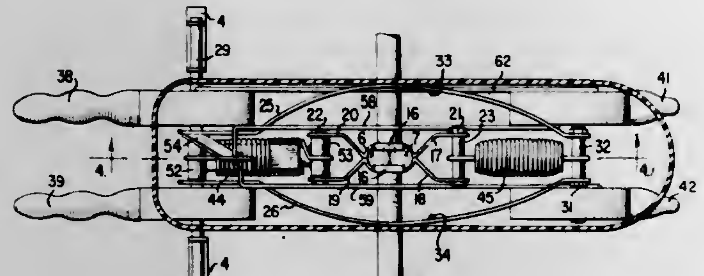
Gloria M. Rigby, 323 Sutherland Road, Trenton, N.J. 08618
Filed June 1, 1965, Ser. No. 460,001
6 Claims. (Cl. 272—33)



A bowl-shaped article in which a child sits, and which a child may rock or turn through the provision of handholds. A frusto-conical flange on the device extends downwardly outwardly from the bowl-shaped body to serve as a bumper limiting the rocking motion. The flange takes up the shock of impact in the plane of its width. The flange and body are detachably connected, and are so shaped as to facilitate separate nesting of a quantity of the flanges and bodies to reduce shipping and storage space.

3,380,736
MOVING-LEG CONTROL FOR INTERNAL SPRING SUSPENSION HOBBYHORSE DEVICE

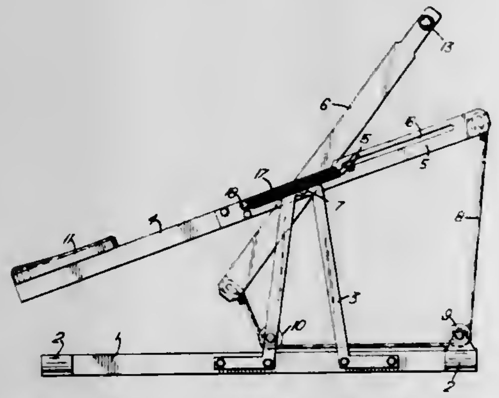
Floyd H. Wyman, Westminster, S.C., assignor to Taylor Wyman Company, Westminster, S.C., a corporation of South Carolina
Filed Nov. 20, 1961, Ser. No. 153,586
19 Claims. (Cl. 272—53.2)



14. A toy animal riding device comprising; an animal body, frame means fixed to the inner side of said body, movable body members mounted in said body, a stationary base extending into said body, a front tension spring connected between said base and a front portion of said frame and a rear tension spring connected between said base and a rear portion of said frame, torque restraining means having one end rotatably mounted on said base and the other end rotatably mounted on said body frame whereby movement between said frame and said base is reflected by said torque restraining means, and drive link means for transmitting the movement of said torque restraining means to said movable body members.

3,380,737
ROWING-TYPE EXERCISING EQUIPMENT

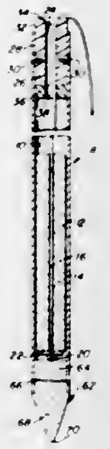
Petros Elia and Kiki Elia, both of 7 Lowther Hill, London, SE. 23, England
Original application July 31, 1964, Ser. No. 386,706, now Patent No. 3,261,606, dated July 19, 1966. Divided and this application Mar. 2, 1966, Ser. No. 531,222
Claims priority, application Great Britain, Aug. 14, 1963, 32,169/63
6 Claims. (Cl. 272—72)



1. Physical training equipment comprising a base member, supporting means upstanding from said base member, a beam pivoted to said supporting means at a point intermediate of its ends, a seat on said beam on one side of said beam pivot, and means for connecting a flexible line to a point of the beam on the side of said beam pivot opposite to said seat, a lever also pivoted to said supporting means at a point intermediate of its ends, a handle adjacent to one end of said lever, means for connecting a flexible line to a point of said lever on the side of the lever pivot opposite to said handle, pulley means on said base member, and a flexible line running in said pulleys connected at its ends respectively to the said means on said beam and said lever for connection of a flexible line thereto.

3,380,738
BATTING PRACTICE DEVICE

Stephen J. Papp, 5655 W. 2nd Ave., Denver, Colo. 80226
Filed Oct. 30, 1964, Ser. No. 407,774
4 Claims. (Cl. 273—26)



A hollow barrel provides a handle whose grounded end has a free turning and tilting rest. A tethering line is provided at its outer end with a ball. The inner end is connected with a sliding weight. In use, a player stands by and vigorously tilts and rotates the tethered ball. As the speed of rotating and tilting is increased centrifugal forces act on and pull the weight up and vary the orbital path of the ball. One or more players bat the ball. A significant feature has to do with recovering the ball after it has been grounded. The counterweight retracts the line so that play can be resumed.

3,380,739
PIN-SETTING APPARATUS INCLUDING SORTING MEANS FOR SEGREGATING PINS OF DIFFERENT TYPES

Helmut Linnemann, Uberruhrerstr. 70, Altendorf (Ruhr), Germany
Filed Nov. 3, 1965, Ser. No. 506,187
Claims priority, application Germany, Nov. 3, 1964, L 49,186
10 Claims. (Cl. 273—43)

1. In a bowling-pin setting machine for the free-standing positioning of pins of at least two types at respective predetermined locations on a pin-receiving surface of a bowling alley, in combination:

a collecting trough at the end of said alley for receiving fallen pins and the bowling ball;

first conveyor means in said trough movable transversely to said alley for carrying said fallen pins to a discharge side of said conveyor means;

a second, pin-orienting conveyor means receiving pins from said first conveyor means and aligning them substantially longitudinally in the direction of displacement of said second conveyor means;

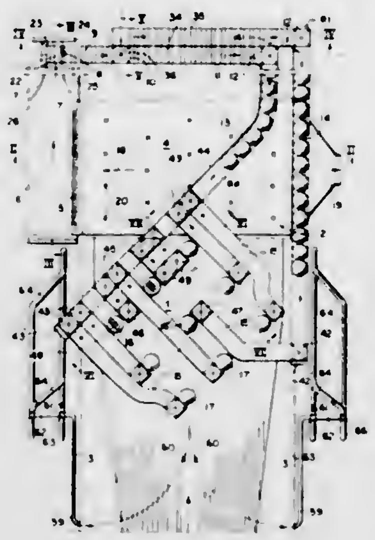
uprighting means receiving longitudinally oriented and aligned pins from said second conveyor means and successively imparting an upright stance thereto regardless of the direction of orientation of the aligned pins;

third conveyor means for conducting the upright pins away from said uprighting means;

sorting means along said conveyor means for selectively directing pins of the different types along respective transport paths;

respective elevating-conveyor means associated with each of said paths for receiving a succession of pins of the respective type therefrom and elevating said pins above said surface;

respective pin magazines for receiving from each of



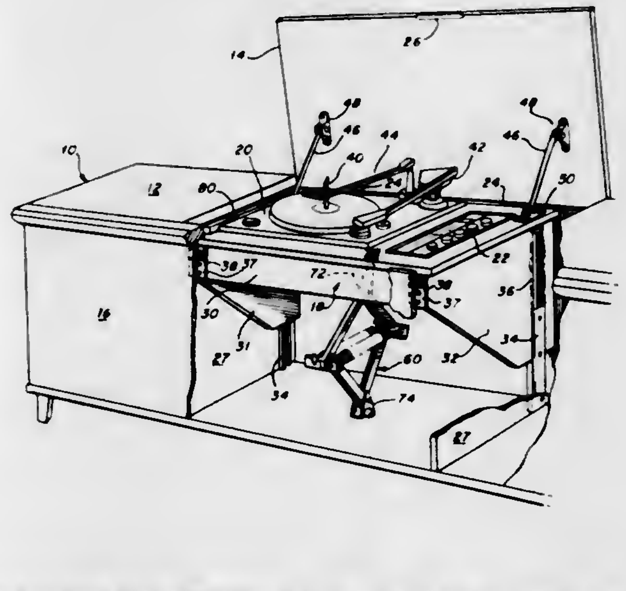
said elevating-conveyor means pins of the respective type;

a plurality of vertically movable pin-placing mechanisms each associated with a respective pin position of said array for lowering respective pins onto the respective locations on said surface; and

a plurality of distributing conveyors each assigned to one of said pin-placing mechanisms and connected with one of said magazines for receiving a pin therefrom and delivering it to the respective pin-placing mechanism.

3,380,740
PHONOGRAPH ELEVATION MECHANISM

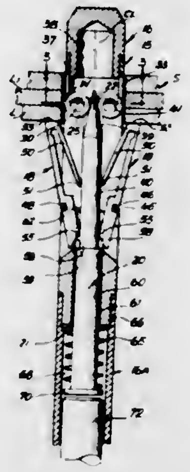
Carlton F. Stute, Riverdale, Ill., assignor to Admiral Corporation, Chicago, Ill., a corporation of Delaware
Filed May 4, 1966, Ser. No. 547,557
1 Claim. (Cl. 274—2)



A mechanism for elevating a phonograph turntable and its associated controls to a level of operating convenience upon opening a console cabinet lid, and lowering the turntable and controls upon closing the lid.

3,380,741
RECORD CHANGER

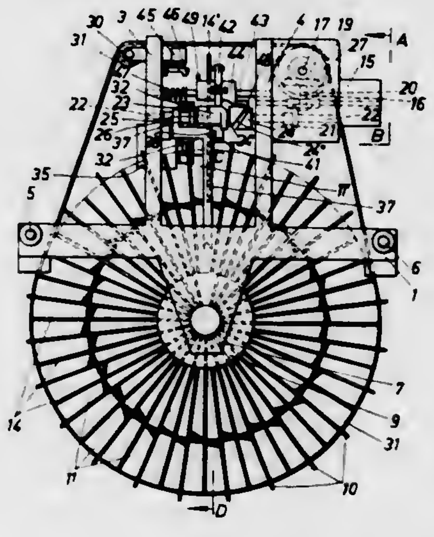
Otto Babler, 6210 Byron St., and Egon Stephan Babler, 6212 Byron St., both of Chicago, Ill. 60634
Filed Dec. 27, 1965, Ser. No. 516,568
11 Claims. (Cl. 274—10)



9 In a record changing apparatus for supporting and releasing records for movement towards a turntable, spindle means having a hollow interior and having an outer peripheral surface about which may be disposed the walls of the center holes of said records, said spindle means having a plurality of slots extending from the hollow interior to the outer peripheral surface, a plurality of separate, individual annular record supporting rings, each having a peripheral surface, disposed in said hollow interior, said rings being rollable upwardly and outwardly of said spindle means to partially extend through said slots at said peripheral surface of said spindle means to engage and support the records, retention means limiting said upward and outward movement of said rings, and axially moveable cam means defining a tapered surface about which said rings are disposed, axially disposed in said bore of said spindle and engageable with the peripheral surfaces of said rings interior of the spindle means to cam said annular supporting rings to a record supporting position.

3,380,742
RECORD PLAYERS FOR PLAYING SELECTED SIDES OF SELECTED DISC RECORDS

Friedel Horstmann, Espelkamp-Mittwald, Germany, assignor to Wilhelm Harting Werk fuer Elektrotechnik und Mechanik, Espelkamp-Mittwald, Germany
Filed Feb. 16, 1967, Ser. No. 616,543
Claims priority, application Germany, Feb. 17, 1966, H 58,582
17 Claims. (Cl. 274—10)

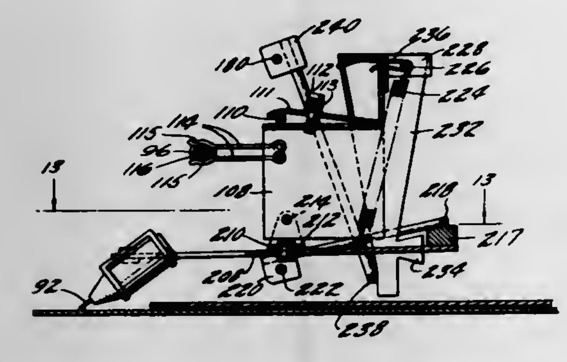


A record player in which a rotary magazine carries a supply of records from which the selections are made.

The rotary magazine has a horizontal axis of rotation and is driven by a belt drive which includes a belt which extends at least partly around the rotary magazine to prevent records from falling out from the latter. The record player includes a rotary turntable which is also situated in a vertical plane and has also a horizontal axis of rotation, and this turntable is small enough to engage only the central ungrooved portion of a disc record while located close enough to the magazine to situate a part of a record, during playing thereof, in the magazine itself. Both of the grooved sides of a disc record are therefore exposed during turning of the record by the turntable, and a tone arm is displaceable to one or the other sides of the record in the playing position and carries a pair of needle assemblies for engaging one or the other sides of the record, these needle assemblies being set for different directions of rotation so as to coact with the selected side of the record which is to be played. The shifting of the tone arm to one or the other sides of the record which is to be played, the holding of a record against the vertical turntable, the transfer of a record from the magazine to the turntable and then back to the magazine, and the swinging of the tone arm during the actual playing of the record are all controlled, respectively, by four cams carried by a single rotary cam shaft which is also situated closely adjacent to the rotary magazine. A reversible motor coacts through a transmission means on the one hand with the belt drive for the rotary magazine and on the other hand with the cam shaft, and a pair of one-way clutches form part of the transmission means and coact with the latter to transmit only one direction of rotation from the reversible motor to the cam shaft and only the other direction of rotation from the reversible motor to the belt drive, respectively.

3,380,743
RECORD PLAYER

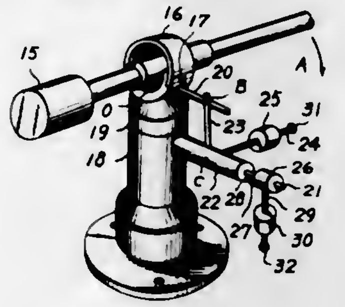
Warren M. Miner, Brooklyn, and Akira A. Yamasaki, Tappan, N.Y., assignors to The Solocast Company, a corporation of Connecticut
Filed June 5, 1964, Ser. No. 372,817
4 Claims. (Cl. 274—13)



1. In a record player, a base having a turntable for a record, a guide means on the base, a stylus carriage movable on and guided by said guide means for substantial rectilinear movement over the surface of the record, a stylus, supporting means for said stylus mounted on said carriage, said supporting means including a support and hinge means connecting said support to the carriage on an axis substantially parallel to the carriage mount, a mounting for the stylus, means pivotably connecting said mounting to said support on a second axis substantially at right angles to the axis of said hinge means and to the plane of the record established by the turntable for lateral movement of the stylus over the surface of the record, restraining means supported on said carriage for selectively preventing movement of said mounting about said second axis, said restraining means being pivotably connected to said carriage and having a bifurcated member straddling said mounting for selective engagement with a portion of said mounting, and means for selectively moving said restraining means into and out of engagement with said portion of said mounting means.

3,380,744
PICKUP DEVICE

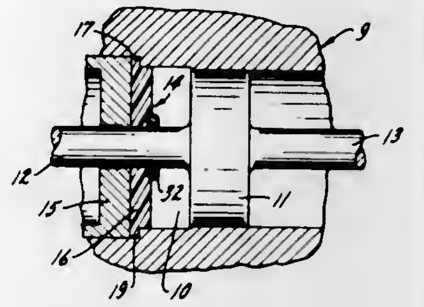
Shinji Ohnishi, Sagamihara, and Kunimasa Nishimura, Tokyo, Japan, assignors to Victor Company of Japan Limited, Yokohama, Japan
Filed Mar. 20, 1967, Ser. No. 624,483
Claims priority, application Japan, Mar. 26, 1966, 41/18,615
5 Claims. (Cl. 274—23)



A pickup device for phonographs having a pickup arm which receives an inside-force varying through a range according to the playback of records. A first means applies to the arm an outside-force which decreases according to the variation of the inside-force within the range. A second means, in cooperation with the first means, applies to the arm an outside-force which increases according to the variation of the inside-force out of the range.

3,380,745
ROD SEAL

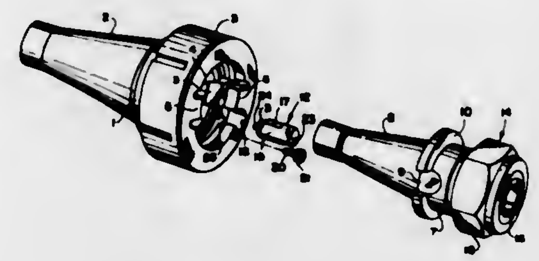
Walter J. Kudlaty, Elmhurst, Ill., assignor to Marvel Engineering Company, Chicago, Ill., a corporation of Delaware
Filed Oct. 1, 1965, Ser. No. 492,198
3 Claims. (Cl. 277—152)



A seal assembly for the piston rod end of a hydraulic cylinder including a flanged disk having one planar side for abutting the cylinder end wall, a second side adapted to face the piston, and a passage for the piston rod through the disk. The flange is adapted to be compressed between the cylinder body and the cylinder end wall to form a static seal therebetween. The passage for the piston rod has a clearance portion and a tapered portion forming an area of cross-section less than the piston rod at the end of the passage adjacent the second side. A groove is formed concentrically around the passage at the second side of the disk. An O ring is inserted into the groove to yieldingly urge the portion of the disk forming the reduced area of cross-section of the passage into dynamic sealing engagement with the piston rod. The groove is radially inwardly spaced from the chamber walls so that the O ring is not in contact with the chamber walls.

3,380,746
QUICK CHANGE CHUCK

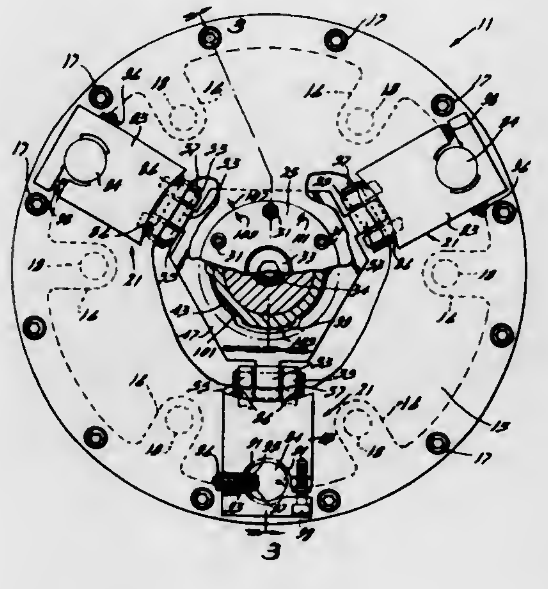
Milton L. Benjamin and David D. Walker, Chagrin Falls, Ohio, assignors to Erickson Tool Company, Solon, Ohio, a corporation of Ohio
Filed Feb. 27, 1967, Ser. No. 618,726
7 Claims. (Cl. 279—91)



A quick change chuck including a tool adapter and holder releasably locked together by a key received in a slot in a flange on the tool adaptor. A nut threaded onto the tool holder has a lug which when rotated in one direction forces the tool adapter into seated engagement with the holder, and when rotated in the other direction has an axially adjustable release member which engages the tool adapter flange to release the tool adapter from the holder.

3,380,747
ADJUSTABLE COMPENSATING AND CENTRALIZING CHUCK

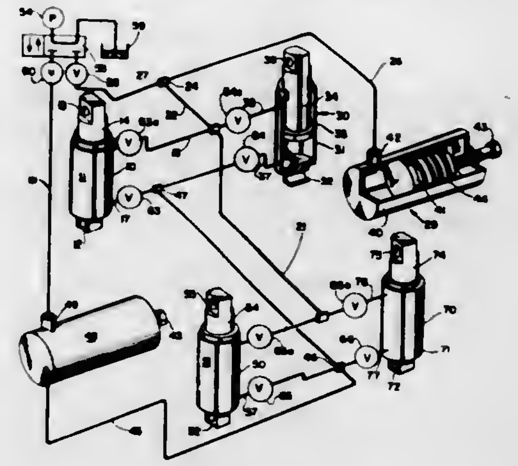
George Hohwart, Farmington, and Paul Toth, Allen Park, Mich., assignors to N. A. Woodworth Company, Ferndale, Mich., a corporation of Michigan
Continuation-in-part of application Ser. No. 420,660, Dec. 23, 1964. This application May 13, 1965, Ser. No. 455,431
17 Claims. (Cl. 279—106)



A chuck including a plurality of pivotally mounted arms, each having a gripping jaw movable radially relative to a central axis, an actuator movable along the axis, means operatively connecting the actuator and the arms comprising a spider carried by the actuator for axial movement therewith, the spider and actuator being relatively movable radially of the axis, and means for preventing relative radial movement between the spider and actuator and for holding the spider and actuator on the axis, the spider member interconnected with the arms whereby axial movement of the spider causes pivotal arm movement.

3,380,748
HYDRAULIC SUSPENSION SYSTEM FOR MOTOR VEHICLES

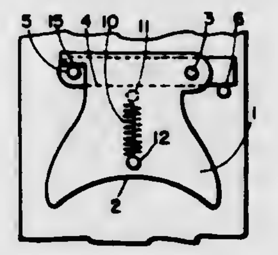
Emmet L. Martin, Littleton, Colo., assignor to American Coleman Company, Littleton, Colo., a corporation of Nebraska
Filed June 3, 1966, Ser. No. 555,102
9 Claims. (Cl. 280—6)



1. A suspension system for a motor vehicle including a hydraulic spring assembly for each wheel of the vehicle, comprising a double-acting hydraulic cylinder mounted adjacent each wheel of the motor vehicle and connected to the wheel mounting assembly at one end and to the motor vehicle body thereabove; at least one cylinder mounted on each of opposed wheels on an axle and being interconnected by a first hydraulic line communicating with the chamber on the cap end of each cylinder and interconnected by a second hydraulic line communicating with the rod end of each cylinder; a first hydraulic accumulator mounted in said first hydraulic line; a second hydraulic accumulator mounted in said second hydraulic line; valve means arranged to close the lines leading to the cap and rod ends of each said hydraulic cylinder, the hydraulic pressure in said cap end being normally substantially higher than the pressure in said rod end for carrying the load of the vehicle on hydraulic springs and to provide by the hydraulic system for said rod ends a hydraulic shock absorber for each cylinder; and pump and valve means arranged to increase and decrease the pressure in either end of each cylinder, with the pressure in the cap ends normally sufficiently greater than the pressure in the rod ends to overcome the weight of the vehicle and its load and the pressure in said rod end and move said vehicle body upwardly.

3,380,749
SAFETY FASTENING FOR SKIS, ESPECIALLY IN FRONT

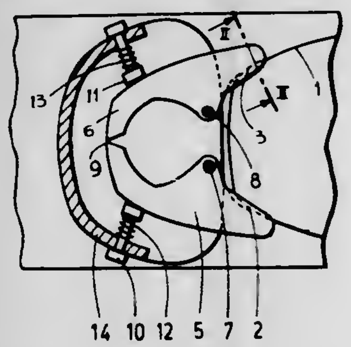
Georges P. J. Salomon, 34 Ave. de Loverchy, Annecy, Haute-Savoie, France
Filed Feb. 9, 1966, Ser. No. 526,189
Claims priority, application France, Feb. 10, 1965, 5,081
7 Claims. (Cl. 280—11.35)



Safety binding for holding the front of a shoe on a ski which comprises a jaw for encircling the tip of the shoe pivotable at the right-hand side of a link located across the ski, the said link is pivotable on the ski at its left-hand side about an axle, a pin fixed on the right-hand side of the ski behind the link, a spring connected between the jaw and the ski for providing a thrust action of the link against the pin and of a projection of the jaw against the said axle, whereby, when the jaw is tripped by the shoe, the said pin and the said axle will contact the lateral surfaces of the jaw and limit the rotation of the latter.

3,380,750
FRONT SAFETY ATTACHMENT FOR SKIS

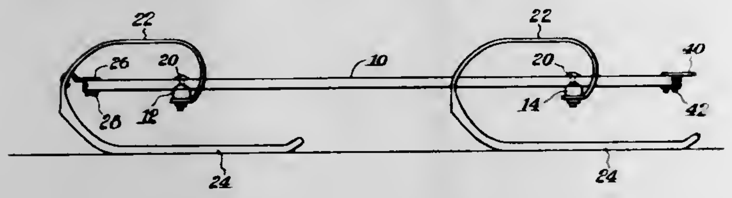
Georges P. J. Salomon, 34 Ave. de Loverchy, Annecy, Haute-Savoie, France
Filed June 13, 1966, Ser. No. 557,240
Claims priority, application France, June 14, 1965, 20,751
6 Claims. (Cl. 280—11.35)



A safety attachment for holding the front end of a ski boot consisting of a pair of pivotally mounted T-shaped jaws, one arm of each jaw engages the toe of the boot and the opposite end of these arms are resiliently urged against each other so that the rotation of one jaw in a direction will cause the rotation of the other jaw in the same direction within a predetermined rotation and will cause a sudden substantial release of said other jaw beyond said predetermined rotation.

3,380,751
SLED

George Marcus Jellen, 117 Santa Maria, San Bruno, Calif. 94066
Filed Apr. 13, 1966, Ser. No. 542,291
1 Claim. (Cl. 280—25)

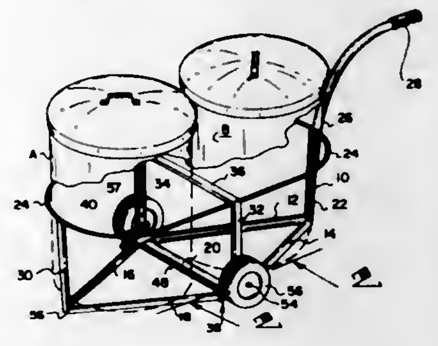


A sled having special runners and suspension therefor wherein the runners remain flat in contact with the ground at all times, thus providing enhanced steering and stability and a smoother more controlled ride.

3,380,752
UTILITY CART

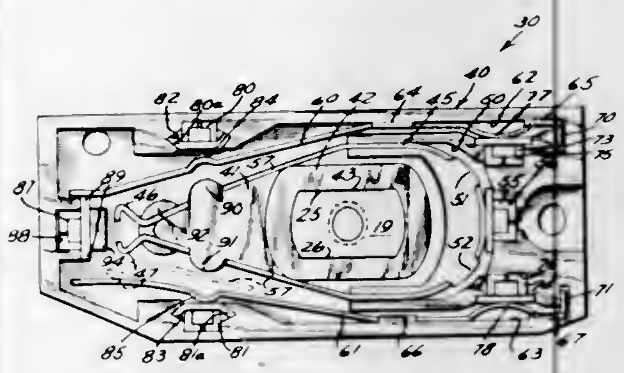
Adam D. Goettl, 4960 E. Palomino Road, and John Goettl, 3229 E. Mitchell Drive, both of Phoenix Ariz. 85018
Filed July 1, 1966, Ser. No. 562,279
1 Claim. (Cl. 280—43)

A utility cart adapted for movement on a pair of wheels, and having wheel mounting structures adapted for vertical sliding movement relative to the frame of the vehicle, and also for pivotal movement about a horizontal axis so that the vehicle may be selectively supported on the wheels or the frame thereof may be readily dropped to the ground for stable disposition thereon, as desired.



3,380,753
SWITCH CONSTRUCTION FOR USE IN TURN SIGNAL INDICATOR IN MOTOR VEHICLES

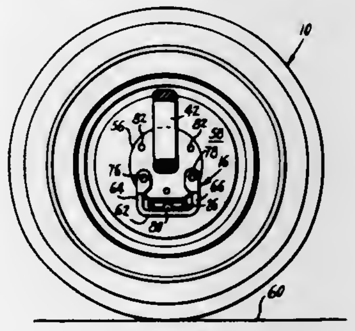
Richard H. Jordan, Fort Myers, Fla., and Samuel A. Findley, Bronson, Mich., assignors to Kingston Products Corporation, Kokomo, Ind., a corporation of Indiana
Filed June 26, 1964, Ser. No. 378,180
5 Claims. (Cl. 200—61.27)



A bidirectional electrical switch for use in turn direction indicators for motor vehicles. The switch includes a rectangular body having a plurality of recessed portions with a small hole therein and through the switch body for receiving a wire conductor. A cam actuator extends through the body and engages an angularly shiftable cam member positioned within the interior of the body to engage certain ones of a set of switches formed within the body.

3,380,754
RETAINING DEVICE FOR PIVOTAL JOINTS

Francis T. Rauls, 640 Lola Drive, Woodland, Calif. 95695
Filed Sept. 28, 1966, Ser. No. 582,590
7 Claims. (Cl. 280—96.2)



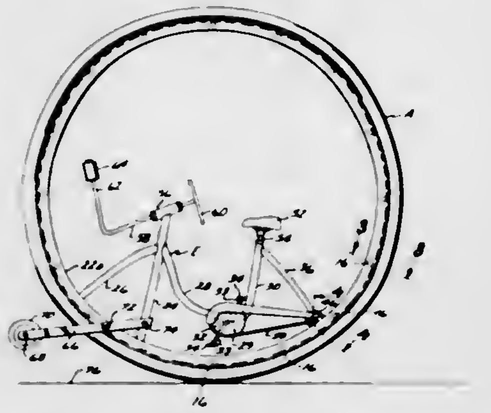
1. In a vehicular steering mechanism of the type having a pivoted ball joint arm having a depression adjacent the free end thereof, a ball joint on the free end of the ball joint arm, a steering element mounted for rotation about the axis of the ball joint secured to a non-rotatable portion of the vehicular wheel, the improvement comprising

a ball joint retainer having a portion underlying the pivoted ball joint arm for holding the arm in close proximity to the ball joint upon separation thereof, the retainer portion including a holding segment normally out of engagement with the ball point arm and a protuberance extending into the ball joint arm depression normally out of engagement with the ball joint arm; and

means securing the ball joint retainer to the non-rotatable portion of the wheel.

3,380,755
HOOP-TYPE CYCLE

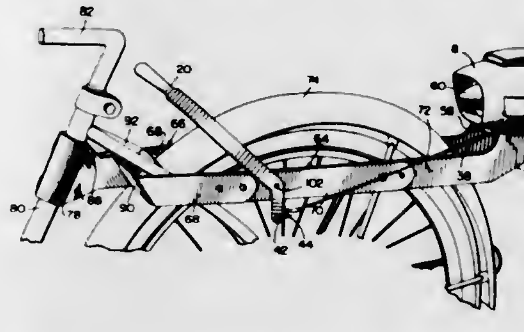
James M. Pound, 1925 Stearnlee Ave., Long Beach, Calif. 90815
Filed Mar. 25, 1966, Ser. No. 537,454
3 Claims. (Cl. 280—207)



A vehicle that includes a large diameter hoop having a frame disposed within the confines thereof on which a user is supported, which frame is provided with hoop-guiding means and propelling means that may be utilized by the user to cause said vehicle to carry him to a desired destination.

3,380,756
NOVELTY ACCESSORY FOR BICYCLES

Donald Bryan Poynter, 7 Arcadia Place, Cincinnati, Ohio 45208
Filed Mar. 8, 1966, Ser. No. 532,683
15 Claims. (Cl. 280—289)



A parachute-containing housing adapted to be mounted relative to the rear fender of a bicycle and having means operable by a rider for releasing the parachute from the housing.

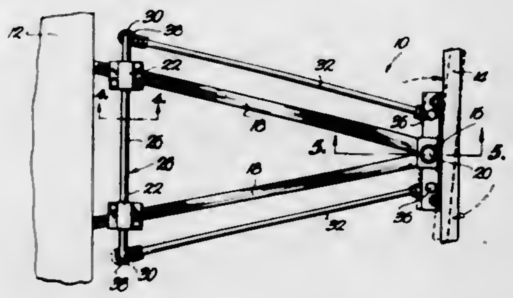
3,380,757
TRAILER HITCH ASSEMBLY

John W. Sprout, Kenneth I. Sprout, and Thomas William Stein, all of Gypsum, Kans. 67448
Filed Sept. 12, 1966, Ser. No. 578,777
6 Claims. (Cl. 280—406)

1. In a trailer hitch assembly having a pivotal hitch connecting a towing vehicle and a trailer vehicle for relative swinging movement about an upright axis disposed between the vehicles, stabilizing apparatus comprising:

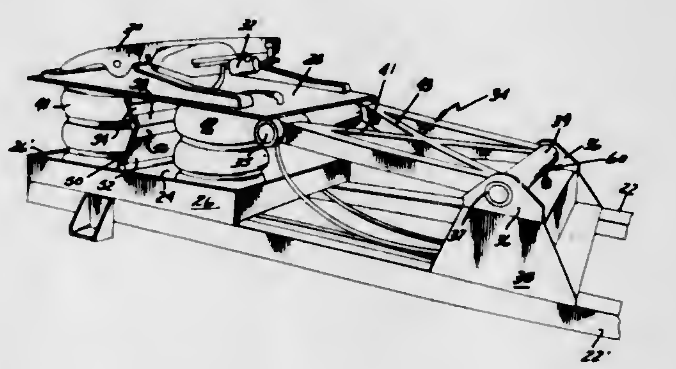
a torsion bar coupled to one of said vehicles for limited movement with respect thereto, and swingable therewith, said bar having an elongated, generally horizontal, central portion extending laterally of the path of travel of said vehicles thereabove, and elongated crank means extending generally vertically from said portion at a location for swinging toward and away from said other vehicle as the one vehicle and said bar swing relative to the other vehicle; and

connector means attached between said other vehicle and said crank means for shifting the latter relative to the longitudinal axis of said portion and twisting the portion during relative swinging movement of said vehicles, whereby the torsional strength of the portion resists said swinging.



3,380,758
AIR LIFT FIFTH WHEEL CONTROL SYSTEM

Ole Granning, Detroit, Mich., assignor to Ole Granning Trailer Service Inc., Dearborn, Mich, a corporation of Michigan
Filed Mar. 2, 1966, Ser. No. 531,277
3 Claims. (Cl. 280—425)



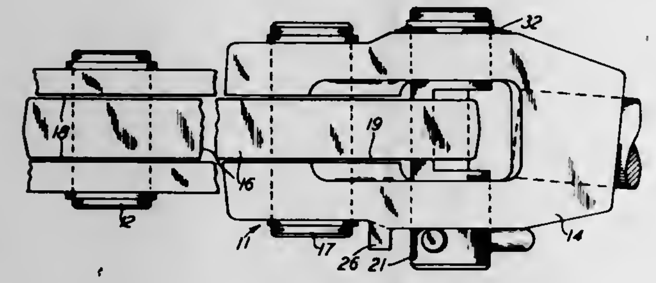
A fifth wheel assembly having inflatable hoisting elements, the inflation, air retention, and exhaust of which are controlled by manually operated valve means, with the system also including an elevation limiting, pre-set, automatically actuated, overriding control valve unit which overrides the effect of the manual valve during inflation of the hoisting elements to limit inflation and fifth wheel elevation.

3,380,759
TRACTOR DRAFT ARM SUPPORT

Roger F. Engelmann, Racine, Wis., assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed Sept. 28, 1966, Ser. No. 582,724
6 Claims. (Cl. 280—474)

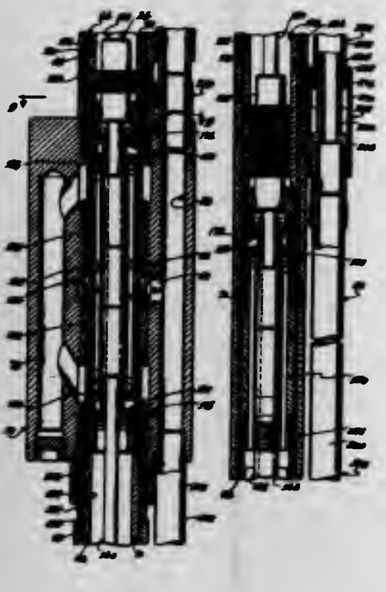
1. A tractor draft arm support convertible between a rigid connection and an articular connection for respective fixed and floating connection of an implement to a tractor, the combination comprising a pivotal draft arm for up and down movement, support means including a link

pivotally connected to said draft arm and being pivotally connected to the remainder of said support means, a pin rotatably mounted on said lift means on an axis spaced from the axis of the pivotal connection between said link and said remainder of said support means being selectively free of said link, said pin and said link respectively having mating surfaces disposed in latched abutment when said link is in one pivoted position and said pin is in one rotated position for effecting said fixed connection, and said mating surfaces being disposed in unlatched relation when said pin is in another rotated position, and means on said pin for rotating said pin.



3,380,760
BOTTOM HOLE ASSEMBLY FOR FLUID OPERATED PUMP SYSTEM WITH TENSIONING MEANS THEREIN

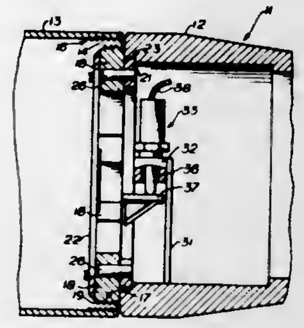
Ralph F. McArthur, Huntington Park, and Mathew R. Mecusker, La Habra, Calif., assignors to Kobe, Inc., Huntington Park, Calif., a corporation of California
Application Aug. 3, 1962, Ser. No. 214,635, now Patent No. 3,182,598, dated May 11, 1965, which is a division of application Ser. No. 818,870, June 8, 1959, now Patent No. 3,078,804, dated Feb. 26, 1963. Divided and this application Apr. 6, 1965, Ser. No. 445,962
4 Claims. (Cl. 285—32)



1. In a bottom hole assembly for a fluid operated pump assembly, the combination of:
(a) two vertically spaced members;
(b) a tube extending between and threadedly interengaging each of said members;
(c) said tube being threadedly connected to at least one of said members with extended machine threads to permit varying the vertical spacing and relative angle positions of said members for axially aligning predetermined portions thereof;
(d) a pipe parallel to and spaced from said tube externally thereof and extending between and threadedly connected to said predetermined portions;
(e) said pipe including upper and lower sections;
(f) connecting means providing a telescopic sliding connection between said pipe sections to permit varying the over-all length of said pipe; and
(g) means acting between said pipe sections for tensioning said pipe sections sufficiently to prevent fluid pressure within said pipe and acting on at least one of said members from bowing said tube.

3,380,761
QUICK DISCONNECT COUPLING DEVICE

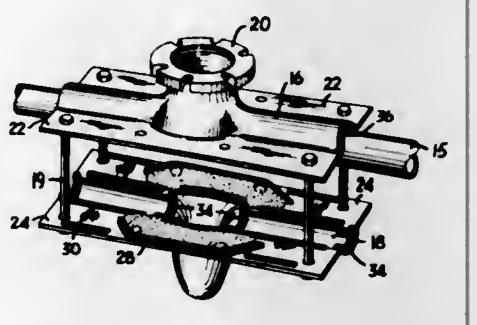
Russell R. Van Devender, Jr., China Lake, Calif., assignor to United States of America as represented by the United States Atomic Energy Commission
Filed July 27, 1965, Ser. No. 475,298
4 Claims. (Cl. 285—34)



Apparatus for rapidly separating two tubular sections joined by using segments of a screw thread within one section engaging a mating threaded end within the second section. On command the segments are forced inwardly by camming motion thereby separating the first section from the second.

3,380,762
INSULATED PIPE JOINT

Hanford Z. Hight, South Orange, Peter J. Kassak, Berkeley Heights, and Stephen Lesky, Metuchen, N.J., assignors to Bonded Products, Inc., South Orange, N.J., a corporation of Illinois
Filed Sept. 22, 1965, Ser. No. 489,805
12 Claims. (Cl. 285—53)



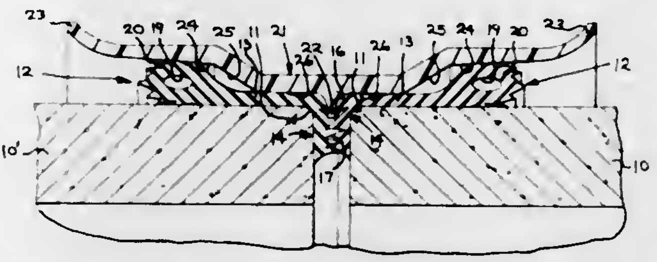
Insulating pipe joint by wrapping pipe with insulation, applying split bridge T thereover, and sealing to the T stem an enclosed drilling machine having a cutter entering the T-stem to sever a section of the pipe therewith in the T below said stem.

3,380,763
PLAIN END PIPE COUPLING

John D. Schmunk, Findlay, Ohio, assignor to The Hancock Brick & Tile Company, Findlay, Ohio, a corporation of Ohio
Filed Apr. 27, 1966, Ser. No. 545,610
2 Claims. (Cl. 285—110)

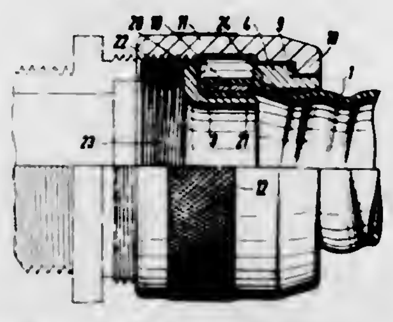
A coupling for effecting a fluid-tight seal between the adjacent ends of plain end sewer pipes. The coupling consists of an identical cap seal of elastomeric material

for each of the plain end pipes. The cap seal has a cylindrical body which has snap engagement about the respective pipe end portion. At one end of the cylindrical body is a flange which abuts the face or end portion of the pipe and extending radially outwardly therefrom is an extension which is crowded into sealing engagement by a cylindrical surface of a sleeve into which the two end portions of the pipes and the cap seals extend. Adjacent such cylindrical portion of the housing is an abruptly tapered surface which cams the extension into its crowded position as above suggested. At the outer portion of the sleeve at each end, is an elongate inwardly tapered internal wall, the inclination of the taper being gentle and this is effective in gradually compressing a ring-like rounded rim on the opposite end portion of the cylindrical body of the cap seal. The flange at the opposite end of the cap seal body portion has teeth and the teeth of the two cap seals are mashed together when the pipe ends are forced relatively into engagement with the housing to effect a desired seal in this region. These teeth may either mesh with each other or, depending upon the disposition of the teeth relative to each other, may be mashed together. Centrally of the housing, is an internal flange for disposition between the adjacent flanges of the cap seals.



3,380,764
END FITTINGS FOR FLEXIBLE CONDUITS AND THE LIKE

John William Wilson, Farnham Royal, Slough, England, assignor to Superflexit Limited, Slough, England
Filed Jan. 28, 1965, Ser. No. 428,826
Claims priority, application Great Britain, July 7, 1964, 28,970/64
2 Claims. (Cl. 285—249)

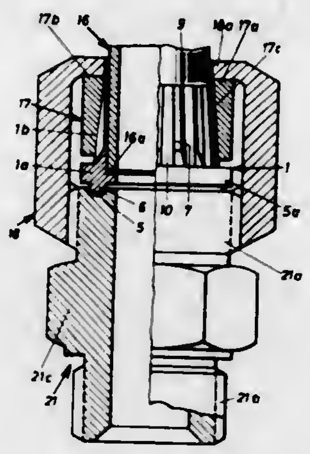


An end fitting for flexible convoluted conduits in which the end of the conduit is turned outwardly or inwardly and is gripped between a nipple and a ferrule or collar, the parts being moved into gripping engagement with the conduit by means of a sleeve nut.

3,380,765
PIPE UNION

Franz Himmel, Schliersee, Germany, assignor to Dilo-Gesellschaft, Drexler & Co., Babenhausen, Schwaben, Germany
Filed Nov. 27, 1964, Ser. No. 414,307
Claims priority, application Germany, Nov. 26, 1963, D 43,031; July 1, 1964, D 44,809
36 Claims. (Cl. 285—331)

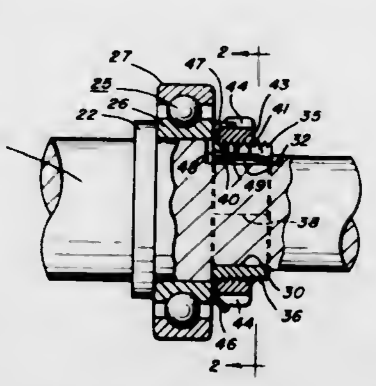
1. In a pipe union, a first pipe having a terminal portion; a first tubular sealing member snugly receiving said terminal portion and consisting of radially compressible material, said first sealing member having a leading end and a peripheral surface provided with elongated ribs and, to enhance the compressibility thereof, with axially extending open grooves which have open ends located at said leading end; a second tubular sealing member having a conical internal surface snugly receiving at least a portion of said peripheral surface, one of said sealing members having an end portion extending beyond said terminal



portion and said grooves extending at least along said portion of said peripheral surface; a second pipe abutting against said end portion; and coupling means operatively connected with said second pipe and with one of said sealing members for urging said leading end of said first sealing member deeper into said second sealing member to compress said first sealing member into sealing engagement with said terminal portion.

3,380,766
SCREW THREAD INSERT

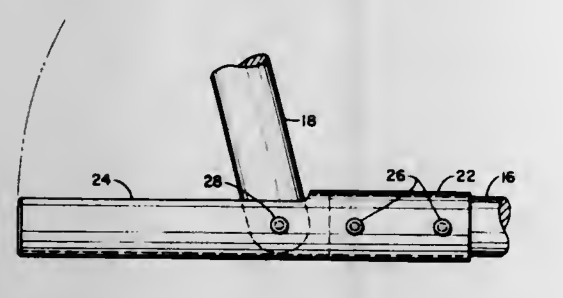
George C. Meibuhr, 8325 Midland Road, Mentor, Ohio 44060
Filed Aug. 25, 1965, Ser. No. 482,371
2 Claims. (Cl. 287—52.03)



A readily removable thread on a shaft which comprises a circumferential groove on the shaft and first and second semi-circular members positioned in the groove with their ends abutting each other and having continuous screw threads on their outer surfaces. Means are provided to hold the members in the groove and render them readily removable which may include a slot in the shaft which is engaged by a key which in turn is attached to at least one of the members. A lock washer has extensions which engage a slot in one of the members and a female threaded nut which nut threadably resides on the screw threads of the semi-circular members.

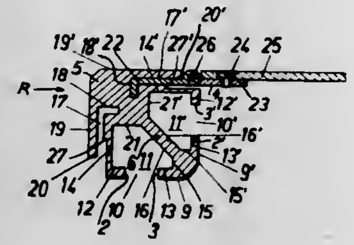
In summary, the present invention provides a readily applied and disassembled screw thread for the surface of a shaft and the invention involves the abutting of the ends of the threaded insert members so that the threads do not have a space or gap at any point. In prior devices gaps between the ends resulted in constructions whereby the members had to be bolted or otherwise semi-permanently fixed in place so that the threads would match.

3,380,767
FLOP MOP
Everett N. Barth, 550 Burnside Ave.,
East Hartford, Conn. 06108
Filed June 1, 1966, Ser. No. 554,520
1 Claim. (Cl. 287—99)



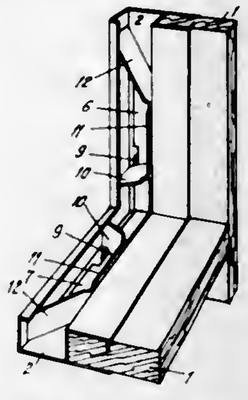
A cleaning implement having a handle of two sections joined together by a sleeve. The sleeve is fixedly secured to one section of the handle, and the other section of the handle is pivotally connected to the sleeve and can be pivoted into or out of engagement with a C-shaped clamp section of the sleeve.

3,380,768
PROFILE RAIL AND CORNER CONNECTING PIECE
Paul Wolfensberger, Eckwiesenstrasse 5,
Winterthur, Switzerland
Filed Oct. 29, 1965, Ser. No. 505,664
Claims priority, application Switzerland, Nov. 2, 1964, 14,146/64; Feb. 10, 1965, 1,785/65; Mar. 2, 1965, 2,871/65
17 Claims. (Cl. 287—189.36)



A profile rail and corner connecting piece for making structural units such as frameworks and scaffolds, the profile rail incorporating a body member provided with two grooves extending in the lengthwise direction of the body member and narrowing towards the outside, the body member including a diagonally extending web portion to each side of which is disposed one of the grooves. A pair of neighboring inner side portions are incorporated within the body member, each side portion being provided with at least one opening communicating with an associated groove. The corner connecting piece is provided with a plurality of connecting elements, each connecting element being disposed substantially perpendicularly to one another and being detachably engageable with at least one of the grooves within the profile rail. Thus, a plurality of profile rails may be intercoupled together in a detachable yet positively secured manner.

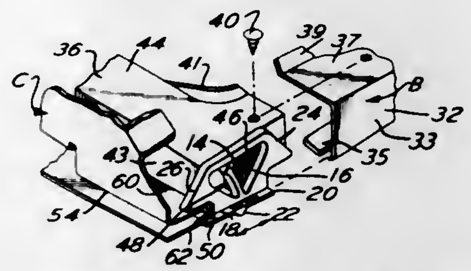
3,380,769
STRUCTURAL MEMBERS FOR INTERCONNECTING PANELS TO FORM SHELVING, FURNITURE, DOORS AND THE LIKE
Maurice A. Piget, 2 Rue Breuvery,
Saint-Germain-en-Laye, France
Filed Nov. 12, 1965, Ser. No. 507,332
Claims priority, application France, Nov. 18, 1964, 995,394; Oct. 22, 1965, 36,563
5 Claims. (Cl. 287—189.36)



This disclosure includes a drawing and description of an assembly of panel members in which at least one of the panel members is formed with an edge profile having a channel-shaped inlet extending longitudinally thereof. The assembly of this panel with another panel is effected by a spring plate shaped to be stressed when received in the inlet and formed with notches to engage a member to be connected to the other of the panels. The last mentioned member may be in the form of a hinge or other suitable bracket for securing the assembly of panels.

ERRATUM
For Class 292—64 see:
Patent No. 3,380,647

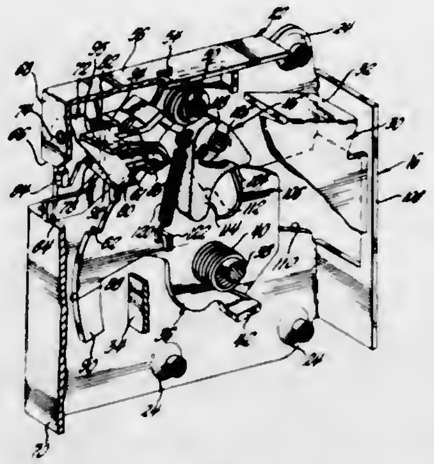
3,380,770
LATCH FOR DIFFUSER PANEL DOORS IN LIGHTING FIXTURES
James A. Risley, Edgewater Park, N.J., assignor to Keystone Lighting Corporation, Bristol, Pa., a corporation of Pennsylvania
Filed Oct. 31, 1966, Ser. No. 590,904
9 Claims. (Cl. 292—175)



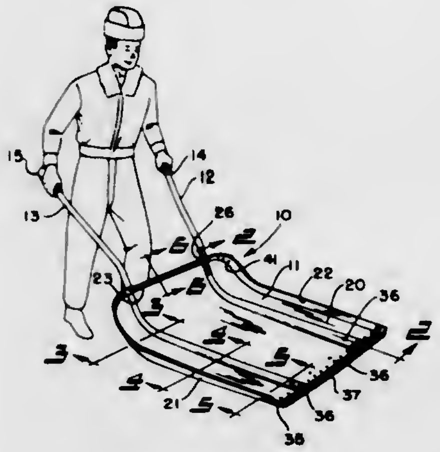
A latch, slidably mounted on a lighting fixture diffuser panel, which has a cam-edge fixture-engaging portion. The latch is resiliently positioned on the panel by an integral resilient finger which extends into an opening in the latch and is secured at its free end to the panel. The latch is symmetrical for left or right hand use.

3,380,771
CLOSURE LATCH
Lloyd W. Rogers, Jr., East Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 29, 1966, Ser. No. 546,415
9 Claims. (Cl. 292—201)

An automobile door latch structure having a detent biased to retain a keeper-operated latch in keeper-engaging position, in which a solenoid-operated blocking lever is biased to a detent-blocking position and movable to a nonblocking position, wherein the lever engages and frees the detent from the latch. The latch when thus freed engages and prevents the lever from returning to detent-blocking position.

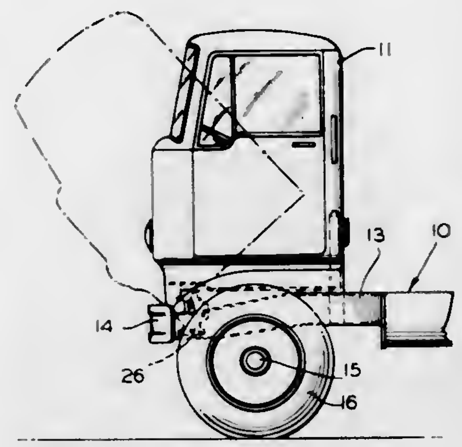


3,380,772
SCOOP SHOVEL
Axel Lissakers, R.D. 2, Perrysville, Ohio 44864
Filed Sept. 23, 1966, Ser. No. 581,509
5 Claims. (Cl. 294—54)



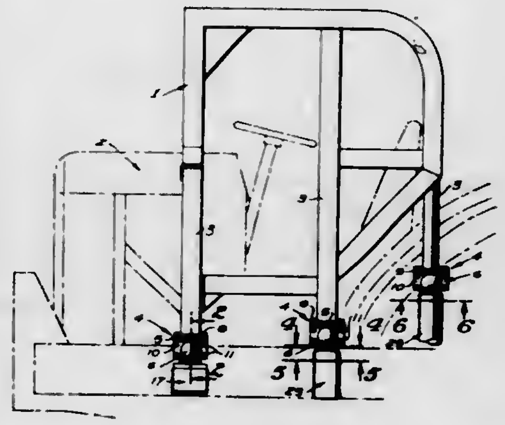
1. A scoop shovel for shoveling snow and the like comprising a body having bottom and integral side and rear walls defining an area for the collection and temporary retention of snow or the like, the front of said bottom wall being flat along a substantial longitudinal distance and the rear portion of said bottom wall being upwardly and rearwardly curved so that said rear wall is substantially elevated from the supporting surface, separate tubular handles extending through said rear wall and over said bottom wall and terminating adjacent the forward end of said bottom wall, said handles in the regions thereof coextensive with said bottom wall conforming to the shape of said bottom wall, said handles extending rearwardly of said body a substantial distance and being spaced to provide an open area therebetween in which the user can maneuver during normal use of the shovel, reinforcing means extending longitudinally along the underside of said bottom wall vertically aligned with said handles, and means for connecting said handles and said reinforcing means to said bottom wall.

3,380,773
MOUNTING MEANS FOR CABS OF CAB-OVER-ENGINE TYPE MOTOR VEHICLES
Ernest R. Sewelin, Waterloo, Ind., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Mar. 28, 1966, Ser. No. 537,750
9 Claims. (Cl. 296—28)



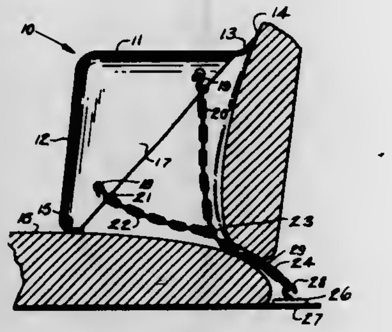
A mounting structure for connecting the forward end of an operator's compartment or motor truck cab of the forwardly tiltable type to a cab-over-engine motor truck chassis frame which mounting structure involves the utilization of elastomeric torsion spring means which not only function as counterbalancing means for assisting the tilting of the vehicle cab to its fully opened or forwardly tilted position, but also serve as a part of a resilient cab mounting system when the cab is in its normal lowered position to thereby mitigate the transmission of shocks, vibrations and noises from the vehicle chassis frame to the operator's compartment or cab.

3,380,774
MOUNTING FOR SAFETY CANOPIES
Edward M. Brodersen, Monterey Park, and Roger D. Hopfensperger, Alhambra, Calif., assignors to Southwest Welding & Manufacturing Co., Alhambra, Calif., a corporation of California
Filed Dec. 23, 1966, Ser. No. 604,227
2 Claims. (Cl. 296—102)



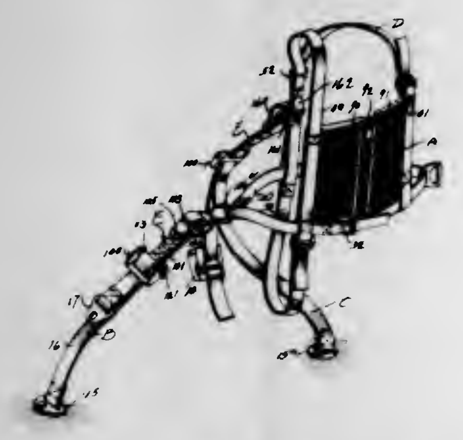
A ball and socket mounting having means for weld attachment to brackets of various shapes, which are in turn welded to various parts of a tractor or other earth moving equipment for the purpose of supporting a canopy or roll bar frame intended to protect the operator in the event of roll over, yet providing limited relative racking or flexure of the canopy and the tractor or the like on which it is mounted.

3,380,775
SAFETY CAR SEAT FOR CHILDREN
Donald L. Offenbacker, 318 Joan Vista,
El Sobrante, Calif. 94803
Filed Sept. 7, 1966, Ser. No. 577,730
5 Claims. (Cl. 297—385)



This specification discloses an elevated bench type seat removably placed on a standard automobile seat including a horizontal seat member, a vertical support member and at least a pair of horizontally disposed frame members having spaced apart holes. The holes admit releasable fastening members which are attached to the floor of an automobile. The seat may be easily detached for seating of adults. When installed the children occupants may use the standard seat belts while elevated for ease in seeing through the automobile windows.

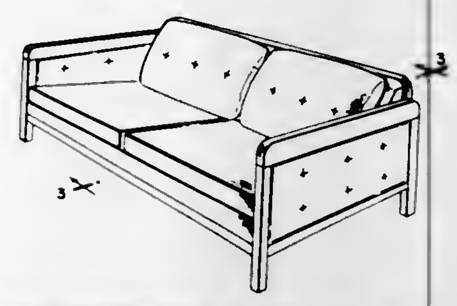
3,380,776
CHILD HARNESS ADAPTER MEANS FOR SAFETY BELTS
Karl E. Dillender, Lexington, Ky., assignor to Irving Air Chute Company, Inc., Lexington, Ky., a corporation of New York
Filed June 23, 1966, Ser. No. 559,991
9 Claims. (Cl. 297—389)



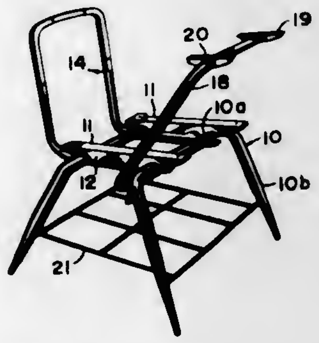
1. In a safety harness the combination of a vehicle having a frame structure and seat and a pair of relatively spaced conventional flexible safety belts secured to the car frame, buckle means for detachably connecting said belts together to hold an occupant in safety upon the seat, a body harness, and adapter means connected to the body harness for adjustable and releasable connection of the body harness to said safety belts in secured relation therewith when the safety belts are unbuckled.

3,380,777
UPHOLSTERED FURNITURE
Douglas M. Bennett, 332 2nd W.,
Seattle, Wash. 98119
Filed Sept. 8, 1966, Ser. No. 578,084
8 Claims. (Cl. 297—440)

Upholstered furniture is constructed such that reversible seat and back cushions may be secured to the furniture frame. Removable upholstered side and back panels may also be provided to facilitate their cleaning apart from the furniture itself.

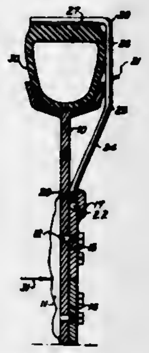


3,380,778
CHAIR ASSEMBLY
Chester J. Barecki, Grand Rapids, Mich., assignor to American Seating Company, Grand Rapids, Mich., a corporation of Delaware
Filed Jan. 5, 1967, Ser. No. 607,515
2 Claims. (Cl. 297—451)



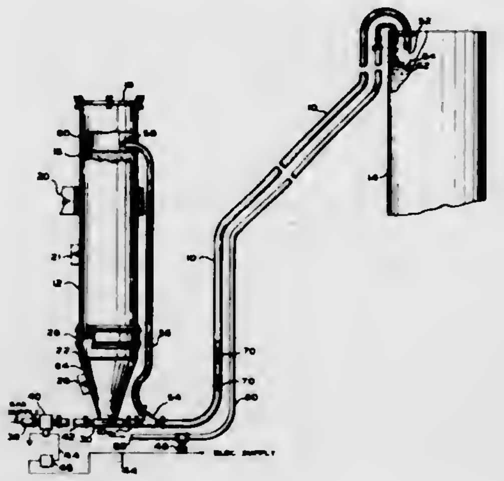
A chair assembly in which a pair of parallel spaced seat supports are in the form of channels having downwardly turned sides which are recessed to receive horizontal portions of leg members which have end portions turned downwardly to provide legs. Underlying the channels and leg members are horizontal portions of back supports. Resistance welds unite the channel sides to the top of the horizontal portions of the leg members and welds also unite the bottoms of side horizontal portions to the back supports. A tablet arm support has a horizontal portion united to the bottom of the back supports by welding. To increase the strength of the union between the channel sides and the leg members the recessed sides of the channels are provided with integral outwardly flared saddle flanges.

3,380,779
EMERGENCY WHEEL HAVING INDIVIDUAL RESILIENT SPOKE AND TREAD PORTIONS
Penrose Lucas Albright, 1523 Woodacre Drive,
McLean, Va. 22101
Filed Oct. 24, 1965, Ser. No. 504,949
4 Claims. (Cl. 301—38)



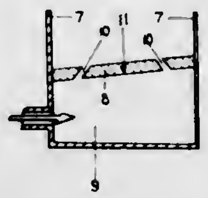
A wheel wherein the periphery is made of overlapping diagonal resilient members so that viewed from the side, such members form a continuous circle about the wheel's axle; the spokes connecting such members with the axle also being resilient and extending at a bias from the axle so that the connections to the axle and to the peripheral members fall within the surface of an imaginary cone having the same axis as the axis of rotation of the wheel.

3,380,780
PNEUMATIC CONVEYING SYSTEMS
Kenneth M. Allen and Chester H. Harper, both of P.O. Box 352, Newberg, Oreg. 97132
Filed Dec. 23, 1965, Ser. No. 515,818
9 Claims. (Cl. 302—26)



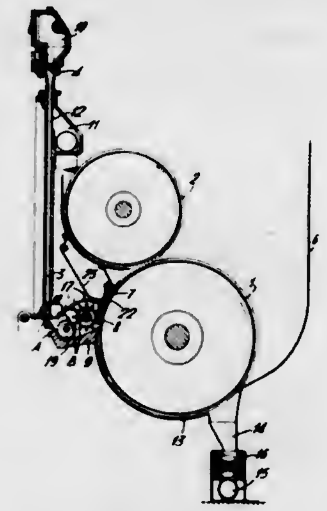
Pulses of air through a nozzle at the bottom of a hopper-like receptacle inject successive, spaced slugs of particle material into a conveyor conduit and move the slugs along the conduit to a receiving receptacle. A second conduit connects the upper end of the hopper-like receptacle to the conveyor conduit, relieves back pressure in the hopper-like receptacle and aids in keeping the slugs moving in the conveyor conduit during the intervals between the pulses. In one embodiment the hopper-like receptacle has a conical lower end, the conveyor conduit extends along one side of the conical lower end, and a spiral support member carries the conveyor conduit.

3,380,781
AUTOMATIC STACKING
Mauritz L. Strydom, Stellenbosch, Cape Province, Republic of South Africa, assignor to Tobacco Research & Development Institute (Proprietary) Limited
Filed June 8, 1966, Ser. No. 556,029
Claims priority, application Republic of South Africa, June 17, 1965, 65/3,193, 65/3,195
4 Claims. (Cl. 302—31)



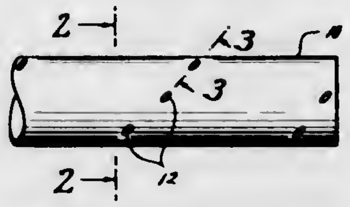
An automatic stacking device has a conduit for conveying articles, and jets of air are injected through the base of the conduit to cause the articles to float on a cushion of air. The jets are arranged in two rows parallel to the walls of the conduit and the jets in each row are inclined towards the other row.

3,380,782
TOBACCO MANIPULATING MACHINES
Francis Auguste Maurice Labbé, Neuilly-sur-Seine, France, assignor to Molins Machine Company Limited, London, England, a corporation of Great Britain
Filed July 5, 1966, Ser. No. 562,756
Claims priority, application Great Britain, July 9, 1965, 29,273/65
14 Claims. (Cl. 302—51)



In a cigarette-making machine in which tobacco is pneumatically conveyed through a confined passage to a conveyor, air is guided towards the passage inlet from two sources in converging paths and entrains tobacco where the two paths merge. The passage inlet is bifurcated by either a stationary plate or a belt conveyor along which tobacco is directed. Curved vanes may be provided to assist in guiding the air. One of the air streams is admitted through an adjustable opening into the enclosed zone through which tobacco is fed from the hopper towards the passage inlet.

3,380,783
CONDUIT FOR PNEUMATICALLY CONVEYING PLASTIC PARTICULATE MATERIAL
Jack C. Hunter, Kansas City, Mo., assignor to Black, Sivalls & Bryson, Inc., Kansas City, Mo., a corporation of Delaware
Filed Nov. 16, 1966, Ser. No. 594,735
2 Claims. (Cl. 302—64)



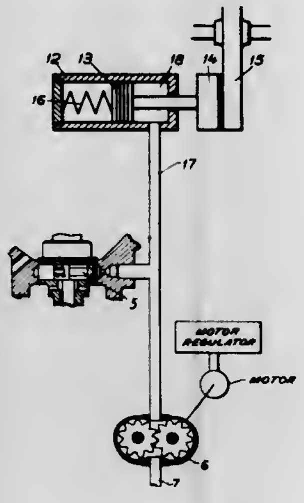
The present invention relates to an improved conduit for pneumatically conveying plastic particulate material, and more particularly to a conduit having spaced protuberances arranged in spiral relation projecting interiorly of the sidewall of the conduit and a method for forming said protuberances.

3,380,784
PROCESS OF TRANSPORTING A SLURRY IN A PIPELINE
Parke O. Yingst, Golden, and Thomas I. Sharps, Boulder, Colo., assignors to Northern Gas Products Company, Omaha, Nebr., a corporation of Delaware
Filed Feb. 16, 1965, Ser. No. 433,049
14 Claims. (Cl. 302—66)

Disclosed is a process of transporting in a pipeline a solid material, such as potash, suspended in a liquid petroleum product, such as crude oil. The solid material is suspended in the oil by means of a copolymer of methyl vinyl ether and maleic anhydride.

3,380,785
BRAKE ARRANGEMENT

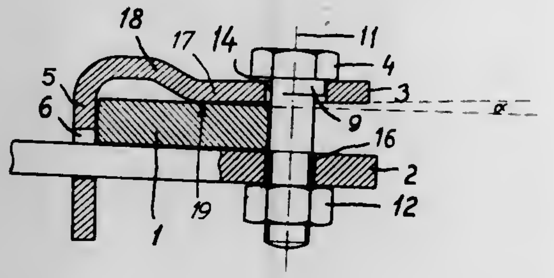
Ove Tjernström, Irsta, Sweden, assignor to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
Filed Nov. 23, 1964, Ser. No. 413,035
Claims priority, application Sweden, Dec. 4, 1963, 13,417/63
5 Claims. (Cl. 303—21)



A motor control for a fluid released brake having a displacement pump driven by a motor and connected to a brake release cylinder and a centrifugal regulator valve for controlling the pressure in the connection from the pump to the cylinder, thus determining the fluid pressure to the release cylinder responsive to the speed of the motor.

3,380,786
BOLT CONNECTION PARTICULARLY FOR FIXING A HARROW TOOTH TO A SUPPORTING BAR

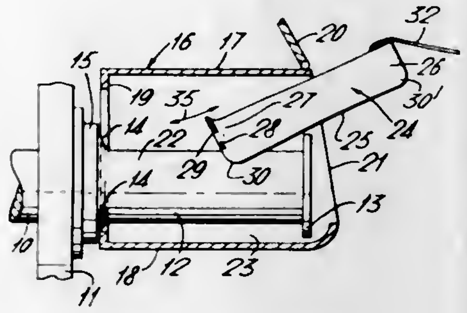
Mogens Petersen, Lynge-Eskildstrup per Soro, Denmark, assignor to Kongskilde Maskinfabrik A/S, Soro, Denmark
Filed Aug. 10, 1966, Ser. No. 571,536
Claims priority, application Denmark, Aug. 20, 1965, 4,271/65
2 Claims. (Cl. 306—1.5)



The present disclosure relates to a bolt and washer plate combination for holding a bar of a harrow tooth to a supporting bar the two bars being at right angles. The washer plate has the shape of a 7 having an aperture through each leg. The harrow tooth bar passes through one of the apertures and is itself provided with an aperture, a bolt having an eccentric cam passing through the other aperture of the washer plate and then through the aperture in the harrow tooth bar. The supporting bar is trapped on four sides between the two legs of the washer plate, the bolt, and the harrow tooth bar. The leg of the washer plate through which the bolt passes is provided with a contact portion against which the support bar is forced and the remainder of that leg serves as a spring forcing contact between the contact portion and the support bar.

3,380,787
JOURNAL PROTECTOR

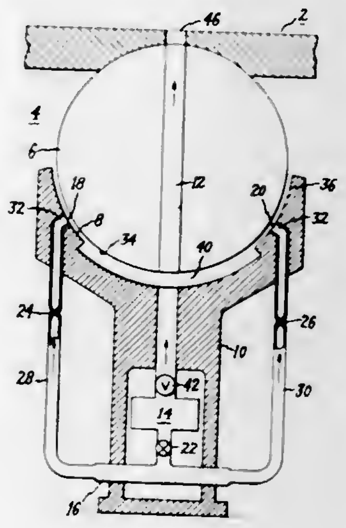
Oliver Pitre, 512 Kildare Ave. E., Transcona, Manitoba, Canada
Filed Sept. 15, 1965, Ser. No. 487,389
3 Claims. (Cl. 308—1)



The device is a resilient semi-cylindrical member made of plastic or the like which can be snapped upon the wheel journal of a railroad truck to protect the journal while the bearings are being removed or replaced from the railroad truck.

3,380,788
HYDROSTATIC BEARING

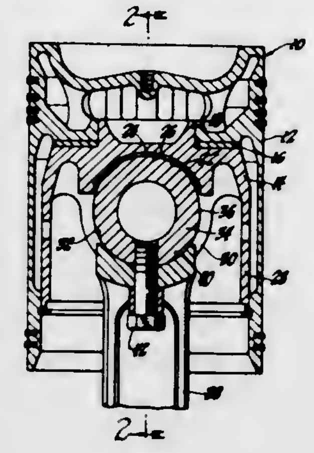
Donald F. Wilcock, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed Dec. 28, 1964, Ser. No. 421,543
9 Claims. (Cl. 308—9)



1. An externally pressurized gas bearing having a table member supported by a spherically shaped rotor, said rotor having a longitudinal passageway extending along a vertical bearing axis, a spherically shaped bearing surface supporting said rotor for motion of said table member about three axes, said bearing axis and the spherically shaped bearing surface being aligned in the vertical direction, a plenum chamber in the base of said spherically shaped bearing surface in communication with the rotor passageway, circumferential openings disposed uniformly around the latitude circle in said bearing surface, and gas supply means for circumferential openings and the plenum chamber.

3,380,789
BEARING MEANS PARTICULARLY FOR OSCILLATING MOTION

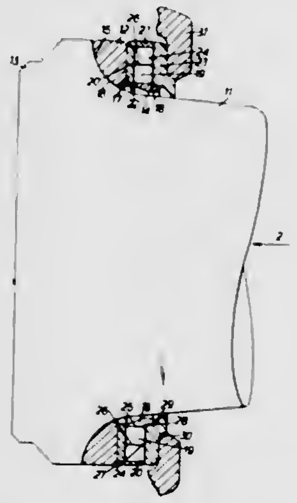
Carl L. Nigh, Brownsburg, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 23, 1966, Ser. No. 529,350
3 Claims. (Cl. 308—78)



A piston pin bearing arrangement for improved lubrication characteristics in which an elliptical pin is secured to and oscillates with the connecting rod and engages an arcuate bearing member carried by the piston. The elliptical shape of the pin has its minimum curvature in a central portion engaging the bearing member and has a gradually increasing curvature on either side thereof to provide wedge shaped relieved portions so as to assist the entry of lubricant to the bearing member and the piston pin surfaces during operation.

3,380,790
ROLLER BEARINGS ESPECIALLY FOR AIRCRAFT PROPELLER BLADES

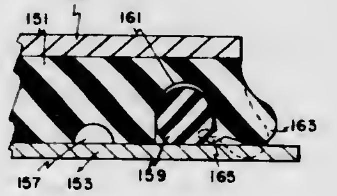
Michael Hugh Osmond, Hatfield, England, assignor to Hawker Siddeley Dynamics Limited, Hatfield, England
Filed Aug. 6, 1965, Ser. No. 477,879
Claims priority, application Great Britain, Aug. 7, 1964, 32,292/64
6 Claims. (Cl. 308—234)



1. A roller bearing to take axial thrust at a situation where an inner member of a relatively rotating pair of members undergoes an enlargement in cross section on emerging from the bearing, comprising a roller cage and rollers received therein, said roller cage being formed of a solid ring which has around its circumference a plurality of closely-spaced radial bores receiving said rollers and of a diameter corresponding to that of the rollers, said bores being formed in an annular portion of said cage ring that has a width in the axial direction somewhat less than the roller diameter whereby the bores break through the radial side faces of the ring, the bores extending in from an outer circumferential surface of the ring but not so far as to break through an inner circumferential surface thereof, a retaining hoop encircling the cage and retaining the rollers in the bores, an inner thrust race of heat-treatable metal next the aforesaid enlargement, which inner thrust race is shaped to fit contiguously against a flaring surface of the enlargement and is a non-renewable part of said inner member and presents a flat radial thrust face toward said roller cage, and a diametrically-split renewable thrust washer of bearing metal different from the heat-treatable metal of said inner thrust race and interposed between the bearing rollers and said flat radial thrust face of said inner thrust race.

3,380,791
SEALED BUSHING ASSEMBLY

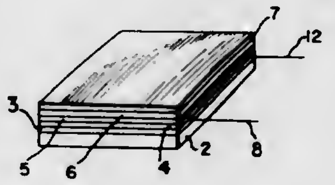
Richard O. Peck, Tallmadge, Ohio, assignor to The General Tire & Rubber Company, a corporation of Ohio
Filed Apr. 26, 1965, Ser. No. 450,950
3 Claims. (Cl. 308—36.1)



The operation of a low torque elastomeric bushing, provided with lubricant at the interface between the insert and the inner sleeve, is improved by the use of an effective O ring seal. The O ring, having a diameter which is normally smaller than that of the inner sleeve, is stretched over the sleeve and fits into a radially extending groove in the insert near the end thereof. A lip on the insert, axially outside of the groove, contacts the sleeve to provide an additional seal.

3,380,792
THIN FILM OPTICAL SHUTTER

Eugene C. Letter, Penfield, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 159,105, Dec. 13, 1961. This application Jan. 3, 1964, Ser. No. 335,693
The portion of the term of the patent subsequent to Dec. 27, 1983, has been disclaimed and dedicated to the Public
5 Claims. (Cl. 350—160)



An optical shutter including a pair of conductive films separated by a dielectric and mounted on a substrate forming a reflective element. A pair of electrodes are connected to the conductive films for applying a high voltage between the two films for destroying the films and the reflectivity of the shutter.

3,380,793

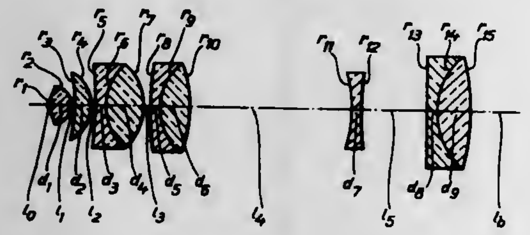
MICROSCOPE OBJECTIVE

Walter Klein, Wissmar, Kreis Wetzlar, Germany, assignor to Ernst Leitz G.m.b.H. Optische Werke, Wetzlar, Germany, a company of Germany

Filed Sept. 5, 1963, Ser. No. 306,759

Claims priority, application Germany, Oct. 3, 1962, L 43,109

2 Claims. (Cl. 350—215)



1. A microscope objective with flattened image field for producing an image of an object, comprising in the direction of the object to the image, all axial thicknesses and air space lengths being measured in units of length along the optical axis of the objective: a front lens defining an air space l_0 with the object and consisting of a concavo-convex lens; a first additional lens defining an air space with the meniscus lens; two additional lenses each consisting of two cemented components, the first one of said two additional lenses defining an air space with the first additional lens, and the second one of said two additional lenses defining an air space with the first one of said two additional lenses, a negative lens following the second one of the two additional lenses and defining an air space therewith and a positive lens following the negative lens and defining an air space therewith, the positive lens consisting of two compents, the radii r of the lenses and their components taken in the direction of the object to the image, the successive axial thicknesses d of the lenses and their components, and the axial lengths l of the air spaces between the lenses as well as between the object and the front lens, and the last lens and the image being of the size given in the following table, the respective indices n_e of the lens and lens component glasses, taken on the e line, and the Abbe number ν_e of these glasses also appearing in the following table; the focal length f_e of the objective being 3.1065, the aperture A being 0.95, and the magnification V being 80.48:

TABLE I

d: Axial thickness of lenses *l*: Axial length of air spaces

Radii		n_e	ν_e
	$l_0=0.3337$		
$r_1=-1.14$			
	$d_1=2.26$	1.69400	54.6
$r_2=-1.885$			
	$l_1=0.1$		
$r_3=-14.79$			
	$d_2=1.92$	1.48772	81.6
$r_4=-3.701$			
	$l_2=0.4$		
$r_5=-319.38$			
	$d_3=1.0$	1.67764	32.0
$r_6=+5.95$			
	$d_4=4.15$	1.48772	81.6
$r_7=-6.3$			
	$l_3=2.1$		
$r_8=+64.735$			
	$d_5=1.0$	1.61771	50.8
$r_9=+5.54$			
	$d_6=3.2$	1.48772	81.6
$r_{10}=-13.164$			
	$l_4=16.0$		
$r_{11}=-11.077$			
	$d_7=1.0$	1.51000	60.9
$r_{12}=+80.49$			
	$l_5=7.3$		
$r_{13}=\infty$			
	$d_8=1.0$	1.59167	52.9
$r_{14}=+8.024$			
	$d_9=3.5$	1.53604	51.4
$r_{15}=-23.79$			
	$l_b=\infty$		

$f_e=3.1065$; $V=80.48$; $A=0..95$.

3,380,794

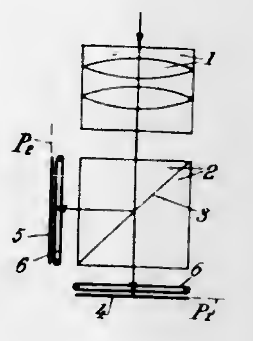
METHOD OF PHOTOGRAPHING MOTION PICTURES

Jean de Montrémy and Jean Véran Dejoux, Paris, France, assignors to Nicholas Reisini, New York, N.Y.

Filed Feb. 17, 1965, Ser. No. 433,435

Claims priority, application France, Feb. 19, 1964, 964,417

5 Claims. (Cl. 352—44)



A method of photographing motion pictures in which successive images are recorded at separate exposure areas in two separate series, with each exposure at one exposure area occurring and being completed during a time when the other exposure area is not exposed. The duration of each exposure is independent of the frequency of exposure.

3,380,795

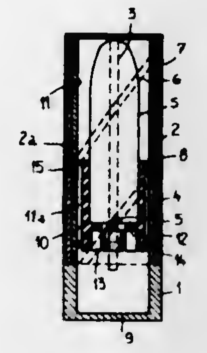
LIPSTICK CARTRIDGE

Ralph Gruska, Creteil, France, assignor to Cope Allman Export S.A., Geneva, Switzerland, a corporation of Switzerland

Filed Apr. 8, 1966, Ser. No. 541,277

Claims priority, application France, Aug. 24, 1965, 29,222

4 Claims. (Cl. 401—78)



A lipstick cartridge comprising a hollow sleeve member in which a lipstick paste containing cup is guided during movement to expose the lipstick paste or to enclose it within the sleeve member; the external diameter of the cup is substantially smaller than the internal diameter of the sleeve member so that sufficient radial clearance is provided between the cup and sleeve in order to prevent binding of the cup or damage to the lipstick paste during movement of the cup; the bottom of the cup is provided with a plurality of circumferentially spaced elastically deformable downwardly directed guide members and the upper end of the cup is provided with a circumferential guide shoulder that is divided about its periphery by slots.

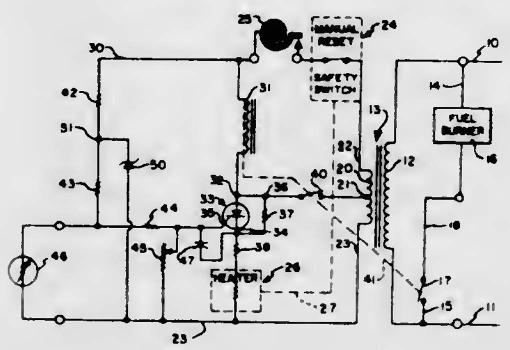
3,380,796

FUEL BURNER CONTROL APPARATUS

Arlon D. Kompelien, Richfield, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Feb. 3, 1967, Ser. No. 613,903

5 Claims. (Cl. 431—68)



A fuel burner control system that utilizes a photocell responsive to a flame at the burner to control a silicon controlled rectifier to energize a relay which directly controls the power to the fuel burner. Two bias networks are provided for the silicon controlled rectifier and the voltages are combined to trigger the silicon controlled rectifier early in the applied cycle of voltage, if at all. One of the voltage divider networks utilizes a Zener diode for voltage limiting and voltage regulation.

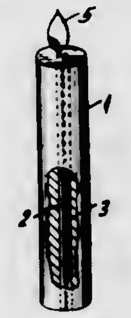
3,380,797

RIGID CORE-WICK CANDLE AND CANDLE DEVICE

James R. Summers, 353 E. 50th St., New York, N.Y. 10022

Continuation-in-part of application Ser. No. 389,397, Aug. 13, 1964. This application Sept. 21, 1966, Ser. No. 581,105

4 Claims. (Cl. 431—292)



A rigid combination of a flame consumable core and a wick for use in fuel burning devices such as candles. The core serves to maintain itself erect. In a candle, the core provides rigidity to the candle. The rigid core also is able to support itself and devices which may descend on the core as the core is consumed by the flame on the wick.

CHEMICAL

3,380,798

PREPARATION OF DYEABLE ACRYLONITRILE POLYMER FIBERS USING 4,4′-DIAMINOSTILBENE-2,2′-DISULFONIC ACID

Pompelio A. Ucci, Pensacola, Fla., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 238,781, Nov. 19, 1962. This application June 19, 1967, Ser. No. 647,242

6 Claims. (Cl. 8—100)

Acrylonitrile polymer fibers having improved basic dye acceptance are produced by contacting the acrylonitrile polymer fibers in the gel state with 4,4-diaminostilbene-2,2′-disulfonic acid or an alkali metal salt thereof.

3,380,799

ANIONIC AGENT AFTERTREATMENT OF CYANAMIDE-MODIFIED CELLULOSE

Lee H. Elizer, Glen C. Glasscock, and John M. Seitz, Keokuk, Iowa, assignors to The Hubinger Company, Keokuk, Iowa, a corporation of Iowa

No Drawing. Continuation-in-part of application Ser. No. 194,158, May 11, 1962, which is a division of application Ser. No. 821,675, June 22, 1959, now Patent No. 3,051,698. This application Feb. 26, 1965, Ser. No. 435,701

14 Claims. (Cl. 8—116.2)

1. A process for adhering an anionic material to a cellulosic material selected from the group consisting of cellulose, fatty acid esters of cellulose and cellulose xanthate which consists essentially of treating said cellulosic material with an aqueous alkaline solution of a substance from the group consisting of cyanamide, alkali metal and alkaline earth metal salts of cyanamide until a cationic nitrogenated material is obtained having an added nitrogen content of at least 0.041% by weight calculated on the dry weight of the cellulosic material, and then bringing said cationic nitrogenated material into contact with an anionic material to be adhered thereto from the group consisting of anionic resins and starches.

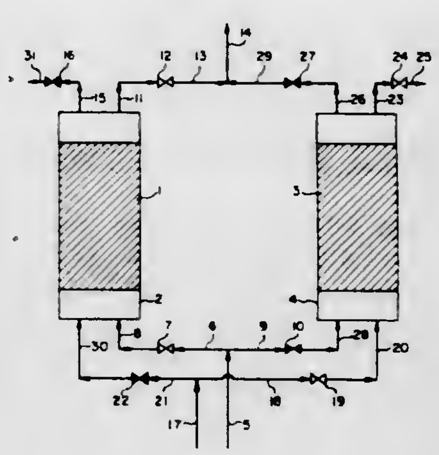
3,380,800

REMOVAL OF CARBON MONOXIDE FROM GAS MIXTURES

Jerome H. Marten, Nixon, N.J., assignor to Chemical Construction Corporation, New York, N.Y., a corporation of Delaware

Filed July 12, 1963, Ser. No. 294,629

7 Claims. (Cl. 23—2)



Carbon monoxide is selectively oxidized to carbon dioxide in a hydrogen-nitrogen (ammonia synthesis) gas stream, without concomitant oxidation of hydrogen, by contacting the gas stream with a bed of solid cupric oxide at a temperature below 400° F. The cupric oxide is thus reduced to cuprous oxide. The resultant gas stream contains hydrogen, nitrogen, carbon dioxide and less than 5 p.p.m. of carbon monoxide, and is suitable for ammonia synthesis after carbon dioxide removal. The resultant bed of cuprous oxide is regenerated by terminating the flow of ammonia synthesis gas and passing a stream of oxygen-containing gas such as air through the bed.

3,380,801

SEPARATION OF COBALT FROM NICKEL

Robert E. Williams and Jack H. Bayless, Houston, Tex., assignors to Esso Production Research Company

Continuation-in-part of application Ser. No. 267,009, Mar. 21, 1963. This application July 8, 1966, Ser. No. 563,762

9 Claims. (Cl. 23—50)

Nickel and cobalt are quantitatively separated and recovered from ammoniacal solutions having a pH above 8.6 and an ammonia:metal molar ratio within the range from about 2:1 to about 10:1, preferably 3:1 to 7:1, by extracting the ammoniacal solution with a hydrocarbon solution of a C_8 to C_{38} naphthenic acid to form a cobalt salt of the naphthenic acid in an extract phase which is separated from the raffinate phase, the two phases being separately recovered with the extract phase being acidified to recover the cobalt and regenerate the naphthenic acid.

3,380,802

CARBONATIZING ROAST OF LITHIUM-BEARING ORES

Maurice Archambault, Quebec, Quebec, and Charles A. Olivier, Ste.-Foy, Quebec, Canada, assignors to Ministere des Richesses Naturelles, Quebec, Quebec, Canada

No Drawing. Filed Sept. 18, 1964, Ser. No. 397,615

Claims priority, application Great Britain, Sept. 30, 1963, 38,418/63

10 Claims. (Cl. 23—63)

1. A method for transforming a calcined lithium-bearing aluminosilicate to a state where lithium values are readily recoverable comprising roasting in a solid-solid reaction an intimate mixture of said aluminosilicate and sodium carbonate thereby forming lithium carbonate, the sodium carbonate being present in an amount from about 1 to about 3 moles per mole of lithium oxide contained in the calcined lithium-bearing aluminosilicate, and the roasting temperature ranging from about 450° C. to about 750° C.

3,380,803

PROCESS FOR MANUFACTURE OF ALKALI METAL AND ALKALINE EARTH METAL HEXAFLUOROPHOSPHATES

Albert W. Jache, North Haven, and Santad Kongpricha, Hamden, Conn., assignors to Olin Mathieson Chemical Corporation

No Drawing. Filed Feb. 3, 1966, Ser. No. 524,867

3 Claims. (Cl. 23—88)

1. Process for preparing hexafluorophosphates which comprises heating a mixture of a member of the group consisting of alkali metal fluorides and alkaline earth metal fluorides, elemental phosphorus and anhydrous hydrogen fluoride at 180 to 220° C. under autogenous pressure to form a reaction mixture containing a hexafluorophosphate of said metal and separating said hexafluorophosphate from said reaction mixture.

3,380,804

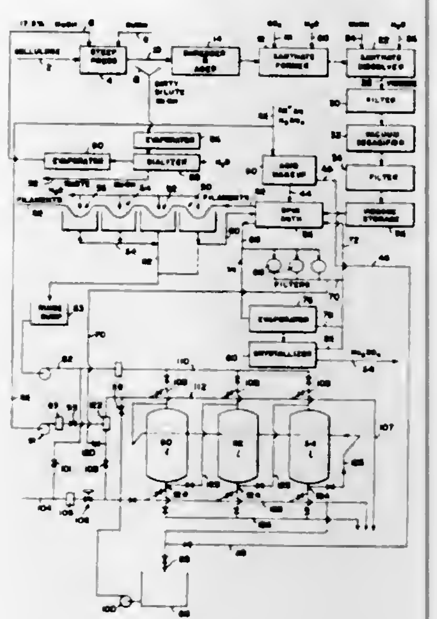
PROCESS FOR ZINC RECOVERY

George E. Glover, Philadelphia, Pa., and Jack B. Pratt, Millside Heights, N.J., assignors to Crane Co., Chicago, Ill., a corporation of Illinois

Filed Aug. 22, 1963, Ser. No. 303,910

10 Claims. (Cl. 23—125)

1. In a process involving treatment of a material in a concentrated acidic treating solution containing zinc and rinsing with water of the material after removal from said solution, that auxiliary procedure for the recovery of zinc with minimizing of addition of water including passing the zinc-containing aqueous solution resulting from rinsing through a cation exchanger to remove the zinc content therefrom, regenerating said cation exchanger by passing therethrough a concentrated acid solution having an acid concentration substantially exceeding that of said treating solution, and introducing the eluant from the regenerating step to said treating solution.



3,380,805

RARE EARTH SUBOXIDES

Albert E. Miller, Ames, Iowa, assignor to the United States of America as represented by the United States Atomic Energy Commission

Continuation-in-part of application Ser. No. 339,045, Jan. 20, 1964. This application Nov. 9, 1965, Ser. No. 506,913

2 Claims. (Cl. 23—183)

Rare earth suboxides of lanthanum, praseodymium, promethium, yttrium, gadolinium, dysprosium, holmium, erbium and lutetium having the formula Re_2O_x where RE is rare earth and where $2.900<x<3.00$.

3,380,806

REDUCTION OF CHLORATES IN CAUSTIC SODA

Walter C. Bradbury, Wichita, and Robert D. Cooper, Goddard, Kans., assignors to Frontier Chemical Company, Division of Vulcan Materials Company, Wichita, Kans., a corporation of New Jersey

Filed July 2, 1965, Ser. No. 469,250

8 Claims. (Cl. 23—184)

The chlorate content of caustic alkali solutions is reduced by the addition of sorbitol or glycerin and heating until the chlorate present is substantially eliminated.

3,380,807

PREPARATION OF HYDROXYLAMINE AND MONOCARBOXYLIC ACIDS FROM PRIMARY NITROPARAFFINS AND OXALIC ACID

Lawrence R. Jones, Terre Haute, Ind., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland

No Drawing. Filed July 6, 1965, Ser. No. 469,926

9 Claims. (Cl. 23—190)

A process for preparing hydroxylamine and moncarboxylic acids by reacting a primary nitroparaffin, for example 1-nitropropane, with oxalic acid.

3,380,808

PROCESS FOR THE MANUFACTURE OF PHOSPHORUS PENTASULFIDE OF PREDETERMINED REACTIVITY

Hermann Niermann, Bruhl, near Cologne, and Heinz F. Harnisch, Lovenich, near Cologne, Germany, assignors to Knapsack Aktiengesellschaft, Knapsack, near Cologne, Germany, a corporation of Germany

No Drawing. Filed Nov. 8, 1965, Ser. No. 506,880

4 Claims. (Cl. 23—206)

A process whereby fine-grained phosphorus pentasulfide having a low predetermined reactivity of 40 to 10° per hour is prepared by initially grinding to a desired grain size, and thereafter annealing the material at about 140°–180° C. for about 15–48 hours.

3,380,809

PROCESS FOR LIQUEFACTION AND CONVERSION OF HYDROGEN

Charles L. Newton, Emmaus, Pa., assignor to Air Products and Chemicals, Inc., a corporation of Delaware

Filed Oct. 16, 1963, Ser. No. 316,728

16 Claims. (Cl. 23—210)

Process for producing liquid hydrogen of high para composition in which compressed hydrogen gas of normal equilibrium composition (75% ortho-hydrogen—25% para-hydrogen) is cooled by heat interchange with relatively cold fluid and passed at progressively decreasing temperature levels in contact with a catalyst which accelerates conversion of ortho-hydrogen to para-hydrogen and in which the cooled compressed hydrogen gas is expanded to a lower pressure and cooled to a temperature within the liquefaction region to provide liquid hydrogen of high para composition.

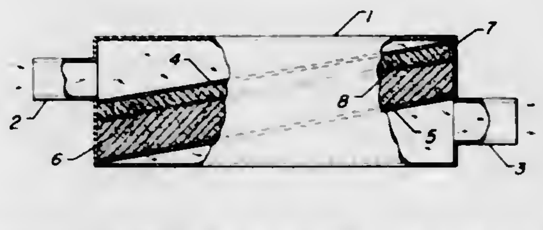
3,380,810

CATALYTIC CONVERTER-MUFFLER WITH A PROTECTED CATALYST RETAINER MEANS

Robert J. J. Hamblin, Chicago, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Nov. 26, 1963, Ser. No. 326,130

4 Claims. (Cl. 23—288)



A catalytic muffler with a layer of low bulk density, inert, porous refractory particles upstream of the catalyst, for preventing flashback and for reducing temperature fluctuations.

3,380,811

PHOSPHORAMIDIC DIFLUORIDE AND METHOD OF PREPARATION

William C. Preusse, Naperville, Ill., assignor to Olin Mathieson Chemical Corporation, New Haven, Conn., a corporation of Virginia

No Drawing. Filed Aug. 26, 1963, Ser. No. 304,636

4 Claims. (Cl. 23—357)

Phosphoramidic difluoride is provided in high quality and good yield by the reaction of pyrophosphoryl tetrafluoride and ammonia.

3,380,812

SINTERED PALLADIUM MATERIALS FOR ELECTRIC CONTACT

Genichi Kamoshita, Koganei-shi, Mikio Hirano, Tokyo, Junko Shiba, Fuchu-shi, and Nobuhiro Hara, Tokyo, Japan, assignors to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan

Filed Aug. 4, 1966, Ser. No. 570,372

Claims priority, application Japan, Aug. 13, 1965, 40/48,969

2 Claims. (Cl. 29—182.5)

The present disclosure relates to sintered materials which are used as an electrical contact in an organic gas atmosphere, said materials comprising palladium and an inorganic lead compound present in an amount sufficient to diminish the catalytic action of the palladium. The catalytic action of the palladium converts the organic gas into organic substances which deposit on the electrical contact increasing its resistance. Palladium electrical contacts containing inorganic lead compounds such as lead oxide and lead sulfide possess a substantially diminished catalytic action.

3,380,813

COMPOSITES OF BERYLLIUM-COPPER-TIN

Earl I. Larsen, Indianapolis, Ind., and Richard H. Krock, Peabody, and Clintford R. Jones, Arlington, Mass., assignors to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware

Filed May 22, 1967, Ser. No. 640,193

4 Claims. (Cl. 29—182.1)

A two-phase composite material whose microstructure consists of beryllium dispersed in a copper-tin-beryllium solid solution alloy matrix was produced by liquid phase sintering pressed powder mixtures of beryllium, copper and tin or powder mixtures of beryllium and prealloyed copper-tin.

3,380,814

ELECTROLYTE AND METHOD FOR COATING ARTICLES WITH A GOLD-COPPER-ANTIMONY ALLOY AND ARTICLE THEREOF

René Cathrein and Marius Danemark, Geneva, Switzerland, assignors to Sel-Rex Corporation, Nutley, N.J., a corporation of New Jersey

No Drawing. Filed June 18, 1965, Ser. No. 465,181

5 Claims. (Cl. 29—183.5)

1. Process for electrodepositing bright, hard gold-copper alloys having a pink coloration which comprises electrolyzing an aqueous solution comprising the following ingredients:

	G./l.
Gold (added as alkali metal gold cyanide)	1–8
Copper (added as a copper complex)	2–10
Antimony (added as a salt)	0.5–10
Chelating agent (in addition to that complexed with the copper)	5–60
Weak acid and salt thereof, and in proportion to provide a pH of 4.5–6,	

maintaining said bath at a temperature of 40 to 60° C. and regulating the current density to a value of 0.5 to 2.0 amps/dm.².

5. As an article of manufacture a substrate having a conducting surface which is electroplated to a thickness of at least 25 microns with a coating consisting essentially of an alloy of 75 to 85% gold, 14 to 24% copper and 0.5 to 1.0% of antimony.

3,380,815

CETANE IMPROVER FOR DIESEL FUEL OILS

Walter Alexander Herbst, Union, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed May 4, 1965, Ser. No. 453,215

6 Claims. (Cl. 44—57)

1. A diesel fuel oil composition of improved ignition quality comprising a major amount of a diesel fuel oil and a minor amount sufficient to increase the cetane number of said diesel fuel oil of a gem dinitroalkanoate.

3,380,816
MANUFACTURE OF VULCANIZED LIQUID RESIN BONDED ABRASIVE ARTICLES

De Witt Bell, Fair Lawn, N.J., assignor to Raybestos-Manhattan, Inc., Passaic, N.J., a corporation of New Jersey

No Drawing. Filed Mar. 12, 1965, Ser. No. 439,468

4 Claims. (Cl. 51—298)

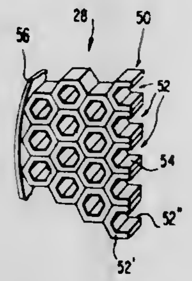
A hard abrasive article such as grinding and cutting-off wheels which have substantially the cutting action of hard-rubber bonded wheels, but which are superior thereto in that they possess (a) a much lower sensitivity to heat, (b) longer life and greater cutting efficiency, and (c) much higher strength at elevated temperatures resulting in greater safety in operation, which comprises abrasive grains bonded by a vulcanized liquid resin selected from the group consisting of an hydroxy-terminated polymer of butadiene, an hydroxy-terminated copolymer of butadiene and styrene, an hydroxy-terminated copolymer of butadiene and acrylonitrile, and mixtures of said polymer and copolymers, vulcanized with a vulcanizing agent in an amount in the range of 40 to 60 parts per hundred parts of the liquid resin.

3,380,817
METHOD OF MAKING A VITREOUS OFF-AXIS LIGHT FILTER

William L. Gardner, Wellesley, Mass., assignor, by mesne assignments, to The Bendix Corporation, a corporation of Delaware

Filed Sept. 11, 1964, Ser. No. 395,660

3 Claims. (Cl. 65—3)



A method is provided for making a vitreous off-axis light filter consisting of a vitreous perforated element wherein the multiplicity of perforations are generally parallel and uniformly spaced throughout the cross-sectional area and the diameter of the openings are in a range from about .01 to about $.10^{-8}$ square inch and the ratio of the cross-sectional areas of the openings to the thickness of the perforate element is from about 2 to 1 to about 1000 to 1 and the total area of the openings being as great as 80% of the total surface area of the element. The perforate element may be provided with an oxidized metallic coating.

3,380,818
GLASS COMPOSITION AND METHOD AND PRODUCT

William E. Smith, Sylvania Township, Lucas County, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio

No Drawing. Filed Mar. 18, 1964, Ser. No. 352,958

12 Claims. (Cl. 65—33)

A new thermally crystallizable glass having a liquidus temperature below 2460° F. and having excellent forming properties. The glass composition is of the

SiO_2-Al_2O_3-Li_2O-MgO

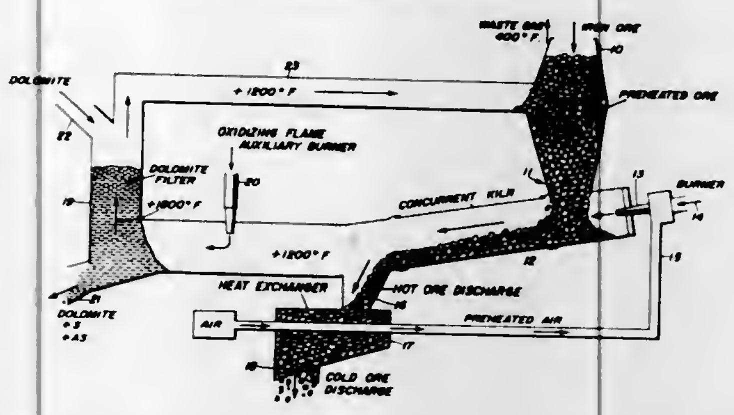
system, each ingredient being in a certain range, and contains from 1 to 1.7 weight percent ZrO_2 and from 1 to <2.4 weight percent TiO_2. Glass-ceramics and the method for making them from the aforesaid components are also disclosed.

3,380,819
METHOD FOR REMOVING ARSENIC FROM IRON ORES

Patrick Edgar Cavanagh, Westmount, Montreal, Quebec, Canada, assignor to Premium Iron Ores Limited

Filed Jan. 28, 1966, Ser. No. 523,716

9 Claims. (Cl. 75—6)



1. A low temperature method for removing most of the arsenic from ores containing arsenic and minerals normally forming arsenates therewith on heating to roasting temperatures and comprising: heating said ore in an atmosphere containing between about 1% and about 6% oxygen and at a temperature between about 1500° F. and about 1700° F. for about one hour to form gaseous arsenic.

3,380,820
METHOD OF MAKING HIGH IRON CONTENT ALUMINUM ALLOYS

Adolf Hetke and Robert H. Zimmerman, Saginaw, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Sept. 15, 1965, Ser. No. 487,553

5 Claims. (Cl. 75—138)

1. A method of preparing an aluminum alloy of high iron content wherein said iron content is in the range of from 2% to about 25% by weight, said method comprised of mixing aluminum and ferrous metal particles having a maximum dimension of less than one inch in accordance with said iron content to achieve a uniform mixture, compressing said mixture into a composite briquette having an actual density greater than 80% of the true density of an ideal nonporous mixture of its components, heating said briquette until melted, and casting said molten metal into a desired shape.

3,380,821
HEAT TREATABLE CREEP RESISTANT SOLDER ALLOY

Douglas J. Harvey, Utica, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

No Drawing. Filed Oct. 21, 1965, Ser. No. 500,333

2 Claims. (Cl. 75—166)

1. A high strength creep resistant lead based alloy consisting essentially of, by weight, 1 to 5% tin, 0.1 to 2.0% silver, 0.1 to 0.8% indium, and the balance all lead.

3,380,822
METHOD OF MAKING POROUS ZINC STRUCTURES

Francis John Kelly and Franciszek Przybyla, Toronto, Ontario, Canada, assignors to Mallory Battery Company of Canada Limited, Clarkson, Ontario, Canada

Original application Mar. 30, 1965, Ser. No. 443,986. Divided and this application Feb. 14, 1967, Ser. No. 616,107

4 Claims. (Cl. 75—214)

A method of sintering particles of zinc having an oxide coating thereon, into a porous structural body, comprising the steps of admixing such particles of zinc with an amount of sublimable ammonium halide filler particles in vast excess of that required to react with the oxide coating, compacting the admixture at an elevated pressure, heating the compacted body to a sintering temperature less than the melting temperature of zinc, whereby a portion of the filler reacts with the oxide coating forming a sublimable reaction product, and the unreacted portion of the filler sublimes, controlling the pressure on the body during the heating, to a predetermined pressure less than atmospheric pressure to accelerate and effect substantially complete sublimation of the filler and the sublimable reaction product.

3,380,823
PHOTOCOPYING METHOD

Robert Murray Gold, Brooklyn, N.Y., assignor to Itek Corporation, Lexington, Mass., a corporation of Delaware

No Drawing. Continuation-in-part of abandoned application Ser. No. 137,476, Sept. 7, 1961. This application June 20, 1966, Ser. No. 558,630

16 Claims. (Cl. 96—27)

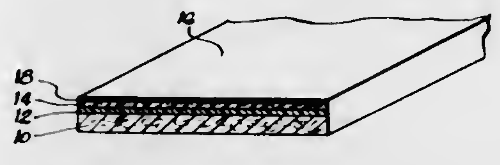
This invention relates to a process for recording an image pattern of activating radiation comprising exposing to an image pattern of activating radiation a copy medium comprising at least one photosensitive semiconductor pigment such as titanium dioxide which becomes reversibly activated upon exposure to activating radiation and thereby capable of causing chemical reactions at portions of this medium corresponding to the image pattern of activating radiation and then applying to at least reversibly activated portions of this medium an image-producing agent which undergoes a chemical reaction and which forms irreversible images solely on contact with at least activated portions of the copy medium. The image-producing agent comprises, for example, an aqueous solution of silver nitrate and a suitable reducing agent therefor.

3,380,824
PHOTOLITHOGRAPHIC MASTER AND METHOD OF MANUFACTURE

Frederich O. Bach, Villa Park, Ill., assignor to A. B. Dick Company, Niles, Ill., a corporation of Illinois

Filed May 12, 1964, Ser. No. 366,826

3 Claims. (Cl. 96—33)



1. A light sensitive photolithographic printing plate comprising a paper base sheet, a thin polyethylene layer on the surface of the base sheet, a coating consisting of colloidal silica on the surface of the polyethylene layer to provide a stabilized, ink repellent, water receptive lithographic surface and a coating of a light sensitive diazo resin forming compound on the stabilized lithographic surface.

3,380,825
PROCESS FOR PRODUCING IMAGES

Vincent Joseph Webers, Red Bank, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Nov. 27, 1964, Ser. No. 414,193

6 Claims. (Cl. 96—35.1)

1. A process for producing a reverse image in a photopolymerizable layer, said layer being solid below 40° C. and containing a photoinitiator, said process comprising:

(A) exposing said layer imagewise to actinic radiation while the surface of the layer has free access to a gaseous polymerization inhibitor to actinic radiation so that the photoinitiator is exhausted in the exposed area and essentially no photohardening takes place in the exposed image areas, and

(B) exposing all of said layer to actinic radiation while preventing access of a gaseous polymerization inhibitor to the surface of the layer whereby photohardening takes place in the areas that were not exposed in the original imagewise exposure.

3,380,826
FABRICATION OF IMAGE DISPLAY SCREENS

Louis F. Deary and Siegbert M. Wirth, Seneca Falls, N.Y., assignors to Sylvania Electric Products Inc., a corporation of Delaware

No Drawing. Filed July 23, 1964, Ser. No. 384,808

4 Claims. (Cl. 96—36.1)

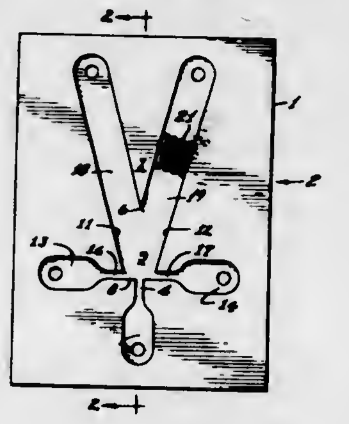
A process for photodisposing cathode ray tube image display screens wherein ingredience to retard continuing polymerization are added to the photosensitized polymeric substance associated with phosphor deposition. The retarded rate of the continuing polymerization reaction in the shadowed areas of the screen controls phosphor dot size and reduces the time periods of the screen development steps wherein the unexposed polymeric substance is removed.

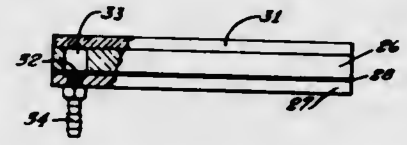
3,380,827
OPTICAL MACHINING PROCESS

Eric E. Metzger, Silver Spring, Md., and George D. Hinshelwood, Washington, D.C., assignors to Bowles Engineering Corporation, Silver Spring, Md., a corporation of Maryland

Filed Aug. 24, 1962, Ser. No. 219,168

9 Claims. (Cl. 96—35.1)





1. The method of making pure fluid amplifier and logic elements comprising placing a transparency correspond-

ing with the element to be formed in contact with a surface of a body of light polymerizable material, said body being a uniform layer on a light insensitive, non-reflective backing element, directing, substantially perpendicular to said surface through said transparency, a beam of high density light of the proper wave length to polymerize the material, the rays of the light beam having an angle relative to the centerline of said beam of not more than 5°, maintaining the beam of light on said material for a sufficient length of time to polymerize that portion of the material exposed to the light beam and, washing said material in a fluid which constitutes a solvent for the unpolymerized material only and thereafter applying a cover over said surface to define the final wall of channels formed in said surface.

3,380,828
ANTISTAIN AGENTS FOR SPECTRALLY SENSITIZED SILVER HALIDE PHOTOGRAPHIC ELEMENTS

Theodore J. Kitze, Jr., and William J. Rosecrants, Jr., Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Aug. 2, 1965, Ser. No. 476,688

20 Claims. (Cl. 96—61)

14. A rapid access stabilization process for the formation of a stable image in a photographic silver halide material which comprises developing an exposed silver halide photographic element comprising a support having thereon a spectrally-sensitized silver halide emulsion, at least one silver halide developing agent, and a 1,3-dihydroxy carbocyclic compound antistain agent, by treatment with an alkaline solution, and immediately thereafter stabilizing said emulsion with a solution comprising at least one compound selected from the group consisting of alkali metal, alkaline earth and ammonium thiocyanates and thiosulfates, thioureas and thioglycollic acid, and drying said element without further treatment.

3,380,829
PHOTOGRAPHIC DEVELOPING COMPOSITIONS

Leslie Frederick Alfred Mason and Abraham Mark Sinclair, Ilford, England, assignors to Ilford Limited, Ilford, England, a British company

No Drawing. Filed Aug. 24, 1964, Ser. No. 391,740

15 Claims. (Cl. 96—66)

There is provided a photographic developer composition with a hardening agent for gelatin therein and method of developing and hardening the same. The composition comprises a developing agent for a silver halide photographic emulsion, at least one alkaline substance selected from hydroxides and carbonates of alkali metals, 2,3-dihydroxy-1,4-dioxane (a hardener for gelatin) and a source of borate ions. It has been found that the dioxane hardener will decrease in effectiveness with age, and that such a decrease of effectiveness may be prevented or at least minimized by including in the developer borate ions. As a further feature, 1,4-diketone or diacetyl is included in the composition to enhance the hardening effect of the dioxane.

3,380,830
HEAT DEVELOPABLE DIAZO PHOTOCOPYING SHEET

André Schaeffer and Bernard Clauss, Rueil-Malmaison, and Michel Laquerriere, Garghes, France, assignors to Etablissements Bauchet & Cie, Rueil-Malmaison, France, a company of France

No Drawing. Filed Sept. 21, 1964, Ser. No. 398,064

Claims priority, application France, Sept. 24, 1963, 948,443

2 Claims. (Cl. 96—75)

A heat-developable photocopying sheet comprising a support with a light-sensitive layer on at least one side which includes a diazonium compound, an acid, and a coupling agent, said light sensitive layer having a thermodeveloping layer in chemically effective contact therewith, the developing layer including a nitrogenous carbohydrate derivative selected from a certain group or amides.

3,380,831
PHOTOPOLYMERIZABLE COMPOSITIONS AND ELEMENTS

Abraham Bernard Cohen, Springfield, and Arnold Charles Shoenthaler, East Brunswick, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 26, 1964, Ser. No. 370,338

7 Claims. (Cl. 96—115)

Photopolymerizable compositions comprising (1) a macromolecular organic polymer binder, (2) an addition polymerizable branch chain polyol polyester of an alphamethylene carboxylic acid of 3–4 carbon atoms, e.g., polyoxyethyltrimethanolpropane triacrylate or trimethacrylate, and polyoxyethylpentaerythritol tetraacrylate or tetramethacrylate, having an average molecular weight from about 450 to about 40,000 and (3) an addition polymerization initiator activatable by actinic radiation and photopolymerizable elements comprising a suport bearing a layer of such composition.

3,380,832
METHOD OF PREPARING A SOLID SEMI-MOIST MARBLED MEAT PET FOOD

David P. Bone, Palatine, Ill., assignor to The Quaker Oats Company, Chicago, Ill., a corporation of New Jersey

No Drawing. Continuation of application Ser. No. 477,940, Aug. 6, 1965. This application Dec. 23, 1966, Ser. No. 604,489

9 Claims. (Cl. 99—7)

1. A method for the manufacture of a substantially-solid semi-moist animal food resembling marbled meat comprising the following steps:

- (a) forming by a cooking-extrusion process a first sheet of unexpanded storage-stable semi-moist animal food having the appearance of lean red meat, and having incorporated therein a caseinate-salt adhesive in an amounts sufficient to provide stickness at temperatures above 120° F., said amount being between 7.5% and 25% by weight based on the weight of the first sheet,
- (b) forming by a cooking-extrusion process a second sheet of unexpanded storage-stable semi-moist animal food having the appearance of fat,
  - said cooking-extrusion process of steps (a) and (b) comprising the steps of:
    - (1) admixing comminuted animal food ingredients which include a total moisture content between about 20% and about 50%, said ingredients having been selected to provide a substantially-solid storage-stable nutritious pet food after cooking the resulting admixture,
    - (2) subjecting the resulting admixture to cooking conditions at a superatmospheric pressure sufficient to prevent substantial expansion of the resulting plastic mass in the extruder, and
    - (3) extruding the resulting plastic mass through a die into the atmosphere,
- (c) superimposing one of said sheets on the other, and
- (d) forming the resulting superimposed sheets into a loaf-like mass, said forming being done in such a manner as to distribute randomly the fat-like portion in the resulting mass, said forming taking place while the average temperature of said first and second sheets is between about 120° and about 170° F.

ERRATUM

For Class 99—71 see:
Patent No. 3,381,302

3,380,833
PROCESS FOR INACTIVATING FOOT-AND-MOUTH VIRUS IN MEAT INFECTED THEREWITH

Earl W. Turner, Park Forest, Ill., assignor to International Packers Limited, Chicago, Ill., a corporation of Delaware

No Drawing. Filed May 14, 1964, Ser. No. 367,560

5 Claims. (Cl. 99—159)

1. In the process for inactivating foot-and-mouth virus, the steps which comprise comminuting meat infected with foot-and-mouth virus for obtaining intimate contact between the muscle and lymphatic tissues, adding at least one curing salt in amounts sufficient and holding for a sufficient time above freezing temperatures to obtain a generally uniform pH throughout the comminuted meat, introducing at least one nontoxic acid in sufficient amounts to reduce the pH of the lymphatic tissue in the comminuted meat to a value in a range from 2.5 to 6.0, and maintaining the lymphatic tissue in the comminuted meat at a pH in a range from 2.5 to 6.0 for a length of time sufficient to destroy said virus.

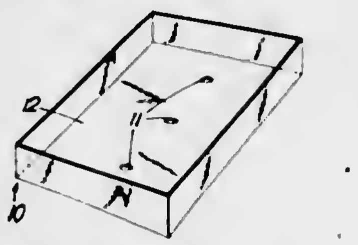
3,380,834
FREEZE-DRIED FOOD PACKAGE

Vlacheslav Jansen Janovtchik, % H. J. Heinz Co. Limited, Harlesden, London NW. 10, England; John Reginald Bartlett, "Dundas," Monkton Combe, near Bath, Somerset, England; and Frederick Arthur George, "Martingale," Westanley, Amersham, Buckinghamshire, England

Filed May 6, 1963, Ser. No. 278,112

Claims priority, application Great Britain, May 7, 1962, 17,469/62

4 Claims. (Cl. 99—171)



1. A package containing freeze-dried foodstuff and comprising:

- (a) water impervious container supporting said freeze-dried foodstuff;
- (b) a protective envelope hermetically sealing the impervious container and foodstuff;
- (c) the lower part of said container being provided with a desired number of metering holes, each hole having a diameter of about 3–4 mm. so that after the sealed envelope is removed and the container placed on water surface, the container gradually and slowly sinks under the water surface in virtue of water being admitted into the container from underneath through these holes and being absorbed by the freeze-dried food to bring their reconstitution at an accelerated rate.

3,380,835
METALIZING COMPOSITIONS

Oliver A. Short, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 468,129, June 29, 1965. This application Dec. 20, 1965, Ser. No. 515,215

11 Claims. (Cl. 106—1)

Metalizing compositions comprising a dispersion of a catalytically inactive noble metal, powder in an inert liquid vehicle are produced. The noble metal powders are rendered inactive by (1) heat treatment or by (2) treatment with certain metal oxides (e.g., arsenic trioxide, antimony trioxide).

3,380,836
CORROSION INHIBITING PIGMENT

Herbert J. Robinson, Detroit, Mich., assignor, by mesne assignments, to Interchemical Corporation, New York, N.Y., a corporation of Ohio

No Drawing. Filed Aug. 13, 1965, Ser. No. 479,615

11 Claims. (Cl. 106—14)

A liquid corrosion inhibiting coating composition consisting of a mixture of a solvent and an organic film-forming resinous material incorporating therein a finely-particulated pigment of calcium metaborate dispersed as discrete particles substantially uniformly throughout the composition. The invention also relates to articles having a corrosion-resisting coating of the aforementioned type on at least a portion of the surfaces thereof.

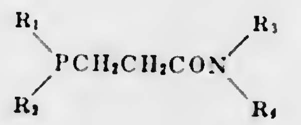
3,380,837
CORROSION INHIBITING COMPOSITION

Frank Larkin Wagner and Martin Grayson, Norwalk, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Continuation-in-part of application Ser. No. 270,198, Apr. 3, 1963. This application Nov. 2, 1966, Ser. No. 591,433

5 Claims. (Cl. 106—14)

This invention relates to the provision of a corrosion inhibiting composition in which the corrosion-inhibiting material is a compound of the formula:



$$\begin{matrix} R_1 & & R_3 \\ & \mathrm{PCH_2CH_2CON} & \\ R_2 & & R_4 \end{matrix}$$

wherein R_1 and R_2 are individually either alkyl of 2–10 carbon atoms or cycloalkyl radicals, each of which may be substituted by a member selected from the group consisting of phenyl, halogen, lower alkoxy and cyano, R_3 is an alkyl radical of 10–20 carbon atoms which may be substituted by a member selected from the group consisting of phenyl, halogen, lower alkoxy and cyano, and R_4 is either hydrogen or an alkyl radical of 10–20 carbon atoms which may be substituted by a member selected from the group consisting of phenyl, halogen, lower alkoxy and cyano.

The invention relates further to the provision of steel articles coated with a corrosion inhibiting amount of the above described corrosion inhibitor.

3,380,838
SUBSTANCES FOR PRODUCING CRYSTALLINE HEAT-RESISTANT COATINGS AND FUSED LAYERS

Werner Sack, Mainz, Germany, assignor to Jenaer Glaswerk Schott & Gen., Mainz, Germany, a corporation of Germany

No Drawing. Filed July 30, 1964, Ser. No. 386,373

Claims priority, application Germany, Aug. 6, 1963, J 24,194

5 Claims. (Cl. 106—39)

An $MgO\text{-}Al_2O_3\text{-}SiO_2$ glass powder and MgO mixture or/and $Li_2O+Al_2O_3$ additions thereto, which is heated and sintered to produce by chemical reaction crystalline heat resistant coatings.

3,380,839

SOLID SOLUTIONS OF FINE GRAIN METALLIC CARBIDES AND METHOD

Edith Clar and René Antoine Pâris, Lyon, France, assignors to Pechiney, Compagnie de Produits Chimiques et Electrometallurgiques, Paris, France

Filed Jan. 21, 1964, Ser. No. 339,202

6 Claims. (Cl. 106—43)

A process for the preparation of solid solutions of at least two of the carbides of titanium, tantalum and vanadium having a grain size of less than 1 micron by pyrolysis of organic salts of the metals at a temperature below 500° C. in the presence of methane and hydrogen to yield Ti_2O_3, Ta_2O_5 and V_2O_3, respectively, and reacting the product of the pyrolysis at a temperature within the range of 500–1050° C. in a mixture of hydrogen and methane.

3,380,840

CERTAIN MODIFIED POLYESTERAMIDES AND THE USE THEREOF AS ADHESIVES

Stuart A. Harrison, Minneapolis, Minn., assignor to General Mills, Inc., a corporation of Delaware

No Drawing. Filed Jan. 6, 1966, Ser. No. 519,018

12 Claims. (Cl. 106—243)

1. A modified polyesteramide prepared by reacting 0.5 to 50% by weight of an organic polyisocyanate or polyisothiocyanate with a polyesteramide prepared by reacting (1) polymeric fat acids derived from monobasic aliphatic carboxylic acids having hydrocarbon chains of 8–24 carbon atoms, said polymeric fat acids having a dimeric fat acid content of about 70 to 100% by weight, with about an equivalent amount of (2) an alkanolamine selected from the group consisting of monoethanolamine, 3-aminopropanol-1 and mixtures thereof.

5. An adhesive solution comprising an organic solvent and about 5 to 75% by weight based on the total composition of the modified polyesteramide of claim 1.

3,380,841

METHOD OF MAKING CUBIC ZINC SULFIDE WITH COPPER

Chester D. Beintema, Vista, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

No Drawing. Filed Feb. 5, 1965, Ser. No. 430,762

3 Claims. (Cl. 117—201)

Method of forming cubic zinc sulfide by mixing zinc sulfide powder with copper nitrate and then heating the mixture in vacuum to the temperature which zinc sulfide vaporizes so that the zinc sulfide and copper deposit upon the substrate.

3,380,842

DECORATIVE COMPOSITION AND A PROCESS FOR ITS USE

Carter A. Watson, Bellingham, Wash., assignor to Georgia-Pacific Corporation, Portland, Oreg., a corporation of Georgia

No Drawing. Filed Sept. 20, 1963, Ser. No. 310,458

11 Claims. (Cl. 117—27)

1. A process for the application of a decorative coating composition upon an article, which comprises impinging upon a stream of the decorative coating composition a water stream in an amount of from 2 to 8 times the weight of the decorative coating composition and directing the wetted coating composition to impinge upon the surface of the article to be coated, said decorative composition comprising, intermixed in dry form, a flock agent, from 5 to 25 weight percent of a water-soluble adhesive selected from the group consisting of starch and dextrin, and a water-soluble urea-formaldehyde resin in an amount of from 1 to 15 weight percent.

8. A dry decorative coating composition in particulate form, which comprises, intermixed in dry form, a flock agent, from 5 to 25 weight percent of a water-soluble adhesive selected from the group consisting of starch and dextrin, and from 1 to 15 weight percent of a water-soluble urea-formaldehyde resin.

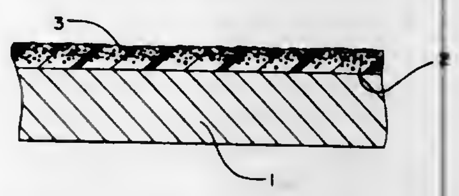
3,380,843

BEARING

William J. Davis, Wyomissing, Pa., assignor, by mesne assignments, to The Polymer Corporation, a corporation of Pennsylvania

Filed Mar. 31, 1964, Ser. No. 356,261

13 Claims. (Cl. 117—33)



Bearings with a captive source of fluid lubricant are provided by adhering finely divided synthetic resinous absorptive materials to the surface of a substrate.

3,380,844

COATING COMPOSITION AND METHOD FOR APPLYING SAME TO POLYOLEFIN FILMS

Virginia C. Menikheim, Chapel Hill, N.C., and Esther M. Rodriguez, La Grange Park, Ill., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 30, 1963, Ser. No. 334,585

12 Claims. (Cl. 117—47)

The surface of polyolefin films is coated with a composition which imparts to the coated polyolefin film substantially improved heat seal strength and oxygen and moisture vapor transmission values and renders the film resistant to greases, oils and most chemicals. The coating composition contains a vinylidene chloride polymer, an aliphatic acid and an ester.

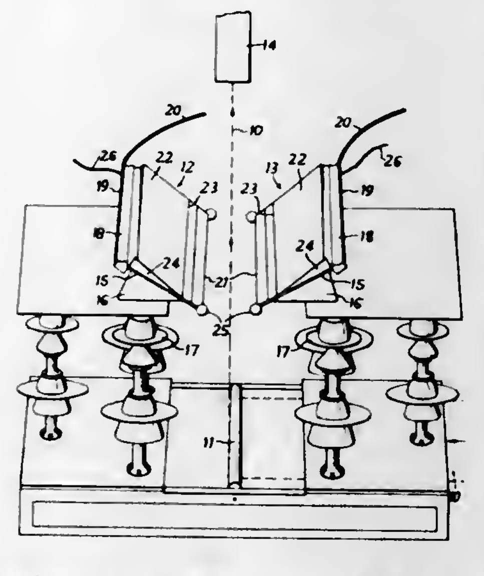
3,380,845

COATING OPPOSITE SIDES OF WEB EMPLOYING ELECTROSTATIC FIELD

Uriel George Shapiro, London, and Francis Charles Neary, Newcastle-upon-Tyne, England, assignors to Commercial Plastics Limited, Wallsend, Northumberland, England

Filed Dec. 6, 1963, Ser. No. 328,645

11 Claims. (Cl. 117—68)



1. A method of coating both sides of a web of electrically non-conductive sheet material which comprises the steps of:

passing said web between two spaced apart and mutually confronting electrostatic spray heads;

maintaining a high potential difference between said spray heads with one head at a polarity opposite to that of the other head;

supplying fluid coating material to said two spray heads and causing said material to be atomised by the field established by said high potential difference simultaneously at both said heads;

and depositing the atomised coating material under the influence of said field simultaneously on both sides of said web from said spray devices on respective opposite sides thereof.

3,380,846

MATTE SURFACE VITREOUS ENAMELS AND ARTICLES MADE THEREFROM

Robert S. Murray and Ray Andrews, Washington, Pa., assignors to B. F. Drakenfeld & Company, Inc., Washington, Pa., a corporation of New York

No Drawing. Filed May 27, 1965, Ser. No. 459,460

17 Claims. (Cl. 117—70)

17. As a new article of manufacture, a glass article having fused on one surface a coating of an intimate mixture of (1) a glass enamel frit consisting essentially of, by weight, 45 to 60 percent of PbO, 20 to 35 percent of SiO_2, 6 to 12 percent of B_2O_3, 1 to 5 percent of Al_2O_3, and from 0 to 2 percent of ZrO_2, and (2) from 2 to 75 percent of amorphous silica, passing a 350 mesh sieve, the surface of said coating carrying a thin layer of a substance selected from the group consisting of 200 mesh amorphous silica, alumina, and vitreous and semi-vitreous clay ware, and a layer of polytetrafluoroethylene adhered to said coating.

3,380,847

THERMALLY STABLE FIBROUS ALKALI METAL TITANATES

George Leoutsacos Lewis, Wilmington, and Hugh C. Gulledge, Newark, Del., and Gunter Teufer, Chadds Ford, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 17, 1964, Ser. No. 411,692

16 Claims. (Cl. 117—100)

A small amount of a cationic multivalent metal oxide containing compound, particularly an alkaline earth metal compound, such as a meta-, di-, tri- or tetra-titanate of barium or calcium coated on or incorporated within a fibrous alkali metal titanate, particularly fibrous tetra- and hexa-titanate of sodium and potassium, and thereafter heated to 1000° C. or over to improve the dimensional stability of the fibrous metal titanate; preferably the product also bears a coating of an oxide of aluminum, zirconium or titanium.

3,380,848

METHOD OF PRODUCING SOLID POLYMERIC MATERIAL HAVING BACTERICIDAL PROPERTIES

Carl Horowitz, Brooklyn, N.Y., assignor to Polymer Research Corporation of America, Brooklyn, N.Y., a corporation of New York

No Drawing. Filed May 27, 1964, Ser. No. 370,725

7 Claims. (Cl. 117—113)

This invention relates to the production of polymeric materials having bactericidal properties, including materials such as natural or synthetic polymers, e.g. cellulose, cotton, paper, leather, rubber, nylon, polyesters, polypropylene, etc. This is accomplished according to the invention by contacting the solid polymeric material with the reaction mixture formed by reacting an alkali metal hydroxide with an aqueous solution of silver nitrate. Under the influence of the reactants the substrate turns a brown color due to colloidally dispersed, bactericidally active silver oxide formed in situ. The bactericidal activity is permanent and the silver oxide lodged in the substrate is substantially insoluble.

3,380,849

ALUMINA-ZIRCON CERAMIC COATINGS AND BODIES

Harold Pollack, College Park, Md., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 17, 1964, Ser. No. 360,777

2 Claims. (Cl. 117—123)

1. A method for protectively coating a ceramic substrate comprising applying to the substrate a mixture of tabular alumina of —200 mesh, zircon of —150 mesh and water, the tabular alumina constituting from between 40 and 60% by weight of the solids and the zircon constituting from between 60 and 40% by weight of the solids, and firing the coated substrate at about 1400 to 1500° C.

3,380,850

TREATMENT OF SYNTHETIC POLYAMIDE TEXTILE MATERIAL TO IMPROVE ITS MOISTURE ABSORBENCY AND TO REDUCE ITS ELECTRIFICATION AND SOILING TENDENCIES

Gwillym Thomas Jones, John Bryn Owen, and Harold Sagar, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed June 24, 1964, Ser. No. 377,516

Claims priority, application Great Britain, July 4, 1963, 26,529/63

9 Claims. (Cl. 117—138.8)

A process for treating a synthetic polyamide textile material to increase its moisture absorbency, and to reduce its tendency to electrification and soiling which includes applying to the textile material from an aqueous medium, a hydroxyalkyl derivative of cellulose or starch, a cross-linking agent or a resin precondensate which reacts under acid conditions and a catalyst which is an acid or an acid-generating substance. Thereafter, the treated textile material is dried and heated.

3,380,851

NONWOVEN FABRIC WITH VINYL ACETATE-ETHYLENE-N-METHYLOL ACRYLAMIDE INTERPOLYMER AS BINDER

Martin K. Lindemann, Somerville, and Rocco P. Volpe, Newark, N.J., assignors, by mesne assignments, to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

No Drawing. Filed Mar. 31, 1965, Ser. No. 444,397

4 Claims. (Cl. 117—140)

Non-woven fabrics are formed by bonding together a loosely assembled web of fibers with a binder comprising an interpolymer of vinyl acetate-ethylene-N-methylol acrylamide, the interpolymer containing 5 to 40% by weight of ethylene and the amount of N-methylol acrylamide being 0.5 to 10% by weight of the vinyl acetate.

3,380,852

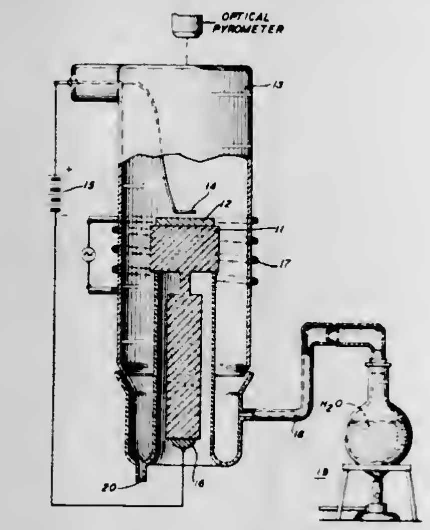
METHOD OF FORMING AN OXIDE COATING ON SEMICONDUCTOR BODIES

Adolf Goetzberger, Berkeley Heights, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 23, 1964, Ser. No. 412,934

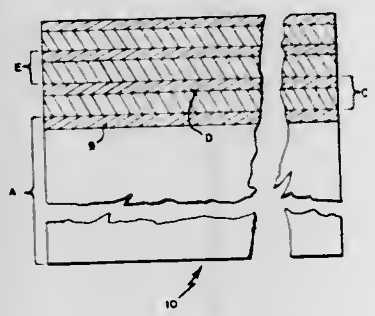
3 Claims. (Cl. 117—201)

A negative potential is applied to the surface of a semiconductor body through an electrode in the vicinity of the surface to remove positively charged ions therefrom during oxide formation. A particular technique includes an electric field of about 1000 volts per centimeter maintained during thermal growth of silicon oxide.



3,380,853
INTENSIFIED RADIOACTIVE SOURCES AND METHOD OF PREPARATION

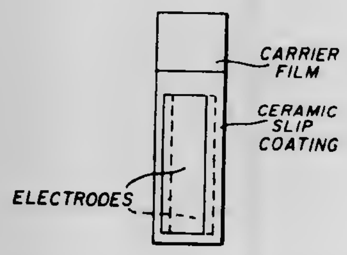
Henry M. De Angelis, Westwood, Mass., assignor to the United States of America as represented by the Secretary of the Air Force
Original application Sept. 12, 1963, Ser. No. 308,607, now Patent No. 3,326,178. Divided and this application July 1, 1964, Ser. No. 379,770
4 Claims. (Cl. 117—212)



Substrate material is subjected to positive ion bombardment from a radioactive vapor. A protective layer of substrate or other material, capable itself of entrapping radioactivity, is deposited and thereafter bombarded by positive ion bombardment. The process is repeated until a required intensity is reached.

3,380,854
METHOD OF MAKING CERAMIC CAPACITORS

Geoffrey Charles Robinson, Trenton, Ontario, Canada, assignor to Canadian Patents and Development Limited, Ottawa, Ontario, Canada, a Canadian company
Filed Nov. 27, 1963, Ser. No. 326,519
Claims priority, application Canada, Nov. 28, 1962, 863,321
16 Claims. (Cl. 117—217)



In the manufacture of ceramic capacitors by depositing alternating layers of ceramic slip and metallic electrode materials, an organic carrier film, e.g., of polyester, is employed as a temporary carrier so that the ceramic layers may be deposited by a simple dipping operation. The organic carrier film is finally burned away in the firing operation when the required number of ceramic and electrode layers have been deposited.

3,380,855
BATTERY INCLUDING METHYL FORMATE AND LITHIUM PERCHLORATE

Tyler X. Mahy and Sandors G. Abens, Philadelphia, Pa., assignors, by mesne assignments, to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
No Drawing. Filed Oct. 22, 1965, Ser. No. 502,422
10 Claims. (Cl. 136—100)

An electric current-producing cell comprising a lithium metal anode, a cathode, and an electrolyte solvent system in which the solvent consists essentially of methyl formate.

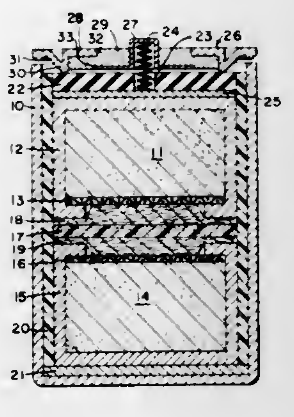
3,380,856
METHOD OF MAKING FUEL CELL ELECTRODES COMPRISED OF BORIDES, CARBIDES, NITRIDES AND/OR SILICIDES OF ONE OR MORE TRANSITION METALS

Franz Arthur Pohl, Langen, Germany, assignor to Licentia Patent - Verwaltungs - G.m.b.H., Frankfurt am Main, Germany
No Drawing. Filed June 14, 1965, Ser. No. 463,915
Claims priority, application Germany, June 12, 1964, L 48,034; Nov. 3, 1964, L 49,183
5 Claims. (Cl. 136—120)

1. A method of making fuel cell electrodes, comprising the steps of: mixing a first powder consisting of at least one material selected from the group consisting of the boride, carbide, nitride and silicide of at least one transition metal selected from the group consisting of titanium, zirconium, hafnium, vanadium, niobium, tantalum, chromium, molybdenum, tungsten, manganese, iron, cobalt and nickel, with a second powder consisting of at least one of said transition metals; pressing and sintering the mixture for forming a porous electrode body; thereafter dissolving out a portion of the free metal; and anodically activating the electrode in diluted phosphoric acid.

3,380,857
HERMETIC SEAL CLOSURE

John M. Bilhorn, Edgerton, Wis., assignor to The Electric Storage Battery Company, a corporation of New Jersey
Filed Nov. 22, 1965, Ser. No. 509,078
9 Claims. (Cl. 136—133)



A hermetic seal closure having an inner metallic terminal member, an outer metallic rim member and an insulating material separating said terminal member and said rim member. An essential feature comprises providing a bend in the rim member which abuts the insulating material for the purpose of placing the insulating material in radial compression. The insulating material may comprise a ceramic, glass or rubber material. The insulating material, particularly a ceramic, is stronger under compression and this is the reason for providing the bend in the rim member. An additional feature is the provision of a coined projection on the underside of the outer edge of the rim member for the purpose of welding the closure to a container.

3,380,858
CHROMATE COATING COMPOSITION FOR ALUMINUM AND PROCESS

Ashok J. Champaneria, Detroit, and William S. Russell, Warren, Mich., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Filed Nov. 10, 1964, Ser. No. 410,286
16 Claims. (Cl. 148—6.2)

A composition suitable for forming a protective coating on aluminum containing surfaces which consists essentially of an aqueous acidic solution containing hexavalent chromium ions, fluoride ions, and 0.01 to 0.4% by weight of uranium, as an activator for the composition. The aluminum-containing surfaces are brought in contact with this solution, using any suitable contacting technique, for a period sufficient to form the desired protective coating on the aluminum-containing surface.

3,380,859
METAL COLD FORMING

Gaillard W. Dell, Detroit, and Edwin W. Goodspeed, Royal Oak, Mich., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Filed Aug. 10, 1964, Ser. No. 388,698
20 Claims. (Cl. 148—6.15)

A process for deforming ferrous metal surfaces wherein the metal surface is coated with a phosphate or oxalate coating and is then rinsed with an aqueous solution of an amine, which solution has a pH within the range of about 9 to 12, prior to the application of a soap type lubricant. The preferred amine rinse solutions used are aqueous solutions of triethanolamine and ethylene diamine.

3,380,860
TREATMENT OF ALUMINUM, COMPOSITIONS THEREFOR AND PRODUCTS THEREOF

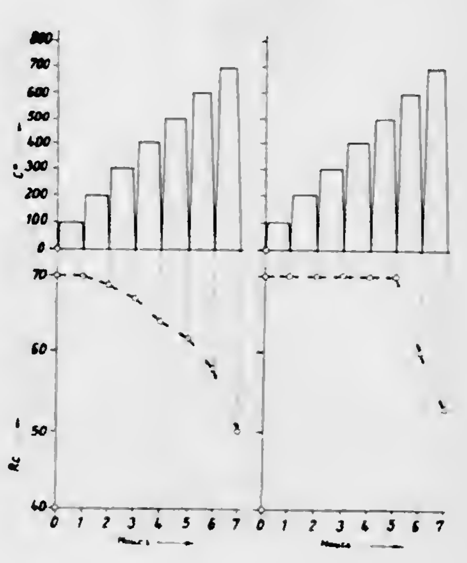
Richard J. Lipinski, Erie, Pa., assignor to Lord Corporation, a corporation of Pennsylvania
Filed Jan. 27, 1964, Ser. No. 340,151
35 Claims. (Cl. 148—6.27)

Aluminum is treated with an acid solution of salts of certain ammonia derivatives and certain acids at a temperature between 75° C. and boiling to provide essentially pure boehmite. In the treatment of an aluminum surface, the surface is preferably substantially free of oxide as by being pretreated with hot water containing a sulfuric acid, chromate ions and borate ions.

3,380,861
SINTERED STEEL-BONDED CARBIDE HARD ALLOYS

Fritz Frehn, Krefeld, Germany, assignor to Deutsche Edelstahlwerke Aktiengesellschaft, Krefeld, Germany
Filed May 5, 1965, Ser. No. 453,494
Claims priority, application Germany, May 6, 1964, D 44,355
5 Claims. (Cl. 148—12.3)

In sintered steel-bonded carbide hard alloys of the type comprising a steel matrix of steel hardenable by the transformation of austenite containing TiC (or a mixture of TiC with equivalent carbides), the hardness of the sinter is preserved when tempered if the steel matrix contains from 0.5 to 3% of copper.



3,380,862
SOLDER FLUX

John J. O'Brien, Watertown, Mass., assignor to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut
No Drawing. Filed May 5, 1965, Ser. No. 453,521
8 Claims. (Cl. 148—23)

The compositions are of the zinc chloride-ammonium chloride type which are used on the surface of soldering baths when molten solder is flowed into the side seam of container bodies. An alkali metal chloride or a mixture thereof is included in the compositon to increase its flux life.

3,380,863
METHOD OF ETCHING WITH A STRIPPABLE MASKANT

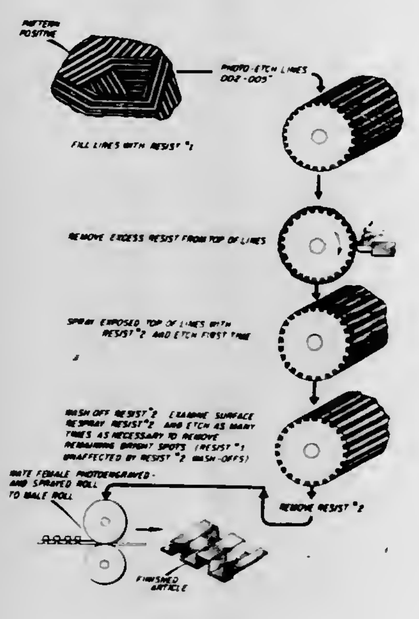
Kenneth J. Silberberg, Altadena, Calif., assignor to Purex Corporation Ltd., Lakewood, Calif., a corporation of California
No Drawing. Filed Mar. 31, 1966, Ser. No. 538,983
7 Claims. (Cl. 156—12)

The requirements of a maskant for successful chemical etching, namely adhesiveness, chemical resistance, strippability and freedom from "cob-webbing" are found to be present to an outstanding degree in block copolymers of polystyrene and polybutadiene having styrene/butadiene ratios of 40/60 to 20/80 and also a minor proportion of an α-methyl styrene polymer.

3,380,864
METHOD OF PRODUCING LENTICULAR EMBOSSING ROLLS

Frank W. Broderick, P.O. Box 2, Stirling, N.J. 07980
Filed Jan. 13, 1965, Ser. No. 425,334
3 Claims. (Cl. 156—14)

The method of producing an embossing roll whereby an optimum lenticular reflecting surface is produced including etching a design area in a roll in which broad parallel lines produce different reflective angles; coating the roll with a first acid resist and doctoring off the surface the resist so that etching remains filled with the first resist; spray coating the exposed roll surface with a second acid resist and etching the sprayed surface to a degree necessary to produce a mist surface on the outer surface of the roll, among the first acid resist and mating another roll with the prepared roll whereby embossing a foil produces an embossment having shiny upper surfaces and duller valleys on lower surfaces.



3,380,865
PLUTONIUM ETCHING

Morris Kolodney, New York, N.Y., assignor to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Apr. 28, 1948, Ser. No. 23,862
5 Claims. (Cl. 156—18)

1. The method of etching the surface of a plutonium metal composition to obtain a platable surface which comprises immersing a plutonium metal composition until the surface is etched in an aqueous solution consisting essentially of sulfuric acid and at least 50 grams per liter of a soluble inorganic sulfate salt.

3,380,866
METHOD OF JOINING POLYESTER RESIN STRUCTURES USING FOAMABLE POLYESTER ADHESIVE

Thomas O. Ginter, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Nov. 4, 1964, Ser. No. 408,755
4 Claims. (Cl. 156—79)

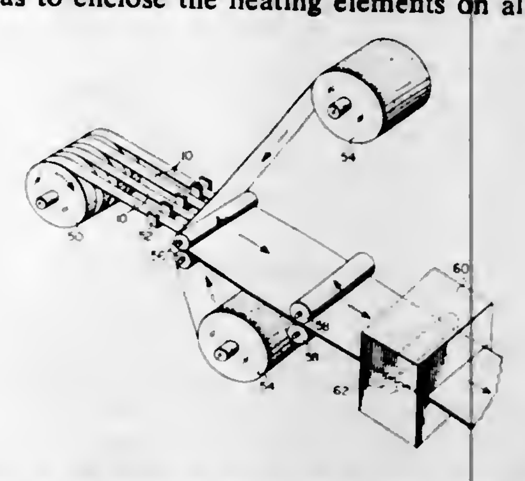
Bond burn in gluing to polyester sheets is eliminated by adding blowing agent to the polyester adhesive.

3,380,867
METHOD OF MAKING ELECTRICAL HEATING TAPE

Glen H. Morey, Terre Haute, Ind., assignor to Templeton Coal Company, Terre Haute, Ind., a corporation of Indiana

Original application Aug. 26, 1963, Ser. No. 304,412, now Patent No. 3,268,846, dated Aug. 23, 1966. Divided and this application May 13, 1965, Ser. No. 455,389
7 Claims. (Cl. 156—179)

Method of making an electrical resistance heating tape in which a plurality of thin, flat, ribbon-like resistance heating elements are arranged in parallel spaced coplanar arrangement and wherein flexible fluid impervious plastic electrical insulating material is applied to both sides of the group of heating elements and pressed thereagainst so as to enclose the heating elements on all sides with the insulating material, thereby to form a thin, flat, flexible and fluid-tight electrical resistance heating tape.



3,380,868
METHOD FOR PRODUCING AND ORIENTING POLYPROPYLENE FILMS

Rabin Moser, Oriskany, N.Y., assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

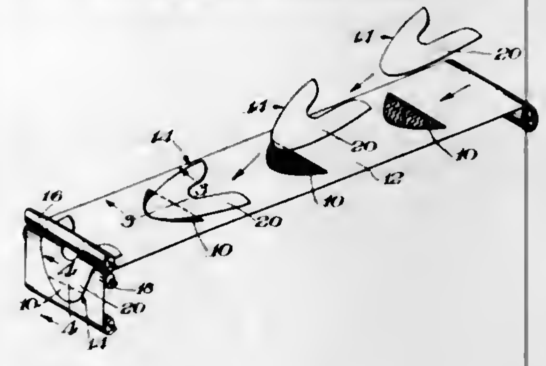
No Drawing. Filed Nov. 19, 1963, Ser. No. 324,868
15 Claims. (Cl. 156—229)

A method for producing a relatively thick and oriented thermoplastic film which comprises contacting at least two thin layers of film which then are stretched at an elevated temperature to provide a substantially homogeneous oriented film having high gloss, low haze, and stable high tensile impact properties.

3,380,869
METHOD OF STIFFENING FABRIC SHOE UPPERS

Walter L. Hochner, Wilmington, Del., assignor to Kaumagraph Company, a corporation of Delaware

Continuation-in-part of application Ser. No. 311,510, Sept. 25, 1963. This application Sept. 21, 1964, Ser. No. 400,622
4 Claims. (Cl. 156—230)



Fabric uppers for shoes are stiffened by applying thermoplastic stiffening substance to the toe portion of each shoe upper and simultaneously applying heat and presure to the toe portion and the thermoplastic stiffening substance to impregnate the thermoplastic stiffening substance into the toe portion.

3,380,870
METHOD OF HEAT SEALING POLYPROPYLENE

Hillard W. Pouncy, Jr., Somerset, N.J., assignor to Union Carbide Corporation, a corporation of New York

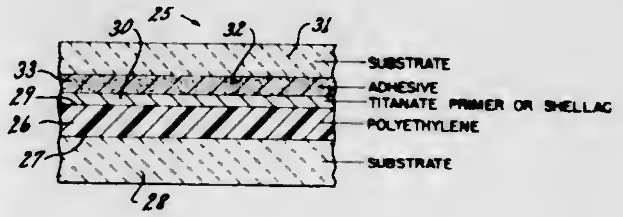
No Drawing. Filed Sept. 4, 1963, Ser. No. 306,603
6 Claims. (Cl. 156—308)

1. The method of heat sealing biaxially oriented polypropylene film the surface of which is wettable by a liquid having a surface tension of from 38 to 56 dynes/cm., which comprises (1) coating at least one surface of said polypropylene film with a solution of a polyvinyl acetal in a solvent for said polyvinyl acetal, wherein said polyvinyl acetal has a softening point of from 49° to 97° C. inclusive and wherein said coating has a dry thickness of from 0.1 to 0.4 mils, (2) drying said coating to remove said solvent and provide a coated surface, (3) contacting said coated surface with said polypropylene film and (4) heating the contacted surfaces to a temperature of from 93 to 129° C.

3,380,871
METHOD FOR MAKING PRINTABLE AND/OR GLUEABLE POLYOLEFINIC MATERIAL

Joseph Y. Thomas, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed Nov. 14, 1963, Ser. No. 323,836
4 Claims. (Cl. 156—308)

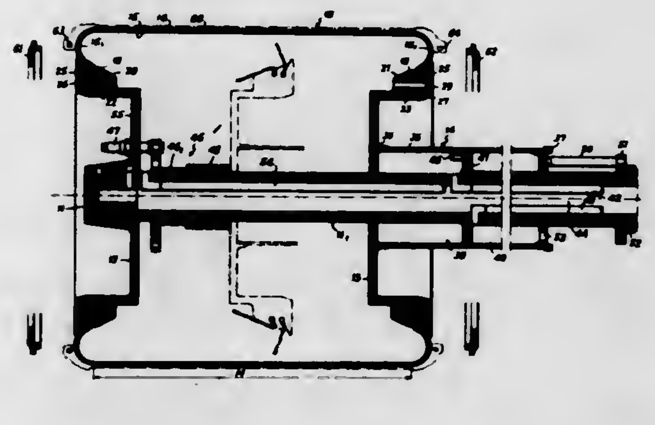


1. A method for making a lamination comprising the steps of providing a sheet of polyethylene having opposed surfaces, disposing a coating of shellac dissolved in an aliphatic alcohol on one of said surfaces, drying said coating to render said coated surfaces receptive to adhesives, applying an adhesive to said dried coating, and securing another sheet of material to said coated surface by said adhesive.

3,380,872
PNEUMATIC-TIRE-BUILDING MACHINES

Jacques Pouilloux, Saint-Gratien, Seine-et-Oise, France, assignor to Pneumatiques, Caoutchouc Manufacture et Plastiques Kleber-Colombes, Colombes, France, a French body corporate

Filed Oct. 28, 1964, Ser. No. 407,036
Claims priority, application France, Oct. 29, 1963, 952,221
30 Claims. (Cl. 156—416)

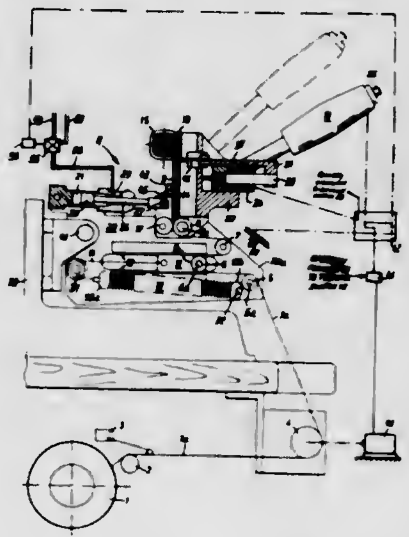


A machine for manufacturing large automotive tires, said machine being of the type comprising a mandrel or drum in which the working surface is formed by a flexible cylindrical bladder fastened to end plates, and characterized by the fact that the bladder is radially expansible and connected to the end plates by means of rounded shoulders.

3,380,873
ADHESIVE TAPE APPLICATOR

Walter Angst, Kloten, Switzerland, assignor to Meteor AG., Glattbrugg, Switzerland

Filed Aug. 9, 1965, Ser. No. 478,136
Claims priority, application Switzerland, Aug. 10, 1964, 10,445/64
18 Claims. (Cl. 156—446)

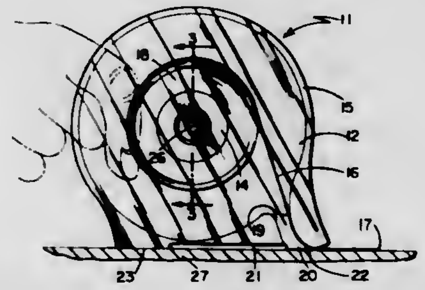


1. Adhesive tape applicator for wrapping tape about a body, particularly coil bodies, comprising a tape supply source, a driven tape withdrawal roller for pulling the tape off said supply source, displaceable means cooperating with said tape withdrawal roller for forming a tape loop between said tape withdrawal roller and the body to be wound with tape, means for loading said displaceable means, a pivotable support including means for pressing the tape against the body to be wound, means for pivoting said support, means for preventing return feed of the tape, and a frame mounted for raising and lowering movements cooperating with said support to enable the tape to be brought into contact with the body to be wound.

3,380,874
TAPE DISPENSER

Harold Berman, 1545 High St., Westwood, Mass. 02090

Continuation-in-part of application Ser. No. 371,568, June 1, 1964. This application Dec. 20, 1965, Ser. No. 522,002
3 Claims. (Cl. 156—577)



The specification discloses a pressure sensitive tape container and dispenser, adapted particularly to dispense narrow widths of tape, for drawing and analogous purposes. The dispenser includes a tape dispensing guide adapted to accurately locate the tape as it is dispensed relative to the side walls of the container, and a tape braking surface adapted to facilitate anchoring the tape relative to the container during use, when desired.

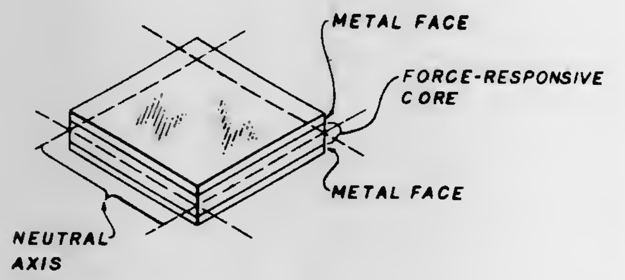
3,380,875

ARTICLE AND METHOD FOR MAKING A BALANCED PANEL FROM AN UNBALANCED WOODY CORE

Herbert H. Borup, Concord, Calif., and Ford E. Smith, Seattle, Wash., assignors to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware

Filed Feb. 6, 1964, Ser. No. 342,921

12 Claims. (Cl. 161—43)



Method of producing a stable and metal-overlay laminated panel and the panel produced thereby wherein a force responsive unbalanced and unstable core has at least one metallic facing adhesively and non-shiftably bonded to the core in such fashion that upon setting of the adhesive bond the unbalanced forces acting in the core will be restrained and controlled by the metallic facing to effect a stabilizing of the article in a predetermined configuration.

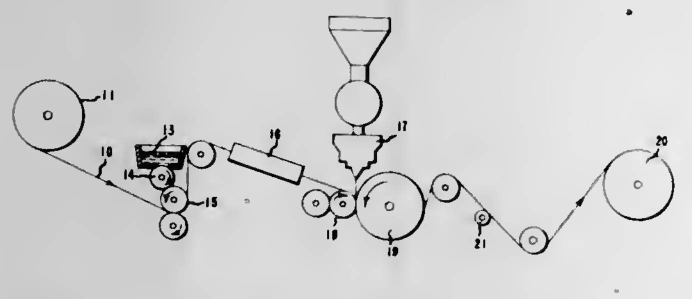
3,380,876

BONDING THERMOPLASTIC MATERIALS TO SUBSTRATES WITH COLLOIDAL SILICA

Robert L. Rusher, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Continuation-in-part of application Ser. No. 248,719, Dec. 31, 1962. This application June 20, 1967, Ser. No. 647,369

5 Claims. (Cl. 161—162)



A film of thermoplastic material is bonded to a substrate by the use of a coating of colloidal silica containing a minor amount of certain organic additives. These additives include polyethylene glycol tert-dodecylthioether, polyoxyethylene sorbitan monolaurate, and water soluble resin of ethylene oxide polymers with molecular weights in the range 100,000 to several million.

3,380,877

BINDER COMPOSITION AND METHOD

Clayton A. Smucker and William H. Rigby, Jr., Newark, and Frank P. McCombs, Granville, Ohio, assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware

No Drawing. Filed Feb. 5, 1965, Ser. No. 430,737

5 Claims. (Cl. 161—170)

A binder composition which contains a phenolic resole, urea, and a silane of a specific kind, or the hydrolysis products thereof. Also disclosed is a method which includes the use of such binder composition in the production of products from glass or other vitreous fibers.

3,380,878

THERMOPLASTIC MATRIX

John B. Wheeler III, Middlesex, N.J., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed May 7, 1964, Ser. No. 365,797

18 Claims. (Cl. 161—184)

A reformable thermoplastic matrix having thermal and dimensional stability and uniform mold shrinkage against which printing plates can be molded, formed from a sheet of thermoplastic polyarylene polyether.

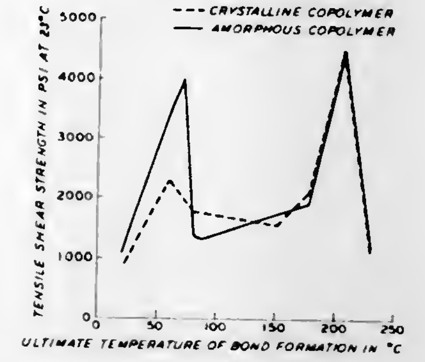
3,380,879

METHOD OF FORMING A SEAL DIRECTLY BETWEEN AN UNMODIFIED FLUOROCARBON POLYMER SURFACE AND AN EPOXY ADHESIVE, AND ARTICLE MADE THEREBY

Harold Schonhorn, New Providence, and Louis H. Sharpe, Morris Township, Morris County, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Mar. 16, 1964, Ser. No. 352,191

13 Claims. (Cl. 161—184)



Fluorocarbon polymers may be bonded with epoxy adhesives in the absence of any preliminary surface treatment of the fluorocarbon by positioning the adhesive thereon and maintaining the assembly at temperatures ranging from 20–200° C.

3,380,880

THERMOPLASTIC MATRIX

John B. Wheeler III, Somerville, N.J., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed July 23, 1965, Ser. No. 474,504

4 Claims. (Cl. 161—184)

A reformable thermoplastic matrix having thermal and dimensional stability and uniform mold shrinkage against which printing plates and the like can be molded, formed from a sheet of thermoplastic polyarylene polyether of the poly-(2-dimethylphenoxy-1,4)ether type.

3,380,881

CURABLE COMPOSITIONS COMPRISING A POLYEPOXIDE AND A GLYCOL POLYAMINE

Frank L. Williamson, South Plainfield, and Richard J. Burns, Somerville, N.J., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 132,577, Aug. 21, 1961. This application Nov. 20, 1963, Ser. No. 325,139

33 Claims. (Cl. 161—185)

This invention relates to a curable composition comprising a polyepoxide having an epoxy equivalency of greater than one and a glycol polyamine of the formula:

$$H_2N(CH_2)_3—O—(C_nH_{2n}O)_x(CH_2)_3NH_2$$

wherein *n* is an integer having a value of 2 to 10 inclusive and *x* is an integer having a value of 12 to 100 inclusive. The compositions of this invention can be used to bond implosion shields to curved surfaces of television picture tubes.

3,380,882

NOVEL RUBBER COATING COMPOSITION

Jackson S. Boyer, Northridge, Del., and Ralph Zaayenga, West Chester, Pa., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Aug. 17, 1964, Ser. No. 390,182

7 Claims. (Cl. 161—234)

1. An article of manufacture comprising a vulcanized rubber article excluding neoprene having fused thereto a thin surface coating consisting essentially of 5 to 70 parts of hydrocarbon wax melting in the range of 100 to 165° F. and 30 to 95 parts of crystalline polypropylene melting in the range of 300 to 340° F. and having a density in the range of 0.86 to 0.91 gram per cubic centimeter.

3,380,883

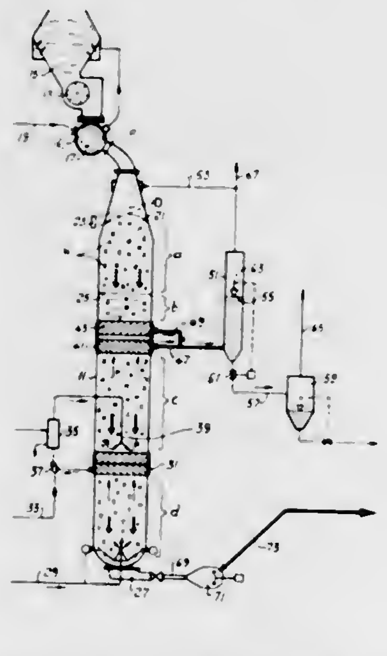
METHOD AND APPARATUS FOR PERFORMING PREHYDROLYSIS IN A CONTINUOUS COUNTERFLOW DIGESTER

Johan C. F. C. Richter, St. Jean Cap Ferrat, Alpes-Maritimes, France, and Ole J. Richter, Karlstad, Sweden, assignors to Aktiebolaget Kamyr, Karlstad, Sweden, a company of Sweden

Filed June 5, 1964, Ser. No. 372,826

Claims priority, application Sweden, Nov. 27, 1963, 13,093/63

3 Claims. (Cl. 162—19)



A digester arranged for downwardly directed feed of the treated cellulosic material is provided wherein it is effectively possible to avoid the reaction interaction difficulty when the digestion therein is performed with the digesting liquor driven in counterflow to the flow of cellulosic material, i.e. upwardly in the digester. An essential characterizing feature of the invention resides in the maintaining of a free liquid level somewhat above the point where the digesting liquor used for the digestion is screened off the digester and additionally in that the prehydrolysis is performed in steam phase above said free level. Due to the existence of said free liquid level it is much easier to keep the prehydrolysis and the digestion apart than if e.g. the prehydrolysis would take place in liquid phase, in which case the liquids could mix and a definite border layer hardly could be maintained. When according to one form of the invention the prehydrolysis in steam phase is followed by a continued prehydrolysis in liquid phase, i.e. below said tree liquid level, at least the first step of the prehydrolysis will be efficiently separated from the digesting liquors.

3,380,884

1,2-EPOXYALKANE VOLATILE RESIDUAL SPACE FUNGICIDES ADSORBED IN PELLETED MOLECULAR SIEVES

Francis J. Dougherty, Churchville, and Sidney H. Ross, Philadelphia, Pa., assignors to the United States of America as represented by the Secretary of the Army

Continuation-in-part of application Ser. No. 370,743, May 27, 1964. This application Oct. 31, 1966, Ser. No. 600,316

4 Claims. (Cl. 167—39)

1. A volatile residual space fungicide for effectively destroying micro-organisms over an extended period and comprising

a pelleted molecular sieve having 1,2-epoxybutane completely adsorbed therewithin in an amount of about 16 to 18% by weight of said pelleted molecular sieve.

3,380,885

TREATING CHRONIC RESPIRATORY DISEASE WITH ANTIBIOTIC BOTTROMYCIN

Brinton M. Miller, Middletown, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Aug. 17, 1965, Ser. No. 480,501

12 Claims. (Cl. 167—53.1)

1. A method of treating poultry infected with pleuropneumonia-like organisms comprising administering to said infected poultry effective doses of an antibiotic selected from the group consisting of bottromycin and its salts.

3,380,886

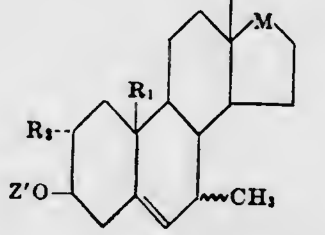
7α-METHYL-3β-HYDROXY-5-ANDROSTENES

J. Allan Campbell and John C. Babcock, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

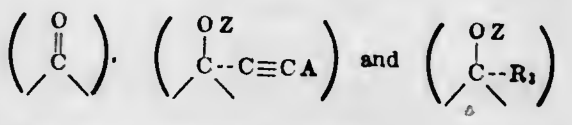
No Drawing. Filed Apr. 7, 1965, Ser. No. 446,396

25 Claims. (Cl. 167—65)

This invention relates to novel steroids, more particularly 7(α and β)-methyl-3β-hydroxy-5-androstenes, 2α, 7(α and β)-dimethyl-3β-hydroxy-5-androstenes and their 19-nor counterparts of the formula



wherein ∫ is a generic expression denoting α- and β-bonds and mixtures thereof; R_1 and R_2 are selected from the group consisting of hydrogen and methyl; Z' is selected from the group consisting of hydrogen and the lower acyl radical of a hydrocarbon carboxylic acid containing from one to twelve carbon atoms, inclusive, and tetrahydropyranyl; M is selected from the group consisting of



$$\left(\begin{array}{c}O\\ \|\\ C\\ \diagup\ \ \diagdown\end{array}\right),\quad \left(\begin{array}{c}OZ\\ |\\ C\text{--}C\equiv CA\\ \diagup\ \ \diagdown\end{array}\right)\ \text{and}\ \left(\begin{array}{c}OZ\\ |\\ C\text{--}R_3\\ \diagup\ \ \diagdown\end{array}\right)$$

wherein A is selected from the group consisting of hydrogen, lower-alkyl of from one to twelve carbon atoms, inclusive, chlorine, bromine and trifluoromethyl, R_3 is selected from the group consisting of hydrogen, lower alkyl of from one to twelve carbon atoms, inclusive, and Z has the same meaning as Z'.

3,380,887

USE OF BUTYROLACTAM FOR TREATING MOTION SICKNESS

Corneliu Giurgea, Brussels, Belgium, assignor to UCB (Union Chimique-Chemische Bedrijven), S.A., Brussels, Belgium

No Drawing. Filed Aug. 3, 1965, Ser. No. 477,014

Claims priority, application Great Britain, Aug. 6, 1964, 32,038/64

5 Claims. (Cl. 167—65)

Gamma-butyrolactam is particularly useful in relieving motion sickness in one suffering from such sickness.

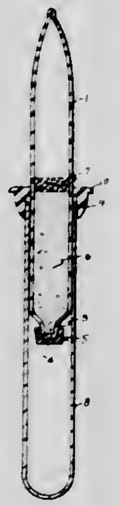
3,380,888

TEST UNITS

Paul Numerof, Highland Park, N.J., and Elliott R. Morgan, Ballston Lake, N.Y., assignors, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

Original application Mar. 31, 1961, Ser. No. 102,347. Divided and this application Nov. 18, 1963, Ser. No. 330,218

8 Claims. (Cl. 167—84.5)



1. A method of testing thyroid function which comprises administering an inorganic radioactive iodide to a patient, sampling the blood of said patient, measuring the total radioactivity of said sample, passing the sample through an open end of a thin resilient-walled integral tube having its other end apertured to provide a restricted opening and containing a column of particulate anion exchanger, capable of selectively adsorbing inorganic iodide from a mixture thereof with organically bound iodine, positioned in said tube and extending from said apertured end part way towards the open end, whereby the inorganic iodide in said sample is adsorbed on the exchanger, folding the portion of the tube between the column and the open end of the tube to force substantially the entire sample through the tube, unfolding said portion, passing a washing liquid through the tube, refolding said portion of the tube to force substantially the entire washing liquid through said tube, collecting all substances which pass through the tube, and measuring the total radioactivity of said substances.

3,380,889

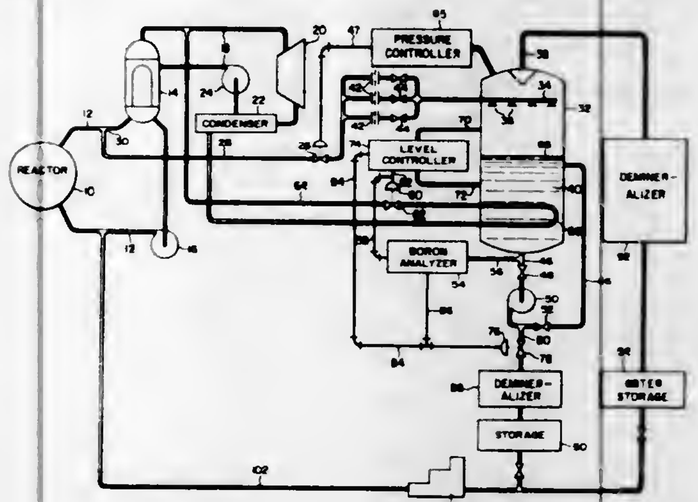
BORIC ACID REMOVAL PROCESS AND APPARATUS

Robert A. Loose, Murrysville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 30, 1966, Ser. No. 538,828

12 Claims. (Cl. 176—22)

An apparatus and method for controlling the output of a nuclear power reactor in response to the reactor load requirements by varying the boric acid concentration in the reactor coolant system.



3,380,890

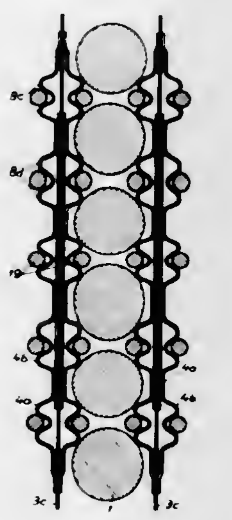
SPACER FOR FUEL ASSEMBLIES

Constan Glandin and Erik Olov Jansson, Vasteras, Sweden, assignors to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden

Filed May 17, 1965, Ser. No. 456,234

Claims priority, application Sweden, Dec. 31, 1964, 15,923/64

7 Claims. (Cl. 176—78)



2. In a fuel assembly for nuclear reactors comprising a plurality of parallel fuel rods and spacers fixing the distance between the fuel rods, said spacers each comprising a rigid spacer body of grid-like configuration enclosing said fuel rods and spacer springs of resilient material different from the material of the spacer body attached to said spacer body and bearing against said fuel rods, said spacer springs being permanently fastened to said spacer body, said spacer springs having parts which engage said fuel rods mounted for pressing together with a pinching tool to make it possible to freely displace a fuel rod of the assembly in axial direction, said spacer body comprising an outer frame having a plurality of intermediate walls crossing each other connected thereto, said intermediate walls forming spaces enclosing at least two fuel rods.

3,380,891

PROCESS OF PURIFYING GLUCOAMYLASE

Julian Corman, Muscatine, Iowa, assignor to Grain Processing Corporation, Muscatine, Iowa, a corporation of Iowa

No Drawing. Filed July 31, 1964, Ser. No. 386,757

18 Claims. (Cl. 195—31)

1. A process of purifying a transglucosidase and glucoamylase-containing fungal enzyme preparation which comprises treating said preparation in aqueous medium at a pH of from about 1.5 to 4.0 with a treating agent selected from the group consisting of magnesium lauryl sulfate, dioctyl sodium sulfosuccinate, sodium oleyl methyltauride, sodium lauryl isethionate, and the free acids thereof for a time sufficient to substantially inactivate the transglucosidase enzyme.

3,380,892

PROCESS OF PURIFYING GLUCOAMYLASE

John T. Garbutt, Muscatine, Iowa, assignor to Grain Processing Corporation, Muscatine, Iowa, a corporation of Iowa

No Drawing. Filed Sept. 10, 1964, Ser. No. 395,599

15 Claims. (Cl. 195—31)

1. A process of purifying a transglucosidase- and glucoamylase-containing fungal enzyme preparation which comprises treating said preparation in aqueous medium at a pH within the range from about 1.5 to 3 with a metal salt having a cation which forms an insoluble salt with oxalic acid, the metal salt being employed in an amount of at least 0.1% by weight and for a time sufficient to substantially inactivate the transglucosidase enzyme and then separating solids from the glucoamylase preparation.

3,380,893

METHOD OF INTRODUCING A COLORED GROUP SENSITIVE TO pH CHANGES INTO ENZYMES BY REACTING WITH 2-METHOXY-5-NITRO-BENZYL BROMIDE

Daniel E. Koshland, Jr., Bellport, and Harry George Latham, East Patchogue, N.Y., and Horace Robert Horton, Raleigh, N.C., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Aug. 23, 1965, Ser. No. 481,991

1 Claim. (Cl. 195—68)

A method of introducing a color sensitive group into enzymes for enzymatic studies comprising reacting an enzyme having at least one methionyl, sulfhydryl and tryptophanyl group with 2-methoxy-5-nitrobenzyl-bromide to introduce the sensitive group into the enzyme.

3,380,894

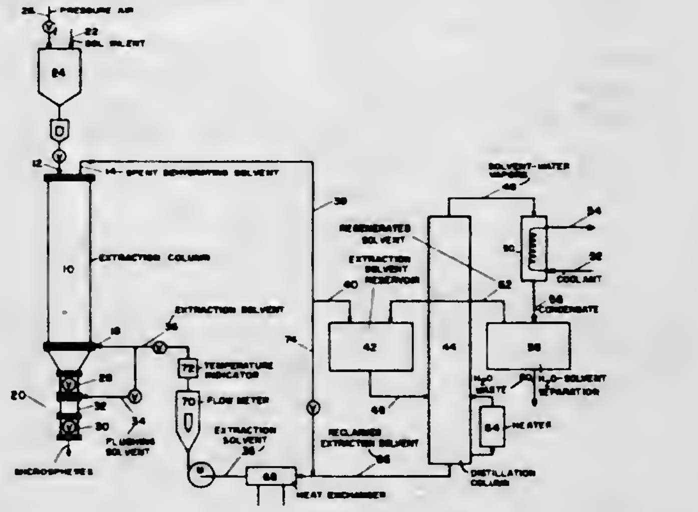
APPARATUS FOR CONVERTING HYDROSOLS INTO SOLID MICROSPHERES

Herbert P. Flack, Ellicott City, and Jean Gillen Smith and Frederick T. Fitch, Baltimore, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

Filed May 5, 1964, Ser. No. 364,930

3 Claims. (Cl. 202—169)

1. An apparatus for making hydrosols into spherical solids comprising in combination,
- (a) a vertical extraction column having a tapered bottom,
- (b) an hydrosol introduction means communicating with the top of the column for introducing an hydrosol in the form of droplets into the top of the column, and
- (c) solvent recovery means connected to the top and bottom of the column for removing dehydrating solvent from the top thereof, for removing sufficient water from the solvent to render it suitable for reuse, and for returning the reclaimed dehydrating solvent to the bottom of the column, the solvent recovery means comprising
  - (1) a first conduit means connected to the top of the extraction column for removing solvent therefrom,
  - (2) a distillation means communicating with said first conduit means for removing from the solvent at least a portion of the water dissolved therein,
  - (3) a second conduit means connected to the bottom of the extraction column above the tapered bottom and to the distillation means for returning reclaimed dehydrating solvent to the column,
  - (4) a bypass conduit connecting said first and second conduits for introducing solvent removed from the extraction column and having a high water content into the reclaimed dehydrating solvent whereby the water content of the reclaimed dehydrating solvent is regulated, and
- (d) a spherical particle outlet means at the tapered bottom of the column.



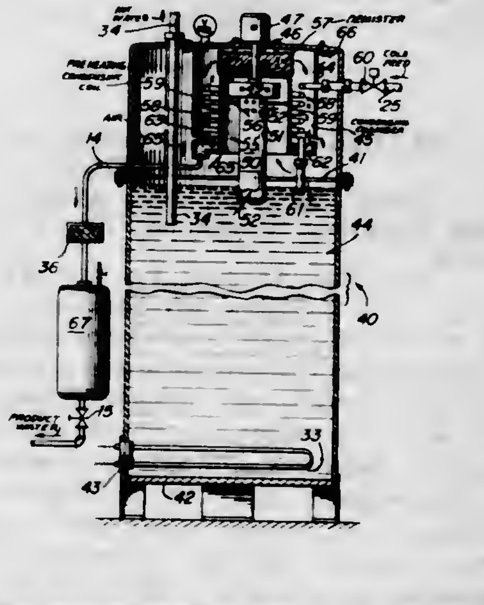
3,380,895

WATER SUPPLY SYSTEM

Frederick A. Loebel, Milwaukee, Wis., assignor to Aqua-Chem, Inc., a corporation of Wisconsin

Filed Aug. 18, 1964, Ser. No. 390,356

5 Claims. (Cl. 202—176)



Apparatus for producing hot water and distilled water including a hot water tank with a condensing coil and collection trough in the vapor space, a top outlet for delivering hot water for domestic use, and a distillate outlet from the trough. The coil and trough can be contained in a separate tank or can be supported by a plug closing a port in the tank wall through which the coil and trough extend. A pump can pump hot water upward into the vapor space and an impeller can circulate air from the vapor space to the coil and return.

3,380,896

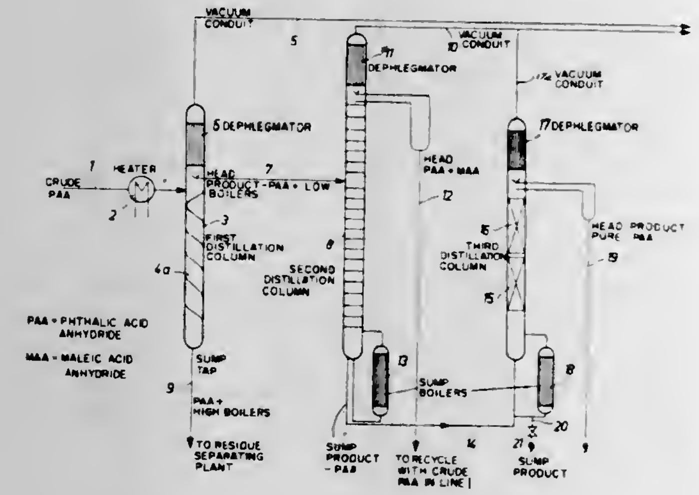
HIGH PURIFICATION OF PHTHALIC ANHYDRIDE BY MULTI-STAGE REDUCED PRESSURE DISTILLATION

Werner Scheiber and Otto L. Garkisch, Frankfurt am Main, Germany, assignors to Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, Germany

Filed May 2, 1966, Ser. No. 546.807

Claims priority, application Germany, May 4, 1965, M 65,101

8 Claims. (Cl. 203—77)



A process which can be run continuously for the recovery of highly purified phthalic anhydride from an aged oxidation product of naphthalene or o-xylene in which the resulting crude phthalic anhydride is first heated under pressure to avoid evaporation of any of the phthalic anhydride, then subjected to an equilibrium evaporation distillation by a relief of pressure under super atmospheric pressure during which crude phthalic anhydride is distilled off and high boiling non-volatile impurities are continuously removed as a sump product, and then the distilled phthalic anhydride is treated in a multistage rectifier to remove volatile impurities and the phthalic anhydride is finally distilled under vacuum to remove high boilers formed in the rectifier.

3,380,897

METHOD OF DETERMINING ORE CONCENTRATION

John L. Dewey, Florence, Ala., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed Nov. 16, 1964, Ser. No. 411,463

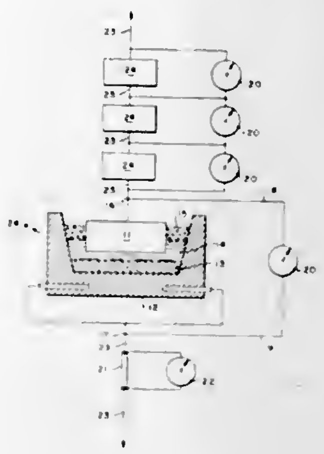
5 Claims. (Cl. 204—1)

1. A method of determining an unknown concentration of an electrochemically-active material in the bath of an electrolytic reduction cell comprising the steps of:

ascertaining the values of a plurality of projected zero-current intercepts for a corresponding number of voltage-current curves for operation of the cell at different bath concentrations, and recording the various projected zero-current intercept values corresponding to each of the different bath concentrations;

ascertaining the projected zero-current intercept value corresponding to the unknown bath concentration that is to be determined;

comparing the projected zero-current intercept value corresponding to said unknown bath concentration with a function of said recorded zero-current intercept values; and



determining the unknown bath concentration as being substantially the same as that bath concentration associated with said function at the intercept value corresponding to the unknown bath concentration, whereby the unknown bath concentration is determined without performing a separate chemical analysis therefor.

3,380.898

ELECTROLYTE AND METHOD FOR ELECTRODEPOSITING A PINK GOLD ALLOY

Marius Danemark and René Cathrein, Geneva, Switzerland, and Atkin Y. Simonian, Fort Lee, N.J., assignors to Sel-Rex Corporation, Nutley, N.J., a corporation of New Jersey

No Drawing. Filed June 18, 1965, Ser. No. 465,201

4 Claims. (Cl. 204—44)

1. Process for electrodepositing bright, hard gold-copper alloys having a pink coloration which comprises electrolyzing an aqueous solution comprising the following ingredients:

Gold (added as alkali metal gold cyanide)	g./l.	1–8
Copper (added as a copper complex)	g./l.	2–10
Antimony (added as a salt)	g./l.	0.5–10
Chelating agent (in addition to that complexed with the copper)	g./l.	5–60
Weak acid and salt thereof, and in proportion to provide a pH of		4.5–6
Lead (added as soluble salt)	g./l.	15–200

maintaining said bath at a temperature of 40 to 60° C. and regulating the current density to a value of 0.5 to 2.0 amp./dm.^{2}.

3,380,899

ELECTROLYTIC PREPARATION AND RECOVERY OF TETRAALKYL LEAD COMPOUNDS

David G. Braithwaite, Chicago, and Lawrence L. Bott, Oak Park, Ill., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

Filed Oct. 16, 1964, Ser. No. 404,321

15 Claims. (Cl. 204—59)

1. In a process for preparing a water insoluble tetraalkyl lead compound by electrolyzing an anhydrous solution of a Grignard reagent in an organic solvent, using a sacrificial lead anode, the improvement which comprises using as at least one of the solvents for said Grignard reagent a water immiscible diether of a glycol which is liquid under the conditions employed in the process and contains an aryl hydrocarbon group in at least one of the ether groups of said diether, mixing the resultant electrolyte, after electrolysis, with water to form an aqueous phase and an organic phase, extracting said organic phase with a water miscible extraction solvent of a type capable of extracting aromatic hydrocarbons from aliphatic hydrocarbons, and recovering said tetraalkyl compound from the raffinate.

3,380,900

ELECTROLYTIC PREPARATION OF ORGANIC LEAD COMPOUNDS AND ELECTROLYTE THEREFOR

David G. Braithwaite, Chicago, Lawrence L. Bott, Oak Park, and Kenneth G. Phillips, Lombard, Ill., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

Filed Nov. 5, 1964, Ser. No. 409,090

18 Claims. (Cl. 204—59)

Water insoluble organic lead compounds are prepared by an electrolytic process herein a Grignard reagent is electrolyzed, using a lead anode, and a water miscible organic ether solvent having a boiling point higher than the boiling point of water. The electrolyte is treated with water in at least two stages and a water insoluble organic lead compound is recovered without distillation. The process is especially useful in making tetraethyl lead and tetramethyl lead.

3,380,901

PROCESS FOR PREPARING D-RIBOSE

Shoji Matsumoto, Tokyo, and Michihiko Miyazaki, Yokohama, Japan, assignors to Tanabe Seiyaku Co., Ltd., Osaka, Japan

No Drawing. Filed July 24, 1964, Ser. No. 385,034

Claims priority, application Japan, Aug. 7, 1963, 38/42,122

1 Claim. (Cl. 204—73)

1. The process for preparing D-ribose, which essentially comprises charging an electrolytic cell, having anodic and cathodic compartments separated by a semipermeable diaphragm, with a non-alkaline, aqueous solution in which D-ribonolactone and a salt of an amine selected from the group consisting of mineral acid-salts of monoalkylamine, dialkylamine, trialkylamine, ω-hydroxymonoalkylamine, cycloalkylamine and lower phenylalkylamines are dissolved as the catholyte, and as the anolyte an aqueous solution of a strong inorganic acid, said acid being substantially non-reactive with the anode material, and said cathode being mercury or amalgamated metal with mercury on its surface, passing an electric current between the anode and the cathode in the respective compartments while adding acid to the catholyte until D-ribonolactone is substantially converted into D-ribose, the electrolysis being effected below such a temperature that D-ribonolactone decomposes in the catholyte, and recovering D-ribose from the catholyte.

3,380,902

METHOD OF VARYING THE CONCENTRATION OF IMPURITIES IN A SEMICONDUCTOR BODY

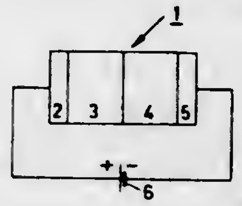
Kurt Walter Weiss, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed July 31, 1964, Ser. No. 386,692

Claims priority, application Netherlands, Aug. 27, 1963, 297,199

6 Claims. (Cl. 204—140)

A method for introducing or withdrawing impurities from a semiconductor body by including it in a solid electrochemical circuit in which the body is contacted on one side by an inert electrode, and on the other side by the combination of a metal compound ionic conductor and a metal electrode of the same metal constituting the metal component of the ionic conductor. When the electrical circuit is complete, with or without an electric voltage present, impurities in the semiconductor can be caused to diffuse into the ionic conductor or vice-versa.



3,380,903

PHOTOSENSITIZATION METHOD OF CYCLIZATION OF MYRCENE

Robert S. H. Liu, Wilmington, Del., and George S. Hammond, Pasadena, Calif., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed May 4, 1965, Ser. No. 453,213

12 Claims. (Cl. 204—162)

1. The method of producing 5,5-dimethyl-1-vinylbicyclo (2.1.1) hexane which comprises exposing myrcene to radiation having wavelengths longer than the wavelengths strongly absorbed by myrcene in the presence of an effective amount of a sensitizer compound which strongly absorbs said wavelengths and has a triplet excitation energy higher than myrcene.

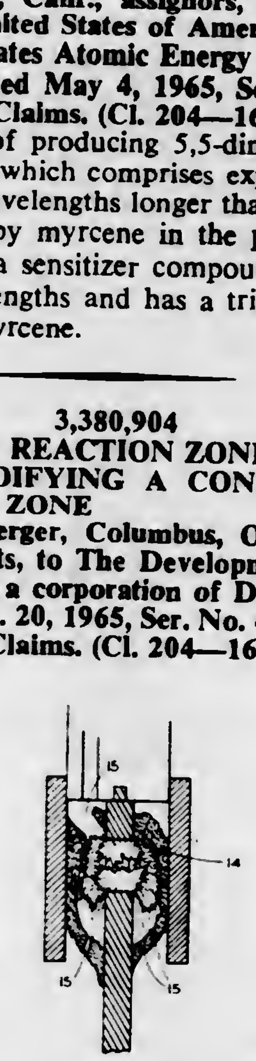
3,380,904

CONFINING THE REACTION ZONE IN A PLASMA ARC BY SOLIDIFYING A CONFINING SHELL AROUND THE ZONE

William M. Goldberger, Columbus, Ohio, assignor, by mesne assignments, to The Development Corporation, Columbus, Ohio, a corporation of Delaware

Filed Apr. 20, 1965, Ser. No. 449,468

15 Claims. (Cl. 204—164)



1. The method of bringing particulate material into intimate contact with the reaction zone of a plasma arc, comprising:

(a) surrounding said zone with spaced supporting structures;

(b) maintaining said supporting structures at a lower temperature than said reaction zone;

(c) introducing particles into said zone, said particles being disposed to melt at the temperature of said reaction zone and solidify at the temperature of said spaced supporting structures so that at least a portion of said particles will deposit on said supporting structures in the molten state and solidify on said structures to build a reaction zone confining shell on said supporting structures having a molten inner surface; and

(d) passing particulate materials through said spaced supporting structures and shell so that at least a portion of said particulate materials become entrapped in said molten surface and the remainder are conducted through the higher temperatures of said high-temperature zone.

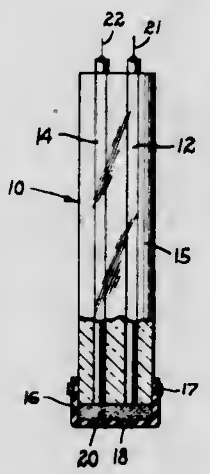
11. Apparatus for bringing materials into intimate contact with the reaction zone of a plasma arc comprising:

(a) substantially vertically positioned electrodes having a gap therebetween and disposed to form a vertical arc in said gap;

(b) means for effecting an electric potential to said electrodes to create said arc; and

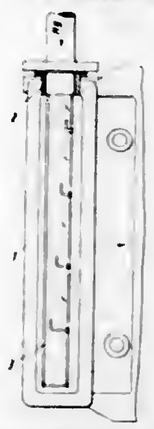
(c) a housing positioned around the gap of said electrodes; said housing being formed with at least one entry port above said gap and at least one exit opening below said gap so that refractory particles may be supplied to the reaction zone of said arc by means of a carrier gas introduced into said housing through said at least one entry port to melt and solidify on said inner walls and form a reaction zone restricting shell from said refractory particles.

3,380,905
ELECTROLYTIC SENSOR WITH ANODIC DEPOLARIZATION
Leland C. Clark, Jr., 1312 Willoughby Road, Birmingham, Ala. 35216
Filed Oct. 11, 1963, Ser. No. 315,461
15 Claims. (Cl. 204—195)



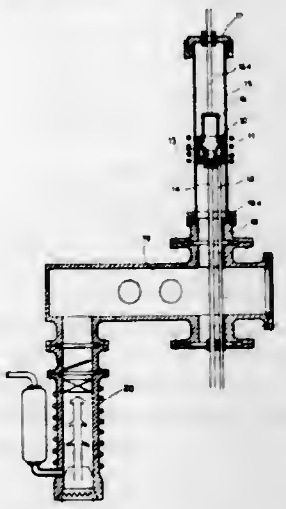
1. A cell for use in polarographic analysis comprising the combination of:
an anode and a cathode electrode,
means for maintaining said electrodes in spaced relationship,
membrane means selectively permeable to the constituent to be measured,
means mounting said membrane in spaced relationship to said electrodes to define a space between said electrodes and said membrane,
each of said electrodes including an active surface positioned on the same side of said membrane and exposed to the constituent to be measured as the latter passes through said membrane,
said anode being of a material which is polarizable in the presence of an electrolyte,
an electrolyte in at least a portion of said space contacting each electrode for forming an electrical path therebetween, said electrolyte including a material which is ineffective to depolarize said cathode electrode and capable of depolarizing said anode electrode at a relatively low voltage, and said cathode electrode being depolarized by said constituent being measured.

3,380,906
MERCURY DISTRIBUTING STRUCTURE FOR ELECTROLYSIS CELLS AND THE LIKE
Günter Barthel, Berlin-Grunewald, Günther Scholz, Berlin-Charlottenburg, and Axel Hahndorff, Berlin-Siemensstadt, Germany, assignors to Pintsch Bamag AG., Berlin, Germany
Filed Dec. 9, 1963, Ser. No. 329,164
Claims priority, application Germany, Dec. 13, 1962, P 30,773
6 Claims. (Cl. 204—220)



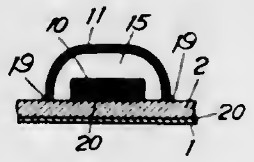
In an apparatus for distributing mercury which forms a horizontally moving mercury cathode in an alkali chloride electrolysis cell, in combination, a container for receiving recirculated mercury, an elongated distributing member carried by the container in the interior thereof and having at one end an inlet opening through which mercury flows into the distributing member, the distributing member having a closed end distant from the inlet opening thereof, and the distributing member having a lower horizontal wall portion and at least front and rear elongated wall portions extending upwardly from the lower wall portion to define therewith a channel for receiving the mercury, and means located within the channel at the front wall portion of the distributing member and in the path of mercury flowing in the channel, the means being operative for effecting discharging of the mercury from the distributing member past the front wall portion thereof into the container in a uniform, wave-free manner.

3,380,907
APPARATUS FOR THE ELECTROLYTIC REFINING OF NUCLEAR METALS
Joseph Gerard Wurm, Varese, Italy, assignor to European Atomic Energy Community—Euratom, Brussels, Belgium
Filed Sept. 13, 1963, Ser. No. 308,778
Claims priority, application Germany, Sept. 13, 1962, E 23,520
6 Claims. (Cl. 204—247)



The apparatus comprises an electrolysis vessel made of electrically conductive metal, such as copper, and formed as a double-walled internally cooled field concentrator intended to concentrate the energy from a high frequency induction coil, surrounding the apparatus, on the cathode metal. The said metal is placed in a crucible located at the bottom of the vessel and made of refractory material. The said cathode metal and the electrolyte above it are kept in a molten state by this energy. The copper vessel is concentrically mounted in a reaction chamber containing an inert atmosphere. The anode is dipped in the molten salt bath above the crucible. Operating with a salt charge of NaCl, KCl and UCl_3, a skull of solid salt mixture is formed on the inner wall of the cooled copper vessel whereby to avoid corrosion of the vessel.

3,380,908
EXPLOSION BONDED ELECTRODE FOR ELECTROLYSIS
Kensuke Ono and Shoji Tojima, Nobeoka-shi, and Minoru Ikeda, Oita-shi, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan
Filed Mar. 16, 1965, Ser. No. 440,140
Claims priority, application Japan, Mar. 23, 1964, 39/15,680; Nov. 10, 1964, 39/63,159; Dec. 16, 1964, 39/70,457
10 Claims. (Cl. 204—290)



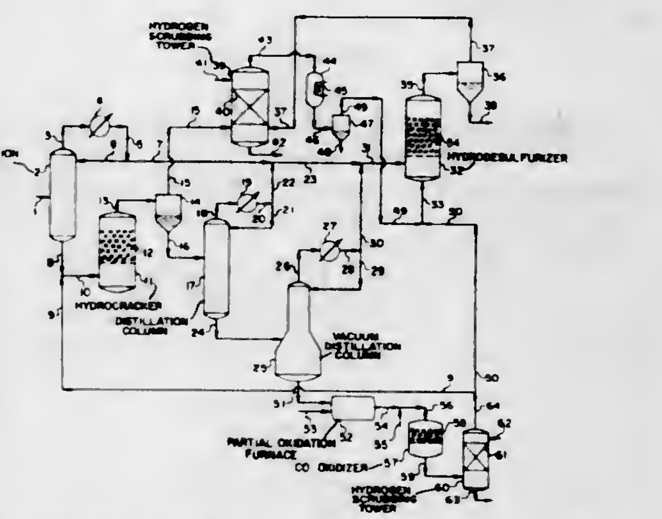
An electrode for electrolysis comprises a base of corrosion resistant metal having a thin layer of a platinum group metal explosion bonded on one face. A current carrying distributor of conductive metal such as copper is explosion bonded to the opposite face of the base and is enclosed with a protective covering of corrosion resistant metal welded to the base. The protective covering is spaced from the copper conductor and the space may be filled with a low melting point alloy. The electrode may have the form of a plurality of transverse bars connected by at least one longitudinal connecting member.

3,380,909
ANTI-FOULANT FOR HYDROCARBON FEED STREAMS
Richard J. Lee, Park Forest, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed Apr. 19, 1966, Ser. No. 543,510
10 Claims. (Cl. 208—48)

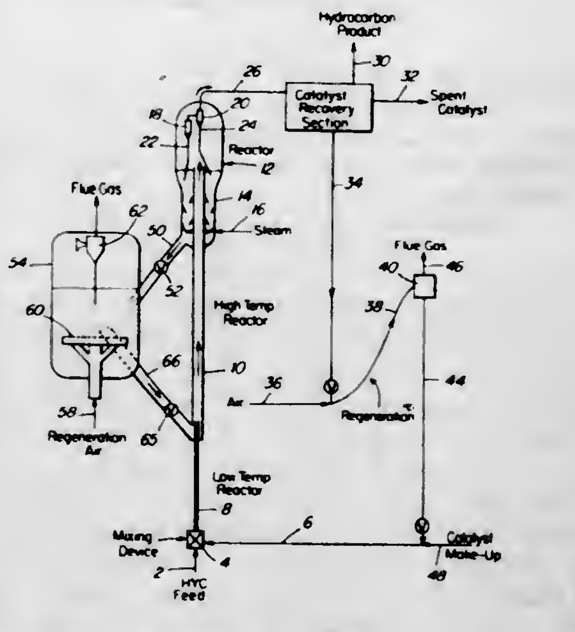
A method for inhibiting the deposition of fouling materials on equipment surfaces caused by liquid hydrocarbons passing through the equipment at elevated temperatures, which method includes incorporating into the liquid hydrocarbons a small amount of an alkenylsuccinimide derivative of polyamino urea. An anti-foulant material of this invention is conveniently formed by first reacting a polyalkylene amine (polyamine) with urea to form polyamino urea and then reacting the resulting polyamino urea with a mono-alkenyl substituted succinic anhydride.

3,380,910
PRODUCTION OF SYNTHETIC CRUDE OIL
Graham N. Griffiths, Old Greenwich, Conn., assignor to Chemical Construction Corporation, New York, N.Y.
Filed May 17, 1966, Ser. No. 550,760
9 Claims. (Cl. 208—58)

A sulfur-containing heavy crude oil is converted into light synthetic crude oil which is free of sulfur and heavy residuals, and which is therefore of greater economic value. The heavy crude oil is initially distilled, to produce a low-boiling overhead fraction and heavy residual bottoms. The residual bottoms are hydrocracked, and a hydrogen purge stream containing hydrogen sulfide is produced, together with a liquid oil phase containing short-chain molecules, which is distilled to yield a low boiling overhead phase and a final residual liquid phase. The overhead phase is combined with the initial low-boiling overhead fraction, and the combined low boiling overhead stream is subjected to hydrodesulfurization, with the resultant removal of sulfur and the production of a second hydrogen purge stream containing hydrogen sulfide. The final liquid product from hydrodesulfurization is a light synthetic crude oil of high API gravity and is of high economic value, since it is substantially free of residuals and sulfur. The hydrogen purge streams are scrubbed with a suitable liquid absorbent for the removal of hydrogen sulfide, and the purified hydrogen is recycled. In most instances, the purified recycle hydrogen will be concentrated by cryogenic or other procedures for removal of inerts such as gaseous light hydrocarbons, prior to recycle to the hydrocracking or hydrodesulfurization procedures. The final heavy residual liquid phase produced after distillation of the hydrocracking effluent stream is passed to a partial oxidation procedure, for the production of make-up hydrogen.



3,380,911
METHOD FOR CONVERTING HYDROCARBONS IN TWO STAGES
Hartley Owen, Hillsborough, N.J., assignor to Mobil Oil Corporation, a corporation of New York
Filed Feb. 15, 1966, Ser. No. 527,546
7 Claims. (Cl. 208—74)

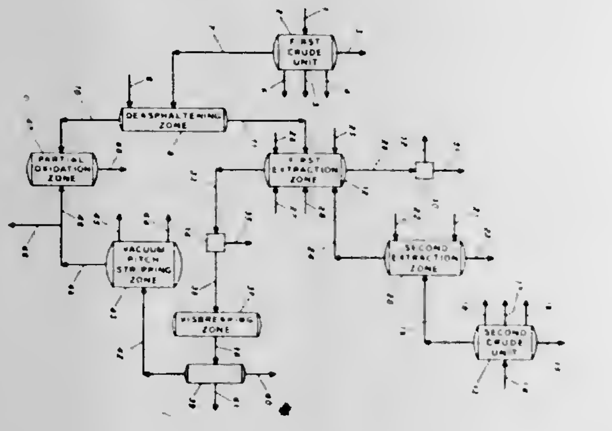


The catalytic cracking of a hydrocarbon feed with a crystalline aluminosilicate containing catalyst is accomplished by combining the hydrocarbon feed in a partially vaporized condition with a small amount of high activity crystalline aluminosilicate containing catalyst to form a mixture under conditions of limited conversion and the mixture thus formed is then combined with less active catalytic material at a desired elevated temperature and in amounts sufficient to raise the temperature of the initially formed mixture to catalytic cracking temperatures in the range of 800° F. to about 1100° F. for passage thereafter through a limited confined catalytic cracking zone. The catalyst particles are thereafter separated from the hyrocarbon conversion products. The separated catalyst is regenerated and returned for reuse as above defined.

3,380,912
COMBINATION EXTRACTION-DEMETALATION PROCESS FOR HEAVY OILS

Norman J. Paterson, San Rafael, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

Filed Mar. 1, 1967, Ser. No. 619,772
4 Claims. (Cl. 208—86)



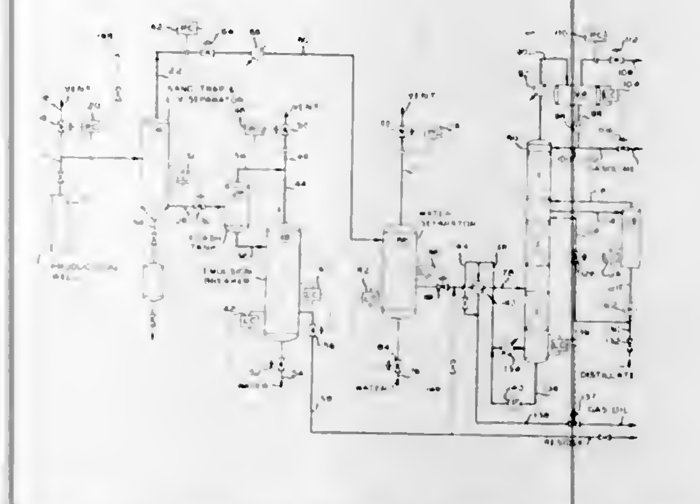
A process for the production of a low metal content, relatively paraffinic cracking stock and a relatively aromatic stock from which pitch binder oil and carbon black oil may be produced. Asphalt, naphthenic and aromatic oils and solvents from a lubricating oil extraction process are contacted with a deasphaltened metal-containing oil to form a more paraffinic oil and a more aromatic fraction. The latter fraction is visbroken and vacuum pitch stripped. Asphaltenes and pitch stripper bottoms are converted to hydrogen by partial oxidation.

3,380,913
REFINING OF EFFLUENT FROM IN SITU COMBUSTION OPERATION

Miles L. Henderson, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Dec. 28, 1964, Ser. No. 421,189
2 Claims. (Cl. 208—187)

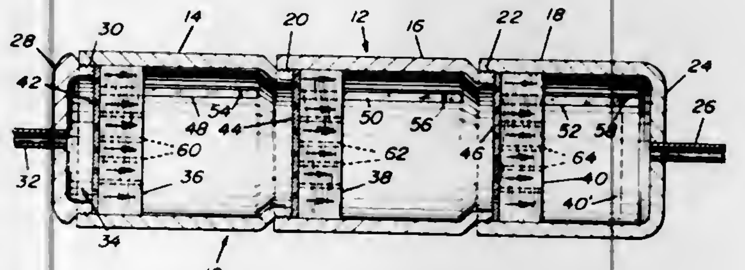
A hot, high pressure vapor-liquid mixture from an in situ combustion operation is charged to a sand trap and vapor-liquid separator to remove sand and recover a vapor stream of N_2, H_2O, and hydrocarbons boiling in the gas oil range and lower at relatively high pressure and temperature and a liquid stream of water and higher boiling hydrocarbons. The latter stream is flashed to separate an overhead vapor stream and a bottoms liquid stream of high boiling hydrocarbons and water in the form of an emulsion. This emulsion is broken into an overhead vapor stream, a bottoms stream of water, and a side stream of hydrocarbons boiling above the gas oil range. The overhead vapor stream from the sand trap and liquid-vapor separator is reduced substantially in pressure and cooled and thereafter passed to a low temperature and low pressure zone to recover an overhead vapor stream of H_2O, N_2, CO, and CO_2, a bottoms water stream, and a side stream of hydrocarbons ranging from gas oil to normally gaseous hydrocarbons. The liquid side stream is fractionated to recover a normally gaseous hydrocarbon stream, a gasoline stream, a distillate stream, and a gas oil bottoms stream. Apparatus for effecting the process is provided.



3,380,914
SELECTIVE ABSORPTION SYSTEM

Henry Vranian, West Point, Va., assignor to The Chesapeake Corporation of Virginia, a corporation of Virginia

Filed Aug. 23, 1965, Ser. No. 481,623
15 Claims. (Cl. 208—188)



A system for selectively absorbing a liquid from a mixture of the same with at least one additional liquid by contacting the mixture with a material predominantly comprised of monoaxially compressed wood pulp. The monoaxially compressed wood pulp has a greater affinity for certain liquids, particularly water, than for other liquids and, as it selectively absorbs such liquids it expands monoaxially. Particular advantages are shown when selective absorption occurs by passing a mixture of the liquids through a block of the monoaxially expansible material which is free to expand axially, but transversely confined to preclude channelling.

3,380,915
PROCESS FOR DESULFURIZATION WITH REGENERABLE SALTS OF WEAK ACIDS

William J. Mattox and William F. Arey, Jr., Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Sept. 29, 1965, Ser. No. 491,381
4 Claims. (Cl. 208—284)

Petroleum residua are desulfurized by contacting with a treating agent comprising an alkali metal salt of a weak, nonvolatile acid. Alkali metal salts which may be employed for this purpose include the aluminates, antimonates, arsenates, arsenites, molybdates, stannates, silicates, tungstates, vanadates, etc. The salts are regenerable from the spent reagent by fusion of the alkali metal carbonate and alkali metal sulfide therein with the oxide corresponding to the acid anion of said weak acids.

3,380,916
ION EXCHANGE PROCESS

Herbert Katz, Port Jefferson, and Michael Rothbart, Shoreham, N.Y., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed May 11, 1965, Ser. No. 455,015
2 Claims. (Cl. 210—30)

2. In a process for the decontamination of highly alkaline radioactive aqueous wastes in which a zeolitic alumino-silicate ion exchange material is used in an ion exchange column to remove cesium and strontium the improvement of preventing chemical attack on and degradation of the said exchange material, comprising: preparing treated waste by incorporating sodium aluminate into said waste solution to a concentration of at least 0.04 molar; pretreating the zeolitic material with the aluminate containing wastes; washing said contacted zeolitic material with water to remove any of said treated waste; contacting said washed zeolitic material with 0.2 molar ammonium carbonate solution to elute sodium; treating said contacted zeolitic material with 2 molar ammonium carbonate solution to elute cesium; and, washing said treated zeolitic material with water to remove all traces of ammonium carbonate prior to pretreating said zeolitic material with said ammonium hydroxide preparatory to further contacting of the zeolitic material with waste having aluminum incorporated therein.

3,380,917
COLUMBIUM ALLOY SEPARATOR

Raymond R. Boucher, Moodus, William J. Maynard, Higganum, and Bernard Sabo, Wallingford, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

No Drawing. Filed Jan. 6, 1965, Ser. No. 423,871
4 Claims. (Cl. 252—25)

A separating composition to minimize the metallurgical bonding between the canning material and the billet in the jacketed hot-working of metals consisting essentially of a reactive-refractory metal boride, such as titanium diboride, together with a refractory binder.

3,380,918
ARYL NITROSO COMPOUNDS AS LUBRICANT ADDITIVES

Donald J. Anderson, San Anselmo, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Mar. 25, 1966, Ser. No. 537,295
4 Claims. (Cl. 252—51.5)

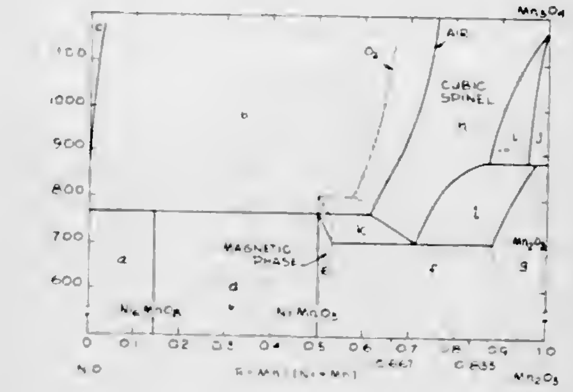
Lubricating oil additives prepared by contacting at elevated temperatures an aryl C-nitroso compound of from 6 to 12 carbon atoms with a terminal aliphatic hydrocarbon olefin of from about 30 to 200 carbon atoms.

3,380,919
PREPARATION OF FERROMAGNETIC $NiMnO_3$

Donald G. Wickham, Santa Monica, Calif., assignor to Ampex Corporation, Culver City, Calif., a corporation of California

Filed Feb. 6, 1964, Ser. No. 342,938
2 Claims. (Cl. 252—62.51)

Method of preparing $NiMnO_3$ in a pure state through the coprecipitation of nickelous and manganous oxalates from aqueous solutions of soluble nickelous and manganese salts. Weights of the salts are selected corresponding to a desired molar ratio of Mn/(Ni+Mn). The precipitated oxalate is converted to the desired compound, $NiMnO_3$, through the heating thereof to a temperature within a select range in the presence of air or a supply of oxygen.



3,380,920
PERMANENT MAGNET MATERIAL AND PROCESS FOR MANUFACTURING SAME

Alexander W. Cochardt, Export, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 28, 1964, Ser. No. 370,904
Claims priority, application Germany, May 30, 1963, C 30,079
15 Claims. (Cl. 252—62.63)

1. In a process for making sintered ferrite permanent magnets which includes the steps of compacting a finely divided presintered mass of crystalline material generally conforming to the composition $M \cdot Fe_{12}O_{19}$ in which M is at least one metal selected from the group consisting of lead, barium and strontium and the iron is in the trivalent condition, and after compaction sintering the compact at an elevated temperature, the improvement comprising the reducing during sintering a portion of the trivalent iron present in the presintered material to the bivalent condition forming a discrete second phase and maintaining from about 0.1% to 3%, by weight, of iron in the bivalent condition in the body of the sintered magnet.

11. In a granular permanent magnet ferrite material generally conforming to the composition $M \cdot Fe_{12}O_{19}$, in which M is at least one metal selected from the group consisting of lead, barium and strontium and the iron is in the trivalent condition, the improvement consisting of the presence of from 0.1% to 0.5% by weight, of iron in the bivalent condition in the material in a secondary phase film at the boundary of each ferrite grain.

3,380,921
PROCESS FOR DESMUTTING METAL

Edwin W. Goodspeed, Royal Oak, and Gaillard W. Dell, Detroit, Mich., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed May 17, 1965, Ser. No. 456,547
8 Claims. (Cl. 252—95)

A process for removing a carbonaceous smut from a ferrous metal surface wherein the ferrous metal surface containing the carbonaceous smut is treated with an alkaline permanganate solution. Preferably the alkaline permanganate solution contains sodium hydroxide and potassium permanganate and may also contain sodium carbonate, as an optional ingredient. In the overall process, the ferrous metal surface is first contacted with an acid pickling solution, the ferrous metal being maintained in contact with the pickling solution for a period sufficient to form a deposit of carbonaceous smut thereon. Thereafter, the ferrous metal surface is then contacted with the alkaline permanganate solution which is maintained in contact with the surface for a period sufficient to effect substantial removal of the carbonaceous smut which has been formed.

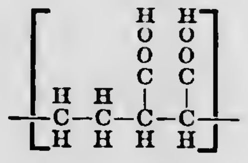
3,380,922
SPRAY DRIED PRODUCTS

Gordon G. Shields, Downey, and Charles B. Patterson, Lakewood, Calif., assignors to Purex Corporation, Ltd., Lakewood, Calif., a corporation of California

No Drawing. Filed Sept. 23, 1965, Ser. No. 489,761

10 Claims. (Cl. 252—99)

Film forming synthetic resinous polymers having the repeating unit



$$\left[-\overset{\mathrm{H}}{\underset{\mathrm{H}}{\mathrm{C}}}-\overset{\mathrm{H}}{\underset{\mathrm{H}}{\mathrm{C}}}-\overset{\mathrm{COOH}}{\underset{\mathrm{H}}{\mathrm{C}}}-\overset{\mathrm{COOH}}{\underset{\mathrm{H}}{\mathrm{C}}}-\right]$$

have been found to be effective binders for beaded inorganic salt base products such as synthetic detergents.

3,380,923
GERMICIDAL COMPOSITIONS

Martin D. Beach, London, England, assignor to Whitmoyer-Reed Limited, Barking, Essex, England, a British company

No Drawing. Filed Nov. 15, 1965, Ser. No. 507,666

Claims priority, application Great Britain, Nov. 16, 1964, 46,499/64

7 Claims. (Cl. 252—106)

Disclosed herein are certain germicidal detergent compositions, and particularly, iodophors wherein the iodine carrier is an alkylene oxide condensate having amphoteric properties. Such germicides are especially suitable for the poultry and dairy industry.

3,380,924
SURFACE-ACTIVE PRODUCTS

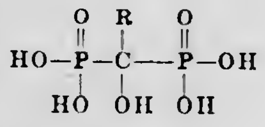
Bruno Werdelmann, Haan, Rhineland, Karl-Heinz Worms, Dusseldorf, Germany, and Bruno Blaser, deceased, late of Dusseldorf-Urdenbach, Germany, by Ida Blaser, nee Bau, administratrix, Dusseldorf-Urdenbach, Germany, assignors to Henkel & Cie. G.m.b.H., Dusseldorf-Holthausen, Germany

No Drawing. Continuation-in-part of application Ser. No. 427,530, Dec. 29, 1964, which is a continuation-in-part of application Ser. No. 5,130, Jan. 28, 1960. This application Jan. 21, 1966, Ser. No. 523,012

Claims priority, application Germany, Feb. 6, 1959, H 35,571

2 Claims. (Cl. 252—117)

Detergent soaps stabilized against rancidity and discoloration by addition of 0.05–2.5 weight percent of a compound of the formula



$$\mathrm{HO-\overset{\overset{O}{\|}}{\underset{\underset{HO}{|}}{P}}-\overset{\overset{R}{|}}{\underset{\underset{OH}{|}}{C}}-\overset{\overset{O}{\|}}{\underset{\underset{OH}{|}}{P}}-OH}$$

its sodium, potassium, ammonium or ethanolamine salts, wherein R is a saturated aliphatic hydrocarbon having 1 to 11 carbon atoms or phenyl.

3,380,925
POLYGLYCOL ETHERS SUITABLE FOR DETERGENT PREPARATIONS

Bruno Blaser, Dusseldorf-Urdenbach, and Horst Rutzen, Haan, Rhineland, Germany, assignors to Henkel & Cie, G.m.b.H., Dusseldorf-Holthausen, Germany, a corporation of Germany

No Drawing. Original application July 24, 1963, Ser. No. 297,221. Divided and this application Oct. 17, 1966, Ser. No. 611,486

Claims priority, application Germany, July 25, 1962, H 46,462

3 Claims. (Cl. 252—161)

Detergent preparation containing as wash active component at least one of (a) a synthetic organic wash active sulfate compound and (b) a synthetic organic wash active sulfonate compound together with a non-ionic surface active polyglycol ether adduct of alkylene oxide and higher molecular weight aliphatic 1,2-glycol having between about 8–26 carbon atoms in the molecule, about 0.1-0.7 alkylene glycol ether radicals being present in the adduct for each carbon atom present in the aliphatic 1,2-glycol radical; and process of increasing the wetting, washing, cleaning and rinsing capacity of synthetic detergents of the aforementioned type by including therewith a nonionic surface active polyglycol ether adduct of the foregoing type.

3,380,926
METHOD FOR PREPARING A EUROPIUM-ACTIVATED YTTRIUM VANADATE PHOSPHOR

Stanley A. Harper, East Petersburg, Pa., assignor to Radio Corporation of America, a corporation of Delaware

No Drawing. Filed Jan. 18, 1965, Ser. No. 426,397

4 Claims. (Cl. 252—301.4)

1. A method for preparing a europium-activated yttrium vanadate phosphor comprising:

(1) providing a low flux concentration mixture which upon heating betwen 1150° C. and 1350° C. does not form a molten fluid solution by mixing the following ingredients in dry powdered form in the indicated proportions:

	Mol parts
Eu_2O_3	*a*
Y_2O_3	100—*a*
V_2O_5	100+*b*
Na_2CO_3	(1.2 to 2.8) *b*

where *a* is between 2 and 9, and *b* is between 5 and 30,

(2) heating said mixture in air at temperatures between 1150 and 1350° C. for between 1 and 4 hours,

(3) cooling said heated mixture to room temperature, and then

(4) washing said cooled mixture.

3,380,927
BROAD SPECTRUM SURFACE ACTIVE AGENT AND METHOD OF MAKING THE SAME

Sidney M. Edelstein, Englewood, N.J., and Ernest Welles, Flushing, N.Y., assignors to Dexter Chemical Corporation, a corporation of New York

No Drawing. Filed Oct. 3, 1963, Ser. No. 313,426

17 Claims. (Cl. 252—308)

1. A surface active agent consisting essentially of a co-ester of (1) a phosphorous compound selected from the group consisting of phosphorous pentoxide, orthophosphoric acid and polyphosphoric acid, (2) an aliphatic monohydric alcohol containing from 6 to 16 carbon atoms, and (3) a nonionic adduct of ethylene oxide and an organic compound selected from the group consisting of alkylated phenols containing at least one alkyl group of 6 to 18 carbon atoms, aliphatic alcohols containing from 6 to 25 carbon atoms, aliphatic monocarboxylic acids containing from 6 to 20 carbon atoms, aliphatic amines containing 6 to 20 carbon atoms, and aliphatic mercaptans containing 6 to 20 carbon atoms, said nonionic adduct (3) containing from 1 to 40 mols of ethylene oxide per mol of said organic compound, and being present in the weight proportions of about 5 to 85 parts per 100 parts combined of said nonionic adduct (3) and said aliphatic monohydric alcohol (2), and the molar ratio of the total number of mols combined of said aliphatic monohydric alcohol (2) and of said nonionic adduct (3) to the total number of mols of said phosphorous compound (1), calculated as phosphorous pentoxide, being within the range from about 1:1 to about 5:1.

8. A stable dispersion of finely-divided insoluble material dispersed in a liquid medium, said liquid medium containing a dispersing amount of the surface active agent of claim 1.

3,380,928
LUBRICATING OIL COMPOSITION

John Hughes, Ellesmere Port, and Joseph M. Soesan, Ilford, England, assignors to Shell Oil Company, a corporation of Delaware

No Drawing. Filed Mar. 27, 1959, Ser. No. 802,291

Claims priority, application Great Britain, Sept. 22, 1958, 30,212/58

3 Claims. (Cl. 252—327)

1. A hydrocarbon lubricating oil containing from about 0.1% to about 15% by weight of an oil soluble alkyldithiophosphoric acid salt of a copolymer formed by the reaction of (1) an unsaturated compound having a polymerizable ethylenic linkage selected from the group consisting of amine-free acrylic and alkacrylic acid esters having from about 10 to about 18 carbon atoms in the ester group and (2) an unsaturated compound having a polymerizable ethylenic linkage and a basic amino nitrogen and selected from the group consisting of a vinyl pyridine and acrylic and alkacrylic esters of basic amine alcohols.

3,380,929
STANDARD GAS SOLUTION

Arne J. Petersen, Balboa, Calif., assignor to Beckman Instruments, Inc., a corporation of California

Filed Apr. 27, 1965, Ser. No. 451,286

15 Claims. (Cl. 252—408)

A standard P_{co_2} solution for calibration of carbon dioxide measuring instruments. The solution is produced by reacting known amounts and concentrations of reactants in a closed container in which the headspace above the solution in the container is eliminated so that the P_{co_2} of the solution in the container is maintained at a predetermined value. Wetting and thickening agents may be added to this solution to simulate the viscosity and surface tension of blood.

3,380,930
OLEFIN POLYMERIZATION PROCESS AND CATALYST FOR USE THEREIN

Donald B. Miller, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

No Drawing. Filed Oct. 21, 1963, Ser. No. 317,825

3 Claims. (Cl. 252—429)

1. A catalyst composition comprising:

(a) titanium trichloride;

(b) triethyl aluminum; and

(c) sulfuryl chloride,

wherein the mole ratio of sulfuryl chloride to trialkyl aluminum varies from about 0.2 to about 1.0.

2. A catalyst composition comprising:

(a) titanium trichloride;

(b) triethyl aluminum; and

(c) thionyl chloride,

wherein the mole ratio of thionyl chloride to trialkyl aluminum varies from about 0.25 to about 0.5.

3. A catalyst composition comprising:

(a) titanium trichloride;

(b) triethyl aluminum; and

(c) sulfur monochloride,

wherein the mole ratio of sulfur monochloride to trialkyl aluminum varies from about 0.10 to about 0.5.

3,380,931
OXIDATION CATALYSTS

Lloyd B. Ryland, El Cerrito, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 12, 1960, Ser. No. 1,874

12 Claims. (Cl. 252—432)

1. An oxidation catalyst consisting essentially of an oxide of a metal of the left hand column of Group VI of the Periodic System of the Elements, an oxide of bismuth in an amount corresponding to from about 1 to about 20 bismuth atoms per 10 atoms of said Group VI metal, and an oxide of arsenic in an amount corresponding to from about 0.1 to about 6 atoms of arsenic per 10 atoms of said Group VI metal.

2. An oxidation catalyst according to claim 1 which also contains an oxide of an element selected from the group consisting of phosphorus, boron, silicon, and mixtures thereof, in an amount corresponding to from 0.5 to 5 atoms per 10 atoms of said Group VI metal.

3,380,932
DEHYDROGENATION CATALYSTS CONTAINING CHROMIUM PHOSPHATE, AND THEIR METHOD OF PREPARATION

Douglas S. Alexander, Harvey Minnis, and Charles Ambridge, Sarnia, Ontario, Canada, assignors to Polymer Corporation Limited, Sarnia, Ontario, Canada, a corporation of Canada

No Drawing. Filed Apr. 8, 1965, Ser. No. 446,708

Claims priority, application Canada, May 12, 1964, 902,558

8 Claims. (Cl. 252—437)

A dehydrogenation catalyst of high activity for the dehydrogenation of monoolefinic hydrocarbons and alkylated aromatic hydrocarbons is prepared by coprecipitating minor amounts of chromium phosphate along with calcium nickel phosphate catalytic material.

3,380,933
POROUS ALUMINA PRODUCTS AND METHOD OF MANUFACTURE

Max Michel, Sarcelles-les-Rosiers, and Jacques Courbon, Mess-des-Ingenieurs-a-Salindres, France, assignors to Produits Chimiques Pechiney-Saint-Gobain, Neuilly-sur-Seine, France

No Drawing. Continuation-in-part of application Ser. No. 254,006, Jan. 25, 1963. This application Feb. 9, 1966, Ser. No. 526,059

12 Claims. (Cl. 252—455)

Products, and a process for their production, comprising highly porous bodies including a substantial proportion of alumina and characterized by a porous volume greater than 20 cm^3/100 grams and by having fine pores dimensioned between 0.1 and 5 microns. The process involves precipitating an alumina gel at a pH between 7.5 and 11, drying and washing the gel, removing water of hydration, shaping the gel, and finally sintering between 1500 and 1800° C.

3,380,934
NOBLE METAL CATALYSTS AND THEIR PRODUCTION

John S. Batzold, Westfield, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Continuation-in-part of abandoned application Ser. No. 399,381, Sept. 25, 1964. This application Oct. 20, 1966, Ser. No. 587,986

9 Claims. (Cl. 252—462)

1. A method of making a highly active noble metal catalyst which comprises the steps of:
- (a) impregnating a support with a salt of a noble metal and a salt of a less noble metal;
- (b) reducing the metal ions of said salts;
- (c) removing said support; and
- (d) removing said less noble metal by anodization, said less noble metal always being different from the noble metal and always having the property of being more readily dissolved than said noble metal.

2. A method as claimed in claim **1** wherein the noble metal is selected from the group consisting of platinum, ruthenium, rhodium, palladium, iridium, osmium, rhenium, vanadium, titanium, tungsten, gold, cobalt, nickel and the lanthanide series metals such as cerium, neodymium, samarium, gadolinium, promethium, ytterbium, terbium and combinations of the foregoing metals and the less noble metal is selected from the group consisting of chromium, manganese, iron, cobalt, nickel, copper, molybdenum, cadmium, tin, lead, aluminum and silver, said less noble metal always being different from the noble metal and always having the property of being more readily dissolved than said noble metal.

3,380,935
COMPOSITE SUPERCONDUCTING STRUCTURES

Harold F. Ring, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington Del., a corporation of Delaware

No Drawing. Filed Dec. 3, 1964, Ser. No. 415,778

5 Claims. (Cl. 252—512)

Described and claimed are formed structures consisting essentially of (1) a metal and/or polymer matrix and (2) a superconductor material, in amount of 20–90% by volume of the structure, which is in discontinuous fiber form, has an electrical resistivity of 5–35 micro ohms at 25° C., and is a Group IV–B or V–B transition metal, a carbide and/or nitride thereof, or an intermetallic compound thereof. The electrical conductivity of the structure is greater than that of (1) or (2) alone at room temperature.

3,380,936
SILICON CARBIDE VARISTORS

Takeshi Masuyama, Takatsuki-shi, Osaka-fu, and Michio Matsuoka, Nishinomiya-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan

Filed Oct. 18, 1965, Ser. No. 496,939

12 Claims. (Cl. 252—516)

Silicon carbide particles adapted for a varistor provided with a high *n* value, said silicon carbide particles comprising 0.01 to 0.08 wt. percent of aluminum and 0.005 to 0.015 wt. percent of nitrogen or 0.003 to 0.06 wt. percent of boron and 0.005 to 0.015 wt. percent of nitrogen.

3,380,937
PROCESS FOR POLYMERIZING TETRAFLUOROETHYLENE EPOXIDE

William John Keller, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 417,819, Dec. 11, 1964. This application Oct. 29, 1965, Ser. No. 505,727

7 Claims. (Cl. 260—2)

The polymerization of tetrafluoroethylene epoxide by contacting same with tertiary amine catalyst and copper or a metal salt at a temperature within the range of about −110° C. to −30° C.

3,380,938
PRESSURE-SENSITIVE ADHESIVE COMPRISING NATURAL RUBBER AND A STYRENE-METHYL METHACRYLATE-ETHYL ACRYLATE TERPOLYMER

James Jack, Mistley, Essex, and James Anthony Horrocks, Ipswich, Suffolk, England, assignors to B.X. Plastics Limited, London, England, a British company

No Drawing. Continuation-in-part of application Ser. No. 282,164, May 21, 1963. This application June 15, 1966, Ser. No. 557,609

2 Claims. (Cl. 260—4)

A pressure-sensitive adhesive for a polyolefin film comprising a natural rubber latex and an addition polymer latex, the weight of the solid addition polymer being in the range 20–80% of the solid material present and the addition polymer being capable of keying to a polyolefin film, being non-tacky and incompatible with natural rubber.

3,380,939
REACTION PRODUCTS OF UNSATURATED HETEROCYCLIC LACTONES WITH POLYHYDROXY COMPOUNDS

Richard A. Palm, Niederdollendorf, Harald H. O. Cherdron, Ittenbach, Hans H. W. Ohse, Oberdollendorf, and Friedrich W. A. G. K. Korte, Hangelar, Germany, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 25, 1965, Ser. No. 467,111

Claims priority, application Germany, July 16, 1964, S 92,084

13 Claims. (Cl. 260—9)

The invention provides new and particularly useful curable and soluble polymeric products comprising the reaction product of (1) an unsaturated heterocyclic substituted lactone such as, for example, beta-dihydro-2-pyranyl-beta-propiolactone with (2) a polyhydroxy containing compound such as, for example, glycerol, in the presence of an acid acting catalyst. The invention further provides cross-linked, insoluble infusible products obtained by reacting the aforedescribed soluble polymers with a polyfunctional compound such as, for example, polycarboxylic acids or anhydrides, polyhydric alcohols, amines or poly-epoxides.

3,380,940
PROCESS AND MATERIAL FOR THE PREPARATION OF AN AQUEOUS SOLUTION FOR NEUTRALIZING AND PRE-GLUING BUILDING SURFACES

Werner Hansi, Wiesbaden, and Eduard Gramm, Wiesbaden-Biebrich, Germany, assignors to Kalle Aktiengesellschaft, Wiesbaden-Biebrich, Germany, a corporation of Germany

No Drawing. Filed Sept. 13, 1965, Ser. No. 487,077

Claims priority, application Germany, Sept. 16, 1964, K 54,020

12 Claims. (Cl. 260—15)

1. A process for the preparation of a solution for neutralizing and pre-gluing surfaces of structures made from alkaline building materials which comprises dissolving in water a dry powdered mixture consisting essentially of a salt of a metal selected from the group consisting of aluminum, chromium and zinc, which salt in aqueous solution has an acid reaction, and hydroxyethyl cellulose, having a molar degree of substitution of 1 to 5, the salt being present in a quantity by weight which is 3 to 6 times the weight of the hydroxyethyl cellulose.

3,380,941
ABLATIVE THERMAL INSULATION COMPOSITION OF A SILICONE, EPOXY RESIN, CORK AND CURING AGENT

David O. Dittman, Anaheim, James J. Licari, Whittier, and Michael Glovak, Yorba Linda, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 205,508, June 27, 1962. This application July 27, 1964, Ser. No. 385,505

3 Claims. (Cl. 260—17.4)

1. A curable ablative composition comprising a mixture of:

Component A which comprises:
- 40 to 55 weight percent of a polymethyl vinyl siloxane,
- 32 to 42 weight percent of an epoxy resin that is a condensation product of epichlorohydrin and bisphenol-A mixed with butyl glycidyl ether,
- and from 10 to 18 weight percent of 20–40 mesh cork,

and a Component B which comprises:
- 50 to 70 weight percent of a polyamide resulting from the reaction of amino compounds having one or more primary amino groups and fatty acids of at least 18 carbon atoms in length,
- 7 to 15 weight percent of chlorinated biphenyl,
- 7 to 15 weight percent of antimony trioxide,
- and 12 to 30 weight percent of a solvent for Component B.

3,380,942
AIR-DRYING, WATER-SOLUBLE, HALOGEN-CONTAINING POLYMERIC COMPOSITION

John M. Menke, Morton Grove, Ill., assignor to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Filed June 8, 1964, Ser. No. 373,578

6 Claims. (Cl. 260—22)

An air-drying, water-soluble halogen-containing polymeric composition comprising the product of

- (1) esterifying
  - (a) the Diels-Alder adduct of hexahalocyclopentadiene and maleic anhydride,
  - (b) drying oil fatty acid,
  - (c) polyhydroxyalcohol, and
  - (d) polyhydroxy monocarboxylic acid until a reaction product is formed having an acid number of from about 30 to about 100; and
- (2) reacting said reaction product with a basic material and water.

3,380,943
PROCESS FOR PRODUCING STABLE AQUEOUS EMULSIONS OF COMPOUNDS CONTAINING PERFLUORALKYL GROUPS AND EMULSIONS PRODUCED

Heinz Enders, Stadtbergen, near Augsburg, Hans Deiner, Augsburg, Willy Bernheim, Goggingen, near Augsburg, and Franz Mosch and Theodor Stenzinger, Augsburg, Germany, assignors to Chemische Fabrik Pfersee G.m.b.H., Augsburg, Germany, a firm of Germany

No Drawing. Filed Mar. 30, 1965, Ser. No. 444,065

17 Claims. (Cl. 260—29.2)

Aqueous emulsions of the reaction product of (1) a polyisocyanate, (2) a perfluoralkylsulfonamide and (3) a compound having the formula RX, wherein R is an aliphatic hydrocarbon residue with more than 12 carbon atoms and X is a hydroxyl, carboxyl, carboxylic acid amide or amino group.

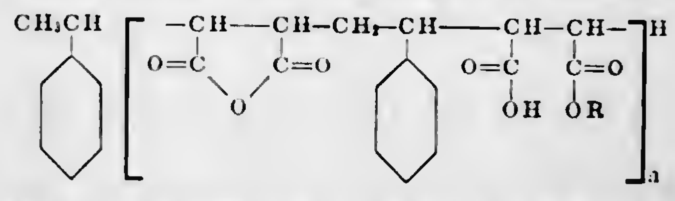
3,380,944
AMMONIA SOLUBLE RESIN

Daniel J. Kay, Buffalo, and Raymond P. Knipple, North Tonawanda, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Dec. 4, 1964, Ser. No. 416,104

2 Claims. (Cl. 260—28.5)

An aqueous emulsion coating composition especially useful in floor polishes, comprising a waxy polymer, a hard polymer derived from an ethylenically unsaturated monomer, an alkali soluble resin, emulsifier and water, said resin and mixture of waxy and hard polymer being present in a weight ratio from about 10:90 to about 70:30, said alkali soluble resin being of the formula



wherein *n* is a number from 1 to 9 and R is selected from the group consisting of alkyl and alkylene-oxy-alkyl, R contains from 1 to 20 carbon atoms, said alkali soluble resin being prepared by gradually adding a mixture of free radical initiator, styrene and ROH to a solvent solution of maleic anhydride, in the mole ratio of maleic anhydride to styrene of from between about one to 0.7 and about one to 0.85, and in a mole ratio of maleic anhydride to ROH of from between about one to 0.5 and about one to one, at an elevated temperature between about 115 and 180 degrees centigrade until the acid number of the resin is between about 180 and 340, said coating composition having a pH of at least 7.

3,380,945
PROCESS FOR THE PREPARATION OF POLYETHYLENE EMULSIONS

Oliver deS. Deex and James D. Gabbert, St. Louis, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed July 13, 1965, Ser. No. 471,757

5 Claims. (Cl. 260—29.6)

1. Process for the preparation of stable, high solids content polyethylene emulsions containing relatively spherical particles having a diameter from about 1200 A. to 2500 A. wherein at least 90% of said particles are within a given particle size range of 200 A. which comprises initiating the polymerization of ethylene in aqueous medium at pH 5 to 12, said ethylene being present in the amount of 1 to 2 parts per part of water, in the presence of a water-soluble polymerization catalyst and from about 0.1% to 3.5%, based on the water in the initial polymerization medium, of an anionic/nonionic emulsifying agent composition containing 2%–50% of an anionic emulsifying agent and 50% to 98% of a nonionic emulsifying agent, said percentages being based on the total emulsifying agent composition, and during the polymerization period introducing at least incrementally additional amounts of an aqueous mixture of said anionic/nonionic emulsifying agent composition containing 10% to 90% emulsifying agent at a rate such that the product emulsion contains at least 5 wt. percent anionic/nonionic emulsifying agent composition based on the polyethylene and less than the amount of emulsifying agent composition required to coagulate the then formed polyethylene, said initial aqueous polymerization medium having a normality based on inorganic electrolyte salt present calculated from the formula $Y=KX^{1/2}$ wherein X is the weight percent concentration of said anionic/nonionic emulsifying agent composition in the initial polymerization medium, K is a number from 0.100 to 0.125 and Y is the normality of the aqueous medium on the above indicated basis.

3,380,946

POLYMERIZATION USING PEROXYCARBONATE ESTERS WITH SALTS OF SULFUROUS ACID

John C. Crano, Akron, and Elizabeth K. Fleming, Barberton, Ohio, assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Oct. 22, 1965, Ser. No. 502,478

9 Claims. (Cl. 260—29.6)

Olefinically unsaturated polymerizable compounds especially those susceptible to free radical polymerization are polymerized using a redox-catalyst system of an organic peroxycarbonate ester and a salt of sulfurous acid. Polymerization temperatures below 50° C. are rendered feasible by recourse to the redox system, thus providing for polymers of improved properties.

3,380,947

PROCESS FOR THE PREPARATION OF AQUEOUS SOLUTIONS OF FLOCCULATING AGENTS OF THE POLYACRYLIC AMIDE TYPE HAVING HIGH MOLECULAR WEIGHT

Béla Galgoczi, László Demeter, and István Zagyval, Budapest, and László Soltész, László Sommer, Márton Hercsel, and Lajos Raáb, Fuzfogyartelep, Hungary, assignors to Chemolimpex Magyar Vegyiáru Külkereskedelmi Vállalat, Budapest, Hungary, a firm

Filed Dec. 21, 1965, Ser. No. 515,424

Claims priority, application Hungary, Dec. 21, 1964, BA–1,802

7 Claims. (Cl. 260—29.6)

Aqueous solutions of copolymers containing polyacrylic amide and sodium salt of polyacrylic acid of high molecular weight are prepared by hydrolyzing acrylic nitrile monomer with sulfuric acid in the presence of about 0.1–1% by weight of an oil-soluble copper salt inhibitor such as cupric oleate or cupric resinate. An aqueous solution of the hydrolyzed monomer is established, which contains at least about 10% by weight of the hydrolyzed monomer at a pH of about 7.5–9. This precipitates the oil-soluble copper salt inhibitor. The hydrolyzed monomer in this alkaline solution is subjected to the action of an initiator to polymerize the hydrolyzed monomer, at a temperature of about 22–80° C., thereby to produce a substantially water-insoluble gel. The gel is vigorously agitated in a quantity of water sufficient to produce a 0.5–3% aqueous colloidal solution of the copolymers.

3,380,948

N-ALKYL GLYCIDYL ETHER RHEOLOGICAL MODIFIERS FOR PLASTISOLS

Kenneth R. Ericson, Greenhills, Ohio, Steven M. Postol, East Baton Rouge Parish, La., and George B. Walker, Mariemont, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Mar. 9, 1965, Ser. No. 438,380

4 Claims. (Cl. 260—30.4)

Higher C_8–C_{18} n-alkyl glycidyl ethers are employed as rheological modifiers for polyvinyl chloride plastisols, imparting improved viscosity reduction and stabilty to the plastisols.

3,380,949

MANUFACTURE OF SHAPED SYNTHETIC POLYMER ARTICLES

Ralph E. Isley, Northfield, and Kenneth E. Blower, Warrensville Heights, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed June 23, 1965, Ser. No. 466,423

12 Claims. (Cl. 260—30.4)

1. The process for preparing a thermoformable polymer/solvent dry particulate blend comprising intimately mixing from 45 to 80% by weight of a particulate, resinous acrylonitrile polymer composed of 90% by weight or more of polymerized acrylonitrile and from 55 to 20% by weight of a solvent for said acrylonitrile polymer, said acrylonitrile polymer having a surface area of at least about 10 square meters per gram.

3,380,950

POLYURETHANE LACQUERS

Friedrich Blomeyer, Cologne-Stammheim, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Apr. 30, 1964, Ser. No. 363,979

Claims priority, application Germany, May 3, 1963, F 39,646

7 Claims. (Cl. 260—31.2)

1. A storage-stable, moisture-curable polyurethane lacquer having a substantially clear liquid phase comprising the reaction product of an organic polyisocyanate, a compound containing at least two active hydrogen containing groups as determined by the Zerewitinoff method, an organic solvent for the reaction product and a water binding agent selected from the group consisting of an alkyl orthoformate and tetraethyl orthosilicate.

3,380,951

SOLUTIONS OF POLY(ARYLENE SULFIDES)

David A. Frey, Woodstock, Ill., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed June 29, 1965, Ser. No. 468,158

14 Claims. (Cl. 260—33.6)

Poly(arylene sulfides) are dissolved in polyphenyl compounds.

3,380,952

COMPOSITION FOR IMPARTING TACK TO α-OLEFIN-BASED ELASTOMERS

Edward F. Cluff, Alexander Thomas Harris, and Kenneth Francis King, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 18, 1966, Ser. No. 521,411

8 Claims. (Cl. 260—33.8)

The overdip composition herein described imparts controlled bonding tack to saturated-backbone, sulfur-curable elastomer copolymers of α-olefins suitable for building-up nylon ply tire carcasses on automotive equiment.

3,380,953

PROCESS FOR PREPARING DISPERSIONS OF LOW DENIER FIBERS

Osamu Fukushima, Kurashiki, Japan, assignor to Kurashiki Rayon Company Limited, Kurashiki, Japan, a corporation of Japan

No Drawing. Filed July 6, 1964, Ser. No. 380,647

Claims priority, application Japan, July 15, 1963, 38/38,395

6 Claims. (Cl. 260—34.2)

A process for the preparation of a dispersion of 0.1 to 1.0 denier fibers useful in the preparation of synthetic leathers, comprising introducing mixed fiber cut into short lengths and spun from at least two polymeric substances having different solubilities into a liquid which is a selective solvent for one of the polymeric substances thereof and a non-solvent for the others, the cut mixed fiber being at least 60% comprised of polymeric substances soluble in the said liquid, whereby there is effected a dispersion of 0.1 to 1.0 denier insoluble fibers in the said liquid, which liquid additionally contains the soluble portions of the said cut mixed fiber in solution. Also, the product of such process.

3,380,954

CONDENSED XYLENE-FORMALDEHYDE-PHENOL PLYWOOD ADHESIVE

Robert D. Wesselhoft, Edgar C. Winegartner, Edward F. Wadley, and John L. Tveten, Baytown, Tex., assignors to Esso Research and Engineering Company

Filed Nov. 19, 1965, Ser. No. 508,686

11 Claims. (Cl. 260—38)

The viscosity of condensed xylene-formaldehyde-phenol plywood adhesive is controlled by adding to the adhesive a colloidal amorphous silica; the adhesive may be heated prior to addition of the colloidal silica or a finely divided solid drying agent, which may be a metal salt, may be added prior to addition of the colloidal silica.

3,380,955

POLYESTER POLYOLS CONTAINING A COUMARIN BRIGHTENER AND A BLUE DYE

James M. Cross and Charles Douglas Nolen, New Martinsville, W. Va., assignors to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Aug. 3, 1964, Ser. No. 387,208

10 Claims. (Cl. 260—40)

Polyester polyols which contain a mixture of a coumarin brightener and a blue dye in amounts of from about 0.000005% to 0.0003% by weight. The resulting polyester polyols are water white and can be used to prepare polyurethane plastics.

3,380,956

STABILIZED VINYL HALIDE RESIN COMPOSITIONS

Arthur F. Fletcher, Elizabeth, and James P. Scullin, Pompton Lakes, N.J., assignors to Tenneco Chemicals, Inc., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 307,004, Sept. 6, 1963. This application July 24, 1964, Ser. No. 385,060

6 Claims. (Cl. 260—41)

Resinous compositions that contain a vinyl halide, asbestos, and a stabilizer system comprising a nitrogen-containing compound, such as melamine, dicyandiamide, or benzoguanamine, and 0.1 part to 3 parts of dodecenylsuccinic anhydride per part of the nitrogen-containing compound are characterized by excellent dimensional stability as well as by very light color, by good color retention, and by excellent heat and light stability. Further improvement in the initial color and the color retention of the vinyl halide resin compositions can be brought about by incorporating in the stabilizer 0.3 part to 2 parts by weight per part of the nitrogen-containing compound of a polyhydric alcohol having at least four hydroxyl groups.

3,380,957

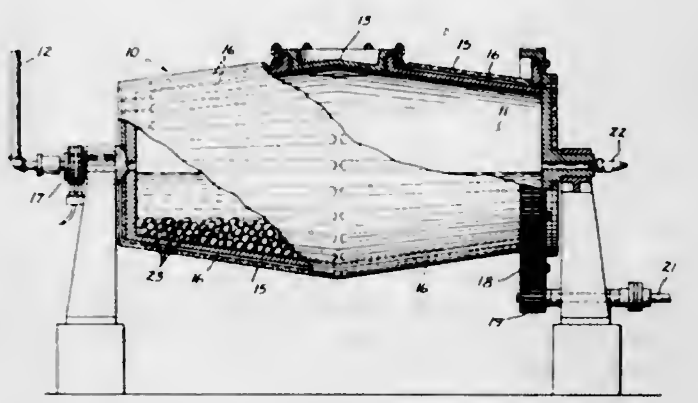
POLYMERIZATION OF CYCLIC OXIDE MONOMERS IN THE PRESENCE OF A FILLER DISPERSION

Otto C. Elmer, Akron, and Elbert E. Gruber, Cuyahoga Falls, Ohio, assignors to The General Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Feb. 11, 1965, Ser. No. 431,869

7 Claims. (Cl. 260—41)

Polyethers having improved physical properties, such as improved abrasion resistance, are obtained by polymerizing an epoxide or oxetane monomer in solvent using a suitable catalyst in admixture with a reinforcing filler while subjecting the resulting mixture to shear agitation in the presence of grinding media, for example, by using a ball mill. The process may be conducted in two steps whereby the filler and at least a portion of the catalyst are subjected to shear agitation followed by addition of the monomer and any additional catalyst required and conducting polymerization of the monomer while continuing to shear agitate the mixture.



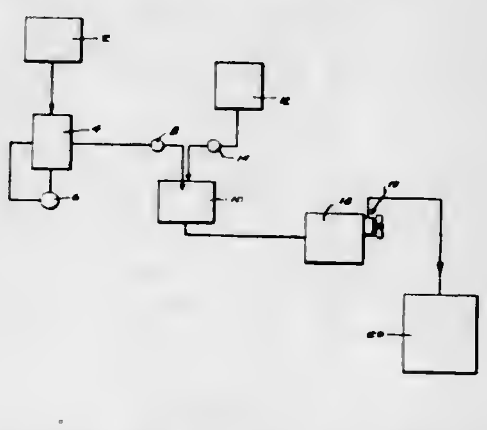
3,380,958

METHOD OF INCORPORATING CARBON BLACK AND OTHER MATERIALS INTO ELASTOMERS

Lancelot H. Rees, Westwood, Mass., assignor to Manton Gaulin Manufacturing Company, Inc., Everett, Mass., a corporation of Massachusetts

Continuation-in-part of application Ser. No. 248,461, Dec. 31, 1962. This application Dec. 23, 1966, Ser. No. 611,520

5 Claims. (Cl. 260—41.5)



The method of the invention involves the preparation of a premix in which two different classes of solids, i.e. carbon black particles and a rubber polymer in suitably proportioned quantities are dispersed in a highly uniform state of dispersion in a common liquid phase. The resulting system while in a highly uniform state of dispersion is conducted into a high pressure pumping apparatus which instantaneously subjects the mass to controlled pressures in a range of from 500 to 8000 p.s.i. and which releases the pressure through an orifice with the generation of intense cavitational field forces to cause the carbon black to pass into a very fine state of subdivision and to induce transition of the subdivided carbon particles from their water phase to the polymer phase in chemically bonded relationship.

3,380,959

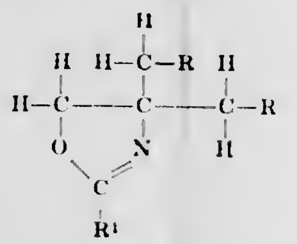
VINYL HALIDE RESINS CONTAINING OXAZOLINE HEAT STABILIZERS

John A. Frump, Terre Haute, Ind., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland

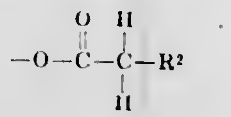
No Drawing. Filed July 7, 1966, Ser. No. 563,349

10 Claims. (Cl. 260—45.8)

Heat stable vinyl halide resin compositions obtained by polymerizing a vinyl halide monomer, for example, vinyl chloride, or an admixture of a vinyl halide monomer and a monomer copolymerizable therewith in the presence of an oxazoline of the formula



wherein R is a radical selected from the group consisting of lower alkyl having from 1 up to about 3 carbon atoms, hydrogen and



$$-O-\overset{\overset{O}{\|}}{C}-\underset{\underset{H}{|}}{\overset{\overset{H}{|}}{C}}-R^2$$

R^1 is an alkyl radical having from 1 up to about 25 carbon atoms, and R^2 is hydrogen or an alkyl radical having from 1 up to about 25 carbon atoms. Examples of the defined oxazolines are 2-ethyl-4,4-dimethyl-2-oxazoline and 2-ethyl-4,4-bis(propionoyloxymethyl)-2-oxazoline.

3,380,960
STABILIZED HYDROCARBON POLYMER COMPOSITIONS

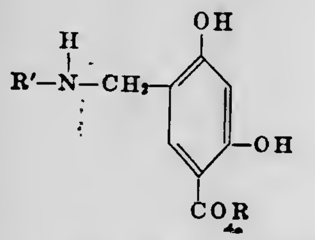
Herman G. Ebner, Whiting, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed Aug. 28, 1964, Ser. No. 392,902
6 Claims. (Cl. 260—666.5)

1. A composition comprising a stabilizing amount of tetraalkyl ammonium borohydride and a hindered phenol antioxidant selected from the group consisting of 2,2′-methylene-bis; 2,4-dimethyl-6-tert-butyl phenol; 4,4′-ethylidenedi-o-cresol; 4,4′-methylene-bis(2,6-dialkyl phenols); 1,1′-thiodi-2-naphthol; 4,4′-thiobis(6-tert-butyl-o-cresol) and 2,6-di-tert-butyl-p-cresol, in a liquid polymer of a mono-alpha olefin made by Friedel-Crafts type catalyst polymerization of an olefin containing from 2 to 6 carbon atoms.

3,380,961
ULTRAVIOLET LIGHT AND OXIDATION STABILIZERS

Hans Dressler, Pitcairn, and Kenneth G. Reabe, Delmont, Pa., assignors to Koppers Company, Inc., a corporation of Delaware
No Drawing. Filed Mar. 17, 1966, Ser. No. 535,046
8 Claims. (Cl. 260—45.9)

1. A polymeric composition stabilized against oxidation and against ultraviolet degradation comprising a polymer selected from the group consisting of polyethylene, polystyrene, polyvinyl acetate, polyvinyl chloride copolymers of vinylidene chloride and vinyl chloride, nitrocellulose, ethyl cellulose, cellulose acetate, and polyester resins having incorporated therein a stabilizing amount of a stabilizer having the formula:



wherein R is selected from the group consisting of phenyl and an alkyl group having from 1–18 carbon atoms, and R′ is a tertiary alkyl group having from 4–16 carbon atoms.

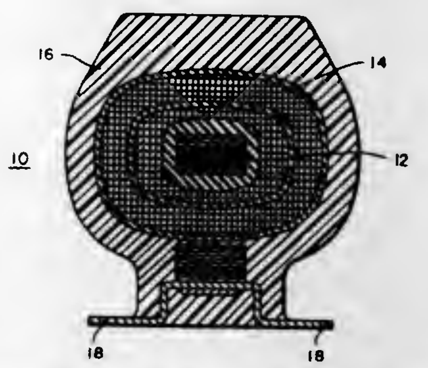
3,380,962
STABILIZATION OF POLYOLEFINS WITH DERIVATIVES OF 3-LOWER ALKYL-4-HYDROXYPHENOXYALKANOIC ACIDS

Janet B. Peterson, Yonkers, and Martin Dexter, Briarcliff Manor, N.Y., assignors to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware
No Drawing. Original application Sept. 17, 1962, Ser. No. 244,601, now Patent No. 3,249,632, dated May 3, 1966. Divided and this application Oct. 22, 1965, Ser. No. 510,730
15 Claims. (Cl. 260—45.85)

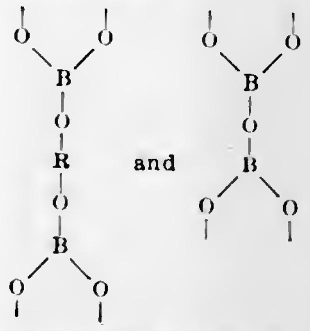
Polymeric material, especially polyolefins such as polypropylene are stabilized against oxidative deterioration with a stabilizer which is an ester or substituted amide of certain substituted hydroxyphenoxyalkanoic acids. A preferred stabilizer is the compound β,β′-thiodiethanol bis(3,5-di-tert.butyl-4-hydroxyphenoxyacetate).

3,380,963
BORON- AND NITROGEN-CONTAINING CATALYST AND MIXTURES THEREOF WITH AN EPOXY RESIN

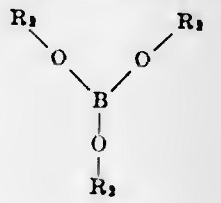
William R. Thomas, LeRoy, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 47,527, Aug. 4, 1960. This application Mar. 12, 1965, Ser. No. 444,897
15 Claims. (Cl. 260—47)



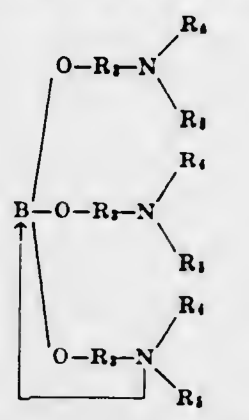
1. A boron- and nitrogen-containing catalyst adapted for the curing of a resin selected from the group consisting of glycidyl polyether resins, glycidyl polyether-novolak resins, and mixtures thereof comprising the product of reaction of (a) from 1 mol to 2 mols of at least one boron compound selected from the group consisting of (i) polyborate esters having a formula selected from the group consisting of



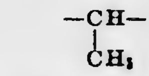
wherein the valence bonds at each end are satisfied by at least one radical selected from the group consisting of a bivalent R radical and a monovalent R_1 radical wherein R is selected from the group consisting of polyhydric alcohols having two hydroxyl groups removed and R_1 is selected from the group consisting of monohydric alcohols and polyhydric alcohols having one hydroxyl group removed, and (ii) borate esters having the formula:



wherein R_2 is a radical selected from at least one of the group consisting of alkyl radicals, cycloalkyl radicals, and aryl radicals, and (b) from 1 mol to 3 mols of a nitrogen coordinated boron compound having the formula:



wherein R_3 is a bivalent radical selected from the group consisting of $-CH_2-CH_2-$ and



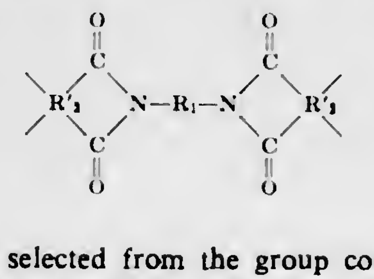
$$-\underset{\underset{CH_3}{|}}{CH}-CH_2-$$

and R_4 and R_5 are selected from the group consisting of hydrogen, alkyl radicals, cycloalkyl radicals, and aryl radicals.

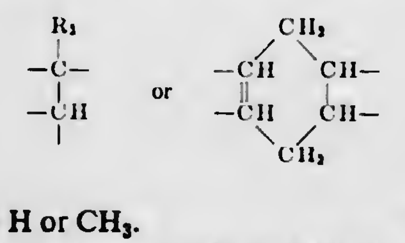
3,380,964
RETICULATED POLYIMIDES AND METHOD OF PRODUCING SAME FROM N,N′-BIS-IMIDES

Friedrich Grundschober and Joerg Sambeth, Veyrier, Geneva, Switzerland, assignors to Rhodiaceto, Paris, France
No Drawing. Filed Nov. 15, 1965, Ser. No. 507,656
Claims priority, application Switzerland, Nov. 13, 1964, 14,838/64
15 Claims. (Cl. 260—47)

Reticulated polyimides consisting of repeating units of

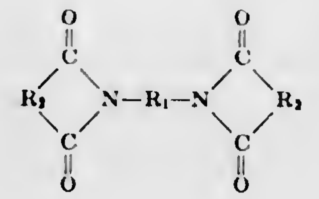


wherein R_1 is selected from the group consisting of an ethylene residue, an alkyl residue, an aryl residue, a cyclohexyl residue, at least two aryl residues or cyclohexyl residues, bonded to one another through at least one of the following radicals: $-CH_2-$, $-SO_2-$ and $-O-$ and wherein R'_2 is a radical of the structure:

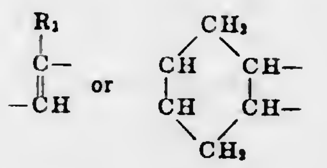


wherein R_3 is H or CH_3.

The polyimides are produced by heating, at a temperature ranging from 80° to 400° C. for the length of time necessary to obtain said polyimide, at least one N,N′-bisimide of an unsaturated dicarboxylic acid having the general formula:



wherein R_1 is as defined above and R_2 is a radical of the structure:

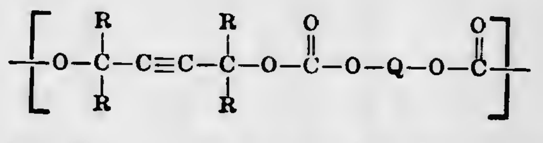


wherein R_3 is H or CH_3.

3,380,965
PROCESS OF PREPARING ACETYLENICALLY UNSATURATED POLYCARBONATES

Markus Matzner, Edison Township, N.J., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Feb. 10, 1964, Ser. No. 343,453
6 Claims. (Cl. 260—47)

1. In the process of preparing an essentially linear, normally solid, acetylenically unsaturated polycarbonate consisting essentially of the repeating unit having the structure



$$\left[-O-\underset{\underset{R}{|}}{\overset{\overset{R}{|}}{C}}-C\equiv C-\underset{\underset{R}{|}}{\overset{\overset{R}{|}}{C}}-O-\overset{\overset{O}{\|}}{C}-O-Q-O-\overset{\overset{O}{\|}}{C}-\right]$$

wherein each R is a monovalent radical selected from the class consisting of hydrogen and lower hydrocarbon groups and Q is an arylene radical, which comprises contacting a dihaloformate of an acetylenic diol with a dihydric phenol, the improvement which consists essentially of quantitatively removing organic base impurities from said dihaloformate, prior to contact with the dihydric phenol, by filtuation through a column of magnesia-silica.

3,380,966
PROCESS FOR THE MODIFICATION OF RESINOUS OXYMETHYLENE POLYMERS

Hollye R. Fouts, Corpus Christi, Tex., assignor to Celanese Corporation, a corporation of Delaware
No Drawing. Continuation of application Ser. No. 405,276, Oct. 20, 1964. This application Mar. 13, 1967, Ser. No. 622,824
9 Claims. (Cl. 260—67)

A process for the production of a modified oxymethylene polymer which comprises dispersing a thermal stabilizer onto the polymer and thereafter uniformly blending and reacting the stabilizer with the polymer by passage of the polymer through a constricted orifice.

3,380,967
POLYETHERS AND POLYURETHANES OBTAINED THEREFROM

Arnold John Lowe, Altrincham, Edwin Fenton Chandley, Hazel Grove, and Lelio Molinario, Eccles, England, assignors to Lankro Chemicals Limited, Eccles, Manchester, England, a British company
No Drawing, Filed Jan. 6, 1964, Ser. No. 336,021
Claims priority, application Great Britain, Jan. 11, 1963, 1,470/63
5 Claims. (Cl. 260—77.5)

The present invention is directed to polyurethane polymers which are prepared by reacting an organic isocyanate or an organic isothiocyanate with a particular type mixture of polyether polyols having molecular weights in the range of 1000 to 6000. The polyethers, which are in themselves one feature of the present invention, contain from two to six hydroxy groups per molecule. The ethers are copolymers of ethylene oxide, propylene oxide and a polyhydric alcohol and are so prepared that (1) the polypropylene residues represent from 80 to 97% by weight of the total alkylene oxide content, and (2) the terminal blocks of the copolymers are composed of propylene oxide residues only which blocks constitute at least 3% by weight of the total propylene and ethylene oxide residue content of the molecule.

3,380,968
NOVEL TERPOLYAMIDES FROM PHENYLINDAN CARBOXYLIC ACID

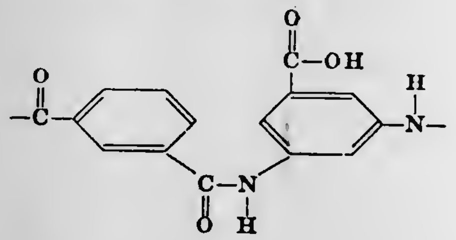
James S. Ridgway, Durham, N.C., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed May 21, 1965, Ser. No. 457,806
6 Claims. (Cl. 260—78)

Terpolyamides having high boiling water shrinkage are composed of (A) 1 to 98 mole percent hexamethylene adipamide, (B) 1 to 98 mole percent hexamethylene 3-(4-carboxyphenyl) - 1,1,3 - trimethyl-5-indan carboxylamide, and (C) 1 to 50 mole percent hexamethylene terephthalamide. These terpolyamides are useful in the production of yarns, fabrics, films, textile fibers and reinforcing cords.

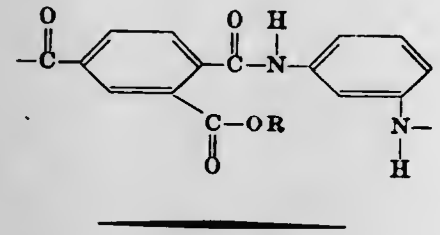
3,380,969
AROMATIC POLYAMIDES

Harold Wayne Hill, Jr., Bartlesville, Okla., and Stephanie Louise Kwolek and Wilfred Sweeny, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Continuation of application Ser. No. 288,480, June 17, 1963, which is a continuation-in-part of application Ser. No. 774,156, Nov. 17, 1958. This application Oct. 18, 1966, Ser. No. 587,620
4 Claims. (Cl. 260—78)

Polymers having as a recurring unit:



or



3,380,970
SALTS OF CERTAIN NITROGEN-CONTAINING POLYMERS WITH SULFODICARBOXYLATES AND HYDROCARBON COMPOSITIONS CONTAINING THE SAME

Johan L. van der Minne, Pieter H. J. Hermanie, and Cornelis Douwes, Amsterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Original application Aug. 10, 1961, Ser. No. 130,469. Divided and this application Apr. 20, 1965, Ser. No. 455,032
Claims priority, application Netherlands, Dec. 30, 1960, 259,625
4 Claims. (Cl. 260—78.4)

1. As a new composition of matter, a salt of a diester of a C_{8-18} aliphatic monohydric alcohol and a C_{4-10} aliphatic sulfacarboxylic acid with a basic nitrogen-containing polymer of the group consisting of poly (C_{2-5} alkylene imines), poly (vinyl pyridines) poly (esters of amino alcohols and an acrylic acid) and copolymers of vinyl pyridines with an acrylic acid ester of at least one C_{10-24} aliphatic monohydric alcohol, at least 50% of the basic nitrogen radicals of the polymer being in salt form with the ester of sulfodicarboxylic acid.

3,380,971
CHEMICAL POLYMERS

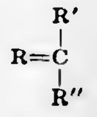
John R. Chalmers, Wallingford, Pa., and Frederic B. Stilmar, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Oct. 30, 1964, Ser. No. 407,858
22 Claims. (Cl. 260—78.5)

A copolymer of (1) tetrafluoroethylene, (2) 0.5 to 1.50 moles per mole of tetrafluoroethylene of at least one terminally unsaturated C_2 to C_8 aliphatic hydrocarbon, (3) 0.05 to 0.5 mole per mole of tetrafluoroethylene of at least one polymerizable vinyl ester of an aromatic carboxylic acid, and, optionally, (4) either (a) 0.05 to 0.3 mole per mole of tetrafluoroethylene of at least one polymerizable halogenated olefin, a vinyl ester of a saturated alkane carboxylic acid or an alkyl vinyl ether, or (b) 0.005 to 0.2 mole per mole of tetrafluoroethylene of at least one olefinically unsaturated acid having an acidity constant of 1.0 to 5.5 or its ester, salt or anhydride. The copolymers are in general useful as durable, tough, adhesive coating compositions.

3,380,972
POLYMERIZATION PROCESS

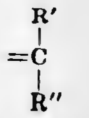
John R. Le Blanc, Wilbraham, and Joel Fantl, Springfield, Mass., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 162,957, Dec. 28, 1961. This application July 12, 1965, Ser. No. 471,466
17 Claims. (Cl. 260—78.5)

Disclosed herein is a novel process by which maleic monomer is heated to a temperature of at least 100° C. and vinylidene monomer is slowly added thereto with agitation while maintaining in the reaction mixture a specified concentration of a free radical generating polymerization initiator and a specified concentration of a molecular weight regulator which corresponds to the formula:



$$\begin{matrix} & R' \\ & | \\ R= & C \\ & | \\ & R'' \end{matrix}$$

wherein R is a cyclic organic radical to which



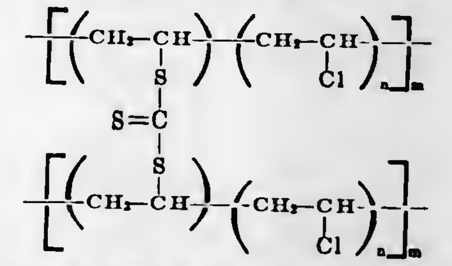
$$\begin{matrix} R' \\ | \\ =C \\ | \\ R'' \end{matrix}$$

is joined at a carbon atom of an alicyclic ring having at least four members, and wherein R′ and R″ are independently selected from the group consisting of hydrogen and an alkyl radical.

3,380,973
TRITHIOCARBONATION OF POLYVINYL CHLORIDE

Jesse C. H. Hwa, Stamford, Conn., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
Filed June 23, 1966, Ser. No. 559,893
18 Claims. (Cl. 260—79.5)

Trithiocarbonated polyvinyl chloride of the formula:



wherein *n* and *m* are integers between 5 and 1000 and between 1 and 20 where $(n+1)_m$ equals at least 100 respectively, are prepared by maintaining solid polymer in a solution containing a metal salt of trithiocarbonic acid and either a solvent for the polyvinyl chloride or a quaternary ammonium cationic surfactant having at least one substituent containing 10 or more carbon atoms.

3,380,974
TETRAFLUOROETHYLENE, ISOBUTYLENE, CARBOXYLIC COPOLYMERS

Frederic B. Stilmar, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Oct. 30, 1964, Ser. No. 407,856
8 Claims. (Cl. 260—80.8)

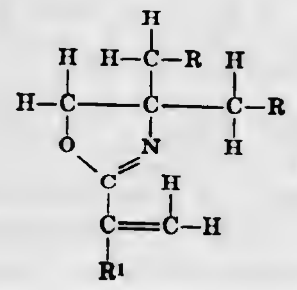
1. A copolymer comprising in copolymerized form (a) 53–67 percent by weight tetrafluoroethylene; (b) 32–44 percent by weight isobutylene; and (c) 0.01–12 percent by weight of a polymerizable compound selected from the class consisting of:

(1) an unsaturated aliphatic carboxylic acid of at most 10 carbon atoms wherein the unsaturation is monoethylenic and which can contain up to one substituent selected from the group consisting of chlorine, bromine and carboxyl;
(2) an unsaturated alicyclic hydrocarboncarboxylic acid of at most 10 carbon atoms wherein the unsaturation is monoethylenic;
(3) a tertiary lower alkyl ester of classes (1) and (2) wherein the total carbon atom content is at most 10 atoms;
(4) a cyclic anhydride of an unsaturated hydrocarbondicarboxylic acid of at most 10 carbon atoms wherein the unsaturation is monoethylenic;
(5) an unsaturated aliphatic phosphonic acid of at most 10 carbon atoms wherein the unsaturation is monoethylenic and which can contain up to one substituent selected from the group consisting of chlorine and bromine;
(6) a mono- esther of class (5), and
(7) a di-ester of class (5), wherein the ester moieties of classes (6) and (7) are of the group consisting of lower alkyl, benzyl and phenyl and can each contain substituents selected from the group consisting of chlorine and bromine, the total carbon content being not more than 18 carbon atoms.

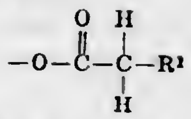
3,380,975
VINYL HALIDE RESINS CONTAINING OXAZOLINE HEAT STABILIZERS

Robert F. Purcell, Terre Haute, Ind., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland
No Drawing. Filed July 7, 1966, Ser. No. 563,352
11 Claims. (Cl. 260—80.72)

Heat stable vinyl halide resin compositions obtained by polymerizing a vinyl halide monomer, for example, vinyl chloride, or an admixture containing a major portion of a vinyl halide monomer and a minor portion of a monomer copolymerizable therewith with an oxazoline of the formula



wherein R is the radical



$$-O-\overset{O}{\overset{\|}{C}}-\underset{H}{\overset{H}{C}}-R^1$$

hydrogen, a lower alkyl radical having 1 up to about 3 carbon atoms and hydroxyl, R^1 is an alkyl radical having 1 up to about 25 carbon atoms and R^2 is hydrogen or an alkyl radical having 1 up to about 25 carbon atoms. Examples of such oxazolines include 2-isopropenyl-4,4-dimethyl-2-oxazoline and 2-(1-heptylvinyl) - 4,4 - bis(hydroxymethyl)-2-oxazoline.

3,380,976
METHOD OF PRODUCING ACRYLONITRILE POLYMERS IN THE PRESENCE OF A CATALYST COMPRISING OCTANOYL PEROXIDE OR t-BUTYL PEROXYPIVALATE AND USING AS A SOLVENT DIMETHYLSULFOXIDE OR ETHYLENE CARBONATE

Zenzi Izumi and Hideji Kitagawa, Ehime-ken, and Masakatu Shinto, Shiga-ken, Japan, assignors to Toyo Rayon Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan
No Drawing. Filed Oct. 15, 1964, Ser. No. 404,183
Claims priority, application Japan, Oct. 21, 1963, 38/55,877
8 Claims. (Cl. 260—85.5)

A method for solution polymerising acrylonitrile, said method being performed under a specific combination of a catalyst and a solvent, characterized in that the solvent is selected from the group consisting of dimethyl sulfoxide and ethylene carbonate and the catalyst is selected from the group consisting of octanoyl peroxide and tert-butyl peroxypivalate.

3,380,977
PREPARATION OF FLUORINATED POLYMERS

George F. Helfrich, Baton Rouge, and Earl J. Rothermel, Jr., Baker, La., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed July 30, 1964, Ser. No. 386,377
6 Claims. (Cl. 260—87.5)

1. In the method of polymerizing monomers selected from the group consisting of vinyl fluoride, vinylidene fluoride, chlorotrifluoroethylene and mixtures thereof the improvement consisting of:

(I) contacting said monomers in the absence of solvents or diluents at a temperature between about 25° C. and 60° C. while under autogeneous pressure, with a catalytic mixture formed by reacting (1) titanium tetrachloride, (2) triethyl aluminum, and (3) tetrahydrofuran, wherein the metal constituent of (1) is present in amounts of between about 200 and 300 p.p.m. based on the weight of the monomers, wherein (2) is present in amounts between about 1 and 10 moles per mole of (1); wherein (3) is present in amounts between about 1 and 20 moles per mole of (1); said catalytic mixture being formed by admixture of (2) and (3) followed by the addition of (1); and
(II) recovering the polymer.

3,380,978
PROCESS FOR PRODUCING HYDROCARBON POLYMERS

Donald James Ryan and Bartholomew John Starkey, Orange, Tex., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 200,657, June 7, 1962. This application June 17, 1965, Ser. No. 462,061
7 Claims. (Cl. 260—88.2)

1. A polymerization process comprising the steps of introducing into a tubular reaction zone, maintained

at a pressure of 100–200 atmospheres, a temperature of 50–250° C. and having a controlled increasing temperature profile between its inlet and outlet with an inlet temperature in the range 50–165° C. and a temperature rise of 20–120° C., an α-olefin containing 2–18 carbon atoms and an inert nonpolymerizable diluent, polymerizing 15–80 weight percent of the total α-olefin being polymerized with a catalyst formed by admixing at a molar ratio of 0.5–4.0, a reducing agent selected from the group consisting of organometallic compounds, metals and metal hydrides and a compound of a metal selected from the group consisting of Groups IV–B and V–B of the Periodic Chart of Elements, continuously passing the reaction mixture from said tubular reactor, after an average holdup time of 0.5–100 seconds, directly into a constant environment autoclave reactor maintained at a pressure of 100–200 atmospheres and a temperature of 150–350° C., continuously removing the reaction mixture, containing less than 20 weight percent polymer in diluent, from said autoclave reactor after an average holdup time of at least 0.5 minute and separating the polymer from the reaction mixture.

3,380,979

NOVEL PROCESS AND POLYMER

Robert Chiang, Durham, N.C., assignor to Monsanto Company, a corporation of Delaware

Continuation-in-part of application Ser. No. 163,163, Dec. 21, 1961. This application Sept. 30, 1964, Ser. No. 400,599

3 Claims. (Cl. 260—88.7)

1. A method for producing polyacrylonitrile with improved thermoplastic properties which comprises reacting acrylonitrile in an inert medium at a temperature in the range of from 0° to 100° C. in the presence of a catalytic amount of a coordinate complex catalyst represented by the formula $M[AlR_4]_x$ wherein M represents a metal selected from the group consisting of alkali and alkaline earth metals, R represents a lower alkyl radical and x is an integer which is equal to the valence of M.

3,380,980

PREPARATION OF METHYL METHACRYLATE POLYMER SIRUPS

William Harold Calkins, Wilmington, Del., Edward Noonan Squire, Glen Mills, Pa., and Mandell Stanley Ziegler, Massapequa, N.Y., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 249,327, Jan. 4, 1963, which is a continuation-in-part of application Ser. No. 694,513, Nov. 5, 1957. This application Jan. 6, 1965, Ser. No. 423,849

5 Claims. (Cl. 260—89.5)

Shelf-stable polymer-in-monomer sirups, for use in producing laminate articles, which possess a flowable viscosity and a minimum exotherm of polymerization and which contain at least 20% by weight of polymeric methyl methacrylate in monomeric methyl methacrylate, less than 20 parts per million of a polymerization initiator, and a small amount of stabilizing inhibitor are provided by a process which includes the steps of preparing a solution containing methyl methacrylate, a chain transfer agent and an amount of polymerization initiator sufficient to initiate polymerization but insufficient to leave more than 20 p.p.m. of initiator after polymerization, heating the solution between 50 and 150° C. and quenching the solution by adding a polymerization inhibitor.

3,380,981

OLEFIN POLYMERIZATION PROCESS AND CATALYST FOR USE THEREIN

Donald B. Miller and Gifford G. McClaflin, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

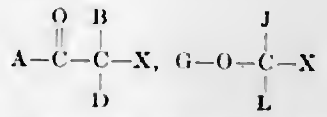
No Drawing. Filed Oct. 21, 1963, Ser. No. 317,818

22 Claims. (Cl. 260—93.7)

13. A polymerization process comprising contacting under polymerization conditions an ethylenically unsaturated monomer selected from the group consisting of mono- and di-olefin hydrocarbon monomers, with a catalyst comprising:

(a) a titanium halide of the formula TiX_n in which X is a halogen selected from the group consisting of chlorine, bromine and iodine and n varies from 2 to 4;

(b) an oxygenated organic halide compound selected from the group consisting of compounds including at least one of the arrangements of atoms represented by the formulas



$$A-\overset{\overset{O}{\|}}{C}-\underset{\underset{D}{|}}{\overset{\overset{B}{|}}{C}}-X,\quad G-O-\underset{\underset{L}{|}}{\overset{\overset{J}{|}}{C}}-X$$

where X is a halogen having an atomic number of at least 17; A is aryl, alkoxy, hydroxy, alkyl or halogenated alkyl; B is hydrogen or alkyl; D is hydrogen, halogenated carboxylic acid, carboxylic acid or alkyl; G is alkyl, halogenated alkyl or aryl; J is hydrogen or halogen; L is hydrogen, halogen, alkyl or aryl; and

(c) an aluminum compound having the formula

$$AlR_nX_{3-n}$$

wherein R is a hydrocarbon radical, X is selected from hydrogen and halogen selected from the group consisting of chlorine, bromine and iodine, and n varies from 2 to 3; and recovering the polymer product.

3,380,982

METHOD FOR FORMATION OF THREE-DIMENSIONAL STRUCTURES IN SATURATED CARBON CHAIN POLYMERS

Alfred Anisimovich Berlin, Moscow, and Ljubov Anatoljevna Dudnik, Serpukhov, U.S.S.R., assignors to Institute Khimicheskoi Fiziki, Moscow, U.S.S.R.

No Drawing. Filed Nov. 16, 1964, Ser. No. 411,564

16 Claims. (Cl. 260—93.7)

1. A method for formation of three-dimensional structures in saturated carbon chain polymers, particularly in polyolefines, consisting in mixing polymers with a mixture of two quinones having a redoxy potential not lower than 0.65 volt, selected from the group consisting of tetrachloro-quinone, n-benzo-quinone, o-benzo-quinone, 2,5-dichloro-quinone, 2,6-dichloro-quinone, 2-chloroquinone, 2,3-dichloro-5,6-dicyan-quinone, tetracyan-quinone, dipheno-quinone, the resulting mixtures being then subjected to heat treatment at 150–200° C.

3,380,983

FLUOROCARBON DERIVATIVE OF POLYSTYRENE AND PROCESS OF PREPARING SAME

William R. Siegart, Poughkeepsie, William D. Blackley, Wappingers Falls, Harry Chafetz, Poughkeepsie, and Ralph C. Suber, Beacon, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 28, 1965, Ser. No. 451,665

15 Claims. (Cl. 260—93.5)

A fluorinated derivative of polystyrene of the empirical formula of $(C_{16}H_3F_{25})_x$ where x is 3 to 5 of a melting point of 85–90° C., method of manufacture of said derivative and solid material surfaces coated with said derivative, said derivative prepared by fluorinating polystyrene of a molecular weight of 10,000–500,000 with fluorine under specific reaction and solvent treatment conditions.

3,380,984

ALFIN TYPE CATALYSTS, THEIR PRODUCTION AND USE IN POLYMERIZATION

William R. Birchall, Pisgah, and Edwin A. Allgeier, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Nov. 1, 1963, Ser. No. 320,933

20 Claims. (Cl. 260—94.2)

1. An alfin-type catalyst comprising an intimate mixture in an inert diluent of a dialkali metal diallylic-type hydrocarbon compound, an alkali metal salt of a methyl-n-carbinol, and a finely-divided alkali metal halide.

3,380,985

ALKALI-METAL-CONTAINING CATALYST AND POLYMERIZATION PROCESS EMPLOYING SAME

Marvin B. Edwards, Vernon K. Park, and Edward H. Carter, Jr., Longview, Tex., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed July 22, 1964, Ser. No. 384,514

14 Claims. (Cl. 260—94.9)

1. A polymerization process which comprises contacting an α-olefinic hydrocarbon, at a temperature in the range of about 0 to about 200° C. and a pressure in the range of about atmospheric to about 2,000 atmospheres, with a catalyst comprising (1) an alkali metal dialuminum heptahydride and (2) a halide of a metal from Groups IV–B—VI–B of the Periodic Table, the valence of the metal in said halide being at least one less than maximum, the mole ratio of (1), based on aluminum content, to (2) being in the range of about 0.1:1 to about 10:1.

3,380,986

PROCESS FOR THE ADDITION OF WATER-INSOLUBLE SOLID SUBSTANCES TO CRYSTALLINE POLYOLEFINES

Henricus A. van Vucht, Geleen, Netherlands, assignor to Stamicarbon N.V., Heerlen, Netherlands

No Drawing. Filed Dec. 10, 1964, Ser. No. 417,468

Claims priority, application Netherlands, Dec. 13, 1963, 301,827

12 Claims. (Cl. 260—94.9)

1. A process for the addition of water-insoluble solid substances to crystalline polyolefins said polyolefins prepared by a process in which they are obtained as a suspension in an organic diluent and in which the catalyst is deactivated and removed and at least the greater part of the diluent is removed, the said process being characterized in that the water-insoluble solid substances are dispersed in water with the aid of a surface-active substance, after which the dispersion and the wet diluent-containing polyolefin are mixed with each other in water, whereby a suspension of polyolefin coated with water-insoluble solid substance is formed, and the resulting polyolefin is separated from the suspension.

3,380,987

PROCESS FOR PREPARING COLORED POLYEPOXIDE POLYMERS

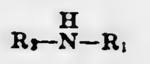
Richard A. Palm, Niederdollendorf, Harald H. O. Cherdron, Ittenbach, Hans H. W. Ohse, Oberdollendorf, and Friedrich W. A. G. K. Korte, Hangelar, Germany, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 23, 1965, Ser. No. 466,455

Claims priority, application Germany, June 30, 1964, S 91,790

3 Claims. (Cl. 260—141)

1. A process for preparing colored polymers which comprises reacting a polymeric polyepoxide having a plurality of 1,2-epoxide groups with an amine having the general formula



$$R_2-\overset{H}{N}-R_1$$

wherein R_1 is an aryl group and R_2 is selected from the group consisting of hydrogen, alkyl and aryl and treating the reaction product with an aryl diazonium salt of the formula

$$(R-N\equiv N)^+X^-$$

wherein R is an aryl group and X is an anion of a mineral acid at between 0 and 20° C.

3,380,988

DIAZONIUM SALTS AND PROCESS FOR THEIR PREPARATION

Jean Rigaudy, Bourg-la-Reine, France, assignor to Roussel-UCLAF, Paris, France, a corporation of France

No Drawing. Filed Oct. 14, 1964, Ser. No. 403,922

Claims priority, application France, Oct. 15, 1963, 950,648

17 Claims. (Cl. 260—142)

A process for the preparation of diazonium salts of primary amines comprising oxidizing a primary amine or an acid salt thereof in an anhydrous organic solvent reacting the oxidation product with nitric oxide in the absence of oxygen and then reacting the latter product with a Lewis acid to form the corresponding diazonium salt.

3,380,989

COPPER-CONTAINING DIS-, TRIS- AND TETRAKISAZO DYESTUFFS OF RESORCIN WITH β-OXYETHYLSULFONE-SULFURIC ACID ESTER GROUPS

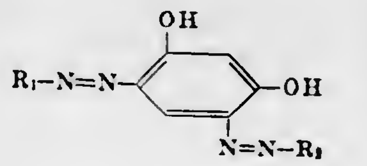
Hermann Remy, West Warwick, R.I., assignor to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

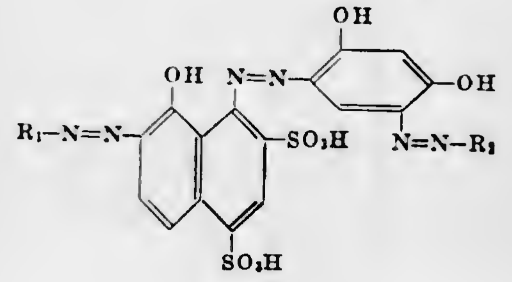
No Drawing. Filed Oct. 16, 1964, Ser. No. 404,505

Claims priority, application Germany, Oct. 19, 1963, F 41,041

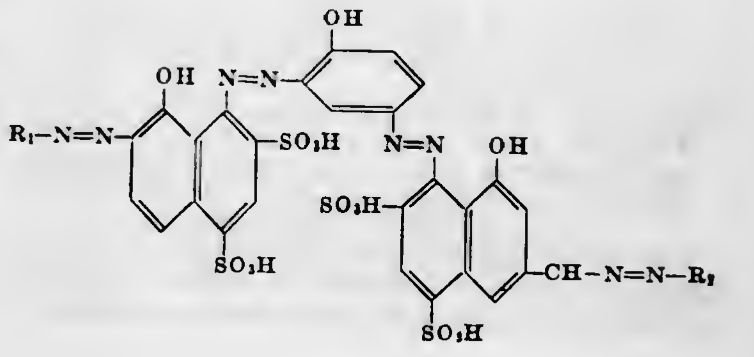
5 Claims. (Cl. 260—145)

Complex copper compounds of water-soluble azo dyestuffs of the resorcin series having the formula:

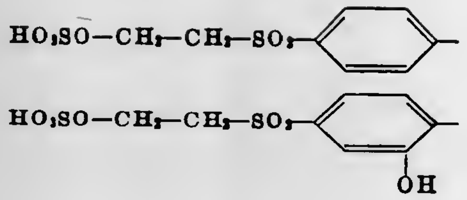




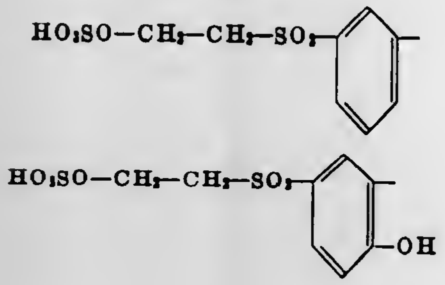
or



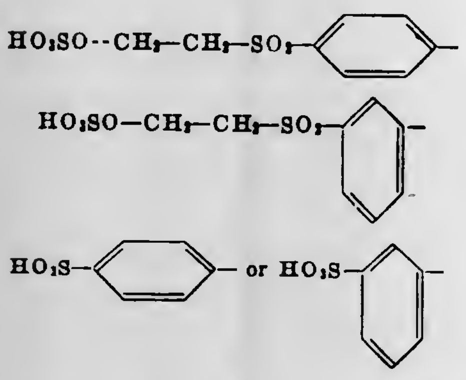
in which R_1 is



or



and R_2 is

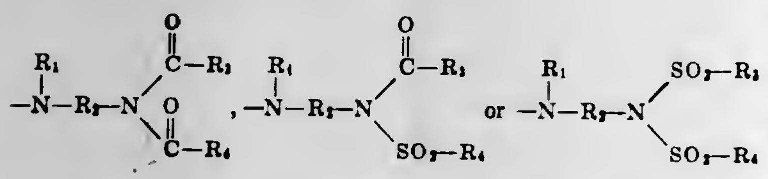


which compounds may be used for printing and dyeing cellulosic materials with good fastness properties especially with respect to light and to wet processing.

3,380,990
THIAZOLYL AZO DYESTUFFS

David J. Wallace, James M. Straley, and Max A. Weaver, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed May 24, 1965, Ser. No. 458,467
11 Claims. (Cl. 260—158)

Water-insoluble thiazolylazo-aniline dyestuffs having attached to the aniline nitrogen atom



wherein R_1 is H, aliphatic or aromatic, R_3 is lower alkylene and R_3 and R_4 are each aliphatic or aromatic which dyestuffs are useful in dyeing hydrophobic textile materials with good fastness properties.

3,380,991
THIAZOLE AZO ANILINE DYESTUFFS CONTAINING VINYLSULFONYLETHYL GROUPS

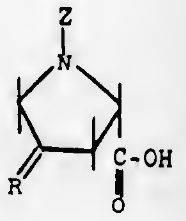
John I. Dale III, James M. Straley, and Max A. Weaver, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Aug. 30, 1965, Ser. No. 483,781
7 Claims. (Cl. 260—158)

Thiazole-azo-aniline compounds having a vinylsulfonylethyl group attached to the aniline nitrogen atom which are useful as dyes for hydrophobic textile materials.

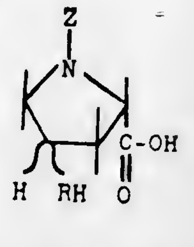
3,380,992
LINCOMYCIN DERIVATIVES AND PROCESS FOR PREPARING SAME

Alexander D. Argoudelis and Brian Bannister, Kalamazoo, Herman Hoeksema, Cooper Township, Kalamazoo County, and Fred Kagan and Barney J. Magerlein, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 387,776, Aug. 5, 1964. This application June 14, 1965, Ser. No. 463,934
31 Claims. (Cl. 260—210)

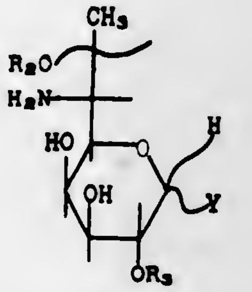
1. A process which comprises N-acylating with a compound of the formula


(C)

or the formula


(D)

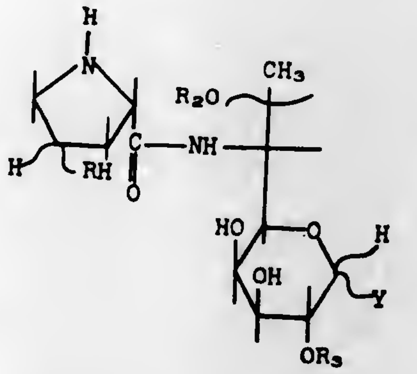
wherein Z is a protective group removable by hydrogenolysis; R is alkylidene of not more than 20 carbon atoms, cycloalkylidene of 3 to not more than 8 carbon atoms, or aralkylidene of not more than 12 carbon atoms, a compound of the formula


(E)

wherein R_2 and R_3 are hydrogen or alkyl of not more than 12 carbon atoms. Y is hydrogen, -S-alkyl of not more than 12 carbon atoms, $—SCH_2CH_2OH$, or

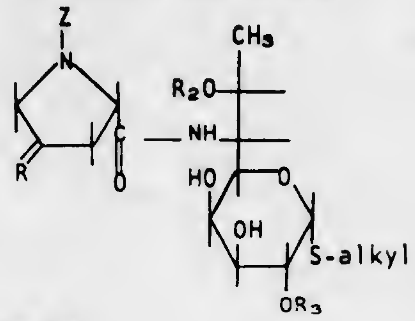
$$—SCH_2CH_2OR_4$$

wherein R_4 is alkyl of not more than 12 carbon atoms, and hydrogenating the compound thus formed over a palladium catalyst to remove the Z group and to form a compound of the formula

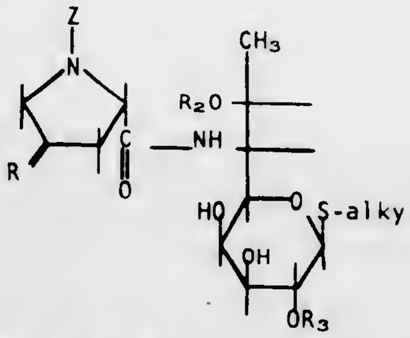

(G)

wherein R, R_2, R_3 and Y are as given above.

12. A compound of the formula


(J)

or the formula



wherein R, R_2, R_3, and Z are as given in claim 1 and alkyl is of not more than 12 carbon atoms.

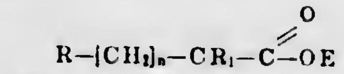
3,380,993
METHODS OF PRODUCING ERYTHROMYCIN ESTERS

Edward Zukowski, ul. Carazziego 4, m. 54; Zygmunt Eckstein, ul. Grochowska 252, m. 1; and Wieslaw Drzewinski, ul. Karola Darwina 9a, m. 68, all of Warsaw, Poland
No Drawing. Filed Aug. 31, 1965, Ser. No. 484,083
Claims priority, application Poland, Sept. 2, 1964, P 105,628
13 Claims. (Cl. 260—210)

1. A method of producing erythromycin esters which comprises reacting erythromycin with a ketene of the formula:

$$R-[CH_2]_n-CR_1=C=O$$

wherein R is hydrogen, alkyl or phenoxy, R_1 is hydrogen or an alkyl group and *n* is 0–5, in an anhydrous solvent which is inert to ketenes to produce erythromycin esters of the formula:



$$R-[CH_2]_n-CR_1-\overset{O}{\overset{\|}{C}}-OE$$

wherein R, R_1 and *n* are as defined above and E is erythromycin base.

3,380,994
COUMERMYCIN DERIVATIVES

Donald Edward Nettleton, Jr., Jordan, N.Y., assignor to Bristol-Myers Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 3, 1966, Ser. No. 583,992
10 Claims. (Cl. 260—210)

The di-, tri-, and tetra-tetrahydropyranylethers of coumermycin A_1 and A_2 are extremely valuable intermediates in the preparation of novel derivatives of coumermycin.

3,380,995
ORGANIC SALTS OBTAINED BY QUATERNIZING THE NITROGEN OF D-GLUCOSAMINE, AND PROCESS FOR THE PREPARATION THEREOF

Alberto Reiner, Via Mentana 23, Como, Italy
No Drawing. Filed Oct. 23, 1965, Ser. No. 504,210
11 Claims. (Cl. 260—211)

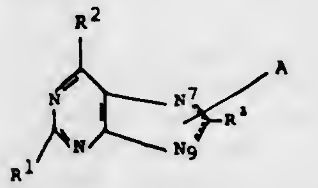
1. Ethanol-beta-amino phosphate of bis-D-glucosamine.

2. Aneurine chloride ester monophosphate of mono-D-glucosamine.

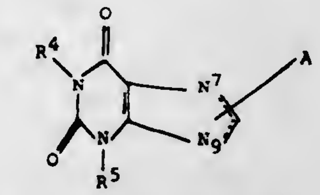
3,380,996
METHOD FOR PRODUCING PURINE NUCLEOSIDES

Mikio Honjo and Kin-ichi Imai, Takatsuki, Osaka, Japan, assignors to Takeda Chemical Industries, Ltd., Osaka, Japan
No Drawing. Filed Feb. 4, 1966, Ser. No. 525,134
Claims priority, application Japan, Feb. 5, 1965, 40/6,506
5 Claims. (Cl. 260—211.5)

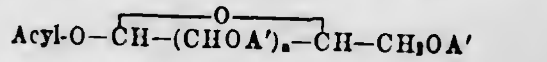
1. In the synthesis of a purine nucleoside by the condensation between (I) a compound of one of the formulae:



and



wherein each of R^1, R^2 and R^3 is a member selected from the group consisting of H, hydroxy, acyloxy, amino, acylamino, lower alkylthio and halogen, the acyl of the acyloxy and of the acylamino being a carboxylic acyl having a maximum of eighteen carbon atoms, each of R^4 and R^5 is alkyl having a maximum of four carbon atoms, A is attached to the nitrogen atom at the position 7 or 9 and is a member selected from the group consisting of H and carboxylic acyl having a maximum of eighteen carbon atoms, and the dotted line shows a double bond at one of the positions 8 and 7, and (II) a compound of the formula:



$$\text{Acyl-O}-\overset{\frown O \frown}{CH-(CHOA')_n-CH}-CH_2OA'$$

wherein Acyl is acyl of carboxylic acid having a maximum of seven carbon atoms, A' is a member selected from the group consisting of H and carboxylic acyl having a maximum of seven carbon atoms, and *n* is an integer from 2 to 3, the improvement comprising heating to a temperature of 120° to 195° C. an intimate admixture of compounds (I) and (II) and of a halogen compound consisting of halogen atoms selected from the group consisting of Cl, Br and I, and recovering the resultant purine nucleoside.

3,380,997
PLASTICIZED CELLULOSE DERIVATIVES

Robert F. Williams, Jr., and Leonidas H. Pancoast, Jr., Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 345,069, Feb. 17, 1964. This application June 28, 1967, Ser. No. 649,464
9 Claims. (Cl. 260—225)

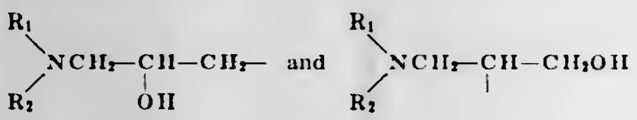
A non-exuding, internally plasticized cellulose ester can be obtained by reacting a monoepoxide with a dicarboxylic acid-substituted cellulose ester having some free carboxylic acid groups. For example cellulose acetate phthalate having at least 5% phthalyl can be reacted with monoepoxy-dodecane to yield the desired, covalently bonded, non-exuding plasticized cellulose ester product.

3,380,998
CELLULOSE DERIVATIVES AND THEIR APPLICATION FOR COATING AGENTS

Kenji Naito, Osaka, Hiroaki Nomura, Nishinomiya, Yasuo Noguchi, Minoo, and Takehiko Kajiura, Osaka, Japan, assignors to Takeda Chemical Industries, Ltd., Osaka, Japan
No Drawing. Filed May 27, 1964, Ser. No. 370,724
Claims priority, application Japan, June 3, 1963, 38/29,128; Sept. 6, 1963, 38/47,498
8 Claims. (Cl. 260—226)

1. As a coating agent, cellulose derivative containing about 0.2 to about 2.50 acyl groups selected from the class

consisting of lower alkylcarbonyl and phenylcarbonyl per anhydroglucose unit and the following (N,N-disubstituted-amino) hydroxypropyl groups:



$$R_1R_2N{-}CH_2{-}CH(OH){-}CH_2{-} \quad \text{and} \quad R_1R_2N{-}CH_2{-}\underset{|}{CH}{-}CH_2OH$$

wherein each of R_1 and R_2 independently is a member selected from the group consisting of alkyl having from 1 to 4 carbon atoms, cyclohexyl, phenyl (lower) alkyl and phenyl, and wherein R_1 and R_2 together with the adjacent N atom alternatively represent a member selected from the group consisting of piperidino and pyrrolidino, said cellulose derivative having from 0.2 to 2.50 of the above-prescribed (N,N-disubstituted-amino) hydroxypropyl groups per anhydroglucose unit, and the average molecular weight of said cellulose derivative being from about 2000 to about 70,000.

3,380,999

PROCESS FOR PREPARING SULFURIC ACID ESTERS OF LEVANS

Horst Grötsch, Frankfurt am Main, Germany, assignor to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Sept. 17, 1965, Ser. No. 488,259

Claims priority, application Germany, Sept. 19, 1964, F 44,019

2 Claims. (Cl. 260—234)

Carboxy lower alkyl levan sulfate having a combination of low toxicity and extended activity in inhibiting blood coagulation and a hydrolytically degraded product thereof useful for the treatment of disorders in lipid metabolism.

3,381,000

CERTAIN 11-BASIC SUBSTITUTED-5,6-DIHYDROMORPHANTHRIDINE COMPOUNDS

Alexander E. Drukker, Milwaukee, and Claude I. Judd, Mequon, Wis., assignors to Colgate-Palmolive Company, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 170,803, Feb. 2, 1962, which is a continuation-in-part of application Ser. No. 111,141, May 19, 1961. This application Oct. 16, 1963, Ser. No. 316,512

25 Claims. (Cl. 260—239)

The compounds are basic 11-substituted-5,6-dihydromorphanthridines useful as pharmaceutical agents, per se, and in the purification of penicillin. A compound disclosed is 5-methyl-11-(3-dimethylaminopropylidene)-5,6-dihydromorphanthridine.

3,381,001

SYNTHETIC PENICILLINS

Donald Neil McGregor, Fayetteville, N.Y., assignor to Bristol-Myers Company, a corporation of Delaware

No Drawing. Filed Aug. 25, 1967, Ser. No. 663,206

12 Claims. (Cl. 260—239.1)

6 - (α - sulfoaminophenylacetamido)- and 6-(α-sulfoaminothienylacetamido)-penicillanic acids are valuable as antibacterial agents, nutritional supplements in animal feeds, therapeutic agents in poultry and animals, including man, and are especially useful in the treatment of infectious diseases caused by Gram-positive and Gram-negative bacteria, most particularly those caused by the Pseudomonas genus. 6 - (D - α-sulfoaminophenylacetamido)-penicillanic acid, a preferred embodiment of the invention, is prepared by the treatment of 6-(D-α-aminophenylacetamido)-penicillanic acid with trimethylamine-sulfur trioxide complex.

3,381,002

16β-ALKYLTHIO-17-OXO-STEROIDS

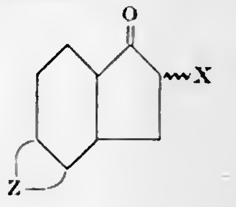
Taichiro Komeno, Osaka, and Norio Tokutake, Kobe, Japan, assignors to Shionogi & Co., Ltd., Osaka, Japan

No Drawing. Filed Mar. 1, 1963, Ser. No. 262,212

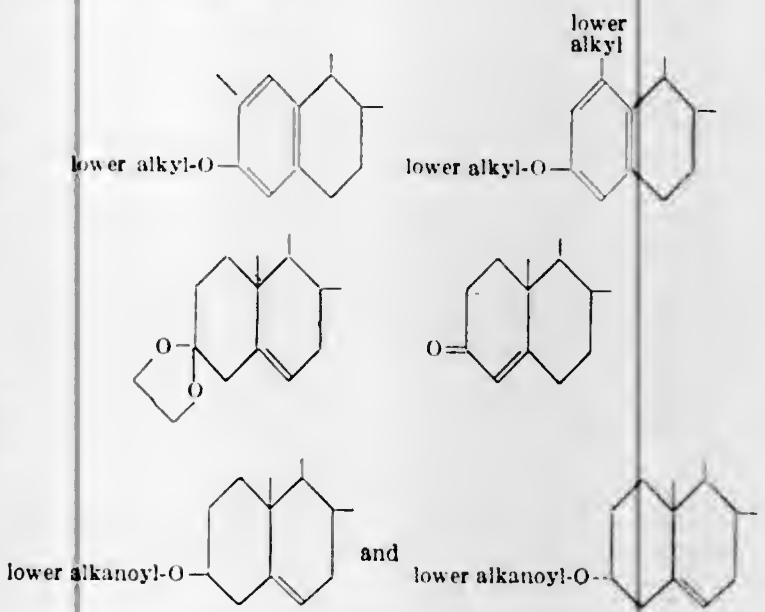
Claims priority, application Japan, Mar. 20, 1962, 37/11,348

17 Claims. (Cl. 260—239.55)

1. Process which comprises reacting 16-halogeno-17-oxo-steroid of the formula

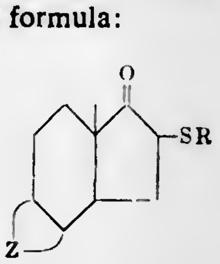


wherein X is a halogen selected from the group consisting of Cl, Br and I, and Z is a ring system selected from the group consisting of

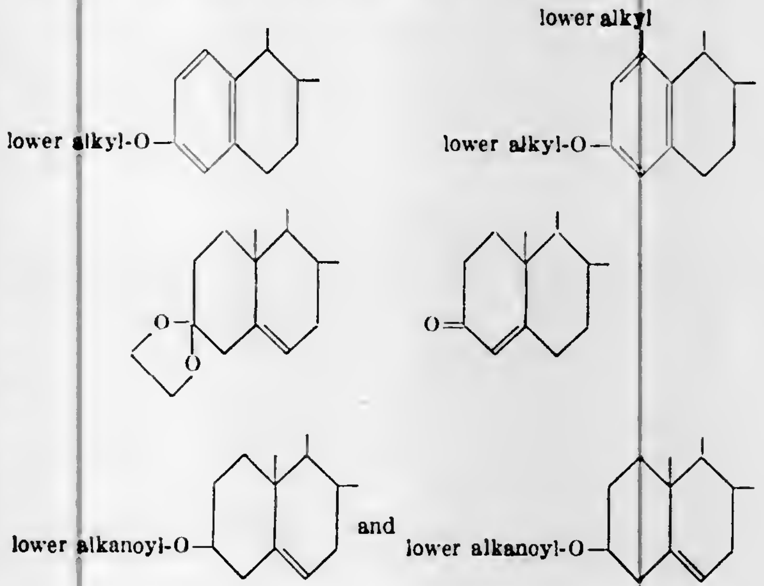


with metal lower alkylmercaptide to produce the corresponding 16β-lower alkylthio-17-oxo-steroid.

5. A steroid of the formula:



wherein R is a lower alkyl group and Z is a ring system selected from the group consisting of



3,381,003

3 - KETO - 13β - ALKYL - 17β - ACETYL - GONA - 4-ENE-17α-OL COMPOUNDS AND PROCESSES OF PREPARING THEM

Arthur A. Patchett, Cranford, and Thomas B. Windholz, Westfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed June 1, 1965, Ser. No. 460,487

16 Claims. (Cl. 260—239.55)

The invention disclosed herein relates to novel intermediate compounds useful in preparing novel steroid compounds of the gonane series, novel steroid compounds of the gonane series prepared from the novel intermediate compounds, and novel processes for preparing the intermediate and steroid compounds of the gonane series.

3,381,004

NITROGEN-CONTAINING PREGNENES AND METHOD OF PREPARING THE SAME

Milton Heller and Seymour Bernstein, New City, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Oct. 28, 1966, Ser. No. 592,128

8 Claims. (Cl. 260—239.55)

The preparation of 16,20-disubstituted (5)6-pregnenes from 3β-acetoxy-16α-hydroxypregna-5-en-20-one, is described. The present compounds are useful for their central nervous system depressant activity.

3,381,005

2,5-DIHYDRO-4-HYDROXY-2-OXOTHIOPHEN-3-CARBOXYLATES

Gilbert Joseph Stacey, Macclesfield, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Feb. 11, 1965, Ser. No. 431,971

7 Claims. (Cl. 260—240)

2,5-dihydro-4-hydroxy-2-oxothiophen - 3 - carboxylates which possess anti-allergic properties and suppress the formation of antibodies. The compounds are characterized by carrying a benzylidene substituent or the like in the 5-position. These products are made by reacting a 4-hydroxy-2-oxothiophen-3-carboxylate which is unsubstituted in the 5-position with the appropriate aldehyde.

3,381,006

CERTAIN β-SUBSTITUTED-α-(4,5-DIMETHOXY-2-NITROPHENYL) ACRYLONITRILES AND 2-AMINOPHENYL DERIVATIVES THEREOF

John T. Suh, Mequon, Wis., assignor to McNeil Laboratories, Incorporated, a corporation of Pennsylvania

No Drawing. Filed Oct. 5, 1964, Ser. No. 401,635

7 Claims. (Cl. 260—240)

The compounds of this invention are of the type of β - (heterocyclic substituted) - α - (4,5 - dimethoxy - 2 - nitrophenyl)acrylonitriles and β-(heterocyclic substituted)-α-(4,5-dimethoxy-2-aminophenyl)acrylonitriles, in which the heterocyclic members are pyrrolyl, N-loweralkylpyrrolyl and N-loweralkyl-piperidyl. The compounds are useful as ultraviolet absorbers.

3,381,007

PURIFICATION OF PHENOTHIAZINE

Lawrence G. Vaughan, Wilmington, Del., and David N. Kramer, Stevenson, Md., assignors to the United States of America as represented by the Secretary of the Army

No Drawing. Filed May 2, 1966, Ser. No. 546,619

5 Claims. (Cl. 260—243)

A process for the purification of phenothiazine wherein an excess of 2,3-dihydropyran is exothermically reacted with phenothiazine in ether in the presence of a catalytic amount of a concentrated mineral acid.

3,381,008

POLYMERIZATION OF ARYL AND ARALKYL ISOCYANATES

Paul R. Steyermark, Silver Spring, Md., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Aug. 24, 1966, Ser. No. 574,570

7 Claims. (Cl. 260—248)

1. In the method of preparing a polymeric product from a feed comprising at least one isocyanate of the formula

$$R(NCO)_x$$

in which R is chosen from the group consisting of aryl and aralkyl radicals having at least 6 ring carbon atoms; and

$$x \text{ is } 1\text{–}3$$

thereby to form a solid polymer, and recovering said solid polymer the improvement comprising contacting the said feed with a xanthate catalyst.

3,381,009

TRIAZOLE-[4,3-a]-PYRIDINES

Giuseppe Palazzo and Bruno Silvestrini, Rome, Italy, assignors to Aziende Chimiche Riunite Angelini Francesco a Roma, an Italian corporation

No Drawing. Filed Oct. 28, 1966, Ser. No. 590,226

Claims priority, application Italy, Dec. 15, 1965, 12,993/65; Aug. 3, 1966, 21,074/66

8 Claims. (Cl. 260—268)

s-Triazolo-[4,3-a]-pyridine derivatives of certain heterocyclic nitrogen compounds, and non-toxic salts thereof with organic and inorganic acids, have been found to have pharmacological and therapeutical activities, particularly tranquillizing, hypotensive and analygesic action. Methods for preparing the derivatives and their salts are provided.

3,381,010

DEXTROMETHORPHAN HYDROXYBENZOYL BENZOATE

Henry C. Caldwell, Ambler, and William E. Smith, Fort Washington, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Oct. 5, 1964, Ser. No. 401,710

2 Claims. (Cl. 260—285)

d - 3 - methoxy-N-methylmorphinan o-(p-hydroxybenzoyl)benzoate salt and liquid sustained release antitussive preparations employing said salts. The salt is prepared by reacting the base with o-(p-hydroxybenzoyl) benzoic acid in an inert organic solvent and precipitating the salt from the solution.

3,381,011

PYRIDINE PRODUCTION

Reginald Harold Hall, Carshalton, England, assignor to The Distillers Company Limited, Edinburgh, Scotland, a British company

No Drawing. Filed Jan. 11, 1966, Ser. No. 519,974

Claims priority, application Great Britain, Jan. 28, 1965, 3,732/65

29 Claims. (Cl. 260—290)

A process is provided for the production of pyridine by the catalytic reaction at an elevated temperature of formaldehyde, acetaldehyde, ammonia and oxygen.

3,381,012
PRIMARY, SECONDARY, AND TERTIARY-(1-PIPERIDYL)-LOWER-ALKYLAMINES

Bernard L. Zenitz, Colonie, and Alexander R. Surrey, Albany, N.Y., assignors to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 432,845, Feb. 15, 1965. This application Nov. 25, 1966, Ser. No. 596,832

26 Claims. (Cl. 260—293)

Primary, secondary, and tertiary (1-piperidyl)-lower-alkylamines, for example N,N-bis-[6-(4-cyclohexylmethyl-1-piperidyl)hexyl]amine, having anti - inflammatory, anti-diarrheal, coronary dilator, hypotensive, anti-fungal, anti-viral, anthelmintic, and psychomotor depressant activities, the primary and secondary amines being prepared by catalytic reduction of 1-(cyano-lower-alkyl)-piperidines, and tertiary amines being prepared by reduction of N-[ω-(1-piperidyl)-lower-alkanoyl]-N,N-bis-[(1-piperidyl)-lower-alkyl]amines.

3,381,013
HETEROCYCLICAMINO ETHERS OF BENZYLPHENOLS

William F. Minor, Fayetteville, N.Y., assignor to Bristol-Myers Company, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 337,776, Jan. 15, 1964. This application Dec. 29, 1964, Ser. No. 421,995

8 Claims. (Cl. 260—294.7)

Heterocyclicamino ethers of benzylphenols are prepared by the reaction of a metal salt of the heteroamine with benzyl phenol. These ethers are antihistamines having a cough and nausea suppressant effect.

3,381,014
PROCESS FOR PRODUCING PYRIDOXINE AND NOVEL INTERMEDIATES THEREOF

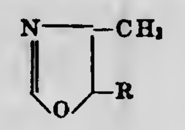
Elbert E. Harris, Dale W. Rosenburg, and Earl M. Chamberlin, Westfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Dec. 30, 1965, Ser. No. 517,836

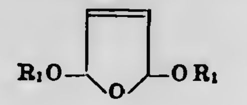
11 Claims. (Cl. 260—294.9)

1. A process for the preparation of pyridoxine which comprises the steps of

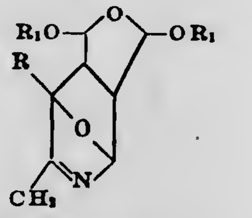
(1) reacting an oxazole of the formula:



wherein R is a cyano group or a hydrocarbonoxy group of the formula OX wherein X is alkyl having 1 to 10 carbon atoms, tetrahydrofurfuryl, benzyl, phenyl ethyl, phenyl propyl, phenyl or tolyl with a compound of the formula

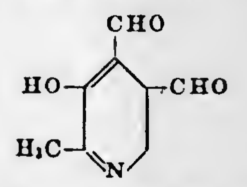


wherein R_1 is alkyl having 1 to 10 carbon atoms, phenyl or benzyl, to produce a compound of the formula



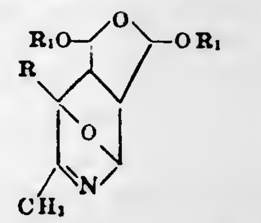
wherein R and R_1 are as above;

(2) hydrolyzing the compound produced according to step (1) with a strong aqueous inorganic acid to produce a compound of the formula:



(3) hydrogenating or reducing the compound produced according to step (2) to yield pyridoxine.

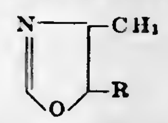
5. A compound of the formula



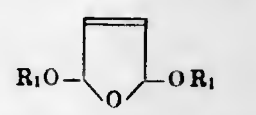
wherein R is a cyano group or a hydrocarbonoxy group of the formula OX wherein X is alkyl having 1 to 10 carbon atoms, tetrahydrofurfuryl, benzyl, phenyl ethyl, phenyl propyl, phenyl or tolyl and R_1 is alkyl having from 1 to 10 carbon atoms, phenyl or benzyl.

10. A process for the preparation of 2-methyl-3-hydroxy-4,5-pyridine dicarboxaldehyde which comprises the steps of

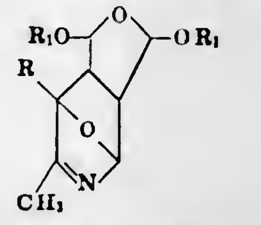
(1) reacting an oxazole in the formula:



wherein R is a cyano group or a hydrocarbonoxy group of the formula OX wherein X is alkyl having 1 to 10 carbon atoms, tetrahydrofurfuryl, benzyl, phenyl ethyl, phenyl propyl, phenyl or tolyl with a compound of the formula:



wherein R_1 is alkyl having 1 to 10 carbon atoms, phenyl or benzyl, to produce a compound of the formula:



wherein R and R_1 are as above; and

(2) hydrolyzing the compound produced according to step (1) with a strong aqueous inorganic acid to produce the desired product.

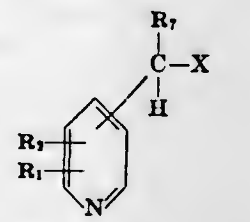
3,381,015
LOWER-CYCLOALKYL AND LOWER-CYCLOALKENYL PYRIDINEACETIC ACID AND DERIVATIVES

Tsung-Ying Shen and Clifford H. Shunk, Westfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Dec. 30, 1965, Ser. No. 517,843

11 Claims. (Cl. 260—295)

1. A compound of the formula

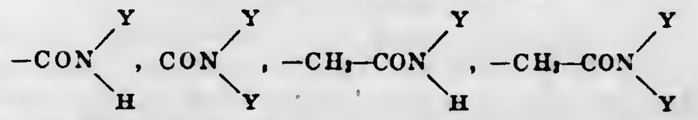


wherein R_7 is selected from the group consisting of hydrogen and lower alkyl; R_1 is selected from the group consisting of hydrogen, halogen and lower alkyl; R_2 is selected from the group consisting of cycloloweralkyl, cycloloweralkenyl and substituted cycloalkyl wherein said substituent is selected from the group consisting of hydroxy, lower alkoxy and benzyloxy; and X is selected from the group consisting of $—COOH$; $—CH_2COOH$; $—COOR_3$,

$$—CH_2COOR_3;$$

wherein R_3 is selected from the group consisting of lower alkyl, cyclo lower alkyl, phenyl, lower alkanoylaminophenyl, carboxyphenyl, carboxamidophenyl, lower alkoxy lower alkyl, poly lower alkoxy lower alkyl, poly hydroxy lower alkyl and di(lower alkyl)amino lower alkyl;

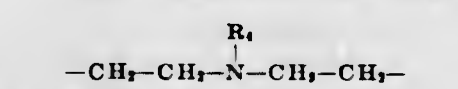
$$—CONH_2;\ —CH_2—CONH_2;$$



$$-CON\begin{matrix}Y\\H\end{matrix},\ CON\begin{matrix}Y\\Y\end{matrix},\ -CH_2-CON\begin{matrix}Y\\H\end{matrix},\ -CH_2-CON\begin{matrix}Y\\Y\end{matrix}$$

wherein Y is selected from the group consisting of lower alkyl, hydroxy lower alkyl, poly hydroxy lower alkyl, phenyl lower alkyl, phenyl, lower alkoxyphenyl, halogenophenyl, trifluoromethylphenyl, cyclohexyl, carboxymethyl, 1-carboxyl-3-carbamyl-propyl, N-dilower alkyl carboxamidomethyl, N,N-dilower alkylamino lower alkyl, N-lower alkyl pyrrolidyl, N-lower alkyl pyrrolidyl lower alkyl, and Y forms a hetetrocyclic group with the nitrogen when Y is selected from the group consisting of

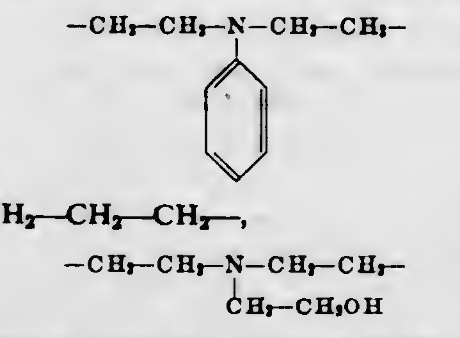
$$—CH_2—CH_2—O—CH_2—CH_2,$$



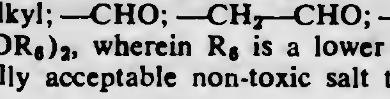
$$-CH_2-CH_2-\overset{R_4}{\overset{|}{N}}-CH_2-CH_2-$$

wherein R_4 is lower alkyl,

$$—CH_2—CH_2—NH—CH_2—CH_2—,$$



$$—CH_2—CH_2—CH_2—CH_2—,$$



$$-CH_2-CH_2-\underset{CH_2-CH_2OH}{\underset{|}{N}}-CH_2-CH_2-$$

$—CH_2—CH_2—CH_2—CH_2—CH_2$; $—CH_2OH$; $—CH_2—CH_2OH$; $—CH_2OR_5$, $—CH_2—CH_2OR_5$, wherein R_5 is a lower alkyl; $—CHO$; $—CH_2—CHO$; $—CH(OR_6)_2$, $—CH_2—CH(OR_6)_2$, wherein R_6 is a lower alkyl; and a pharmaceutically acceptable non-toxic salt thereof.

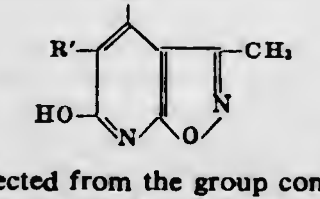
3,381,016
ISOXAZOLO[5,4-b]PYRIDINE DERIVATIVES AND A METHOD FOR THEIR PREPARATION

John H. Markillie, Cooper, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Mar. 4, 1966, Ser. No. 531,730

8 Claims. (Cl. 260—296)

1. A compound selected from the group consisting of (1) a compound of the formula



wherein R is selected from the group consisting of lower-alkyl, phenyl, lower-alkylphenyl, lower-alkoxyphenyl and halophenyl, R′ has the same meaning as R and in addition hydrogen, and (2) an acid addition salt thereof.

3,381,017
PRODUCTION OF CARBINOLS EMPLOYING CYCLOPENTADIENYL OR LOWER ALKYL SUBSTITUTED CYCLOPENTADIENYL GRIGNARD REAGENTS AND HYDROGENATION

Thomas D. Waugh, Boulder, Colo., assignor, by mesne assignments, to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed June 4, 1965, Ser. No. 461,512

14 Claims. (Cl. 260—297)

Preparation of cyclopentyl and cyclopentenyl carbinols from cyclopentadienyl Grignard reagents with a carbonyl compound followed by hydrogenation.

3,381,018
VAPOR PHASE CONVERSION OF BENZOFURAN TO BENZOTHIOPHENE

Harold M. Foster, Middlesex, N.J., assignor to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Dec. 20, 1965, Ser. No. 515,207

3 Claims. (Cl. 260—330.5)

Benzofuran or a lower alkyl (C_1–C_4) or hydroxyl substituted benzofuran is converted to the corresponding benzothiophene by contacting it and hydrogen sulfide in the vapor phase with oxides and sulfides of Groups VI–B and VIII (Iron subgroup) metals, at temperatures between about 500° C. and about 750° C.

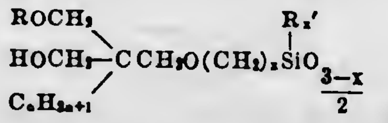
3,381,019
SILOXANE-ALCOHOL ETHERS

Edward L. Morehouse, Snyder, N.Y., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Aug. 27, 1963, Ser. No. 304,988

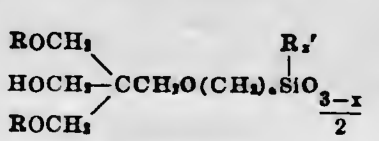
18 Claims. (Cl. 260—340.9)

2. A siloxane selected from the group consisting of (a) siloxanes consisting essentially of groups having the formula:



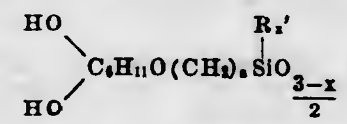
(1)

wherein R is a member selected from the group consisting of the hydrogen atom and lower alkenyl, *n* has a value of from 2 to 10 inclusive, *a* has a value from 2 to 5, R′ is a monovalent hydrocarbyl free of olefinic unsaturation selected from the group consisting of lower alkyl, phenyl, naphthyl, tolyl and beta-phenylethyl, and *x* has a value from 0 to 2 inclusive; (b) siloxanes consisting essentially of groups having the formula:



(2)

wherein R, *a*, R′ and *x* have the above-defined meanings; (c) siloxanes consisting essentially of groups having the formula:



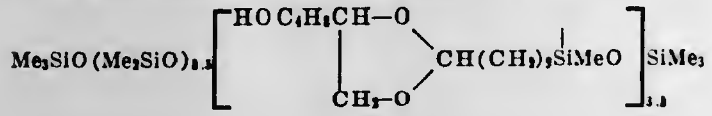
(3)

wherein R, *a*, R′ and *x* have the above-defined meanings; (d) siloxanes consisting essentially of from 1 to 99 mole percent of groups represented by formula (1) and from 1 to 99 mole percent of groups represented by the formula:

$$Z_zSiO_{\frac{4-z}{2}} \qquad (4)$$

wherein Z is a member selected from the group consisting of R′ having the meaning given above and the hydrogen atom, and *z* has a value from 0 to 3 inclusive; (e) siloxanes consisting essentially of from 1 to 99 mole percent of groups represented by formula (2) and from 1 to 99 mole percent of groups represented by formula (4); and (f) siloxanes consisting of from 1 to 99 mole percent of groups represented by formula (3) and from 1 to 99 mole percent of groups represented by formula (4).

18. A siloxane having the average formula:



3,381,020
PERFLUOROCARBYLTHIOBENZOQUINONES AND HYDROQUINONES AND RELATED SULFOXY AND SULFONYL BENZOQUINONES AND HYDROQUINONES

Richard M. Scribner, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 1, 1963, Ser. No. 277,135

17 Claims. (Cl. 260—396)

Perfluorocarbylthiohydroquinones produced by the base-catalyzed reaction of a perfluorocarbylosulfenyl halide with selected hydroquinones or by the base-catalyzed reaction of a perfluorocarbyl mercaptan and selected benzoquinones and perfluorocarbylthiobenzoquinones produced by controlled oxidation of the corresponding hydroquinones are claimed. Their sulfoxy and sulfonyl derivatives produced by oxidation of the corresponding derivative are also claimed. The products are useful either as high energy fuels or as strong oxidizing agents.

3,381,021
METHOD FOR THE PREPARATION OF α,δ-DIKETONES FROM α,β-ETHYLENICALLY UNSATURATED MONOKETONES

Sudarshan K. Malhotra, Northboro, Mass., and Juraj J. Hostynek, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed June 2, 1967, Ser. No. 643,060

8 Claims. (Cl. 260—397.2)

α,β-Ethylenically unsaturated monoketones are converted into the corresponding Schiff base. The Schiff base, after rearrangement, is oxidized with molecular oxygen and the resulting oxidation product hydrolyzed, thus yielding the corresponding α,δ-diketones.

3,381,022
POLYMERIZED OLEFIN SUBSTITUTED SUCCINIC ACID ESTERS

William M. Le Suer, Cleveland, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Continuation of application Ser. No. 274,905, Apr. 23, 1963. This application July 22, 1966, Ser. No. 567,320

18 Claims. (Cl. 260—404.8)

Ester derivatives of a hydrocarbon-substituted succinic acid wherein the hydrocarbon substituent contains at least about 50 aliphatic carbon atoms, the substituent being further characterized by having no more than about 5% olefinic linkages therein based on the total number of carbon-to-carbon covalent linkages in the substituent. The esters include the acidic esters, diesters, and metal salt esters wherein the ester moiety is derived from monohydric and polyhydric alcohols, phenols, and naphthols. These esters are useful as additives in lubricating compositions, fuels, hydrocarbon oils, and power transmitting fluids as well as being plasticizers, detergents, antirust agents, and emulsifiers.

3,381,023
PREPARATION OF AROMATIC GROUP VI–B METAL TRICARBONYLS

Mark Crosby Whiting, Oxford, England, assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Mar. 10, 1958, Ser. No. 720,083

31 Claims. (Cl. 260—429)

1. A process for preparing a carbocyclic aromatic Group VI–B transition metal tricarbonyl compound which comprises reacting a Group VI–B transition metal hexacarbonyl compound with a carbocyclic aromatic compound which is free of oxidizing substituents and is less acidic than benzoic acid in a system where the only reactants are the said Group VI–B transition metal carbonyl and the said aromatic compound.

29. Process for the preparation of mesitylene molybdenum tricarbonyl, said process comprising reacting molybdenum hexacarbonyl with mesitylene.

3,381,024
METHOD FOR DIRECTLY MANUFACTURING ALKYLALUMINUM COMPOUNDS

Kiyoshi Toyoshima, Eiichi Ichiki, Hirosuke Ryu, and Akira Yashima, Niihama-shi, Japan, assignors to Sumitomo Chemical Company, Ltd., Osaka, Japan, a corporation of Japan

No Drawing. Filed July 8, 1964, Ser. No. 381,252

Claims priority, application Japan, July 12, 1963, 38/38,100

6 Claims. (Cl. 260—448)

A process for producing alkylaluminum compounds from inactive aluminum or an alloy thereof, an olefin and hydrogen by using as an activating agent for aluminum and a catalytic substance an organoaluminum compound represented by a general formula $R_2Al(OR')$ wherein R represents a member selected from the group consisting of alkyl and aralkyl radicals and R′ represents a member selected from the group consisting of alkyl, aryl, aralkyl and alkaryl radicals.

3,381,025
PROCESS FOR PREPARING ISOCYANATES

Hidetoshi Mitsumori, Kamakura-shi, Yasuo Murakami, Tokyo, Goichi Miyoshi, Yokohama, and Takehiko Shimatani, Tokyo, Japan, assignors to Hodogaya Chemical Co., Ltd., Tokyo, Japan, a corporation of Japan

Filed Dec. 29, 1964, Ser. No. 421,985

Claims priority, application Japan, June 29, 1964, 39/36,364

7 Claims. (Cl. 260—453)

A process for the continuous production of an organic isocyanate from an organic primary amine by two stage reaction at low and high temperatures which comprises evaporating a mixture of the inert solvent and excessive phosgene used in the reaction and the generated hydrogen chloride gas at a high temperature reaction stage, then cooling the evaporated gas mixture to separate the hydrogen chloride therefrom, and thereafter recycling the thus recovered mixture of phosgene and the inert solvent in the cooled state to a low temperature reaction stage.

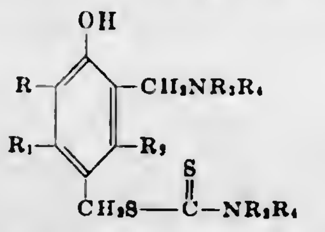
3,381,026
3-ALKYL-4-HYDROXY-S-(DIALKYLAMINOALKYL)-BENZYL N,N-DIALKYLDITHIOCARBAMATES AND METHOD OF PREPARATION

Francis X. O'Shea, Wolcott, Conn., assignor to Uniroyal, Inc., a corporation of New Jersey

No Drawing. Filed June 9, 1965, Ser. No. 462,745

6 Claims. (Cl. 260—455)

Compositions of matter and their method of preparation. The compositions having the following formula:



wherein R is an alkyl, a cycloalkyl, or an aralkyl radical, R_1 and R_2 are hydrogen or methyl, and R_3 and R_4 are alkyl radicals, are prepared by reacting a phenolic compound with formaldehyde, a secondary amine and carbon disulfide. These compounds are useful as fungicides and bactericides. The method involves reacting a phenolic compound with formaldehyde, a secondary amine and carbon disulfide.

3,381,027
PREPARATION AND RECOVERY OF METHYL 2-KETOGLUCONATE

Gerald Myer Jaffe and Edward John Pleven, Verona, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Apr. 22, 1964, Ser. No. 361,880

4 Claims. (Cl. 260—483)

Relatively pure methyl 2-ketogluconate suitable for conversion to sodium erythrobate or erythrobic acid without terminal purification steps is prepared directly from fermentation broths obtained from the action of bacteria of the genus Pseudomonas on nutrient solutions containing a suitable carbohydrate or gluconate salt by treating the broth with sufficient sulfuric acid to precipitate from about 85% to about 97% of the calcium ions present in the broth, filtering the treated broth, treating the filtrate with activated charcoal, separating the charcoal from the solution, then treating the solution with a cation exchange resin, eluting from the cation exchange resin, concentrating the eluate, treating the concentrate with methyl alcohol and recovering the product.

3,381,028
METHOD OF REMOVING POTASSIUM IONS FROM HYDROXYALKYL ALKYL MALEATES

William R. Davie, Hopewell Township, Beaver County, Pa., assignor to United States Steel Corporation, a corporation of Delaware

No Drawing. Filed Sept. 24, 1965, Ser. No. 490,101

7 Claims. (Cl. 260—485)

1. A method of removing potassium ions from hydroxyalkyl alkyl maleates prepared by adding an alkylene oxide to a monoalkyl maleate in the presence of potassium hydroxide as a catalyst, said method comprising mixing 1 to 10 percent by weight of a solid substantially insoluble acid in finely divided form with the hydroxyalkyl alkyl maleate, agitating the mixture of maleate and acid for at least a half hour at a temperature of at least 70° C., said acid being selected from the group consisting of silicic acid, which contains a maximum of about 3 percent alkali metal and alkaline earth metal ions, and terephthalic acid, and filtering the mixture.

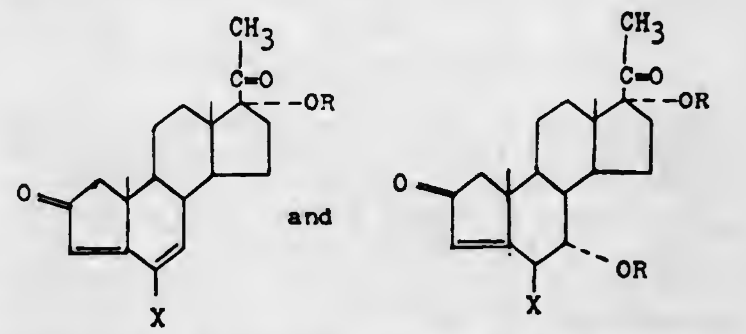
3,381,029
A-NORPROGESTERONE DERIVATIVES

Seymour D. Levine, Princeton, and Patrick A. Diassi, Westfield, N.J., assignors, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 28, 1964, Ser. No. 399,838

6 Claims. (Cl. 260—488)

1. A compound selected from the group consisting of steroids of the formulae



wherein each R is selected from the group consisting of hydrogen and acyl wherein acyl is derived from a hydrocarbon carboxylic acid of less than twelve carbons and X is halogen.

3,381,030
ALIPHATIC CARBOXYLIC ACID ESTERS AND UNSATURATED CARBOXYLIC ACIDS BY OXIDATIVE CARBONYLATION OF OLEFINS

Giovanni Biale, Los Angeles, Donald M. Fenton, Anaheim, Kenneth L. Olivier, Placentia, and William D. Schaeffer, Pomona, Calif., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed June 1, 1964, Ser. No. 371,751

14 Claims. (Cl. 260—497)

The process comprises the production of alpha,beta-ethylenically unsaturated carboxylic acids and/or beta-acyloxy carboxylic acids by the oxidative carbonylation of olefinic compounds. The olefin, oxygen and carbon monoxide are brought into contact with an anhydrous organic solvent containing 0.01–5 weight percent of a Group VIII noble metal, preferably palladium, at 30°–300° C. and a pressure sufficient to maintain the solvent in liquid phase. Preferred embodiments comprise the use of a redox agent which is a soluble nitrogen oxide salt and/or a soluble polyvalent transition metal having an oxidative potential greater than the Group VIII noble metal under the reaction conditions, e.g., cupric chloride. Preferably the reaction is initiated in the presence of an anhydride such as a carboxylic acid anhydride. When ethylene is reacted, acrylic and beta-acyloxypropionic acids are obtained.

3,381,031
RESOLUTION OF RACEMIC AMINO ACIDS

Francis Patrick Dwyer, deceased, late of Griffith, New South Wales, Australia, by Lola Dwyer, executrix, Griffith, New South Wales, Australia, and Bert Halpern, Campbell, New South Wales, Australia, assignors to The Australian National University, Acton, Canberra, Australia, a body corporate, and Monsanto Chemicals (Australia) Limited, West Footscray, Victoria, Australia, a company of Victoria

No Drawing. Filed Apr. 12, 1963, Ser. No. 273,264

Claims priority, application Australia, Apr. 18, 1962, 16,783/62; Aug. 6, 1962, 20,694/62

9 Claims. (Cl. 260—518)

1. The method of resolving a racemic amino acid which comprises blocking the amino group by reaction with an acid selected from the group consisting of formic, acetic, benzoic, phthalic, p-nitrobenzoic and p-toluenesulfonic, neutralizing the mixture with an alkali metal hydroxide to form an aqueous solution, reacting the resulting solution with an optically active metal complex selected from the group consisting of (cobalt-dinitroethylenediamine) acetate, (cobalt dinitroethylenediamine)bromide, and (cobalt oxalatoethylenediamine) bromide, separating the resulting precipitate, and treating the precipitate with an alkali metal iodide, separating the solid metal complex and recovering the amino acid from the solution.

3,381,032

PREPARATION OF 3,5-DIBROMO-SALICYLIC ACID

William R. Surine, Bay City, and Theodore E. Majewski, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Sept. 9, 1965, Ser. No. 486,200

5 Claims. (Cl. 260—521)

1. In a process for making 3,5-dibromosalicylic acid by reacting salicylic acid with about two mole equivalents of bromine in the presence of a solvent, the improvement wherein said solvent is aqueous p-dioxane containing 10–70 percent of water.

3,381,033

CONTINUOUS CRYSTALLIZATION OF GLUTAMIC ACID IN ITS ALPHA ORTHORHOMBIC FORM

James S. Grier, Danville, Pa., and Seemon H. Pines, Murray Hill, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

Filed Dec. 31, 1964, Ser. No. 422,684

4 Claims. (Cl. 260—534)

Process for the preparation of glutamic acid in its alpha orthorhombic crystalline form by continuous crystallization using alpha orthorhombic crystalline glutamic acid as seed crystals.

3,381,034

PROCESS FOR HYDROLYZING NITRILES

Janice L. Greene, Warrensville Heights, and Murrel Godfrey, Cleveland, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed June 30, 1965, Ser. No. 468,546

14 Claims. (Cl. 260—557)

Nitriles of the formula $R-(CN)_x$ are hydrolyzed with water in the presence of soluble copper ions in the pH range of 1 to 12.5.

3,381,035

PROCESS FOR PRODUCING 2-SUBSTITUTED CYCLOPENTANE-1,3-DIONES

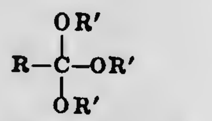
Takuichi Miki, Amagasaki, Kentaro Hiraga, Ikeda, Tsunehiko Asako, Suita, and Hirotomo Masuya, Kobe, Japan, assignors to Takeda Chemical Industries, Ltd., Osaka, Japan

No Drawing. Filed Feb. 18, 1966, Ser. No. 528,610

Claims priority, application Japan, Feb. 18, 1965, 40/9,500

7 Claims. (Cl. 260—586)

2-alkyl cyclopentane-1,3-dione is prepared by (a) reacting cyclopent-4-ene-1,3-dione with a compound of the formula



$$R-\overset{\overset{\large OR'}{|}}{\underset{\underset{\large OR'}{|}}{C}}-OR'$$

wherein R is H or alkyl and R' is alkyl with 1 to 4 carbon atoms. The resultant novel 2-alkoxyalkylidene cyclopent-4-ene-1,3-dione is then (b) catalytically reduced with hydrogen to yield the desired compound.

3,381,036

DICHLORACETALDEHYDE PROCESS

Benjamin F. Clark, Hamden, Conn., and Joel A. Zaslowsky, Baltimore, Md., assignor to Olin Mathieson Chemical Corporation

No Drawing. Filed May 3, 1966, Ser. No. 547,183

3 Claims. (Cl. 260—601)

1. A process for the preparation of dichloroacetaldehyde essentially uncontaminated by monochloro- and trichloroacetaldehyde which comprises hypochlorinating 1,2-dichloroethylene in a dioxane:water medium at a temperature range of about 0°–60° C., employing at least a 1:1 molar ratio of chlorine to 1,2-dichloroethylene.

3,381,037

PROCESS FOR PRODUCING ACETALDEHYDE

Tsutomu Ohmae, Osaka, Keizo Matsushiro, Ashiya-shi, and Hiroshi Yamamoto, Nishinomiya-shi, Japan, assignors to Nippon Gosei Kagaku Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan

No Drawing. Continuation-in-part of application Ser. No. 240,129, Nov. 26, 1962. This application Jan. 14, 1966, Ser. No. 520,643

Claims priority, application Japan, Feb. 26, 1962, 37/6,600

5 Claims. (Cl. 260—604)

1. A process for producing acetaldehyde which comprises reacting at least 2 moles of ethylene with at least 1 mole of oxygen and at least 4 moles of a substantially anhydrous alkanol having less than 5 carbon atoms in the presence of a catalyst consisting of a palladium salt and at least one salt of a metal selected from the group consisting of copper and iron, said salts being selected from the group consisting of halides and alkanoates having from 2 through 4 carbon atoms and said catalyst being in a ratio of less than 0.005 mole of said palladium salt and less than 0.2 mole of said metal salt per mole of alkanol and recovering acetaldehyde produced in the reaction mixture by distillation.

3,381,038

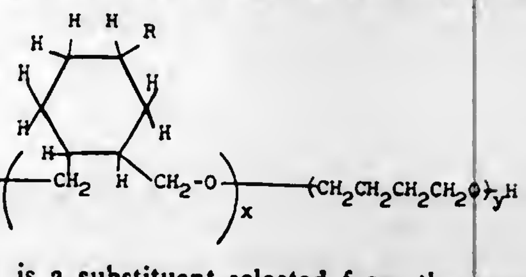
COPOLYMERIC ETHER GLYCOL

Gerald R. Lappin, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 231,588, Oct. 18, 1962. This application Nov. 14, 1966, Ser. No. 593,732

3 Claims. (Cl. 260—611)

1. A copolyether glycol characterized by an essentially trans configuration and having the structural formula



wherein R is a substituent selected from the group consisting of hydrogen or methyl, x and y are integers greater than zero and selected from the group defined by the equations $x<y$ and $x+y=14$ to 70 and wherein the two repeat units are distributed in a substantially random manner in the copolyether molecule.

3,381,039

1,1-DIETHOXY-4-CYCLOHEXYLIDENE BUTANE

Roman Marbet, Riehen, Switzerland, assignor to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed July 7, 1964, Ser. No. 380,927

Claims priority, application Switzerland, July 18, 1963, 8,954/63

1 Claim. (Cl. 260—611)

1. 1,1-diethoxy-4-cyclohexylidene-butane.

3,381,040

PREPARATION OF ORGANIC HALIDES

Leonard Haynes Long and Graham Frederick Freeguard, Exeter, Devon, England, assignors to National Research Development Corporation, London, England

No Drawing. Filed Feb. 9, 1965, Ser. No. 431,461

Claims priority, application Great Britain, Feb. 10, 1964, 5,482/64; Mar. 25, 1964, 12,567/64

14 Claims. (Cl. 260—633)

Process for preparing organic halides by reacting ethers, epoxides, alcohols, aldehydes and ketones with halogens and certain boron compounds.

3,381,041

PURIFICATION OF FLUORINATED COMPOUNDS

Yutaka Kometani, Sanda-shi, Tadahiko Sugino, Osaka-shi, and Yasuyoshi Furukawa, Osaka-fu, Japan, assignors to Daikin Kogyo Kabushiki Kaisha, Osaka-shi, Japan, a juridical person of Japan

No Drawing. Filed Mar. 15, 1965, Ser. No. 439,994

Claims priority, application Japan, Mar. 17, 1964, 39/14,556, 39/14,557

10 Claims. (Cl. 260—653)

Process for purifying an impure fluorinated compound selected from the group consisting of an impure fluorinated alkane of from 1 to 9 carbon atoms selected from the group consisting of fluorinated alkanes consisting of carbon and fluorine and fluorinated alkanes consisting of carbon, fluorine and at least one member of the group consisting of hydrogen, chlorine, bromine and iodine and an impure perfluorinated alkene of from 2 to 9 carbon atoms, each of which contains as impurity at least one halogenated alkene of from 2 to 9 carbon atoms, said halogenated alkene consisting of carbon and at least one member of the group consisting of hydrogen, chlorine, bromine, iodine and fluorine and having at least one member of the group consisting of hydrogen, chlorine, bromine and iodine bonded to at least one carbon atom of the double bond, which process comprises contacting at from 0° to 150° C. for from 10 seconds to 30 minutes the impure fluorinated compound with a mixture of sulfuric acid of at least 50 percent by weight concentration and at least one member of the group consisting of mercury and mercury compounds in the order of from 0.1 to 20 percent by weight per sulfuric acid content in the mixture, and separating the purified fluorinated hydrocarbon from said sulfuric acid-mercury material mixture.

3,381,042

PROCESS FOR PREPARING HALOGENATED PROPANES

Harry L. Yale, New Brunswick, N.J., assignor to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 27, 1967, Ser. No. 612,105

9 Claims. (Cl. 260—653)

This invention relates to a new process for preparing halogenated propanes, particularly 2,2,3,3,3-pentafluoropropanes. The pentafluoropropanes are prepared by first interacting tetrafluoroethylene with an alkali metal or alkaline earth metal fluoride, followed by reaction with a halogenated methane.

3,381,043

PREPARATION OF TELOMERS OF TETRAFLUOROETHYLENE

Hugh Leithead Roberts, Winnington, Northwich, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Mar. 9, 1964, Ser. No. 350,570

Claims priority, application Great Britain, Mar. 20, 1963, 11,052/63

3 Claims. (Cl. 260—653.1)

Telomers of tetrafluoroethylene having the empirical formula $Cl(C_2F_4)_nCl$ where n is an integer from 1 to 5 are made by heating tetrafluoroethylene with phosphorus pentachloride at 100° C. to 200° C. under autogenous pressure, for example 20 to 75 atmospheres for several hours. It is convenient to carry out the reaction in an inert solvent, for example carbon tetrachloride, and it is preferable to separate the individual telomers by gas-chromatography. When the molar ratio of tetrafluoroethylene to phosphorus pentachloride in the reaction mixture is from 1:1 to about 5:1 most of the products have values of n from 1 to 4. When the ratio rises to about 12:1 products for which n is 5 or more predominate.

3,381,044

PROCESS FOR THE PRODUCTION OF SUBSTITUTION-FLUORINATED HYDROCARBONS FROM CHLORINATED HYDROCARBONS

Otto Wiedemann, Munich-Geiselgasteig and Reinhard Leitsmann, Jozsef Juhász, and Rudolf Vetter, Regensburg, Germany, assignors to Chemische Fabrik von Heyden Aktiengesellschaft, Munich, Germany, a stock corporation of Germany

Filed Nov. 12, 1964, Ser. No. 440,337

Claims priority, application Germany, Nov. 13, 1963, C 31,398

7 Claims. (Cl. 260—653.7)

1. A process for the production of fluorinated aliphatic hydrocarbons, comprising the steps of:

(a) passing in a first reaction stage a gaseous mixture of at least one chlorinated lower aliphatic hydrocarbon selected from the group which consists of carbon tetrachloride, chloroform and perchlorethylene and hydrogen fluoride over a halocarbon-fluorination catalyst at a temperature between 60° and 140° C., under a pressure between 2 and 15 atmospheres gauge, and for a contact time sufficient to effect displacement of at least part of the chlorine of said chlorinated hydrocarbon by fluorine from said hydrogen fluoride to produce a first gaseous effluent containing substantial proportions of at least one fluorinated hydrocarbon, unreacted hydrogen fluoride and hydrogen chloride;

(b) reacting substantially all of said unreacted hydrogen fluoride by passing said first gaseous effluent subsequently over a further fluorination catalyst together with an additional quantity of said chlorinated hydrocarbon in stoichiometric excess above that required to monofluorinate said additional quantity of chlorinated hydrocarbon with said unreacted hydrogen fluoride in a second reaction stage and at a temperature exceeding that of said first stage by 30° to 50° C., under substantially the pressure of said first stage and for a contact time sufficient to effect fluorination of fluorinatable components of said first effluent and part of said additional quantity of chlorinated hydrocarbon with said unreacted hydrogen fluoride to produce a second gaseous effluent consisting essentially of hydrogen chloride, fluorinated hydrocarbons and excess chlorinated hydrocarbon, with a negligible residue of hydrogen fluoride; and

(c) separating the fluoro-hydrocarbons from the hydrogen chloride of said second effluent.

3,381,045

CYCLODODECATRIENE 1,5,9 PROCESS

Theodore A. Koch and Herbert S. Eleuterio, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 468,104, June 29, 1965. This application May 23, 1966, Ser. No. 551,889

17 Claims. (Cl. 260—666)

1. A process for the production of cyclododecatriene-

(1,5,9), which consists essentially of contacting a catalyst formed by reacting a compound having the composition

$$Z_{2.4-1.2}Al_2Cl_3O_{0.3-0.9}$$

wherein Z is selected from the class consisting of alkyl radicals containing from 2 to 4 carbon atoms and the phenyl radical, with a titanium compound of the formula TiA_4, wherein A is selected from the class consisting of Cl, Br, I, and OR wherein R is a hydrocarbon radical of from 1 to 20 carbon atoms, in an amount such that the molar ratio of the aluminum compound to the titanium compound is maintained at from 3:1 to 30:1, with butadiene and carrying out the reaction at a temperature of from 20 to 120° C., and recovering cyclododecatriene.

3,381,046

JET AND ROCKET FUEL

Charles A. Cohen, Westfield, and Clifford W. Muessig, Roselle, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Aug. 15, 1966, Ser. No. 577,563

16 Claims. (Cl. 260—666)

1. A process for the production of an improved fuel which may be used in jet and rocket engines which comprises:

(a) hydrogenating an endo dimer of an alicyclic conjugated diene selected from the group consisting of cyclopentadiene, methylcyclopentadiene, and mixtures thereof;

(b) contacting said hydrogenated dimer with an acidic reagent thereby converting at least a portion of endo isomer to its exo isomer;

(c) and separating said exo isomer from said acidic reagent.

3,381,047

CYCLODODECATRIENE-1,5,9 PROCESS

Herbert Sousa Eleuterio and Theodore Augur Koch, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 485,090, Sept. 3, 1965. This application Dec. 7, 1966, Ser. No. 599,721

8 Claims. (Cl. 260—666)

Aliphatic carboxylic acids are employed to increase the rate and yield in the trimerization of butadiene to form cyclododecatriene-1,5,9 using organoaluminum sesquichloride and titanium compounds as catalysts.

3,381,048

ISOMERIZATION OF XYLENE ISOMERS

Lyle M. Lovell, Portage, Ind., and Erwin R. Strong, Flossmoor, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Sept. 16, 1965, Ser. No. 487,898

5 Claims. (Cl. 260—668)

An improvement in the process for isomerizing xylene isomers over a regenerable platinum-alumina-halogen catalyst comprising the use of dry conditions during isomerization and wet conditions during catalyst regeneration. The process conditions are controlled so that the water content of the hydrocarbon process stream during isomerization is between about 20 and 200 parts-per-million by weight and the content of the regeneration gas stream is between about 3,000 and 20,000 parts-per-million by volume.

3,381,049

PREPARATION OF A LOW ACID WASH COLOR CUMENE

Andrew Alexander, Swarthmore, David H. Jack, East Lansdowne, and Bernard A. Kreiter, Media, Pa., assignors to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 18, 1965, Ser. No. 433,611

10 Claims. (Cl. 260—671)

A low acid wash color cumene is prepared from a propylene stream containing at least about 0.1 percent by weight of butylenes. The propylene is initially treated to reduce the butylene content to below 0.1 percent by weight. Benzene is then alkylated with a low butylene content propylene using a phosphoric acid catalyst. The cumene is separated from the butylene benzene product by distillation.

3,381,050

HYDROCARBON CONVERSION

Robert J. Bodre, La Marque, Tex., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed May 11, 1966, Ser. No. 549,151

10 Claims. (Cl. 260—671)

1. A process for the alkylation of an alkylatable aromatic compound which comprises contacting an alkylatable aromatic compound and an ethylenically unsaturated hydrocarbon under alkylating conditions with a complex catalyst which has been formed by reacting an alloy comprising aluminum and copper with hydrogen halide in a hydrocarbon medium.

3,381,051

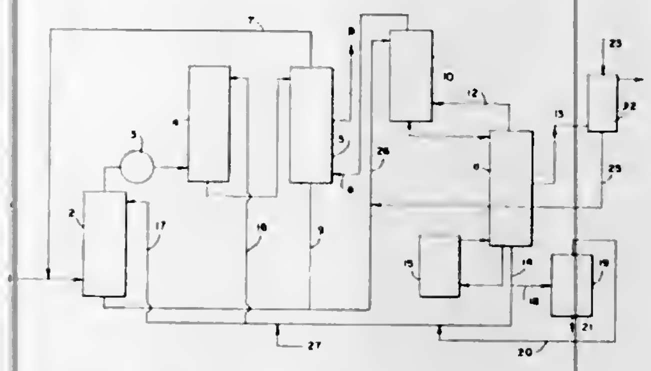
PRODUCTION OF ACETYLENE

André Bergier, Pau, and Jacques Robert, Monein, France, assignors, by mesne assignments, to Badische Anilin- & Soda-Fabrik AG., Ludwigshafen (Rhine), Germany, a corporation of Germany

Filed Mar. 2, 1965, Ser. No. 436,445

Claims priority, application France, Apr. 16, 1964, 971,092

10 Claims. (Cl. 260—679)



The present disclosure relates to preventing the precipitation of polymers, which normally deposit during the solvent extraction of acetylene from hydrocarbon gas pyrolysis in the apparatus through which the acetylene solution travels. This is accomplished by introducing into the solvent, alkali or alkaline earth hydroxides or low acid salts of alkali or alkaline earth cations in concentrations which may be less than 0.2%. This addition causes a lowering of the acidity and of the resistivity of the solvent. If these materials, such as sodium hydroxide, potassium hydroxide, lithium hydroxide, lime, magnesia, baryta, strontium hydroxide, or the low acid salts of these bases, such as the tribasic phosphates and borates, and particularly those of which the acids are volatile, such as the carbonates, are added to the solvent so that the resistivity of the solvent is lower than 300,000 ohm-cm., the deposits are stopped from forming. In such a case, the acidity of the solvent will simultaneously be below 0.002 equivalent per litre.

3,381,052

ISOMERISATION OF OLEFINES

Brian Patrick McGrath, Crowthorne, and Leonard Turner, Woking, England, assignors to The British Petroleum Company Limited, London, England, a corporation of England

No Drawing. Filed Aug. 26, 1965, Ser. No. 482,889

Claims priority, application Great Britain, Sept. 18, 1964, 38,166/64

5 Claims. (Cl. 260—683.2)

The process of the present invention comprises contacting a butene feed at elevated temperatures with a catalyst comprising a borofluoro treated alumina.

3,381,053

EPOXY RESIN COMPOSITIONS CONTAINING GLYCIDYL ETHERS OF HYDROXYMETHYL-1,3-DIOXOLANE

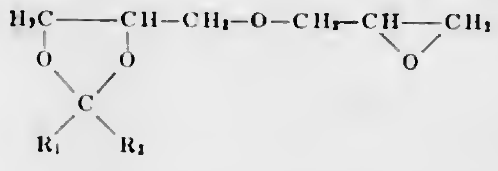
Wilhelm Vogt, Cologne-Sulz, Paul Janssen, Cologne, and Hermann Richtzenhain, Cologne-Sulz, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Bezirk Cologne, Germany, a corporation of Germany

No Drawing. Filed Sept. 9, 1965, Ser. No. 486,238

Claims priority, application Germany, Sept. 1, 1964, D 45,326

20 Claims. (Cl. 260—830)

There are disclosed epoxy resin compositions comprising a curable liquid epoxy resin and as a reactive diluent a glycidyl ether of a 4-hydroxymethyl-1,3-dioxolane having the formula:



wherein R_1 and R_2 are each hydrogen, alkyl (C_{1-10}), aryl and cycloalkyl and wherein R_1 and R_2 taken together can form a cycloaliphatic radical. The foregoing compositions do not undergo crystallization and furthermore have a substantially lower viscosity than the epoxy resin component itself. The invention as disclosed also includes the hardened compositions as well as a method of stabilizing epoxy resins of the type herein against crystallization.

3,381,054

THERMOSETTING MIXTURE OF A MELAMINE-FORMALDEHYDE CONDENSATE AND AN INTERPOLYMER OF A STYRENE MONOMER AND A MALEIC MONOMER

John R. Le Blanc, Wilbraham, Frank S. O'Connell, Holyoke, and Stuart H. Rider, Longmeadow, Mass., assignors to Monsanto Company, a corporation of Delaware

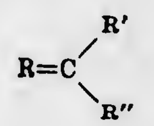
No Drawing. Filed Jan. 2, 1964, Ser. No. 335,404

8 Claims. (Cl. 260—839)

1. A thermosetting resin composition comprising in admixture of

(A) 75–25 weight percent of a thermosetting reaction product selected from the group consisting of melamine formaldehyde, derivatives of melamine-formaldehyde and mixtures thereof with phenol formaldehyde and

(B) correspondingly, 25–75 weight percent of an interpolymer which is the polymerization reaction product of a styrene monomer, a maleic monomer, and a monomer of the formula:



$$R{=}C\begin{matrix}\diagup R'\\ \diagdown R''\end{matrix}$$

wherein R is a cyclic organic radical to which =CR'R" is joined at a carbon atom of an alicyclic ring having at least 6 members, and wherein R' and R" are independently selected from the group consisting of hydrogen and an alkyl radical; wherein the maleic monomer is selected from the group consisting of maleic anhydride, maleic acid and half esters of maleic acid and 1–18 carbon atom monohydric alcohols, and mixtures thereof.

3,381,055

THERMALLY STABLE AND THERMALLY FLEXIBLE THERMOSETTING RESIN COMPOSITION

John R. Le Blanc, Wilbraham, and Joel Fantl, Springfield, Mass., Stuart H. Rider, Kirkwood, Mo., and Frank S. O'Connell, South Hadley, Mass., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 335,359, Jan. 2, 1964. This application July 3, 1967, Ser. No. 650,638

24 Claims. (Cl. 260—848)

Resin products having excellent thermal flexibility and thermal stability employing as starting compositions a mixture of a thermosetting phenol-formaldehyde reaction product and an interpolymer of vinylidene monomer/maleic monomer/terpene monomer which mixture cures to produce the desired resin products.

3,381,056

POLYBLENDS COMPRISING A VINYL CHLORIDE GRAFT COPOLYMER, A POLYESTER URETHANE ELASTOMER AND VINYL POLYMER

Ludwig A. Beer, Agawam, Mass., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Aug. 23, 1965, Ser. No. 481,931

13 Claims. (Cl. 260—859)

Blended compositions may be prepared from 40–97% by weight of a graft copolymer of at least 50% vinyl halide monomer and up to 50% by weight of another monomer copolymerizable therewith in the presence of 4–20% of a polymer selected from chlorinated polyethylene, chlorinated ethylene-propylene copolymers, and copolymers of ethylene with vinyl acetate, vinyl chloride or ethyl acrylate; 3–20% by weight of a polyester urethane prepared by reacting 100 parts of a polyester with a diol and a diisocyanate; and 0–57% vinyl chloride polymer.

3,381,057

CRIMPED POLYESTER FILAMENTS

Tadao Senoo and Yoshizo Onaya, Asaka-gun, Fukushima-ken, Japan, assignors to Nitto Boseki Company Limited, Fukushima-ken, Japan, a corporation of Japan

Filed May 2, 1966, Ser. No. 546,887

6 Claims. (Cl. 260—860)

A polyester filament composition which comprises 50–100 parts by weight of a highly crystalline and rapid crystallizing homopolyester selected from the group consisting of a homopolyester obtained from polymerizing 1,2-bis-(carbomethoxyphenoxy)-ethane with ethylene glycol and homopolyester being polyethylene terephthalate, and said homopolyester being blended with 40–100 parts by weight of a block copolymer resulting from the polymerization of said homopolyester with a polyethylene glycol having a molecular weight of 1,000–6,000.

3,381,058

POLY(1,4-CYCLOHEXYLENEDIMETHYLENE TEREPHTHALATE) FIBER HAVING NONFIBER-FORMING POLYESTER DISPERSED THEREIN

John R. Caldwell and Edward H. Hill, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation of application Ser. No. 78,303, Dec. 27, 1960. This application Aug. 26, 1966, Ser. No. 575,472

1 Claim. (Cl. 260—860)

Dyeability of synthetic fibers is enhanced by the incorporation therein of nonfiber-forming polyesters having a molecular weight of from 1500 to 5000. The polyesters are condensation products of a dihydric alcohol and an aromatic dicarboxylic acid having free hydroxyl groups. For example, the dyeability of poly(1,4-cyclohexylenedimethylene terephthalate is enhanced by including therein from about 3 to 30% by weight of a polyester of 1,4-cyclohexanedimethanol and 5-hydroxyisophthalic acid.

3,381,059

MASS POLYMERIZATION PROCESS IN THE PRESENCE OF AN ALKYLATED PHENOXYPOLY(ALKYLENEOXY)ALKANOL

Alva F. Harris, Wilbraham, Mass., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Oct. 21, 1965, Ser. No. 500,307

13 Claims. (Cl. 260—880)

There is disclosed a mass polymerization process for monovinylidene aromatic hydrocarbons wherein there is incorporated in the polymerizable mixture an alkylated phenoxypoly(alkyleneoxy)alkanol after which the mixture is heated to produce polymerization of the monomers and thereafter the polymerized formulation is separated from the reaction vessel.

3,381,060

LOW DENSITY POLYETHYLENE CONTAINING TWO HIGH DENSITY POLYETHYLENES

Glenn S. Peacock, Somerville, and William H. Joyce, Somerset, N.J., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed July 27, 1965, Ser. No. 475,265

6 Claims. (Cl. 260—897)

The high speed extrudability of a low density polyethylene is improved by the addition of a minor amount of a high density, high molecular weight polyethylene having a melt index of not more than 0.1 and a melt flow of not more than 10 and a minor amount of a second high density polyethylene having a melt index greater than 0.1 and a melt flow greater than 10.

3,381,061

PENTAERYTHRITOL PHOSPHORUS DIISOCYANATES AND PROCESS FOR PREPARING SAME

Rudi F. W. Rätz and Philip M. Pivawer, Hamden, Conn., assignors to Olin Mathieson Chemical Corporation, New Haven, Conn., a corporation of Virginia

No Drawing. Filed July 27, 1965, Ser. No. 475,252

4 Claims. (Cl. 260—927)

3,9 - diisocyanato - 2,4,8,10-tetraoxa-3,9-diphosphaspiro [5.5]undecane-3,9-dioxide is provided in high yield and purity by reaction of 3,9-dichloro-2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undecane with an alkali metal cyanate under selected conditions to provide the corresponding diisocyanate which is then oxidized under selected conditions to provide the -3,9-dioxide. The compound is used to prepare both flexible and rigid urethane polymers.

3,381,062

CYCLIC DIPHOSPHONO-CARBOXYLIC AMIDES

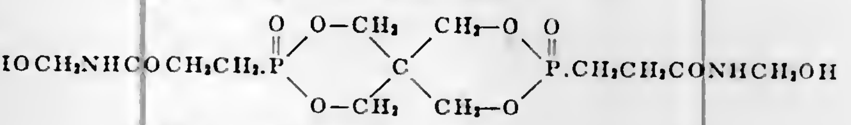
Sheik Abdul-Cader Zahir, Great Shelford, Cambridge, England, assignor to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Original application Apr. 27, 1964, Ser. No. 362,998. Divided and this application May 11, 1967, Ser. No. 649,395

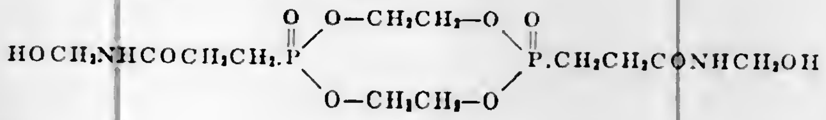
Claims priority, application Great Britain, May 3, 1963, 17,563/63

2 Claims. (Cl. 260—927)

1. The compound of formula:



2. The compound of formula:



3,381,063

CYCLIC PHOSPHONO-CARBOXYLIC AMIDES

Sheik Abdul-Cader Zahir, Great Shelford, Cambridge, England, assignor to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Original application Apr. 27, 1964, Ser. No. 362,998. Divided and this application May 11, 1967, Ser. No. 649,396

Claims priority, application Great Britain, May 3, 1963, 17,563/63

2 Claims. (Cl. 260—937)

1. N - hydroxymethyl - 3 - (2,2 - dimethyltrimethylenephosphono)propionamide.

2. N - hydroxymethyl - 3 - (1 - methyltrimethylenephosphono)propionamide.

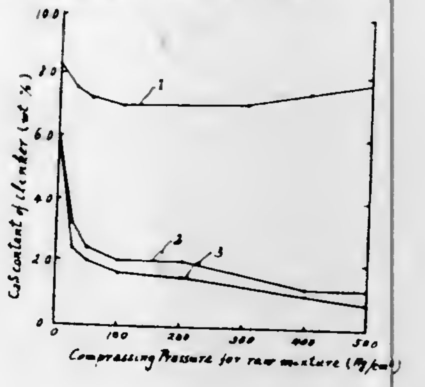
3,381,064

METHOD OF MAKING PSEUDOWOLLASTONITE CLINKER WITH THE ROTARY KILN

Taro Yamaguchi and Fumiko Shido, Tokyo, Japan, assignors to Onoda Cement Co., Ltd., Onoda, Yamaguchi, Japan

Filed Nov. 30, 1966, Ser. No. 598,020

17 Claims. (Cl. 263—53)



1. A method for the preparation of pseudowollastonite clinker which comprises preparing a raw mixture powder consisting of a limy raw material composed at least of one matter selected from limestone, quick lime, slaked lime and wollastonite and of a silicic raw material composed at least of one matter selected from quartz, cristobalite, tridymite and amorphous silica, together with at least one matter selected from those containing at least one element of Li, Na, K, Ba, Pb, Zn, Ti, Al, Fe, B and P as a flux, so that the molecular ratio of CaO/SiO_2 the produced clinker is in the range of 0.5–1..0, forming it into compact grains and sintering the compact grains by using the rotary kiln at a temperature in the range of 1250°–1470° C.

ERRATUM

For Class 264—1 see:
Patent No. 3,380,718

3,381,065

METHOD FOR RESTRICTING PROPELLANT GRAINS

Reinhart P. Deschner, Seymour, Ind., and Charles J. Korpics, Oak Lawn, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed May 27, 1966, Ser. No. 553,274

7 Claims. (Cl. 264—3)

Improved method for producing polyurethane restricted solid propellant grains wherein the heated, restricted grain is subjected to the additional critical step of repressing, at a pressure in excess of 2,000 p.s.i.

3,381,066

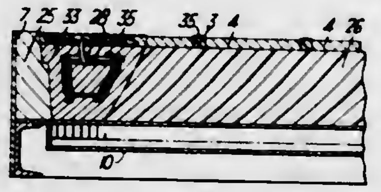
METHOD OF MAKING A TRANSLUCENT PANEL

James N. Lowe, London, England; Patrick Reyntiens, Burleigh House, Loudwater, Buckinghamshire, England; and David Kirby, 5 Riverside Cottages, Wooburn Moor, near High Wycombe, Buckinghamshire, England; said Lowe assignor to said Reyntiens and said Kirby

Filed Sept. 20, 1965, Ser. No. 488,326

Claims priority, application Great Britain, Jan. 27, 1965, 3,602/65

9 Claims. (Cl. 264—71)



1. A method of making a translucent panel comprising the steps of placing a number of formwork islands in the bottom of the mould, positioning metal reinforcement within said mould between said islands, pouring concrete into said mould substantially up to but not above the height of said islands, allowing said concrete to set to form a unitary reinforced load bearing concrete framework, placing pieces of translucent material on said islands to form a mosaic, casting a layer of epoxy resin around said mosaic and on top of said concrete framework and any exposed parts of said islands, allowing said epoxy resin to set, and separating said composite panel from said mould and said formwork islands.

4. A method according to claim 1, wherein said mould is vibrated after said concrete has been poured but before said concrete is set and the setting of said concrete is promoted by heating the bottom of said mould.

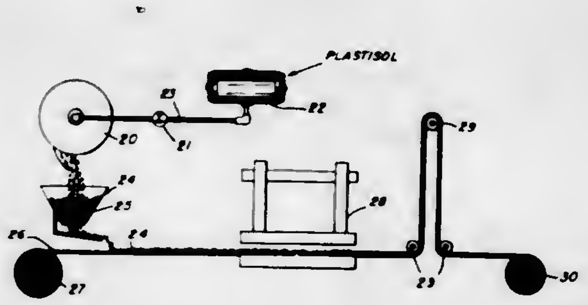
3,381,067

METHOD OF MAKING A TERRAZZO PLASTIC COMPOSITION PRODUCT

James W. Kemmler, Needham, Mass., assignor to Congoleum-Nairn Inc., Kearny, N.J., a corporation of New York

Continuation-in-part of application Ser. No. 707,037, Jan. 3, 1958. This application Mar. 9, 1961, Ser. No. 94,491

7 Claims. (Cl. 264—73)



1. A process for producing a decorative plastic composition sheet suitable for use as a surface covering formed of granules of pigmented vinyl composition surrounded by an area of contrasting coloration which comprises coating small granules of pigmented vinyl plastic composition with a liquid plasticizer, distributing fine particles of vinyl resin on the surface of the coated granules to produce a non-flowable coating and molding the coated granules into a smooth uniform sheet by the application of heat and pressure.

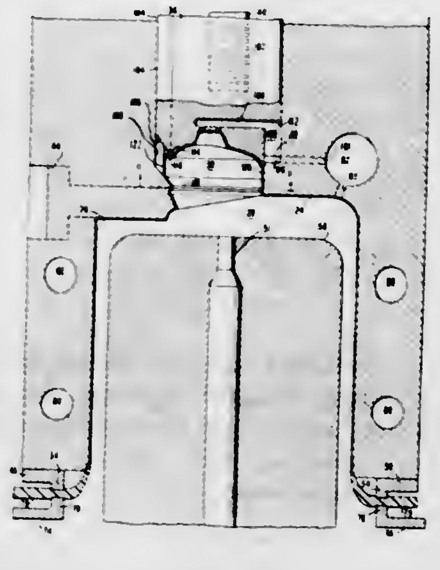
3,381,068

THERMOFORMING AND SCORING METHOD AND APPARATUS

Charles H. Leiper, Bloomfield, and Morton A. Lowenthal, Stamford, Conn., and Wendell B. Shearer, Longmeadow, Mass., assignors to Mobil Oil Corporation, a corporation of New York

Filed July 1, 1965, Ser. No. 468,726

10 Claims. (Cl. 264—89)



A process and apparatus for vacuum forming plastic sheet material into a container body having an integral closure lid connected therewith by a folded and scored tear strip in which the heat-softened sheet is initially shaped in a deep mold cavity containing an extended plunger for shaping an undercut section of the article and a retracted reshaping plunger using a plug assist in combination with vacuum and compressed air while the sheet is clamped outside the periphery of the cavity at distances spaced to regulate the amount of sheet material drawn into the mold cavity for stretching into an article of uniform wall thickness; then the reshaping plunger is advanced to peel material away from part of the mold surface while still in a plastic condition in forming a folded strip around part of the closure of the article and to score a groove in the folded strip.

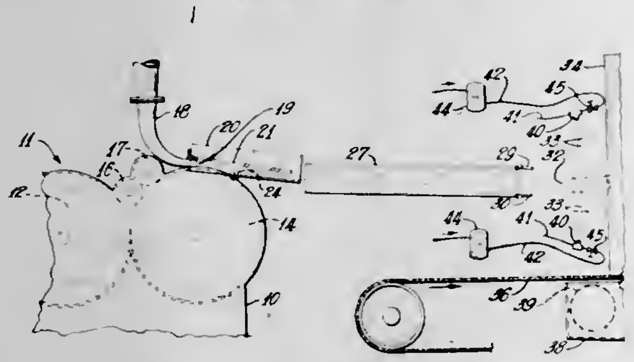
3,381,069

METHOD FOR PRODUCING A FIBROUS MAT

Allen L. Simison, Newark, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Filed July 15, 1965, Ser. No. 472,100

7 Claims. (Cl. 264—91)



A method for making a fibrous mat from waste gatherings of fibers which are horizontally discharged from a toothed cylinder and joined with a merging air stream mixing with the fibers to carry them through a horizontal guiding spout. A binder suspension is sprayed from above and below on the emerging stream of air and fibers which pass to a foraminous receiving surface having suction means therein to draw the fibers and binder into a composite mat.

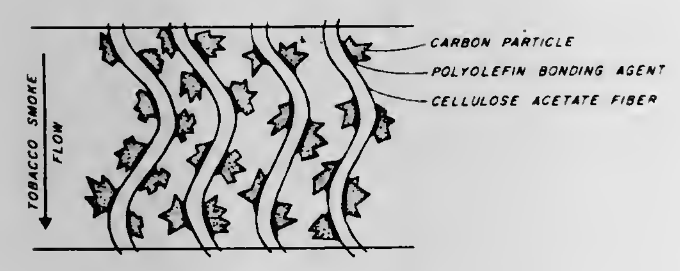
3,381,070

METHOD OF PRODUCING A FILTER ELEMENT

Bobby J. Sublett and George P. Touey, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Sept. 8, 1964, Ser. No. 394,982

1 Claim. (Cl. 264—122)



A method for producing tobacco smoke filter elements made from continuous crimped filaments having a solid particulate additive secured to their surface at random points by a heat sensitive, low melting, finely divided solid particulate bonding agent.

3,381,071

ELECTRICAL CIRCUIT INSULATION METHOD

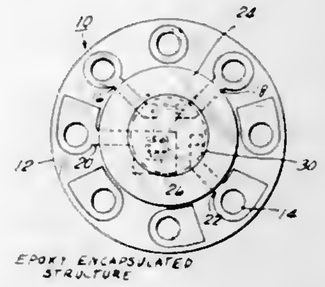
Charles Wayne Logan, New Fairfield, and Robert L. Trent, Westport, Conn., assignors to National Semiconductor Corporation, Danbury, Conn.

Filed Apr. 12, 1965, Ser. No. 447,220

7 Claims. (Cl. 264—135)

1. A process for applying a protective covering for an electrical device having a selected region with connecting conductors having extended portions, said process comprising:

(a) applying a coating of insulating material between the selected region and the extended portions of the conductors to form a boundary for liquid between said selected region and the extended portions of said connecting conductors;



(b) dispensing within the selected region a hardenable viscous liquid to cover said selected region, said formed boundary preventing the flow of said liquid to the extended portions of said conductors; and

(c) hardening said liquid to form a protective covering for said selected region.

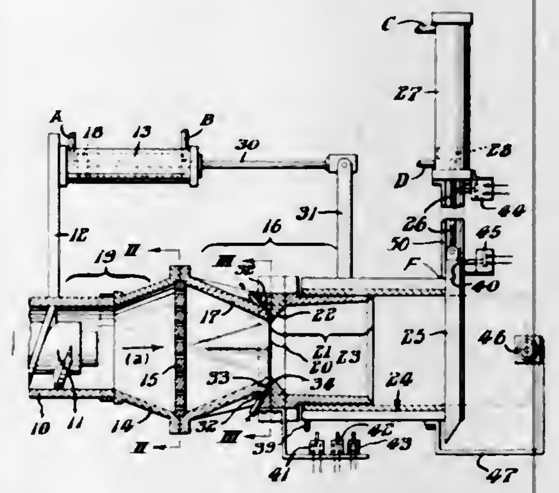
3,381,072

BALE-FORMING MACHINE AND PROCESS

Clifford A. Mutton, Sarnia, Ontario, Canada, Paul H. Rossiter, Paoli, Pa., and Peter Thiessen and Wilfred James Weir, Sarnia, Ontario, Canada, assignors, by direct and mesne assignments, to Welding Engineers, Inc., Norristown, Pa., a corporation of Delaware

Filed Oct. 23, 1963, Ser. No. 318,403

7 Claims. (Cl. 264—148)



4. In a method for forming bales of a deformable material, the steps which comprise advancing said material under pressure along a predetermined path, from the outlet of a feed means to a deforming chamber arranged in fixed position downstream of and in pressure communication with said feed means outlet, compressing said deformable material in a first section of said deforming chamber which section has a cross-sectional area reducing in a downstream direction and which terminates in a restricted throat, forcing said material through said throat and allowing said material to expand in an expansion section of said deforming chamber which section expands in a downstream direction from said throat, allowing said material to pass from said deforming chamber into a second chamber, located downstream of said deforming chamber, and adapted to slide axially back and forth over a portion of the length of the downstream end of the expansion section, and in which said material is completely confined by a cutting means disposed across the downstream end of said second chamber, said cutting means being adapted to move in unison with said second chamber, periodically retracting said cutting means to allow periodic displacement of said material from said chamber, then retracting said second chamber in an upstream direction to displace further said material from said chamber, and then actuating said cutting means to cut off said displaced material.

3,381,073

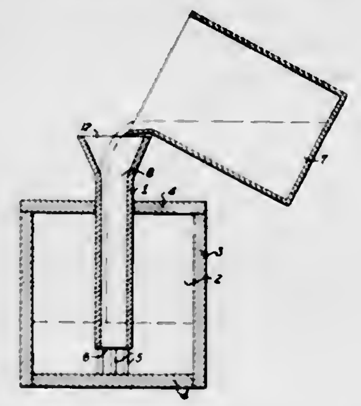
PROCESS FOR CASTING ARTICLES

Edgard Brichard, Jumet, Adolphe Dupont, Marcinelle, and Jean De Keersmaecker, Couillet, Belgium, assignors to Glaverbel, Watermael-Boitsfort, Belgium, a Belgian company

Continuation-in-part of application Ser. No. 206,984, July 2, 1962. This application July 21, 1965, Ser. No. 473,870

Claims priority, application Belgium, July 4, 1961, 482,487

7 Claims. (Cl. 264—154)



1. The method of casting refractory materials which are fusible at high temperatures to form articles of large size having openings extending through the bodies thereof, comprising pouring the refractory material in molten liquid form from a pouring device at a place spaced from the exterior of the mold into a guiding column independent of the mold, and constituted of a refractory material compatible with the refractory material being cast so as to be unitable therewith and having a melting point above that of the molten material being cast and such that the column retains its configuration throughout the pouring operation to form the opening in the body of the article, and using such column to guide the poured material from such exterior place to at least one selected discharge level spaced from the interior walls of the mold, and in guiding the material poured from such device into the mold braking the downward flow of such material to reduce the violence of the feed thereof so that such material will discharge into the mold at said selected discharge level without splash and with a minimum of force toward any interior wall portion of the mold, cooling the poured molten material and the refractory material of the guiding column to unite said guiding column with the casting formed by the poured molten material, exerting force on the solidified poured material in the interior of the column portions of the column to convert it into a liner for such opening in the article.

3,381,074

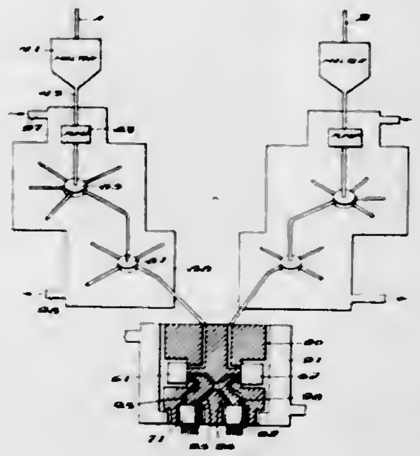
PROCESS FOR SPINNING BICOMPONENT FILAMENTS

James C. Bryan, Waynesboro, Va., and Robert D. Hurt, Chattanooga, Tenn., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Application Nov. 4, 1963, Ser. No. 332,320, now Patent No. 3,200,440, dated Aug. 17, 1965, which is a continuation-in-part of abandoned application Ser. No. 245,195, Dec. 17, 1962. Divided and this application May 19, 1965, Ser. No. 456,922

3 Claims. (Cl. 264—171)

A method for melt-spinning composite fibers having improved quality, uniformity and the like which in general includes the steps of melting a fiber-forming polymeric material in a continuous stream, subdividing the stream, maintaining each portion under like temperature for an equal length of time, and delivering each portion to a predetermined point of entry to several melt-spinning spinneret assemblies, while simultaneously delivering at least one other fiber-forming molten polymeric material in like manner to another predetermined point of entry to each spinneret assembly.



3,381,075

PROCESS FOR PREPARATION OF VISCOSE REGENERATED CELLULOSE FIBERS

Hitoshi Tonami, Yoichi Uchida, and Tatsuo Fujii, Iwakuni-shi, Yamaguchi-ken, Japan, assignors to Teijin Limited, Osaka, Japan, a corporation of Japan

No Drawing. Filed May 27, 1963, Ser. No. 283,540

Claims priority, application Japan, May 28, 1962, 37/21,065

2 Claims. (Cl. 264—193)

1. In a process for the preparation of regenerated cellulose fibers from viscose, the improvement which comprises producing cellulose xanthate from an alkali cellulose having a relatively high degree and even distribution of polymerization which has been obtained by using pulp having an average degree of polymerization of not less than 1200, adding and dissolving in the cellulose xanthate an additive selected from the group consisting of an alkylene oxide polymer, an adduct of an amine with an alkylene oxide, and an acid amide to make a viscose, said additive being added in such proportion that the viscose contains 0.15 to 0.30 percent of the same, spinning said viscose at a temperature of 20° C. to 45° C. in a first spinning bath containing 0.005–0.3 percent of a divalent metallic salt, thereafter subjecting the resultant filaments having a regeneration value of 40–60 percent to tension in a second bath having a temperature of at least 80° C. and a sulfuric acid concentration of not more than 1.5 percent.

3,381,076

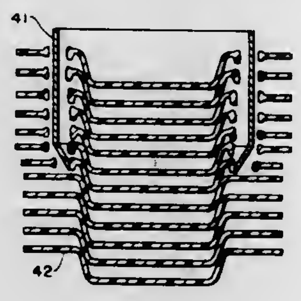
METHOD FOR SHAPING AND FORMING SELECTED PORTIONS OF A FOAMED SHEET

Charles A. Govatsos, 33 Westgate Road, Wellesley, Mass. 02181

Filed Nov. 23, 1964, Ser. No. 413,215

4 Claims. (Cl. 264—321)

Heat expandable foamed plastic trays are formed with marginal reinforcing ribs by applying heat to the edge portion only of the tray to produce a post expansion of the edge portion. The application of localized heat will increase the thickness of the edge portion with respect to the remaining portion of the tray thereby providing greater strength and stability to the tray.

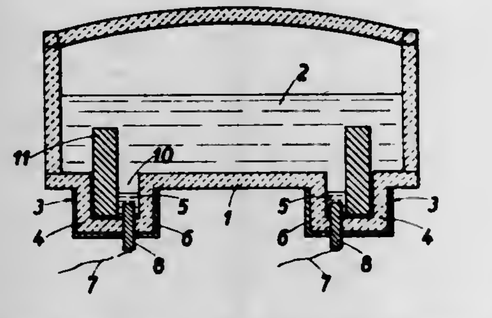


3,381,077
METHOD FOR INFLATING CLOSED CELL FOAMS
Willard Hallam Bonner, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Jan. 26, 1966, Ser. No. 523,077
9 Claims. (Cl. 264—321)

1. Method for introducing an impermeant inflatant into the closed cells of a low-density cellular structure formed of a film-forming high-molecular-weight polymer, said cellular structure having a major proportion of closed cells defined by gas-permeable walls and being characterized in that it is yieldable such that substantial deformation occurs under externally applied pressures, which method comprises the steps of (1) exposing said cellular structure to a non-solvent, volatile, plasticizing fluid at a temperature equal to or less than its normal boiling point, (2) transferring the structure, while still wet with and plasticized by the plasticizing fluid, to a fluid bath comprising impermeant inflatant, and (3) exposing the structure to an air atmosphere.

ELECTRICAL

3,381,078
ELECTRODE DEVICE FOR ELECTRIC FURNACES
Emile Plumat, Gilly, and Alfred Jacobs, Montignies-sur-Sambre, Belgium, assignors to Glaverbel S.A., Brussels, Belgium
Filed Feb. 4, 1966, Ser. No. 525,022
Claims priority, application Luxembourg, Mar. 12, 1965, 48,186
9 Claims. (Cl. 13—6)

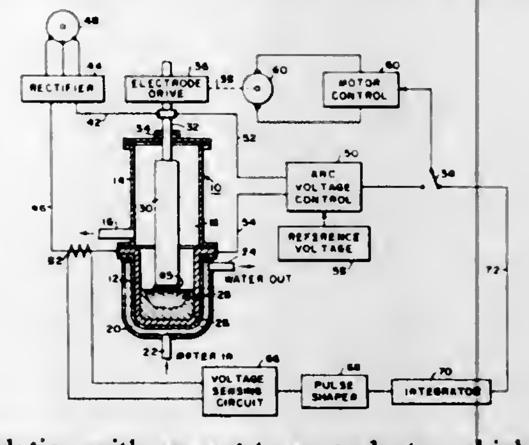


1. In combination with an electrically heated furnace having a melting tank for melting a mass of material, a plurality of electrodes disposed around the periphery of the melting tank, each of said electrodes comprising:

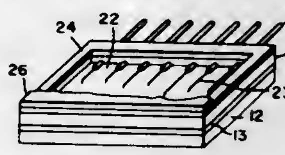
(a) a pocket whose walls are made of refractory material;
(b) a mass of liquid metal contained in said pocket for contacting the material to be melted;
(c) electric current supply means conductively connected to said mass of liquid metal; and
(d) electrically conductive means made of a material which is different from, and which has a higher electrical conductivity than, the material to be melted, said conductive means being disposed between said mass of liquid metal and the region of the melting tank which is to be occupied by the mass of material to be melted.

3,381,079
ELECTRODE REGULATING SYSTEMS FOR ARC MELTING FURNACES
James B. Murtland, Jr., Natrona Heights, Pa., Harold S. Jackson, Troy, N.Y., and Charles F. Rebhun, Natrona Heights, Pa., assignors to Allegheny Ludlum Steel Corporation, Brackenridge, Pa., a corporation of Pennsylvania
Filed Sept. 18, 1964, Ser. No. 397,589
7 Claims. (Cl. 13—13)

Control system for direct current consumable electrode furnaces based upon the detection of discontinuities (i.e., pulses) in the arc voltage, and in particular a control system of the type described wherein the discontinuities are detected by means of an inductive coil positioned in inductive relation with respect to a conductor which carries the arc current to the arc gap, or a conductor in which arc currents are inductively induced.

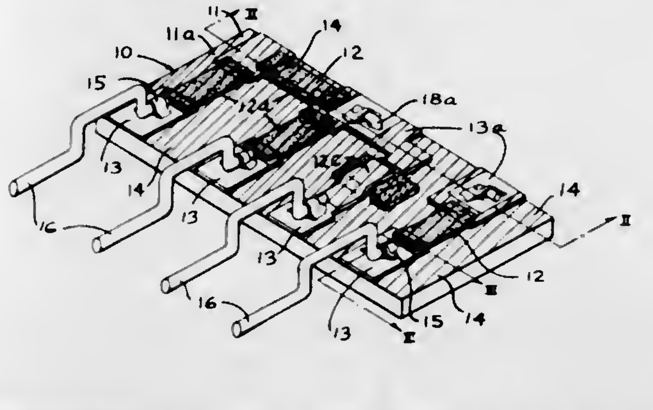


3,381,080
HERMETICALLY SEALED SEMICONDUCTOR DEVICE
John P. Stelmak, Greensburg, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 2, 1962, Ser. No. 206,906
5 Claims. (Cl. 174—52)



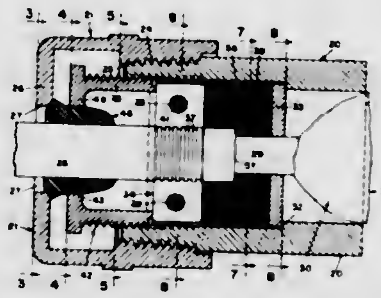
1. In a hermetically sealed semiconductor device, a relatively thin base plate of an insulating material having a metallized surface, an apertured glass plate unit joined to said surface, the aperture in the glass plate unit extending completely through the glass plate, said glass plate enclosing an exposed portion of the surface of said base plate, metal leads hermetically sealed within and extending through the sides of the glass plate unit with portions of the leads exposed within the aperture, each lead being enclosed completely about a longitudinal increment of said lead by the material of said glass plate unit to provide electrical independence, said leads extending beyond the periphery of said base plate, a semiconductor device disposed on said base plate within the aperture and connected to the exposed portions of the leads, the base plate comprised of a material having good thermal conductivity and having thermal coefficient of expansion characteristics closely similar to that of the material of the semiconductor device, said glass plate unit extending from said base plate beyond said semiconductor device, a metal frame joined to the glass plate unit and a cover plate joined to the frame whereby the semiconductor device is hermetically sealed within the aperture.

3,381,081
ELECTRICAL CONNECTION AND METHOD OF MAKING THE SAME
Willis L. Schalliol, Lafayette, Ind., assignor to CTS Corporation, Elkhart, Ind., a corporation of Indiana
Filed Apr. 16, 1965, Ser. No. 448,754
14 Claims. (Cl. 174—68.5)



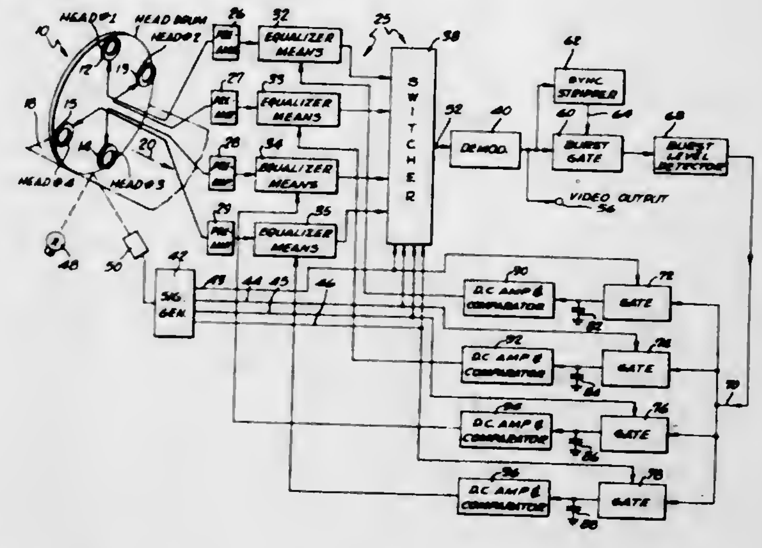
An electrical connection and a method of making the same for connecting a conductor to a conductive land bonded to a substrate and connected to an electrical device supported on a surface of the substrate. The conductor preferably provided with a footed lead is initially tacked to a layer of tack solder bonded to the conductive land and then a fillet of solder having a melting temperature lower than the tack solder is bonded to the layer of tack solder and to the portion of the conductor anchored to the tack solder. The conductor can pass through an opening provided in the substrate when the electrical device is on or spaced from the other surface of the substrate. Spaced electrodes can be employed for melting the tack solder which can be in the form of preformed chip.

3,381,082
CABLE SPLICERS AND THE LIKE
George E. Peterson, Chicago, Ill., assignor to Communication Equipment and Engineering Company, Chicago, Ill., a corporation of Illinois
Filed Nov. 15, 1965, Ser. No. 507,736
16 Claims. (Cl. 174—93)



A cable splice unit by which the stripped end portion of the cable is encased by a plastic-like substance within a closed space, with provision for producing a strong compressive force on such substance, to drive it thoroughly into engagement with the stripped cable surfaces and with the interior surfaces of the space which encloses such substance, to produce a tight and gas proof seal against the stripped cable surface and the surface of the enclosure.

3,381,083
MAGNETIC RECORDER EQUALIZATION SYSTEM HAVING CONTINUALLY ADJUSTED COMPENSATION
Peter W. Jensen, Fremont, Charles H. Coleman, Belmont, and Allen J. Trost, Santa Clara, Calif., assignors to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Mar. 12, 1965, Ser. No. 439,307
10 Claims. (Cl. 178—5.2)



1. An equalization system for a recorder employing a recording medium having an equalizer correction signal and information signal recorded thereon, comprising:

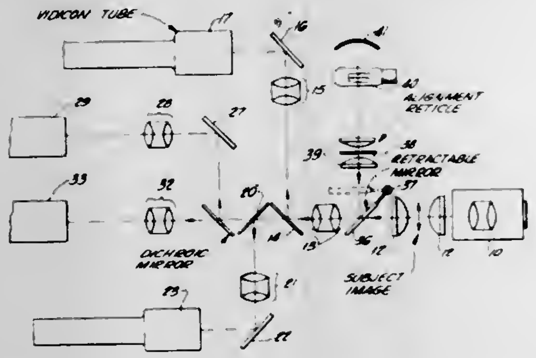
a transducer means for transducing said information signal and said correction signal from the recording medium;
equalizer means for compensating for the normal response of said transducer means over at least a part of the frequency range of signals reproduced by said transducer; and
equalizer correction means for receiving said correction signal from said transducer and for applying a correction signal to said equalizer means to continually and automatically adjust the compensation of said equalizer means, whereby the operation and efficiency of said transducer is maintained during changing conditions.

3,381,084
COLOR TELEVISION CAMERA OPTICAL SYSTEM
Lionel H. Wheeler, Glendale, Calif., assignor, by mesne assignments, to Mannie Feigenbaum
Filed June 1, 1964, Ser. No. 371,287
6 Claims. (Cl. 178—5.4)

1. In a color television camera:
an objective lens for forming a polychromatic aerial image of a subject;
a relay lens optically aligned with said aerial image and with said objective lens, said relay lens being spaced from said aerial image by a distance approximately equal to the focal length of said relay lens whereby said relay lens projects said aerial image to infinity, and being spaced from said objective lens so as to form an image of the aperture thereof;
a pair of partially reflecting mirrors positioned in the beam of light transmitted through said relay lens, said mirrors separating said beam into selected wave length bands of light;

a plurality of television camera tubes having photosensitive faces, a first of said tubes being optically aligned with the wave length band reflected by the first of said mirrors, a second of said tubes being optically aligned with the wave length band reflected by the second of said mirrors, and a third tube being optically aligned with the wave length band transmitted by both of said mirrors; and

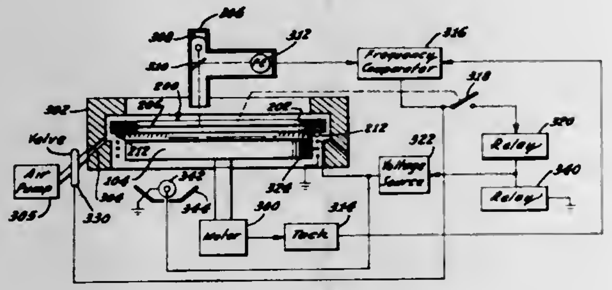
a plurality of focusing lenses associated with said mirrors, said tubes and said relay lens, each of said lenses being positioned in one of said bands of light between said mirrors and their associated television camera tubes, each lens being positioned relative to its respective camera tube to have its focal plane coincident with the sensitive face of said tube whereby color separation representations of said aerial image are formed on the faces of said tubes, each focusing lens further being positioned relative to said relay lens such that said image of said aperture of said objective lens is focused thereat.



3,381,085
DUPLICATION OF VIDEO DISC RECORDINGS

Wayne R. Johnson, Los Angeles, and Dean L. De Moss, Glendale, Calif., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Filed May 9, 1962, Ser. No. 193,534
12 Claims. (Cl. 178—6.7)



1. A transducing system for use with a recording member having characteristics for storing variable information on the recording member in a track in the form of variable light transmission characteristics representative of such variable information, including,

first means disposed relative to the recording member for producing a flow of fluid,

second means operatively coupled to the recording member and having characteristics for converting the flow of fluid to a rotary movement of the recording member,

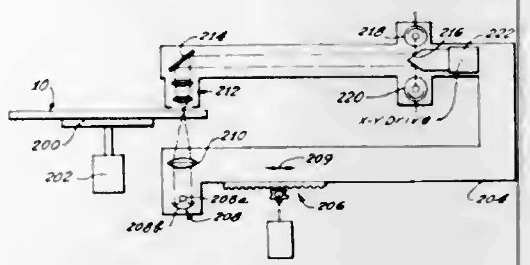
means operatively coupled to the first means and disposed relative to the second means for directing the flow of fluid from the first means toward the second means to produce a rotation of the recording member in a free-floating state, and

means disposed relative to the recording member for obtaining a transducing action between the variable information and the variable light transmission characteristics in the track on the recording member during the rotation of the recording member.

3,381,086
REPRODUCTION OF TELEVISION SIGNALS FROM PHOTOGRAPHIC DISC RECORDINGS

Dean L. De Moss, Glendale, and David Paul Gregg and Wayne R. Johnson, Los Angeles, Calif., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Continuation-in-part of application Ser. No. 181,392, Mar. 21, 1962. This application Aug. 16, 1962, Ser. No. 217,408
24 Claims. (Cl. 178—7.1)



1. In combination for use with a medium having at successive positions variable characteristics representing information recorded on the medium of visual images to obtain the reproduction of such information where the variable characteristics of the medium control the amount of light passing from the medium upon the direction of light toward the medium and where the information recorded on the medium at each successive position represents substantially less than a complete visual image,

means for providing a continuous movement of the medium to present the successive positions on the medium for the reproduction of the recorded information,

means disposed on one side of the medium for continuously directing a beam of energy toward the medium at each instant of time to obtain variations in the intensity of the energy at that instant passing from the medium at one of the successive positions in accordance with the characteristics of the medium at that one of the successive positions,

means responsive to the variations in intensity of the beam of energy passing at each instant from the medium at one of the successive positions for converting such energy into signals having characteristics corresponding to the intensity of such energy at that instant, and

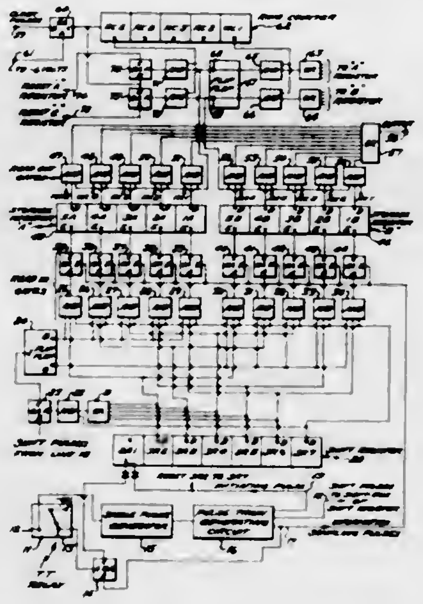
means responsive to the energy passing from the medium at each instant for controlling the rate of presenting at that instant the successive positions on the medium for the passage of the energy at that instant to the converting means to obtain an accurate reproduction of the information on the medium.

3,381,087
TELETYPEWRITER TO TRANSMITTER CONVERTER

William J. Achramowicz, Leicester, and Stanwood Ayer, Lexington, Mass., assignors to the United States of America as represented by the Secretary of the Air Force

Filed Apr. 14, 1964, Ser. No. 359,802
1 Claim. (Cl. 178—26)

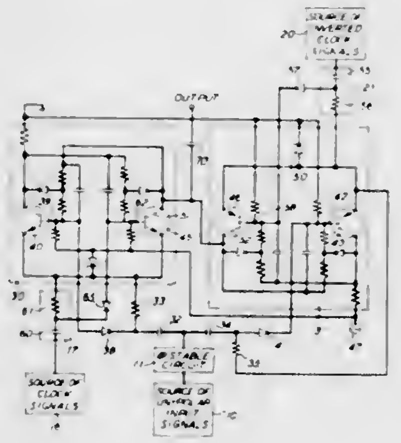
Teletypewriter non-synchronous code to synchronous code converter having a pulse train generator controlled by a teletypewriter relay fed into a shift register and alternately transferring the data to two storage registers. A ring counter controls the storage register reset and readout at frequency determined by clock pulses fed into the ring counter.



3,381,088
UNIPOLAR TO BIPOLAR PULSE CONVERTER

Norman E. Lentz, North Andover, Mass., and Donald E. Mack, West Webster, N.Y., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Aug. 12, 1964, Ser. No. 389,123
3 Claims. (Cl. 178—70)


SOURCE OF INVERTED CLOCK SIGNALS
OUTPUT
BISTABLE CIRCUIT
SOURCE OF CLOCK SIGNALS
SOURCE OF UNIPOLAR INPUT SIGNALS

1. A unipolar to bipolar pulse converter comprising, a first bistable circuit employing two transistors of one conductivity type, a second bistable circuit employing two transistors of conductivity type opposite that of said first bistable circuit, an output circuit connected to the collector electrodes of the transistors of said two bistable circuits that are normally nonconducting, a source of unipolar input pulses, the series combination of a bistable circuit connected to receive said unipolar pulses whose output is connected to the input of a differentiator circuit at whose output pulses of alternating polarity are generated in response to the unipolar input pulses, diode circuits for steering said pulses from said output of said differentiator circuit to that normally conducting transistor of the respective one of said bistable circuits that responds to such polarity to render said transistor nonconductive and thus render the other transistor of the respective bistable circuit conductive, a source of pulses of opposite polarity occurring simultaneously at a predetermined time after each pulse from the output of said differentiator circuit, and connections for applying the pulses of proper polarity from said source of pulses of opposite polarity to said other transistors of said bistable circuits to render said other transistors nonconductive.

3,381,089
DATA TRANSMISSION APPARATUS

Richard L. Delanoy, Huntsville, Ala., Donald F. Foreman, Vestal, and George J. Laurer, Endwell, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Oct. 1, 1964, Ser. No. 400,828
10 Claims. (Cl. 178—70)

1. Direct current coupled data transmission apparatus comprising

a source of bivalued data signals referenced about ground in true and complemented form;

a balanced driver including

a first pair of transistors of opposite conductivity type having base and emitter electrodes,

means for applying the true data signals to both base electrodes,

a second pair of transistors of opposite conductivity type having base and emitter electrodes, and

means for applying the complement data signals to the latter base electrodes;

a transmission line substantially longer than two hundred feet and having two input terminals, two output terminals, and a terminating impedance, one input terminal coupled to the emitter electrodes of one pair of transistors and the other input terminal coupled to the emitter electrodes of the other pair of transistors;

a line terminator including

a third pair of transistors of the same conductivity type having emitter electrodes coupled to each other, base electrodes each connected to a respective transmission line output terminal, and collector electrodes,

means including a transistor providing a constant current source for the latter emitter electrodes, and

means operating the third pair of transistors as a differential amplifier;

a load; and

means including a transistor coupled to one of the latter collector electrodes applying signals to the load alternatively at one or the other of two constant current levels.

3,381,090
BALANCED LINE DRIVER

Carter E. Dorrell, Owego, and George J. Laurer, Endwell, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Oct. 1, 1964, Ser. No. 400,768
5 Claims. (Cl. 178—70)

1. Direct current coupled transmission apparatus comprising:

a balanced line driver including

a source of operating potential,

a pair of transistors of the same conductivity type, each having base, emitter and collector,

a source of bivalued complementary input signals,

impedance means coupling the source of input signals to the base electrodes of the transistors to cause alternative operation of the transistors at cutoff and in saturation,

substantially equal impedances coupling each collector and each emitter to the source of potential,

a first pair of similarly poled Zener diodes connected in series between the collector of one transistor and the emitter of the other transistor and energized in their reverse breakdown mode by the source of operating potential, and

- a second pair of similarly poled Zener diodes connected in series between the other collector and emitter and energized in their reverse breakdown mode by the source of operating potential;
- a transmission line having a pair of input terminals connected to respective junctions between each diode pair and having output terminals; and
- a differential amplifier connected to the output terminals and controlled by the polarity of the current flow in the transmission line.

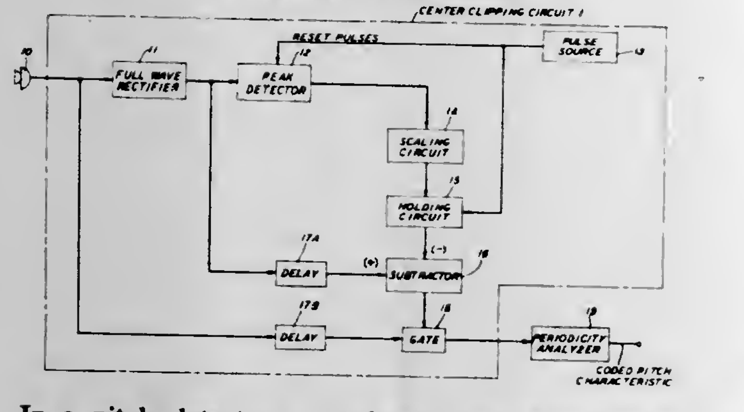
3,381,091

APPARATUS FOR DETERMINING THE PERIODICITY AND APERIODICITY OF A COMPLEX WAVE

Man M. Sondhi, Princeton, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed June 1, 1965, Ser. No. 460,100

5 Claims. (Cl. 179—1)



In a pitch detector, to enhance the determination of periodicity, certain formant peaks are suppressed by center-clipping the speech wave using a conventional peak detector and a gating circuit which, for the duration of successive sampling intervals, passes only those peaks greater in absolute amplitude than a threshold level established as a linear function of the maximum absolute amplitude occurring within that interval.

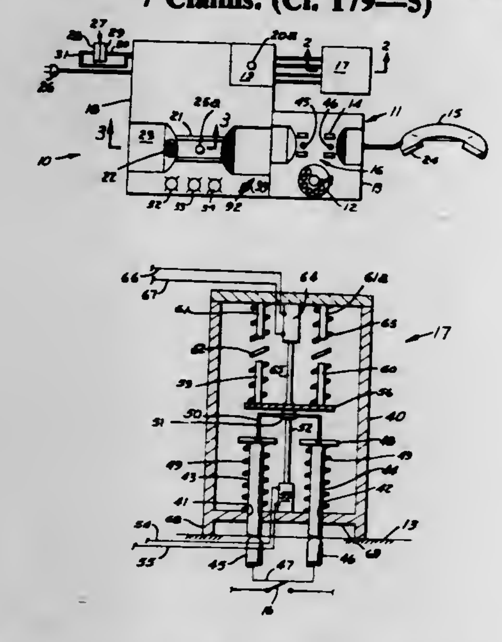
3,381,092

AUTOMATIC TELEPHONE ALARM SYSTEM WITH PARTICULAR HOOK SWITCH PULSER ARRANGEMENT

Lillian O. McEwen, 1738 Kurtz St., and Harold W. Ulmer, 306 N. Clementine St., both of Oceanside, Calif. 92054

Filed June 18, 1964, Ser. No. 376,005

7 Claims. (Cl. 179—5)



This invention relates to an alarm which is set off by a sensor that detects an intrusion or other variation from a normal condition. A telephone installation is included which has a dialing circuit. The dialing circuit is actuated to dial a predetermined number when a variation is detected, after which a recorded message is delivered, advising the intended recipient of the variation.

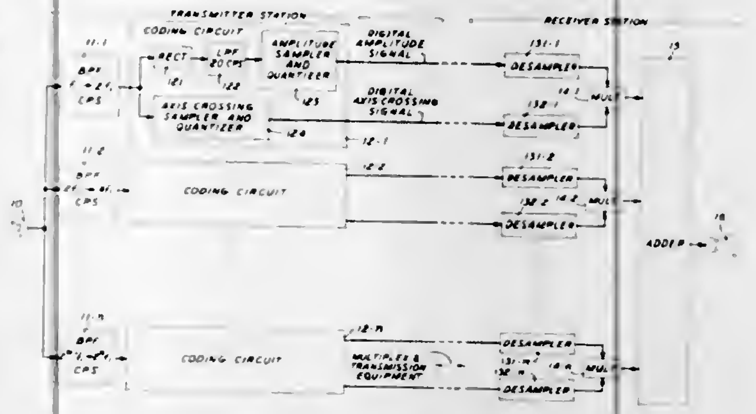
3,381,093

SPEECH CODING USING AXIS-CROSSING AND AMPLITUDE SIGNALS

James L. Flanagan, Warren Township, Somerset County, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Aug. 4, 1965, Ser. No. 477,152

10 Claims. (Cl. 179—15.55)


TRANSMITTER STATION
RECEIVER STATION
CODING CIRCUIT
RECT
LPF 20 CPS
AMPLITUDE SAMPLER AND QUANTIZER
DIGITAL AMPLITUDE SIGNAL
AXIS CROSSING SAMPLER AND QUANTIZER
DIGITAL AXIS CROSSING SIGNAL
DESAMPLER
MULT
ADDER
MULTIPLEX TRANSMISSION EQUIPMENT

1. A communication system for conveying the information content of a speech wave over a channel of relatively small capacity which comprises,
   - means for dividing said speech wave into contiguous frequency subbands,
   - means for transmitting to a receiver station in coded form each axis crossing of each of said subbands and the short-time average amplitude variations of each of said subbands, and at said receiver station,
   - means for reconstructing a replica of said speech wave from said axis crossings and said short-time average amplitude variations.

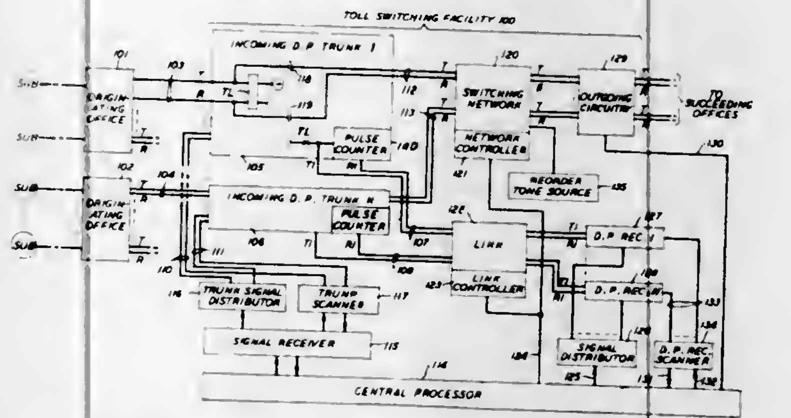
3,381,094

DIAL PULSE INCOMING TRUNK HAVING A SELF-CONTAINED PULSE COUNTER

John A. Hackett, Matawan, and Carlos A. Sepulveda, Jackson, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 8, 1964, Ser. No. 402,532

30 Claims. (Cl. 179—18)



A switching system is disclosed wherein a plurality of incoming dial pulse trunks, each capable of counting and registering the initial two pulses of the first digit of a call, permit a toll office to receive dial pulses immediately upon seizure of an incoming trunk, without the necessity of waiting for an idle dial pulse receiver to be connected. When connected, the receiver counts any additional pulses (beyond two) of the first digit, updates its count by the number of pulses registered in the trunk, and counts all pulses of subsequent digits after the trunk circuit counter has been disabled.

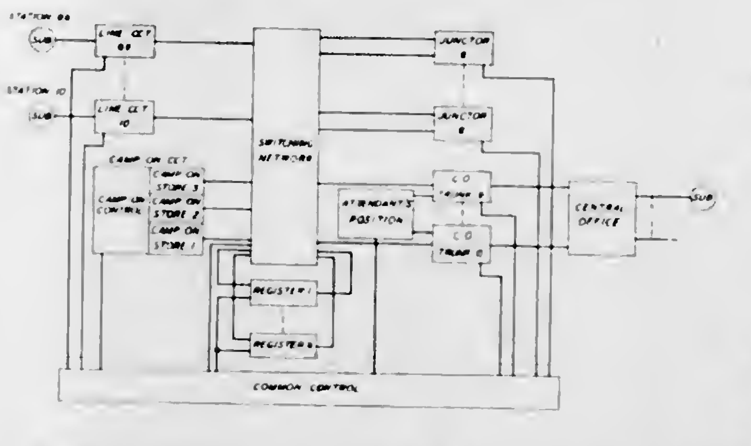
3,381,095

CAMP-ON CIRCUIT

William E. Baker, Middletown, Vincent R. De Stefano, Lincroft, and Henry A. Meise, Jr., Middletown Township, Monmouth County, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Jan. 19, 1965, Ser. No. 426,508

39 Claims. (Cl. 179—27)



A PBX equipped for camp-on service is disclosed which upon the receipt of an incoming call directed to a busy line, establishes a network connection between the calling circuit and a camp-on circuit. Subsequent to the establishment of this connection, (1) the number of the line to be camped on is transferred from a called number register to a register in the camp-on circuit, (2) the number on each call subsequently served by the system is compared with that in the camp-on register in order to assure that the party connected to the camp-on circuit is given priority in obtaining a connection to the camped-on line, (3) the busy state of the camped-on line is repeatedly tested under control of the camp-on register, and (4) the waiting call is connected to the camped-on line when it becomes idle.

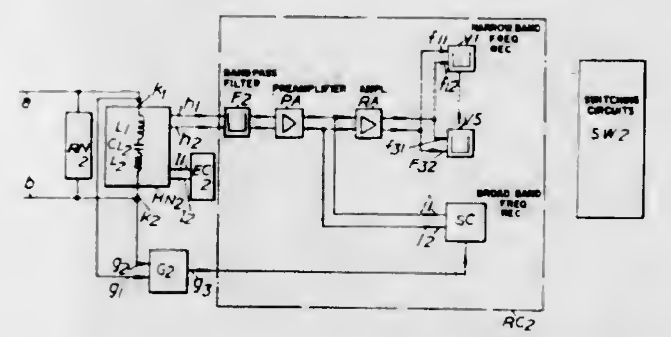
3,381,096

SIGNALLING AND DETECTING SYSTEMS

Guido Maria Josepha Benedikt Thyssens, Ekeren, Belgium, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 8, 1964, Ser. No. 394,984

9 Claims. (Cl. 179—84)



A compelled multi-frequency signalling system wherein the receiver comprises a plurality of narrow band frequency receivers and a broad band frequency receiver. A code verifying bistable device is operated when one of a number of predetermined combination of the narrow band receivers is operated. The bistable device is maintained operated as long as the broad band receiver is actuated.

3,381,097

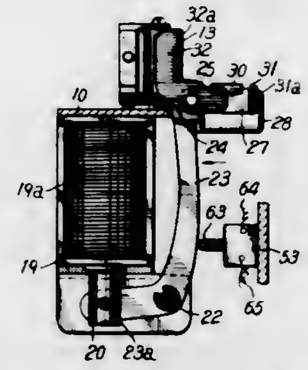
MECHANOELECTRIC ELIMINATION OF RESIDUAL MAGNETIZATION UTILIZING A SEPARATE BIAS HEAD

Katsuya Atsumi, Ohta-ku, Tokyo, Japan, assignor to Akai Electric Co., Ltd., Tokyo, Japan, a corporation of Japan

Filed Feb. 3, 1964, Ser. No. 341,883

Claims priority, application Japan, Feb. 7, 1963, 38/4,775

5 Claims. (Cl. 179—100.2)



A tape recorder chassis panel is provided with an erase head, a record head and a playback head mounted in a row adjacent each other. A bias head is mounted on the panel opposite the record head and may be moved, through a segmental gear and pinion mechanism, between an on-service position adjacent the record head and an off-service position more remote from the record head. As this biasing head is retracted to its off-service position, a switch is automatically operated to close an energizing circuit for the biasing head during at least part of the entire retracting movement, whereby a gradually diminishing demagnetizing field is applied to the record head to avoid undesirable residual magnetization therein.

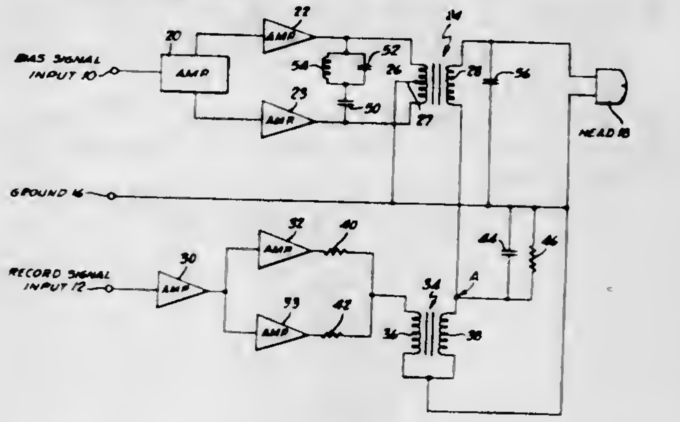
3,381,098

RECORD BIAS SUPPLY

Evangelos I. Pezirtzoglou, Mountain View, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Nov. 18, 1964, Ser. No. 412,188

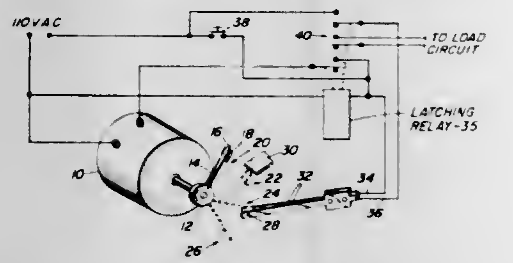
8 Claims. (Cl. 179—100.2)



1. A circuit for applying a bias signal and a record signal to the head of a magnetic tape recorder, comprising: a bias signal input terminal, a record signal input terminal, a magnetic head having windings, a bias transformer having a first primary and a first secondary, said first primary being coupled to receive bias signals from said bias signal input terminal, means for eliminating all signals other than the bias signals appearing on said first primary, a record signal output transformer having a second primary and a second secondary, one end of said second primary and one end of said second secondary being joined, the other end of the second primary being coupled to the record signal input terminal, the other end of the second secondary being coupled to a first end

of the first secondary, a second end of the first secondary being coupled to the head windings, and means coupled between the bias transformer secondary and the record signal transformer secondary for shunting the bias signal to ground.

3,381,099
SEMI-BALLISTIC SWITCH MECHANISM
**John F. Marchand, 445 E. 65th St.,
New York, N.Y. 10021
Filed Nov. 26, 1965, Ser. No. 509,842
10 Claims. (Cl. 200—38)**

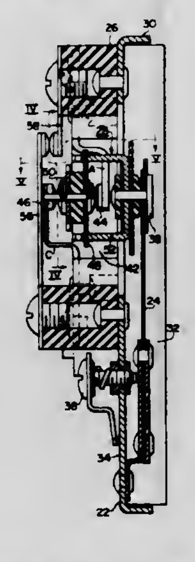


A timer with a slow turning shaft is provided with a latching electrical relay which can be actuated and latched and is further provided with a spring urged momentum element which may either be a leaf spring with a momentum element on its end attached to the timer shaft or a spring compressed by a cam on the timer shaft and suddenly released at the point where unlatching of the relay and resetting of the mechanism for a new cycle is needed. When this point is reached the spring urges the momentum element to actuate this engaging or unlatching means at a rate suitable for the time constant of the relay, which is quite short. The momentum element moves to a position beyond its position of rest and finally comes to rest at a position where the mechanism is reset for actuation of a second cycle.

ERRATUM

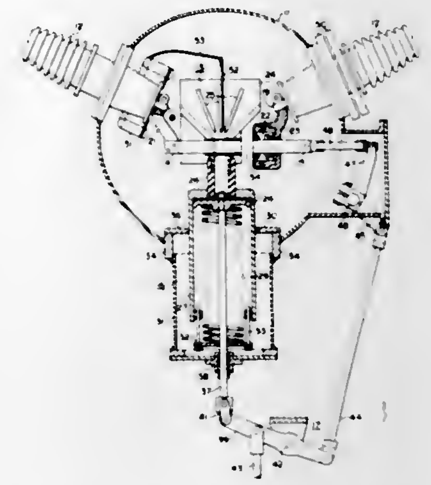
For Class 200—61.27 see:
Patent No. 3,380,753

3,381,100
ELECTRIC WATER HEATER THERMOSTATIC CONTROL WITH AN OVERHEAT CONTROL SWITCH FOR OPEN-CIRCUITING A PAIR OF HEATERS
**Paul R. Lee, Mansfield, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 28, 1965, Ser. No. 490,844
6 Claims. (Cl. 200—138)**



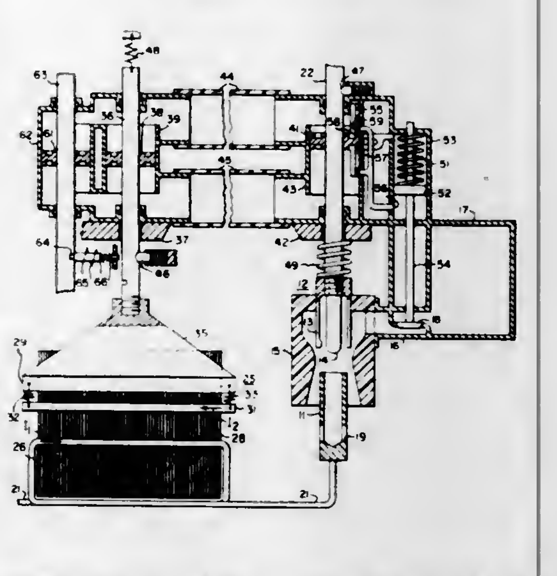
Electric water heater thermostatic control having alternate normal positions for directly controlling the tank upper heater and indirectly controlling the tank lower heater, and incorporating overheat switch means electrically common to both heaters and operable to an open position in response to a water overheat condition driving the control beyond the one alternate normal position and causing one set of switch contacts to yield in that direction.

3,381,101
CROSS-BLAST CIRCUIT BREAKERS WITH POSITIVE COORDINATION BETWEEN CONTACT MEMBERS AND PUFFER STRUCTURE
**Albert P. Strom, Forest Hills, Charles F. Cromer, Penn Township, and Thomas E. Browne, Jr., Forest Hills, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 15, 1965, Ser. No. 425,724
5 Claims. (Cl. 200—148)**



A puffer-type compressed-gas circuit interrupter has a cross-blast splitter-type arc chute disposed within a grounded tank, and has a positive mechanical connection between the operating means for the separable contact structure and the piston structure for the puffer device. A resistor connected to a probe within the arc chute assists in circuit interruption.

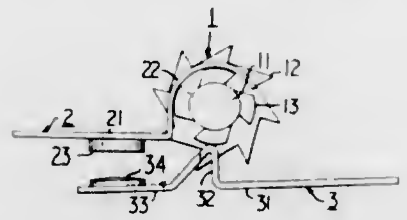
3,381,102
SYNCHRONOUS-TYPE HYDRAULIC OPERATOR FOR ALTERNATING CURRENT SYNCHRONOUS TYPE CIRCUIT INTERRUPTER
**Albert P. Strom, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 11, 1965, Ser. No. 431,833
14 Claims. (Cl. 200—148)**



An alternating-current synchronous-type circuit interrupter has the movable contact hydraulically actuated.

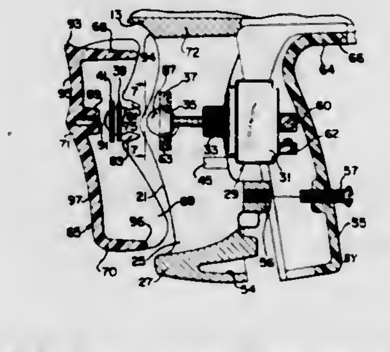
A synchronous operator has a saturable magnet core with an armature moving in the air gap of the core and mechanically connected to a driving hydraulic piston. A hydraulic line hydraulically interconnects the two pistons for synchronous breaker operation. A blast-valve synchronously operated is hydraulically connected to the driven hydraulic piston connected to the movable contact member.

3,381,103
ACTUATOR AND CONTACT ASSEMBLY FOR ROTARY ACTION SWITCHES
**Joseph F. Duffield, Georgetown, Ontario, and Zdzislaw R. Godziemba-Dambski, Bolton, Ontario, Canada, assignors to Smith & Stone Limited, Toronto, Ontario, Canada, a corporation of Canada
Filed May 12, 1966, Ser. No. 549,710
Claims priority, application Canada, Dec. 21, 1965, 948,291
1 Claim. (Cl. 200—156)**



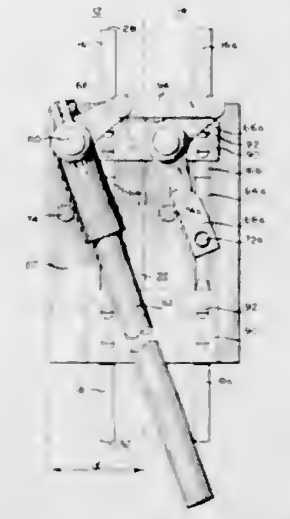
An electrical switch of the push button rotary action type having a novel actuator and contact assembly including a rotatable member, including a cylindrical cam, having a plurality of alternate elevations and depressions spaced around the operable region thereof. A pawl, associated with the push button, is provided to cause selective rotation of the rotatable member in discrete movements each substantially equal to the spacing between the elevations and depressions thereof. The electrical switch assembly is also provided with a movable contact having a contact region and a cam follower region for selective engagement with the said elevations. There is also provided a fixed contact having its own contact region which is selectively engageable with the contact region of the movable contact. The fixed contact also includes restraining means which abuts the rotatable member to substantially inhibit the movement thereof in a direction away from the cam follower of the movable contact.

3,381,104
HANDLE AND TRIGGER CONSTRUCTION FOR ONE-HAND PORTABLE TOOL
**William D. Abell, Manchester, and Jack R. Veara, Sykesville, Md., assignors to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed Aug. 29, 1966, Ser. No. 575,886
6 Claims. (Cl. 200—157)**



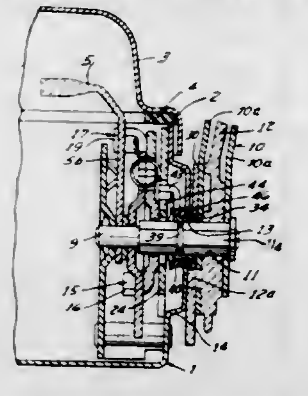
The device disclosed herein is a portable, electric power tool including a housing having a hollow, depending, pistol-type handle. A control switch is mounted in the handle and is actuated by a one-piece, pivotal trigger detachably secured in snap-on fashion to the handle. The handle also has a detachable cover permitting free access to the switch.

3,381,105
MODULAR HIGH CURRENT SWITCH
**Victor A. Mortenson, Stoughton, Mass., assignor to Anderson Power Products, Inc., Boston, Mass., a corporation of Massachusetts
Filed Feb. 14, 1966, Ser. No. 527,162
4 Claims. (Cl. 200—164)**



A modular, high current switch having two stationary, spaced, coplanar electrically conductive plates and at least one movable contact assembly for establishing or interrupting a conductive path between the plates. Each contact assembly has a pair of spaced, parallel, substantially planar electrically conductive bars which are leaf spring biased. The contact assembly is in movable, electrical contact with one of the stationary plates in both the open circuit and closed circuit positions.

3,381,106
SWITCH ENCLOSURE AND SEALING MEANS THEREFOR
**Tadeusz J. Rys, and Gordon Newton, Lexington, Ky., assignors to Square D Company, Park Ridge, Ill., a corporation of Michigan
Filed Aug. 3, 1967, Ser. No. 658,176
6 Claims. (Cl. 200—168)**



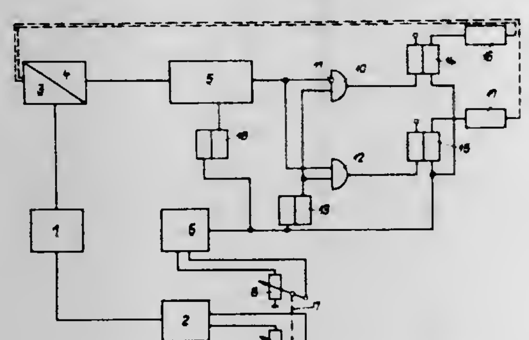
The switch enclosure herein comprises a box **1** with a hinged front door **3** carrying a gasket **4** which, when the door is closed, seats on the peripheral front edge **2** of the box. A switch bar driving mechanism is disposed in the box and is operable by an external operating handle **10**. Also within the box is a slide bar **24** which, when the door **3** is closed, can be operated by an external sealing lever **30** for drawing the door into sealing position. The handle **10** is rotatable with a supporting rock shaft **11** which extends through an aperture **13** in a side wall of the box. At its inner end the shaft is connected to a driving mechanism for the switch bar **5**. The lever **30** is mounted in fixed position on a sleeve **34** which is supported on, and for rocking relative to, the shaft **11**. The **sleeve 34** is drivingly connected to an operating mechanism including an operator **40** for the slide bar **24**.

The principal feature of the invention is the sealing for the aperture **13** to prevent entry of foreign matter, as follows:

The clearance space between the shaft **11** and the interior of the sleeve **34** is sealed by O-ring **39**. The clearance space between the exterior of the sleeve **34** and the edge of the peripheral edge of the aperture **13** is sealed by a grommet **46**.

3,381,107
METHOD OF CONTROLLING THE FEED IN CONNECTION WITH ELECTROEROSIVE MACHINING

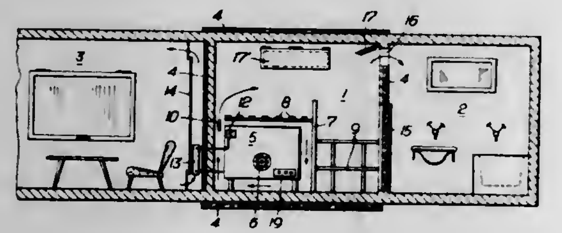
Karl Otto August Poerschke, Steinbach, Germany, assignor to Beteiligungs- und Patentverwaltungsgesellschaft mit beschränkter Haftung, Essen, Germany
Filed Apr. 22, 1965, Ser. No. 449,978
Claims priority, application Germany, Apr. 24, 1964,
B 76,496
2 Claims. (Cl. 219—69)



1. A method of controlling the feed means of the electrode in an electro-erosion apparatus which includes an electro-erosion generator connected for supplying said electrode with frequency controlled discharges which comprises: counting the number of impulses during predetermined time periods, comparing the counted number of impulses with a nominal value, converting the deviation of the counted number of impulses from said nominal impulse values into directed signals, effecting the said counting of the impulses by counting the discharging, idling or short-circuiting impulses in a counter during the said time periods, and at the end of each said time period comparing the counted number of impulses with a nominal value which represents a fraction of the product of the adjusted controlled frequency and the adjusted duration of the time period, and controlling the feed means in conformity with said signals.

3,381,108
APARTMENT OR HOUSE WITH CENTRALIZED HEATING SYSTEM AND SAUNA ROOM

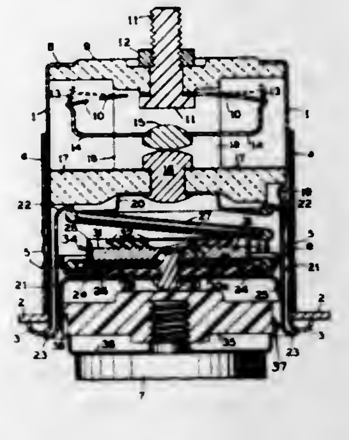
Christine Wuck, Luthergasse 25, Trofaiach, Austria
Filed June 22, 1965, Ser. No. 465,998
6 Claims. (Cl. 219—213)



A heating system for an apartment or house including a plurality of adjoining rooms comprising a central heating unit means, one of the plurality of adjoining rooms being heat-insulated from the other of the plurality of adjoining rooms and constituting a sauna room and serving for heat accumulation. The central heating unit means includes a hot-water boiler which primarily heats the sauna room. The hot-water boiler serves secondarily for feeding radiators in the adjoining rooms. Further heating of the adjoining rooms is accomplished by heat removed from the sauna room by convection currents.

3,381,109
ELECTRIC CIGAR LIGHTER

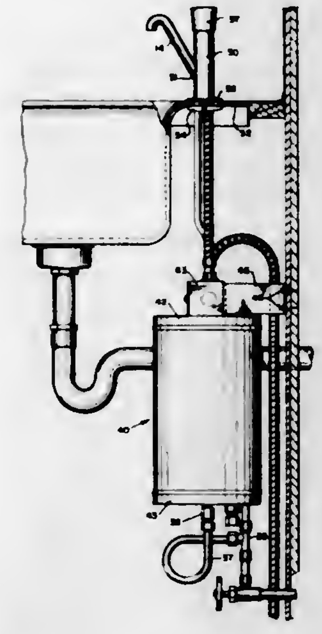
Joseph Youhouse, 4885 SW. 118th Ave., Miami, Fla. 33165
Filed Jan. 3, 1966, Ser. No. 518,240
8 Claims. (Cl. 219—265)



An electric cigar lighter for use in the electric system of a vehicle in which the heating element in the lighter is energized for a short period by the current through a series connected current responsive thermostat when the lighter is manually operated.

3,381,110
HOT WATER HEATER

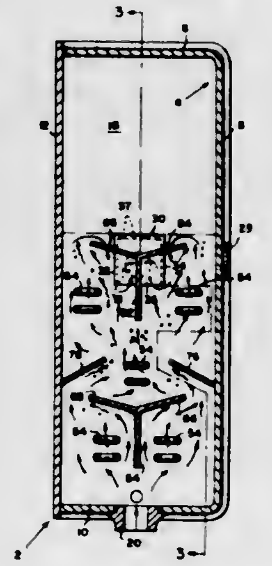
Harry C. Fischer, Royal Oak, Md., assignor to Fischer Associates, Inc., Royal Oak, Md., a corporation of New Jersey
Filed May 28, 1965, Ser. No. 459,698
10 Claims. (Cl. 219—312)



The disclosure herein describes a water heater having a small storage tank capacity adapted to supply the limited quantities of hot water such as are required for example, in the making of instant beverages. The heater utilizes electrical energy for heating and is arranged so that the faucet control unit may be located in the desired location which is not dependent upon the location of the storage tank. An expansion reservoir provides for water expansion and assures that the expansion will not cause water to drip from the spigot during periods when the faucet is unoperated. Additionally, a venturi nozzle in the inlet to the storage tank serves to empty the expansion reservoir into the lowest portion of the storage and heating tank, thereby preventing flow of water to the spigot directly from the expansion reservoir at a relatively low temperature when the faucet is first operated.

3,381,111
ELECTRIC HEATING BOILER

William W. Popyk, Allentown, Pa., assignor to General Machine Company, Inc., Emmaus, Pa., a corporation of Pennsylvania
Filed Jan. 21, 1966, Ser. No. 522,118
8 Claims. (Cl. 219—312)

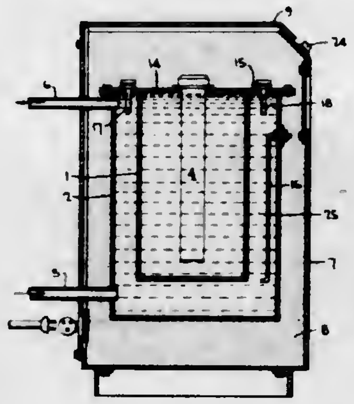


1. A boiler comprising:
a shell having parallel side and parallel end walls and a greater length than width,
a pair of electric resistance heating elements in the lower portion of the shell extending longitudinally of the shell with one on each side of the center line thereof,
a substantially vertical deflector between said heating elements and extending above the heating elements,
an outwardly and upwardly extending deflector above each heating element and connected to the vertical deflector,
a third heating element substantially on the center line of the boiler and above the outwardly and upwardly extending deflectors, and
a pair of inwardly and upwardly extending deflectors with each of said last mentioned deflectors adjacent a different side wall substantially opposite the third heating element,
said boiler having a lower inlet and an upper outlet.

3,381,112
ELECTRIC BOILER FOR CENTRAL HEATING

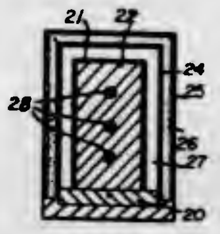
Daniel Togni, Le Locle, Switzerland, assignor to Paul Kolb A.G., Bern, Switzerland
Filed July 15, 1965, Ser. No. 472,232
5 Claims. (Cl. 219—326)

An electric boiler for central heating comprising a first tank containing water to be heated and a second tank arranged within the first tank which contains a product having a thermal capacity greater than that of water. A first electrical heating element is at least partially submerged in the second tank filled with the product and a second electrical heating element is at least partially submerged in the first tank filled with water. A current supply circuit means is provided for the first and second electrical heating elements. At least one thermostat controlled by the temperature of the water to be heated interrupts the current supply circuit means for the first electrical heating element as soon as the water temperature has reached a certain value below the boiling point of water. Furthermore, a second thermostat controlled by the water temperature interrupts the current supply circuit means for the second electrical heating element as soon as the water temperature has reached a value which is intermediate that at which the aforesaid at least one thermostat operates and the boiling point of water.



3,381,113
HEAT STORAGE APPARATUS

James Keith Jacques, Birmingham, and Edward James Lowe, Stourton, near Stourbridge, England, assignors to Albright & Wilson (Mfg.) Limited, Oldbury, near Birmingham, England, a British company
Filed Sept. 29, 1964, Ser. No. 402,059
11 Claims. (Cl. 219—378)

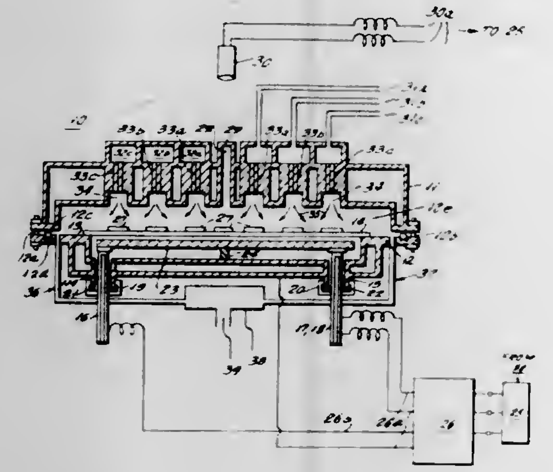


A heat storage apparatus containing a heat source, a heat reservoir in heat transfer relationship to the heat source and means for extracting the stored heat from the reservoir in a usable form. The heat reservoir comprises a mass containing a substantial amount of ferrophosphorus in such quantity that the thermal efficiency of the heat reservoir is improved. The mass may consist essentially of ferrophosphorus in granulated or cast block form. Alternatively, the mass may comprise ferrophosphorus mixed with at least 40% of fireclay.

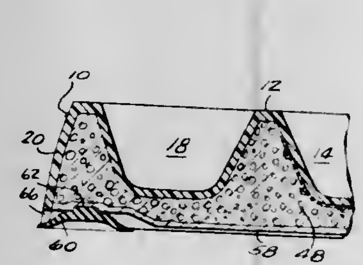
3,381,114
DEVICE FOR MANUFACTURING EPITAXIAL CRYSTALS

Sho Nakanuma, Tokyo, Japan, assignor to Nippon Electric Company Ltd., Tokyo, Japan
Filed Dec. 18, 1964, Ser. No. 419,529
Claims priority, application Japan, Dec. 28, 1963, 38/71,215
8 Claims. (Cl. 219—385)

This invention teaches an apparatus for use in producing crystals preferably of the epitaxial type which enables the mass production of such crystals having uniform quality and uniform operating characteristics. The apparatus is comprised of a housing having first and second halves which have cylindrical mating sides to form a substantially cylindrical-shape reaction chamber therein. A first half of the chamber is provided with inlet ports arranged in symmetrical fashion for the introduction of gaseous material in an extremely uniform fashion within the chamber, which gaseous materials are employed in the epitaxial growth process. The remaining half of the housing is provided with outlet ports likewise arranged in a symmetrical fashion for removing exhausting gases from the chamber. A gas trap is provided between the outlet ports and the exterior of the housing.



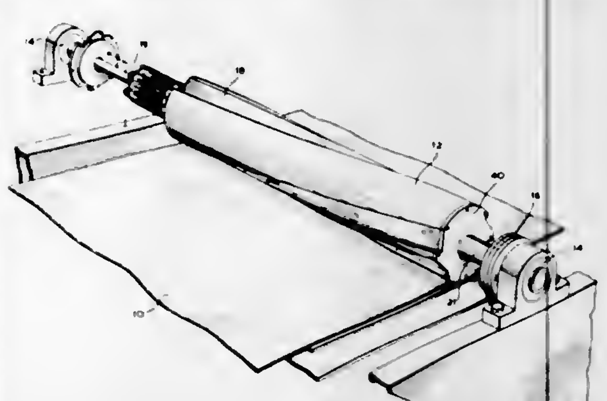
3,381,115
ELECTRICALLY HEATED CONTAINER
Kenneth B. Welch, West Bend, Wis., assignor to Kenro Corporation, Fredonia, Wis., a corporation of Wisconsin
Filed Mar. 24, 1965, Ser. No. 442,332
5 Claims. (Cl. 219—441)



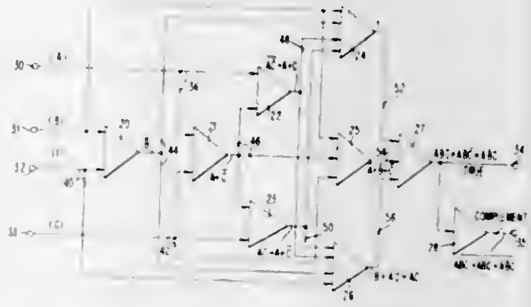
A molded plastic container, integrally including a skirt and one or more receptacles with downwardly convex walls depending into the cavity enclosed by the skirt, has adherently connected to at least one such receptacle wall a prefabricated carrier and electrical resistance wire which is molded about the wall to which it adheres and enclosed in an insulating body of foamed plastic resin filling said cavity.

3,381,116
FABRIC POLISHING MACHINE
Stephen J. Menich, Kitchener, Ontario, Canada, assignor to Sutherland-Schultz Limited, Kitchener, Ontario, Canada
Filed Sept. 3, 1965, Ser. No. 484,822
Claims priority, application Canada, Sept. 19, 1964, 912,110
5 Claims. (Cl. 219—470)

A fabric polishing machine characterized by a hollow rotatable roller shell having main and auxiliary electrical heaters within the shell. The main heating elements are radially disposed from said auxiliary heating elements and arranged that the shell can be heated evenly over its complete length and so that the minimum of connections between an outside source of electrical power and the heaters is possible.

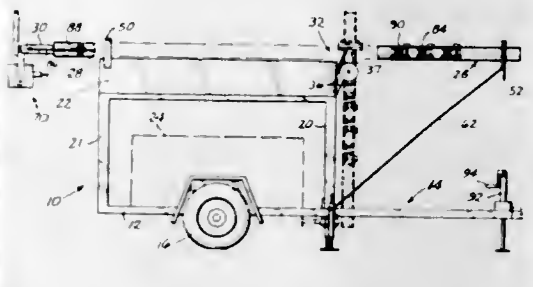


3,381,117
MINIMAL PIN MULTIPURPOSE LOGIC CIRCUITS
Donald C. Forslund, Wappingers Falls, and Ronald Waxman, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Aug. 2, 1965, Ser. No. 476,602
9 Claims. (Cl. 235—164)



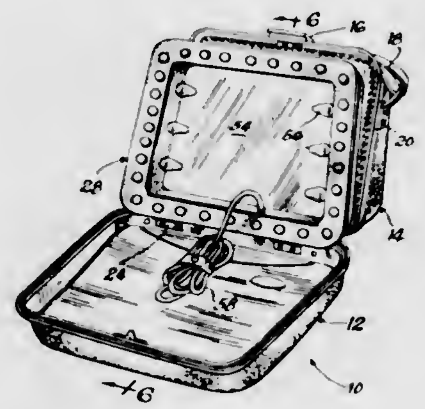
The invention is a logic circuit for performing 254 out of a possible 256 logic functions of three variables; the inputs of said circuit consisting of either the true or complement of each of the three variables and a constant bias level. Each of the logic blocks is used in more than one configuration; a configuration being the circuit arrangement selected by the constant bias level. A second embodiment performing all 256 logic functions is also shown. Both circuits are shown employing NAND logic.

3,381,118
LIGHTING UNIT
Harold A. Widner, Salem, Oreg., assignor to Fabricators, Incorporated, Salem, Oreg., a corporation of Oregon
Filed Sept. 13, 1965, Ser. No. 486,878
9 Claims. (Cl. 240—3)



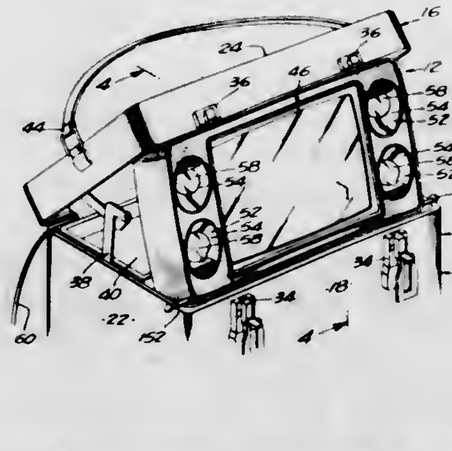
Mobile lighting apparatus including a wheel-supported frame and an elongated telescopic mast mounted on the frame. A mounting connected to a lower mast section supports the mast for rotation about its longitudinal axis, as well as for swinging movement about a horizontal transverse axis. A positioning plate on the mast is received within a guide slot on the frame, on the mast being drawn upright by pulling in a cable. Adjustable lateral supports may be extended for stability, and means prevents the positioning plate from being received within the guide slot prior to extension of these lateral supports.

3,381,119
ILLUMINATED PORTABLE VANITY CASE
Harold Brickman, Chicago, and Robert Deschamps, Lombard, Ill., assignors to Ever-Wear, Inc., Chicago, Ill., a corporation of Illinois
Filed Oct. 22, 1965, Ser. No. 501,807
10 Claims. (Cl. 240—4.2)



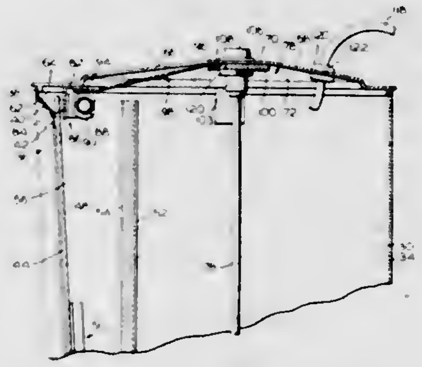
A vanity case construction comprising first and second sections which define hollow interiors and which are hinged together so that the sections can be closed around adjoining edges. A third section is hinged relative to the other sections and it is disposed intermediate these sections so that the third section will be received within the hollow interiors when the outer sections are closed. A mirror is secured on one side of the third section, and lights are peripherally arranged around the mirror. Electrical connections are provided whereby the lights will operate when the mirror is in an operative position.

3,381,120
TRAVEL CASE WITH DETACHABLE ILLUMINATED COSMETIC MIRROR
Bernard L. Fleisher, Beverly Hills, Seymour Katz, Los Angeles, Henry P. Stern, Beverly Hills, and Richard V. Weiss, Los Angeles, Calif., assignors to Bercy, Venice, Calif., a corporation of California
Filed May 9, 1966, Ser. No. 548,619
13 Claims. (Cl. 240—4.2)



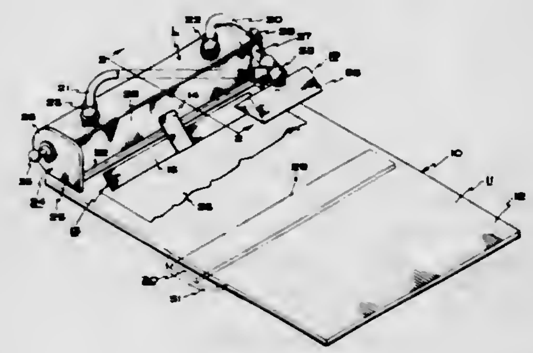
The illuminated cosmetic mirror includes a generally rectangular frame having considerable thickness and a largely hollow interior, a generally rectangular opening in the center of the frame, a mirror occupying the rectangular opening, four lamp recesses formed in the frame of which two are at one end of the frame and two are at the other end, and four lamps. Each of the four lamps occupies one of the recesses. There are separate sockets and reflectors for each of the lamps. The reflector illuminates the face of a user of the mirror while the mirror itself receives no direct illumination. The frame is formed of separate front and rear portions which are joined together so as to captivate the lamp sockets between them. The illuminated mirror can be attached to the inside lid of a travel case.

3,381,121
MERCHANDISE DISPLAY BOARD ILLUMINATING MEANS FOR COIN-CONTROLLED VENDING MACHINES
Winford G. McDonald, 2023 W. Colorado Blvd., Dallas, Tex. 75208
Filed Oct. 24, 1966, Ser. No. 588,901
6 Claims. (Cl. 240—6)



Vending machine apparatus having an upright merchandise display board and an opposed transparent window. The board and window define opposed sides of a compartment having an open upper end. A cover for the apparatus, including a portion spanning the open end of the compartment, and means suspended from the cover between the window and display board to illuminate merchandise supported on the latter.

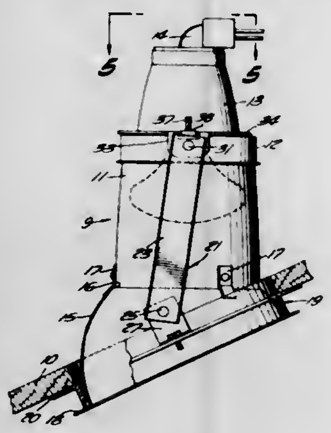
3,381,122
ILLUMINATED CLIP BOARD
Albert P. Boyle, Jr., 1424 Darling St., Ogden, Utah 84403
Filed Mar. 25, 1966, Ser. No. 537,400
1 Claim. (Cl. 240—6.4)



The device comprises an illuminated clip board incorporating a battery and a light source for selectively illuminating the writing surface of the clip board. The battery container of the clip board is specially designed so that its front panel may selectively serve as a T-square for the clip board.

3,381,123
LIGHTING FIXTURE

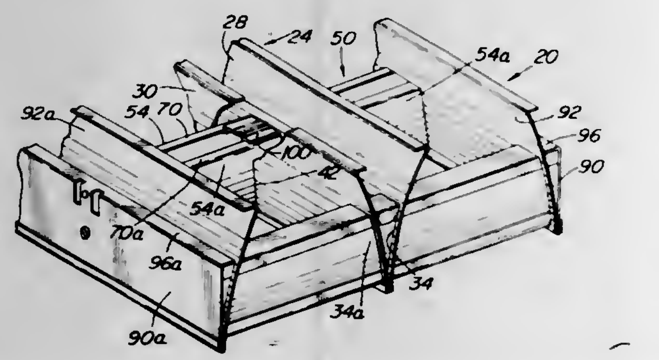
Peter J. Docimo, Los Angeles, Calif., assignor to Marvin Electric Manufacturing Co., Los Angeles, Calif., a corporation of California
Filed July 5, 1966, Ser. No. 562,645
7 Claims. (Cl. 240—78)



A lighting fixture for an inclined surface in which an opening is formed in a hemispherical member which falls in a plane which intersects the plane of the base of the member at substantially the angle of incline of the inclined surface. The hemispherical member is attached to a housing and this assembly coupled to a plaster frame by pivotally mounted struts and a collar which cause the housing to be vertically aligned when the base of the hemispherical member is parallel with the inclined surface.

3,381,124
LOUVER GRID FOR LIGHTING FIXTURE

Maurice Eisenberg, Chicago, Ill., assignor to Solar Light Manufacturing Co., Melrose Park, Ill., a corporation of Illinois
Filed Oct. 12, 1966, Ser. No. 586,105
21 Claims. (Cl. 240—78)

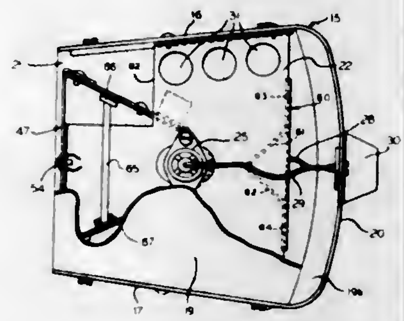


A lighting baffle of criss-crossed grid structure having a least one wedge-shaped louver. The louver has pairs of aligned spaced openings in its opposed spaced walls, a plurality of wedge-shaped cross members extending through a cooperating pair of the aligned openings in the louver to form a lattice, and lattice interlock means extending between the side walls of the cross members, thereby establishing a firm and fixed relative position between the louver and the cross members so as to provide a unitary mechanically stable assembly.

3,381,125
LIGHT FIXTURE

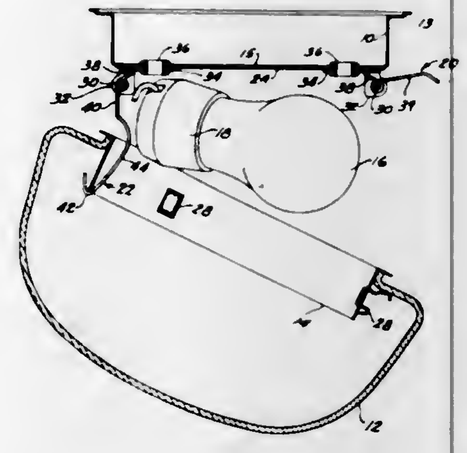
George D. Cooper, 1136 Vista Place,
Edmonds, Wash. 98020
Continuation of application Ser. No. 414,089, Nov. 27, 1964. This application June 1, 1967, Ser. No. 649,780
17 Claims. (Cl. 240—11.4)

Light fixture with improved housing and reflector arrangement where the reflector arrangement includes, a reflector behind a lamp reflecting all or any part of the visible radiant energies directed thereagainst by the lamp and transmits substantially all other radiant energies and a reflection and absorption unit behind the reflector against which impinge the radiant energies transmitted through said reflector to preclude reflection back through the reflector of any radiant energies transmitted therethrough.



3,381,126
LIGHTING FIXTURE GLOBE ATTACHING MEANS

Robert E. Steiner, St. Louis, Mo., assignor to Emerson Electric Co., St. Louis, Mo., a corporation of Missouri
Filed Oct. 7, 1966, Ser. No. 585,009
4 Claims. (Cl. 240—78)

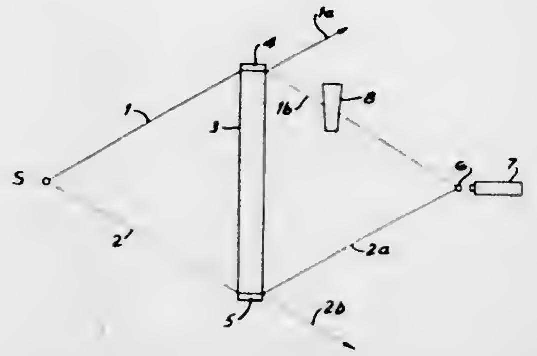


A ceiling mounted lighting fixture having a pair of resilient arms fastened at one end of a ceiling mounted lamp support and extending substantially horizontally therefrom and underlying and extending beyond opposite lower edge portions of a downwardly extending rim. The globe is thereby held upward against the lamp support or ceiling. The arms are sufficiently resilient to be deflected downward when the globe is pulled downward manually. The lower edge of the rim is freely slidable off of one of the arms, but the other arm has an upwardly formed hook. The globe when pulled downward sufficiently is retained by the hooked end at one side and permitted to swing downward at its other side.

3,381,127
METHOD OF PRODUCING X-RAY INTERFERENCE PATTERNS AND X-RAY HOLOGRAMS

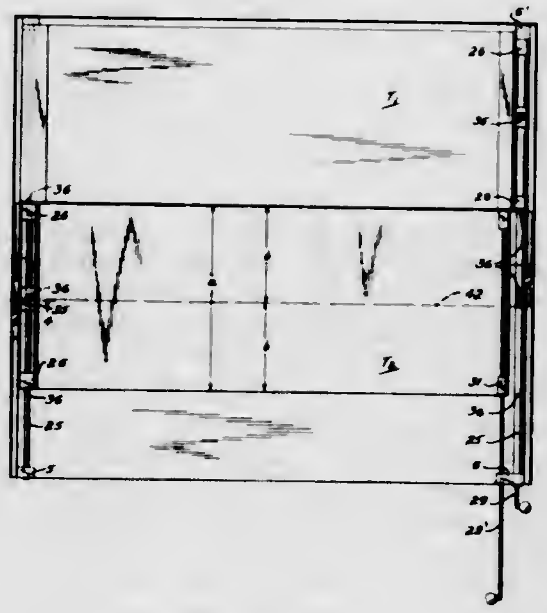
Nathan Spielberg, Hartsdale, N.Y., assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 1, 1965, Ser. No. 444,547
8 Claims. (Cl. 250—65)

A method of obtaining X-ray interference patterns employing a highly perfect crystal to diffract two beams of X-rays which are converged to a point whereby they may interfere with each other. This method does not involve measuring changes in geometrical path lengths and enables the measurement of the index of refraction of materials for X-rays or the making of an X-ray hologram which may be scanned with coherent visible or infra-red radiation to produce a magnified X-ray image of the original object.



3,381,128
SERIALOGRAPH WITH SPACED CARRIERS FOR MOVABLE X-RAY FILM CASSETTES IN SHIELDED TRAYS

Roberto J. Jimenez, 20 Washington Ave., Apt. 2–A, Santurce, Puerto Rico
Continuation-in-part of application Ser. No. 170,077, Jan. 31, 1962. This application May 20, 1965, Ser. No. 457,458
The portion of the term of the patent subsequent to June 8, 1982, has been disclaimed
12 Claims. (Cl. 250—66)



1. In a serialograph, in combination, frame means; shielding means having an area at least equal to that of a cassette to be used in said serialograph and being carried by the frame means extending in a first plane, said frame means defining laterally of said shielding means an exposure area;

first shifting means adapted to carry a cassette and being mounted in said frame means in a second plane parallel to said first plane;

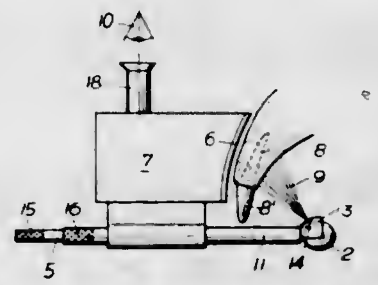
second shifting means adapted to carry a second cassette and being mounted in said frame means in a third plane parallel to said second plane;

guide means on said frame means and cooperating with said first and second shifting means for guiding the same for shifting movement in the respective plane;

and manual operating means extending with an operating portion thereof beyond said frame means and being connected to said first and said second shifting means for shifting the same independent of each other between an operating position in which a cassette carried by the respective shifting means is at least partly located beneath said exposure area and a shielded position in which the cassette is located completely behind said shielding means.

3,381,129
APPARATUS FOR THE FLUOROSCOPY OF NARROW LIMITED PORTIONS OF THE WALLS OF CAVITIES

Klaus E. Duftschmid, Vienna, Austria, assignor to Osterreichische Studiengesellschaft für Atomenergie Ges. m.b.H., Vienna, Austria, a corporation of Austria
Filed July 7, 1964, Ser. No. 380,773
Claims priority, application Austria, July 9, 1963, A 5,497/63; Dec. 20, 1963, A 10,315/63
12 Claims. (Cl. 250—71)



1. An apparatus for the fluoroscopy of bodies, particularly of a narrow limited portion of the walls of cavities, comprising

a housing having a relatively small opening,

radioactive substances received in said housing adjacent said housing opening to constitute a radiation source,

inserting means secured to said housing for inserting the latter into a cavity of which a narrow limited portion of the wall is to be fluoroscoped,

said housing and inserting means adapted to be moved within a substantial operative range within said cavity,

a fluoroscope screen means operatively disposed relative to said radiation source for providing an immediate and continuous image of the narrow limited portion of the walls of the cavity to be observed,

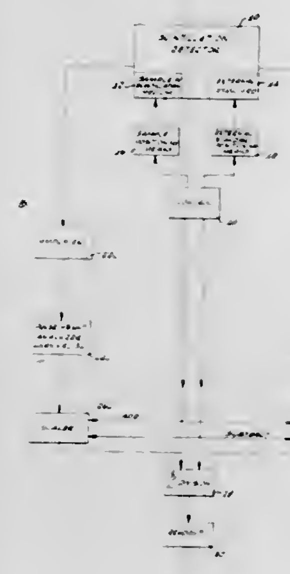
a protective member at least partly surrounding said housing and said housing opening and having at least one protective member opening, and

means for changing the size of and the direction of radiation through said housing opening.

3,381,130
METHOD AND APPARATUS FOR COUNTING STANDARDIZATION IN SCINTILLATION SPECTROMETRY

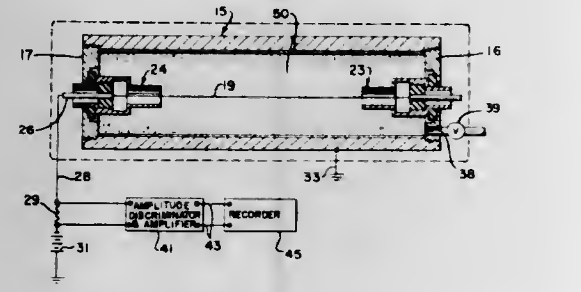
Roy E. Nather, Solana Beach, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed Aug. 16, 1965, Ser. No. 480,034
11 Claims. (Cl. 250—71.5)

An improved method and apparatus for counting standardization in scintillation counting for determining the degree of sample quenching. The net standard count rate is determined in each of two energy windows, defining separate channels, by isolating it from sample and background count rates, and the ratio of the standard rates in the two channels is taken. The apparatus illustrated employs scalers capable of counting in two directions, to count the sample alone in one direction, and the sample plus the standard in the other over equal time to get the standard count rate in each of the two channels which are then divided in a division circuit and read out.



3,381,131
NEUTRON DETECTOR FOR OPERATION IN HIGH GAMMA FLUXES

Thomas J. Meal, Hoffman Estates, Ill., and Arthur J. Stokes, Hudson, Ohio, assignors to Reuter-Stokes Electronic Components, Inc., a corporation of Ohio
Filed May 4, 1965, Ser. No. 452,999
5 Claims. (Cl. 250—83.1)

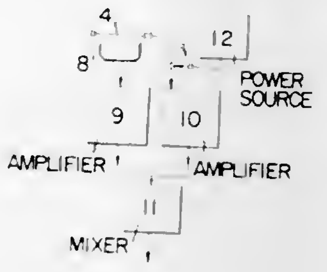


A neutron detector which is substantially immune to gamma rays and capable of repetitive operation in high gamma-ray environments is disclosed as comprising a device including a chamber in which the inner walls of the chamber are coated with a getter material. The getter material acts to absorb impurities in the filler gas produced by dissociation due to background gamma radiation. In this manner, certain resulting gas ions are absorbed by the getter material to prevent the accumulation of electro-negative contaminants.

3,381,132
ELECTRON DETECTOR FOR SELECTIVELY DETECTING SECONDARY ELECTRONS AND HIGH-ENERGY REFLECTED ELECTRONS

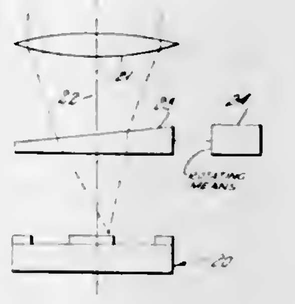
Hiroshi Okano, Hachioji-shi, Japan, assignor to Kabushiki Kaisha Hitachi Seisakusho, Chiyoda-ku, Tokyo-to, Japan, a joint-stock company of Japan
Filed Feb. 25, 1965, Ser. No. 435,131
Claims priority, application Japan, Feb. 27, 1964, 39/10,409
3 Claims. (Cl. 250—83.3)

An electron detector for selectively detecting secondary electrons and high-energy reflected electrons from a specimen subjected to electron bombardment, which comprises an electrically conductive film which detects the secondary electrons but causes the high energy reflected electron to pass therethrough, and an electron collector disposed behind the conductive film to collect the high energy reflected electrons passing through the conductive film.



3,381,133
SCANNING DEVICE FOR TRACKER USING CONCENTRIC PHOTOSENSITIVE SURFACES COOPERATING WITH OSCILLATED IMAGE

John W. Barnes, Floral Park, and John L. Goodlet, Jr., Jackson Heights, N.Y., assignors to Kollsman Instrument Corporation, New York, N.Y., a corporation of New York
Filed Apr. 19, 1963, Ser. No. 274,072
9 Claims. (Cl. 250—203)

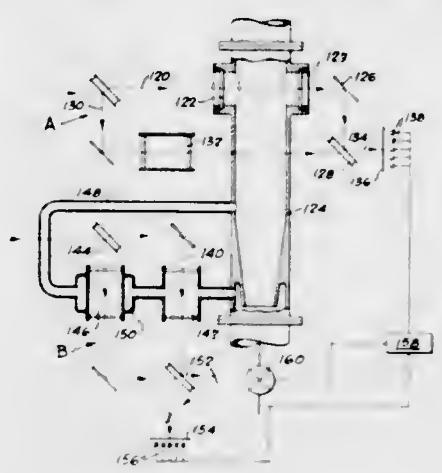


8. A light tracking device for tracking a light source comprising a telescope objective for producing an image of said light source; a transparent optical wedge; motor means for rotating said optical wedge about a central axis generally perpendicular thereto; and photocell means having first and second spaced and insulated photosensitive surfaces; said telescope objective having an optical axis; said optical axis of said telescope objective being colinear with said central axis of said optical wedge; said first and second photocell surfaces being positioned in the focal plane of said telescope objective and centered on said optical axis of said telescope objective; said first surface having an area greater than said second surface; the outputs of said first and second areas being connetced in opposed polarities; said optical wedge having a wedge angle sufficient to refract light passing therethrough through a lateral excursion of at least a distance equal to the lateral spacing of said first and second surfaces.

3,381,134
MASS FLOW INDICATING MEANS INCLUDING AN INTERFEROMETER SYSTEM

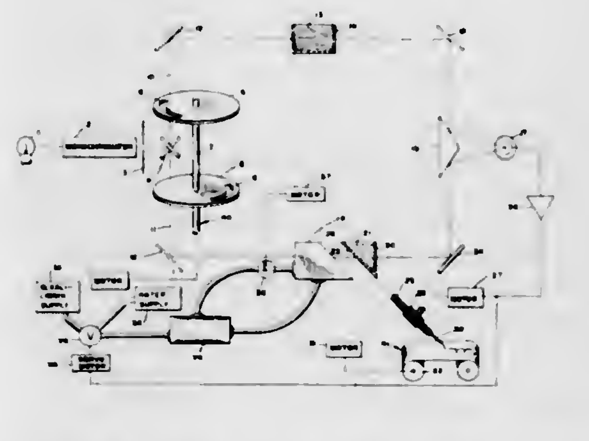
Philip C. Wolf, 48 Firtree Road, Levittown, Pa. 19056
Filed Oct. 5, 1964, Ser. No. 401,576
1 Claim. (Cl. 250—218)

Mass flow indicating means wherein a density responsive means and a flow responsive means are provided for sensing variations in the density and velocity of flow of fluid through a conduit. One, and preferably both, of such means include an interferometer system having a test chamber through which fluid from the conduit is passed to actuate a sensing means, and the responses from both the density and flow responsive means are impressed on a common indicating device to provide a direct reading of the mass flow of fluid through the conduit.



3,381,135
DENSITY MEASURING SYSTEM HAVING OPTICAL WEDGE TO VARY LENGTH OF LIGHT PATH

John D. Keller, Greece, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed July 1, 1964, Ser. No. 379,641
7 Claims. (Cl. 250—218)

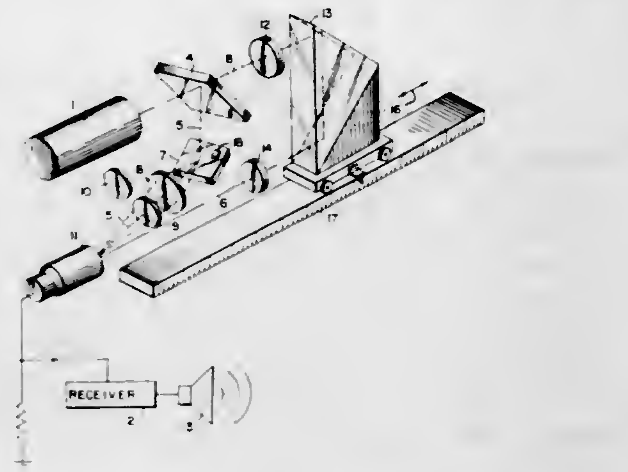


1. A double beam spectrophotometer comprising means producing a reference radiation beam, means producing a test radiation beam, means placing a material of known concentration in said reference beam, means placing a test sample in said test beam and adjustably placing an optical wedge of the material of known concentration in said test beam, a photosensor sensing and generating electrical signals responsive to the intensity of said reference beam and said test beam subsequent to passing through said materials, motor means connected to said wedge and receiving said electrical signals to adjustably move said wedge to an optical null position in said test beam.

3,381,136
INTERFEROMETRIC FLUORESCENT LIFETIME MEASURING ARRANGEMENT

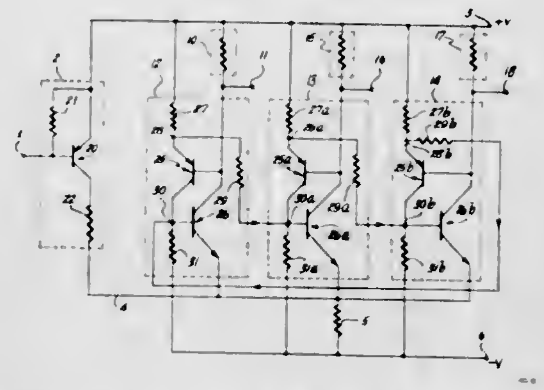
Robert J. Carbone, East Derry, N.H., and Perry R. Longaker, Acton, Mass., assignors to Massachusetts Institute of Technology, Cambridge, Mass., a corporation of Massachusetts
Filed June 17, 1964, Ser. No. 375,761
6 Claims. (Cl. 250—220)

The interval of time associated with the occurrence of a physical phenomena is measured by directing radiation from a single source along each of two paths and detecting the phase difference between radiation at the end of each path with and without the occurrence of said phenomena in one of said paths.



3,381,137
FREQUENCY DIVIDER WHEREIN REGENERATIVE SWITCHING CIRCUITS PRODUCE PHASE DISPLACED PERIODIC SIGNALS

Buck C. Brown, Rockville, Md., assignor to Tracor, Inc., Austin, Tex., a corporation of Texas
Filed Oct. 17, 1966, Ser. No. 587,069
8 Claims. (Cl. 307—41)



7. Apparatus comprising the combination of
a plurality of load devices;
first, second and third regenerative switching means each connected to one of said load devices, for controlling the flow of current through one of said load devices;
  each of said switching means having an input terminal and a switchable path, said load devices being connected in series circuit relationship with said switchable path,
  each said switching means having a first state in which said switchable path freely conducts current and a second state in which said path conducts substantially no current;
a resistor connected in series circuit relationship with said first, second and third regenerative switching means;
fourth switching means for controlling the switching rate of said first, second and third switching means,
  said fourth switching means having a control terminal to which a pulsating electrical signal can be applied and a switchable conductivity path,
  said switchable path of said fourth switching means being connected in series circuit relationship with said resistor, the current flow through said resistor from said fourth switching means being sufficient to render all but one of said first, second and third switching means nonconductive; and

circuit means interconnecting said first, second and third switching means to define a predetermined switching sequence.

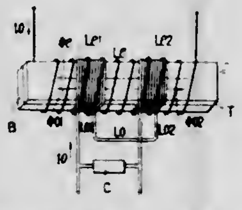
3,381,138
PARAMETRON ELEMENT USING FERROMAGNETIC THIN FILM

Shintaro Oshima, Mushashino-shi, Hajime Enomoto, Ichikawa-shi, Kakuo Futami and Toshihiko Kobayashi, Mitaka-shi, Tetsusaburo Kamibayashi, Shinza-machi, Takasuke Fukui and Akira Okada, Tokyo-to, Makoto Saheki and Haruo Koyama, Sendai-shi, Makoto Saito, Tokyo-to, Tokuhisa Moriyama, Sendai-shi, Kohei Abe, Shiogama-shi, and Sachio Saito, Sendai-shi, Japan, assignors to Kokusai Denshin Denwa Kabushiki Kaisha, Tokyo-to, Japan, a joint-stock company of Japan

Filed Dec. 11, 1961, Ser. No. 158,290

Claims priority, application Japan, Dec. 20, 1960, 35/49,297, 35/49,298; Dec. 21, 1960, 35/49,438; Feb. 27, 1961, 36/6,054

3 Claims. (Cl. 307—88)



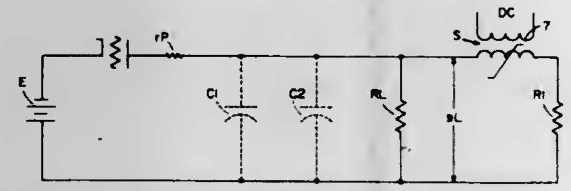
1. A parametron element comprising, a ferromagnetic thin film core, hard protection means holding said core, an exciting winding consisting of two exciting coils wound on the core separately and connected, in series in a reverse sense for exciting the core with a frequency 2*f*, an oscillation winding consisting of two oscillation coils closely wound, respectively, on the core adjacently at the center portion of the core so as to have narrow winding widths and connected in series so that said two windings are decoupled to each other, said exciting winding and said oscillation winding having the same winding axis, a resonant circuit comprising said oscillation winding and a tuning capacitor connected in parallel with the oscillation winding to resonate with a frequency *f*, the magnetic path being not closed in the core with respect to magnetic fluxes produced by both currents flowing through said two windings, means to apply a weak input signal to said resonant circuit and having one of two opposite phases, whereby an oscillation signal is induced in said resonant circuit composed of said oscillation winding and said tuning capacitor, said oscillation signal having the frequency *f* and one of two possible phases which differ by 180° in accordance with the phase of said input weak signal applied to said resonant circuit.

3,381,139
PULSE RISE TIME ENHANCING SATURABLE REACTOR

Willard W. McLeod, Jr., Lexington, and John R. Caswell, Lincoln, Mass., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed June 29, 1964, Ser. No. 379,059

6 Claims. (Cl. 307—106)



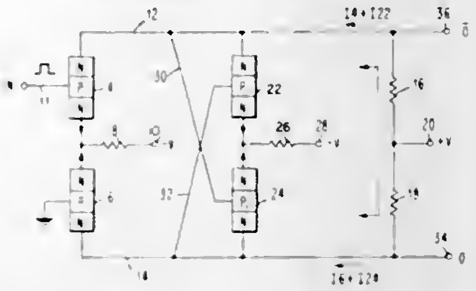
A device for determining pulse rise time and voltage across a load utilizing a saturable reactor to selectively parallel a resistance across the load.

3,381,140
POWER AMPLIFIER UTILIZING CROSS-COUPLED CURRENT SWITCHES

James L. Walsh, Hyde Park, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed May 31, 1963, Ser. No. 284,523

4 Claims. (Cl. 307—230)



1. In a power driver circuit, the combination comprising:

first and second potential sources;

a plurality of current switches, each said current switch including first and second transistors, the emitters of said first and second transistors being connected in common to said first potential source and the collectors of said first and second transistors being connected respectively in common through impedance means to said second potential source;

input means connected to a first transistor of one of said current switches, and adapted to normally maintain said transistor in a first conductive state except when an input signal appears and then to cause said transistor to switch to an opposite conductivity state;

a source of reference potential connected to the base of said second transistor in said one current switch, said second transistor thereby being biased for conduction when said first transistor is nonconductive, and for nonconduction when said first transistor is conductive; and

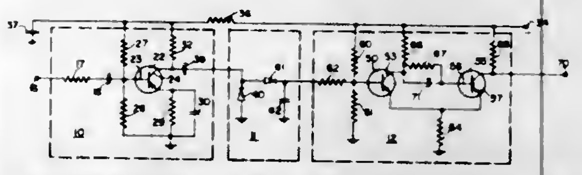
circuit means interconnecting the collectors of said first and second transistors of said one current switch with said second and first transistors respectively in a second current switch, said circuit means being responsive to the conductive states of said first and second transistors to divert current from said second potential source to cause said first transistors of said current switches and said second transistors of said current switches to assume identical conductivity states respectively.

3,381,141
AMPLITUDE DETECTOR EMPLOYING SPECIALLY BIASED TRANSISTORIZED SCHMITT TRIGGER IN COMBINATION WITH TRANSISTORIZED INPUT AMPLIFIER FOR TEMPERATURE COMPENSATION

William J. Millon, Chicago, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed July 6, 1964, Ser. No. 380,339

3 Claims. (Cl. 307—235)



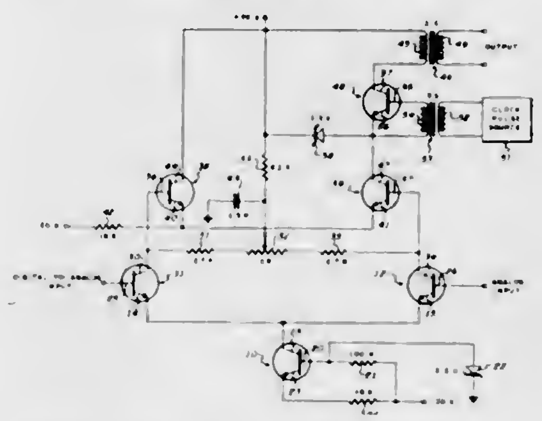
Temperature compensation is provided for a combination amplifier Schmitt trigger circuit by the use of transistors having substantially the same temperature characteristics in each circuit. Each circuit is uncompensated for temperature and the Schmitt trigger is designed to have its sensitivity change with temperature in a direction opposite to the change in gain of the amplifier with temperature. This provides temperature compensation for the combination without the need for special components or special temperature compensating circuits for each separate circuit.

3,381,142
VOLTAGE COMPARISON AND GATING CIRCUIT

George W. Cook, Scottsdale, Ariz., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware

Filed Feb. 15, 1965, Ser. No. 432,735

5 Claims. (Cl. 307—235)



1. A comparison circuit comprising:

(1) first, second, third, fourth and fifth electronic amplifying elements each having an input electrode and first and second conduction electrodes,

(2) the first electrodes of said first and second elements being connected together and to a common current source,

(3) the input electrode of said first element being coupled to a source of reference voltage,

(4) the input electrode of said second element being coupled to a signal voltage to be compared with said reference voltage,

(5) the second conduction electrodes of said first and second elements being connected to the input electrodes of said third and fourth elements, respectively, and through a common impedance to a first common voltage source,

(6) the first conduction electrodes of said third and fourth elements being connected together and to a second common voltage source,

(7) said fifth element having its first conduction electrode connected to the second conduction electrode of said fourth element,

(8) the input electrode of said fifth element being connected to a source of clock pulses, and

(9) transformer means having a primary and a secondary winding,

(10) said primary winding having one terminal connected to the second conduction electrode of said fifth element and another terminal of said primary winding being connected to said first common voltage source and to the second conduction electrode of said third element whereby said secondary winding provides clock pulses only when said signal voltage exceeds said reference voltage.

3,381,143
ENCAPSULATED ANTI-BOUNCE SWITCH CIRCUIT

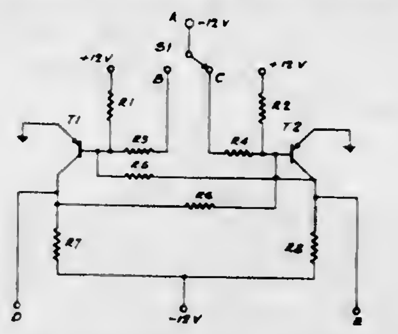
John W. Brahan, Ottawa, Ontario, Canada, assignor to Canadian Patents and Development Limited, Ottawa, Ontario, Canada

Filed Aug. 10, 1964, Ser. No. 388,538

Claims priority, application Canada, Sept. 10, 1963, 884,187

1 Claim. (Cl. 307—247)

An encapsulated anti-bounce switch and circuit arrangement wherein the two output contacts of a single-pole double throw switch are connected to two inputs of a bistable flip-flop circuit such that when the switch is in one position an output is obtained at one output point of the flip-flop and when switched to the other position, the state of the flip-flop changes giving an output at another output point.

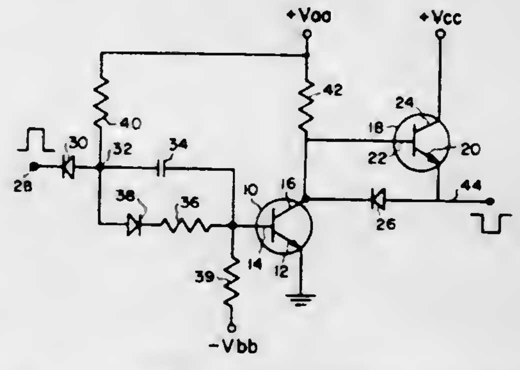


3,381,144
TRANSISTOR SWITCH

Preston David Thomas, Stamford, Conn., assignor to Ferroxcube Corporation of America, Saugerties, N.Y., a corporation of Delaware

Filed Sept. 20, 1965, Ser. No. 488,527

2 Claims. (Cl. 307—254)



A transistor switch having a relatively low output impedance in both ON and OFF conditions is constructed with a first transistor responsive to an input pulse for rendering same conductive, and a second transistor which is normally conductive and in response to the input pulse is rendered nonconductive. A diode couples the emitter-collector path of the transistors to an output terminal which reflects the low impedance condition of either transistor in accordance with the state of the switch. An input network of diodes and the parallel combination of a capacitor and a diode-resistor series circuit couples input pulses to the first transistor, whereas the second transistor is biased to respond to the condition of the first transistor. The input network insures the proper operation of the device by providing proper levels of input pulses.

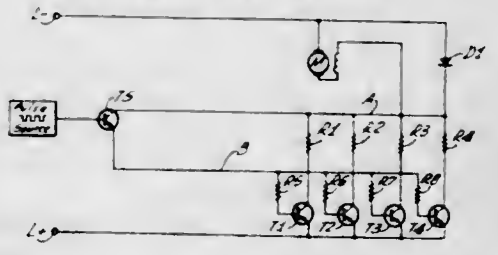
3,381,145
TRANSISTORIZED CONTROL CIRCUIT

Wilhelm Sterff, 59 Kreillerstr., 8 Munich, Germany

Filed Feb. 2, 1966, Ser. No. 524,609

Claims priority, application Germany, Feb. 4, 1965, Sch 36,477

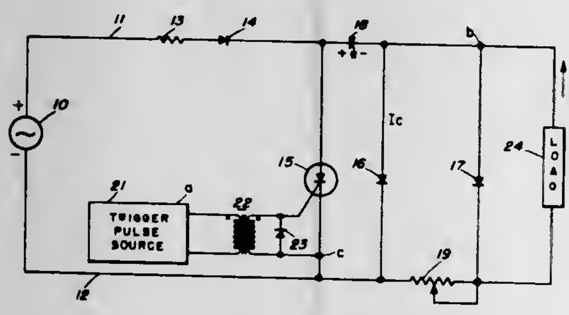
8 Claims. (Cl. 307—297)



A load, preferably a DC motor, is controlled through a plurality of switching transistors operating in parallel.

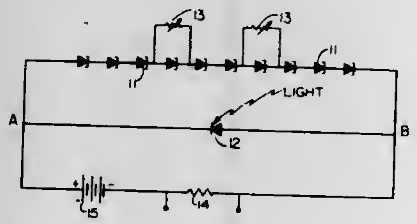
A pulse controlled driving transistor is connected in parallel to each of the base collector paths and series collector resistors, one for each switching transistor. The pulses may be inserted serially through AC coupling into the emitter-collector path of the driving transistor. Additional base current for the switching transistors can be developed by a feedback loop responding to threshold conditions at the load.

3,381,146
TRIGGER PULSE CIRCUIT
William E. Egan, Pittsfield, Mass, assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Continuation-in-part of application Ser. No. 399,412, Sept. 25, 1964. This application Aug. 4, 1967, Ser. No. 662,259
1 Claim. (Cl. 307—305)



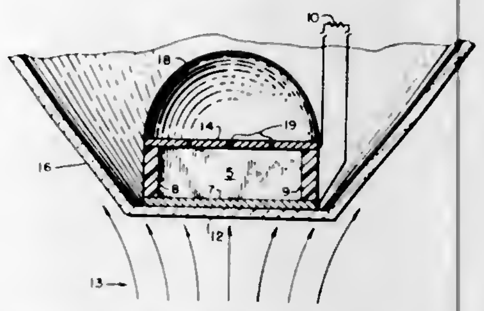
The patent specification and drawings describe a system for controlling the current to an inductive load by utilizing a silicon controlled rectifier capacitor discharge circuit operating from an A.C. source and having a trigger pulse source and a transient suppressor diode.

3,381,147
MEASURING DEVICE EMPLOYING NEGATIVE RESISTANCE
George Abraham, 3167 Westover Drive SE., Washington, D.C. 20020
Filed June 2, 1964, Ser. No. 372,129
16 Claims. (Cl. 307—311)



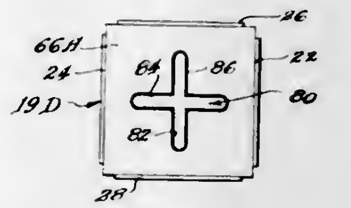
1. A light measuring device comprising:
a plurality of negative resistance semiconductor devices connected in series;
light sensitive means connected across the serially connected plurality of negative resistance devices;
output indicating means;
and bias means forming a series loop with said negative resistance devices and said output indicating means, said bias means being poled so that said negative resistance devices are forward biased and said light sensitive means is reverse-biased,
whereby a number of said negative resistance devices are caused to change their state of conduction in proportion to the intensity of the light received by said light sensitive means.

3,381,148
FOSSIL FUEL-FIRED THERMIONIC CONVERTERS
John E. Creedon and Sol Schneider, Little Silver, and Stuart J. Shapiro, Red Bank, N.J., assignors to the United States of America as represented by the Secretary of the Army
Filed Apr. 2, 1965, Ser. No. 445,288
3 Claims. (Cl. 310—4)



The three converters shown all include a hydrogen-permeable window for permitting hydrogen from the fuel source to diffuse out of the interelectrode space. In one embodiment the anode itself is hydrogen-permeable. In the second embodiment a separate tubular window of cylindrical shape is mounted on the anode and communicates with the interelectrode space, and in the third embodiment a hydrogen-permeable dome covers the entire anode.

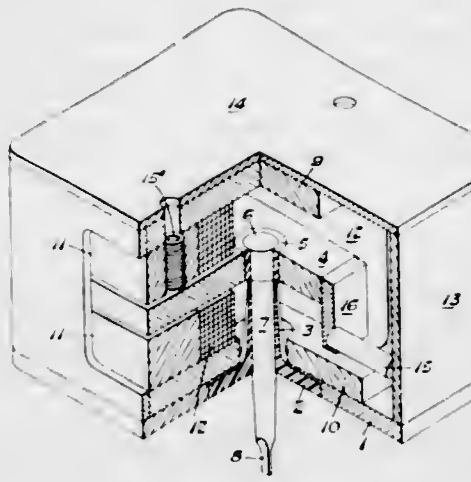
3,381,149
MULTICHANNEL PIEZOELECTRIC TRANSDUCER
Alpha M. Wiggins and John F. Wood, Buchanan, Mich., assignors to Electro-Voice, Incorporated, Buchanan, Mich., a corporation of Delaware
Filed Mar. 13, 1958, Ser. No. 721,188
1 Claim. (Cl. 310—8.6)



1. An electromechanical transducer comprising an elongated body of artificial piezoelectric material having a rectangular cross section, said body having a plurality of channels parallel to the axis of elongation of the body and disposed in two orthogonal planes intersecting the axis of the body, a coating of electrically conducting material disposed on the surface of each of the channels, and two pairs of electrodes disposed on the surface of the body, the electrodes of each pair being disposed on opposite sides of the axis of the body and electrically insulated from each other.

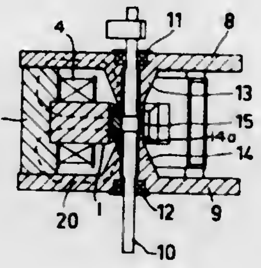
3,381,150
TORQUE MOTOR
Nicholas D. Trbovich, West Seneca, and William H. Meyer, East Aurora, N.Y.; said Meyer assignor to Servotronics, Inc., Buffalo, N.Y.
Original application Sept. 18, 1962, Ser. No. 224,305. Divided and this application Oct. 18, 1965, Ser. No. 497,168
The portion of the term of the patent subsequent to Mar. 1, 1983, has been disclaimed
3 Claims. (Cl. 310—29)

1. A torque motor comprising a flexure tube supported adjacent one end thereof, and an armature mounted on said flexure tube adjacent the opposite end thereof for oscillatory movement about an axis transverse to said



tube, wherein said tube is of tapered wall form substantially from said one end to said opposite end thereof.

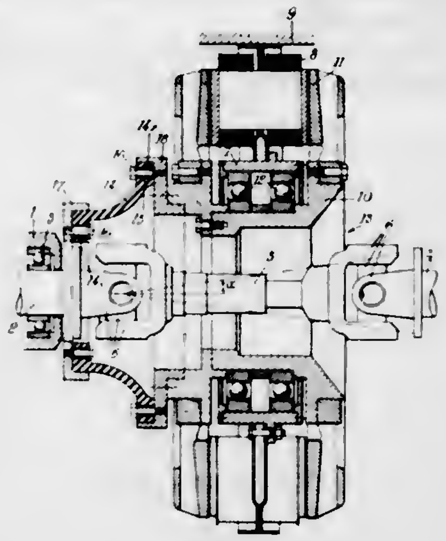
3,381,151
ELECTRIC STEP-BY-STEP MOTOR
Gunnar Stenudd, Lidingo, Sweden, assignor to Aktiebolaget Atvidabergs Industrier, Atvidaberg, Sweden, a joint-stock company of Sweden
Filed Nov. 8, 1965, Ser. No. 506,678
Claims priority, application Sweden, Nov. 9, 1964, 13,492/64
5 Claims. (Cl. 310—49)



1. An electric step-by-step motor of the reluctance type comprising, in combination, a shaft, a stator having at least three magnetic poles with the pole faces arranged radially about said shaft as a center, said pole faces being arranged on the circumference of a circle, a winding mounted on each said pole piece, a rotor mounted on said shaft, said rotor having a radial extension terminating in a peripherally extending portion of soft magnetic material concentric with said pole face circle, said portion corresponding to the peripheral extent of the pole face and a magnetic circuit completing means extending about said shaft adjacent said rotor and connected to the outer ends of all of said stator pole pieces.

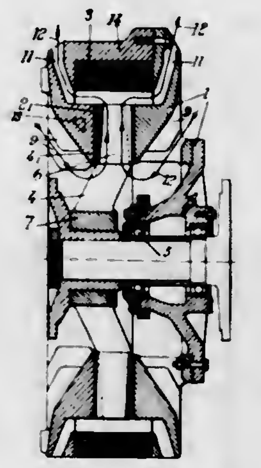
3,381,152
FOUCAULT CURRENT BRAKING DEVICES
Pierre Etienne Bessiere, Golf de Saint-Nom-la-Breteche, France, assignor to Societe Labavia, Saint-Ouen, Seine-St.-Denis, France, a society of France
Filed Dec. 8, 1964, Ser. No. 416,724
Claims priority, application France, Dec. 10, 1963, 956,691
3 Claims. (Cl. 310—93)

The Foucault current braking device exerts a braking torque upon the portion of a vehicle transmission shaft comprised between the gear box and the driving axle, especially when said portion is very short. Said device comprises a stator secured to the suspended part of the vehicle and a rotor rotatable in said stator; the whole of



said two parts forms an annular structure surrounding the shaft portion so as to allow it to move angularly, and the rotor is flexibly coupled to the gear box output shaft.

3,381,153
FOUCAULT CURRENT BRAKING DEVICES
Pierre Etienne Bessiere, Golf de Saint-Nom-la-Breteche, France, assignor to Societe Labavia, Saint-Ouen, Seine-St.-Denis, France, a society of France
Filed Dec. 8, 1964, Ser. No. 416,725
Claims priority, application France, Dec. 19, 1963, 957,847
8 Claims. (Cl. 310—93)

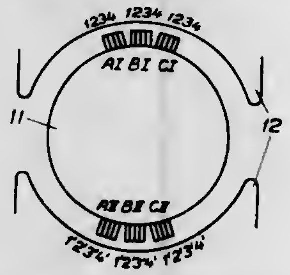


The Foucault current braking device comprises a stator and a rotor disc. The stator comprises a magnetic member having two annular areas parallel to each other and disposed opposite each other along a common axis; the stator further comprises an annular inductor winding housed in this member coaxially with said areas. The rotor disc is made of a magnetic material and is journalled in the stator about said axis. The rotor disc has two annular areas centered on said axis and located adjacent and close to the two stator annular areas respectively. At least one of the rotor disc annular areas is provided with a plurality of grooves extending transversely to the circumference of the disc annular area, the depth of said grooves in the direction of said axis being smaller than the thickness of the disc.

3,381,154
HIGH POWER SYNCHRONOUS MACHINE

Kristian Dahl Madsen, Sven Helmersson, and Richard Sivertsen, Vasteras, Sweden, assignors to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation

Filed Apr. 5, 1965, Ser. No. 445,448
Claims priority, application Sweden, Apr. 8, 1964, 4,305/64
7 Claims. (Cl. 310—213)

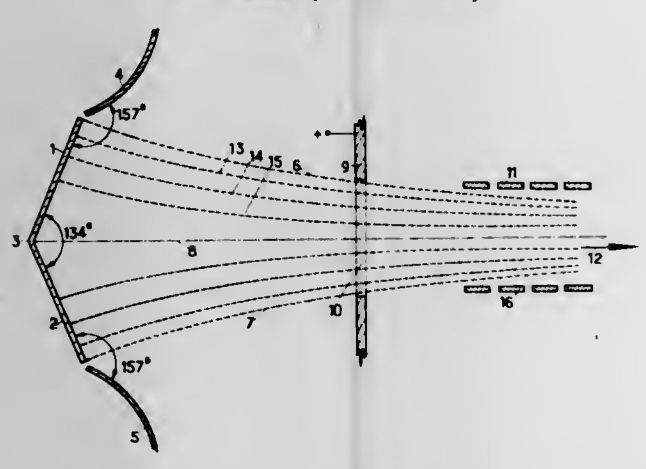


1. Multi-phase high power synchronous machine intended for a continuous power of at least 10 mva. and whose armature substantially is made as a slotless armature, in which the air gap flux at least mainly is led into the armature core without passing armature teeth, the active armature conductors of the armature winding comprising a plurality of active part conductor groups insulated from each other, a plurality of active part conductor groups in each active armature conductor being arranged beside each other in a first direction perpendicular to the air gap surface of the armature, each of the part conductor groups thus arranged containing a plurality of straight active part conductors insulated from each other by means of a relatively thin insulation layer, said active part conductors being arranged beside each other in a second direction perpendicular to said first direction, each assembly of series connected armature conductors between two points of mutual connections between adjacent part conductors comprising pairs of active conductors, the mutual displacement between each armature conductor of the pair being substantially 180 electrical degrees, each active part conductor of a certain successive number in the direction of rotation of one of the active conductors of said pair being series connected with an active part conductor with the same successive number reckoned in the opposite direction of rotation of the other active conductor of the pair.

3,381,155
ELECTRON GUNS HAVING AT LEAST ONE EMISSIVE CATHODE SURFACE AND ONE NONEMISSIVE ELECTRODE ADJACENT SAID CATHODE SURFACE

Jacques Arnaud and Georg Wendt, both of 79 Blvd. Haussmann, Paris 8eme, France

Filed Aug. 10, 1965, Ser. No. 478,577
Claims priority, application France, Aug. 26, 1964, 986,210
9 Claims. (Cl. 313—82)

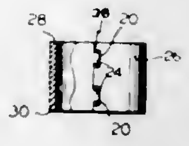


An electron gun producing, without any focusing magnet acting on the gun space, an electron beam having a substantially linearly variable electron density over its cross-section, this density varying between substantially zero value near the axis of the beam and a maximum value near the periphery of the cathode. The gun comprises at least one emissive cathode surface tilted at substantially 67° with respect to the axis, and at least one nonemissive electrode having an edge adjacent the peripheral edge of the cathode surface, and forming therewith an angle of substantially 157°.

3,381,156
ELECTRODES FOR CATHODE RAY TUBES WITH ABUTTED ENDS MEETING IN A SEAM

Jay H. Johnson, Owensboro, Ky., assignor, by mesne assignments, to Kentucky Electronics, Inc., a corporation of Delaware

Continuation-in-part of application Ser. No. 221,601, Sept. 5, 1962. This application Dec. 30, 1965, Ser. No. 517,679
1 Claim. (Cl. 313—82)

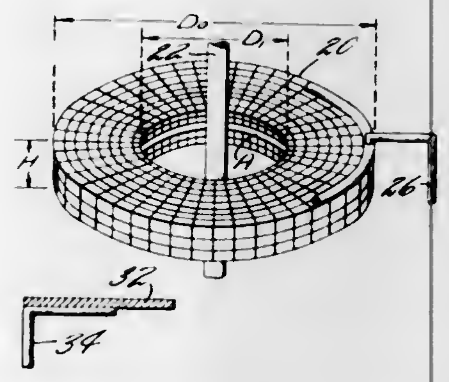


Improved structure for cathode ray tube electrodes is disclosed, wherein the electrode is formed from a flat strip having edges rounded to eliminate burrs and being rolled around a mandrel to form a cylindrical body through which the electron beam passes, with ends abutting at a single seam generally aligned along the beam path.

3,381,157
ANNULAR HOLLOW CATHODE DISCHARGE APPARATUS

Fernand J. Ferreira, Hazardville, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Dec. 10, 1964, Ser. No. 417,399
16 Claims. (Cl. 313—348)



1. In a hollow cathode device for producing an electron beam,

a cathode structure comprising a hollow metallic element containing a continuous elongated aperture along at least a portion of the surface thereof,

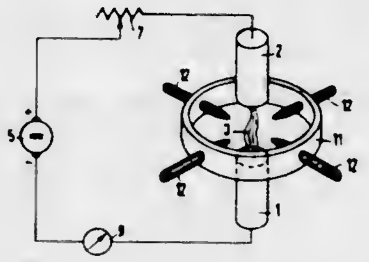
and means for causing said cathode structure to emit from the said aperture a plane-collimated uninterrupted sheet of electrons by nonthermionic discharge,

said aperture being curved in the plane containing said sheet of electrons.

3,381,158
APPARATUS FOR REDUCING THE EXTENT TO WHICH A METAL ELECTRODE IS CONSUMED IN AN APPARATUS WHICH OPERATES WITH AN ELECTRIC ARC

Friedrich Burhorn and Fritz Schmidt, Erlangen, and Manfred Strossner, Nuremberg, Germany, assignors to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany

Filed Oct. 19, 1965, Ser. No. 497,886
Claims priority, application Germany, Dec. 8, 1964, S 94,506
14 Claims. (Cl. 314—136)

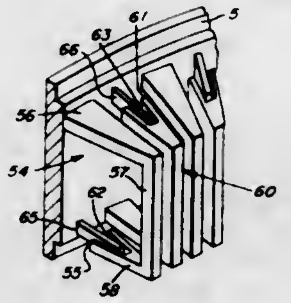


1. Apparatus for reducing the extent to which a metal electrode is consumed in an apparatus where the metal electrode defines with another electrode a gap across which an arc extends between the electrodes during operation of the apparatus, said electrodes and gap therebetween defining a predetermined zone of the apparatus, comprising carbonaceous material situated close enough to said zone to provide for heating of said carbonaceous material and consumption of said carbonaceous material to a discernible extent during operation of the apparatus.

3,381,159
DOUBLE FOLDED INTERDIGITAL DELAY LINE

Peter Janis, Auburndale, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware

Filed Aug. 27, 1965, Ser. No. 483,257
14 Claims. (Cl. 315—3.5)



1. A slow wave energy propagating structure comprising:

a base member;

a first and second plurality of parallel periodically spaced elements arranged in an interdigital array;

each of said elements being joined at one end to said base member and having a free termination end spaced from said base member;

said free termination end defining a wall structure providing a re-entrant radial radio frequency energy path;

a third plurality of periodically spaced elements joined to and extending substantially perpendicularly to said base member;

each of said third plurality of spaced elements extending within and being spaced from the wall surfaces of each of said re-entrant structures.

10. A traveling wave crossed-field electron discharge device comprising:

a slow wave energy propagating structure producing in the region adjacent thereto fields of electromagnetic wave energy being propagated therealong;

a source of electrons;

means for directing said electrons in a beam along said region in energy-exchanging relation with said fields of wave energy;

said slow wave structure comprising first and second pluralities of periodically spaced finger elements to define an interdigital array, each of said finger elements defining a bifurcated free extremity;

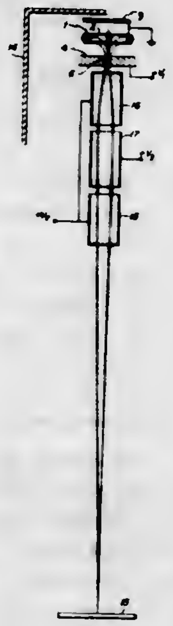
a plurality of vane members extending within and spaced from the wall surfaces of each of said bifurcated free extremities;

the combined disposition of said finger elements and vane members provided a re-entrant path for electromagnetic wave energy propagated on said slow wave structure.

3,381,160
ELECTRON BEAM DEVICE

Charles L. Andrews, Albany, N.Y., assignor to General Electric Company, a corporation of New York

Filed June 29, 1965, Ser. No. 467,855
8 Claims. (Cl. 315—14)



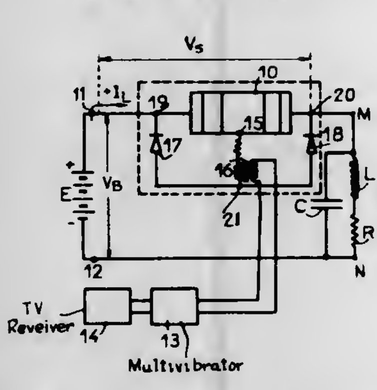
3. An electron beam device for providing electrons to a utilization means without exposing said utilization means to direct radiation from a heated electron source comprising an envelope with a cathode at one end thereof and an electron utilization means at the other; a planar conducting grid between said cathode and said electron utilization means provided with a circular aperture displaced from a direct radiation path between said cathode and said utilization means, the device being otherwise free of beam controlling electrodes between said cathode and said aperture; said cathode having an annular electron emissive material coated surface extending substantially in a direction parallel to the axis of said aperture with the axis of the annulus substantially coinciding with the axis of the aperture so that the edge of said electron emissive surface is substantially equidistant from the edge of said aperture; means for heating said cathode to provide thermionic emission of electrons therefrom; voltage supply means higher in potential than said cathode causing emitted electrons to curve towards said grid and the axis of said aperture passing through said aperture; and an electron lens between said grid and said utilization means for focusing said circular aperture upon said utilization means causing a small diameter beam of electron to approach said utilization means,

wherein the diameter of said aperture is large enough to pass a substantial fraction of a beam of electrons therethrough, the beam being equal in diameter to the axial extent of the electron emitting surface of said cathode; said cathode having a spacing from the plane of said grid in the range of two-thirds to four-thirds the distance of said cathode from the axis of said aperture.

3,381,161

DEVICE FOR LINE SCANNING IN A TELEVISION RECEIVER USING A SINGLE GATE SYMMETRICALLY CONDUCTING TURN-ON TURN-OFF FIVE LAYER SEMICONDUCTOR DEVICE

Jean-Pierre Blet, 17 bis Rue de Villebon, Saulx-les-Chartreux, France, and Jean Chaupit, 49 Ave. Gabriel Peri, Fontenay-aux-Roses, France
Filed July 30, 1964, Ser. No. 386,184
Claims priority, application France, Aug. 1, 1963, 943,471
7 Claims. (Cl. 315—27)

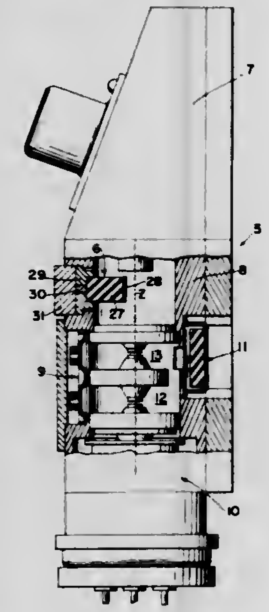


A device for line scanning in a television receiver wherein a single gate symmetrically conducting turn-on, turn-off semi-conductor device of the triggered four-layer rectifier type, having five layers and four junctions, controlled by a multivibrator synchronized by the television receiver is connected between the deflection coil and a voltage source in control thereof.

3,381,162

HIGH FREQUENCY ELECTRON DISCHARGE DEVICES HAVING ASYMMETRIC SELF-BIASED ION DRAINING ELECTRODES

James R. Schwartz, Mountain View, and Wayne G. Abraham, Santa Clara, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Oct. 1, 1964, Ser. No. 400,679
12 Claims. (Cl. 315—5.38)

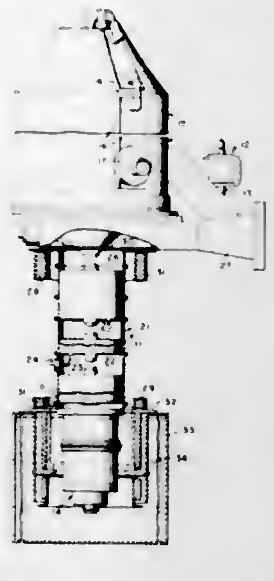


A self-biasing ion draining electrode for use in eliminating AM and FM noise generated by ions and secondary (impact generated) electrons in klystrons, traveling wave tubes, etc. The electrode is positioned asymmetrically off the beam axis and is electrically floating with respect to the remainder of the tube. A portion of the electrode is made of a material having a secondary electron emission ratio of less than 1 so that this portion assumes a negative charge and serves to capture ions.

3,381,163

KLYSTRON AMPLIFIER HAVING ONE CAVITY RESONATOR COATED WITH LOSSY MATERIAL TO REDUCE THE UNDESIRED MODES' UNLOADED CAVITY Q

Albert D. La Rue and Robert S. Symons, Los Altos, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Feb. 3, 1964, Ser. No. 342,217
8 Claims. (Cl. 315—5.39)

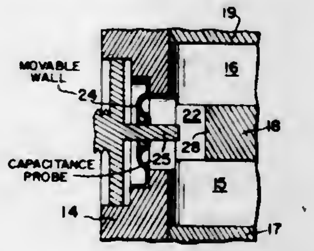


A high power multicavity klystron amplifier tube utilizing a lossy coating such as Kanthal distributed over the walls of one of the cavity resonators. The lossy material is distributed over a sufficient area of the inside of the cavity to make the unloaded cavity Q, Q_0 of all undesired modes of oscillation so small that such modes are effectively suppressed.

3,381,164

TWO-CAVITY KLYSTRON OSCILLATORS HAVING CAPACITIVELY TUNED COUPLING IRIS BETWEEN THE CAVITIES

Wayne G. Abraham, Palo Alto, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Nov. 17, 1964, Ser. No. 411,808
7 Claims. (Cl. 315—5.48)

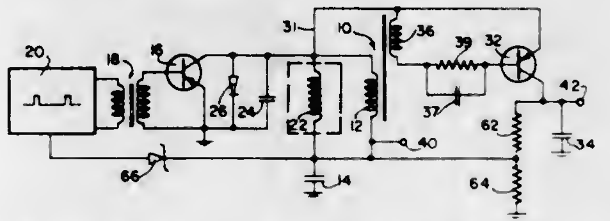


A tunable iris designed to provide coupling between the cavities of a two-cavity klystron tube. The iris is capacitively tuned by moving a flexible diaphragm which forms one of the walls of the iris. The iris capacitance may be increased either by providing a capacitive probe extending from the diaphragm toward an opposite wall or by making the opposite wall convexly curved toward the flexible diaphragm.

3,381,165

ELECTRONIC CIRCUIT IN WHICH THE OPERATING VOLTAGE IS OBTAINED FROM THE HIGH VOLTAGE SIDE OF THE CIRCUIT

Douglas W. Taylor, Phoenix, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Sept. 25, 1964, Ser. No. 399,313
8 Claims. (Cl. 315—27)

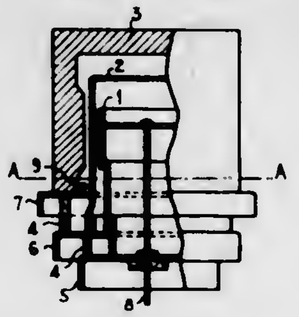


The circuit includes a semiconductor device coupled in series with an inductance winding and a capacitor. A second semiconductor device is coupled in series with a second capacitor and is operably coupled to the inductance winding. A DC voltage is applied across the second capacitor and a starting voltage is applied across the first capacitor. Pulses developed across the inductance winding are rectified by the second semiconductor device and coupled back to the first capacitor to provide an operating voltage for the first semiconductor device.

3,381,166

ELECTRON TUBE ASSEMBLY HAVING AN INCORPORATED MODE SUPPRESSOR

Pierre Gerlach, Thonon-les-Bains, France, assignor to Compagnie Francaise Thomson Houston-Hotchkiss Brandt, Paris, France, a French body corporate
Filed July 9, 1964, Ser. No. 381,380
Claims priority, application France, Aug. 6, 1963, 943,858, Patent 1,373,741
10 Claims. (Cl. 315—39)

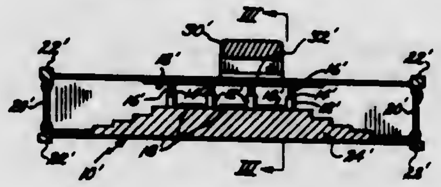


A VHF-UHF tube having coaxial tube elements, and designed for operation in the TEM mode has a TE mode suppressor in the form of an annular wire of ferromagnetic material (e.g., Kovar) located within the tube and between the control grid and another element (screen grid, anode), to suppress parasitic oscillations at the location where the TE parasitic oscillations are a maximum, so that optimum suppressing action is obtained.

3,381,167

MICROWAVE GAS TR TUBES

Theodore M. Nelson, Baltimore, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force
Filed Dec. 23, 1965, Ser. No. 516,174
2 Claims. (Cl. 315—39)

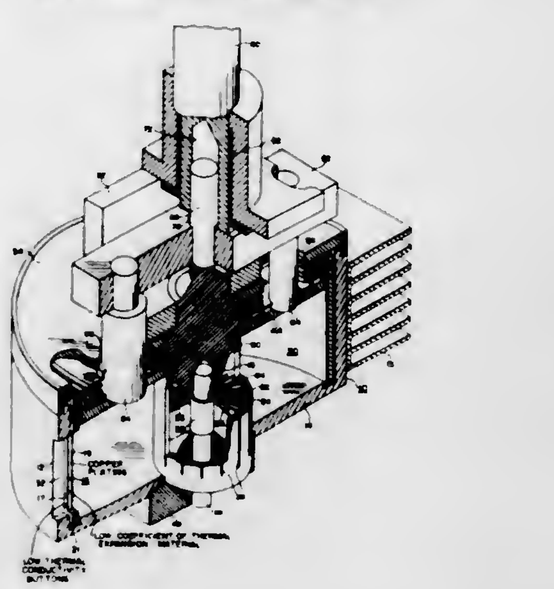


An electric discharge device having a vacuum tight, gas filled wave guide envelope, resonant elements located within the wave guide envelope, a magnet applying a constant magnetic field perpendicular to the RF electric field of the wave guide envelope and alpha emitting, radioactive coated strips mounted within the wave guide envelope proximate the resonant elements.

3,381,168

FREQUENCY STABLE COAXIAL MAGNETRON UTILIZING LOW COEFFICIENT OF THERMAL EXPANSION MATERIAL

William A. Gerard, Horseheads, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 1, 1964, Ser. No. 415,073
6 Claims. (Cl. 315—39.75)

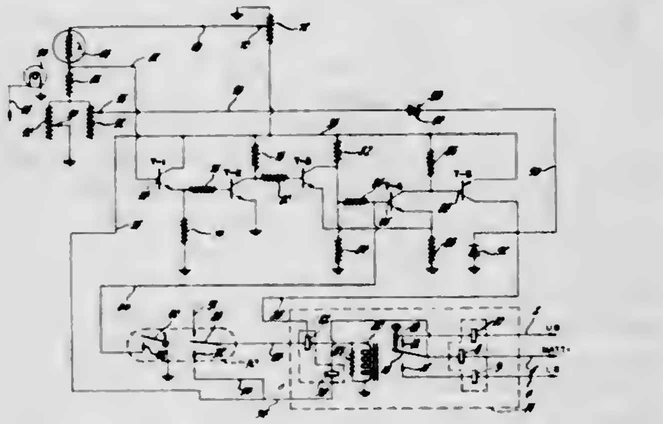


This invention relates to a coaxial magnetron in which the outer cavity resonator is provided with a cylindrical outer wall member of a material having a low coefficient of thermal expansion. This cylindrical member of low expansion material serves as the outer diameter of the outer cavity resonator and is secured to the main body of the outer cavity resonator by low thermal conductive means. The remaining portion of the outer cavity resonator provides means of transmitting heat from the anode of the magnetron tc the exterior.

3,381,169

SOLID STATE CRYSTAL AUTOMATIC HEADLIGHT-DIMMING SYSTEM

Eugene W. Brock, Anderson, Myrneth L. Woodward, Lapel, and Charles W. Miller, Anderson, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 11, 1966, Ser. No. 533,727
10 Claims. (Cl. 315—83)



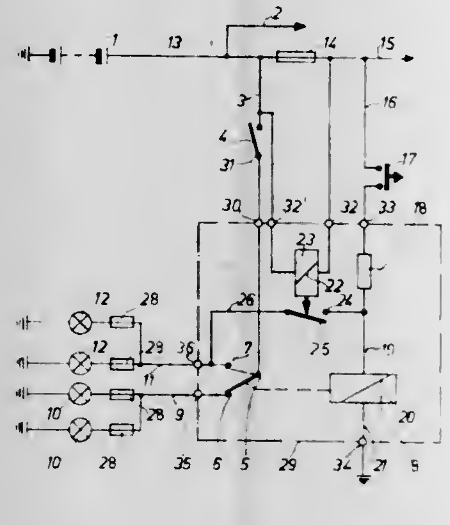
This invention relates to specific improvements in light sensitive control systems for automatic headlamp-dimming utilizing a solid state crystal such, for example, as cadmium sulphide, as a light sensitive element, amplifying means with a multivibrator trigger control circuit, and novel dim-hold and driver sensitivity control circuits associated therewith.

3,381,170
CIRCUIT FOR SWITCHING HIGH BEAM HEADLAMPS TO LOW BEAM HEADLAMPS DURING SHORT CIRCUIT CONDITIONS

Albert Franz, Nurtingen, Wurttemberg, Germany, assignor to Hermann Stribel oHG, Nurtingen, Wurttemberg, Germany

Filed July 6, 1966, Ser. No. 563,267

12 Claims. (Cl. 315—83)



An arrangement for controlling the lights for night driving of motor vehicles. For safe driving of motor vehicles, two sets of lights are provided. One set of lights is designated for long-range vision and is of very bright intensity. The other set of lights is dimmed and is intended for limited visual range when two motor vehicles pass each other. The dimmed lights assure that the drivers of the motor vehicles will not be disturbed from the effects of glaring headlamps. An electromechanical arrangement including impulse relays and circuit breakers assures that automatic switching to the dimmed lights takes place when external short-circuits develop in the lighting system, which would ordinarily prevent switching from the bright lamps to the dimmed lamps.

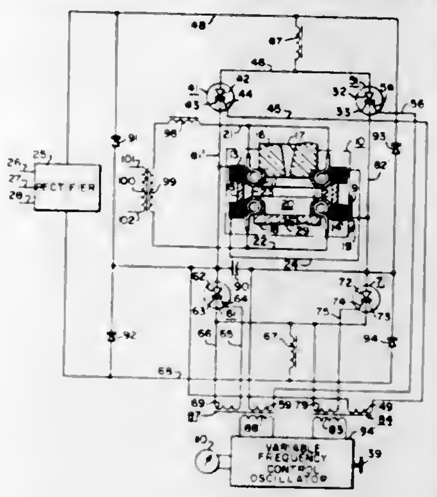
3,381,171
VARIABLE FREQUENCY MAGNETIC FIELD ARC HEATER APPARATUS AND VARIABLE FREQUENCY FIELD PRODUCING MEANS FOR USE THEREIN

Peter F. Kienast, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 14, 1964, Ser. No. 403,812

11 Claims. (Cl. 315—176)

1. In arc heater apparatus, in combination, a pair of spaced electrodes, means for admitting gas to be heated to the space between electrodes, means for exhausting heated gas, means for applying an alternating current potential as a first frequency to said electrodes to establish and maintain an arc therebetween, field coil means disposed in predetermined position with respect to the electrodes, and means for applying an alternating current of an adjustable second frequency to the field coil means to set up an arc-rotating magnetic field which varies periodically in direction, the frequency of the change of rotation direction of the arc being substantially equal to the difference between the first frequency and the second frequency, said second frequency being adjusted to a value which produces a frequency of the change of rotation whereby most efficient stirring action of the gas is produced with a minimum amount of temperature variation within the gas content, and the arc is stabilized to prevent arc looping.

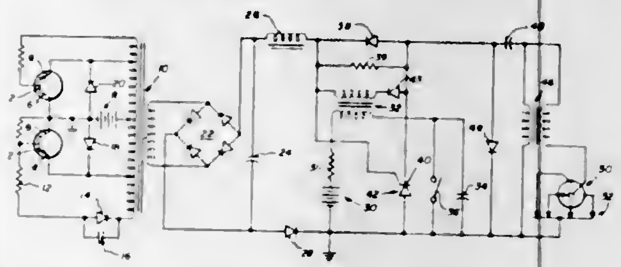


3,381,172
SOLID STATE SILICON CONTROL RECTIFIER IGNITION SYSTEM FOR INTERNAL COMBUSTION ENGINES

Phillip J. Weiner, 8026 Plymouth Ave. N., Minneapolis, Minn. 55427

Filed Aug. 23, 1965, Ser. No. 481,644

2 Claims. (Cl. 315—212)

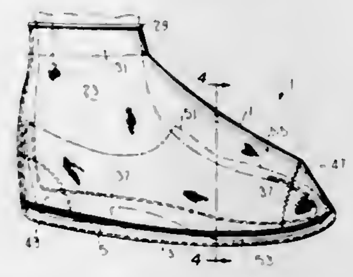


An automotive ignition system utilizing an oscillator to provide a high DC potential to a charging capacitor which discharges upon opening of the points through a coil and a periodically switched SCR.

3,381,173
STATIC-ELIMINATING OVERSHOE

Irvin S. De Woskin, St. Louis, Mo., assignor to Beltx Corporation, St. Louis, Mo., a corporation of Missouri Continuation-in-part of application Ser. No. 363,933, Apr. 30, 1964. This application Jan. 26, 1965, Ser. No. 432,057

5 Claims. (Cl. 317—2)



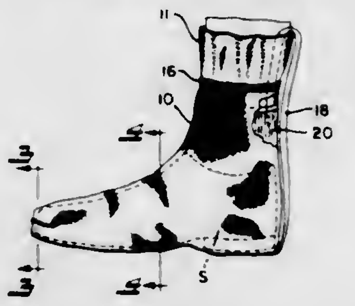
A static-eliminating overshoe for use in operating rooms over street shoes has a sole of an abrasion-resistant electrically conductive elastomeric sheet material, a welt of an abrasion-resistant flexible material extending around the periphery of the sole and stitched at its lower margin to the periphery of the sole, and a cloth upper stitched at its lower margin to the upper margin of the welt. A strap of electrically conductive elastomeric material connected to the sole is adapted to be placed inside a street shoe when the overshoe is worn, and conducts static electricity from the wearer's foot to the sole and grounds it to the floor.

3,381,174
IMPERMEABLE CONDUCTIVE SHOE COVER

Bernard A. Ceraldi, Cleveland, Ohio, assignor to Westshore Products, Inc., Cleveland, Ohio, a corporation of Ohio

Filed Mar. 20, 1967, Ser. No. 624,374

5 Claims. (Cl. 317—2)



A conductive shoe cover made of an elastic textile material adapted to be snugly received on the foot of the wearer and provided with a conductive strip extending along the bottom of such cover. An impermeable inner plastic liner is disposed within the cover and is attached thereto in the adjoining toe regions of the respective members, with the plastic liner being otherwise free of attachment to said cover and consequently not impairing the ability of such cover to snugly receive the foot of the wearer.

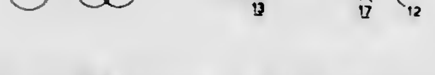
3,381,175
CIRCUIT-BREAKER ARRANGEMENTS

Jack Keyes Brown, Vincent Alfred Hughes, and Thomas Brian Burnett, Stafford, England, assignors to The English Electric Company Limited, London, England, a British company

Filed Sept. 8, 1964, Ser. No. 394,676

Claims priority, application Great Britain, Sept. 12, 1963, 35,985/63

4 Claims. (Cl. 317—11)



1. In or for an alternating current electric circuit, a circuit-breaker arrangement including a normally-closed circuit-breaker, a superconducting switch, a normally-open circuit-breaker in series with said superconducting switch, said superconducting switch and said normally-open circuit-breaker being in parallel with said normally-closed circuit-breaker, and a series circuit-breaker which is in series at least with the superconducting switch and the normally-open circuit-breaker.

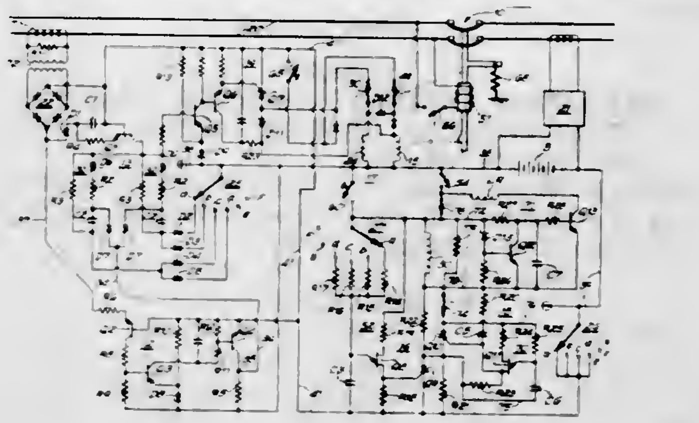
3,381,176
REPEATING CIRCUIT INTERRUPTER INCLUDING PROTECTION MEANS FOR THE SECONDARY SOURCE

Richard E. Riebs, Hales Corners, and Clyde Gilker, South Milwaukee, Wis., assignors to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware

Filed Mar. 25, 1966, Ser. No. 537,451

18 Claims. (Cl. 317—22)

1. A repeating circuit interrupter including switch means in circuit with an electrical system, control means for opening said switch means upon the occurrence of a predetermined condition in said system, switch closing means coupled to said switch means, primary energy source means for providing switch closing energy, electroresponsive means for coupling said switch closing means to said primary energy source means, secondary electrical energy source means, said control means being operative to initiate the flow of operating energy from said secondary energy source means to said electroresponsive means after a switch opening operation to initiate a switch closing operation, means for interrupting the energy flow from said secondary energy source means to said electroresponsive means when said switch means closes, and time delay means for interrupting the flow of operating energy from said secondary energy source means to said second electroresponsive means if said switch means does not reclose within a predetermined interval.

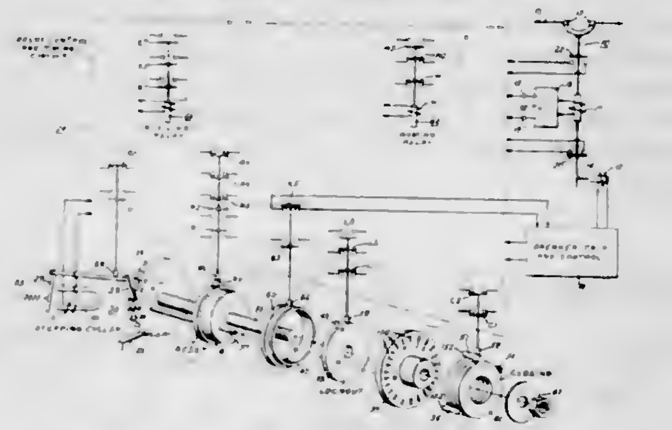


3,381,177
VARIABLE SEQUENTIAL TIME CONTROL RELAY SYSTEM

Wendell P. Allen, Springfield, Pa., assignor to General Electric Company, a corporation of New York

Filed May 3, 1966, Ser. No. 547,304

18 Claims. (Cl. 317—22)



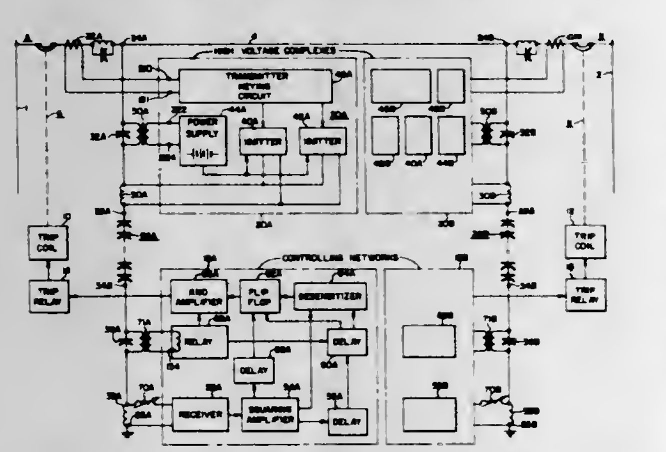
1. An automatic reclosing relay system for reclosing a circuit breaker comprising: means for establishing a time-base control cycle having a certain plurality of substantially uniform time-base intervals, said time-base means including:

- a stepping cycler rotatable through a cycle of steps corresponding in number to said certain plurality and having means for retaining said cycler in rotational position after each step,
- a plurality of cam means linked to and rotatable with said stepping cycler including a reset cam means having a certain operating position corresponding to a first one of said steps, and a closing cam means having a plurality of elements individually adjustable to different operating positions corresponding to different ones of said steps,
- a plurality of switches, each of said cam means being individually associated with at least one of said switches for actuation thereof,
- and a timing circuit having a time-delay period equal to said time-base interval and having means for supplying a stepping signal to said cycler;

and a control circuit includng means connecting said switches in a plurality of control networks for initiating operation of said timing circuit upon tripping of said breaker when said stepping cycler is in its first-step position and for producing a breaker reclosing signal after tripping of said breaker and when one of said adjustable closing cam elements is in its respective operating position.

3,381,178
RELAYING SYSTEM FOR HIGH VOLTAGE TRANSMISSION LINE UTILIZING A COUPLING CAPACITOR

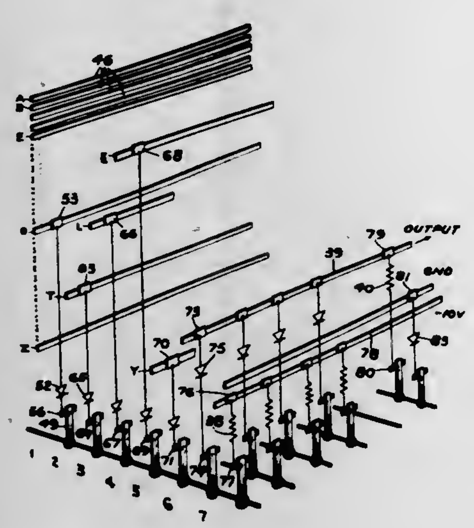
George D. Rockefeller, Jr., Morris Plains, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 17, 1965, Ser. No. 464,771
13 Claims. (Cl. 317—27)



A relaying system for a high voltage transmission line in which the current transformer and the transmitter actuated by the current transformer as well as the source of energy for the transmitter are all substantially at the potential of the transmission line while the trip controlling receiver and the trip actuating mechanism are all at a low potential with respect to ground. The control signals from all of the transmitters are transmitted to the trip controlling receiver through the coupling capacitor.

3,381,179
ELECTRICAL MATRIX WITH IMPROVED FRAME AND PLUG STRUCTURE

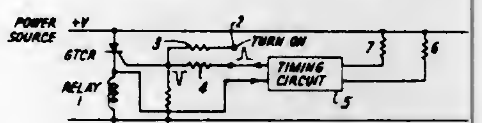
Robert J. Uhl, Wayne, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Apr. 29, 1966, Ser. No. 546,335
2 Claims. (Cl. 317—101)



A matrix frame and plug structure is provided wherein a curved component-bearing plug is insertable into cavities in the matrix frame so that the curved plug exerts pressure on the cavity walls to assure electrical connection between the component leads and conductive cavity strips.

3,381,180
ENERGIZING CIRCUITS FOR INDUCTIVE LOADS

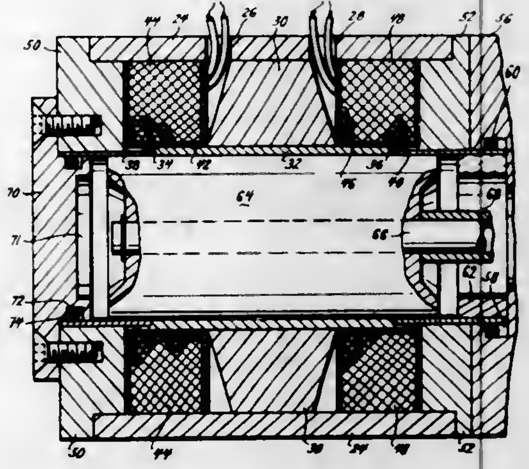
Marvin Felcheck, Bayside, N.Y., and Nanjundiah N. Murthy, Stamford, Conn., assignors to American Machine & Foundry Company, a corporation of New Jersey
Filed June 9, 1965, Ser. No. 462,484
11 Claims. (Cl. 317—148.5)



1. A circuit for supplying energizing pulses of substantially constant width to a load comprising in combination with said load; a source of direct current supply voltage; a primary switching device of the multi-layer semiconductor type having a cathode, an anode and a gate electrode; a normally-disabled anode-cathode path for said device connected in series with said load across said source; a first and a second terminal connected to said gate electrode; timing means having a predetermined RC time constant, connected to said primary device and to said source; means for applying to said gate electrode through said first terminal at least one starting positive pulse of short duration to cause the enablement of said anode-cathode circuit to turn on said device so that energizing power is supplied therethrough to said load; and means in said timing means responsive to the turning on of said primary device to start the timing action in said timing means and cause it to supply at the end of a predetermined time interval after the device has been turned on, a negative stop pulse to said gate electrode through said second terminal disabling said anode-cathode path and thus causing that device to turn off to stop the flow of energizing power to said load and to return the timing means to the initial unoperated condition; the time for which said load is energized between each starting and stopping pulse being determined by the time constant RC of said timing means.

3,381,181
ELECTROMAGNETIC DEVICE

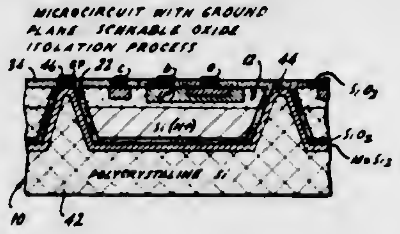
Leland Clay Weathers, Plymouth, Mich., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed June 27, 1966, Ser. No. 560,627
7 Claims. (Cl. 317—155.5)



A solenoid has an elongated tube to confine and guide the armature thereof, has a permanent magnet of annular configuration mounted on and integral with the tube so there are substantially no air gaps between that permanent magnet and that tube, has a winding mounted on one end of the tube adjacent one side of the permanent magnet, and has a second winding mounted on the other end of the tube adjacent the other side of the permanent magnet, and the magnetic flux lines provided by the magnet constitute the predominant flux lines used to operate the solenoid.

3,381,182
MICROCIRCUITS HAVING BURIED CONDUCTIVE LAYERS

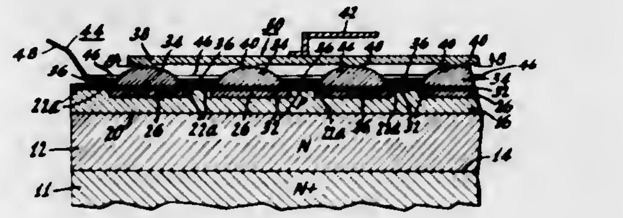
Clarence G. Thornton, Ambler, Pa., assignor to Philco-Ford Corporation, a corporation of Delaware
Filed Oct. 19, 1964, Ser. No. 404,800
11 Claims. (Cl. 317—234)


MICROCIRCUIT WITH GROUND PLANE SCHNABLE OXIDE ISOLATION PROCESS
POLYCRYSTALLINE Si
10
42
44

Microcircuits having buried conductive layers for use as ground planes, crossunders, and low-resistance connections; and employing polycrystalline silicon wafers with monocrystalline component-containing surface regions with silicide conductive layer(s) and optionally, insulating layer(s), between region and wafer.

3,381,183
HIGH POWER MULTI-EMITTER TRANSISTOR

Norman C. Turner, Hopatcong, and James H. Cavitt, Somerville, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed June 21, 1965, Ser. No. 465,345
7 Claims. (Cl. 317—234)

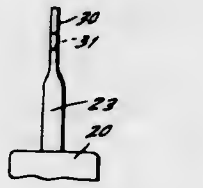


A multi-emitter, high power transistor comprises a wafer of semiconductor material having a plurality of discrete emitter regions surrounded by a base region. A base electrode comprises a grid of solder, connected to the base region, with portions surrounding, and preferably being equally spaced from, the emitter regions. A separate button of solder is connected to each emitter region. An emitter electrode comprises a metal plate connected to each of the buttons and disposed over, and spaced from, the base electrode.

3,381,184
LEAD TERMINATION STRUCTURE

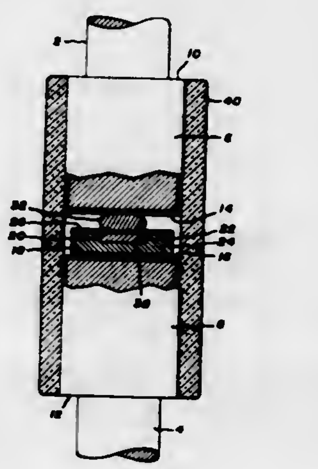
George E. Jamison, Los Angeles, Calif., assignor to International Rectifier Corporation, El Segundo, Calif., a corporation of California
Filed Jan. 28, 1966, Ser. No. 523,638
3 Claims. (Cl. 317—234)

A conductor extending from a semiconductor device extends through a tube sealed to a hermetically sealed casing. The tube is crimped on the lead and a lead-receiving opening is punched through the crimped section.



3,381,185
DOUBLE HEAT SINK SEMICONDUCTOR DIODE WITH GLASS ENVELOPE

Philip C. Whitman and Thomas R. Selig, Liverpool, N.Y., assignors to General Electric Company, a corporation of New York
Continuation of application Ser. No. 335,058, Jan. 2, 1964. This application Mar. 23, 1967, Ser. No. 625,558
3 Claims. (Cl. 317—234)



1. In a semiconductor junction diode including a pair of axially extending metal leads having spaced transverse end faces, a metal contact layer at least partially covering the end face of each of said leads, and a pellet of semiconductor material situated between the end faces of said metal leads and having a P conductivity type region and an N conductivity type region each extending to a major face of said pellet, the improvement comprising:

(a) a soft glass cylinder axially encompassing said leads and fusibly sealed thereto to form a hermetic envelope therewith, said soft glass cylinder having a given sealing temperature range;

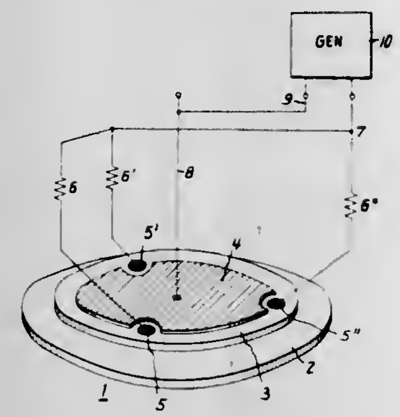
(b) a layer of metal solder bonded to a major face of said pellet forming with one of said contact layers an inter-metallic bond between said pellet and one of said leads, said layer of metal solder having a eutectic temperature with said one contact layer lower than the given sealing temperature range; and

(c) a relatively thick electrically conductive cushion outstanding from the other major face of said pellet and bonded to both the other major face of said pellet and the other of said contact layers, said cushion having a first eutectic temperature with said other contact layer lower than the given sealing temperature range and having a second eutectic temperature with said pellet higher than the given sealing temperature range.

3,381,186
BALANCED MULTIPLE CONTACT CONTROL ELECTRODE

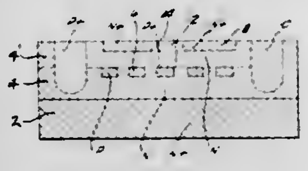
Enno Arends, Belecke (Mohne), Germany, assignor to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany
Filed Mar. 19, 1965, Ser. No. 441,217
Claims priority, application Germany, Mar. 21, 1964, L 47,365
11 Claims. (Cl. 317—235)

Two or more spatially separated contact areas are provided on the body of a semiconductor thyristor for controlling the state thereof. Control pulses are simultaneously applied to the separated contact areas through a plurality of impedances each connected in series with a corresponding one of the contact areas. This simultaneously ignites all of the contact areas and produces an initial current distribution which is as close as possible to the steady state distribution.



3,381,187
HIGH-FREQUENCY FIELD-EFFECT TRIODE DEVICE

Rainer Zuleeg, Newport Beach, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Aug. 18, 1964, Ser. No. 390,379
10 Claims. (Cl. 317—235)

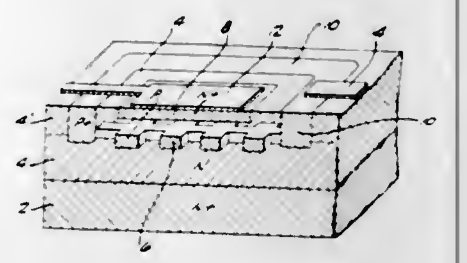


1. A field-effect triode device comprising:
(a) a body of semi-insulator material of a first conductivity-type;
(b) a control electrode member in the form of a grid of semi-insulator material of a second type of conductivity opposite to said first type disposed within and surrounded on all surfaces by said body of semi-insulator material;
(c) electrically conductive electrode members disposed on opposite surfaces of said body of semi-insulator material and in electrical contact therewith;
(d) a first region of semi-insulator material of said second type of conductivity extending into said body and surrounding said control electrode member while being electrically isolated therefrom by portions of said body;
(e) and a second region of semi-insulator material of said second type of conductivity extending into said body from a surface thereof and making electrical contact to said control electrode member while being electrically isolated from said first region by portions of said body.

3,381,188
PLANAR MULTI-CHANNEL FIELD-EFFECT TRIODE

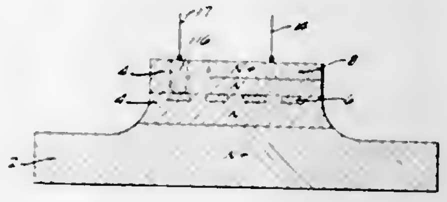
Rainer Zuleeg, Newport Beach, and Verda O. Hinkle, Jr., Huntington Beach, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Aug. 18, 1964, Ser. No. 390,292
8 Claims. (Cl. 317—235)

1. A field-effect triode device comprising:
(a) a body of semi-insulator material of a first conductivity type;
(b) a control electrode member in the form of a grid of semi-insulator material of a second type of conductivity opposite to said first type disposed in and surrounded on substantially all surfaces by said body of semi-insulator material;
(c) electrically conductive electrode members disposed on opposite surfaces of said body of semi-insulator material and in electrical contact therewith;
(d) and a region of semi-insulator material of said second type of conductivity disposed on a surface of said body of semi-insulator material and extending down thereinto so as to surround said control electrode member and make electrical contact with a portion thereof, said control electrode member being spaced from said region by said body of semi-insulator material except for the portion contacted by said region.



3,381,189
MESA MULTI-CHANNEL FIELD-EFFECT TRIODE

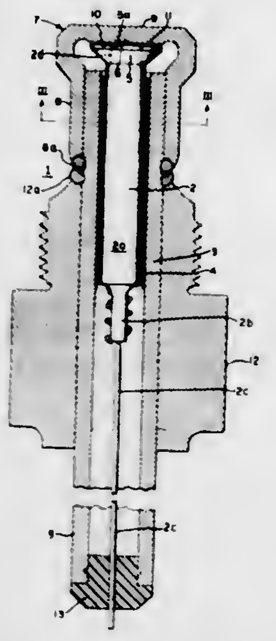
Verda O. Hinkle, Jr., Huntington Beach, and Rainer Zuleeg, Newport Beach, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Aug. 18, 1964, Ser. No. 390,291
8 Claims. (Cl. 317—235)



1. A field-effect triode device comprising:
(a) a body of semi-insulator material having a mesa portion of a first conductivity type;
(b) a grid control electrode member disposed in and surrounded by said mesa portion of said body;
(c) electrically conductive electrode members disposed on opposite surfaces of said mesa portion of said body;
(d) and a region of semi-insulator material of a conductivity type opposite to said first type disposed on a surface of mesa portion of said body and extending thereinto so as to electrically contact said control electrode member.

3,381,190
VARIABLE CAPACITANCE FORCE MEASURING TRANSDUCER

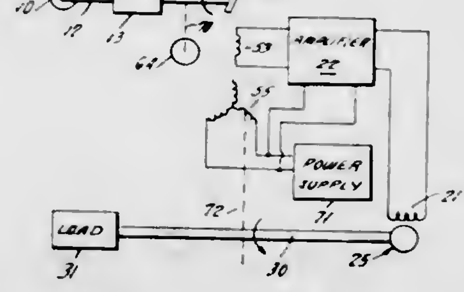
Leo Hoogenboom, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 1, 1965, Ser. No. 510,894
3 Claims. (Cl. 317—246)



A variable capacitance transducer with inner and outer coaxial cylinders held in spaced relationship to one another by powdered alumina compacted in the space. A cap over the outer cylinder and attached thereto forms a capacitive air gap with a disk attached to the inner cylinder.

3,381,191
TORQUE AMPLIFIER

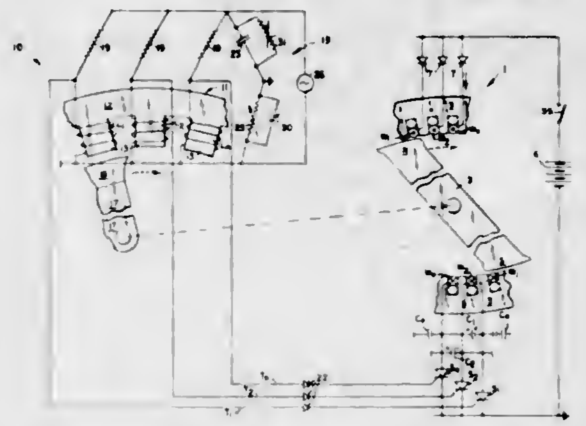
James W. Angus, Chappaqua, N.Y., assignor to Kollsman Instrument Corporation, Elmhurst, N.Y., a corporation of New York
Filed Mar. 3, 1965, Ser. No. 436,894
6 Claims. (Cl. 318—23)



1. A servo system comprising a relatively low torque rotatable input shaft, a relatively high torque output shaft, a synchro device comprising a stator winding and a rotor winding means, a servo motor having an input winding, a power supply and a servo amplifier having input and output terminals; said rotatable input shaft connected to said rotor winding means; said power supply connected to said stator winding; said rotor winding means connected to said input terminals of said amplifier; said input winding of said servo motor connected to said output terminals of said amplifier said motor mechanically connected to said stator winding to rotate said stator winding to null the signal generated by said rotor winding means responsive to rotation of said input shaft; said motor mechanically connected to said output shaft to rotate said output shaft responsive to rotation of said input shaft.

3,381,192
MOTOR CONTROL CIRCUITRY RESPONSIVE TO A ROTOR POSITION SENSING ARRANGEMENT

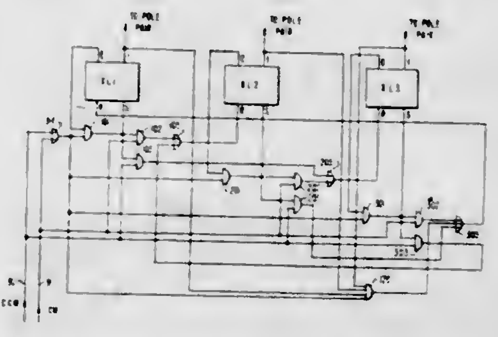
Donald G. Neville and David Platnick, Syracuse, N.Y., assignors to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed June 7, 1965, Ser. No. 461,809
6 Claims. (Cl. 318—138)



A commutatorless electric motor having a plurality of motor windings connected in series with a plurality of silicon controlled rectifiers to a source of DC current for selective energization of the motor windings upon triggering of the silicon controlled rectifiers to a conducting state. A control circuit for triggering the silicon controlled rectifiers is provided which includes a plurality of reactance elements in a like plurality of legs of a bridge circuit. The reactance elements are disposed in proximity with a rotating metal member which affects their magnitude and causes balancing or unbalancing of the bridge circuit depending upon the proximity of the metal rotor member. An alternating voltage is supplied to the input of the bridge and the output of the bridge is connected to the gate terminals of the silicon controlled rectifiers to sequentially energize the motor windings in a predetermined pattern.

3,381,193
INCREMENTAL STEPPING MOTOR APPARATUS AND METHODS FOR DRIVING

William E. Smith, Anaheim, Calif., assignor to California Computer Products, Inc., Anaheim, Calif., a corporation of California
Filed Oct. 26, 1964, Ser. No. 406,243
7 Claims. (Cl. 318—138)



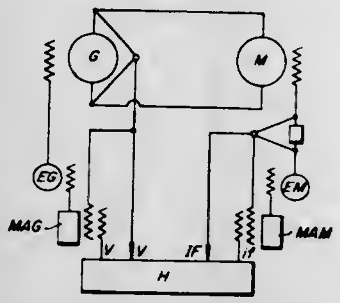
4. An arrangement for driving a stepping motor for a digital incremental plotter in which the stepping motor comprises a first plurality of stator poles and corresponding stator pole coils and a second plurality of rotor poles different in number from the plurality of stator poles and magnetizable by the field from said stator poles, said stator pole coils being interconnected by pairs in series circuit, comprising: means for energizing said stator pole coils by sets in sequence, each set containing at least two pairs of coils, in order to develop an incremental stepping motion of the rotor, at least one pair of rotor poles undergoing at least one reversal of magnetic polarity during a full revolution of the rotor, means for de-energizing one pair of a set of energized coil pairs a predetermined time

interval before energizing a next coil pair in sequence to develop a transitional energization state of the stepping motor, and means for controlling said energizing means to drive said rotor in either of two directions as selected.

3,381,194

DIGITAL GENERATOR-FED MOTOR CONTROL SYSTEM

Yutaka Takuma, Hitachi-shi, Japan, assignor to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan
Filed Dec. 16, 1963, Ser. No. 331,008
Claims priority, application Japan, Dec. 17, 1962, 37/55,407
7 Claims. (Cl. 318—145)

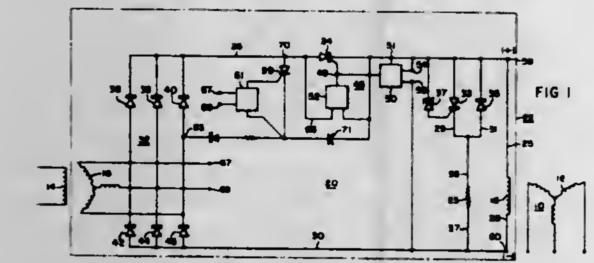


1. A generator-motor control for a generator and motor system comprising a speed directive switching means for supplying speed controlling electric signals, memory means for storing the speed controlling directive signals and regulating the generator voltage to a preset value, motor field current sensing means for producing signals corresponding to the amount of field current of said motor, generator inhibiting means for inhibiting operation of said memory means only when the output signal of said motor field current sensing means is higher than a preset value, motor inhibiting means for normally making said motor field strength maximum in the absence of a motor inhibiting signal, generator voltage sensing means for producing a signal corresponding to the generator voltage, means for applying the output from said generator voltage sensing means to said motor inhibiting means as a motor inhibiting signal only when the output signal of said generator voltage sensing means is higher than a preset value, additional memory means for storing reverse control directive signals and regulating the generator voltage to a preset value in the reverse direction, and reverse generator inhibiting means coupled to the output of the motor field-current sensing means and to the additional memory means for inhibiting operation of said additional memory means only when the output signal of said motor field-current sensing means is higher than a preset value in the reverse direction.

3,381,195

EXCITATION CONTROL SYSTEM FOR SYNCHRONOUS MOTORS

Arthur H. Hoffmann, Monroeville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 7, 1965, Ser. No. 493,783
2 Claims. (Cl. 318—174)

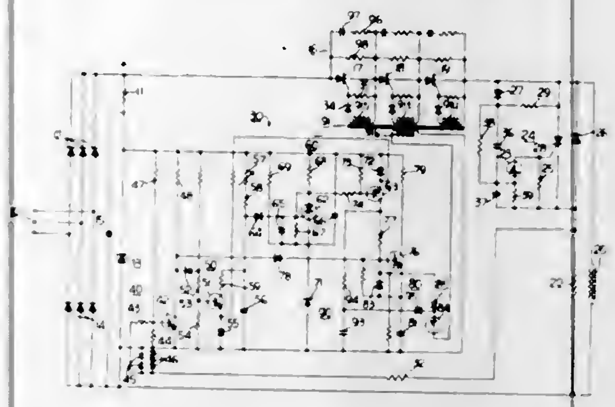


A static control system for applying excitation to synchronous motors, especially of the brushless type, by firing a semiconductor switch to apply direct current excitation to the field of the motor. A firing circuit is provided for firing the switch in response to the voltage across the switch if the motor pulls into synchronism before the switch is fired.

3,381,196

SYSTEM FOR CONTROLLING EXCITATION TO SYNCHRONOUS MOTOR DURING STARTING

Gerard M. Larose, Milwaukee, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Oct. 21, 1965, Ser. No. 499,257
11 Claims. (Cl. 318—176)

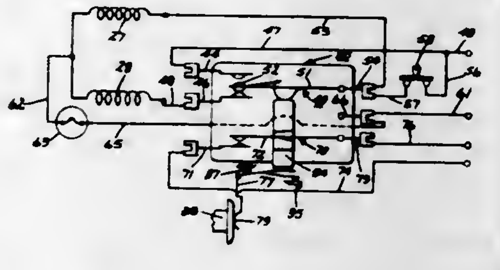


A system for controlling excitation to a synchronous motor during starting is responsive to the current induced in the motor field winding to turn on excitation switching thyristors to connect a source of excitation to the field winding when the motor attains a predetermined speed. Sensing means provide an output dependent upon the polarity of the induced field winding current appearing across a discharge resistor, and timing means measure the duration of one polarity output from the sensing means, which is a measure of the wave length of the induced field current, and turn on a latching circuit when the slip frequency is sufficiently low. Pulse generating means are responsive to the latching circuit output to produce a pulse after each negative output from the polarity sensing means for triggering on the excitation switch thyristors. The pulse generating means also produce a triggering pulse to the excitation switching thyristors during each negative half cycle of induced field current if the motor pulls out of synchronization. In the event that the motor synchronizes by itself, a delayed pulse generating means produces a signal to trigger on the excitation switching thyristors.

3,381,197

MOTOR SPEED RESPONSIVE ARRANGEMENT FOR CONTROLLING MOTOR WINDING CIRCUITS

James L. Waters, Malta, and John L. Slonneger, Morrison, Ill., assignors to General Electric Corporation, a corporation of New York
Filed Feb. 24, 1965, Ser. No. 434,769
11 Claims. (Cl. 318—221)

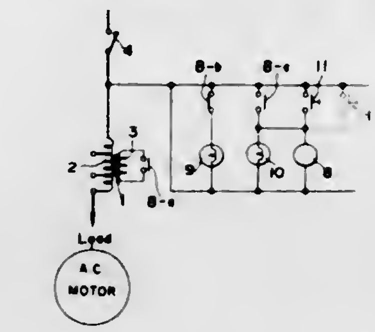


A centrifugal switch and an axially movable speed responsive mechanism in a motor wherein the switch resists recycling during periods of temporary machine speed pulsations, such as might occur as the start winding is removed from the winding circuit when the motor has reached running speed. Springs bias a push collar toward a standstill position and the characteristics of the switch and a linkage operatively connecting the collar and the switch together provide a combined net force in the direction of the run position having an overall non-linear characteristic which produces an abrupt increase of net resultant force toward the run position as the switch operates.

3,381,198

STARTER FOR ALTERNATING CURRENT DRIVEN MOTORS

Takao Kawabe, 41–5 2-chome, Higashi-Ogu, Arakawa-ku, Tokyo, Japan
Filed Mar. 29, 1965, Ser. No. 443,543
10 Claims. (Cl. 318—229)

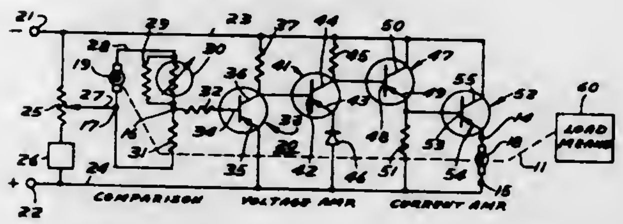


A starter circuit for an AC motor, consisting essentially of a core for forming a magnetic path, a main circuit winding on said core for controlling the inrush of current to the motor on starting, a compensating winding circuit having a winding on said core and having the turns wound so as to produce a flux in the core opposed to the flux of the main current winding, switching means in said compensating winding circuit for keeping the compensating winding circuit open on starting the motor so that the self-reactance of the main circuit winding suppresses the inrush of current and for closing the compensating winding circuit so that said compensating winding circuit generates a flux in the magnetic circuit of the core opposing and substantially cancelling the flux generated by the main winding circuit.

3,381,199

COMPENSATED DIRECT CURRENT MOTOR CONTROL APPARATUS

Erland K. Persson, Minneapolis, Minn., assignor to Electro-Craft Corporation, Hopkins, Minn., a corporation of Minnesota
Filed Aug. 14, 1964, Ser. No. 389,714
4 Claims. (Cl. 318—327)

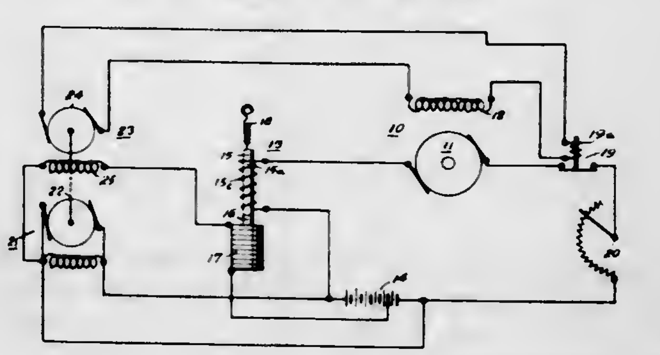


1. Control apparatus comprising in combination; motor-generator means having input and output terminals and including an output shaft and a source of magnetic energy exhibiting temperature responsive magnetic flux density characteristics; temperature responsive variable impedance means disposed in heat transferring relationship with said source of magnetic energy and connected in signal modifying relationship with the output terminals of said motor-generator means; amplifying means, including a source of electric current, having input and output terminals; circuit means connecting the output terminals of said amplifying means to the input terminals of said motor-generator means; and further circuit means, including means for comparing said signal potential with a source of reference potential, connecting the input terminals on said amplifying means to the output terminals on said motor-generator means.

3,381,200

REGENERATION CIRCUIT WITH SERIES EQUIVALENT MOTOR

Theodoric B. Edwards, deceased, late of Lorton, Va., by Helen M. Edwards, executrix, 467 Buckner Road, Manassas, Va. 22110
Filed Oct. 1, 1965, Ser. No. 492,991
1 Claim. (Cl. 318—332)

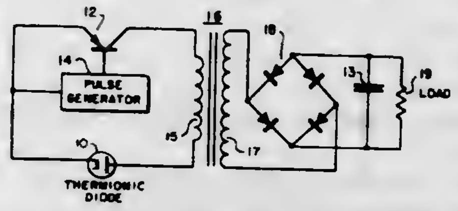


A regenerative circuit wherein high starting torque characteristics of a series motor is maintained and the infinite no load speed eliminated in a D.C. motor for vehicle propulsion by using a motor driven low voltage generator for separately exciting the field winding of the D.C. motor. The field winding of the low voltage generator is connected in series with a carbon pile resistor across a power source. A plunger solenoid connected in series with the armature of the D.C. motor and a power source is aligned with the carbon pile resistor causing the resistance thereof to vary in accordance with the armature current whereby the output of the low voltage generator is controlled with the resultant control of flux density of the separately excited field winding of the D.C. motor.

3,381,201

PULSE-ACTUATED, D-C TO D-C CONVERTER FOR A THERMIONIC DIODE

Joseph P. Angello, Eatontown, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed Oct. 14, 1965, Ser. No. 496,204
5 Claims. (Cl. 321—2)



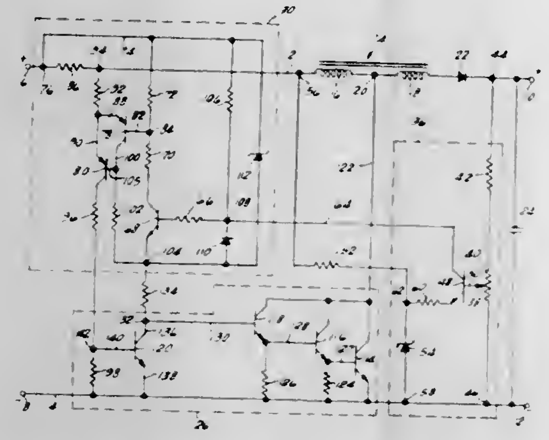
This disclosure covers low to high voltage D-C converters and describes in particular the connection of a low-voltage, thermionic diode in series with a switch and the primary winding of a step-up transformer. The secondary winding of the transformer is connected to a rectifier and a load. A pulse-generator circuit actuates the switch to disconnect the thermionic diode from the primary winding at regular intervals but reconnects it before the thermionic diode changes from its ignited to its quenched mode of operation.

3,381,202
DC VOLTAGE MAGNITUDE MODIFYING ARRANGEMENT

Russell D. Loucks, New Rochelle, N.Y., and Peter J. Lupoli, Hamden, Conn., assignors to Technipower Incorporated, South Norwalk, Conn., a corporation of Connecticut

Continuation-in-part of application Ser. No. 435,851, Mar. 1, 1965. This application Feb. 2, 1967, Ser. No. 622,861

10 Claims. (Cl. 321—2)



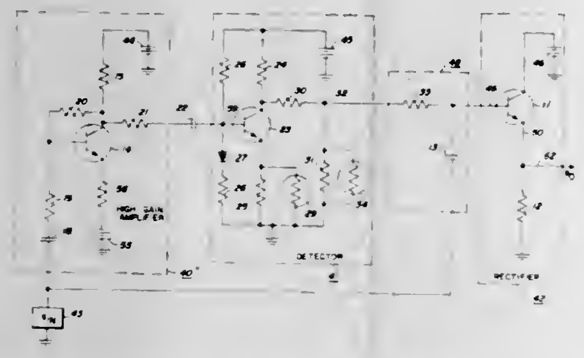
A magnitude modifying DC voltage power supply utilizing a switching transistor to control the output voltage, that transistor being so connected as to have applied thereacross a voltage less than the output voltage.

3,381,203
A-C TO D-C CONVERTER

Daniel M. Mitchell, Marion, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Aug. 12, 1966, Ser. No. 572,122

7 Claims. (Cl. 321—8)



1. An A-C to D-C converter comprising:
a rectifying stage including a first transistor having collector-electrode means, emitter electrode means, base electrode means and, when biased, having a voltage drop across the PN junction of said base and emitter electrodes;
input signal means for supplying an input signal to be rectified;
high gain amplifying means responsive to said input signal to produce an amplified signal;
detector means responsive to said amplified signal to produce a train of pulses whose energy content at low input signal levels is a function of the level of said low level input signals;
means for integrating said train of pulses to produce a D-C biasing signal of a magnitude which is a predetermined function of the level of said low level input signals and whose maximum value is substantially equal to said voltage drop across said PN junction;
means for supplying said D-C signal to said base electrode of said first transistor;
and means for supplying said input signal to said base electrode means.

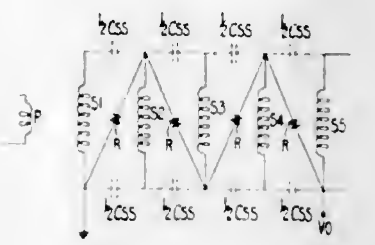
3,381,204
HIGH VOLTAGE RECTIFIERS

Victor J. Cox, Southend-on-Sea, Essex, England, assignor to E. K. Cole Limited, Southend-on-Sea, England

Filed Mar. 28, 1966, Ser. No. 538,072

Claims priority, application Great Britain, Mar. 27, 1965, 13,086/65; Apr. 2, 1965, 13,976/65

12 Claims. (Cl. 321—15)



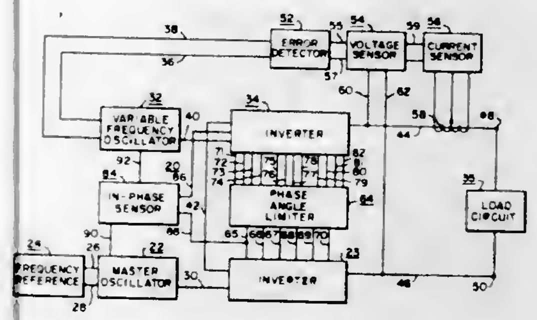
1. A high voltage low current rectifier comprising a transformer having a plurality of secondary windings and a primary winding, said secondary windings being mounted in concentric layers about a magnetic core with said layers having substantially the same number of turns, being wound in the same direction and being of substantially equal length, the secondary windings being separated by dielectric material such that the interwinding capacities constitute at least a part of the coupling or reservoir capacitance in the rectifier, a plurality of rectifier elements connected between respective pairs of the secondary windings producing a sequence of increased voltages to output terminals of the rectifier, the above construction providing that homologous points on all said layers are maintained at substantially the same A.C. potential.

3,381,205
PHASE SHIFT REGULATED ELECTRICAL INVERTER SYSTEM

Homer R. Howell, Lima, Ohio, Donald M. Lamaster, Santa Ana, Calif., and David L. Roeder, Dayton, Ohio, assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 14, 1965, Ser. No. 487,255

7 Claims. (Cl. 321—18)



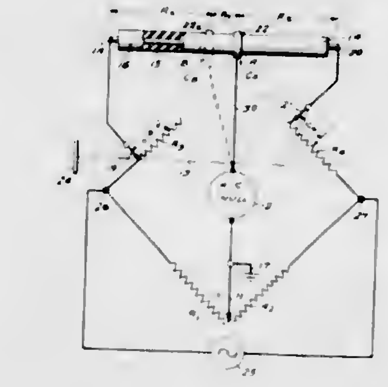
A regulated electrical inverter system which generates and vectorially sums two sine wave voltages, and which controls the phase angle between them in response to an error signal, by momentarily changing the frequency of one of the voltages. The system includes means for limiting the phase angle swing, and for controlling the actual phase angle between predetermined minimum and maximum limits.

3,381,206
METHOD AND APPARATUS FOR MEASUREMENT OF INCREMENTAL RESISTANCES WITH CAPACITIVELY COUPLED PROBE MEANS

Dennis E. Gunderson, Lorton, Va., assignor to the United States of America as represented by the Secretary of the Army

Filed Oct. 18, 1965, Ser. No. 497,564

4 Claims. (Cl. 324—62)



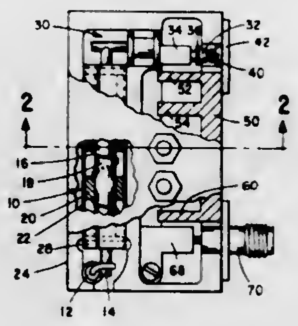
1. In a system for contactless resistance measurement of an electric cable having a conducting medium surrounded by insulating material comprising in combination a resistance element provided with a movable contact capable of dividing the resistance element to form a pair of resistance arms of an electrical bridge, a pair of variable resistors ganged for equal but opposite resistance variations and having said conducting medium connected in series with said variable resistors through the movable arms thereof forming the other pair of arms of said bridge, means to form a junction of said pairs of arms to complete the loop for said bridge, means for applying an A.C. potential across the balancing arms of the bridge circuit, a first means forming a capacitor with said conductive medium, a second means spaced from said first means and forming a capacitor with said conductive medium, an A.C. null indicator provided with two terminals, one of said terminals connected to said movable contact and the other of said terminals switchable between said first and second means.

3,381,207
COMPACT FREQUENCY MULTIPLIER

Everett E. Guthrie, San Jose, Calif., assignor to Fairchild Camera and Instrument Corporation, Syosset, N.Y., a corporation of Delaware

Filed Sept. 23, 1965, Ser. No. 489,511

15 Claims. (Cl. 321—69)



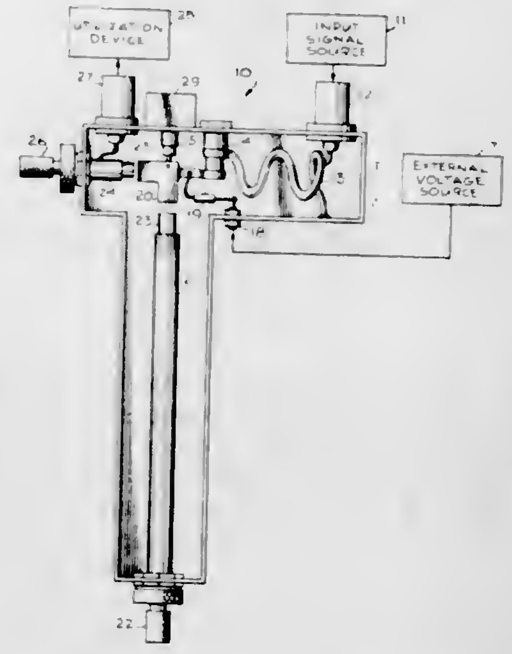
A frequency multiplier including a low-pass filter, a nonlinear element, and a band-pass filter between input and output has those elements arranged within a housing compactly and with access, such as for tuning or removal, to the nonlinear element. The band-pass filter may be a comb-line filter whose elements are in parallel configuration with a transmission line coupling the low-pass filter and the nonlinear element.

3,381,208
HIGH ORDER VARACTOR FREQUENCY MULTIPLIER

Harrison Yoshimitsu Miyahira, Torrance, Calif., assignor, by mesne assignments, to TRW Inc., a corporation of Ohio

Continuation of application Ser. No. 268,277, Mar. 27, 1963. This application Dec. 30, 1966, Ser. No. 606,455

2 Claims. (Cl. 321—69)



A single varactor forming the basis for a varactor multiplier is electrically and thermally coupled to a block member that is uniquely coupled to the input resonant circuit, the idler resonant circuits and the output circuit.

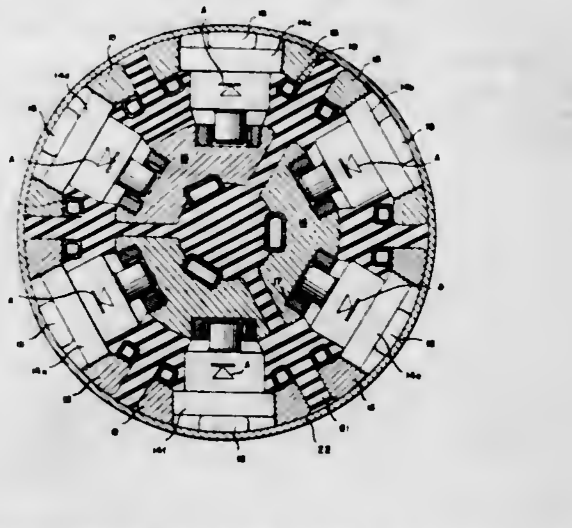
3,381,209
DYNAMO-ELECTRIC MACHINE HAVING RECTIFIER ASSEMBLY MOUNTED WITHIN ROTARY SHAFT

Philip Richardson, Wylam, and John Gibson, Gateshead, England, assignors to C. A. Parsons & Company, Limited, Newcastle, England, a corporation of Great Britain

Filed Oct. 29, 1964, Ser. No. 407,405

Claims priority, application Great Britain, Oct. 31, 1963, 43,079/63

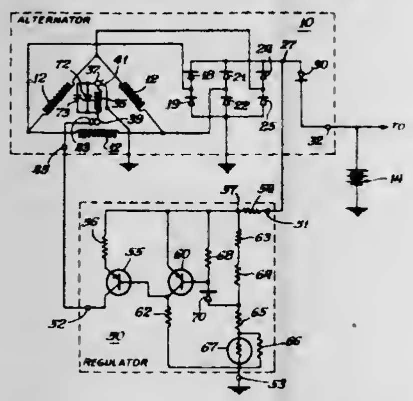
15 Claims. (Cl. 322—59)



An electro-dynamic machine having a rotor winding mounted on a rotary shaft and an A.C. exciter generator coupled to the shaft includes a rectifier assembly, connected between the generator and rotor winding, removably located within the rotary shaft.

3,381,210
ALTERNATOR-REGULATOR SYSTEM WITH ARC REDUCTION MEANS

Charles L. Shano, Morton Grove, and Frederick Paul Hill, Elgin, Ill., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Mar. 10, 1964, Ser. No. 350,762
3 Claims. (Cl. 322—100)

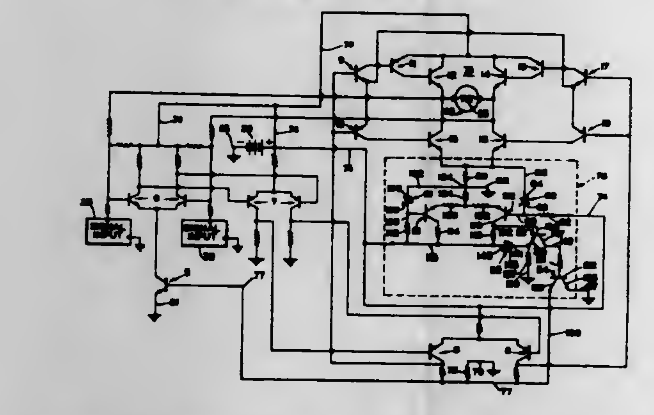


1. An alternator-regulator system including in combination, an alternator comprising a rotatable structure having both inductive field winding means and first and second slip rings concentrically mounted thereon and rotatable therewith, first and second conductors respectively connecting said first and second slip rings to said field winding means to provide a conductive path for supplying current thereto, a pair of brushes respectively engageable with said rotatable slip rings to accomplish electrical connection therebetween, and a switching type voltage regulator having an output transistor connected to said brushes for supplying pulsating direct current to said field winding means, said regulator including a circuit connected to said output transistor to cause the same alternately to conduct and supply current to said field and to cut off and interrupt such current supply thereto, said rotatable structure of said alternator further including diode means rotatable therewith and connected to said conductors and in series with said field winding means, diode means being poled to provide a return path for energy stored in said field winding means upon interruption of current therein which is independent of said slip rings and said brushes, whereby arcing between said slip rings and said brushes is reduced by dissipation of energy in the return path, and whereby the likelihood of damage to said output transistor is reduced.

3,381,211
CURRENT LIMITING NETWORK

Frank Prapis, Paterson, and Joseph A. Zbuchalski, Parsippany, N.J., assignors to The Bendix Corporation, a corporation of Delaware
Original application Oct. 22, 1964, Ser. No. 405,711. Divided and this application Mar. 8, 1967, Ser. No. 621,540

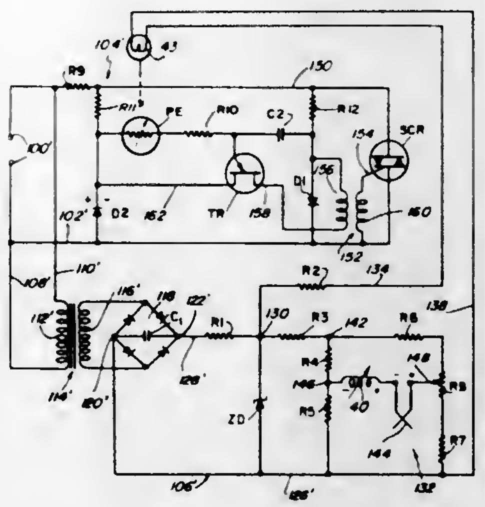
5 Claims. (Cl. 323—9)



A current limiting network including means for effecting a voltage drop proportional to a variable current. A control device is responsive to the voltage drop and affected by a threshold voltage provided in opposition thereto so as to be ineffective until the voltage drop exceeds the threshold whereupon the control device effects a control function.

3,381,212
VOLTAGE REGULATOR WITH PROPORTIONAL CONTROL

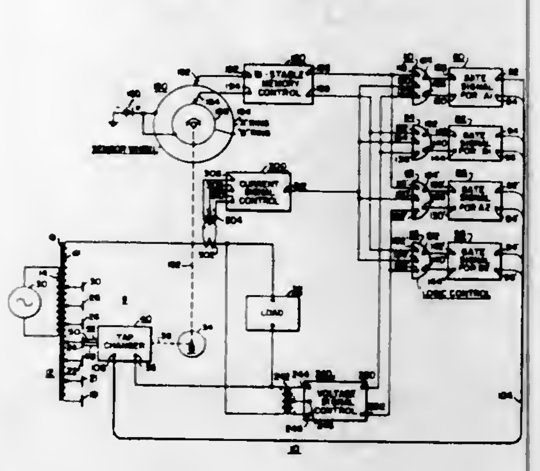
Veikko K. Peltola, Chicago, and Alfred A. Obermaier, Barrington, Ill., assignors to Alnor Instrument Company, Division, Illinois Testing Laboratories, Inc., Chicago, Ill., a corporation of Illinois
Filed Nov. 15, 1965, Ser. No. 507,967
15 Claims. (Cl. 323—21)



A control circuit having a transducer which responds to its environment and causes a physical reaction in an electro-mechanical device, which in turn variably affects the illumination impinging upon a photo-responsive element. The output from the photo-responsive element fires a trigger element, which enables an electronic valve means for a period of time proportional to the response of the transducer. The valve means thereby controls the amount of power delivered to a power absorbing load.

3,381,213
TAP CHANGER APPARATUS

Leslie R. Rice, Plum Borough, Pittsburgh, and Robert Murray, Jr., Monroeville, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 29, 1966, Ser. No. 538,353
7 Claims. (Cl. 323—43.5)



1. Tap changer apparatus for changing taps on an electrical winding connected in an alternating current system, comprising:

tap changer switching means including a main conductor arm and first and second controllable conductor arms disposed in predetermined spaced relation on opposite sides of the main conductor arm,

driving means for said tap changer switching means, for selectively engaging the taps on the electrical winding,

said first and second controllable conductor arms each including first and second parallel connected static switching means poled to carry alternate current half cycles and each including a control electrode which controls its switching characteristic,

first means providing signals responsive to the mechanical position of said tap changer means,

second means providing signals responsive to the polarity of the alternating potential of the alternating current system,

third means providing signals responsive to the current zero points of the current in the alternating current system,

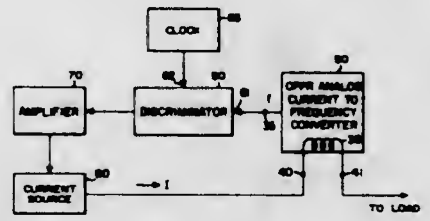
separate control signal means connected in circuit relation with each of said static switching means,

each of said control signal means being responsive to the signals provided by said first, second and third means, providing control signals for said static switching means in a predetermined sequence as the tap changer switching means moves from one tap position to another,

the predetermined switching sequence of the static switching means allowing said tap changer means to change taps while maintaining a continuous current flow in the alternating current system.

3,381,214
CONSTANT CURRENT SOURCE EMPLOYING A PARAMAGNETIC RESONANCE CURRENT TO FREQUENCY CONVERTER

Kenneth W. Exworthy, Minneapolis, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Dec. 23, 1965, Ser. No. 515,983
8 Claims. (Cl. 324—.5)



1. Current control apparatus comprising:

variable current generating means having an input and an output;

an optically pumped paramagnetic resonance analog current to frequency converter having an input connected to the output of said current generating means, and having an output at which appears an alternating signal whose frequency is proportional to the magnitude of said current at the output of said current generating means;

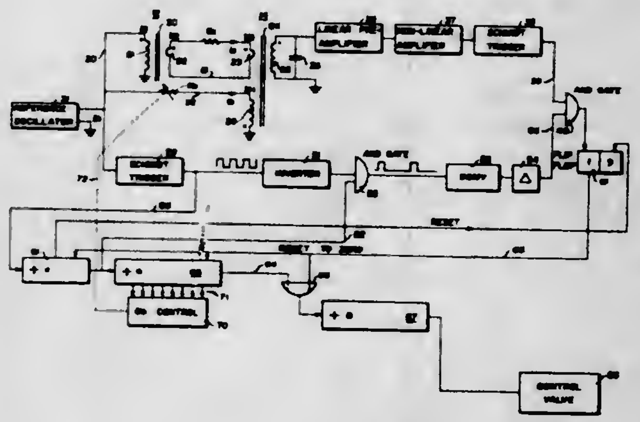
frequency reference means for providing an alternating reference signal whose frequency corresponds to a desired frequency of the signal at the output of said converter;

discriminator means having a first and a second input connected to receive the signals from said converter and said frequency reference means respectively and having an output for providing a signal indicative of the frequency difference of the signals at said two outputs;

means connecting the output of said discriminator means to the input of said variable current generating means to control the current amplitude of said generating means.

3,381,215
MEASUREMENT OF ELECTRICAL RESISTIVITY BY VARIATION OF MAGNETIC FLUX

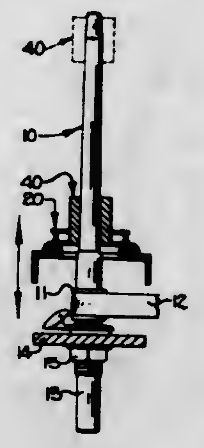
William F. Osborn, Dallas, Tex., assignor to Arps Corporation, Dallas, Tex., a corporation of Delaware
Filed Oct. 20, 1965, Ser. No. 498,225
12 Claims. (Cl. 324—6)



Apparatus for measuring electrical resistivity by variation of a flux component in the second core of a two-core transmitter by means of an auxiliary winding. A control circuit is provided for varying the flux component induced by the auxiliary winding and a phase detector, connected to the transmitter unit, senses the change of phase between two flux components induced into the second core. Means are provided for resetting the control circuit when a phase change occurs and for registering a signal representative of the condition of said control means when a phase reversal occurs.

3,381,216
COMBINATION OF A TEXTILE SPINNING FRAME OR THE LIKE AND A MECHANISM FOR DETERMINING THE MISALIGNMENT AND TO AID IN THE CENTERING OF A SPINDLE THEREIN

William A. L. Sibley, Jr., Greenville, S.C., and Robert F. McNab, Jr., Greensboro, N.C., assignors to J. P. Stevens & Co., Inc., a corporation of Delaware
Filed Sept. 10, 1965, Ser. No. 486,465
5 Claims. (Cl. 324—34)



The combination of a textile spinning frame or the like and a mechanism for determining the misalignment and to aid in the centering and plumbing of a spindle therein comprising a rotatable spindle, a spinning ring, means removably attached to the spinning ring to produce a plurality of magnetic fields equally spaced around the spindle, means attached to the spindle to rotate therewith and to cause to be induced a cycle of electric current in each of the magnetic fields for each rotation of the spindle which is directly related to the nearness of the rotating means to each of the magnetic fields, and means for reading the cycles of electric current to determine the misalignment of the spindle.

3,381,217

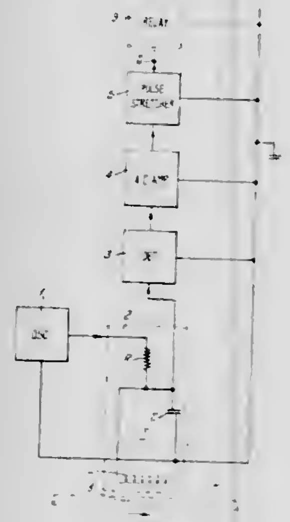
DETECTORS FOR ELECTRICALLY CONDUCTIVE PARTICLES

David Theodore Nelson Williamson and Douglas William Ballantyne Muir, London, England, assignors to The Molins Organisation Limited, a British company

Filed May 22, 1964, Ser. No. 369,447

Claims priority, application Great Britain, May 23, 1963, 20,643/63

1 Claim. (Cl. 324—41)



1. A device for detecting the presence of electrically-conductive particles in non-conductive material, comprising an oscillator, a voltage divider circuit comprising a resistor in series with a parallel tuned circuit containing an inductance, said oscillator being arranged to deliver a constant output to said voltage divider circuit and said resistor being of such value that when no electrically-conductive particle to be detected is within the field of the inductance the oscillatory voltage across said tuned circuit is of the order of one-half of the total oscillatory voltage delievered to the voltage divider circuit by the oscillator, and means producing a control signal whenever the oscillatory voltage across said tuned circuit changes substantially with change in the value of said inductance due to movements of electrically-conductive particles into and out of the field of said inductance, said means comprising a detector circuit containing a diode connected across the tuned circuit, an a.c. coupled amplifier connected to receive the output of said detector circuit, and a pulse stretching circuit connected to said amplifier, said pulse stretching circuit including a capacitor for storing the amplified detector signal, transistor means responsive to the amplified detector output for controlling the charging of the capacitor, and resistive means for controlling the discharge rate of the capacitor to widen the pulse signal stored by the capacitor, said widened pulse controlling further means to actuate a relay controlled particle indicating means.

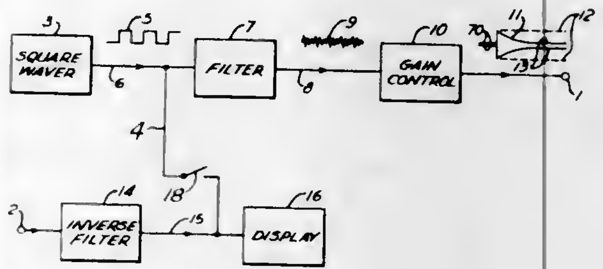
3,381,218

SIGNAL CHANNEL TESTING METHOD AND APPARATUS UTILIZING AN INVERSE FILTER

Maurice E. Taylor, Borough of Monroeville, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Filed Feb. 17, 1964, Ser. No. 345,254

8 Claims. (Cl. 324—57)



1. A method of testing a communication channel which comprises

generating a first signal having a known wave form,

filtering said first signal through a first filter whose impulse response has a Laplace transform [F(s)] such as to convert said first signal into a second signal whose wave form approximates that of a signal normally transmitted by the channel to be tested when in normal service,

impressing said second signal on the channel to be tested to obtain a third signal,

filtering said third signal through a second filter whose impulse response has a Laplace transform that is substantially the reciprocal of the Laplace transform [1/F(s)] of the impulse response of said first filter to obtain a fourth signal, and

displaying the wave form of said first and said fourth signals,

whereby the wave form of said fourth signal may be compared with that of said first signal.

ERRATUM

For Class 324—62 see:
Patent No. 3,381,206

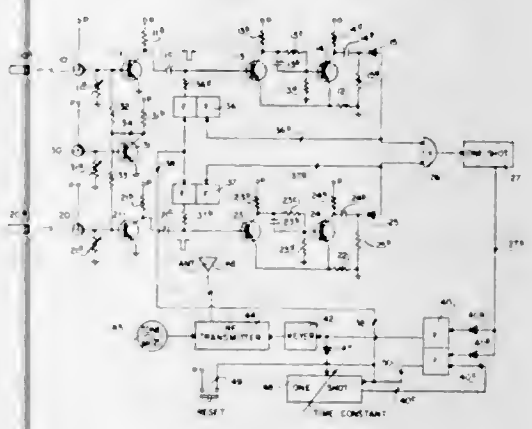
3,381,219

TRAFFIC SPEED DETECTION AND MEASURING SYSTEMS

Robert F. Dumbeck, 12513 Delores St., Baton Rouge, La. 70814

Filed Apr. 12, 1965, Ser. No. 447,575

20 Claims. (Cl. 324—70)



A bi-directional highway speed measuring system employing a radio link to a remote readout unit. The system uses spaced sensors connected to bistable means so as to actuate the latter in the same way regardless of the direction of travel of the vehicle. The bistable means operates the single channel radio link, which in turn operates remote gate means controlled by other bistable means to gate pulses occurring at a calibrated rate into a counter. Separate reset means are provided on both sides of the radio link to obviate the problems which would arise if pulses from the sensors did not occur in matched pairs, i.e., a single spurious pulse occurred. The system includes compensating means to provide reasonably constant sensitivity despite enormous changes in ambient sensor operating conditions; includes tone modulation in the radio link thereby identifying a significant signal as against spurious radio signals; and includes an improved countdown technique for the pulse counter to provide a direct reading output.

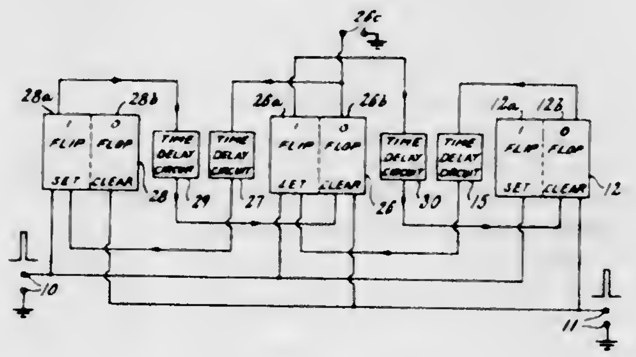
3,381,220

DIGITAL FREQUENCY AND PHASE DETECTOR

Robert P. Burr, Huntington, N.Y., assignor to Circuit Research Company, Glen Cove, N.Y., a partnership of New York

Filed Jan. 12, 1965, Ser. No. 425,006

11 Claims. (Cl. 324—82)



A frequency and phase detector, including a center bistable circuit responsive to pulses from two separate input sources for providing a phase comparison when the input frequencies are the same and a pair of additional bistable circuits for maintaining the center bistable circuit in a selected one of its states when the input frequencies are different.

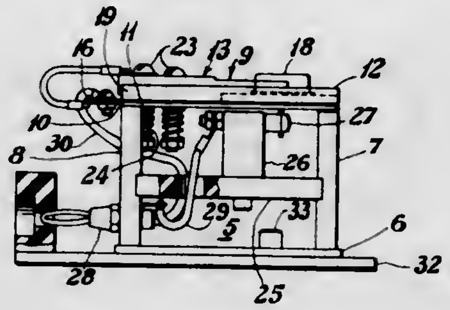
3,381,221

TEST SOCKET FOR TRANSISTORS AND THE LIKE

Henry Gardner Scholer, Carteret, and Dona'd B. Nordstrom, Leonardo, N.J., assignors to The Bendix Corporation. Eatontown, N.J., a corporation of Delaware

Filed Aug. 2, 1965, Ser. No. 476,277

6 Claims. (Cl. 324—158)



A test socket assembly for semiconductors or the like which includes a base of insulating material with a contact plate mounted thereon and also contact members which contact the pins of a semiconductor device held on said contact plate.

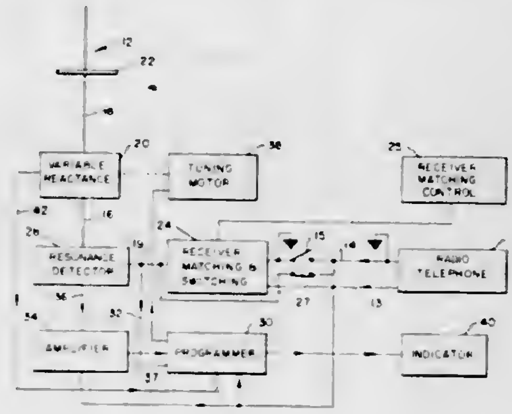
3,381,222

RADIO TELEPHONE WITH AUTOMATICALLY TUNED LOADED ANTENNA

John L. Gray, 99 Oenoke Lane, New Canaan, Conn. 06840

Filed June 12, 1964, Ser. No. 374,765

12 Claims. (Cl. 325—25)



An apparatus for automatically self-tuning a loaded antenna with a sensor coupled to the antenna circuit for sensing when the antenna is tuned for resonance to an RF signal source. A logic circuit responsive to signals from the sensor for controlling the movement of a loading coil in the antenna to place the antenna in resonance with the RF signal.

3,381,223

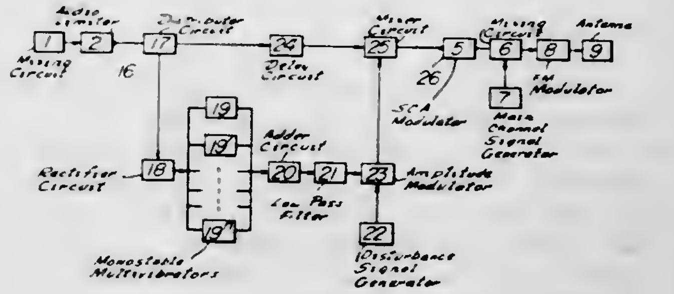
TRANSMISSION SYSTEM FOR USE IN A SUBSCRIPTION RADIO COMMUNICATION SYSTEM

Shoichi Nakamura, Tanbayashi-shi, and Eizo Mori, Ujishi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan

Filed Nov. 15, 1965, Ser. No. 507,882

Claims priority, application Japan, Nov. 18, 1964, 39/65,689

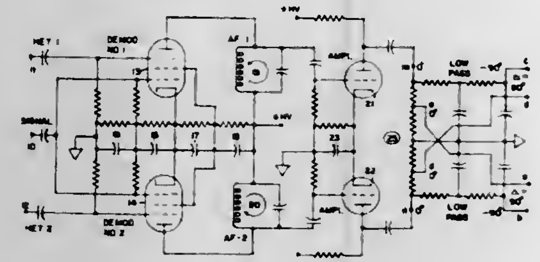
1 Claim. (Cl. 325—34)

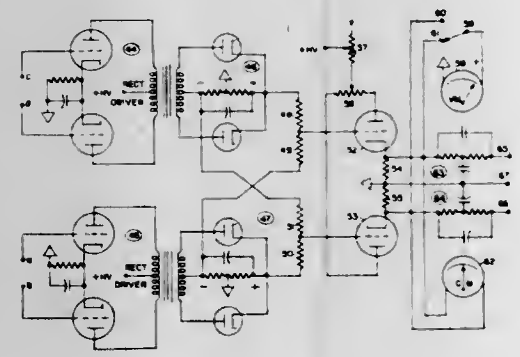


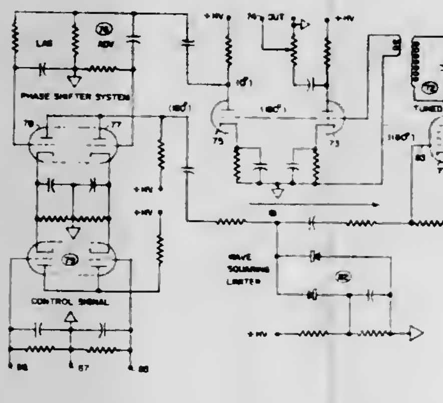
A transmission system for use in a subscription radio communication system in which an interference or disturbance signal is superposed on an information signal to be communicated comprising means for quantizing an information signal, means for producing an interference signal the amplitude of which is varying so as to be either decreased or increased in accordance with the increase or decrease of the amplitude of the information signal and means for mixing the information signal and the varying interference signal to obtain a constant amplitude transmission signal which is particularly effective for FM transmission.

3,381,224
PHASE SELECTIVE RECEIVER WITH FREQUENCY CONTROL

Ellison S. Purington, Gloucester, and Emory Leon Chaffee, Belmont, Mass., assignors to Ralph G. Lucas, Nathaniel L. Leek, and The National Shawmut Bank, executors of the estate of John Hays Hammond, Jr., deceased
Filed Dec. 19, 1960, Ser. No. 76,851
5 Claims. (Cl. 325—342)



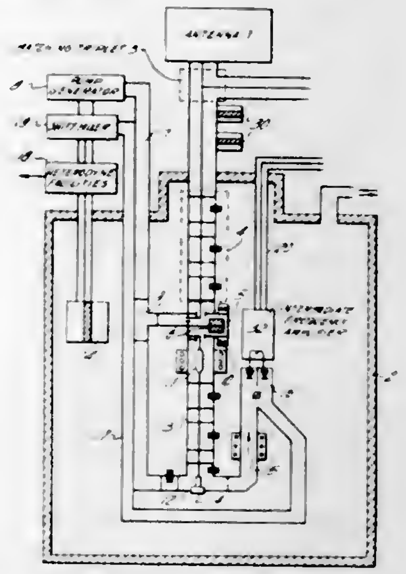




1. A phase sensitive receiver for interrupted continuous wave transmission comprising tuned circuit means adapted to receive a continuous wave carrier, a pair of local oscillators adapted to produce oscillations having frequencies respectively above and below the frequency of said carrier and differing therefrom by equal amounts, circuit means connected to modulate said carrier with oscillations from the respective local oscillators to derive therefrom a pair of beat frequencies which are identical in frequency and are in phase when said carrier has a predetermined phase relationship, means including a resistance-capacitance network connected to respond to said beat frequencies and having output means adapted to produce a pair of output voltages which are of equal value when said beat frequencies are in phase and differ in value in one direction or other when said beat frequencies are out of phase, one of said local oscillators including a control circuit responsive to variations in voltage to control the frequency of said oscillator, and means supplying said last output voltages to said control circuit in a sense to control the frequency of said last oscillator so as to maintain said beat frequencies in phase.

3,381,225
UHF SELECTIVE RADIO RECEIVING SYSTEM WITH MAXIMUM POSSIBLE SENSITIVITY

Vladimir Nikolaevich Alfeev, Universitetsky Prospect 5, Apt. 55, Moscow, U.S.S.R.
Filed Oct. 2, 1963, Ser. No. 313,300
20 Claims. (Cl. 325—445)

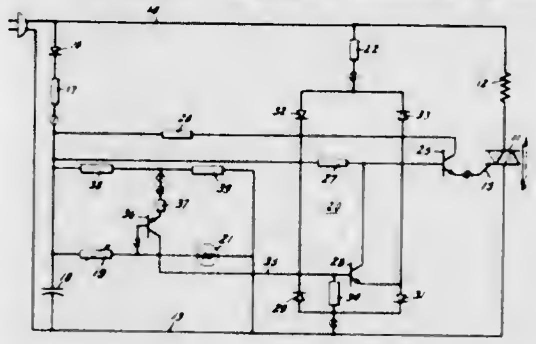


1. A super-high sensitive UHF selective radio receiving system, comprising passive resonators, directly interconnected in series, an input element connected to said series of passive resonators and adapted to receive an input signal; active resonators connected directly to said passive resonators and forming three groups, each including one of said active resonators; active elements arranged in said active resonators of the first group and forming low-noise amplifiers; magnetized ferrite elements located in said active resonators of the second group and forming ferrite devices which are connected to the inputs of said amplifiers; semi-conductor diodes located in the active resonators of the third group and forming mixers which include an input element for connection to the output of said amplifiers, an output element and coupling means; intermediate frequency amplifiers in the form of resonating elements including semi-conductor devices and an input connected to the output element of said mixer and an output element; a cryostat for accommodating said passive and active resonators forming said low-noise amplifiers, ferrite device and mixers, said intermediate frequency amplifiers, and for maintaining a cryogenic temperature; heterodyning means having an output element which is connected to the coupling means of said mixer and an input element; an automatic frequency tuning device located in said cryostat and connected to the input element of said heterodyning means; means for generating pumping energy including an output element for connection to said low-noise amplifiers; and elements for controlling and switching the system devices, said elements being connected to said devices.

3,381,226
ZERO CROSSING SYNCHRONOUS SWITCHING CIRCUITS FOR POWER SEMICONDUCTORS

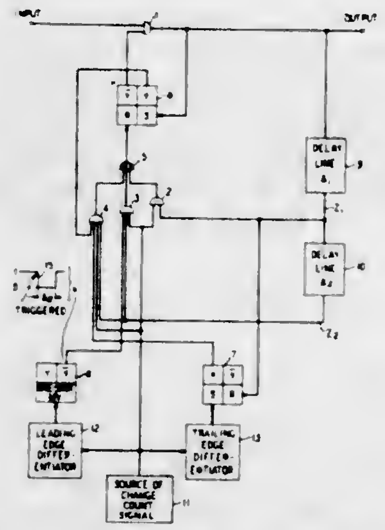
Clifford M. Jones, Scotia, and John D. Harnden, Jr., Schenectady, N.Y., assignors to General Electric Company, a corporation of New York
Filed May 18, 1965, Ser. No. 456,670
31 Claims. (Cl. 328—3)

7. An alternating current power control circuit including in combination at least one power semiconductor load current carrying bidirectional gate controlled conducting device adapted to be connected in series with a load across a pair of alternating current power supply terminals, and synchronously operable control circuit means coupled to said bidirectional conducting device, the synchronously operable control circuit means comprising a gating transistor having an output terminal operatively coupled to the control gate of the bidirectional gate controlled conducting device for gating on the device, rectifying means adapted to be connected across the alternating current power supply terminals in parallel with a bidirectional conducting device and load for deriving a relatively low value direct current control potential, circuit means operatively coupled between the output of said rectifying means and said gating transistor for continuously applying a turn-on signal to the gating transistor, a first shunt transistor operatively coupled to said gating transistor for shunting the base-emitter of the gating transistor for one polarity of a supply alternating current potential applied across the power supply terminals, a second shunt transistor operatively coupled to said gating transistor for shunting the base-emitter of the gating transistor for the opposite polarity of the supply alternating current potential, a control transistor operatively coupled to at least one of said shunt transistors for controlling the operation of said at least one shunt transistor, voltage dividing means operatively coupled across said rectifying means and having said control transistor operatively coupled thereto for applying a reference potential to said control transistor, and control signal applying means operatively coupled to said control transistor for applying a control signal thereto to control the operation of the control transistor at least during the interval that the supply alternating current potential passes through the zero value region.



3,381,227
PULSE FREQUENCY DIVIDER USING DELAY LINE TIMING

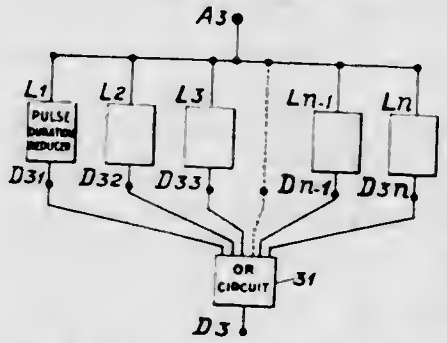
Edward F. Kovanic, Livingston, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed July 15, 1964, Ser. No. 382,769
4 Claims. (Cl. 328—41)


INPUT
OUTPUT
DELAY LINE
DELAY LINE
LEADING EDGE DIFFERENTIATOR
TRAILING EDGE DIFFERENTIATOR
SOURCE OF CHANGE COUNT SIGNAL

1. A pulse frequency divider comprising an input, an output, first means for gating pulses from said input to said output, a first bistable multivibrator arranged to be set by a pulse at said output and to be reset by a reset signal, said first bistable multivibrator enabling said first gating means whenever reset, first and second delay line sections connected serially to said output, a source of signal to utilize both of said delay line sections, second means for gating pulses from said first delay line section as said reset signal whenever said utilization signal is absent, third means for gating signals from said second delay line section as said reset signal whenever said utilization signal has been present longer than the inherent delay of said second delay line section, and fourth means for gating signals from said second delay line section as said reset signal during the period from the removal of said utilization signal until a subsequent pulse emerges from said first delay line section.

3,381,228
PULSE DURATION DISCRIMINATOR CIRCUIT

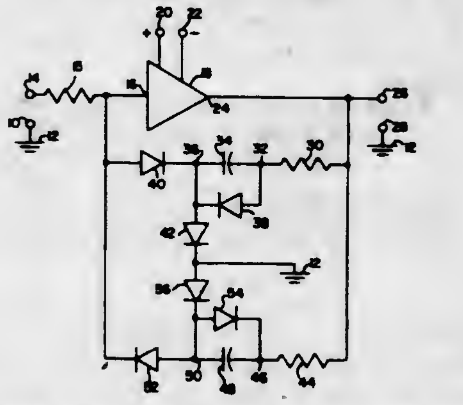
Robert Vanhove, Paris, France, assignor to CSF—Compagnie Generale de Telegraphie Sans Fil, a corporation of France
Filed Oct. 8, 1964, Ser. No. 402,437
Claims priority, application France, Oct. 10, 1963, 950,155
6 Claims. (Cl. 328—112)



In order to discriminate pulses of a given duration *t* among longer pulses without causing a blanking between successive pulses, the discriminator comprises *n* elementary pulse discriminating systems: the blanking is thus reduced to *t*/*n*, and can be rendered as small as necessary.

3,381,229
BIPOLAR CAPACITIVE INTEGRATOR WITH FAST RESET

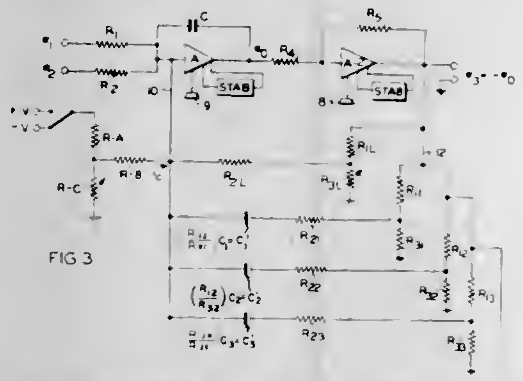
Daniel J. Sikorra, Champlin, Minn., assignor to Honeywell Inc., a corporation of Delaware
Filed Dec. 2, 1964, Ser. No. 415,524
8 Claims. (Cl. 328—127)



8. Integration apparatus wherein it is desirable to have fast reset action upon change of polarity of an input signal comprising, in combination:
- amplifier means including input means and output means;
- capacitive integrating feedback means connected between said output means and said input means of said amplifier means;
- means for supplying an input signal to said input of said amplifier means; and

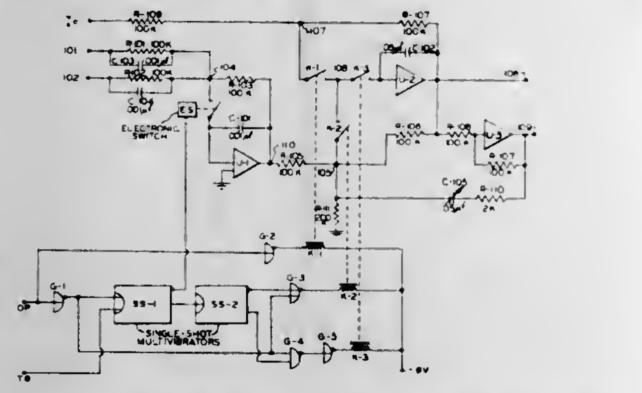
logic means connected to said capacitive feedback means for allowing a capacitive element in said feedback means to be charged through a first path including said means for supplying an input signal upon application of a first polarity input signal to said amplifier means and further for discharging said capacitive element through a second path isolated from said means for supplying an input signal upon change in polarity of said input signal.

3,381,230
ELECTRONIC INTEGRATION APPARATUS
Edward O. Gilbert and Charles H. Single, Ann Arbor, Mich., assignors to Applied Dynamics, Inc., Ann Arbor, Mich., a corporation of Michigan
Continuation of application Ser. No. 392,489, Aug. 27, 1964. This application Aug. 23, 1966, Ser. No. 574,468
13 Claims. (Cl. 328—127)



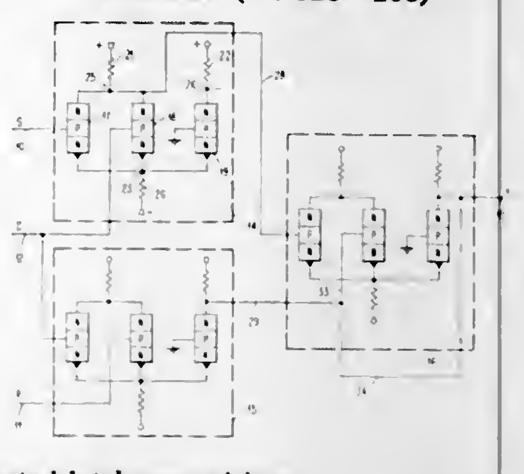
An electronic Miller integrator having an amplifier and a computing capacitor and provided with a positive feedback network having a transfer function equal to the difference between the amplifier-capacitor transfer function and $1/p$, where p is the differential operator d/dt, with the feedback network having a plurality of RC branches to compensate for absorption in the computing capacitor, a resistive branch to compensate for capacitor leakage and amplifier gain limitations, a capacitor-diode branch to compensate for the voltage coefficient of the computing capacitor, and a small capacitor having a large temperature coefficient to compensate for the temperature coefficient of the computing capacitor, and an adjustable voltage divider connected to apply an input current separately from adjustment of the amplifier voltage offset.

3,381,231
TRACK-TRANSFER SAMPLE-HOLD CIRCUITS
Elmer G. Gilbert, Ann Arbor, Mich., assignor to Applied Dynamics, Inc., Ann Arbor, Mich., a corporation of Michigan
Filed May 28, 1965, Ser. No. 459,776
11 Claims. (Cl. 328—151)



A track-hold arrangement having a first track-hold circuit with a short holding time-constant to track input signals with a short aperture time, a second track-hold circuit having a long holding time-constant and switching means to transfer values held by the first circuit to the second circuit for long term storage, with the two circuits being operated in opposite modes, and with positive feedback employed to speed transfer of a signal held by the first circuit to the second circuit.

3,381,232
GATED LATCH
Gerhard E. Hoernes, Poughkeepsie, N.Y., and Gerald A. Maley, Watertown, Mass., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Dec. 2, 1964, Ser. No. 415,234
4 Claims. (Cl. 328—206)



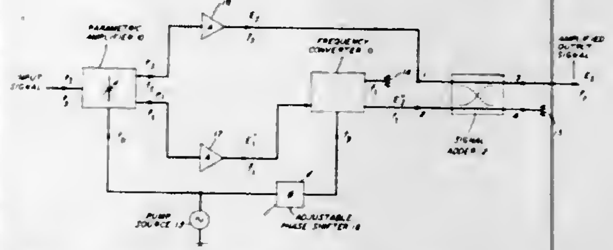
1. A gated latch comprising:

a set-reset latch of the type having first and second input terminals and operable to hold its existing output state when said first input terminal has a one value and said second input terminal has a zero value; and operable to have set and reset output states in response to other combinations of values at said terminals;

a first logic block connected to receive a set signal and a control signal and to energize one of said latch input terminals, and a second logic block connected to receive a reset signal and said control signal and to energize the other of said latch input terminals;

the logic block connected to said latch first input terminal having a logic function to produce a one value when said control signal is in a first state and to produce one and zero values according to its other input when said control signal is in its second state, the logic block connected to said latch second input terminal having a logic function to produce a zero value when said control signal is in said first state and to produce one and zero values according to its other input when said control signal is in its second state.

3,381,233
PARAMETRIC AMPLIFIER COMBINING SIGNAL AND IDLER OUTPUTS
Harold Seidel, Warren Township, Somerset County, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Aug. 30, 1967, Ser. No. 664,353
6 Claims. (Cl. 330—4.5)

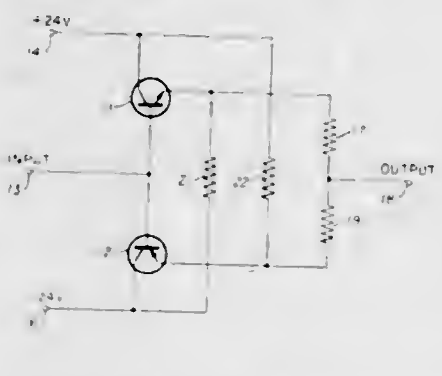


A signal amplifier combining both signal and idler frequencies of a parametric amplifier. The idler is frequency converted to the signal using the common pump frequency means.

In accordance with the invention, the idler wave generated by the parametric amplifier stage is preserved along with the amplified signal wave. The idler wave is then converted to the signal wave frequency by the frequency converter. The two signal waves are then combined, in phase, to produce the amplified output signal.

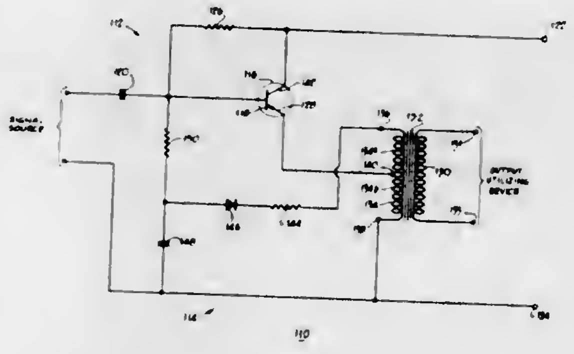
The resulting amplifier is characterized by an extended dynamic range of the order of 6 db, and a 3 db reduction in uncorrelated noise.

3,381,234
PUSH-PULL EMITTER FOLLOWER CIRCUIT
Ronald Zane, Richmond, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Dec. 17, 1964, Ser. No. 419,256
2 Claims. (Cl. 330—13)



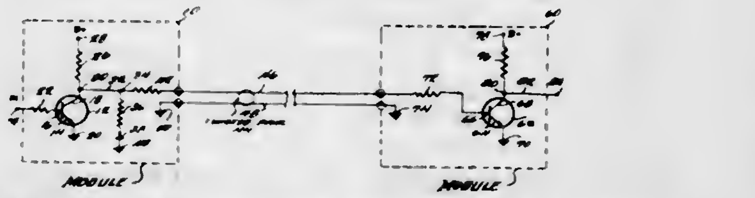
An electronic signal amplifying circuit provides high output power with minimum power dissipation at the quiescent operating condition. In the circuit, two push-pull connected transistors, one an NPN type and the other a PNP type, are biased for class AB opertaion so that linearity is obtained through the quiescent point. The circuit is particularly suited for handling D.C. and low frequency signals as for servo systems.

3,381,235
AMPLIFIER HAVING FEEDBACK BIAS CONTROL CIRCUIT
Richard H. Campbell, Rockford, Ill., assignor, by mesne assignments, to Webster Electric Company, Inc., Racine, Wis., a corporation of Delaware
Filed Mar. 22, 1965, Ser. No. 441,494
6 Claims. (Cl. 330—40)



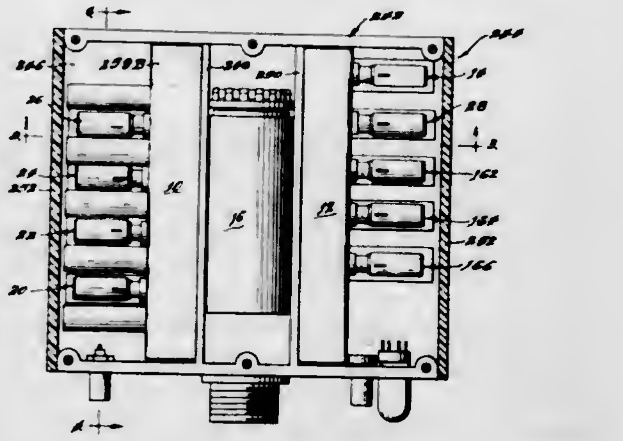
An amplifier includes a transistor connected to amplify signals from a source. Normally the transistor is maintained in a low gain and low current drain standby condition. When input signals exceed a threshold level greater than the line noise level a feedback bias control circuit increases the gain of the transistor for normal amplification operation. The control circuit includes a diode in series with a capacitor, and the forward conduction threshold of the diode establishes the threshold level at which gain is increased.

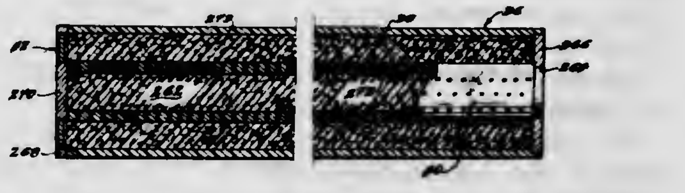
3,381,236
TWISTED PAIR TRANSMISSION SYSTEM
Lester T. Davis, Chippewa Falls, Wis., assignor to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed July 8, 1964, Ser. No. 381,041
5 Claims. (Cl. 330—53)



A twisted wire transmission system including a bilevel amplifier driver with a non-linear impedance network shunted across its output, a twisted pair transmission line directly coupled to the bilevel amplifier driver and a bilevel receiver directly coupled to the other end of the transmission line. The receiver has an input impedance greater than the transmission line characteristic impedance so that a substantial portion of the received signal is reflected back along the transmission line and then shunted to ground by the non-linear impedance, thereby holding the line voltage level relatively constant.

3,381,237
RADIO FREQUENCY DEVICE AND RESONATOR THEREFOR
Kenneth M. Ringer and Andrzej B. Przedpelski, Boulder, Colo., assignors to A.R.F. Products, Inc., River Forest, Ill., a corporation of Illinois
Original application June 20, 1960, Ser. No. 37,295, now Patent No. 3,152,304, dated Oct. 6, 1964. Divided and this application Oct. 2, 1964, Ser. No. 401,007
6 Claims. (Cl. 330—66)





1. A resonator comprising a hollow cylindrical shell, a hollow perforated rod coaxially disposed within the shell, a cap mounted on one end of the shell and the rod, a coaxial capacitor mounted between the other end of the shell and the other end of the rod, and electrically insulating closed cellular foam material disposed in the spaces between the rod and the shell and within the rod.

5. An electronic device comprising, in combination, a housing constructed of material having high coefficients of thermal and electrical conductivity having a plate shaped base with two integral parallel spaced walls extending from one side of the base, and a cover enclosing the walls and abutting the base, an oven mounted on the base between the walls containing a temperature con-

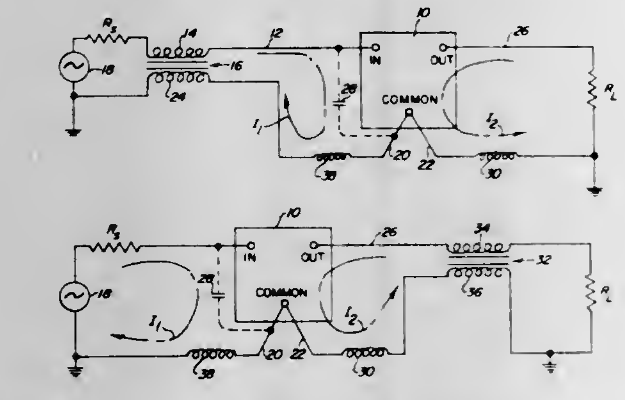
trolled heat source, a first chassis mounted on the base on the side of one of the walls opposite the oven and electrically connected to the base, a second chassis mounted on the base on the side of the other wall opposite the oven and electrically connected to the base, a first group of electronic circuit components mounted on the first chassis and connected in a radio frequency electrical circuit including thermionic vacuum tubes extending from the side of the first chassis remote from the walls parallel to the base, a second group of electronic circuit components mounted on the second chassis and electrically connected in an electrical circuit including thermionic vacuum tubes extending from the side of the second chassis opposite the walls parallel to the base, the tubes of the first and second chassis begin snugly disposed within the sleeves of thermal and electrical conducting material, the sleeves being mounted on the base and electrically connected thereto, a resonator electrically connected to a tube of the first chassis, said resonator having a hollow cylindrical shell, a hollow perforated rod coaxially disposed with the shell, a cap mounted on one end of the shell and rod, a coaxial capacitor mounted between the other end of the shell and the other end of the rod, and electrically insulating foam material disposed in the spaces between the rod and the shell and within the rod.

3,381,238
SIGNAL ISOLATION CIRCUIT

David M. Barton and George E. Smith, Portland, Oreg., assignors to Tektronix, Inc., Beaverton, Oreg., a corporation of Oregon

Filed June 29, 1964, Ser. No. 378,636

9 Claims. (Cl. 330—165)



Amplifier circuits of wide band frequency response are described having two ground leads directly connected to the common electrode of the amplifier tube or transistor to provide two separate current paths between such common electrode and ground, and a bifilar transformer formed by one of the ground leads with either the input lead or the output lead to isolate the input and output circuits of the amplifier. As a result the input current coupled to the common electrode through the stray interelectrode capacitance, flows to ground through a different one of the current paths than does the output current to prevent the common electrode lead inductance from reducing the effective input signal at high frequencies.

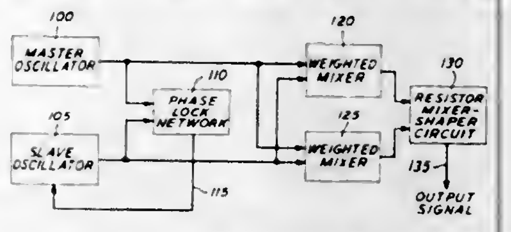
3,381,239
HIGHLY RELIABLE OSCILLATOR-CLOCK UNIT CONTAINING DUPLICATED EQUIPMENT

Harvey R. Lehman, New York, N.Y., assignor to Bell Telephone Laboratories Incorporated, Berkeley Heights, N.J., a corporation of New York

Filed Aug. 3, 1966, Ser. No. 569,899

6 Claims. (Cl. 331—56)

An oscillator-clock unit is disclosed for generating clock waveforms having no phase or frequency discontinuities even in the face of component equipment failures. The unit comprises a "slave" oscillator which is phase locked with a "master" oscillator and a pair of weighted mixer circuits connected to the oscillators and each utilized for generating a "mixed" sinusoidal signal which never falls below a certain minimum amplitude regardless of the phase relationship between the two input signals. The disclosed arrangement provides for maintaining output signal continuity in a variety of components failure situations.

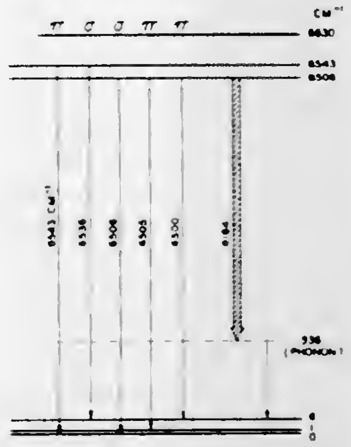


3,381,240
DIVALENT METAL DOPED FLUORIDES AS OPTICAL MASER MATERIAL

Robert E. Dietz, Morristown, Howard J. Guggenheim, Dunellen, and Leo F. Johnson, Bedminster, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 302,108, Aug. 14, 1963. This application Dec. 20, 1963, Ser. No. 333,266

4 Claims. (Cl. 331—94.5)



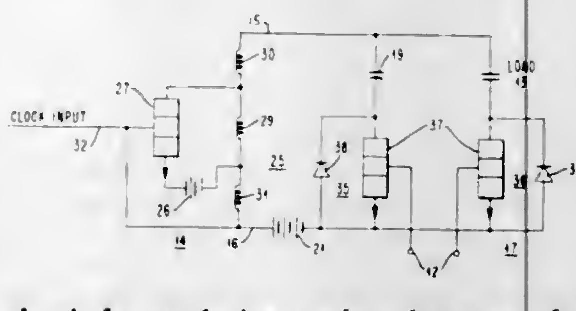
Phonon terminated laser action occurs in materials of the group consisting of magnesium fluoride and zinc fluoride as host in which a portion of the host ions have been replaced by divalent metal ions from the group consisting of cobalt and nickel.

3,381,241
CIRCUIT FOR RESONANT CHARGING OF REACTANCE IN RESPONSE TO DATA SOURCE

Connor F. Haugh, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed June 21, 1965, Ser. No. 465,344

6 Claims. (Cl. 332—14)



1. A circuit for producing a selected pattern of pulses across a reactive load device at a predetermined frequency comprising:

a second electrically similar reactive load device;

a conjugate reactance having a value to form with either of the other said reactances a circuit that is resonant at said frequency;

switch means for selectively connecting one or the other of said first and second reactances in circuit with said conjugate reactance at selected points in the oscillatory cycle; and

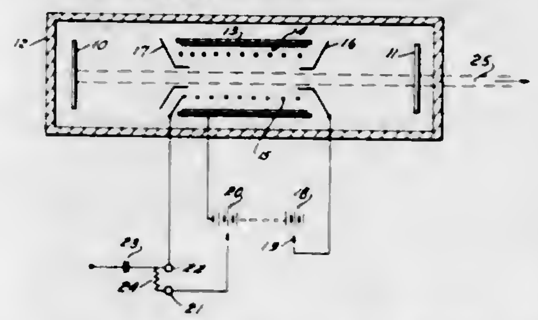
means for exciting said circuit to oscillate at said resonant frequency.

3,381,242
OPTICAL MASER MODULATOR AND AMPLIFIER

Adolph H. Rosenthal, Forest Hills, N.Y., assignor to Kollsman Instrument Corporation, Elmhurst, N.Y., a corporation of New York

Filed Aug. 28, 1961, Ser. No. 134,521

5 Claims. (Cl. 332—7.51)



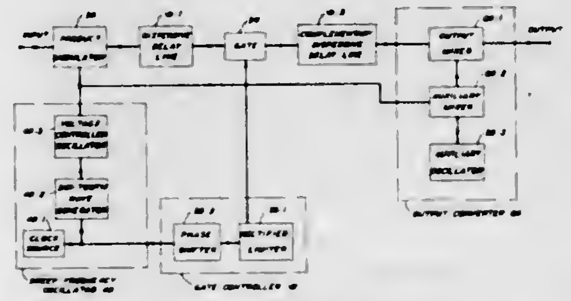
A source of electrons controlled in density and intensity is provided within a laser cavity to modulate the output radiation of the laser.

3,381,243
CONTROLLED SIDEBAND MODULATOR

Sidney Darlington, Passaic Township, Morris County, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 21, 1964, Ser. No. 419,863

5 Claims. (Cl. 332—45)



A modulator using dispersive delay lines to achieve single sideband or vestigial sideband modulation is disclosed. A first dispersive delay line disperses the frequency constituents of an amplitude modulated, swept frequency carrier in the time domain. Those frequency constituents arriving at the output of the first delay line during a selected interval of each sweep period are gated into a second dispersive delay line which re-disperses them in the frequency domain to obtain a single or vestigial sideband. The re-dispersed constituents are then applied to a mixer where the sweep frequency carrier is replaced by a constant frequency carrier.

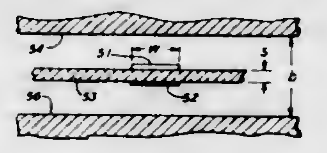
3,381,244
MICROWAVE DIRECTIONAL COUPLER HAVING OHMICALLY JOINED OUTPUT PORTS D.C. ISOLATED FROM OHMICALLY JOINED INPUT AND TERMINATED PORTS

James E. Dalley, Whitfield, Pa., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Feb. 9, 1966, Ser. No. 526,085

4 Claims. (Cl. 333—10)

4. A microwave directional coupler for producing substantially equal outputs at a pair of spaced output ports upon application of a microwave signal to a single input port, said output ports being conductively coupled together and insulated from said input port, said input port being conductively connected to a terminated port and spaced therefrom, the space between said output ports and between said input and said terminated port defining a coupling region, and means for producing different propagation and coupling characteristics for the odd and even modes of propagation of the applied signal within the coupling region comprising an inhomogeneous dielectric medium filling the coupling region.



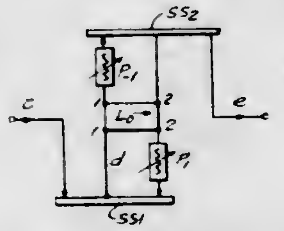
3,381,245
COMPENSATION SYSTEM HAVING FEEDFORWARD AND FEEDBACK CIRCUITS FOR CANCELING LEADING AND TRAILING EDGE DISTORTION OF SIGNAL PULSES

Gustav Guanella, Zurich, Switzerland, assignor to Patelhold Patentverwertungs- und Electro-Holding AG., Glarus, Switzerland

Filed Feb. 23, 1966, Ser. No. 529,434

Claims priority, application Switzerland, Feb. 26, 1965, 2,705/65

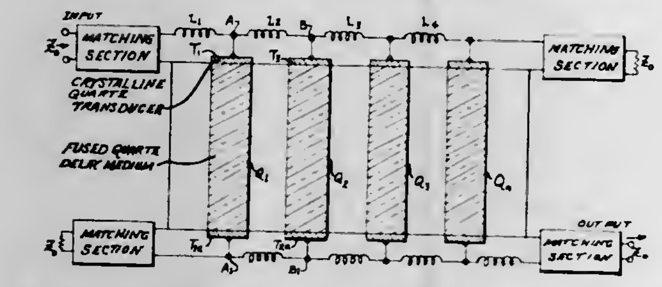
8 Claims. (Cl. 333—20)



In signal transmission by means of equi-spaced signal pulses through a transmission path subjecting the pulses to widening or dispersion involving both leading and trailing disturbing components preceding and following, respectively, a signal pulse, both the leading and trailing distortion is eliminated or minimized by a compensator comprising a single delay device having at least one input and at least one output coupling point, further means being provided for passing the pulses to be corrected from said input to said output coupling point with the difference in transit time of said device between said coupling points being equal to the spacing intervals between the signal pulses. In order to compensate for the trailing distortion components, there is provided a unidirectional feedforward circuit, in respect to the signal passing direction through said device, between said input and said output coupling points, and in order to compensate for the leading distortion components, there is provided a unidirectional feedback circuit, in respect to the signal passing direction through said device, between said output and said input coupling points. By the further provision of suitable amplitude control and polarity adjusting devices in both said feedforward and feedback circuits, there is achieved a substantial cancellation of both the leading and trailing disturbing signal components by the use of a single delay device. If the signal pulses are distorted by two or more disturbing components spaced by intervals equal to the pulse spacing intervals, compensation of all components, both leading and trailing, may be effected by providing said device with a corresponding number of coupling points, spaced as to transmit time by differences equal to the pulse spacing intervals and connected to individual feedforward and feedback circuits each including its own amplitude control and polarity adjusting device.

3,381,246
DISTRIBUTED TRANSDUCER ULTRASONIC DELAY LINE AND COUPLING APPARATUS

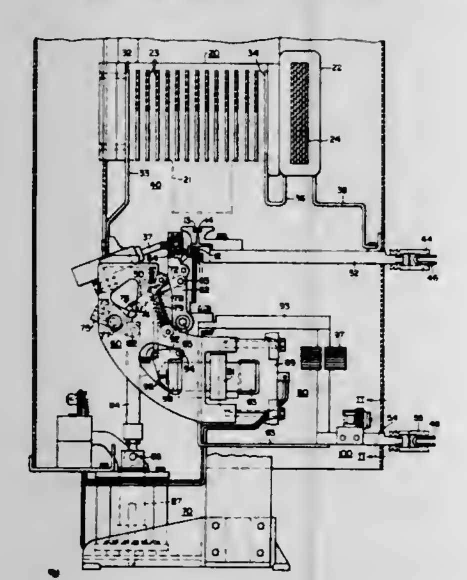
Bernard D. Perry, Stoneham, Mass., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Oct. 8, 1964, Ser. No. 402,666
1 Claim. (Cl. 333—30)



A distributed ultrasonic transducer delay network responsive to wideband input signals, including an input and an output lumped-parameter electrical delay line, quartz ultrasonic time delays and a network interconnecting the delay lines and the input and output delay lines. The network includes a corresponding plurality of pairs of input and output transducers as shunt elements of both delay lines.

3,381,247
TRIPPING MEANS FOR HIGH SPEED CIRCUIT INTERRUPTERS

Gayne D. Gamel, Murrysville, and Joseph D. Findley, Jr., Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, a corporation of Pennsylvania
Filed Aug. 26, 1966, Ser. No. 575,385
6 Claims. (Cl. 335—6)

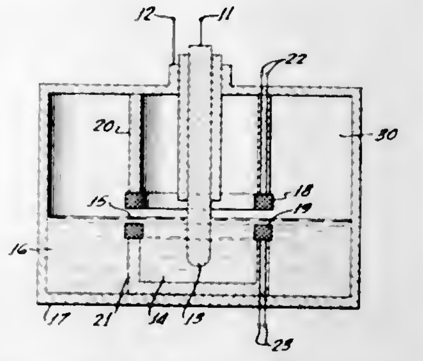


A circuit interrupter having a tripping means comprising a first means which is responsive to a predetermined rate of rise of the current in a protected circuit and a second means which is responsive to a predetermined magnitude of current independent of its rate of rise including a magnetic sheet member movable in response to changes in the current.

3,381,248
MAGNETIC PRESSURE LIQUID CIRCUIT BREAKER

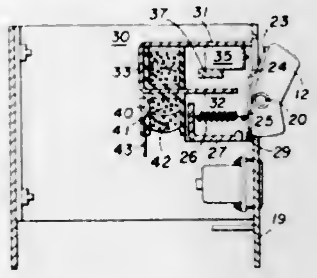
Harold P. Furth, Berkeley, Calif.
Filed Oct. 23, 1965, Ser. No. 503,370
1 Claim. (Cl. 335—51)

The present invention relates to a magnetic circuit breaker for breaking the electrical circuit between a pair of electrically conductive liquids. A magnetic field generated by a coil in the vicinity of the liquids interacts with current induced in the liquids to generate magnetic pressure which forces apart the liquids thereby breaking the electrical circuit.



3,381,249
AIRCRAFT SWITCHING CONSOLE WITH MAGNETIC DETENT

James R. Younkin, Mineral Wells, Tex., assignor, by mesne assignments, to Thurman & Younkin, Inc., a corporation of Texas
Filed Apr. 1, 1966, Ser. No. 539,500
10 Claims. (Cl. 335—120)



An aircraft switching console has magnetizable actuator arms mounted with spring bias side-by-side on a common axis to control a roll gyro selector, an altitude hold unit and a pitch gyro, respectively. An electromagnet produces a magnetic field to retain any or all of the arms in an actuated position and oppose the spring biasing until returned to the off position by manual pressure. The electromagnet is energized when the roll gyro arm is actuated. The heading selector arm overlaps and is adjacent to the pitch gyro arm actuator. The altitude hold arm overlaps and is adjacent to the pitch gyro arm.

ERRATUM

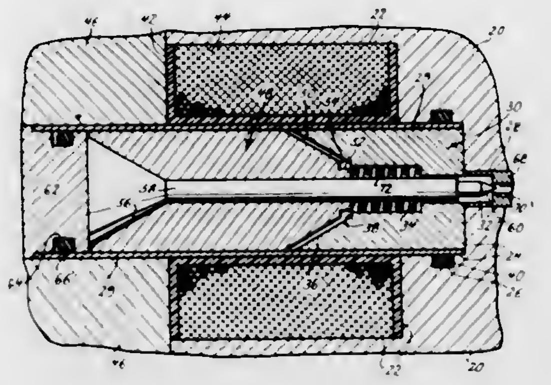
For Class 335—229 see:
Patent No. 3,380,656

3,381,250
ELECTROMAGNETIC DEVICE

Leland Clay Weathers, Plymouth, Mich., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed June 27, 1966, Ser. No. 560,402
3 Claims. (Cl. 335—255)

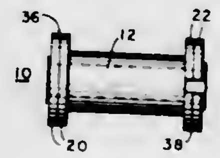
A solenoid has a stationary pole piece which has a frusto-conical recess and a smaller diameter cylindrical recess with a transversely-directed shoulder intermediate and abutting the said frusto-conical recess and the said smaller diameter cylindrical recess, has an armature with a frusto-conical surface that is complementary to the said frusto-conical recess in the said pole piece and with a small diameter cylindrical surface that is complementary to the said smaller diameter cylindrical recess in the said pole piece and with a transversely-directed shoulder that is intermediate and abuts the said frusto-conical surface and the said small diameter cylindrical

surface, has a tube which guides and confines the said armature for movement relative to the said pole piece, and has a winding which can be energized to cause the said armature to move relative to the said pole piece. The transversely-directed shoulder on the armature confronts the transversely-directed shoulder on the pole piece, but the spacing between those transversely-directed shoulders is always greater than the spacing between the said frusto-conical surface on said armature and the said frusto-conical recess in the said pole piece to prevent engagement between those transversely-directed shoulders.



3,381,251
MINIATURE TRANSFORMER

Robert A. Fuller, 501 W. 10th St., Mount Carmel, Ill. 62863
Continuation-in-part of application Ser. No. 305,375, Aug. 29, 1963. This application July 5, 1966, Ser. No. 564,504
7 Claims. (Cl. 336—83)

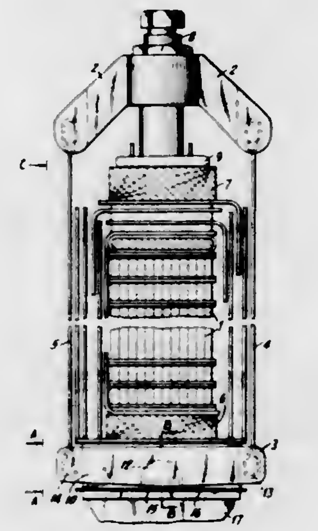


A miniature transformer having a core and circular end flanges attached thereon by swaging. A sleeve surrounds the core and end flanges and forms an air gap with the end flanges.

3,381,252
PRESSING MEANS FOR READY-TO-USE WINDING UNIT

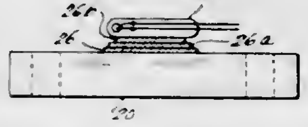
Heinrich Lutz, Dubendorf, Switzerland, assignor to Maschinenfabrik Oerlikon, Zurich, Switzerland
Filed Dec. 1, 1965, Ser. No. 510,806
Claims priority, application Switzerland, Dec. 10, 1964, 15,991/64; Dec. 24, 1964, 16,685/64
8 Claims. (Cl. 336—197)

1. In a ready-to-use winding unit for mounting on a magnetic core and including at least one annular winding and pressing means engaged with the winding to restrain the same against distortion due to stresses resulting from short circuit currents and the like: the improvement in which said pressing means comprises at least one pair of pressure devices embracing diametrically opposite segments of the winding, each pressure device comprising a pair of pressure elements each engaging respective opposite end faces of the respective winding segment, tension means extending along the radially inner side and the radially outer side of each winding segment and connecting both pressure elements of each pressure device and under tension to maintain the connected pressure elements pressed firmly against the winding end faces, and tension equalizing means associated with the tension means of each pressure device; and in which, with respect to said tension equalizing means, one pressure element of each pressure device comprises a rocker; and means oscillatably mounting said rocker intermediate its ends; first ends of said tension means being anchored to opposite ends of said rocker whereby, when tension is conjointly applied through the second ends of said tension means, any difference in length of the tension means is equalized by said rocker.



3,381,253
HIGH SPEED WIDE RANGE SURFACE SENSOR THERMISTOR

Meyer Sapoff, West Orange, Barry B. Jacobs, Union, and John G. Froemel, Verona, N.J., assignors to Victory Engineering Corporation, Springfield, N.J., a corporation of Delaware
Filed Mar. 4, 1966, Ser. No. 531,859
8 Claims. (Cl. 338—22)

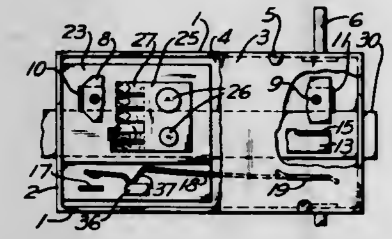


A temperature sensing assembly for surface sensing in which the sensing thermistor and a portion of its leads are covered by a non-metallic envelope having a coefficient of thermal expansion close to a metallic plate to which it is fused so that the thermistor will retain its close thermal association with the plate over many cycles of expansion and contraction. Alternately, intermediate layers of fusing material having a suitable coefficient of thermal expansion are employed between the thermistor and plate.

3,381,254
ELECTRIC SWITCH AND VARIABLE LINEAR RESISTOR

Dudley H. Campbell, St. Marys, Pa., assignor to Stackpole Carbon Company, St. Marys, Pa., a corporation of Pennsylvania
Filed Oct. 21, 1965, Ser. No. 499,163
6 Claims. (Cl. 338—179)

A flat resistance strip and a flat metal contact strip are mounted beside each other in a rectangular housing and are engaged by a bridging contact carried by an insulating slide. A switch spring contact strip anchored at one end extends beside the other two strips and normally engages a fixed contact. The spring strip has a portion near the fixed contact in the path of a lug projecting from the slide, whereby the spring strip can be moved away from the fixed contact.

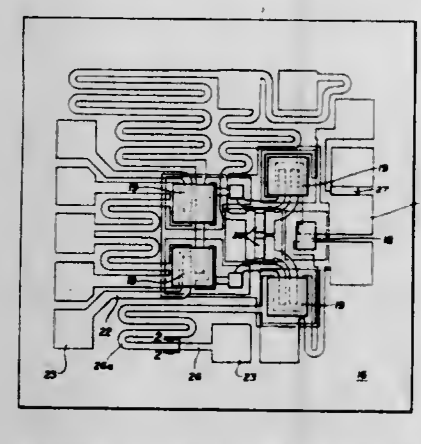


3,381,255
THIN FILM RESISTOR

Albert P. Youmans, Cupertino, Calif., assignor to Signetics Corporation, Sunnyvale, Calif., a corporation of California

Filed Apr. 12, 1965, Ser. No. 447,206

6 Claims. (Cl. 338—308)



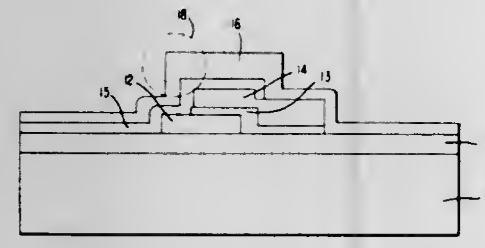
Thin film resistor formed of an alloy of chrome and silicon in which the silicon ranges from 55 to 73 percent.

3,381,256
RESISTOR AND CONTACT MEANS ON A BASE

Max J. Schuller, Palo Alto, Calif., and Michael J. Urban, Stamford, and Erwin F. Littau, Norwalk, Conn., assignors, by mesne assignments, to Monsanto Company, St. Louis, Mo.

Filed Feb. 4, 1966, Ser. No. 525,026

11 Claims. (Cl. 338—309)



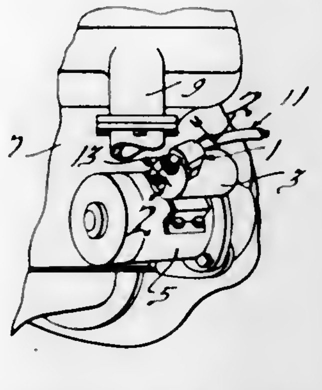
1. In an electrical device including a thin film resistor and a relatively thick, low resistivity film over which said thin film resistor is deposited, an improved contact between said resistor and said low resistivity film comprising a film of chromium deposited on at least a portion of the surface of said low resistivity film and a film of a noble metal deposited on at least a portion of the surface of said chromium film, the thin film resistor being deposited over said noble metal film to form good electrical contact with said low resistivity film through said noble metal and said chromium films.

3,381,257
ANTIROTATION DEVICE

Wilbur W. Nelson, Pinckney, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

Filed May 18, 1966, Ser. No. 550,996

4 Claims. (Cl. 339—10)



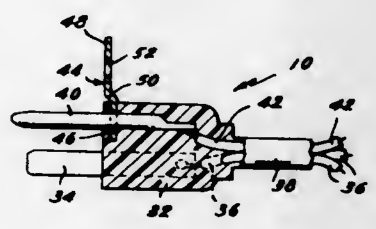
A device for connecting an electrical wire to an automobile starter solenoid terminal adjacent the exhaust manifold of the automobile engine. The device includes a terminal surrounded by an insulating head having a surface which mates with the solenoid surface and prevents such terminal and the electrical wire from being inadvertently rotated to a position wherein the wire would be damaged by the heat from the exhaust manifold.

3,381,258
ELECTRICAL PLUG WITH SAFETY GROUND ELEMENT

Theodore W. Becker, Jr., 58 Cherry Lane, Madison, Conn. 06443

Filed Dec. 6, 1965, Ser. No. 511,724

4 Claims. (Cl. 339—14)



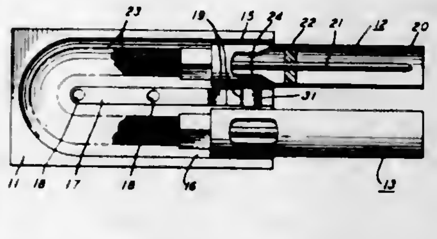
An electrical plug for use with a wall receptacle and having a mounting tab incorporated therein for securement to said receptacle to prevent inadvertent removal of the plug from the receptacle, a ground pin being electrically connected to the mounting tab for establishing a safety ground connection when the mounting tab is fastened to the wall receptacle.

3,381,259
TWIN PLUG CONNECTOR HAVING A COUPLING PIN

Steven Manos, Bayonne, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Sept. 1, 1965, Ser. No. 484,341

4 Claims. (Cl. 339—64)



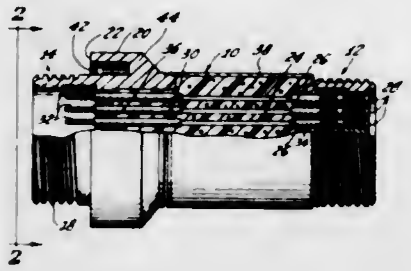
A twin plug connector is disclosed in which two plugs are positioned in a case by a coupling pin.

3,381,260
CRYOGENIC AND THERMAL SEAL FOR ELECTRICAL MEMBERS

Ray S. Brown, La Canada, Calif., assignor to Physical Sciences Corporation, Arcadia, Calif., a corporation of California

Filed Mar. 28, 1966, Ser. No. 537,753

10 Claims. (Cl. 339—93)



This invention relates to an electrical connector which is sealed from external members through an extended range of temperatures. The connector includes a plurality of electrical conductors which extend through a housing for connection to first electrical elements at a first end of the housing and for connection to second electrical elements at a second end of the housing. A first ceramic seal envelopes the electrical conductors at the first end of the casing and abuts the casing to provide a seal between the casing and the conductors. A second ceramic seal envelopes the electrical conductors at the second end of the casing and abuts the casing to provide a seal between the casing and the conductors. The ceramic seals may be provided with characteristics to produce a low leak rate through an extended range of temperatures. A non-solid substance is disposed in the casing between the first and second ceramic seals and is provided with characteristics to prevent the passage of contaminants between the first and second ends of the casing.

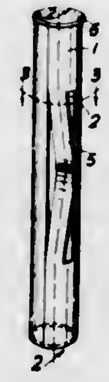
3,381,261
ELECTRICAL SOCKETS

Stanley Thomas Deakin, Farlington, England, assignor to Sealectro Limited, Farlington, England, a British company

Filed Sept. 1, 1965, Ser. No. 484,347

Claims priority, application Great Britain, Sept. 3, 1964, 36,164/64

5 Claims. (Cl. 339—248)



An electrical socket contact in the form of a metal tube having an intermediate longitudinal strip cut from the body of the tube having its ends joined to the tube, the strip being deformed into the tube to define a resilient obstruction within the tube to provide contact pressure on a contact pin insertable into the tube.

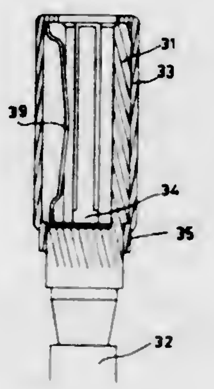
3,381,262
DEVICE FOR THE PROTECTION OF THE ELASTIC MEMBER OF A COUPLING

Edouard Jeanrenaud, Dole, France, assignor to Usine Metallurgique Doloise S.A., Dole, France, a company

Filed Feb. 14, 1966, Ser. No. 527,026

Claims priority, application France, Nov. 10, 1965, 37,960

3 Claims. (Cl. 339—258)



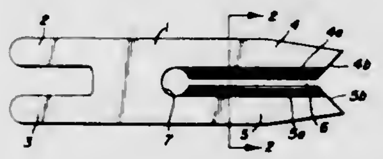
An electrical coupling with a socket and a plug, provided with an elastic piece constituted by multiple resilient elements each of which is protected in the interior of a groove formed in the receiving surface of the female member of the socket.

3,381,263
FORKED CONTACT AND METHOD OF MANUFACTURE

Edwin E. Gehrt, Melrose Park, and William T. Jensen, Libertyville, Ill., assignors to Methode Electronics, Inc., a corporation of Illinois

Application June 25, 1964, Ser. No. 381,285, now Patent No. 3,299,493, dated Jan. 24, 1967, which is a continuation of application Ser. No. 96,947, Mar. 20, 1961. Divided and this application June 8, 1966, Ser. No. 590,444

1 Claim. (Cl. 339—277)



A bifurcated electrical contact of the type adapted to mate with an identical contact to establish positive electrical connection between two components is formed of sheet metal stock of uniform thickness and the legs of the bifurcation are swaged to provide opposed contact surfaces which conform substantially to the section of a cylinder of uniform diameter to facilitate mating and unmating while maintaining positive electric contact in the mated position.

3,381,264
SUBMARINE TOPOGRAPHY

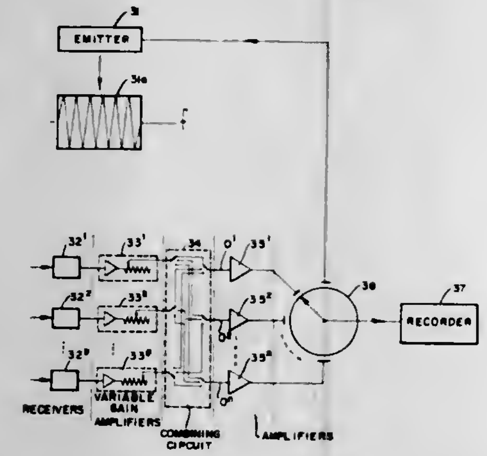
Michel Lavergne, Le Vesinet, and Jean-Paul Robert, Vaucresson, Hauts-de-Seine, France, assignors to Institut Francais du Petrole, des Carburants et Lubrifiants, Hauts-de-Seine, France

Filed Nov. 18, 1966, Ser. No. 595,506

Claims priority, application France, Nov. 19, 1965, 39,176

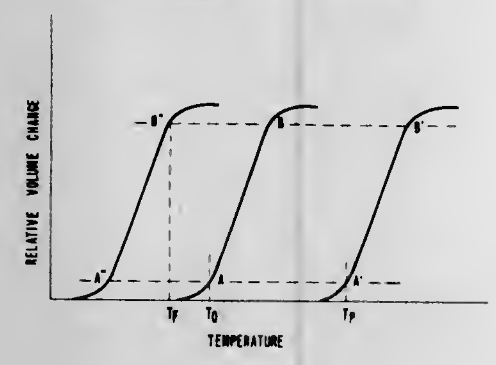
15 Claims. (Cl. 340—3)

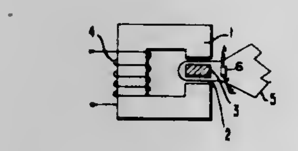
The present invention relates to a novel method for directly determining the contour lines of the floor of a water body by emitting and receiving underwater sonic signals and by automatically processing these signals in order to obtain a topographical representation of the



floor being measured. The present invention is also concerned with apparatus for carrying out this method.

3,381,265
COMPRESSIONAL WAVE TRANSDUCER
William M. Flook, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Apr. 24, 1963, Ser. No. 275,364
14 Claims. (Cl. 340—10)

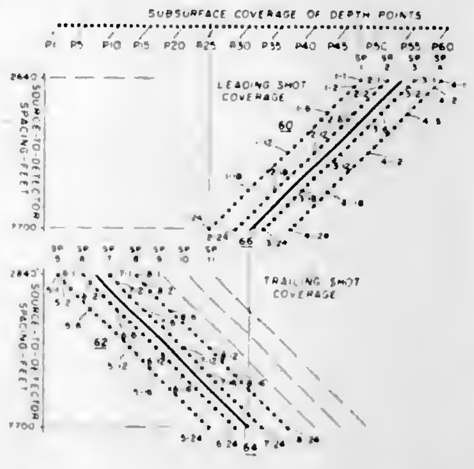




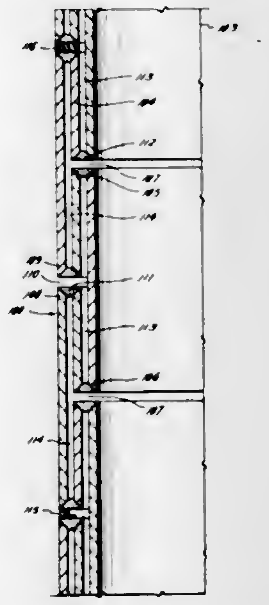
1. A compressional wave transducer comprising:
(a) a material exhibiting a first-order solid-phase-to-solid-phase transition with maintenance of crystal symmetry accompanied by an abrupt change in saturation induction;
(b) means for maintaining said material under temperature conditions appropriate for said transition;
(c) means for imposing a varying magnetic field on said material, the variation in field strength being sufficient to cause repetitive traversal of said transition; and
(d) resonator means coupled to said material for intensifying the pressure pulses resulting from said repetitive traversal.

3,381,266
STACKING OF SEISMIC TRACES HAVING COMMON OFFSET DISTANCES
Norris R. Harris, Ankara, Turkey, assignor to Mobil Oil Corporation, a corporation of New York
Filed Sept. 27, 1965, Ser. No. 490,484
3 Claims. (Cl. 340—15.5)

The specification discloses a method for compositing and displaying seismic traces obtained with multiple coverage field techniques as an aid in evaluating normal moveout curves and identifying primary and multiple reflections. Seismic traces obtained with the same shot-detector distances but representing horizontally spaced subsurface reflecting points are composited to produce a series of output signals. These output signals are then recorded in side-by-side relation. Since the traces composited have the same shot-detector distances, they have the same normal moveout characteristic. Thus, upon compositing, primary and multiple reflections will add in phase and be enhanced while random noise will be attenuated.

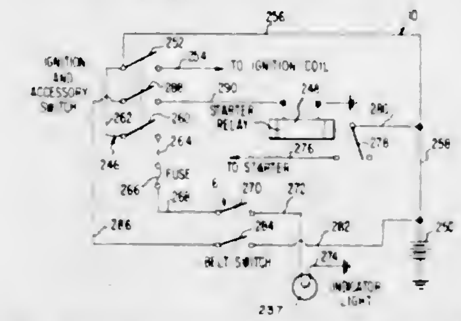

SUBSURFACE COVERAGE OF DEPTH POINTS
LEADING SHOT COVERAGE
TRAILING SHOT COVERAGE
SOURCE TO DETECTOR SPACING (FEET)

3,381,267
WELL LOGGING TOOL
Walter E. Cubberly, Jr., and George H. Pardue, Houston, Tex., assignors to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas
Filed July 26, 1966, Ser. No. 568,706
15 Claims. (Cl. 340—17)



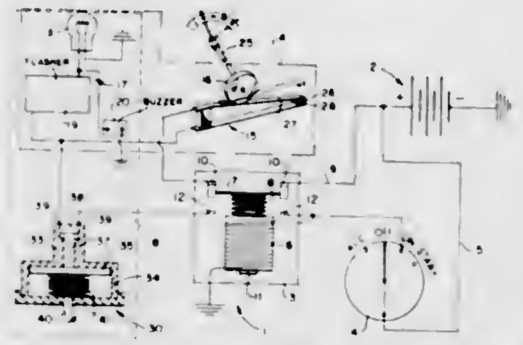
The particular embodiments described herein as illustrative of the present invention are directed toward pressure-tight rigid housings for sonic logging tools, with these housings being appropriately arranged to effectively attenuate any sonic energy that would otherwise travel longitudinally along the housing. These new and improved housings are arranged as a plurality of overlapping, successively alternating concentric inner and outer sleeves respectively joined at their adjacent opposed ends by a shorter, intermediate sleeve between the inner and outer sleeves. In this manner, a rigid housing is formed with a large number of reversed paths and interface surfaces to provide an extremely tortuous path for attenuation of sonic energy that would otherwise travel longitudinally along the housing.

3,381,268
SAFETY BELT SIGNAL SYSTEMS FOR MOTOR VEHICLES
Oliver W. Boblitz, 1717 G St. NW., Washington, D.C. 20006
Filed Oct. 30, 1964, Ser. No. 407,843
4 Claims. (Cl. 340—52)



Safety belt signal systems for motor vehicles that require the operator of the motor vehicle to have his safety belt properly fastened before the vehicle may be started and provide continuing visual indication whether the vehicle is being operated with the seat belt properly fastened are constructed with a switch device that has two independently controlled electric circuits, one involving the motor vehicle starter and the other involving a signal to indicate a fastened condition of the safety belt.

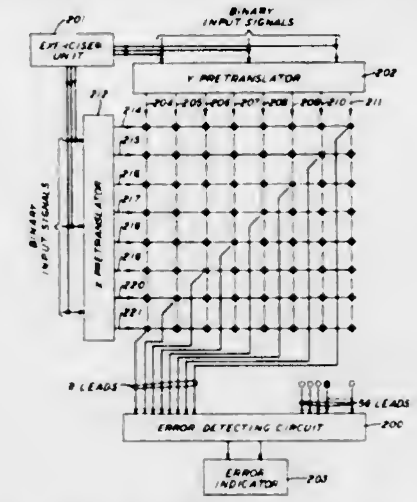
3,381,269
SAFETY PARK AND IGNITION SIGNAL DEVICE FOR VEHICLES
Lloyd W. Fierbaugh and Armin Koep, Ashland, Ohio, assignors of one-third to Emmett A. Fierbaugh
Continuation-in-part of application Ser. No. 474,027, July 22, 1965. This application Dec. 3, 1965, Ser. No. 517,143
13 Claims. (Cl. 340—52)



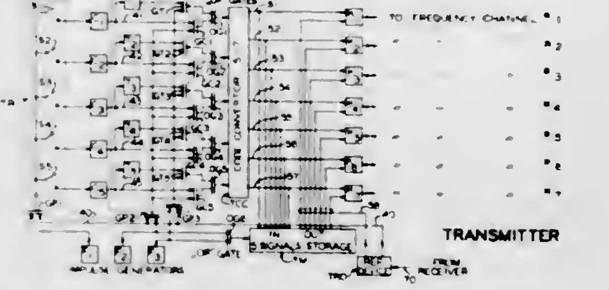
A signal device for vehicles having automatic transmissions including a signal emitting device which is actuated by a control switch to give a warning whenever the ignition switch is off and the gearshift lever is out of the park position and in neutral or any one of a plurality of operating positions. The gearshift lever has a cam thereon which controls the movement of a movable element of the control switch into and out of engagement with a stationary element.

3,381,270
ERROR DETECTION CIRCUITS
Donald W. Huffman, Shrewsbury, and Wing N. Toy, Colts Neck, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 5, 1964, Ser. No. 387,645
12 Claims. (Cl. 340—146.1)

Error control circuitry has been incorporated into a binary to one-out-of-N translating matrix in order to detect faults which produce multiple outputs as well as malfunctions which produce no output at all. One embodiment of the invention comprises two detecting gates selectively connected to the matrix crosspoints. Sequentially energizing the crosspoints associated with the first gate checks the crosspoints associated with the second gate. Similarly, selective energization of the crosspoints connected to the second gate checks the crosspoints connected to the first gate.



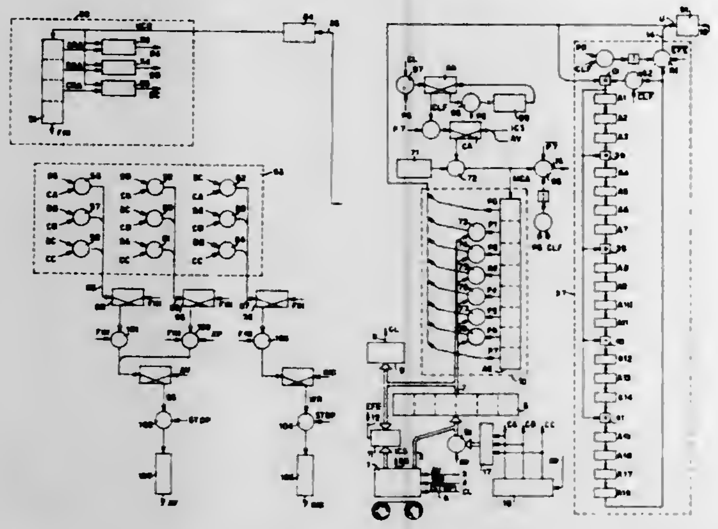
3,381,271
TRANSPOSITION ERROR PROTECTION SYSTEM FOR TELEGRAPH SIGNALS
Hendrik Cornelis Anthony van Duuren, Wassenaar, Netherlands, assignor to De Staat der Nederlanden, ten Deze Vertegenwoordigd Door de Directeur-Generaal der Posterijen, Telegrafie en Telefonie, The Hague, Netherlands
Continuation-in-part of application Ser. No. 187,566, Apr. 16, 1962. This application May 8, 1964, Ser. No. 365,898
12 Claims. (Cl. 340—146.1)



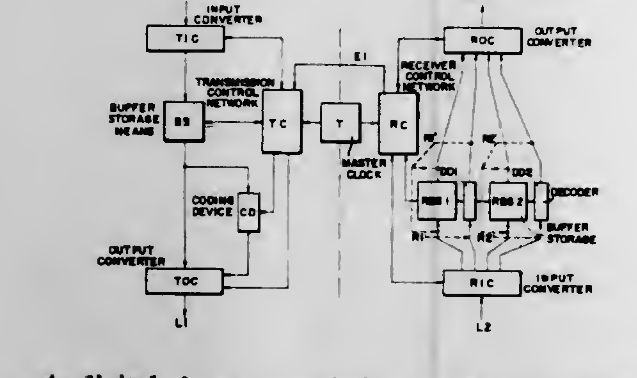
A system for preventing transposition errors in a two-way telegraph system comprising generating a parity check signal for each block or group of lines of binary code telegraph signals. This system includes a transmitter and a receiver at each station each of which has a storing means, a repetition device, and a counter means for generating and detecting, respectively, a parity check signal for the lines of multi-element code signals in each block or group. If desired, each transmitter and receiver may include also a code converter for converting each multi-element signal into a constant-ratio binary code multi-element signal for further error detection. The lines of each block or group of signals for generating the parity check signal, may be taken from parallel rows, columns, and/or diagonals of either the original or the code converted signals.

3,381,272
DATA TRANSMISSION SYSTEM
Arnaldo Pasini, Milan, Italy, assignor to Ing. C. Olivetti & C., S.p.A., Ivrea, Italy, a corporation of Italy
Filed Oct. 5, 1964, Ser. No. 401,509
Claims priority, application Italy, Oct. 14, 1963, 21,237/63
4 Claims. (Cl. 340—146.1)

In a system for continuously transmitting data in form of blocks from a transmitting station to a receiving station, the transmitting station associates to each transmitted block and stores a labeling number, and the receiving station is able after the correct reception of a block to cause a block counter to advance one step and to transmit a feedback signal representing the number contained in said counter after said step, said transmitting station comprising means for comparing the stored labeling number of the block currently being transmitted and said feedback signal for keeping said two stations in synchronism.



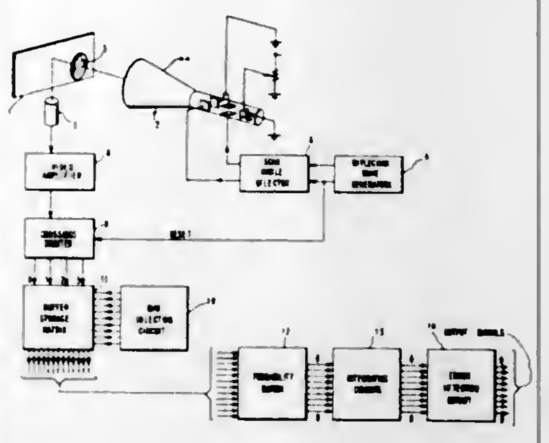
3,381,273
TRANSMISSION SYSTEM
Rudolf Stark, Constance, and Hans-Joachim Held, Litzelstetten, Germany, assignors to Telefunken Patentverwertungs-G.m.b.H., Ulm (Danube), Germany
Filed May 21, 1964, Ser. No. 369,194
Claims priority application Germany, May 22, 1963, T 24,041
8 Claims. (Cl. 340—146.1)



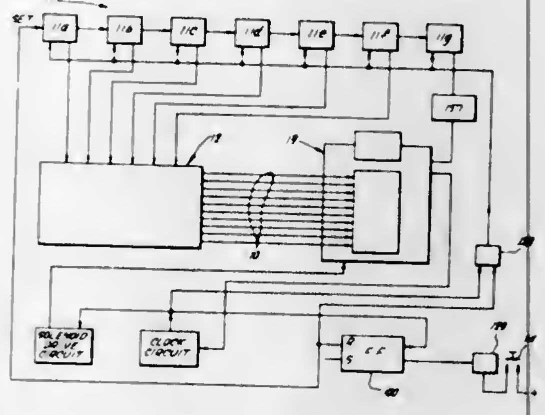
A digital data transmission system for transmitting a continuous stream of bits, composed of data bits, filler bits and check bits, at a rate higher than the maximum rate at which information bits are delivered to the transmission system, the transmission rate of the system being synchronized by a clock, the data bits and filler bits being delivered to an output converter of the transmitter in blocks of predetermined length, each block having a succession of check bits added to it, and the filler bits and data bits being fed to a coding device which codes the bits for producing error indications.

3,381,274
RECOGNITION SYSTEMS
Edward A. Quade and Richard W. Weeks, San Jose, Calif., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 18, 1959, Ser. No. 860,471
14 Claims. (Cl. 340—146.3)

1. A recognition system including the combination of means for deriving statistical information from a thing to be identified, means generating an electrical signal in response to the derived statistical information, a probability determining circuit coupled to said signal generating means, said probability determining circuit comprising a matrix of elements each having an electrical characteristic corresponding to the probability that the electrical signal represents one of a plurality of things, a plurality of output circuits coupled to said matrix, each corresponding to one of said plurality of things, and accumulator means coupled between the matrix and the output circuit for providing output signals indicative of the probability that the derived statistical information represents a particular one of said plurality of things based upon a composite probability derived by said accumulator means in response to electrical signals passed by said matrix.

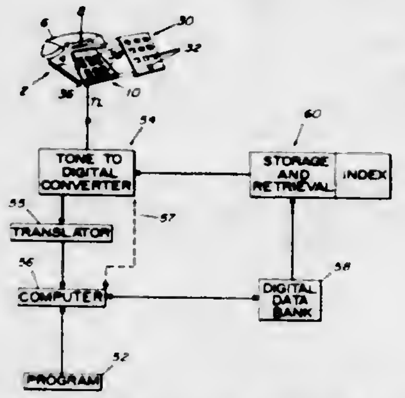


3,381,275
DIGITAL INFORMATION TRANSFERRING SYSTEM
Ilan Israely, Los Angeles, Calif., assignor to Clary Corporation, San Gabriel, Calif., a corporation of California
Filed Aug. 10, 1965, Ser. No. 478,715
5 Claims. (Cl. 340—172.5)



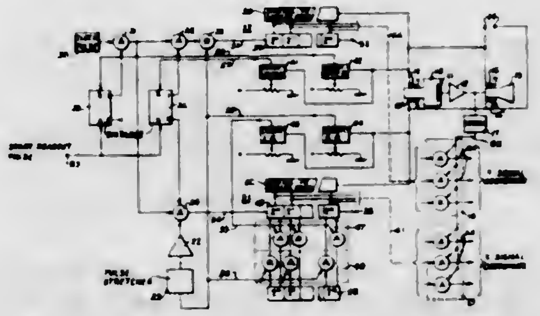
A circuit for transferring data from a digit registering device including a plurality of columns of switches representing, respectively, the digits 0 to 9, to a ten-key type registering machine, wherein a stepping register is provided, the latter being scanned successively through its various stages by clock pulses. Each stage of the stepping register, when scanned, conditions a respective one of said columns of switches. All of the switches representing a particular digit are connected to an amount entering device on the machine representing that digit. The last stage of the stepping register is effective, when scanned, to cause operation of the machine.

3,381,276
COMPUTER SYSTEMS
Peter James, Forestville, Md., assignor to Photo Magnetic Systems, Inc., Washington, D.C., a corporation of Maryland
Filed Sept. 15, 1965, Ser. No. 487,391
7 Claims. (Cl. 340—172.5)



A computer system utilizing standard tone generating telephone sets having a plurality of keys thereon for control of a computer device. Means are provided for interconnecting the telephone set with the computer device, said means producing both data and command signals for the computer device upon individual actuation of the keys on the telephone handset and upon simultaneous action of a group of the keys upon the telephone handset. Thus, complete computer control is effected without resorting to modification of a telephone set.

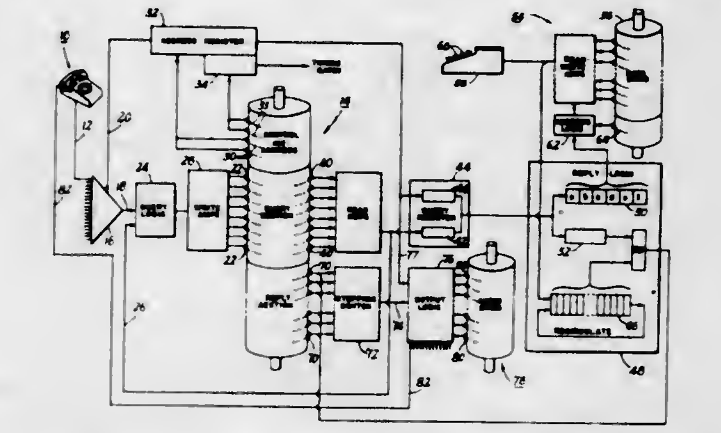
3,381,277
SYSTEM FOR SELECTIVE READOUT OF AN INFORMATION STORE
Anthony G. Stansby, Ontario, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada
Filed Oct. 11, 1965, Ser. No. 494,594
8 Claims. (Cl. 340—172.5)



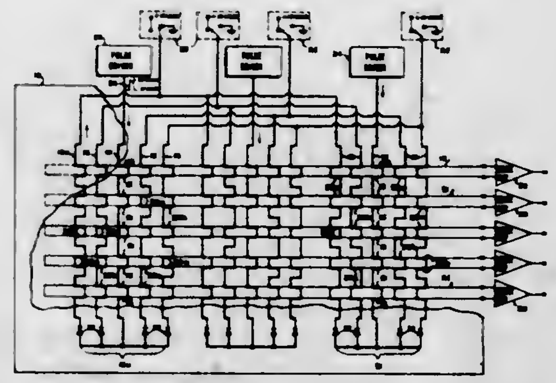
A system for monitoring a selected portion of a data store and supplying the coordinates of signals stored in this selected portion having magnitudes exceeding a predetermined value. The selected portion is scanned under the control of two scanning generators. Gating circuits connected to the scanning generator outputs are activated when a signal exceeding the predetermined magnitude is detected to supply coordinate representing signals to output terminals. A digital and an analog embodiment are described.

3,381,278
DATA HOLDING SYSTEM
Jack Knoll, Plainview, N.Y., and Kuei-yin Hsu, Stamford, Conn., assignors to Teleregister Corporation, Stamford, Conn.
Continuation of application Ser. No. 272,437, Apr. 11, 1963. This application Dec. 22, 1966, Ser. No. 604,066
10 Claims. (Cl. 340—172.5)

A query and reply system which includes a plurality of remote input-output devices, each of which is capable of generating a query for a central station. The central station includes an input multiplexer and a query storage device which combine to accept queries from the remote devices as they are generated on an essentially simultaneous basis and assemble query messages which are then applied to a processing element. Replies from the processing element are stored in a reply storage element and transmitted back to the remote devices through an output multiplexing device on an essentially simultaneous basis. The improvements of this invention relate primarily to the manner in which the query assembly function and the reply sending function are controlled.



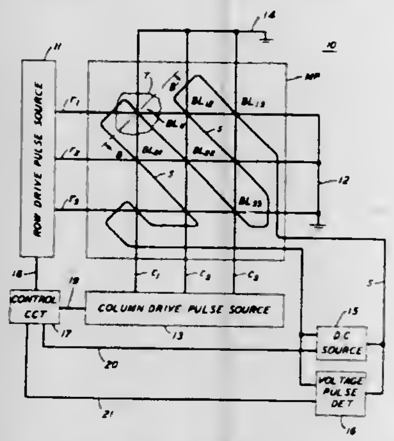
3,381,279
READ ONLY MEMORY
Arndt B. Bergh, Palo Alto, and Charles W. Near, Sunnyvale, Calif., assignors to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Apr. 21, 1966, Ser. No. 544,194
9 Claims. (Cl. 340—173)



A set of drive lines and a set of sense lines are arranged in a generally transverse relationship on opposite sides of an insulating layer. The drive lines include a reference line arranged for inductively coupling a reference signal to each sense line in response to a driving signal. They also include a plurality of word lines each arranged for inductively coupling an add signal or a cancel signal to each sense line in response to a driving signal. Selection apparatus is connected to each drive line for providing a driving signal path along the reference line and a selected word line. A sense amplifier is connected to each sense line for indicating one binary digit in response to the combination of a reference signal and an add signal and for indicating another binary digit in response to the combination of a reference signal and a cancel signal.

3,381,280
SUPERCONDUCTIVE MEMORY
Fred B. Hagedorn, Berkeley Heights, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 3, 1964, Ser. No. 357,139
7 Claims. (Cl. 340—173.1)

A nondestructive read superconducting memory is described. Bit locations are defined in a continuous superconducting sheet by intersecting access conductors. Limited-amplitude pulses on the access conductors cause transient changes in persistent currents in the selected bit location. Only if the persistent currents are in a first direction does the field associated with that transient change add to the fields associated with the access pulses to drive resistive the adjacent portion of an associated superconducting sense conductor.

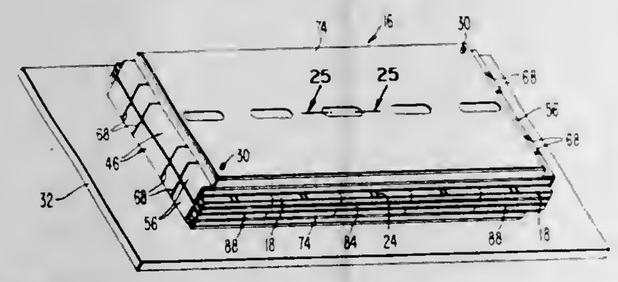


3,381,281
THIN FILM MAGNETIC STORAGE APPARATUS, METHOD AND ARTICLE OF MANUFACTURE

Frederic C. Doughty, Tredyffrin Township, and Palmer A. Hoffman, Ridley Park, Pa., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed June 8, 1964, Ser. No. 373,396

14 Claims. (Cl. 340—174)



1. The method of fabricating thin film memory plane apparatus comprising the steps of:

(a) providing an electrically insulating member with a plurality of electrical conductors disposed thereon in spaced apart, parallel relation including conductive means operably associated with each of said electrical conductors thereon for connecting the same to a source of signal potential,

(b) securing a copper clad dielectric member to said first mentioned member with the copper clad portion of the former exposed and in a manner such that the dielectric portion thereof is effectively immobilized relative to the first mentioned member thereby avoiding any shrinkage of the dielectric material when the copper is subsequently etched away therefrom,

(c) selectively etching only said copper clad member thereby to provide a plurality of electrical conductors thereon oriented at right angles to the conductors of said first electrically insulating member,

(d) securing an electrically insulating substrate bearing a pattern of magnetizable bits thereon effectively interleaved from obverse to reverse sides thereof in contact with the conductors of said copper clad dielectric member, and

(e) attaching an electrically insulating member carrying a plurality of electrical conductors to said substrate with the conductors thereof disposed in parallel relation relative to the conductors of said first mentioned insulating member and interconnecting the first mentioned conductors with the last mentioned conductors providing a memory plane of the foregoing elements.

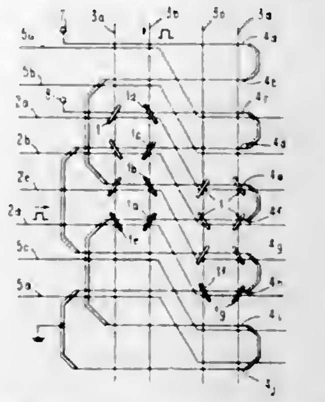
3,381,282
CORE MATRIX WINDING PATTERN

Robert J. Flaherty, Pleasant Valley, Herbert J. Hallstead and Robert L. Judge, Poughkeepsie, Raymond L. Vaudreuil, Wappingers Falls, and John W. Wyckoff, Poughkeepsie, N.Y., and Charles J. Schug, Winchester, Hants, England, assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Apr. 6, 1964, Ser. No. 375,683

(Filed under Rule 47(a) and 35 U.S.C. 116)

6 Claims. (Cl. 340—174)



This invention teaches a winding pattern that is useful with ferrite core memories that are wound according to U.S. Patent 3,314,131 which issued to R. L. Judge. In the method of Judge, two of the three sets of wires are wound in the same dimension of the core plane with the wires of one of these two sets offset at the midpoint of each row from one row to a different row. The offset is formed by first threading the wires in straight rows and then shifting one half of the core plane with respect to the other half.

This invention provides an interconnection of the wires of one of these two sets for canceling electrical noise when one set functions as a plurality of drive wires carrying half select currents and the other set functions as a sense-inhibit winding.

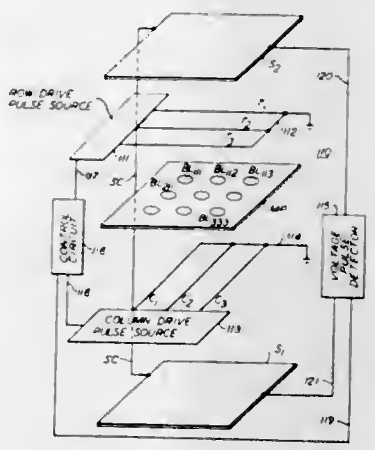
The winding pattern is also useful with manually wound core planes.

3,381,283
OPEN FLUX MEMORY WITH SENSING PLANE

Ernst M. Gyorgy, Morris Plains, and Fred B. Hagedorn, Berkeley Heights, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed May 20, 1964, Ser. No. 368,944

5 Claims. (Cl. 340—174)



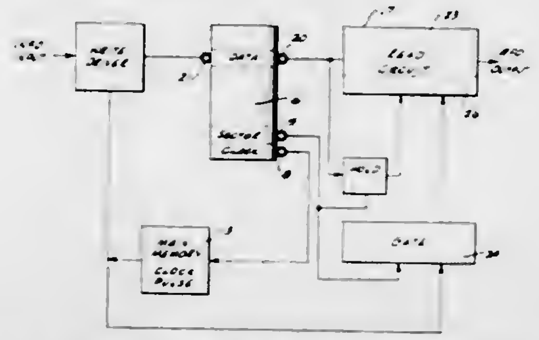
The sense line common to magnetic memories organized on a random access basis is replaced by a pair of conducting sense planes between which a detector is connected. The memory plane is positioned between the sense planes. When a bit location in the memory plane is switched, eddy currents are induced in the memory planes for detection.

3,381,284
DIGITAL MEMORY TIMING SYSTEM

Ray L. Riley, Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Nov. 16, 1964, Ser. No. 411,382

18 Claims. (Cl. 340—174.1)



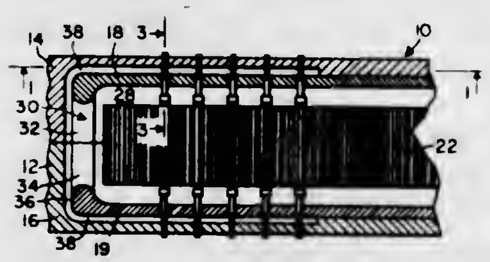
A digital circuitry including a rotatable magnetic drum memory, having a timing track, a sector track, and at least one data track. A variable phase shift circuit is coupled to receive clock pulses from the timing track and is responsive to the phase of preface pulses from the data track for periodically shifting the phase of the clock pulses into synchronism or phase with the data pulses on a word-by-word basis.

3,381,285
SERRATED RECORD DISC WITH INTERNALLY GENERATED AIR PRESSURE

David L. Wallen, Van Nuys, Calif., assignor to General Precision Systems Inc., a corporation of Delaware

Filed Mar. 17, 1965, Ser. No. 440,581

9 Claims. (Cl. 340—174.1)



A magnetic disc memory construction in which flying read/record heads are urged toward the recording surface of the disc by pneumatic pressure, created by the pumping action of the disc. The flying magnetic heads are supported by springs which urge them away from contact with the surface of the disc when the latter is rotating at less than operating speed.

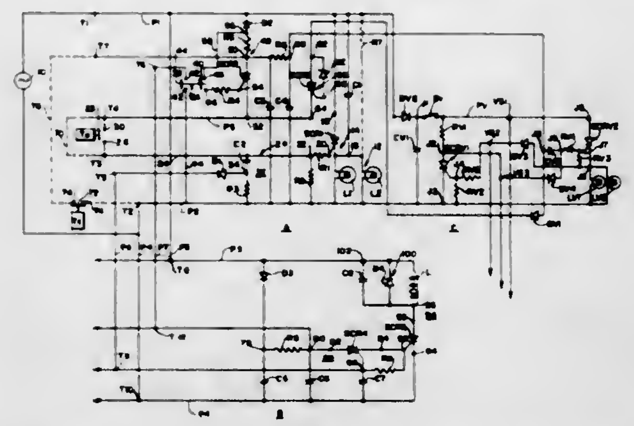
3,381,286
AUTOMATIC ALARM ANNUNCIATOR CIRCUITS

Robert R. Walsh, Wilmington, Del., assignor to All American Engineering Company, Wilmington, Del., a corporation of Delaware

Continuation-in-part of application Ser. No. 352,516, Mar. 17, 1964. This application June 18, 1964, Ser. No. 376,197

11 Claims. (Cl. 340—213.1)

1. In an alarm annunciator circuit including a power source, audible alarm means and conditions responsive transducer means, means for automatically energizing and selectively deenergizing said audible alarm means comprising relaxation oscillator means selectively connected with said power source and actuated by said transducer means, pulse generating means connected with said oscillator means and producing energy pulses in response to the energization of said oscillator means, trigger means actuated by said pulse generating means, semiconductor switch means energized by said trigger means and connected in series with said source and said audible alarm means, and acknowledge means selectively deenergizing said trigger means and thus deenergizing said semiconductor switch means, said relaxation oscillator comprising rectifier means connected with one side of said source, resistance means in series therewith, a silicon controlled rectifier having anode, cathode and gate terminals, said anode terminal being coupled with said resistance means, a load resistor connected in series with said cathode terminal and the other side of said source, said cathode terminal being further coupled with said semiconductor switch means, capacitance means connected from said anode terminal to the said other side of said source, and a Zener diode connected between said anode terminal and said gate terminal; and means providing a visual indication of the energization of said alarm annunciator circuit supplemental to said visual alarm means comprising visual indicator means, second semiconductor switch means selectively interconnecting said visual indicator means with said power source in response to energization of said relaxation oscillator means, and blocking means interconnected with said second semiconductor switch means adapted to be selectively energized to prevent actuation of said second semiconductor switch means and interconnection of said visual indicator means with said power source.

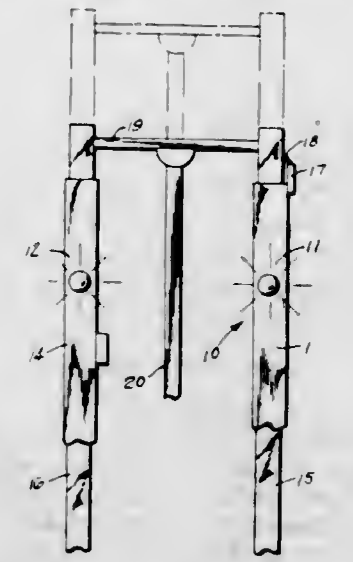


3,381,287
LIGHT FLASHER FOR FORK LIFT VEHICLES

John R. Curtis, Jr., 329 W. 22nd St., Chester, Pa. 19013

Filed Oct. 22, 1965, Ser. No. 501,844

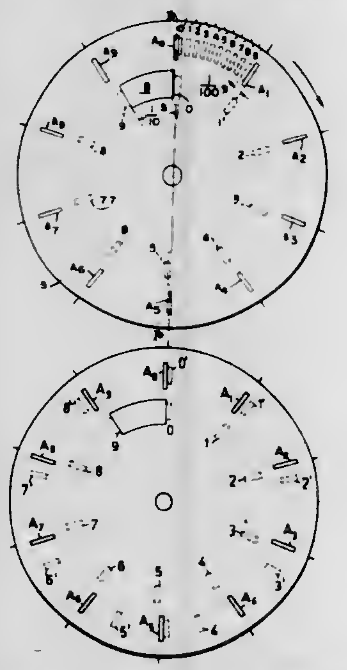
5 Claims. (Cl. 340—282)



1. A safety light flasher for fork lift vehicles comprising a plurality of signal lights, vertical outside channels upon

which said signal lights are mounted, vertical inside channels adapted to slidingly position said outside channels, and switch means arranged to activate said lights when the forks of the vehicle are in an elevated position.

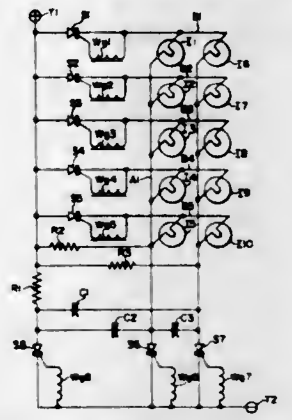
3,381,288
APPARATUS FOR THE REMOTE INDICATION OF THE POSITION OF A ROTARY SHAFT
Peter Hubertus Gerardus van Vlodrop, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 21, 1963, Ser. No. 266,917
Claims priority, application Netherlands, Mar. 23, 1962, 276,353
19 Claims. (Cl. 340—324)



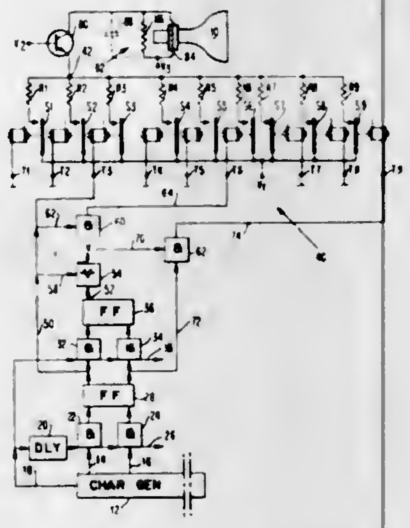
3. An optical shaft converter for indicating the rotary position of a shaft as a number comprising, a source of light, first and second groups of photoelectric elements uniformly spaced about a portion of the circumference of first and second coaxial circles of different radii, respectively, a disc interposed between said light source and said photoelectric elements and rotatable about a given axis in synchronism with said shaft, said disc having a single aperture located at a first radial distance from said axis in alignment with said first group of photoelectric elements and a plurality of other apertures arranged in a circle about said axis at a second radial distance therefrom in alignment with said second group of photoelectric elements, the photoelectric elements of said first and second groups being disposed relative to one another and to said apertured disc so that upon rotation of the disc through an angle equal to the angle subtended by two adjacent photoelectric elements of said first circle all of the photoelectric elements of said second group are successively illuminated by said light source, and visual display means comprising first and second groups of digit indicator elements individually coupled to said first and second groups of photoelectric elements, respectively, for indicating said shaft position as a plural digit number.

3,381,289
READ-OUT INDICATOR CIRCUITRY
Wayne E. Arnold, Franklin Township, Murrysville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 8, 1965, Ser. No. 462,358
9 Claims. (Cl. 340—324)

The present disclosure relates to an indicator system for displaying visual information. An indicator unit is provided including a plurality of display elements, which may comprise light bulbs, arranged in a matrix to be selectively energized and provide the desired visual display. Switching devices, such as controlled rectifiers, are included in the matrix to energize selectively the indicator elements of the indicator unit. Deenergization of the display elements is accomplished by the use of other switching devices and storage elements which selectively reverse bias the matrix switching devices to turn them off. A plurality of indicator units may be interconnected, with the particular indicator unit being selected by a matrixing network and the visual display elements of that unit being energized in accordance with the desired information to be displayed.

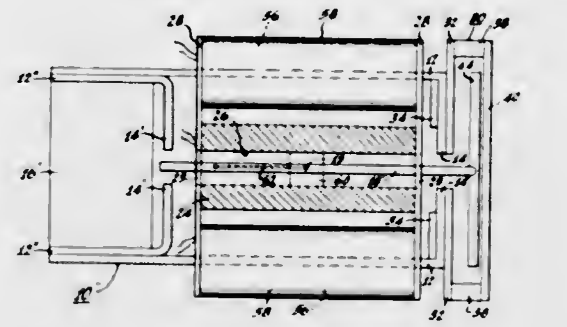


3,381,290
FUNCTION GENERATOR SYSTEM
Edward J. Breitenbach, Kingston, Ralph J. Gundrum, Red Hook, and Donald J. Hinkein, Germantown, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Oct. 2, 1964, Ser. No. 401,050
6 Claims. (Cl. 340—347)



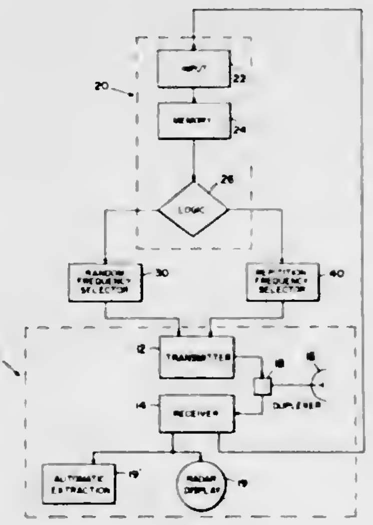
The disclosed apparatus provides overdrive signals which, in combination with a reactive load, provide linear ramps for use as deflection signals in a CRT. Each bit of an input digital data source is provided with a logic channel wherein the most recent data bit and the next preceding data bit are stored. The conditions of these storages are compared parallel by bit by Exclusive Or and AND circuitry to determine whether the present value for the bit position is the same or higher or lower than the preceding value for that position. A digital-to-analog decoder has three channels for each bit order each weighted in accoradnce with the value of that order. Of the three, one channel yields the absolute value of the present bit of that order; another provides a positive overdrive signal when the comparison circuitry indicates that there has been a positive-going transition in that order; the third provides a quiescent signal which is interrupted if the transition is negative-going. The outputs of the decoder channels are summed on an analog basis.

3,381,291
DISPLAY MODULE HAVING ELECTROMAGNETIC COIL SENSING OF ARMATURE POSITION
Elvin D. Simshauser, Tucson, Ariz., assignor to Radio Corporation of America, a corporation of Delaware
Filed Feb. 26, 1965, Ser. No. 435,656
5 Claims. (Cl. 340—373)



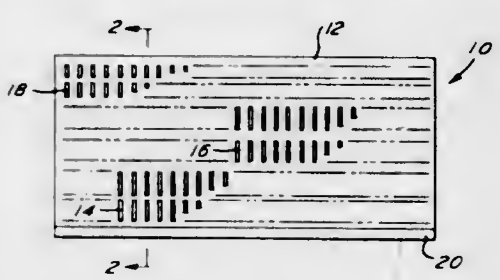
1. A magnetic device comprising:
- a pair of legs, each leg having a pole piece at the end thereof, said pole pieces being spaced,
- magnetic means for causing said pole pieces to be oppositely magnetized,
- an armature of magnetic material,
- means for mounting said armature so that it may assume either one of two positions of rest, said armature being in contact with one of said pole pieces in one of its positions of rest and being in contact with the other of said pole pieces in the other of its positions of rest, said armature being manually moveable from one position of rest to the other of said positions of rest,
- means for moving said armature from one position of rest to the other comprising a coil surrounding only said armature and means to cause current to flow through said coil in such a direction as to build up a flux in said armature that repels said armature from its contacting pole piece and attracts the armature to the other of said pole pieces, and
- means to sense the position of said armature comprising a coil surrounding at least one of said legs.

3,381,292
RADAR DETECTION SYSTEM
Vilhelm G. Hansen, Hillerod, Denmark, assignor to the United States of America as represented by the Secretary of the Army
Filed May 1, 1967, Ser. No. 635,968
2 Claims. (Cl. 343—17.5)



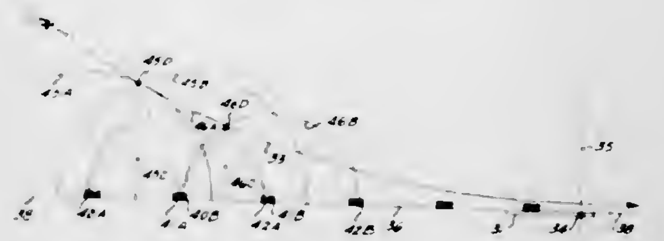
A system for increasing the detection range of frequency agile radars. A logical circuit and a frequency control circuit is provided in the system for controlling the transmitter frequency in accordance with the amplitude level of the radar return signals.

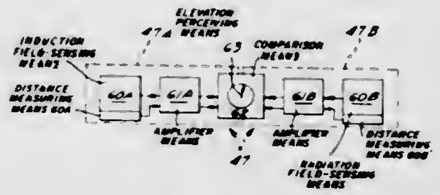
3,381,293
RADAR MARKERS
William B. Tarpley, Jr., West Chester, Pa., assignor to Aeroprojects Incorporated, West Chester, Pa., a corporation of Pennsylvania
Filed Aug. 24, 1966, Ser. No. 574,794
5 Claims. (Cl. 343—18)



A radar marker for free falling air deployment comprising a tab of flexible radar transparent material, a weight disposed at the bottom portion of the tab, and a plurality of radar reflective members disposed on the tab.

3,381,294
APPARATUS AND METHOD FOR PHYSICALLY DEFINING AN INSTRUMENT-PERCEPTIBLE SPACIAL LOCATION
R. W. Hodgson, Suite 6, 3406 W. Washington Blvd., Los Angeles, Calif. 90018
Continuation-in-part of application Ser. No. 183,856, Mar. 30, 1962. This application Sept. 2, 1965, Ser. No. 495,001
8 Claims. (Cl. 343—108)



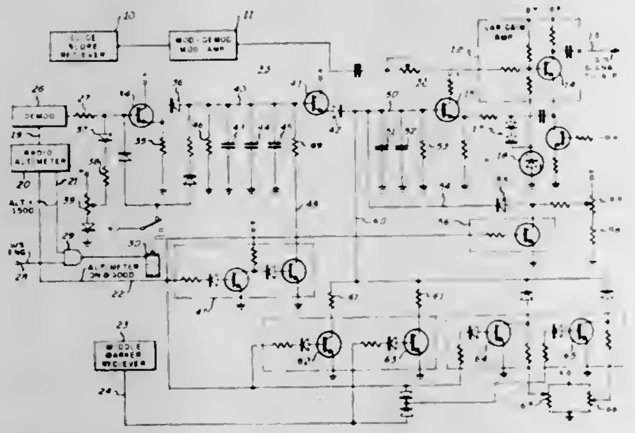


1. Apparatus for defining a spacial locus corresponding to an equation of the type Y equals a predetermined function of X relative to a reference center point of a coordinate frame of reference, said locus being defined by a plurality of different physical spacial locations along said locus, with the apparatus for defining an individual representative one of said physical locations along said locus comprising: means for producing in space a position-determining field which varies inversely in magnitude as a particular power of special displacement: means physically spaced a predetermined distance from said position-determining field producing means for producing a comparison reference standard field, the magnitude of said comparison reference standard field varying inversely in magnitude as one power less of spacial displacement than said position-determining field; instrument means remote from said reference center point and from both said field producing means for perceiving said position-determining field and said comparison reference standard field; and means connected to said perceiving instrument means for comparing the magnitudes of the two said fields when said perceiving instrument means is positioned

spaced in a predetermined correlated manner from each of the two said field producing means to indicate whether said perceiving instrument means is positioned at said one of said physical locations along said locus.

3,381,295
RADIO CONTROLLED GUIDANCE APPARATUS FOR AIRCRAFT HAVING RADIO SIGNAL GAIN PROGRAMING

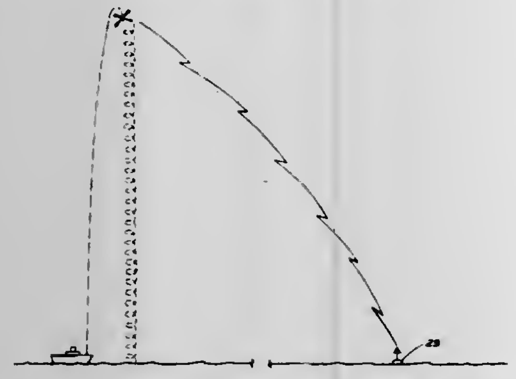
Vernon O. Blackledge, Phoenix, Ariz., assignor to Sperry Rand Corporation, a corporation of Delaware
Filed Mar. 17, 1967, Ser. No. 623,890
6 Claims. (Cl. 343—108)



Glide slope control apparatus for aircraft autopilots having gain programing for course softening purposes wherein the gain of the glide slope control signal is decreased in accordance with a signal proportional to radio attitude; but should the altitude signal fail, gain reduction continues but is based on time. The time program is achieved by controlled capacitance discharge which before altimeter failure, is "slaved" to the altitude signal. At the ILS "window" (altitude about 100 feet and within which the craft may continue the approach), the altitude controlled gain is sharply reduced so that it is substantially zero at the flare altitude (50 feet), while with time based gain programing, the gain is reduced at an increased rate when the craft is at the middle marker beacon. The radio altitude gain control signal is compensated for abnormal decreases or increases due to topography along the approach path by controlling, through suitably biased diode, capacitance discharge normally similarly "slaved" to the altitude signal.

3,381,296
RADIO APPARATUS AND METHOD FOR DETERMINING THE BEARING AND RANGE OF A REMOTE RADIO BEACON

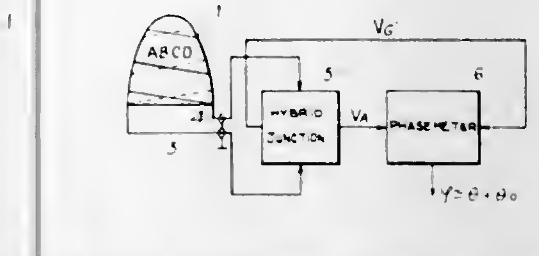
John D. McKenney, Pasadena, and James H. Hedberg, Garden Grove, Calif., assignors, by mesne assignments, to Aerojet-General Corporation, El Monte, Calif., a corporation of Ohio
Filed July 11, 1966, Ser. No. 565,029
5 Claims. (Cl. 343—112)



This disclosure describes a system, including a rocket-launched auto-gyrating radio repeater, which is capable of detecting radio signals from remote transmitter or beacon and retransmitting the signals to the launch station. The repeater includes a directional receiving antenna, an azimuth reference loop affixed to the autogyrating body, and an omnidirectional transmitting antenna. The repeater transmitter includes provisions for combining the incoming signal from the remote beacon with the azimuth loop signal. The receiving station includes means for detecting the phase difference between a null in the retransmitted signal and the azmiuth reference as an indication of bearing. The receiving station also includes means for determining the range of the beacon from the repeater as a function of the time interval between loss of retransmitted signal from the remote beacon (as it passes beyond the radio horizon) and the time of repeater transmission cessation (splash down).

3,381,297
WIDE-BAND GONIOMETER SYSTEM

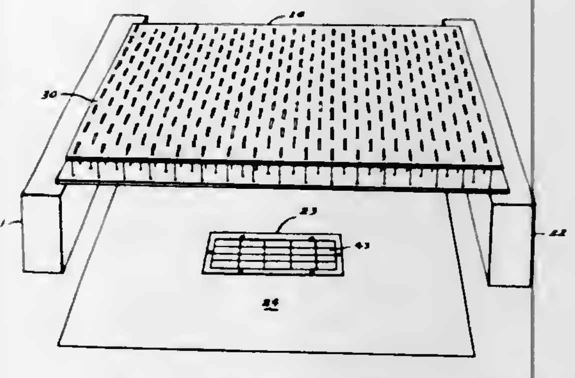
Siegfried Zisler and Gerard Dubost, Paris, France, assignors to CSF—Compagnie Generale de Telegraphie Sans Fil, a corporation of France
Filed Feb. 7, 1966, Ser. No. 525,507
Claims priority, application France, Feb. 11, 1965, 5,128
6 Claims. (Cl. 343—113)



A wide-band goniometer system for determining the angular position of a radiating source comprising: an antenna which comprises four elements wound in equi-angular spirals on a cone of revolution; an hybrid junction, which receives on its two inputs input voltages respectively equal to the difference between the voltages induced by the radiating source in two elements disposed at right angle and to the difference between the voltage induced in the two other elements, and which provides, on its two outputs, resultant voltages respectively equal to the sum and the difference of these input voltages; and phase measuring means for measuring the phase-shift between these resultant voltages.

3,381,298
HIGHLY DIRECTIVE ELECTRICALLY SMALL ANTENNA

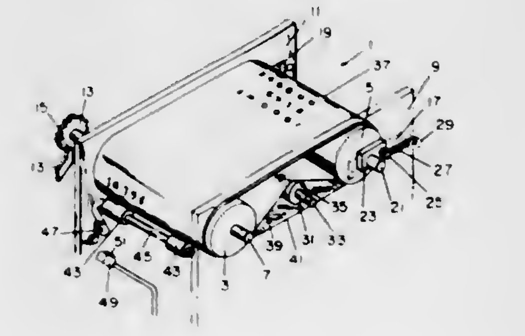
Stanley B. Pitts, Dayton, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force
Filed Dec. 23, 1965, Ser. No. 516,172
10 Claims. (Cl. 343—753)



1. A compact directional high-frequency antenna system for electromagnetic wavelengths in the VHF and UHF spectrum comprising: a first plurality of electrically conductive elements; means for positioning the said first plurality of electrically conductive elements to form a first surface of elements with each element in electrically insulated relationship; a second plurality of electrically conductive elements of essentially the same physical shape and numerically equal in number to the said first plurality of electrically conductive elements; means for positioning the said second plurality of electrically conductive elements to form a second surface of elements with each element in electrically insulated relationship, and with each element in the said second surface being in a position of normal projection of one-to-one correspondence with a corresponding element of the said first surface and each element of the said second surface being at an equal predetermined distance from the respective corresponding element of the said first surface; electrical means for connecting the ends of each of the said elements of the first surface with the corresponding end of the corresponding element of the said second surface; and means including a T-bar ferrite cavity cooperating with the said second surface of elements whereby the said first surface of elements has directional electromagnetic wave characteristics.

3,381,299
INFORMATION STORAGE DEVICE

Yow-Jiun Hu, 5831 Quantrell Ave., Apt. 401, Alexandria, Va. 22312
Filed June 13, 1966, Ser. No. 556,924
15 Claims. (Cl. 346—21)

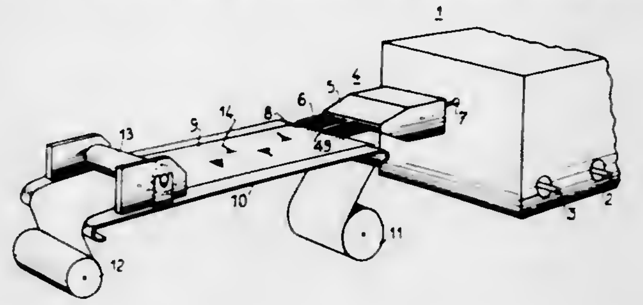


An information storage device comprising an endless wax coated band surrounded by an endless translucent band. The bands are moved together over spaced parallel rollers and under embossing members arranged to strike the translucent band and displace the wax coating to store the desired information. The information is removed by separating the bands.

3,381,300
CHART RECORDER FOR USE WITH METALLIZED PAPER

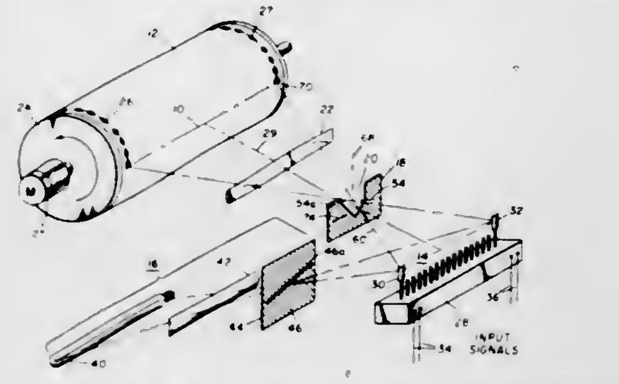
Jean Degonde and Henri Bailly, Paris, France, assignors to Thomson-Medical-Telco, Paris, France, a corporation of France
Filed July 18, 1966, Ser. No. 565,896
Claims priority, application France, July 20, 1965, 25,299
3 Claims. (Cl. 346—35)

A bank of metal styli bear transversely against a web of metallized paper; the styli are assigned increasing voltage level values and energized in accordance with such values so that the time during which the signal exceeds the given value, a line is formed on the travelling paper, the wave shape of the entire signal being given by the envelope of all the lines.



3,381,301
INCLINED LIGHT BAR OSCILLOGRAPHIC RECORDER

Jimmy C. Hanks, Irving, Tex., assignor to Mobil Oil Corporation, a corporation of New York
Filed Aug. 8, 1966, Ser. No. 571,105
9 Claims. (Cl. 346—109)



The specification discloses an oscillographic recorder for producing a series of double-sided variable area traces simultaneously. A row of mirror galvantometers is mounted parallel to a recording drum transporting a recording medium. A linear light source is so positioned to illuminate each galvanometer mirror that each mirror reflects a light beam whose cross-sectional shape includes a light bar inclined at an angle less than ninety degrees with respect to the axis of rotation of the galvanometers. A mask having a single nonsymmetrical tapering aperture is positioned in the light path between the galvanometer mirrors and the recording medium. In another embodiment, using two light beams, a wiggle trace recording is produced having partially shaded variable area.

3,381,302
FREEZE CONCENTRATION OF COFFEE EXTRACT

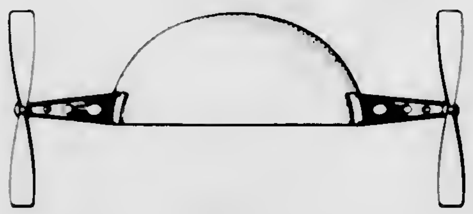
Richard G. Reimus and Anthony Saporito, Warren, Pa., assignors to Struthers Scientific and International Corporation
Filed Dec. 2, 1965, Ser. No. 511,173
3 Claims. (Cl. 99—71)

A process is described for the concentration of comestible liquids by partially freezing ice therefrom and separating the ice from the concentrated liquid. Prior to freezing the ice the liquid is chilled to a temperature no lower than about 32° F. which is near to, but substantially above, the freezing point and the liquid is prefiltered so that waxes and similar material are removed before the ice is formed.

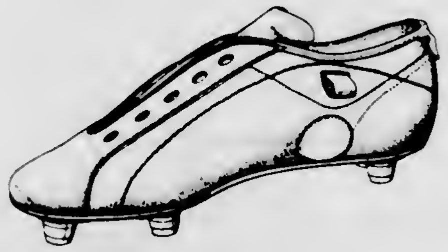
DESIGNS

APRIL 30, 1968

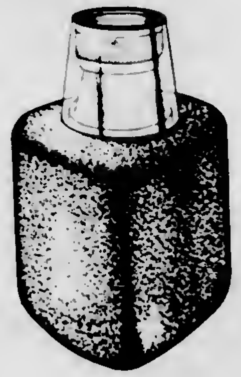
210,863
CHILD'S HAT
Nathan R. Strongin, 53—44 199th St., Flushing, N.Y. 11365
Filed Sept. 27, 1967, Ser. No. 8,754
Term of patent 14 years
(Cl. D2—251)



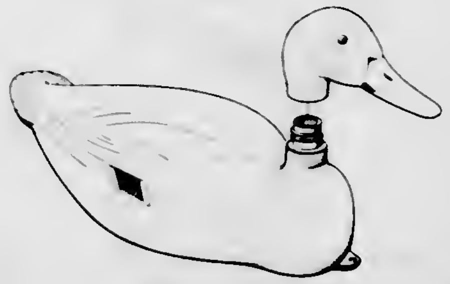
210,864
FOOTBALL SHOE
John Tusa, Horndon-on-the-Hill, England, assignor to The British Bata Shoe Company Limited, East Tilbury, Essex, England
Filed May 29, 1967, Ser. No. 7,288
Claims priority, application Great Britain Nov. 28, 1966
Term of patent 14 years
(Cl. D2—309)



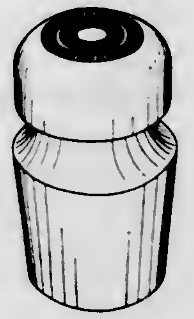
210,865
COMBINED BOTTLE AND MEASURING CUP
Jack Skolnik, New Rochelle, N.Y., and Robert H. Knies, Westport, Conn., assignors to Richardson-Merrell Inc., New York N.Y., a corporation of Delaware
Filed Mar. 14, 1967, Ser. No. 6,220
Term of patent 14 years
(Cl. D9—10)



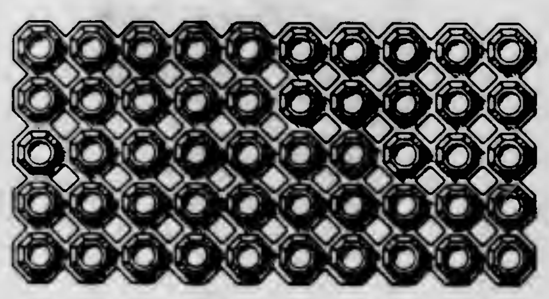
210,866
BOTTLE
Wilfred V. Wickham, 1448 Adelaide St., London, Ontario, Canada
Filed Mar. 6, 1967, Ser. No. 6,063
Term of patent 7 years
(Cl. D9—32)



210,867
BOTTLE
Yuriko Kuroda, Tokyo, Japan, assignor to Kabushiki Kaisha Kobayashi Kose, Tokyo, Japan
Filed Feb. 16, 1967, Ser. No. 5,839
Claims priority, application Japan Sept. 14, 1966
Term of patent 14 years
(Cl. D9—154)

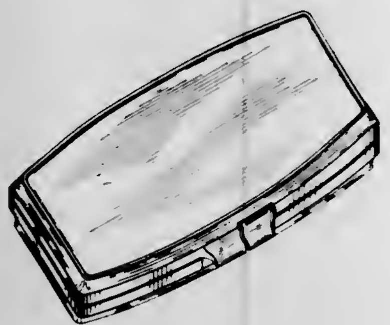


210,868
PACKAGING TRAY
William D. Stockdale, Arlington Heights, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Feb. 7, 1967, Ser. No. 5,714
Term of patent 14 years
(Cl. D9—187)



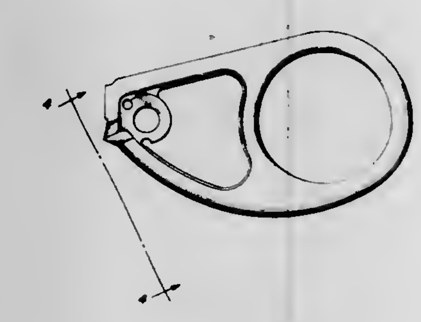
210,869
PLASTIC BOX

Thomas H. Hayes, Roanoke, Va., assignor to Creative Packaging Incorporated
Filed Nov. 30, 1966, Ser. No. 4,863
Term of patent 14 years
(Cl. D9—235)



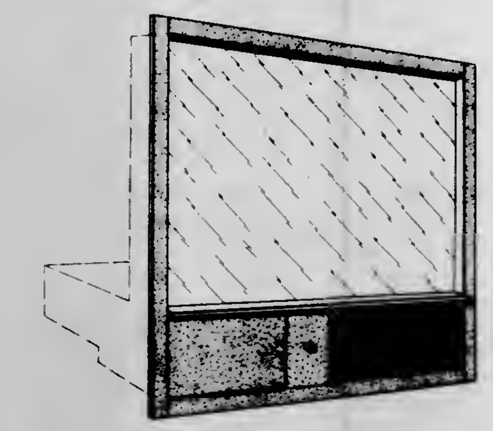
210,870
PULL TAB

Herman R. Markert, Hartsville, S.C., assignor to Sonoco Products Company, Hartsville, S.C., a corporation of South Carolina
Filed Oct. 25, 1967, Ser. No. 9,160
Term of patent 14 years
(Cl. D9—256)



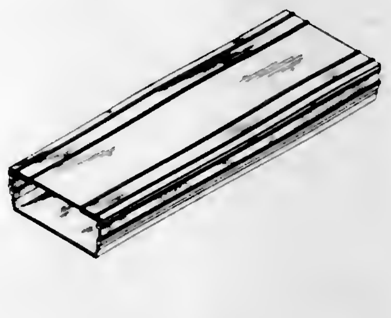
210,871
DRIVE-IN BANK TELLER'S WINDOW

George Payne, Bedford Hills, N.Y., and Nicholas L. Maus, Hamilton, Ohio, assignors to The Mosler Safe Company, Hamilton, Ohio, a corporation of New York
Filed Dec. 12, 1966, Ser. No. 4,985
Term of patent 14 years
(Cl. D13—1)



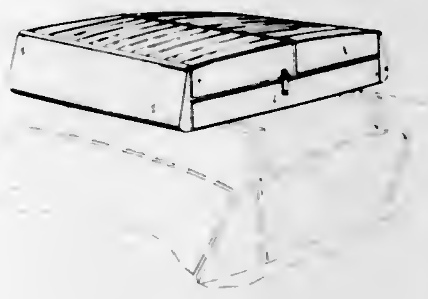
210,872
EXTRUDED STRUCTURAL MEMBER FOR A SIGN FRAME

Donald R. Marsh, Kansas City, Mo., assignor to The Carter-Waters Corp., Kansas City, Mo., a corporation of Missouri
Filed May 22, 1967, Ser. No. 7,549
Term of patent 14 years
(Cl. D13—6)



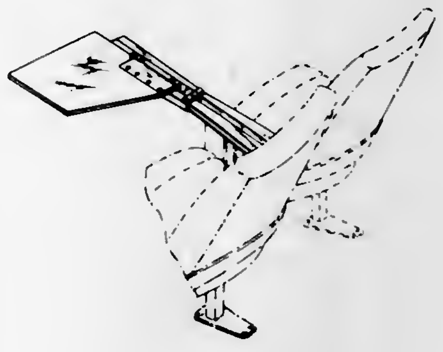
210,873
CARTOP CARRYING CASE

Earl C. Wallace, Andrews, Ind., assignor to General Engineering & Manufacturing Corporation, Andrews, Ind., a corporation of Indiana
Filed Nov. 14, 1967, Ser. No. 9,401
Term of patent 14 years
(Cl. D14—27)



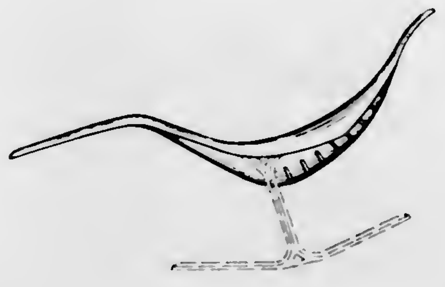
210,874
RETRACTABLE AND EXTENDABLE TABLET ARM FOR A CHAIR

John Wilberforce Noel Jordan, Sheerness, Kent, England, and James J. Chierchiaro, Easton, Pa., assignors to JG Furniture Company, Inc., New York, N.Y., a corporation of New York
Filed Oct. 28, 1966, Ser. No. 4,466
Term of patent 14 years
(Cl. D15—8)



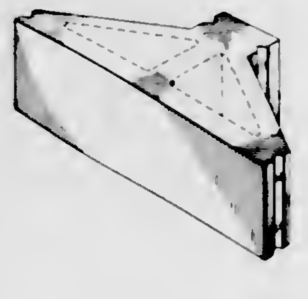
210,875
LOUNGE CHAIR

Terence Robert Stauber, 4465 Lincoln Ave., Oakland, Calif. 94602, and Donald L. Thatcher, 127 Somerset Road, Piedmont, Calif. 94611
Filed Apr. 21, 1967, Ser. No. 6,787
Term of patent 14 years
(Cl. D15—11)



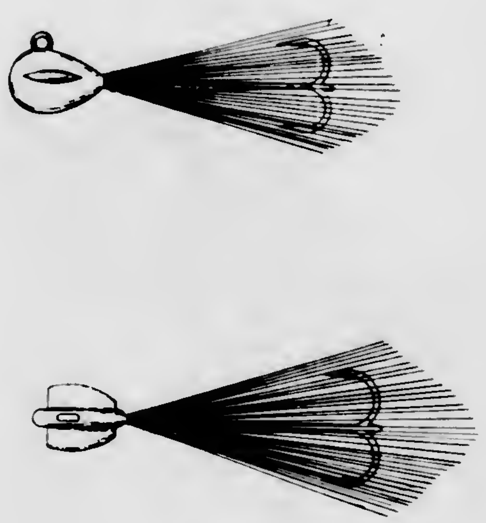
210,876
BUILDING BLOCK

Alfred Lawrence Kocher, 314 Burns Lane, Williamsburg, Va. 23185, and Ernest A. Wiedemann, 3215 Noble Ave., Richmond, Va. 23222
Filed Jan. 6, 1967, Ser. No. 5,336
Term of patent 14 years
(Cl. D18—2)



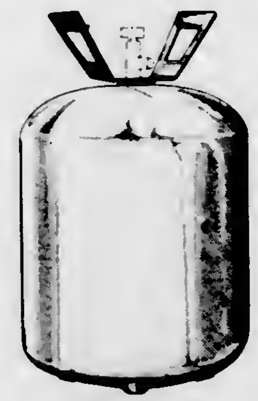
210,877
FISH LURE

Joseph L. Schneider, 2544 E. 21st St., Brooklyn, N.Y. 11235
Filed May 13, 1966, Ser. No. 2,291
Term of patent 14 years
(Cl. D22—28)



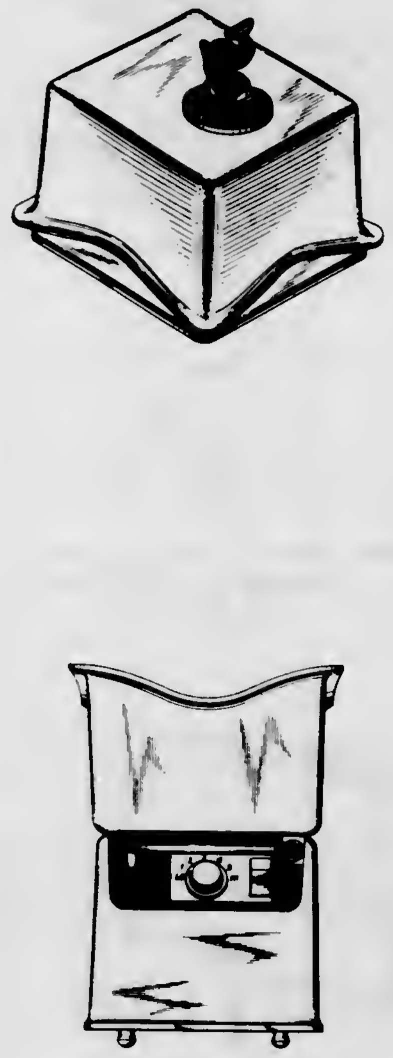
210,878
COMBINED REFRIGERANT CYLINDER AND CARRYING HANDLE THEREFOR

Robert B. Schaefer, Malvern, Pa., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Feb. 8, 1967, Ser. No. 5,733
Term of patent 14 years
(Cl. D23—2)



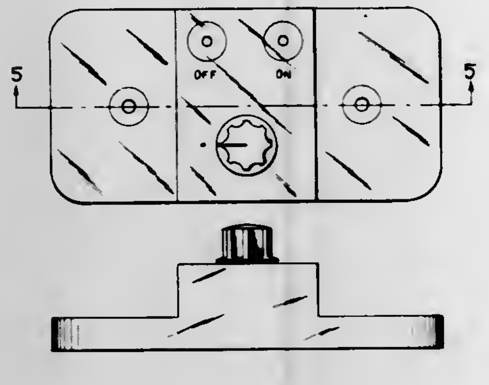
210,879
DENTAL JET CLEANSING UNIT OR THE LIKE

Robert N. Freedman, Great Neck, N.Y., assignor to Endura Appliance Corporation, Freeport, N.Y., a corporation of New York
Filed Mar. 28, 1967, Ser. No. 6,413
Term of patent 14 years
(Cl. D24—1)



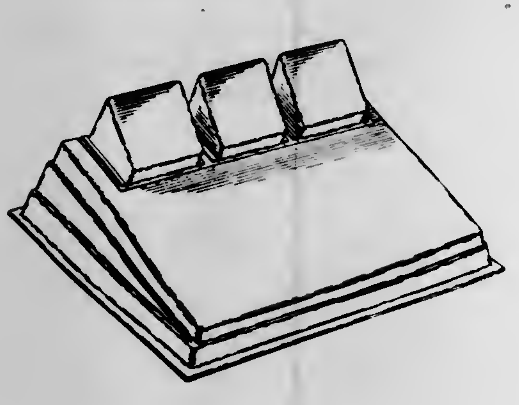
210,880
OUTPUT VOLTAGE CONTROL FOR A BATTERY

Sterling W. Backler, Rte. 1, Fredericktown, Mo. 63645
Filed June 22, 1967, Ser. No. 7,555
Term of patent 14 years
(Cl. D26—1)



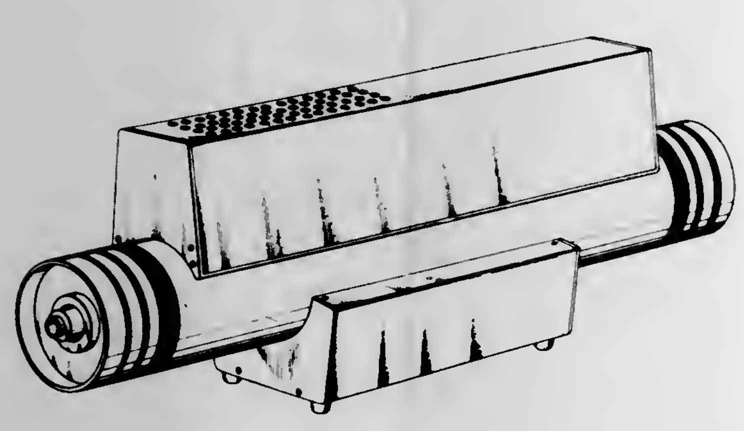
210,881
INSTRUMENT PANEL

Jean Meunier, Rouville, Quebec, Canada, assignor to Institut Teccart Inc., Montreal, Quebec, Canada
Filed Nov. 13, 1967, Ser. No. 9,376
Claims priority, application Canada May 18, 1967
Term of patent 7 years
(Cl. D26—1)



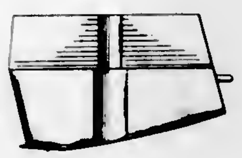
210,882
LASER

Ulf R. Helgesson, Woodland Hills, Calif., assignor to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Filed June 27, 1967, Ser. No. 7,614
Term of patent 14 years
(Cl. D26—14)



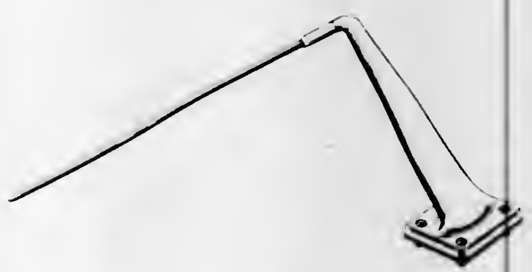
210,883
STEREO PHONOGRAPH CARTRIDGE

Kenkichi Tsukamoto, 47 Koyama-Shimofusa-machi, Kita-ku, Kyoto-shi, Japan
Continuation of design application Ser. No. 3,740, Sept. 6, 1966. This application Nov. 7, 1966, Ser. No. 5,123
Term of patent 14 years
(Cl. D26—14)



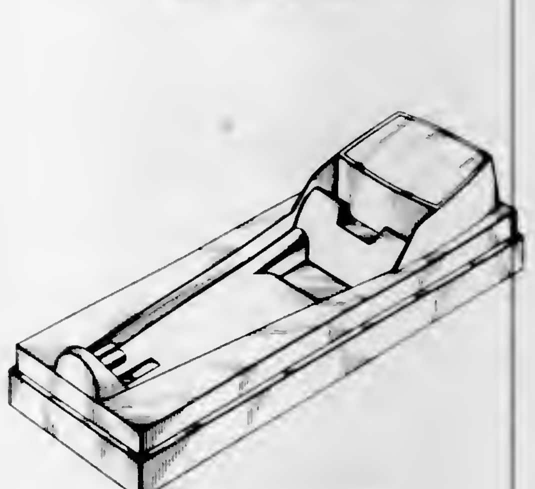
210,884
AIRCRAFT RADIO ANTENNA

William C. Rogers, 5365 NW. 36th St., Miami Springs, Fla. 33166
Filed May 5, 1967, Ser. No. 6,963
Term of patent 14 years
(Cl. D26—14)



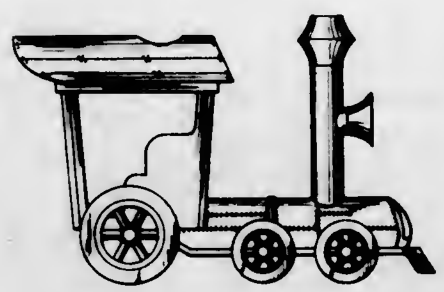
210,885
SHAVER CHARGING STAND

David Eberhart, Bound Brook, N.J., assignor to Ronson Corporation, Woodbridge, N.J., a corporation of New Jersey
Filed July 20, 1967, Ser. No. 7,906
Term of patent 14 years
(Cl. D26—15)



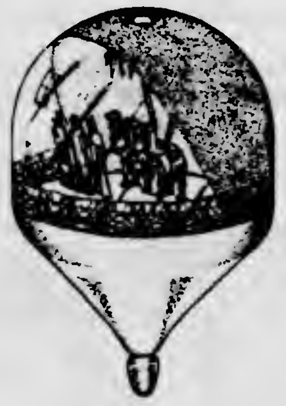
210,886
COMBINED CANDLEHOLDER AND CHRISTMAS TREE ORNAMENT

Dario Moranduzzo, Via Aretina 161, Florence, Italy
Filed Sept. 22, 1966, Ser. No. 3,963
Term of patent 14 years
(Cl. D29—1)



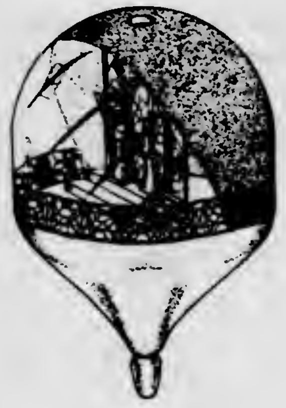
210,887
CHRISTMAS ORNAMENT OR THE LIKE

Dario Moranduzzo, Via Aretina 161, Florence, Italy
Filed Sept. 22, 1966, Ser. No. 3,977
Term of patent 14 years
(Cl. D29—1)



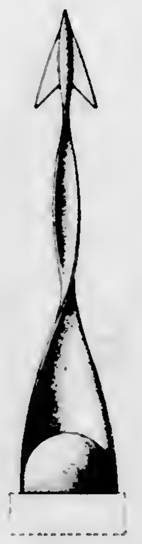
210,888
CHRISTMAS ORNAMENT OR THE LIKE

Dario Moranduzzo, Via Aretina 161, Florence, Italy
Filed Sept. 22, 1966, Ser. No. 3,987
Term of patent 14 years
(Cl. D29—1)



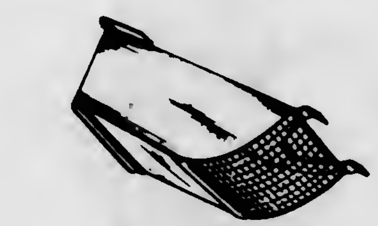
210,889
TROPHY

Nicholas J. de Angelis, New York, N.Y., assignor to National Aviation Club, Washington, D.C., a corporation of the District of Columbia
Filed Sept. 5, 1967, Ser. No. 8,491
Term of patent 14 years
(Cl. D29—28)



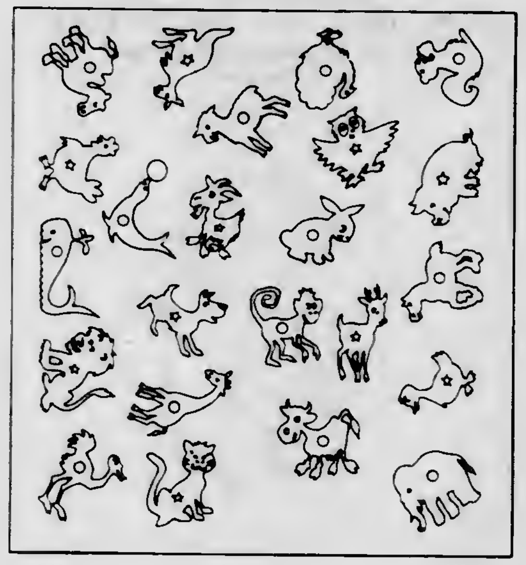
210,890
SELF-CLEANING PELLET FEEDER

Jack A. Smith, 3005 Zinnia Court, Golden, Colo. 80401
Filed June 22, 1967, Ser. No. 7,565
Term of patent 14 years
(Cl. D30—15)



210,891
GAME BOARD

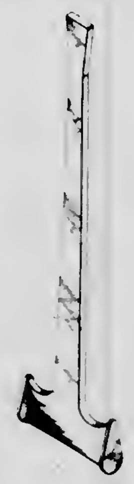
Charles F. Foley, Minneapolis, and Charles D. McCarthy, Deephaven, Minn., assignors to Milton Bradley Company, Springfield, Mass., a corporation of Massachusetts
Filed Sept. 15, 1967, Ser. No. 8,610
Term of patent 14 years
(Cl. D34—5)



210,892

PUSHER FOR ROLLING HOOP TOY

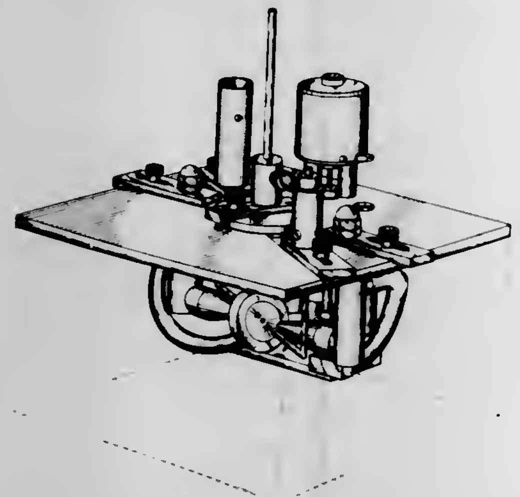
Kenneth J. Redhair, 5712 Beech Ave.,
Orangevale, Calif. 95662
Filed Oct. 18, 1967, Ser. No. 9,056
Term of patent 14 years
(Cl. D34—5)



210,893

ELECTROPOLISHER

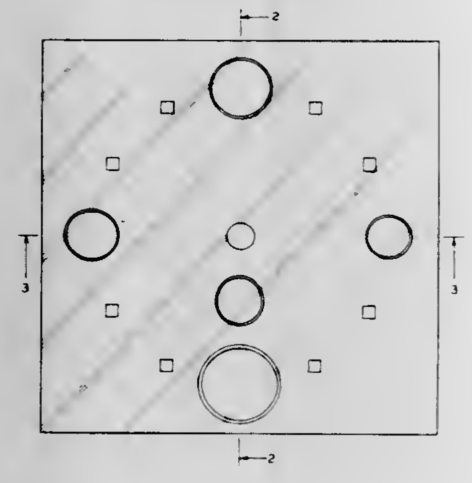
Eugene A. Fischione, 7925 Thon Drive,
Verona, Pa. 15147
Filed Feb. 14, 1967, Ser. No. 5,804
Term of patent 14 years
(Cl. D37—1)



210,894

CLOCK FACE

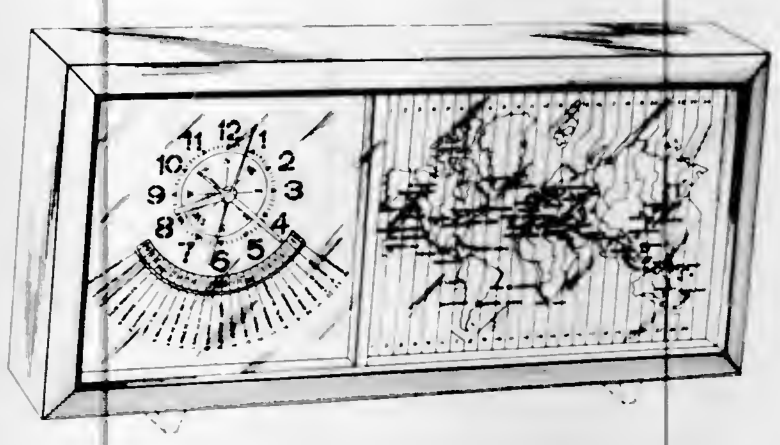
Marion K. Summers, Commerce St.,
Brownstown, Ind. 47220
Filed June 2, 1966, Ser. No. 2,511
Term of patent 14 years
(Cl. D42—7)



210,895

CLOCK OR SIMILAR ARTICLE

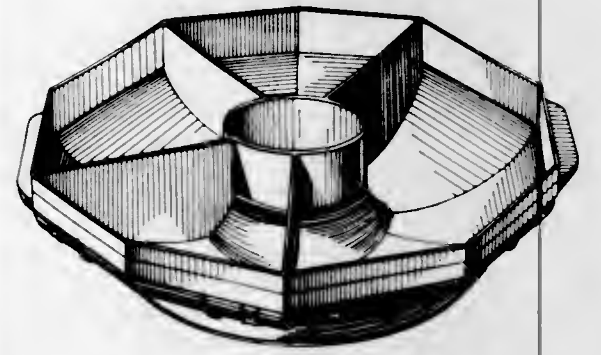
Theodore G. Daher, Stratford, and William V. Judson, Westport, Conn., assignors to General Electric Company, a corporation of New York
Filed Apr. 20, 1967, Ser. No. 6,765
Term of patent 14 years
(Cl. D42—7)



210,896

LAZY SUSAN

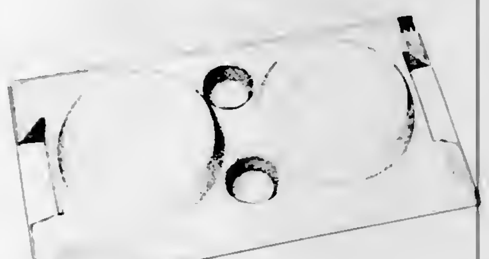
Edward E. Heck, Berwyn, Ill., assignor to Republic Molding Corporation, Niles, Ill., a corporation of Illinois
Filed May 15, 1967, Ser. No. 7,110
Term of patent 14 years
(Cl. D44—10)



210,897

CUP SUPPORTING TRAY

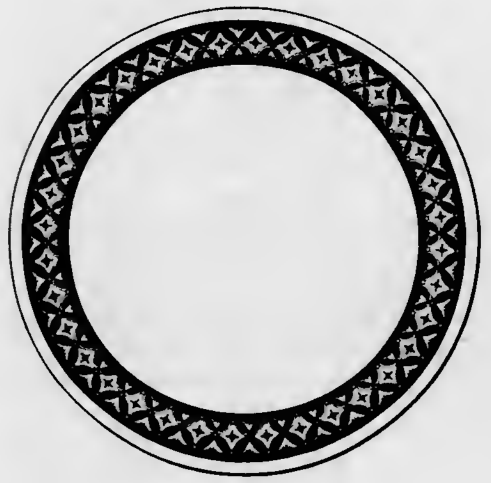
Leonard R. Anglada, Arlington Heights, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed June 1, 1967, Ser. No. 7,325
Term of patent 14 years
(Cl. D44—10)



210,898

PLATE OR SIMILAR ARTICLE

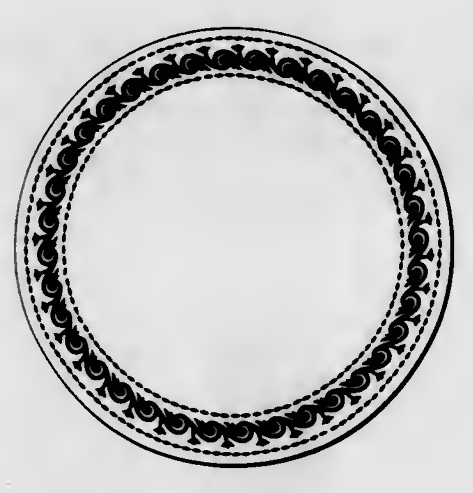
Ottorino N. Mercadante, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Oct. 2, 1967, Ser. No. 8,823
Term of patent 14 years
(Cl. D44—15)



210,899

PLATE OR THE LIKE

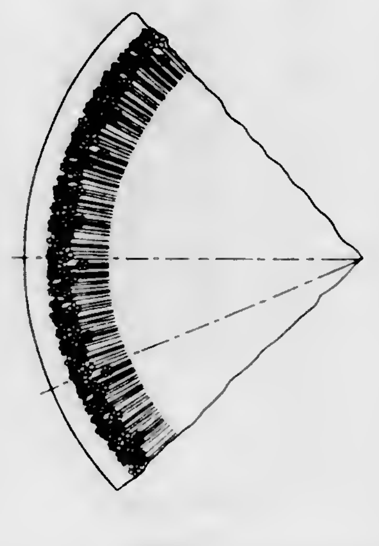
Ottorino N. Mercadante, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Oct. 2, 1967, Ser. No. 8,835
Term of patent 14 years
(Cl. D44—15)



210,900

PLATE

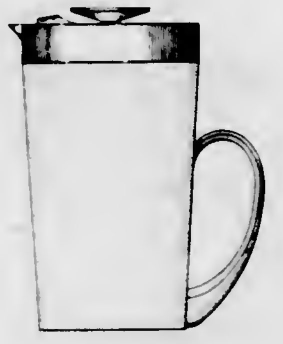
Sara L. Balbach, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Oct. 3, 1967, Ser. No. 8,839
Term of patent 14 years
(Cl. D44—15)



210,901

PITCHER

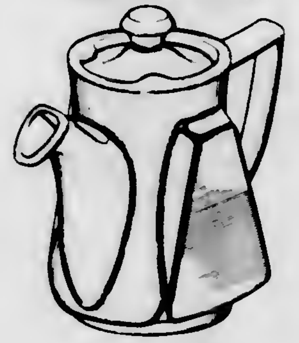
David Douglas, 1119 Lincoln Blvd.,
Manitowoc, Wis. 54220
Filed July 17, 1967, Ser. No. 7,832
Term of patent 14 years
(Cl. D44—21)



210,902

TEAPOT

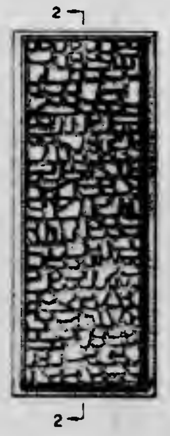
James M. Burden, 6256 N. Willard Ave.,
San Gabriel, Calif. 91775
Filed Oct. 11, 1967, Ser. No. 8,961
Term of patent 14 years
(Cl. D44—26)



210,903

LIGHT DIFFUSER FOR LUMINAIRES

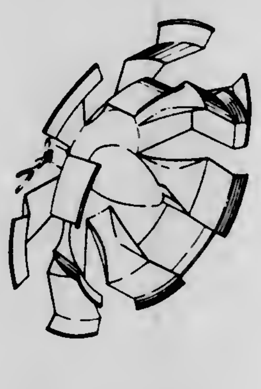
John Dalton, Jr., Wheeling, W. Va., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Dec. 8, 1965, Ser. No. 113
Term of patent 14 years
(Cl. D48—16)



210,904

CHRISTMAS LIGHT REFLECTOR

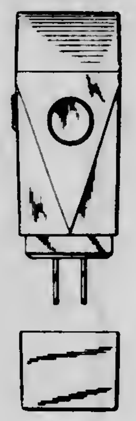
Wayne B. Callahan, 16416 S. Bradfield, Compton, Calif. 90221
Filed May 25, 1966, Ser. No. 2,435
Term of patent 14 years
(Cl. D48—16)



210,905

RECHARGEABLE FLASHLIGHT

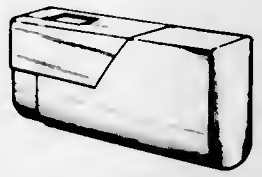
Robert D. Kahn, Rockville Centre, N.Y., assignor to Fedtro, Inc., Rockville Centre, N.Y., a corporation of New York
Filed May 22, 1967, Ser. No. 7,205
Term of patent 14 years
(Cl. D48—24)



210,906

LIGHTER

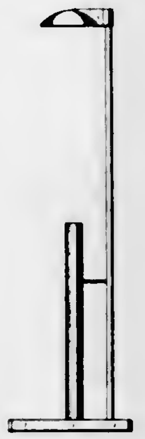
Teruo Sakabe, Tokyo-to, Japan, assignor to Kabushiki Kaisha Crown Sangyo, Tokyo-to, Japan
Filed May 17, 1967, Ser. No. 7,158
Claims priority, application Japan Nov. 26, 1966
Term of patent 14 years
(Cl. D48—27)



210,907

OUTDOOR INDIRECT STREET LAMP

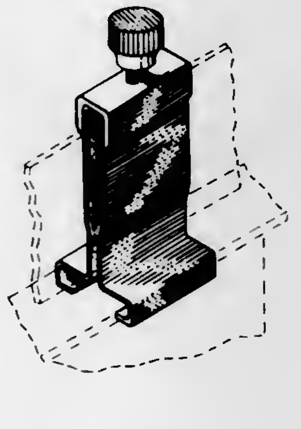
Luis F. Villa, 1727 Moravian St., Philadelphia, Pa. 19103
Continuation of design applications Ser. No. 3,042, July 12, 1966; and Ser. No. 4,949, and Ser. No. 4,957, Dec. 7, 1966. This application June 2, 1967, Ser. No. 7,719
Term of patent 14 years
(Cl. D48—31)



210,908

SQUARE HOLDER CLAMP FOR LEVEL OR STRAIGHTEDGE

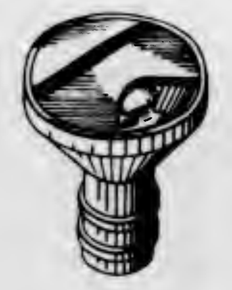
George Dewey Manville, Rte. 1, Box 526–b, 35520 Oak Glen Road, Yucaipa, Calif. 92399
Filed May 4, 1967, Ser. No. 6,973
Term of patent 14 years
(Cl. D54—1)



210,909

POOL COVER ANCHOR

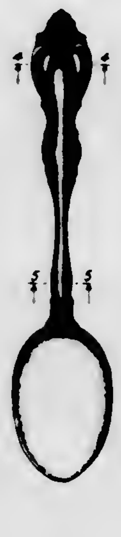
Henry A. Patnaude, 831 Los Molinos Way, Sacramento, Calif. 95825
Filed Aug. 17, 1967, Ser. No. 8,310
Term of patent 14 years
(Cl. D54—11)



210,910

SPOON OR SIMILAR ARTICLE

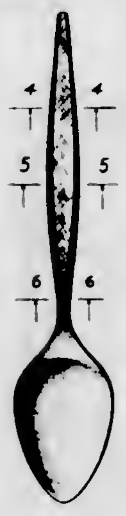
Frank R. Perry, Oneida, N.Y., assignor to Oneida Ltd., Oneida, N.Y., a corporation of New York
Filed Apr. 4, 1967, Ser. No. 6,514
Term of patent 14 years
(Cl. D54—12)



210,911

SPOON OR SIMILAR ARTICLE

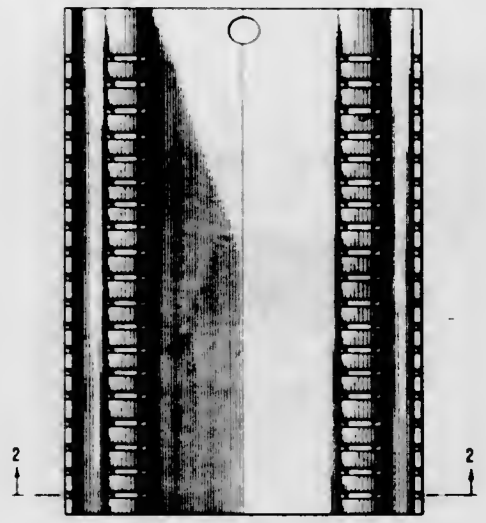
Melvin A. Lea, Oneida, N.Y., assignor to Oneida Ltd., Oneida, N.Y., a corporation of New York
Filed Sept. 26, 1967, Ser. No. 8,734
Term of patent 14 years
(Cl. D54—12)



210,912

TRANSIT RACK FOR CIRCUIT BOARDS OR SIMILAR ARTICLE

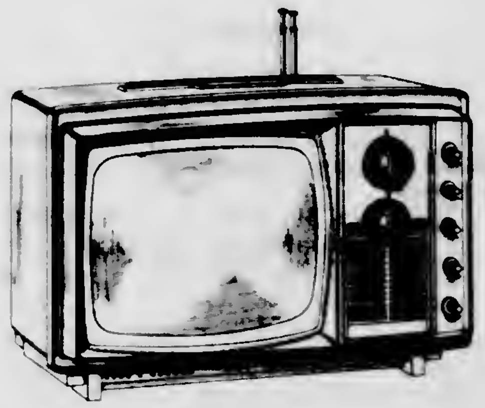
Warren G. Abbott, P.O. Box 261, Groton, Mass. 01450
Filed Aug. 17, 1967, Ser. No. 8,305
Term of patent 14 years
(Cl. D55—1)



210,913

PORTABLE TELEVISION RECEIVER

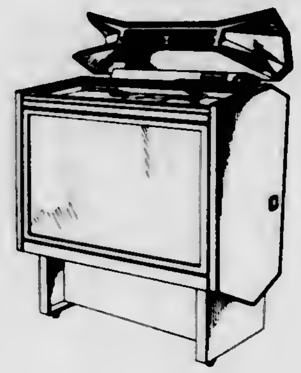
Richard E. Lee, Cazenovia, and Frank M. Grunwald, North Syracuse, N.Y., assignors to General Electric Company, a corporation of New York
Filed Mar. 31, 1966, Ser. No. 1,708
Term of patent 14 years
(Cl. D56—4)



210,914

PHONOGRAPH CABINET

Melvin H. Boldt, Glenview, Ill., assignor to Canteen Corporation, Chicago, Ill., a corporation of Delaware
Filed June 30, 1967, Ser. No. 7,660
Term of patent 14 years
(Cl. D56—4)



210,915

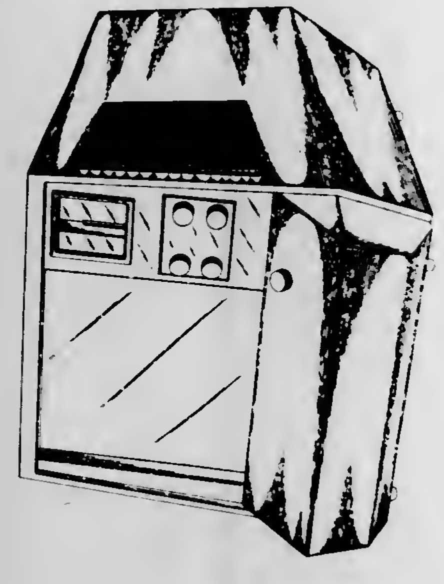
PROJECTION READER

Kenneth W. Scott, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Jan. 30, 1967, Ser. No. 5,597

Term of patent 14 years

(Cl. D61—1)



210,916

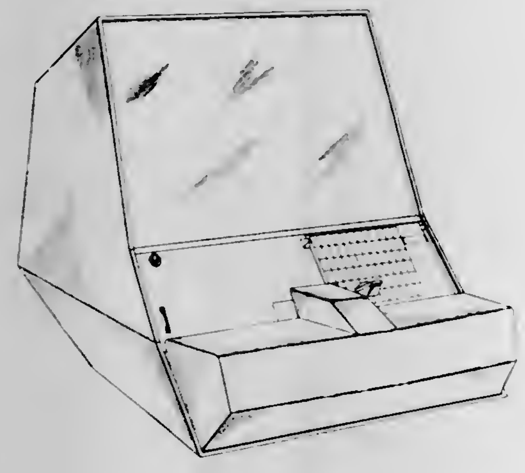
PROJECTION VIEWER

Kenneth W. Scott, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Jan. 30, 1967, Ser. No. 5,598

Term of patent 14 years

(Cl. D61—1)



210,917

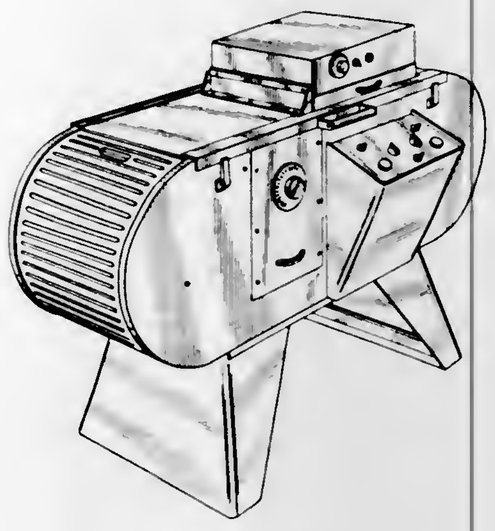
AUTOMATIC CONTACT PRINTER

Karl J. Kallenberg, Minneapolis, Minn., assignor to Prestige Photo Products, Inc., Minneapolis, Minn., a corporation of Minnesota

Filed Mar. 6, 1967, Ser. No. 6,086

Term of patent 14 years

(Cl. D61—1)



210,918

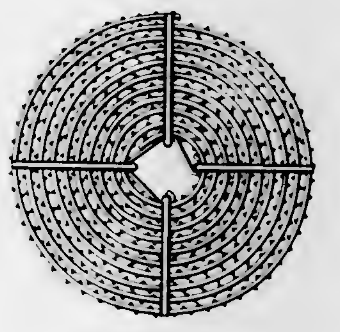
FILM REEL

Hinsdale Smith, Jr., 731 Latham Lane, Suffield, Conn. 06078

Filed Mar. 20, 1967, Ser. No. 6,306

Term of patent 14 years

(Cl. D61—1)



210,919

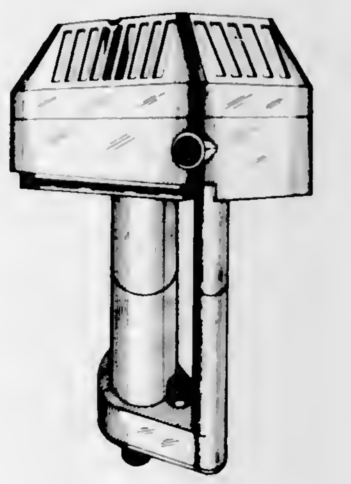
WATER PUMP OR SIMILAR DEVICE

Eugene G. Danner, 9122 71st Road, Forest Hills, N.Y. 11375

Filed Oct. 25, 1967, Ser. No. 9,166

Term of patent 14 years

(Cl. D65—1)



210,920

COMBINATION INTERNAL COMBUSTION ENGINE AND GEAR BOX UNIT

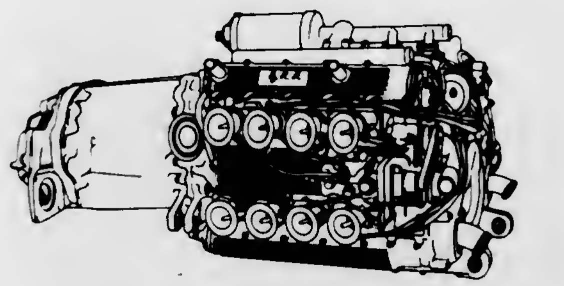
Peter Robert Anelli, Darlaston, England, assignor to Rubery, Owen & Company Limited, Darlaston, England, a British company

Filed Sept. 26, 1966, Ser. No. 4,027

Claims priority, application Great Britain Mar. 24, 1966

Term of patent 3½ years

(Cl. D77—1)



210,921

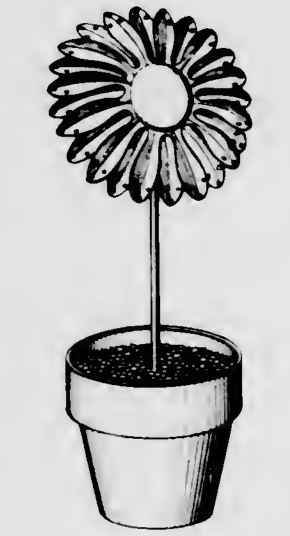
JEWELRY DISPLAY STAND

Philip E. Downs, East Greenwich, R.I., assignor to Coro, Inc., Providence, R.I., a corporation of Rhode Island

Filed Sept. 11, 1967, Ser. No. 8,535

Term of patent 14 years

(Cl. D80—9)



210,922

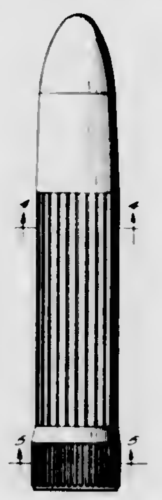
CORDLESS VIBRATING MASSAGER

Jon H. Tavel, Encino, Calif., assignor to Vibrex Corporation, Woodland Hills, Calif., a corporation of California

Filed June 30, 1966, Ser. No. 2,878

Term of patent 14 years

(Cl. D83—1)



210,923

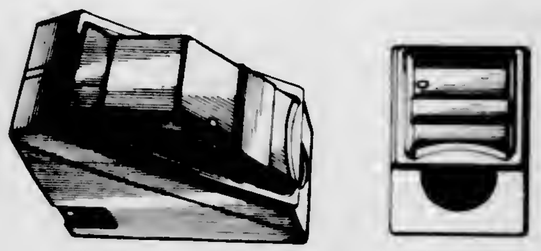
STEAM CABINET

Bernardo Ragone, Rosedale, N.Y., assignor to T. J. Thomas Co., Inc., Brooklyn, N.Y.

Filed Oct. 2, 1967, Ser. No. 8,826

Term of patent 14 years

(Cl. D83—1)



210,924

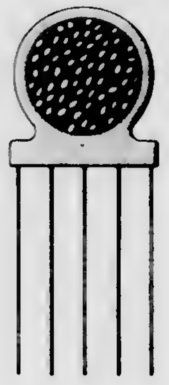
COMB WITH LONG PRONGS

Sheldon Siegel, 1885 NE. 121st St., North Miami, Fla. 33161

Filed July 24, 1967, Ser. No. 7,957

Term of patent 14 years

(Cl. D86—8)



210,925

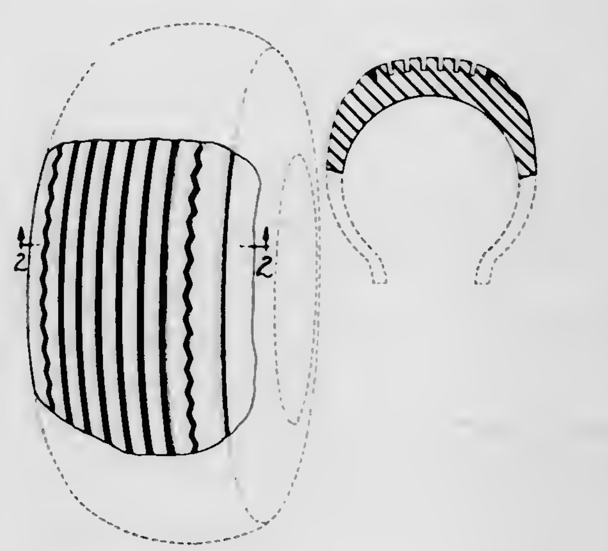
TIRE

Raymond P. Hawkinson, Minneapolis, Minn., assignor to Paul E. Hawkinson Company, Minneapolis, Minn., a corporation of Minnesota

Filed May 9, 1966, Ser. No. 2,232

Term of patent 14 years

(Cl. D90—20)



LIST OF PLANT PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 30TH DAY OF APRIL, 1968

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Boerner, Eugene S., deceased, by Lincoln Rochester Trust Co., and R. L. Boerner, to Jackson & Perkins Co. Rose plant. 2,809, 4–30–68, Cl. 24.
Boerner, Roger L.: *See*—
  Boerner, Eugene S. 2,809.
Jackson & Perkins Co.: *See*—
  Boerner, Eugene S. 2,809.
  Kordes, Reimer. 2,810.
Kordes, Reimer, to Jackson & Perkins Co. Rose plant. 2,810, 4–30–68, Cl. 20.
Lincoln Rochester Trust Co.: *See*—
  Boerner, Eugene S. 2,809.

LIST OF DESIGN PATENTEES

Abbott, Warren G. Transit rath for circuit boards or similar article. 210,912, 4–30–68, Cl. D55—1.
Anelli, Peter R., to Rubery, Owen & Co. Ltd. Combination internal combustion engine and gear box unit. 210,920, 4–30–68, Cl. D77—1.
Anglada, Leonard R., to Illinois Tool Works Inc. Cup supporting tray. 210,897, 4–30–68, Cl. D44—10.
Backler, Sterling W. Output voltage control for a battery. 210,880 4–30–68, Cl. D26—1.
Balbach, Sara L., to Corning Glass Works. Plate. 210,900, 4–30–68, Cl. D44—15.
Boldt, Melvin H., to Canteen Corp. Phonograph cabinet. 210,914, 4–30–68, Cl. D56—4.
Bradley, Milton Co.: *See*—
  Foley, Charles F., and McCarthy. 210,891.
British Bata Shoe Co. Ltd., The: *See*—
  Tusa, John. 210,864.
Burden, James M. Teapot. 210,902, 4–30–68, Cl. D44—26.
Callahan, Wayne B. Christmas light reflector. 210,904, 4–30–68, Cl. D48—16.
Canteen Corp.: *See*—
  Boldt, Melvin H. 210,914.
Carter-Waters Corp., The: *See*—
  Marsh, Donald R. 210,872.
Chierchiaro, James J.: *See*—
  Jordan, John W. N., and Chierchiaro. 210,874.
Corning Glass Works: *See*—
  Balbach, Sara L. 210,900.
  Mercadante, Ottorino N. 210,898.
  Mercadante, Ottorino N. 210,899.
Coro, Inc.: *See*—
  Downs, Philip E. 210,921.
Creative Packaging Inc.: *See*—
  Hayes, Thomas H. 210,869.
Daher, Theodore G., and W. V. Judson, to General Electric Co. Clock or similar article. 210,895, 4–30–68, Cl. D42—7.
Dalton, John, Jr., to Sylvania Electric Products Inc. Light diffuser for luminaires. 210,903, 4–30–68, Cl. D48—16.
Danner, Eugene G. Water pump or similar device. 210,919, 4–30–68, Cl. D65—1.
De Angelis, Nicholas J., to National Aviation Club. Trophy. 210,889, 4–30–68, Cl. D29—28.
Douglas, David. Pitcher. 210,901, 4–30–68. Cl. D44—21.
Downs, Philip E., to Coro, Inc. Jewelry display stand. 210,921, 4–30–68, Cl. D80—9.
Eastman Kodak Co.: *See*—
  Scott, Kenneth W. 210,915.
  Scott, Kenneth W. 210,916.
Eberhart, David, to Ronson Corp. Shaver charging stand. 210,885, 4–30–68, Cl. D26—15.
Endura Appliance Corp.: *See*—
  Freedman, Robert N. 210,879.
Fedtro, Inc.: *See*—
  Kahn, Robert D. 210,905.
Fischione, Eugene A. Electropolisher. 210,893, 4–30–68, Cl. D37—1.
Foley, Charles F., and C. D. McCarthy, to Milton Bradley Co. Game board. 210,891, 4–30–68, Cl. D34—5.
Freedman, Robert N., to Endura Appliance Corp. Dental jet cleansing unit or the like. 210,879, 4–30–68, Cl. D24—1.
General Electric Co.: *See*—
  Daher, Theodore G., and Judson. 210,895.
  Lee, Richard E., and Grunwald. 210,913.
General Engineering & Mfg. Corp.: *See*—
  Wallace, Earl C. 210,873.
Grunwald Frank M.: *See*—
  Lee, Richard E., and Grunwald. 210,913.
Hawkinson, Paul E., Co.: *See*—
  Hawkinson, Raymond P. 210,925.
Hawkinson, Raymond P., to Paul E. Hawkinson Co. Tire. 210,925, 4–30–68, Cl. D90—20.
Hayes, Thomas H., to Creative Packaging Inc. Plastic box. 210,869, 4–30–68, Cl. D9—235.
Heck, Edward E., to Republic Molding Corp. Lazy susan. 210,896, 4–30–68, Cl. D44—10.
Helgesson, Ulf R., to TRW Inc. Laser. 210,882, 4–30–68, Cl. D26—14.
Illinois Tool Works Inc.: *See*—
  Anglada, Leonard R. 210,897.
  Stockdale, William D. 210,868.
Institut Teccart Inc.: *See*—
  Meunier, Jean. 210,881.
JG Furniture Co., Inc.: *See*—
  Jordan, John W. N., and Chierchiaro. 210,874.
Jordan, John W. N., and J. J. Chierchiaro, to JG Furniture Co., Inc. Retractable and extendable tablet arm for a chair. 210,874, 4–30–68, Cl. D15—8.
Judson, William V.: *See*—
  Daher, Theodore G., and Judson. 210,895.
Kabushi Kaisha Kobayashi Kose: *See*—
  Kuroda, Yuriko. 210,867.
Kabushiki Kaisha Crown Sangyo: *See*—
  Sakabe, Teruo. 210,906.
Kahn, Robert D., to Fedtro, Inc. Rechargeable flashlight. 210,905, 4–30–68, Cl. D48—24.
Kallenberg, Karl J., to Prestige Photo Products, Inc. Automatic contact printer. 210,917, 4–30–68, Cl. D61—1.
Knies, Robert H.: *See*—
  Skolnik, Jack, and Knies. 210,865.
Kocher, Alfred Lawrence, and E. A. Wiedemann. Building block. 210,876, 4–30–68, Cl. D18—2.
Kuroda, Yuriko, to Kabushi Kaisha Kobayashi Kose. Bottle. 210,867, 4–30–68, Cl. D9—154.
Lea, Melvin A., to Oneida Ltd. Spoon or similar article. 210,911, 4–30–68, Cl. D54—12.
Lee, Richard E., and F. M. Grunwald, to General Electric Co. Portable television receiver. 210,913, 4–30–68, Cl. D56—4.
Manville, George D. Square holder clamp for level or straightedge. 210,908, 4–30–68, Cl. D54—1.
Markert, Herman R., to Sonoco Products Co. Pull tab. 210,870, 4–30–68, Cl. D9—256.
Marsh, Donald R., to The Carter-Waters Corp. Extruded structural member for a sign frame. 210,872, 4–30–68, Cl. D13—6.
Maus, Nicholas L.: *See*—
  Payne, George, and Maus. 210,871.
McCarthy, Charles D.: *See*—
  Foley, Charles F., and McCarthy. 210,891.
Mercadante, Ottorino N., to Corning Glass Works. Plate or similar article. 210,898, 4–30–68, Cl. D44—15.
Mercadante, Ottorino N., to Corning Glass Works. Plate or the like. 210,899, 4–30–68, Cl. D44—15.
Meunier, Jean, to Institut Teccart Inc. Instrument panel. 210,881, 4–30–68, Cl. D26—1.
Morandusso, Dario. Combined candleholder and Christmas tree ornament. 210,886, 4–30–68, Cl. D29—1.
Morandusso, Dario. Christmas ornament or the like. 210,887, 4–30–68, Cl. D29—1.
Morandusso, Dario. Christmas ornament or the like. 210,888, 4–30–68, Cl. D29—1.
Mosler Safe Co., The: *See*—
  Payne, George, and Maus. 210,871.
National Aviation Club: *See*—
  De Angelis, Nicholas J. 210,889.
Oneida Ltd.: *See*—
  Lea, Melvin A. 210,911.
  Perry, Frank R. 210,910.
Patnaude, Henry A. Pool cover anchor. 210,909, 4–30–68, Cl. D54—11.
Payne, George, and N. L. Maus, to The Mosler Safe Co. Drive-in bank teller's window. 210,871, 4–30–68, Cl. D13—1.
Pennsalt Chemicals Corp.: *See*—
  Schaefer, Robert B. 210,878.
Perry, Frank R., to Oneida Ltd. Spoon or similar article. 210,910, 4–30–68, Cl. D54—12.
Prestige Photo Products, Inc.: *See*—
  Kallenberg, Karl J. 210,917.
Ragone, Bernardo, to T. J. Thomas Co., Inc. Steam cabinet. 210,923, 4–30–68, Cl. D93—1.
Redhair, Kenneth J. Pusher for rolling hoop toy. 210,892, 4–30–68, Cl. D34—5.
Republic Molding Corp.: *See*—
  Heck, Edward E. 210,896.

- Richardson-Merrell Inc. : *See—*
  - Skolnik, Jack, and Knies. 210,865.
- Rogers, William C. Aircraft radio antenna. 210,884, 4–30–68, Cl. D26—14.
- Ronson Corp. : *See—*
  - Eberhart, David. 210,885.
- Rubery, Owen & Co. Ltd. : *See—*
  - Anelli, Peter R. 210,920.
- Sakabe, Teruo, to Kabushiki Kaisha Crown Sangyo. Lighter. 210,906, 4–30–68, Cl. D48—27.
- Schaefer, Robert B., to Pennsalt Chemicals Corp. Combined refrigerant cylinder and carrying handle therefor. 210,878, 4–30–68, Cl. D23—2.
- Schneider, Joseph L. Fish lure. 210,877, 4–30–68, Cl. D22—28.
- Scott, Kenneth W., to Eastman Kodak Co. Projection reader. 210,915, 4–30–68, Cl. D61—1.
- Scott, Kenneth W., to Eastman Kodak Co. Projection viewer. 210,916, 4–30–68, Cl. D61—1.
- Siegel, Sheldon. Comb with long prongs. 210,924, 4–30–68, Cl. D86—8.
- Skolnik, Jack, and R. H. Knies, to Richardson-Merrell Inc. Combined bottle and measuring cup. 210,865, 4–30–68, Cl. D9—10.
- Smith, Hinsdale, Jr. Film reel. 210,918, 4–30–68, Cl. D61—1.
- Smith, Jack A. Self-cleaning pellet feeder. 210,890, 4–30–68, Cl. D30—15.
- Sonoco Products Co. : *See—*
  - Markert, Herman R. 210,870.
- Stauber, Terence R., and D. L. Thatcher. Lounge chair. 210,875, 4–30–68, Cl. D15—11.
- Stockdale, William D., to Illinois Tool Works Inc. Packaging tray. 210,868, 4–30–68, Cl. D9—187.
- Strongin, Nathan R. Child's hat. 210,863, 4–30–68, Cl. D2—251.
- Summers, Marion K. Clock face. 210,894, 4–30–68, Cl. D42—7.
- Sylvania Electric Products Inc. : *See—*
  - Dalton, John, Jr. 210,903.
- TRW Inc. : *See—*
  - Helgesson, Ulf R. 210,882.
- Tavel, Jon H., to Vibrex Corp. Cordless vibrating massager. 210,922, 4–30–68, Cl. D83—1.
- Thomas, T. J., Co., Inc. : *See—*
  - Ragone, Bernardo. 210,923.
- Thatcher, Donald L. : *See—*
  - Stauber, Terence R., and Thatcher. 210,875.
- Tsukamoto, Kenkichi. Stereo phonograph cartridge. 210,883, 4–30–68, Cl. D26—14.
- Tusa, John, to The British Bata Shoe Co. Ltd. Football shoe. 210,864, 4–30–68, Cl. D2—309.
- Vibrex Corp. : *See—*
  - Tavel, Jon H. 210,922.
- Villa, Luis F. Outdoor indirect street lamp. 210,907, 4–30–68, Cl. D48—31.
- Wallace, Earl C., to General Engineering & Mfg. Corp. Cartop carrying case. 210,873, 4–30–68, Cl. D14—27.
- Wickham, Wilfred V. Bottle. 210,866, 4–30–68, Cl. D9—32
- Wiedemann, Ernest A. : *See—*
  - Kocher, Alfred L., and Wiedemann. 210,876.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 30TH DAY OF APRIL, 1968

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

- AAI Corp. : *See—*
  - Schnepfe, Robert W., Jr. 3,380,383.
- A.R.F. Products, Inc. : *See—*
  - Ringer, Kenneth M., and Przedpelski. 3,381,237.
- Abbott Laboratories : *See—*
  - Sedove, Max S., Ryan, Beall, and Scislowicz. 3,380,448.
- Abe, Kohei : *See—*
  - Oshima, Shintaro, Enomoto, Futami, Kobayashi, Kamibayashi, Fukui, Okada, Sahiki, Koyama, Saito, Moriyama, Abe, and Saito. 3,381,138.
- Abel, John F., Jr., and E. A. Wieselmann, to Terrametrics. Borehole extensometer. 3,380,167, 4–30–68, Cl. 33—125.
- Abell, William D., and J. R. Veara, to The Black and Decker Mfg. Co. Handle and trigger construction for one-hand portable tool. 3,381,104, 4–30–68, Cl. 200—157.
- Abens, Sandors G. : *See—*
  - Mahy, Tyler X., and Abens. 3,380,855.
- Abex Corp. : *See—*
  - Porter, Richard E. 3,380,286.
- Abraham, George. Measuring device employing negative resistance. 3,381,147, 4–30–68, Cl. 307—311.
- Abraham, Wayne G. : *See—*
  - Schwartz, James R., and Abraham. 3,381,162.
- Abraham, Wayne G., to Varian Associates. Two-cavity klystron oscillators having capacitively tuned coupling iris between the cavities. 3,381,164, 4–30–68, Cl. 315—5.48.
- Abrams, Kenneth A. Traffic guide post. 3,380,428, 4–30–68, Cl. 116—63.
- Achatz, Lothar : *See—*
  - Wilens, Seymour, Sievers, and Achatz. 3,380,142.
- Achramowicz, William J., and S. Ayer, to United States of America, Air Force. Teletypewriter to transmitter converter. 3,381,087, 4–30–68, Cl. 178—26.
- Adams, George E. and R. W., and R. A. Horton, to Ramsey Engineering Co. Binless batching system. 3,380,717, 4–30–68, Cl. 259—154.
- Adams, Paul R., and J. W. Whitesel, to International Telephone and Telegraph Corp. One-two dimension converter control circuit for error correcting typewriter. 3,380,568, 4–30–68, Cl. 197—20.
- Adams, Ralph W. : *See—*
  - Adams, George E. and R. W., and Horton. 3,380,717.
- Adams, Roger S. Helicopter hoist. 3,380,688, 4–30–68, Cl. 244—17.11.
- Adelberger, William H. Sterile disposable plastic prefilled syringe. 3,380,450, 4–30–68, Cl. 128—218.
- Adkins, Glenn H. : *See—*
  - Singerman, Paul, Smedly, and Adkins. 3,380,640.
- Admiral Corp. : *See—*
  - Stute, Carlton F. 3,380,740.
- Advance Research and Engineering Corp. : *See—*
  - Johnson, Arthur O. 3,380,442.
- Aerojet-General Corp. : *See—*
  - McKenney, John D., and Hedberg. 3,381,296.
- Aeroprojects Inc. : *See—*
  - Tarpley, William B., Jr. 3,381,293.
- Agfa Aktiengesellschaft : *See—*
  - Kiper, Gerd, Engelsmann, Albedyll, and Schroeder. 3,380,356.
  - Winkler, Alfred. 3,380,361.
- Agfa-Gevaert Aktiengesellschaft : *See—*
  - Landbrecht, Franz. 3,380,359.
  - Winkler, Alfred, Ernst, and Engelsmann. 3,380,362.
- Aidlin, Samuel S. Apparatus for receiving and conveying oriented articles from orienting and feeding apparatus. 3,380,627, 4–30–68, Cl. 221—224.
- Air Products and Chemicals, Inc. : *See—*
  - Newton, Charles L. 3,380,809.
- Air Reduction Co., Inc. : *See—*
  - Lindemann, Martin K., and Volpe. 3,380,851.
- Airmatic Valve, Inc. : *See—*
  - Kroffke, Kenneth K. 3,380,348.
- Ajem Laboratories, Inc. : *See—*
  - Hanson, Victor W. 3,380,298.
- Akai Electric Co.. Ltd. : *See—*
  - Atsumi, Katsuya. 3,381,097.
- Aktiebolaget Atvidabergs Industrier : *See—*
  - Stenudd, Gunnar. 3,381,151.
- Aktiebolaget Kamyr : *See—*
  - Richter, Johan C. F. C. and O. J. 3,380,883.
- Aktiebolaget Karlstads Mekaniska Werkstad : *See—*
  - Pehrsson, Lennart A., and Hedberg. 3,380,536.
- Aktiebolaget Landsverk : *See—*
  - Nilsson, Nils F. 3,380,407.
- Albedyll, Joachim V. : *See—*
  - Kiper, Gerd, Engelsmann, Albedyll, and Schroeder. 3,380,356.
- Albright, Penrose L. Emergency wheel having individual resilient spoke and tread portions. 3,380,779, 4–30–68, Cl. 301—38.
- Albright & Wilson (Mfg.) Ltd. : *See—*
  - Jacques, James K., and Lowe. 3,381,113.
- Alexander, Andrew, D. H. Jack, and B. A. Kreiter, to Gulf Oil Corp. Preparation of a low acid wash color cumene. 3,381,049, 4–30–68, Cl. 260—671.
- Alexander, Douglas S., H. Minnis, and C. Ambridge, to Polymer Corp. Ltd. Dehydrogenation catalysts containing chromium phosphate, and their method of preparation. 3,380,932, 4–30–68, Cl. 252—437.
- Alexander, Harry W. Automatic dispensing food grill. 3,380,377, 4–30–68, Cl. 99—423.
- Alfeev, Vladimir N. UHF selective radio receiving system with maximum possible sensitivity. 3,381,225, 4–30–68, Cl. 325—445.
- Algoma Steel Corp., Ltd., The : *See—*
  - Mulfiur, Walter H. 3,380,277.
- All American Engineering Co. : *See—*
  - Walsh, Robert R. 3,381,286.
- Allander, Claes G. System for ventilating clean rooms. 3,380,369, 4–30–68, Cl. 98—36.
- Allegheny Ludlum Steel Corp. : *See—*
  - Murtland, James B., Jr., Jackson, and Rebhun. 3,381,079.
- Allen, Kenneth M., and C. H. Harper. Pneumatic conveying systems. 3,380,780, 4–30–68, Cl. 302—26.
- Allen, Oliver L., J. J. Kowalewski, and W. P. Ritzau, to Electrolux Corp. Duplex vacuum cleaner tool. 3,380,108, 4–30–68, Cl. 15—417.
- Allen, Scott E., and W. H. Nicola, to Swingspout Measure Co. Timing and recording apparatus for liquid dispensing system. 3,380,653, 4–30–68, Cl. 235—1.
- Allen, Wendell P., to General Electric Co. Variable sequential time control relay system. 3,381,177, 4–30–68, Cl. 317—22.
- Allgeier, Edwin A. : *See—*
  - Birchall, William R., and Allgeier. 3,380,984.
- Allied Chemical Corp. : *See—*
  - Gray, William H. 3,380,414.
  - Moore, William P., and Elliott. 3,380,667.
- Allis-Chalmers Mfg. Co. : *See—*
  - Fergason, Rector C. 3,380,233.
  - Larose, Gerard M. 3,381,196.
- Allmanna Svenska Elektriska Aktiebolaget : *See—*
  - Glandin, Constan, and Jansson. 3,380,890.
  - Madsen, Kristian D., Helmersson, and Sivertsen. 3,381,154.
  - Tjernstrom, Ove. 3,380.785.
- Alnor Instrument Co. : *See—*
  - Peltola, Veikko K., and Obermaier. 3,381,212.
- Alpen, Cecil W. Broccoli cutter. 3,380,500, 4–30–68, Cl. 146—78.
- Altamira, Anthony F. : *See—*
  - Hoyt, Donald L., and Altamira. 3,380,523.
- Altamira, Anthony F., and D. L. Hoyt, to Texaco Inc. 13-well hexagon pattern for secondary recovery. 3,380,524, 4–30–68, Cl. 166—9.
- Altamira, Anthony F., and D. L. Hoyt, to Texaco Inc. 7-well detla pattern for secondary recovery. 3,380,525, 4–30–68, Cl. 166—9.
- Altamira, Anthony F., and D. L. Hoyt, to Texaco Inc. 19-well double hexagon pattern for secondary recovery. 3,380,526, 4–30–68, Cl. 166—9.
- Alum-Alloy Casting Co. : *See—*
  - Kis, John S., and Theisen. 3,380,139.
- Ambridge Charles : *See—*
  - Alexander, Douglas S., Minnis, and Ambridge. 3,380,932.
- American Can Co. : *See—*
  - Chittenden, Richard M., and Ecklund. 3,380,121.
  - Eckhoff, Paul S. 8,380,418.
  - Morbeck, James A. 3,380,608.
- American Coleman Co. : *See—*
  - Martin, Emmet L. 3,380,748.
- American Cyanamid Co. : *See—*
  - Heller, Milton, and Bernstein. 3,381,004.
  - Wagner, Frank L., and Grayson. 3,380,837.
- American Enka Corp. : *See—*
  - Richmond, Alfred, King, and Gentle. 3,380,242.
  - Van der Schee, Bernard L. A. 3,380,715.
- American Envelope Co. : *See—*
  - Mittermayer, Emerick J. 3,380,353.
- American Home Products Corp. : *See—*
  - Elias, William F. 3,380,452.
- American Machine & Foundry Co. : *See—*
  - Felcheck, Marvin, and Murthy. 3,381,180.
- American Mfg. Co., Inc. : *See—*
  - Stanton, Robert L. 3,380,243.
- American Seating Co. : *See—*
  - Barecki, Chester J. 3,380,778.
  - Barecki, Chester J., and Semplonius. 3,380,405.
- Ampex Corp. : *See—*
  - Dunsheath, Thomas J., and Johnson. 3,380,680.
  - Georgantas, Peter D., Loosen, and Kinney. 3,380,682.
  - Jensen, Peter W., Coleman, and Trost. 3,381,083.
  - Pezirtzoglou, Evangelos I. 3,381,098.
  - Wickman, Donald G. 3,380,919.

Anaconda Aluminum Co.: *See—*
  Neal, Harry B., and Ehrlich. 3,380,210.
Anchor Hocking Glass Corp.: *See—*
  Ochs, Charles S., and Nungesser. 3,380,225.
Anders, Fritz, to Phrix-Werke Aktiengesellschaft. Device for detecting flaws on runing threads. 3,380,134, 4–30–68, Cl. 28—64.
Anderson, Donald J., to Chevron Research Co. Aryl nitroso compounds as lubricant additives. 3,380,918, 4–30–68, Cl. 252—51.5.
Anderson Power Products, Inc.: *See—*
  Mortenson, Victor A. 3,381,105.
Andrew, Homer L., to Duplex Mfg. Co. Hydrant for pitless well units. 3,380,533, 4–30–68, Cl. 166—88.
Andrews, Charles L., to General Electric Co. Electron beam device. 3,381,160, 4–30–68, Cl. 315—14.
Andrews, Ray: *See—*
  Murray, Robert S., and Andrews. 3,380,846.
Angello, Joseph P., to United States of America, Army. Pulse-actuated, D-C to D-C converter for a thermionic diode. 3,381,201, 4–30–68, Cl. 321—2.
Angst, Walter, to Meteor A.G. Adhesive tape applicator. 3,380,873, 4–30–68, Cl. 156—446.
Angus, James W., to Kollsman Instrument Corp. Torque amplifier. 3,381,191, 4–30–68, Cl. 318—23.
Anstalt Fuer Patentdienst: *See—*
  Fleissner, Heinz and G. 3,380,175.
Applied Dynamics, Inc.: *See—*
  Gilbert, Edward O., and Single. 3,381,230.
  Gilbert, Elmer G. 3,381,231.
Aqua-Chem, Inc.: *See—*
  Loebel, Frederick A. 3,380,895.
Araki, Hidejiro, and K. Tsujioka, to Toyoda Automatic Loom Works, Ltd. Fly frame. 3,380,238, 4–20–68, Cl. 57—52.
Archambault, Maurice, and C. A. Olivier, to Ministere Des Richesses Naturelles. Carbonatizing roast of lithium-bearing ores. 3,380,802, 4–30–68, Cl. 23—63.
Arends, Enno, to Licentia Patent-Verwaltungs-G.m.b.H. Balanced multiple contact control electrode. 3,381,186, 4–30–68, Cl. 317—235.
Arey, William F., Jr.: *See—*
  Mattox, William J., and Arey. 3,380,915.
Argoudelis, Alexander D., B. Bannister, H. Hoeksema, F. Kagan, and B. J. Magerlein, to The Upjohn Co. Lincomycin derivatives and process for preparing same. 3,380,992, 4–30–68, Cl. 260—210.
Armalite, Inc.: *See—*
  Miller, Arthur, Dorchester, and Sullivan. 3,380,183.
Armstrong, George W. Gate valve. 3,380,475, 4–30–68, Cl. 137—609.
Armstrong, Ogden H. Double flushing valve. 3,380,077, 4–30–68, Cl. 4—67.
Arnaud, Jacques, and G. Wendt. Electron guns having at least one emissive cathode surface and one nonemissive electrode adjacent said cathode surface. 3,381,155, 4–30–68, Cl. 313—82.
Arnold, Howard W., F. S. Eldreth, and W. L. Gore, to W. L. Gore Associates, Inc. Automatic termination. 3,380,-269, 4–30–68, Cl. 72—4.
Arnold, Robert L. Strainer tray with central handle. 3,380,-592, 4–30–68, Cl. 210—244.
Arnold, Wayne E., to Westinghouse Electric Corp. Read-out indicator circuitry. 3,381,289, 4–30–68, Cl. 340—324.
Arps Corp.: *See—*
  Osborn, William F. 3,381,215.
Arter, Robert L., to Bakk Engineering. Ice Cream freezer scraper blade. 3,380,716, 4–30–67, Cl. 259—9.
Arterbury, Bryant P., and R. B. Wheeler, ½ to R. L. Arterbury. Thermostatic freezing valve. 3,380,464, 4–30–68, Cl. 137—60.
Arterbury, Roy L.: *Se—*
  Arterbury, Bryant P., and Wheeler. 3,380,464.
Asaki Kasei Kogyo Kabushiki: *See—*
  Ono, Kensuke, Tojima, and Ikeda. 3,380,908.
Asako, Tsunehiko: *See—*
  Miki, Takuichi, Hiraga, Asako, and Masuya. 3,381,035.
Astor, Nathan. Ring guard having slotted ends. 3,380,263, 4–30–68, Cl. 63—15.6.
Astrosystems International, Inc.: *See—*
  Lehrer, Stanley, and Holme. 3,380,300.
Atsumi, Katsuya, to Akai Electric Co., Ltd. Mechanoelectric elimination of residual magnetization utilizing a separate bias head. 3,381,097, 4–30–68, Cl. 179—100.2.
Auspos, Michael G.: *See—*
  Moinicken, Frank A., and Auspos. 3,380,429.
Australian National University, The: *See—*
  Dwyer, Francis P., and Halpern. 3,381,031.
Australian Railway Equipment Supply Co., Proprietary Ltd.: *See—*
Auto Crane Co.: *See—*
  Wilkinson, Alvin H. 3,380,316.
Ayer, Stanwood: *See—*
  Achramowicz, William J., and Ayer. 3,381,087.
Aziende Chimiche Riunite Angelini Francesco a Roma: *See—*
  Palazzo, Giuseppe, and Silvestrini. 3,381,009.
BX Plastics Ltd.: *See—*
  Jack, James, and Horrocks. 3,380,938.
Babcock, John C.: *See—*
  Campbell, J. Allan, and Babcock. 3,380,886.
Babcock & Wilcox Co., The: *See—*
  Eisenstein, Albert. 3,380,514.
Babel, Henry W., R. I. Jaffee, and B. B. Moss, ⅓ to The Battelle Development Corp., and ⅔ to McDonnell Douglas Corp. Contamination barrier and method. 3,380,146, 4–30–68, Cl. 29—423.
Babler, Egon S.: *See—*
  Babler, Otto and E. S. 3,380,741.
Babler, Otto and E. S. Record changer. 3,380,741, 4–30–68, Cl. 274—10.
Bach, Frederich O., to A. B. Dick Co. Photolithographic master and method of manufacture. 3,380,824, 4–30–68, Cl. 96—33.
Bachko, Nicholas, to United States Lines, Inc. Cargo vessel. 3,380,422, 4–30–68, Cl. 114—72.
Badische Aniline & Soda-Fabrik A.G.: *See—*
  Bergier, Andre, and Robert. 3,381,051.
Baggs, Burton D., Jr.: *See—*
  Smith, Alexander, and Baggs. 3,380,235.
Baillie, Henry M., to United States Steel Corp. Liquid cooled wall for confining hot gases. 3,380,728, 4–30–68, Cl. 266—35.
Bailly, Henri: *See—*
  Degonde, Jean, and Bailly. 3,381,300.
Baker, Marion L., to St. Louis Shipbuilding-Federal Barge, Inc. Waste heat recovery system. 3,380,439, 4–30–68, Cl. 122—7.
Baker Perkins, Inc.: *See—*
  Cox, Bradley G., Yablonski, and Loomans. 3,380,116.
Baker, William E., V. R. De Stefano, and H. A. Meise, Jr., to Bell Telephone Laboratories, Inc. Camp-on circuit. 3,381,-095, 4–30–68, Cl. 179—27.
Bakk Engineering: *See—*
  Arter, Robert L. 3,380,716.
Baldwin, John L., Jr., D. E. Reed, and R. E. Walker, to United States of America, Army. Tension controlled winding apparatus. 3,380,681, 4–30–68, Cl. 242—55.12.
Balon Corp.: *See—*
  Scaramucci, Domer. 3,380,706.
  Scaramucci, Domer. 3,380,707.
  Scaramucci, Domer. 3,380,708.
  Scaramucci, Domer. 3,380,709.
Balzer & Droll: *See—*
  Muskulus, Willi. 3,380,311.
Bannister, Brian: *See—*
  Argoudelis, Alexander D., Bannister, Hoeksema, Kagan, and Magerlein. 3,380,992.
Barber, Franklin D., to Standard Car Truck Co. Cushioned lateral motion axle adaptor. 3,380,400, 4–30–68, Cl. 105—218.
Barecki, Chester J., to American Seating Co. Chair assembly. 3,380,778, 4–30–68, Cl. 297—451.
Barecki, Chester J., and F. Semplonius, to American Seating Co. Overbed table. 3,380,405, 4–30–68, Cl. 108—136.
Barnes, John W., and J. L. Goodlet, Jr., to Kollsman Instrument Corp. Scanning device for tracker using concentric photosensitive surfaces cooperating with oscillated image. 3,381,133, 4–30–68, Cl. 250—203.
Barnett, Richard G., to The Soundlock Corp. Lay-in acoustical ceiling panel with flexible diaphragms. 3,380,206, 4–30–68, Cl. 52—145.
Barnhill, Kenneth S., Jr., to United States Borax & Chemical Corp. Process for obtaining potash values from potash ore. 3,380,666, 4–30–68, Cl. 241—20.
Barske, Ulrich M. W. Friction gearing. 3,380,312, 4–30–68, Cl. 74—206.
Barth, Everett N. Flop mop. 3,380,767, 4–30–68, Cl. 287—99.
Barthel, Gunter, G. Scholz, and A. Hahndorff, to Pintsch Bamag AG. Mercury distributing structure for electrolysis cells and the like. 3,380,906, 4–30–68, Cl. 204—220.
Bartlett, John R.: *See—*
  Janovtchik, Viacheslav J., Bartlett, and George. 3,380,-834.
Barton, David M., and G. E. Smith, to Tektronix, Inc. Signal isolation circuit. 3,381,238, 4–30–68, Cl. 330—165.
Basch, Donald J.: *See—*
  Stasz, Clarence J., and Swan. 3,380,658.
Bassan, Benjamin, and W. E. Briggs, to National Research Corp. Valve assembly and actuating linkage therefor. 3,380,-479, 4–30–68, Cl. 137—627.5.
Battele Development Corp., The: *See—*
  Babel, Henry W., Jaffee, and Moss. 3,380,146.
Batzold, John S., to Esso Research and Engineering Co. Noble metal catalysts and their production. 3,380,934, 4–30–68, Cl. 252—462.
Baudoux, Edmond, to Etablissement Dic. Construction kit including wall, roof, beam and floor elements. 3,380,188, 4–30–68, Cl. 46—19.
Bauer, Alfred F., to National Lead Co. Safety instrument panel for automotive vehicles. 3,380,548, 4–30–68, Cl. 180—90.
Bauer, Alfred F., to National Lead Co. Golf ball warmer. 3,380,720, 4–30–68, Cl. 263—5.
Baumbach, Harlan L. Film gauge. 3,380,172, 4–30–68, Cl. 33—180.
Bausch & Lomb Inc.: *See—*
  Keller, John D. 3,381,135.
  Letter, Eugene C. 3,380,792.
Baxter, Joseph, Jr., F. W. Fruitman, and R. W. Phelps, to The Black Clawson Co. Filament winding machine. 3,380,-675, 4–30–68, Cl. 242—7.
Bayless, Jack H.: *See—*
  Williams, Robert E., and Bayless. 3,380,801.
Beach, Martin D., to Whitmoyer-Reed Ltd. Germicidal compositions. 3,380,923, 4–30–68, Cl. 252—106.
Beall, Glenn L.: *See—*
  Sadove, Max S., Ryan, Beall, and Scislowicz. 3,380,448.
Beaudry, John B. ½ to J. R. Beaudry. Injection molding machine with controls for injecting and clamping. 3,380,119, 4–30–68, Cl. 18—30.
Beaudry, John R.: *See—*
  Beaudry, John B. 3,380,119.
Becker, Theodore W., Jr. Electrical plug with safety ground element. 3,381,258, 4–30–68, Cl. 339—14.

Becking, Paul E., J. D. Bungard, and D. J. McCormick, to Intercontinental Systems, Inc. Writing system generating code that differentiates between printing and functional operations. 3,380,569, 4–30–68, Cl. 197—20.
Beckman Instruments, Inc.: *See—*
  Nather, Roy E. 3,381,130.
  Petersen, Arne J. 3,380,929.
Beer, Ludwig A., to Monsanto Co. Polyblends comprising a vinyl chloride graft copolymer, a polyester urethane elastomer and vinyl polymer. 3,381,056, 4–30–68, Cl. 260—859.
Behrens, Heinz: *See—*
  Cremer, Gottfried, Behrens, and Dietzsch. 3,380,128.
Beintema, Chester D., to Hughes Aircraft Co. Method of making cubic zinc sulfide with copper. 3,380,841, 4–30–68, Cl. 117—201.
Belicka, Michael E., to Electrolux Corp. Duplex vacuum cleaner nozzle. 3,380,105, 4–30–68, Cl. 15—417.
Bell, De Witt, to Raybestos-Manhattan, Inc. Manufacture of vulcanized liquid resin bonded abrasive articles. 3,380,816, 4–30–68, Cl. 51—298.
Bell Telephone Laboratories, Inc.: *See—*
  Baker, William E., De Stefano, and Moise. 3,381,095.
  Dailey, James E. 3,381,244.
  Darlington, Sidney. 3,381,243.
  Dietz, Robert E., Guggenheim, and Johnson. 3,381,240.
  Flanagan, James L. 3,381,093.
  Goetzberger, Adolf. 3,380,852.
  Gyorgy, Ernst M., and Hagedorn. 3,381,283.
  Hackett, John A., and Sepulveda. 3,381,094.
  Hagedorn, Fred B. 3,381,280.
  Huffman, Donald W., and Toy. 3,381,270.
  Kovanic, Edward F. 3,381,227.
  Lehman, Harvey R. 3,381,239.
  Lentz, Norman E., and Mack. 3,381,088.
  Manos, Steven. 3,381,259.
  Schonhorn, Harold, and Sharpe. 3,380,879.
  Seidel, Harold. 3,381,238.
  Sondhi, Man M. 3,381,091.
Beloit Corp.: *See—*
  Crist, Elmer E., and Diltz. 3,380,685.
  Keyes, Marion A., and Farrell. 3,380,431.
Beloit Eastern Corp.: *See—*
  Gilmore, William J. 3,380,330.
Beltx Corp: *See—*
  De Woskin, Irvin S. 3,381,173.
Bendix Corp., The: *See—*
  Gardner, William L. 3,380,817.
  Prapis, Frank, and Zbuchalski. 3,381,211.
  Scholer, Henry G., and Nordstrom. 3,381,221.
Benjamin, Milton L., and D. D. Walker, to Erickson Tool Co. Quick change chuck. 3,380,746, 4–30–68, Cl. 279—91.
Bennett, Douglas M. Upholstered furniture. 3,380,777, 4–30–68, Cl. 297—440.
Benson, John O., and C. Morrison, to General Mills, Inc. Continuous deep fat fryer. 3,380,875, 4–30–68, Cl. 99—404.
Bentley Engineering Co. Ltd., The: *See—*
  Peberdy, Roland. 3,380,265.
Bento, Julio C. S. da Silva. Device for directly measuring the ratio between a fluid flow and a rotary speed. 3,380,295, 4–30–68, Cl. 73—114.
Bergh, Arndt B., and C. W. Near, to Hewlett-Packard Co. Read only memory. 3,381,279, 4–30–68, Cl. 340—173.
Bergier, Andre, and J. Robert, to Badische Aniline & Soda-Fabrik A.G. Production of acetylene. 3,381,051, 4–30–68, Cl. 260—679.
Bergman, Johan E. H., and N. E. Haglund, to Forsvarets Fabriskverk. Recoil-free weapon. 3,380,840, 4–30–67, Cl. 89—1.703.
Bergmann, Karl H., and W. Schadowski, to Zellstoffabrik Waldhof. Method and apparatus for filling, sealing and packing of bags and similar containers. 3,380,222, 4–30–68, Cl. 53—27.
Berlin, Alfred A., and L. A. Dudnik, to Institute Khimicheskoi Fiziki. Method for formation of three-dimensional structures in saturated carbon chain polymers. 3,380,982, 4–30–68, Cl. 260—93.7.
Berman, Harold. Tape dispenser. 3,380,874, 4–30–68, Cl. 156—577.
Bernheim, Willy: *See—*
  Enders, Heinz, Deiner, Bernheim, Mosch, and Stenzinger. 3,380,943.
Bernstein, Seymour: *See—*
  Heller, Milton, and Bernstein. 3,381,004.
Bessiere, Pierre E., to Societe Labavia. Foucault current braking devices. 3,381,152, 4–30–68, Cl. 310—93.
Bessiere, Pierre E., to Societe Labavia. Foucault current braking devices. 3,381,153, 4–30–68, Cl. 310—93.
Beteiligungs- und Patentverwaltungsgesellschaft mit beschrankter Haftung: *See—*
  Poerschke, Karl O. A. 3,381,107.
Bethmann, Gustav, to Rollei-Werke Franke & Heidecke. Film counter mechanism for photographic cameras. 3,380,364, 4–30–68, Cl. 95—31.
Betz Laboratories, Inc.: *See—*
  Schieber, John R., and Preis. 3,380,462.
Beudin, Leonel L. J. B., to Bureau de Recherches Geologiques et Minieres. Rotating grinders. 3,380,670, 4–30–68, Cl. 241—91.
Beurer, Frederick C., to United Aircraft Corp. Accessory drive for single turbine helicopter. 3,380,564, 4–30–68, Cl. 192—45.
Biale, Giovanni, D. M. Fenton, K. L. Olivier, and W. D. Schaeffer, to Union Oil Co. of California. Aliphatic carboxylic acid esters and unsaturated carboxylic acids by oxidative carbonylation of olefins. 3,381,030, 4–30–68, Cl. 260—497.
Biehl, Heinrich. Bearing device for animals, especially for piglets. 3,380,438, 4–30–68, Cl. 119—22.
Biermann, David, to Hartzell Propeller, Inc. Constant speed and reversible aircraft propeller. 3,380,535, 4–30–68, Cl. 170—160.2.
Biet, Jean P., and J. Chaupit. Device for line scanning in a television receiver using a single gate symmetrically conducting turn-on turn-off five layer semiconductor device. 3,381,161, 4–30–68, Cl. 315—27.
Big Dutchman, Inc.: *See—*
  Wenger, Harvey M. 3,380,477.
Bilhorn, John M., to The Electric Storage Battery Co. Hermetic seal closure. 3,380,857, 4–30–68, Cl. 136—133.
Bilton, John, to Fluidrive Engineering Co. Ltd. Two-speed gears. 3,380,319, 4–30–68, Cl. 74—718.
Binks Mfg. Co.: *See—*
  Enssle, Bruno E. 3,380,705.
Birchall, William R., and E. A. Allgeier, to National Distillers and Chemical Corp. Alfin type catalysts their production and use in polymerization. 3,380,984, 4–30–68, Cl. 260—94.2.
Biro, Alexander J., to Season-All Industries, Inc. Expander. 3.380 194, 4–30–68, Cl. 49—482.
Bishop, Le Roy: *See—*
  Stockbridge, Bruce W., Patton, and Bishop. 3,380,360.
Black Clawson Co., The: *See—*
  Baxter, Joseph, Jr., Fruitman, and Phelps. 3,380,675.
  Hatton, Derald R. 3,380 669.
Black and Decker Mfg. Co., The: *See—*
  Abell, William D., and Veara. 3,381,104.
Black, Sivalls & Bryson, Inc.: *See—*
  Hunter, Jack C. 3,380,788.
Blackledge, Vernon O., to Sperry Rand Corp. Radio controlled guidance apparatus for aircraft having radio signal gain programing. 3,381,295, 4–30–68, Cl. 343—108.
Blackley, William D.: *See—*
  Siegart, William R., Blackley, Chafetz, and Suber. 3,380,-983.
Blaser, Bruno: *See—*
  Werdelmann, Bruno, Worms, and Blaser. 3,380,924.
Blaser, Bruno, and H. Rutzen, to Henkel & Cie, G.m.b.H. Polyglycol ethers suitable for detergent preparations. 3,380,-925, 4–30–68, Cl. 252—161.
Blaser, Ida: *See—*
  Werdelmann, Bruno, Worms, and Blaser. 3,380,924.
Blattner, Ernest W., K. Pilarczyk, and M. Toth, Jr., to De Laval Turbine Inc. Combined separator and turbine. 3 380,711, 4–30–68, Cl. 253—76.
Bleasdale, William J. Surge cushioning means for high pressure fluid system. 3,380,480, 4–30–68, Cl. 138—30.
Blomeyer, Friedrich, to Farbenfabriken Bayer Aktiengesellschaft. Polyurethane lacquers. 3,380,950, 4–30–68, Cl. 260—31.2.
Blower, Kenneth E.: *See—*
  Isley, Ralph E., and Blower. 3,380,949.
Boblitz, Oliver W. Safety belt signal systems for motor vehicles. 3,381,268, 4–30–68, Cl. 340—52.
Bochumer Eisenhutte Heintzmann & Co.: *See—*
  Neeff, Joachim, Seiz, and Funk. 3,380,191.
Boddie, John R. Radiator cap. 3,380,619, 4–30–68, Cl. 220—44.
Bodine, Albert G., Jr. Resonant apparatus for cleaning with loose granules. 3 380,195, 4–30–68, Cl. 51—7.
Bodine, Albert G., Jr. Sonic method and apparatus for installing complex structures. 3,380,541, 4–30–68, Cl. 175—19.
Bodre, Robert J., to Monsanto Co. Hydrocarbon conversion. 3,381,050, 4–30–68, Cl. 260—671.
Boers, Jan H., to The Owatonna Tool Co. Low-pressure roller pump. 3,380,392, 4–30–68, Cl. 103—136.
Boeye, Paul F.: *See—*
  Sorensen, Roger A., and Boeye. 3,380,643.
Boicey, James H.: *See—*
  Walters, Emmett L., and Boicey. 3,380,289.
Bolze, Günther: *See—*
  Härtl, Ernst E., Dudszus, Franz, Rethfeldt, Weinert, Müke, Hauptmann, and Bolze. 3,380,114.
Bomar, Horace L.: *See—*
  Bridgham, Noyes W. 3,380,483.
Bompadre, Frank J. Clamped corner joint. 3,380,212, 4–30–68, Cl. 52—282.
Bonded Products, Inc.: *See—*
  Hight, Hanford Z., Kassak, and Lesky. 3,380,762.
Bone, David P., to The Quaker Oats Co. Method of preparing a solid semi-moist marbled meat pet food. 3,380,832, 4–30–68, Cl. 99—7.
Bonner, Willard H., Jr., to E. I. du Pont de Nemours and Co. Method for inflating closed cell foams. 3,381,077, 4–30–68, Cl. 264—321.
Bontrager, Lloyd J., to Star Tank and Boat Co. Flexible side wall holder. 3,380,507, 4–30–68, Cl. 160—327.
Boothe, Floyd G., Jr., and G. L. Mathe, to Philip Morris Inc. Apparatus for sectioning moving articles. 3,380,381, 4–30–68, Cl. 83—338.
Borg, Tore E.: *See—*
  Zysk, Stephen, and Borg. 3,380,304.
Borg-Warner Corp.: *See—*
  Bowers, Roy C., and Silberschlag. 3,380,563.
  Cook, Leo W. 3,380,566.
Borough, William H.: *See—*
  Jennings, Walter E., Watson, and Borough. 3,380,220.
Boru, Herbert H., and F. E. Smith, to Kaiser Aluminum & Chemical Corp. Article and method for making a balanced panel from an unbalanced woody core. 3,380,875, 4–30–68, Cl. 161—43.
Bott, Lawrence L.: *See—*
  Braithwaite, David G., and Bott. 3,380,899.
  Braithwaite, David G., Bott, and Phillips. 3,380,900.
Boucher, Raymond R., W. J. Maynard, and B. Sabo, to United Aircraft Corp. Columbium alloy separator. 3,380,917, 4–30–68, Cl. 252—25.

- Bower, Clyde S. Parking meter with time rental voiding mechanism. 3,380,567, 4–30–68, Cl. 194—84.
- Bowers, Roy C., and R. E. Silberschlag, to Borg-Warner Corp. Two-way overrunning clutch mechanism. 3,380,563, 4–30–68, Cl. 192—44.
- Bowker, John E., and R. M. Cashman, to Continental Oil Co. Vessel arresting apparatus. 3,380,424, 4–30–68, Cl. 114—235.
- Bowles Engineering Corp.: *See*—
  - Metzger, Eric E., and Hinshelwood. 3,380,827.
- Boyer, Jackson S., and R. Zaayenga, to Sun Oil Co. Rubber coating composition. 3,380,882, 4–30–68, Cl. 161—234.
- Boyle, Albert P., Jr. Illuminated clip board. 3,381,122, 4–30–68, Cl. 240—6.4.
- Bradbury, Walter C., and R. D. Cooper, to Frontier Chemical Co., Division of Vulcan Materials Co. Reduction of chlorates in caustic soda. 3,380,806, 4–30–68, Cl. 23—184.
- Bradley, Robert H., to Industrial Tectronics, Inc. Rolling contact test machine. 3,380,288, 4–30–68, Cl. 73—9.
- Bradstreet, John L. Reconditioning device for groundworking sweep blades. 3,380,199, 4–30–68, Cl. 51—56.
- Braham, John W., to Canadian Patents and Development Ltd. Encapsulated anti-bounce switch circuit. 3,381,143, 4–30–68, Cl. 307—247.
- Braithwaite, David G., and L. L. Bott, to Nalco Chemical Co. Electrolytic preparation and recovery of tetraalkyl lead compounds. 3,380,899, 4–30–68, Cl. 204—59.
- Braithwaite, David G., L. L. Bott, and K. G. Phillips, to Nalco Chemical Co. Electrolytic preparation of organic lead compounds and electrolyte therefor. 3,380,900, 4–30–68, Cl. 204—59.
- Branner, Woodrow W. Headrest. 3,380,694, 4–30–68, Cl. 248—118.
- Brault, Andre R., to OPTOmechanisms, Inc. Angular work indexing table. 3,380,322, 4–30–68, Cl. 77—64.
- Breitenbach, Edward J., R. J. Gundrum, and D. J. Hinkein, to International Business Machines Corp. Function generator system. 3,381,290, 4–30–68, Cl. 340—347.
- Breuer, Heinz. Deforming device for elongated elements. 3,380,284, 4–30–68, Cl. 72—450.
- Brichard, Edgard, A. Dupont, and J. De Keersmaecker, to Glaverbel. Process for casting articles. 3,381,073, 4–30–68, Cl. 264—154.
- Brickman, Harold, and R. Deschamps, to Ever-Wear, Inc. Illuminated portable vanity case. 3,381,119, 4–30–68, Cl. 240—4 2.
- Bridger, William C. H.: *See*—
  - Yongman, Derek H., Bridger, and Gagg. 3,380,227.
- Bridgham, Noyes W., to J. D. Marshall, and H. L. Bomar. Thread cutter and clamping mechanism for looms. 3,380,483, 4–30–68, Cl. 139—263.
- Briggs, Walton E.: *See*—
  - Bassan, Benjamin, and Briggs. 3,380,479.
- Bristol-Myers Co.: *See*—
  - McGregor, Donald N. 3,381,001.
  - Minor, William F. 3,381,013.
  - Nettleton, Donald E., Jr. 3,380,994.
- British Petroleum Co. Ltd., The: *See*—
  - Martin, Leonard R. 3,380,714.
  - McGrath, Brian P., and Turner. 3 381,052.
  - Saurin, Brendan F., and McFeeters. 3,380,091.
- Brock, Eugene W., M. L. Woodward, and C. W. Miller, to General Motors Corp. Solid state crystal automatic headlight-dimming system. 3,381,169, 4–30–68, Cl. 315—83.
- Broderick, Frank W. Method of producing lenticular embossing rolls. 3,380.864. 4–30–68. Cl. 156—14.
- Brodersen, Edward M., and R. D. Hopfensperger, to Southwest Welding & Mfg. Co. Mounting for safety canopies. 3.380.774. 4–30–68. Cl. 296—102.
- Brougham, Harold E., and J. J. Gilchrist, to LTV Aerospace Corp. Cryogenic storage container. 3,380,611, 4–30–68, Cl. 220—1.
- Brown, Buck C., to Tracor, Inc. Frequency divider wherein regenerative switching circuits produce phase displaced periodic signals. 3,381,137, 4–30–68, Cl. 307—41.
- Brown, Day E.: *See*—
  - Piper, John C., Jr. 3,380.095.
- Brown, Jack K., V. A. Hughes, and T. B. Burnett, to The English Electric Co., Ltd. Circuit breaker arrangements. 3,381,175, 4–30–68 Cl. 317—11.
- Brown, Ray S., to Physical Sciences Corp. Cryogenic and thermal seal for electrical members. 3,381,260, 4–30–68, Cl. 339—93.
- Browne, Thomas E., Jr.: *See*—
  - Strom, Albert P., Cromer, and Browne. 3,381,101.
- Browning, Bruce W., to Browning Industries, Inc. Receiver-stock assembly for firearm. 3,380,182, 4–30–68, Cl. 42—75.
- Browning Industries, Inc.: *See*—
  - Browning, Bruce W. 3,380,182.
- Bruns Robert F. Crusher jaws. 3,380,674, 4–30–68, Cl. 241—291.
- Bryan, James C., and R. D. Hurt, to E. I. du Pont de Nemours, and Co. Process for spinning bicomponent filaments. 3,381,074, 4–30–68, Cl. 264—171.
- Bucher, Rudolf. Stabilizing system for aircraft. 3,380,689, 4–30–68, Cl. 244—39.
- Buckisch, Ludwig, and L. Volpert, to Dynamit Nobel Aktiengesellschaft. Pressure control device. 3,380,344, 4–30–68, Cl. 89—14.
- Budington, Robert A., III: *See*—
  - Ritzau, William P., and Budington. 3,380,104.
- Bulin, Shelly A., to J. I. Case Co. Reel drive mechanism. 3,380,313, 4–30–68, Cl. 74—227.
- Bungard, James D.: *See*—
  - Becking, Paul E., Bungard, and McCormick. 3,380,569.
- Burch, Arthur R., and J. H. Snyder, to United States of America, Army. Integrating accelerometer. 3,380,308, 4–30–68, Cl. 73—503.
- Bureau de Recherches Geologiques et Minieres: *See*—
  - Beudin, Leonel L. J. B. 3,380,670.
- Burhorn, Friedrich, F. Schmidt, and M. Strossner, to Siemens Aktiengesellschaft. Apparatus for reducing the extent to which a metal electrode is consumed in an apparatus which operates with an electric arc. 3,381,158, 4–30–68, Cl. 314—136.
- Burks, Darnall P., to Sprague Electric Co. Production of contact pads for semiconductors. 3,380,155, 4–30–68, Cl. 29—591.
- Burnett, Thomas B.: *See*—
  - Brown, Jack K., Hughes, and Burnett. 3,381,175.
- Burns, Richard J.: *See*—
  - Williamson, Frank L., and Burns. 3,380,881.
- Burr, Robert P., to Circuit Research Co. Digital frequency and phase detector. 3,381,220, 4–30–68, Cl. 324—82.
- Burroughs Corp.: *See*—
  - Doughty, Frederic C., and Hoffman. 3,381,281.
- Butler, Richard K., to Machinecraft. Drafting mechanism. 3,380,126, 4–30–68, Cl. 19—267.
- Butt, Alan G., to The Trane Co. Plate type heat exchangers. 3,380,317, 4–30–68, Cl. 165—166.
- Byars, Logan C. Portable reading desk. 3,380,701, 4–30–68, Cl. 248—459.
- CSF-Compagnie Generale de Telegraphie Sans Fil: *See*—
  - Zisler, Siegfried, and Dubost. 3,381,297.
  - Vanhove, Robert. 3,381,228.
- CTS Corp.: *See*—
  - Schalliol, Willis L. 3,381,081.
- Cabeen, Robert P.: *See*—
  - McConnell, Malcolm F., Cabeen, and Hedstrom. 3,380,530.
- Caldwell, Henry C., and W. E. Smith, to Smith Kline & French Laboratories. Dextromethorphan hydroxybenzoyl benzoate. 3,381,010, 4–30–68, Cl. 260—285.
- Caldwell, John R., and E. H. Hill, to Eastman Kodak Co. Poly(1,4 - cyclohexylenedimethylene terephthalate) fiber having nonfiber-forming polyester dispersed therein. 3,381,058. 4–30–68, Cl. 260—860.
- California Computer Products, Inc.: *See*—
  - Smith, William E. 3,381,193.
- Calkins, William H., E. N. Squire, and M. S. Ziegler, to E. I. du Pont de Nemours and Co. Preparation of methyl methacrylate polymer sirups. 3,380,980, 4–30–68, Cl. 260—89.5.
- Callaway, Ray F., to Celanese Corp. Silklike slub yarn and method of making same. 3,380,241, 4–30–68, Cl. 57—139.
- Calumet & Hecla, Inc.: *See*—
  - Habdas, Edward P. 3,380,271.
- Campbell, Andrew B., to Hillman-Kelley. Power wrench. 3,380 323, 4–30–68, Cl. 81—54.
- Campbell, Dudley H., to Stackpole Carbon Co. Electric switch and variable linear resistor. 3,381,254, 4–30–68, Cl. 338—179.
- Campbell, Harold F.: *See*—
  - Mossburg, Frank B., and Campbell. 3,380,612.
- Campbell, J. Allan, and J. C. Babcock, to The Upjohn Co. 7α-methyl-3β-hydroxy-5-androstenes. 3,380,886, 4–30–68, Cl. 167—65.
- Campbell, James S. Apparatus for automatically filling a receptacle. 3 380,511, 4–30–68, Cl. 164—155.
- Campbell, Richard H., to Webster Electric Co., Inc. Amplifier having feedback bias control circuit. 3,381,235, 4–30–68, Cl. 330—40.
- Canadian Patents and Development Ltd.: *See*—
  - Brahan, John W. 3,381.143.
  - Robinson, Geoffrey C. 3,380,854.
- Canteloube, Andre, and I. Taverna. Finned heat exchanger. 3,380,518, 4–30–68, Cl. 165—171.
- Carbone, Robert J., and P. R. Longaker, to Massachusetts Institute of Technology. Interferometric fluorescent lifetime measuring arrangement. 3,381,136, 4–30–68, Cl. 250—220.
- Carding Specialists (Canada) Ltd.: *See*—
  - Varga, John M. J. 3 380 125.
- Cardwell Machine Co., The: *See*—
  - Jordan, Ivy S., III. 3,380.570.
- Carkhuff, Le Roy F., to Diamond International Corp. Lid forming and closing apparatus. 3,380,230, 4–30–68, Cl. 53—376.
- Carlin, Thomas F.: *See*—
  - Yamamoto, Mitsuru, and Carlin. 3,380,683.
- Caron Spinning Co.: *See*—
  - McKew, Marshall. 3,380,132.
- Carrier Corp.: *See*—
  - Neville Donald G., and Platnick. 3,381,192.
- Carter, Edward H., Jr.: *See*—
  - Edwards, Marvin B., Park, and Carter. 3,380,985.
- Carter, Lucinda: *See*—
  - Hill, Mary E. 3,380,093.
- Carver & Co. (Engineers) Ltd.: *See*—
  - Carver, Leonard J. 3.380,730.
- Carver, Leonard J., to Carver & Co. (Engineers) Ltd. Workpiece clamping devices. 3.380,730. 4–30–68, Cl. 269—25.
- Cary, Philip E., to International Harvester Co. Crankshaft induction hardening machine. 3,380,724, 4–30–68, Cl. 266—4.
- Case J. I., Co.: *See*—
  - Bulin, Shelly A. 3.380,313.
  - Engelmann, Roger F. 3,380,759.
- Cashman, Robert M.: *See*—
  - Bowker, John E., and Cashman. 3,380,424.
- Cashwell, Ernest: *See*—
  - Cox, Edward W., and Cashwell. 3,380,351.
- Caswell, John R.: *See*—
  - McLeod, Willard W., Jr., and Caswell. 3,381,139.
- Caterpillar Tractor Co.: *See*—
  - Deemie, Gerald W., Sage, Komsa, Rakus, and Yocum. 3,380,641.
  - Myers, Jimmy D., and Stevens. 3,380,555.

- Cathrein, Rene: *See*—
  - Danemark, Marius, Cathrein, and Simonian. 3,380,898.
- Cathrein, Rene, and M. Danemark, to Sel-Rex Corp. Electrolyte and method for coating articles with a gold-copper-antimony alloy and article thereof. 3,380,814, 4–30–68, Cl. 29—183.5.
- Cavanagh, Patrick E., to Premium Iron Ores Ltd. Method for removing arsenic from iron ores. 3,380,819, 4–30–68, Cl. 75—6.
- Cavitt, James H.: *See*—
  - Turner, Norman C., and Cavitt. 3,381,183.
- Celanese Corp.: *See*—
  - Callaway, Ray F. 3,380,241.
  - Cunningham, Joseph E. 3,380,144.
  - Fouts, Hollye R. 3,380,966.
- Ceraldi, Bernard A., to Westshore Products, Inc. Impermeable conductive shoe cover. 3,381,174, 4–30–68, Cl. 317—2.
- Certipak Corp.: *See*—
  - Pierce, Chester J., Jr. 3,380,645.
- Cerutti, Herbert C.: *See*—
  - Stroud, Charles E., Cerutti, and Hughes. 3,380,145.
- Chafetz, Harry: *See*—
  - Siegart, William R., Blackley, Chafetz, and Suber. 3,380,983.
- Chaffee, Emory L.: *See*—
  - Purington, Ellison S., and Chaffee. 3,381,224.
- Chalmers, John R., and F. B. Stilmar, to E. I. du Pont de Nemours and Co. Chemical polymers. 3,380,971, 4–30–68, Cl. 260—78.5.
- Chamberlin, Earl M.: *See*—
  - Harris, Elbert E., Rosenburg, and Chamberlin. 3,381,014.
- Chambers, Philip. Means for positioning a load on a carrier. 3,380,695, 4–30–68, Cl. 248—119.
- Champ, Frank G., to The Seeburg Corp. Machine for attaching insulator pods to electrical connectors. 3,380,140, 4–30–68, Cl. 29—203.
- Champaneria, Ashok J., and W. S. Russell, to Hooker Chemical Corp. Chromate coating composition for aluminum and process. 3,380,858, 4–30–68, Cl. 148—6.2.
- Champion, Alfred. Swaging tools. 3,380,273, 4–30–68, Cl. 72—75.
- Chandley, Edwin F.: *See*—
  - Lowe, Arnold J., Chandley, and Molinaro. 3,380,967.
- Chapman, Brian F.: *See*—
  - Williamson, David T. N., Muir, and Chapman. 3,380,436.
- Charell, Ralph. Baseball and baseball bat toy. 3,380,307, 4–30–68, Cl. 73—379.
- Chaupit, Jean: *See*—
  - Biet, Jean P., and Chaupit. 3,381,161.
- Chemical Construction Corp.: *See*—
  - Griffiths, Graham N. 3,380,910.
  - Marten, Jerome H. 3,384,800.
- Chemische Fabrik Pfersee G.m.b.H.: *See*—
  - Enders, Heinz, Deiner, Bernheim, Mosch, and Stenzinger. 3 380,943.
- Chemische Fabrik von Heyden Aktiengesellschaft: *See*—
  - Wiedmann, Otto, Leitsmann, Juhasz, and Vetter. 3,381,044.
- Chemolimpex Magyar Vegyiaru Kulkereskedelmi Vallalat: *See*—
  - Galgoczi, Bela, Demeter, Zagyvai, Soltesz, Sommer, Mercsel, and Raab. 3,380 947.
- Cherdron, Harald H. O.: *See*—
  - Palm, Richard A., Cherdron, Ohse, and Korte. 3,380.939.
  - Palm, Richard A., Cherdron, Ohse, and Korte. 3,380,987.
- Chesapeake Corp. of Virginia, The: *See*—
  - Vranian, Henry. 3,380,914.
- Cheskin, David B. Prestressed framing system. 3,380,209, 4–30–68, Cl. 52—223.
- Chesnutt, William P., Jr.: *See*—
  - Williamson, Andrew J., and Chesnutt. 3,380,266.
- Chevron Research Co.: *See*—
  - Anderson, Donald J. 3,380,918.
  - McAuliffe, Clayton D., Simon, and Johnson. 3,380,531.
  - Paterson, Norman J. 3,380,912.
- Chiabrandy, Robert E., to General Electric Co. Safing means for high rate of fire multi-barrel automatic weapon. 3,380,341, 4–30–68, Cl. 89—12.
- Chiabrandy, Robert E., to General Electric Co. Clearing mechanism for high rate of fire multi-barrel automatic weapon. 3.380,342, 4–30–68, Cl. 89—12.
- Chiabrandy, Robert E., and D. P. Tassie, to General Electric Co. Firing mechanism for high rate of fire multi-barrel automatic weapon. 3.380,343. 4–30–68. Cl. 89—12.
- Chiang, Robert, to Monsanto Co. Novel process and polymer. 3,380.979, 4–30–68, Cl. 260—88.7.
- Chisholm, Douglas S., to The Dow Chemical Co. Mechanical linkage. 3.380.309, 4–30–68. Cl. 74—1.
- Chittenden, Richard M., and O. F. Ecklund, to American Can Co. Mold with replaceable inserts. 3,380,121, 4–30–68, Cl. 18—35.
- Chrysler Corp.: *See*—
  - Nelson, Wilbur W. 3,381,257.
- Ciba Ltd.: *See*—
  - Zahir, Sheik A.-C. 3 381.062.
  - Zahir, Sheik A.-C. 3,381,063.
- Circuit Research Co: *See*—
  - Burr, Robert P. 3,381,220.
- Citograf Aktiebolag: *See*—
  - Dahlin, Rolf B. 3,380,562.
- Clar, Edith, and R. A. Paris, to Pechiney Compagnie de Products Chimiques et Electrometallurgiques. Solid solutions of fine grain metallic carbides and method. 3,380,839, 4–30–68, Cl. 106—43.
- Clark, Benjamin F., and J. A. Zaslowsky, to Olin Mathieson Chemical Corp. Dichloracetaldehyde process. 3,381,036, 4–30,68. Cl. 260—601.
- Clark, Leland C., Jr. Electrolytic sensor with anodic depolarization. 3,380,905, 4–30–68, Cl. 204—195.
- Clary Corp.: *See*—
  - Israely, Ilan. 3,381,276.
- Clauss, Bernard: *See*—
  - Schaeffer, Andre, Clauss, and Laquerriere. 3,380,830.
- Clave, Marcel: *See*—
  - Clave, Serge and M. 3,380,335.
- Clave, Serge and M. Observation port, 3,380,335, 4–30–68, Cl. 88—1.
- Clay-Adams, Inc.: *See*—
  - Gulotta, Gerald D. 3,380,573.
- Clay, Robert B., M. A. Cook, L. L. Udy, and D. H. Pack, to Intermountain Research and Engineering Co. Inc. System for mixing and pumping slurry explosives. 3,380,333, 4–30–68, Cl. 86—20.
- Clear, Elmer E., to Phillips Petroleum Co. Restoring lost circulation in a well drilled with an oil base drilling fluid. 3,380,542, 4–30–68, Cl. 175—72.
- Close, Robert A.: *See*—
  - Wrench, Edwin H., Lindkvist, Mandoza, Close, Gibb, and Ford. 3,380,687.
- Cluff, Edward F., A. T. Harris, and K. F. King, to E. I. du Pont de Nemours and Co. Composition for imparting tack to α-olefin-based elastomers. 3,380,952, 4–30–68, Cl. 260—33.8.
- Cochardt, Alexander W., to Westinghouse Electric Corp. Permanent magnet material and process for manufacturing same. 3,380,920, 4–30–68, Cl. 252—62.63.
- Cohen, Abraham B., and A. C. Shoenthaler, to E. I. du Pont de Nemours and Co. Photopolymerizable compositions and elements. 3,380,831, 4–30–68, Cl. 96—115.
- Cohen, Charles A., and C. W. Muessig, to Esso Research and Engineering Co. Jet and rocket fuel. 3,381,046, 4–30–68, Cl. 260—666.
- Cole, E. K., Ltd.: *See*—
  - Cox, Victor J. 3,381,204.
- Coleman, Charles H.: *See*—
  - Jensen, Peter W., Coleman, and Trost. 3,381,083.
- Colgate-Palmolive Co.: *See*—
  - Drukker, Alexander E., and Judd. 3,381,000.
- Collins Radio: *See*—
  - Williams, Winston F. 3,380,654.
- Collins Radio Co.: *See*—
  - Mitchell, Daniel M. 3,381,203.
- Collins, Willys H. Hoist. 3,380,603, 4–30–68. Cl. 214—103.
- Colmerauer, Paul J., to Hoesch Aktiengesellschaft. Hydraulic arrangement including a piston pump with adjustable and reversible output. 3,380,247, 4–30–68, Cl. 60—52.
- Colorvision, Inc.: *See*—
  - Wheeler, Lionel H. 3,381,084.
- Commercial Plastics Ltd.: *See*—
  - Shapiro, Uriel G., and Neary. 3,380,845.
- Commercial Solvents Corp.: *See*—
  - Frump, John A. 3,380,959.
  - Purcell, Robert F. 3.380.975.
- Commissariat a l'Energie Atomique: *See*—
  - Sauve, Charles. 3,380,270.
- Communication Equipment and Engineering Co.: *See*—
  - Peterson, George E. 3.381,082.
- Compagnie d'Exploration Petroliere: *See*—
  - Le Fournier, Jacques F. M. 3.380.292.
- Compagnie Francaise Thomson Houston-Hotchkiss Brandt: *See*—
  - Gerlach, Pierre. 3,381,166.
- Comstock, Bill H. Rotary paint chipper. 3,380,094, 4–30–68, Cl. 15—93.
- Conch International Methane Ltd.: *See*—
  - Jackson, Robert G. 3,380,613.
- Congoleum-Nairn Inc.: *See*—
  - Kemmler, James W. 3,381,067.
- Connor, Donald E., and D. E. Lienemann, to International Harvester Co. Balk remover for planters. 3,380,412, 4–30–68, Cl. 111—63.
- Consolidated Electrodynamics Corp.: *See*—
  - Groenewegen, Johannes B. 3,380,638.
- Container Corp. of America: *See*—
  - Krieps, Frank J. 3,380,610.
- Continental Can Co., Inc.: *See*—
  - Moloney, John J. 3.380 419.
  - Simpson, Justin. 3.380,732.
- Continental Oil Co.: *See*—
  - Bowker, John E., and Cashman. 3,380,424.
  - Miller, Donald B. 3.380 930.
  - Miller Donald B., and McClaflin. 3,380,981.
  - Schroeder, Carl E., Jr. 3,380,255.
- Control Data Corp.: *See*—
  - Davis, Lester T. 3.381.236.
  - Fischer, William. 3 380,334.
- Cook, Donald S. Electrical floor duct adaptor fitting. 3,380,208, 4–30–68. Cl. 52—221.
- Cook, Evin L., to Mobil Oil Corp. Method of completing a well. 3,380,532, 4–30–68, Cl. 166—46.
- Cook, George W., to Sperry Rand Corp. Voltage comparison and gating circuit. 3,381,142, 4–30–68, Cl. 307—235.
- Cook, Harry C.: *See*—
  - Nelson, Jerome W., Faulkner, and Cook. 3,380,148.
- Cook, Leo W., to Borg-Warner Corp. Friction plate employing vibration damper. 3,380,566, 4–30–68, Cl. 192—107.
- Cook, Melvin A.: *See*—
  - Clay, Robert B., Cook, Udy, and Pack. 3,380,333.
- Cooper, George D. Light fixture. 3,381,125, 4–30–68, Cl. 240—11.4.
- Cooper, Robert D.: *See*—
  - Bradbury, Walter C., and Cooper. 3,380,806.
- Cope Allman Export S.A.: *See*—
  - Gruska, Ralph. 3,380,795.
- Corinth Machinery Co., Inc.: *See*—
  - Weston, Clement W., Jr. 3,380,495.

Corman, Julian, to Grain Processing Corp. Process of purifying glucoamylase. 3,380,891, 4–30–68, Cl. 195—31.

Courbon, Jacques: *See*—
Michel, Max, and Courbon. 3,380,933.

Cox, Bradley G., L. Yablonski, and B. A. Loomans, to Baker Perkins, Inc. Mixing machine drive. 3,380,116, 4–30–68, Cl. 18—12.

Cox, Edward W., and E. Cashwell, to Philip Morris Inc. Continuous rod circumference measurement and control. 3,380,351, 4–30–68, Cl. 93—1.

Cox, Herbert F., Jr. Liquid measuring device. 3,380,628, 4–30–68, Cl. 222—1.

Cox, James S. Shrimp butchering apparatus. 3,380,112, 4–30–68, Cl. 17—2.

Cox, Victor J., to E. K. Cole, Ltd. High voltage rectifiers. 3,381,204, 4–30–68, Cl. 321—15.

Craighead, Emery M., to Phillips Petroleum Co. Oil production by vertical steam drive. 3,380,527, 4–30–68, Cl. 166—11.

Crane Co.: *See*—
Glover, George E., and Pratt. 3,380,804.

Crano, John C., and E. K. Fleming, to Pittsburgh Plate Glass Co. Polymerization using peroxycarbonate esters with salts of sulfurous acid. 3,380,946, 4–30–68, Cl. 260—29.6.

Crate, Gerald F.: *See*—
Kontra, Joseph, and Crate. 3,380,629.

Creedon, John E., S. Schneider, and S. J. Shapiro, to United States of America, Army. Fossil fuel-fired thermionic converters. 3,381,148, 4–30–68, Cl. 310—4.

Cremer, Gottfried, H. Behrens, and H.-J. Dietzsch, to Schneider & Co. Apparatus for producing ceramic bodies. 3,380,128, 4–30–68, Cl. 25—17.

Crist, Elmer E., and J. L. Diltz, to Beloit Corp. Control apparatus for horizontal reel. 3,380,685, 4–30–68, Cl. 242—65.

Cromer, Charles F.: *See*—
Strom, Albert P., Cromer, and Browne. 3,381,101.

Crompton & Knowles Corp.: *See*—
Nugarus, Anthony R. 3,380,704.

Cross, James M., and C. D. Nolen, to Mobay Chemical Co. Polyester polyols containing a coumarin brightener and a blue dye. 3,380,955, 4–30–68, Cl. 260—40.

Crowl, Louis A. Garment support means. 3,380,596, 4–30–68, Cl. 211—123.

Crown Cork & Seal Co., Inc.: *See*—
Potts, Vinson S. 3,380,609.

Cubberly, Walter E., Jr., and G. H. Pardue, to Schlumberger Technology Corp. Well logging tool. 3,381,267, 4–30–68, Cl. 340—17.

Cucksey, Edward L.: *See*—
Du Buis, Edwin O., and Cucksey. 3,380,416.

Cugini, Joseph, to Pennsylvania Engineering Corp. Charging machine for furnaces. 3,380,599, 4–30–68, Cl. 214—18.

Culpepper, Jesse L., Jr., and N. H. Sachnik, to Texsteam Corp. Flow regulator with radially expanding elastomeric block. 3,380,470, 4–30–68, Cl. 137—269.

Cunningham, Joseph E., to Celanese Corp. of America. Dynamic alignment device for ring and traveler type winding apparatus. 3,380,144, 4–30–68, Cl. 29—407.

Curtis, John R., Jr. Light flasher for fork lift vehicles. 3,381,287, 4–30–68, Cl. 340—282.

Czetli, Jess, to The Alan I W Frank Corp. Sample weighing device. 3,380,597, 4–30–68, Cl. 214—2.

Dacquay, Henri. Photographic reproducing apparatus. 3,380,337, 4–30–68, Cl. 88—24.

D'Adesky, Pierre Y. Combination floating mattress and beach pad. 3,380,088, 4–30–68, Cl. 5—344.

Dahlin, Rolf B., to Citograf Aktiebolag. Driving mechanisms particularly for motor-driven address printing and like machines. 3,380,562, 4–30–68, Cl. 192—8.

Daikin Kogyo Kabushiki Kaisha: *See*—
Kometani, Yutaka, Sugino, and Furukawa. 3,381,041.

Dale, Charley E., to The Dale-Jones Corp. Transport equipment. 3,380,607, 4–30–68, Cl. 214—505.

Dale, John I., III, J. M. Straley, and M. A. Weaver, to Eastman Kodak Co. Thiazole azo aniline dyestuffs containing vinylsulfonylethyl groups. 3,380,991, 4–30–68, Cl. 260—158.

Dale-Jones Corp., The: *See*—
Dale, Charley E. 3,380,607.

D'Alessio, Theresa H. Book mailing wrapper. 3,380,644, 4–30–68, Cl. 229—40.

Dalley, James E., to Bell Telephone Laboratories, Inc. Microwave directional coupler having ohmically joined output ports D.C. isolated from ohmically joined input and terminated ports. 3,381,244, 4–30–68, Cl. 333—10.

D'Amato, Michael A., to Delavan Mfg. Co. Closed circuit fluid, motor, pump and reservoir system and transmission valve therefor. 3,380,248, 4–30–68, Cl. 60—53.

Danemark, Marius: *See*—
Cathrein, Rene, and Danemark. 3,380,814.

Danemark, Marius, R. Cathrein, and A. Y. Simonian, to Sel-Rex Corp. Electrolyte and method for electrodepositing a pink gold alloy. 3,380,898, 4–30–68, Cl. 204—44.

Daniels, Henricus P. C., to North American Philips Co., Inc. Method and device for ultrasonic welding. 3,380,150, 4–30–68, Cl. 29—470.1.

Danks, Ronald: *See*—
Ritzau, William P., and Danks. 3,380 107.

Darlington, Sidney, to Bell Telephone Laboratories Inc. Controlled sideband modulator. 3,381,243, 4–30–68, Cl. 332—45.

Daubert Chemical Co.: *See*—
Moyer, Wendell W., Jr., and Kochalka. 3,380,582.

Daugirdas, Kristupas, R. J. Lynn, and S. L. Lowy, to Vapor Corp. Modulating door check. 3,380,110, 4–30–68, Cl. 16—66.

Davie, William R., to United States Steel Corp. Method of removing potassium ions from hydroxyalkyl alkyl maleates. 3,381,028, 4–30–68, Cl. 260—485.

Davies, Victor. Steering and propulsion of watercraft. 3,380,426, 4–30–68, Cl. 115—28.

Davis, Howard C., and H. E. Trumbull, to Xerox Corp. Sheet guiding mechanism for a reproduction machine. 3,380,379, 4–30–68, Cl. 101—132.

Davis, Lester T., to Control Data Corp. Twisted pair transmission system. 3,381,236, 4–30–68, Cl. 330—53.

Davis, William J., to Polymer Corp. Bearing. 3,380,843, 4–30–68, Cl. 117—33.

Daytona Marine Engine Corp.: *See*—
Sarra, Salvatore S. 3,380,466.

Deakin, Stanley T., to Sealectro Ltd. Electrical sockets. 3,381 261, 4–30–68, Cl. 339—248.

Dean, Roy H., to Roy Dean Products Co. Vent device. 3,380,620, 4–30–68, Cl. 220—44.

Dean, Roy, Products Co.: *See*—
Dean, Roy H. 3,380,620.

De Angelis, Henry M., to United States of America, Air Force. Intensified radioactive sources and method of preparation. 3,380,853, 4–30–68, Cl. 117—212.

Deary, Louis, and S. W. Wirth, to Sylvania Electric Products Inc. Fabrication of image display screens. 3,380,826, 4–30–68, Cl. 96—36.1.

Deco Tools, Inc.: *See*—
Faber Elmer L. 3,380,434.

Deemie, Gerald W., I. H. Sage, S. Komsa, A. Rakus, and R. W. Yocum, to Caterpillar Tractor Co. Disconnect drive for inertial welder spindle. 3,380,641, 4–30–68, Cl. 228—2.

Deex, Oliver de S., and J. D. Gabbert, to Monsanto Co. Process for the preparation of polyethylene emulsions. 3,380,945, 4–30–68, Cl. 260—29.6.

DeFrancis, Dominick J., J. M. Fooks, and L. T. Staats, Sr. Apparatus for stapling sheets intopads 3.380,639, 4–30–68, Cl. 227—4.

De Frank, William, to C. H. Stuart & Co., Inc. Lid scoop. 3 380,307, 4–30–68, Cl. 73—427.

Degonde, Jean, and H. Bailly, to Thomson-Medical-Telco. Chart recorder for use with metallized paper. 3,381,300, 4–30–68, Cl. 346—35.

De Havilland Aircraft of Canada Ltd., The: *See*—
Fry, John A., and Taylor. 3,380,204.

Deimann Karl H., to A. Schmermund. Tobacco pouches. 3,380,576, 4–30–68, Cl. 206—41.

Deiner, Hans: *See*—
Enders, Heinz, Deiner, Bernheim, Mosch, and Stenzinger. 3,380 943.

Dejoux, Jean V.: *See*—
De Montremy, Jean, and Dejoux. 3,380,794.

De Keersmaecker, Jean: *See*—
Brichard, Edgard, Dupont, and De Keersmaecker. 3,381,073.

De Kerland, Pierre L. C. Display carton for bottles. 3,380,574, 4–30–68, Cl. 206—45.14.

Delanoy, Richard L., D. F. Foreman, and G. J. Laurer, to International Business Machines Corp. Data transmission apparatus, 3,381,089, 430–68, Cl. 178—70.

De Laval Turbine Inc.: *See*—
Blattner, Ernest W. Pilarczyk, and Toth. 3,380,711.

Delavan Mfg. Co.: *See*—
D'Amato, Michael A. 3,380,248.

Dell, Gaillard W.: *See*—
Goodspeed, Edwin W., and Dell. 3,380,921.

Dell, Gaillard W., and E. W. Goodspeed, to Hooker Chemical Corp. Metal cold forming. 3,380,859, 4–30–68, Cl. 148—6.15.

De Luxe Girdlecraft Co., Inc.: *See*—
Glogover, Stanley. 3,380,455.

De Lyra, Rose T. Reusable envelope. 3,380,648, 4–30–68, Cl. 229—71.

Demeter, Laszlo: *See*—
Galgoczi, Bela, Demeter, Zagyvai, Soltesz, Sommer, and Hercsel, and Raab. 3,380,947.

De Montremy, Jean, and J. V. Dejoux, to N. Reisini, Method of photographing motion pictures. 3,380,794, 4–30–68, Cl. 352—44.

De Moss, Dean L.: *See*—
Johnson, Wayne R., and De Moss. 3,381,085.

De Moss, Dean L., D. P. Gregg, and W. R. Johnson, to Minnesota Mining and Mfg. Co. Reproduction of television signals from photographic disc recordings. 3,381,086, 4–30–68, Cl. 178—7.1.

Dennison Mfg. Co.: *See*—
Kirk, Fred J. 3,380,122.

Dentists' Supply Co., of New York, The: *See*—
Heathe, William R. 3,380,162.

Derigo, Marilyn: *See*—
Farrell, Basil M. 3,380,080.

Derritron Ltd.: *See*—
Grootenhuis, Peter, and Gearing. 3,380,515.

Descarries, Raymond, to Electrolux Corp. Dual purpose floor cleaning tool. 3,380,106, 4–30–68, Cl. 15—417.

Deschamps, Robert: *See*—
Brickman, Harold, and Deschamps. 3,381,119.

Deschner, Reinhart P., and C. J. Korpics, to Standard Oil Co. Method for restricting propellant grains. 3,381,065, 4–30–68, Cl. 264—3.

De Staat der Nederlanden ten deze Vertegenwoordigd Door de Directeur-Generaal der Posterijen, Telegrafie en Telefonie: *See*—
Van Duuren, Hendrik C. A. 3,381,271.

De Stefano, Vincent R.: *See*—
Baker, William E., De Stefano, and Meise. 3,381,095.

Deutsche Edelstahlwerke Aktiengesellschaft: *See*—
Frehn, Fritz. 3,380,861.

Deutscher Spinnereimaschinenbau Ingolstadt: *See*—
Grimm, Eberhard. 3,380,239.

Development Corp., The: *See*—
Goldberger, William H. 3,380,904.

Dewey, John L., to Reynolds Metals Co. Method of determining ore concentration. 3,380,897, 4–30–68, Cl. 204—1.

De Woskin, Irvin S., to Beltx Corp. Static-eliminating overshoe. 3,381,173, 4–30–68, Cl. 317—2.

Dexter Chemical Corp.: *See*—
Edelstein, Sidney M., and Welles. 3,380,927.

Dexter, Martin: *See*—
Peterson, Janet B., and Dexter. 3,380,962.

Diamond International Corp.: *See*—
Carkhuff, Le Roy F. 3,380,230.

Diamond Shamrock Corp.: *See*—
Schaefer, Steven W., Godes, and Fulmer. 3,380,215.

Diassi, Patrick A.: *See*—
Levine, Seymour D., and Diassi. 3,381,029.

Dick, A. B., Co.: *See*—
Bach, Frederich O. 3,380,824.

Dickerson, Richie H.: *See*—
Mathe, George L, Boothe, and Dickerson. 3,380,329.

Diehl, Charles H., Jr., and H. A. Eberhardt, to Hale Fire Pump Co. Proportioning apparatus. 3,380,467, 4–30–68, Cl. 137—99.

Diener, Arnulf: *See*—
Ruttiger, Karl, and Diener. 3,380,727.

Dietz, Robert E., H. J. Guggenheim, and L. F. Johnson, to Bell Telephone Laboratories, Inc. Divalent metal doped fluorides as optical maser material. 3,381,240, 4–30–68, Cl. 331—94.5.

Dietzsch, Hans-Joachim: *See*—
Cremer, Gottfried, Behrens, and Dietzsch. 3,380,128.

Dillender, Karl E., to Irving Air Chute Co., Inc. Child harness adapter means for safety belts. 3,380,776, 4–30–68, Cl. 297—389.

Dilling, Elmer D., to Titanium Metals Corp. of America. Method and apparatus for drawing solid wire stock. 3,380,278, 4–30–68, Cl. 72—224.

Dilo-Gesellschaft, Drexler & Co.: *See*—
Himmel, Franz. 3,380,765.

Diltz, Jack L.: *See*—
Crist, Elmer E., and Diltz. 3,380,685.

Distillers Co. Ltd., The: *See*—
Hall, Reginald H. 3,381,011.

Di Tommaso, Anthony, W. C. Martin, and D. C. McKown, to General Dynamics Corp. Stabilization system. 3,380,310, 4–30–68, Cl. 74—5.22.

Dittman, David O., J. J. Licari, and M. Glovak, to North American Rockwell Corp. Ablative thermal insulation composition of a silicone, epoxy resin, cork and curing agent. 3,380,941, 4–30–68, Cl. 260—17.4.

Diversification Development Inc.: *See*—
Peterschmidt, Paul L. 3,380,203.

Divine, George T. F. Salvaging apparatus. 3,380,420, 4–30–68, Cl. 114—50.

Docimo, Peter J., to Marvin Electric Mfg. Co. Lighting fixture. 3,381,123, 4–30–68, Cl. 240—78.

Dolnick, Seymour S., to Glen Mfg. Inc. Bathtub cover. 3,380,079, 4–30–68, Cl. 4—173.

Donner, Norman W. Minnow bucket. 3,380,186, 4–30–68, Cl. 43—56.

Dorchester, Charles H.: *See*—
Miller, Arthur, Dorchester, and Sullivan. 3,380,188.

Dorrel, Carter E., and G. J. Laurer, to International Business Machines Corp. Balanced line driver. 3,381,090, 4–30–68, Cl. 178—70.

Dortmund-Horder Huttenunion Aktiengesellschaft: *See*—
Ruttiger, Karl, and Diener. 3,380,727.

Dougherty, Francis J., and S. H. Ross, to United States of America, Army 1,2-Epoxyalkane volatile residual space fungicides adsorbed in pelleted molecular sieves. 3,380,884, 4–30–68, Cl. 167—39.

Doughty, Frederic C., and P. A. Hoffman, to Burroughs Corp. Thin film magnetic storage apparatus, method and article of manufacture. 3,381,281, 4–30–68, Cl. 340—174.

Douglas, Hugh: *See*—
Hunt, Joe B., and N. E. 3,380,099.

Douglas, James: *See*—
Hunt, Joe B., and N. E. 3,380,099.

Douwes, Cornelis: *See*—
Van der Minne, Johan L., Hermanie, and Douwes. 3,380,970

Dow Chemical Co, The: *See*—
Chisholm Douglas S. 3.380,309.
Ginter, Thomas O. 3,380,866.
Helfrich, George F., and Rothermel. 3,380,977.
Hendrickson, Alfred R. 3,380,529.
Jennings, Walter E., Watson, and Borough. 3,380.220.
Malhotra, Sudarshan K., and Hostynek. 3,381,021.
Surine, William R., and Majewski. 3,381,032.

Dowell, Millard F., to General Electric Co. Exhaust manifold system for internal combustion engines. 3,380,246, 4–30–68, Cl. 60—13.

Doyen, Leon, and Louis. Container of plastic material and method of producing same. 3,380,646, 4–30–68, Cl. 229—57.

Doyen, Louis: *See*—
Doyen, Leon, and Louis. 3,380,646.

Drakenfeld, B. F., & Co., Inc.: *See*—
Murray, Robert S., and Andrews. 3,380,846.

Draugelis, Vaidevutis C., to Xerox Corp. Sheet stripping apparatus. 3,380,783, 4–30–68, Cl. 271—51.

Dravo Corp.: *See*—
Mevissen, Ernst A., and Lakin. 3,380,726.

Dresser Industries, Inc.: *See*—
Olsen, Arnold R. 3,380,409.

Dressler, Hans, and K. G. Reabe, to Koppers Co., Inc. Ultraviolet light and oxidation stabilisers. 3,380,961, 4–30–68, Cl. 260—45.9.

Drukker, Alexander E., and C. I. Judd, to Colgate-Palmolive Co. Certain 11-basic substituted-5,6-dihydromorphanthridine compounds. 3,381,000, 4–30–68, Cl. 260—239.

Drummond, John A., and G. A. Gohlke, to Phillips Petroleum Co. Compressor control. 3,380,650, 4–30–68, Cl. 230—114.

Drzewinski, Wieslaw: *See*—
Zukowski, Edward, Eckstein, and Drzewinski. 3,380,996.

Du Bois, Edward M. Cutting tool. 3,380,158, 4–30–68, Cl. 30—283.

Du Bois, Vern F. Multiple cavity gun powder dispenser. 3,380,633, 4–30–68, Cl. 222—137.

Dubost, Gerard: *See*—
Zisler, Siegfried, and Dubost. 3,381,297.

Du Buis, Edwin O., and E. L. Cucksey, to Willcox & Gibbs Sewing Machine Co. Thread cutting device. 3,380,416, 4–30–68, Cl. 112—252.

Dudley, Frank E. Cup plug expander. 3,380,276, 4–30–66, Cl. 72—122.

Dudnik, Ljubov A.: *See*—
Berlin, Alfred A., and Dudnik. 3,380,982.

Dudszus, Alfred A.: *See*—
Härtl, Ernst E., Dudszus, Franz, Rethfeldt, Wienert, and Müke. 3,380,114.

Duffield, Joseph F., and Z. R. Godziemba-Dambski, to Smith & Stone Ltd. Actuator and contact assembly for rotary action switches. 3,381,103, 4–30–68, Cl. 200—156.

Duftschmid, Klaus E., to Osterreichische Studiengesellschaft fur Atomenergie Ges. m.b.H. Apparatus for the fluoroscopy of narrow limited portions of the walls of cavities. 3,381,129, 4–30–68, Cl. 250—71.

Dumbeck, Robert F. Traffic speed detection and measuring systems. 3,381,219, 4–30–68, Cl. 324—70.

Dunnebier, Kurt: *See*—
Stemmler, Kurt. 3,380,327.

Dunsheath, Thomas J., and D. R. Johnson, to Ampex Corp. Method and apparatus for maintaining proper tape tension on a tape recorder. 3,380,680, 4–30–68, Cl. 242—55.12.

Duplex Mfg. Co.: *See*—
Andrew, Homer L. 3,380,533.

Dupont, Adolphe: *See*—
Brichard, Edgard, Dupont, and De Keersmaecker. 3,381,073.

Du Pont de Nemours, E. I., and Co.: *See*—
Bonner, Willard H., Jr. 3,381,077.
Bryan, James C., and Hurt. 3,381,074.
Calkins, William H., Squire, and Ziegler. 3,380,980.
Chalmers, John R., and Stilmar. 3,380,971.
Cluff, Edward F., Harris, and King. 3,380,952.
Cohen, Abraham B., and Shoenthaler. 3,380,831.
Eleuterio, Herbert S., and Koch. 3,381,047.
Flook, William M., Jr. 3,381,265.
Hill, Harold W., Jr., Kwolek, and Sweeny. 3,380,969.
Keller, William J. 3,380,937.
Koch, Theodore A., and Eleuterio. 3,381,045.
Lewis, George L., Gulledge, and Teufer. 3,380,847.
Martin, Robert S. 3,380,244.
Pollack, Harold. 3,380,849.
Ring, Harold F. 3,380,935.
Rusher, Robert L. 3,380,876.
Ryan, Donald J., and Starkey. 3,380,978.
Scribner, Richard M. 3,381,020.
Short, Oliver A. 3,380,835.
Staats, Louis T., Jr. 3,380,513.
Stilmar, Frederic B. 3,380,974.
Washburn, Robert L. 3,380,577.
Webers, Vincent J. 3,380,825.

Duryee, Philip A. Two-way communications system. 3,380,554, 4–30–68, Cl. 182—46.

Dwyer, Francis P., deceased, (by L. Dwyer, executrix), and B. Halpern, to The Australian National University, and Monsanto Chemicals (Australia) Ltd. Resolution of racemic amino acids. 3,381,031, 4–30–68, Cl. 260—518.

Dwyer, Lola: *See*—
Dwyer, Francis P., and B. Halpern. 3,381,031.

Dynamit Nobel Aktiengesellschaft: *See*—
Bucklisch, Ludwig, and Volpert. 3,380,344.
Vogt, Wilhelm, Janssen, and Richtzenhain. 3,381,053.

E Z Paintr Corp.: *See*—
Pharris, John A. 3,380,097.
Pharris, John A., and Henningsen. 3,380,100.

Eastman Kodak Co.: *See*—
Caldwell, John R., and Hill. 3,381,058.
Dale, John I., III, Straley, and Weaver. 3,380,991.
Edwards, Marvin B., Park, and Carter. 3,380,935.
Feasey, Raymond D. J., and Ulmschneider. 3,380,678.
Harvey, Donald M. 3,380,357.
Kitze, Theodore J., Jr., and Rosecrants. 3,380,828.
Lappin, Gerald R. 3,381,038.
Olson, Richard J. 3,380,366.
Rissberger, Arthur C., Jr., and Ulmschneider. 3,380,621.
Stockbridge, Bruce W., Patton, and Bishop. 3,380,360.
Sublett, Bobby J., and Touey. 3,381,070.
Touey, George P., and Mumpower. 3,380,458.
Wallace, David J., Straley, and Weaver. 3,380,990.
Williams, Robert F., Jr., and Panceast. 3,380,997.

Eaton Yale & Towne Inc.: *See*—
Quayle, George F. 3,380,713.

Eberhardt, Harry A.: *See*—
Diehl, Charles H., Jr., and Eberhardt. 3,380,467.

Eberspaecher, J.: *See*—
Kofink, Siegfried. 3,380,387.

Ebner, Herman G., to Standard Oil Co. Stabilized hydrocarbon polymer compositions. 3,380,960, 4–30–68, Cl. 260—45.9.

Eckhoff, Paul S., to American Can Co. Bailing machine. 3,380,418, 4–30–68, Cl. 113—1.

Ecklund, Oscar F.: *See*—
Chittenden, Richard M., and Ecklund. 3,380,121.

Eckstein, Zygmunt: *See*—
  Zukowski, Edward, Eckstein, and Drzewinski. 3,380,993.
Edco, Inc.: *See*—
  Hester, Edgar, and Price. 3,380,432.
Edelman, Ralph E.: *See*—
  Saia, Anthony, and Edelman. 3,380,508.
Edelstein, Sidney M., and E. Welles, to Dexter Chemical Corp. Broad spectrum surface active agent and method of making the same. 3,380,927, 4–30–68, Cl. 252—308.
Educational Testing Service: *See*—
  Kling, Frederick R., and Serrell. 3,380,176.
Edwards, Beverly E., and P. G. Pearce. Self-inking price marker. 3,380,378, 4–30–68, Cl. 101—111.
Edwards, Helen M.: *See*—
  Edwards, Theodoric B. 3,381,200.
Edwards, Marvin B., V. K. Park, and E. H. Carter, Jr., to Eastman Kodak Co. Alkali metal containing catalyst and polymerization process employing same. 3,380,985, 4–30–68, Cl. 260—94.9.
Edwards, Theodoric B., deceased, by H. M. Edwards, executrix. Regeneration circuit with series equivalent motor. 3,381,200, 4–30–68, Cl. 318—332.
Egan, William E., to United States of America, Navy. Trigger pulse circuit. 3,381,146, 4–30–68, Cl. 307—305.
Ehrlich, Daniel C.: *See*—
  Neal, Harry B., and Ehrlich. 3,380,210.
Eichorn, Roger H., to Xerox Corp. Xerographic cleaning apparatus. 3,380,355, 4–30–68, Cl. 95—1.7.
Ellertson, Donald H., and R. A. Mason, to National Distillers & Chemical Corp. Drain stopper. 3,380,081, 4–30–68, Cl. 4—295.
Eisenberg, Maurice, to Solar Light Mfg. Co. Louver grid for lighting fixture. 3,381,124, 4–30–68, Cl. 240—78.
Eisenstein, Albert, to The Babcock & Wilcox Co. Radial and axial seals for a regenerative air heater. 3,380,514, 4–30–68, Cl. 165—9.
Eldreth, Fred S.: *See*—
  Arnold, Howard W., Eldreth, and Gore. 3,380,269.
Electric Storage Battery Co., The: *See*—
  Bilhorn, John M. 3,380,857.
Electro-Craft Corp.: *See*—
  Persson, Erland K. 3,381,199.
Electro-Voice, Inc.: *See*—
  Wiggins, Alpha M., and Wood. 3,381,149.
Electrolux Corp.: *See*—
  Allen, Oliver L., Kowalewski, and Ritzau. 3,380,108.
  Belicka, Michael E. 3,380,105.
  Descarries, Raymond. 3,380,106.
  Ritzau, William P. 3,380,103.
  Ritzau, William P., and Budington. 3,380,104.
  Ritzau, William P., and Danks. 3,380,107.
Eleuterio, Herbert S.: *See*—
  Koch, Theodore A., and Eleuterio. 3,381,045.
Eleuterio, Herbert S., and T. A. Koch, to E. I. du Pont de Nemours and Co Cyclododecatriene-1,5,9 process. 3,381,047, 4–30–68, Cl. 260—666.
Elia, Kiki: *See*—
  Elia, Petros and K. 3,380,737.
Elia, Petros and K. Rowing-type exercising equipment. 3,380,737, 4–30–68, Cl. 272—72.
Elias, William F., to American Home Products Corp. Universal disposable cartridge for parenteral administration of drugs. 3,380,452, 4–30–68, Cl. 128—221.
Elizer, Lee H., G. C. Glasscock, and J. M. Seitz, to The Hubinger Co. Anionic agent aftertreatment of cyanamide-modified cellulose. 3,380,799, 4–30–68, Cl. 8—116.2.
Ellenberg, Carl H., A. Weinstein, D. D. Litt, and D .B. Jaroff, to Miner Industries, Inc. Balloon vending machine. 3,380,490, 4–30–68, Cl. 141—167.
Ellicott Machine Corp.: *See*—
  Schmidt, Fred J. 3,380,179.
Elliott, Dale E.: *See*—
  Moore, William P., and Elliott. 3,380,667.
Elmer, Otto C., and E. E. Gruber, to The General Tire & Rubber Co. Polymerization of cyclic oxide monomers in the presence of a filler dispersion. 3,380,957, 4–30–68, Cl. 260—41.
Emco Wheaton, Inc.: *See*—
  Rosell, Lester P., and Pentecost. 3,380,491.
Emerson Electric Co.: *See*—
  Steiner, Robert E. 3,381,126.
Emerson, Reginald S. Variable speed gear. 3,380,315, 4–30–68, Cl. 74—230.17.
Enders, Heinz, H. Deiner, W. Bernheim, F. Mosch, and T. Stenzinger, to Chemische Fabrik Pfersee G.m.b.H. Process for producing stable aqueous emulsions of compounds containing perfluoralkyl groups and emulsions produced. 3,380,943, 4–30–68, Cl. 260—29.2.
Engelmann, Roger F., to J. I. Case Co. Tractor draft arm support. 3,380,759, 4–30–68, Cl. 280—474.
Engelsmann, Dieter: *See*—
  Kiper, Gerd, Engelsmann, Albedyll, and Schroeder. 3,380,356.
  Winkler, Alfred, Ernst, and Engelsmann. 3,380,362.
English Electric Co. Ltd., The: *See*—
  Brown, Jack K., Hughes, and Burnett. 3,381,175.
Enomoto, Hajime: *See*—
  Oshima. Shintaro, Enomoto, Futami, Kobayashi, Kamibayashi, Fukui, Okada, Sahiki, Koyama, Saito, Moriyama, Abe, and Saito. 3,381,138.
Enssle. Bruno E., to Binks Mfg. Co. Spray gun. 3,380,705, 4–30–68, Cl. 251—89.
Enzinger-Union-Werke AG: *See*—
  Herbst, Wilheim. 3,380,468.
Erich, Lendle, & Co.: *See*—
  Usinger, Walter. 3,380,605.
Erickson Tool Co.: *See*—
  Benjamin, Milton L., and Walker. 3,380,746.
Ericson, Kenneth R., S. M. Postol, and G. B. Walker, to The Procter & Gamble Co. N-alkyl glycidyl ether rheological modifiers for plastisols. 3,380,948, 4–30–68, Cl. 260—30.4.
Ernst, Heinz: *See*—
  Winkler, Alfred, Ernst, and Engelsmann. 3,380,362.
Esso Production Research Co.: *See*—
  Williams, Robert E., and Bayless. 3,380,801.
Esso Research and Engineering Co.: *See*—
  Batzold, John S. 3,380,934.
  Cohen, Charles A., and Muessig. 3,381,046.
  Gray, C. F. 3,380,589.
  Herbst, Walter A. 3,380,815.
  Mattox, William J., and Arey. 3,380.915.
  Nelson, Jerome W., Faulkner, and Cook. 3,380,148.
  Wesselhoft, Robert D., Winegartner, Wadley, and Tveten. 3,380,954.
Etablissement Aesup: *See*—
  Matichard, Eugene. 3,380,157.
Etablissement Dic: *See*—
  Baudoux, Edmond. 3,380,188.
Etablissements Bauchet & Cie: *See*—
  Schaeffer, Andre, Clauss, and Laquerriere. 3,380,830.
Ethyl Corp.: *See*—
  Whiting, Mark C. 3,381,023.
European Atomic Energy Community-Euratom: *See*—
  Wurm, Joseph G. 3,380,907.
Ever-Wear, Inc.: *See*—
  Brickman, Harold, and Deschamps. 3,381,119.
Exworthy, Kenneth W., to Honeywell, Inc. Constant current source employing a paramagnetic resonance current to frequency converter. 3,381,214, 4–30–68, Cl. 324—.5.
F & E Mfg. Co.: *See*—
  James, George A. 3,380,349.
Faber, Elmer L., to Deco Tools, Inc. Decorative painting fixture. 3,380,434, 4–30–68, Cl. 118—500.
Fabich, George A. Extruded metal door frame and hinge assembly. 3,380,218, 4–30–68, Cl. 52—656.
Fabricators Inc.: *See*—
  Widner, Harold A. 3,381,118.
Faerber, Hans A., to Nid Pty., Ltd. Manufacture of confectionery. 3,380,401, 4–30–68, Cl. 107—8.
Fairchild Camera and Instrument Corp.: *See*—
  Guthrie, Everett E. 3,381,207.
Fairchild Hiller Corp.: *See*—
  McComas, Jean W. 3,380,691.
Fantl, Joel: *See*—
  LeBlanc, John R., and Fantl. 3,380,972.
  Le Blanc, John R., Fantl, Rider, and O'Connell. 3,381,055.
Farbenfabriken Bayer Aktiengesellschaft: *See*—
  Blomeyer. Friedrich. 3,380,950.
Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning: *See*—
  Grotsch. Horst. 3,380,999.
  Remy, Hermann. 3,380,989.
Farrell, Basil M., to M. Derigo. Foot bath. 3,380,080, 4–30–68, Cl. 4—182.
Farrell, Robert J.: *See*—
  Keyes, Marion A., and Farrell. 3,380,431.
Faulkner, Glenn E.: *See*—
  Nelson, Jerome W., Faulkner, and Cook. 3,380.148.
Feasey, Raymond D. J., and L. A. Ulmschneider, to Eastman Kodak Co. Web transport system. 3,380,678, 4–30–68, Cl. 242—55.01.
Feigenbaum, Mannie: *See*—
  Wheeler, Lionel H. 3,381,084.
Felcheck, Marvin, and N. N. Murthy, to American Machine & Foundry Co. Energizing circuits for inductive loads. 3,381,180, 4–30–68, Cl. 317—148.5.
Fenton, Donald M.: *See*—
  Biale, Giovanni, Fenton, Olivier, and Schaeffer. 3,381,030.
Fergason, Rector C., to Allis-Chalmers Mfg. Co. Plant divider for harvesters. 3,380,233, 4–30–68, Cl. 56—119.
Fernandez, Joseph I. Animated fish lure. 3,380,184, 4–30–68, Cl. 43—26.2.
Ferneau, Richard H., and G. A. Selig, to Ferno-Washington Inc. Multi-purpose stretcher chair. 3,380,085, 4–30–68, Cl. 5—86.
Ferno-Washington Inc.: *See*—
  Ferneau. Richard H., and Selig. 3,380,085.
Ferreira, Fernand J., to United Aircraft Corp. Annular hollow cathode discharge apparatus. 3,381,157, 4–30–68, Cl. 313—348.
Ferroxcube Corp. of America: *See*—
  Thomas, Preston D. 3,381,144.
Fiber Industries Inc.: *See*—
  Gray, Jack N. 3,380,131.
Field, Howard W.: *See*—
  McElwrath. Allen K., and Field. 3,380 559.
Field, Sheldon B., to John J. McMullen Associates, Inc. Ship stabilizer. 3,380.423, 4–30–68, Cl. 114—125.
Fields, Roger Q., to Schlumberger Technology Corp. Selective firing apparatus. 3,380,540, 4–30–68, Cl. 175—4.55.
Fierbaugh, Emmett A.: *See*—
  Fierbaugh, Lloyd W., and Koep. 3,381 269.
Fierbaugh, Lloyd W., and A. Koep, ⅓ to E. A. Fierbaugh. Safety park and ignition signal device for vehicles. 3,381,269, 4–30–68. Cl. 340—52.
Findley, Joseph D., Jr.: *See*—
  Gamel, Gayne D., and Findley. 3,381,247.
Findley, Samuel A.: *See*—
  Jordan, Richard H., and Findley. 3,380.753.
Firma Woma-Apparatebau W. Maasberg & Co. G.m.b.H.: *See*—
  Maasberg, Wolfgang, and Taufer. 3,380,461.
Fischer Associates, Inc.: *See*—
  Fischer, Harry C. 3,381,110.
Fischer, Harry C., to Fischer Associates, Inc. Hot water heater. 3,381,110, 4–30–68, Cl. 219—312.
Fischer & Porter Co.: *See*—
  Mannherz, Elmer D., and Schmoock. 3,380,301.

Fischer, William, to Control Data Corp. Optical scanning system using specular reflections. 3,380,334, 4–30–68, Cl. 88—1.
Fitch, Frederick T.: *See*—
  Flack, Herbert P., Smith, and Fitch. 3,380,894.
Fitzpatrick, Paul, to Micromatic Hone Corp. Honing tool. 3,380,197, 4–30–68, Cl. 51—34.
Flack, Herbert P., J. G. Smith, and F. T. Fitch, to W. R. Grace & Co. Apparatus for converting hydrosols into solid microspheres. 3,380,894, 4–30–68, Cl. 202—169.
Flaherty, Robert J., H. J. Hallstead, R. L. Judge, R. L. Vaudreuil, J. W. Wyckoff, and C. J. Schug, to International Business Machines Corp. Core matrix winding pattern. 3,381,282, 4–30–68, Cl. 340—174.
Flanagan, James L., to Bell Telephone Laboratories, Inc. Speech coding using axis-crossing and amplitude signals. 3,381,093, 4–30–68, Cl. 179—15.55.
Fleisher, Bernard L., S. Katz, H. P. Stern, and R. V. Weiss, to Bercy. Travel case with detachable illuminated cosmetic mirror. 3,381,120, 4–30–68, Cl. 240—4.2.
Fleissner, Gerold: *See*—
  Fleissner, Heinz and G. 3,380,175.
Fleissner, Heinz and G., to Anstalt Fuer Patentdienst. Rotary sieve drum treating device. 3,380,175, 4–30–68, Cl. 34—115.
Fleming, Elizabeth K.: *See*—
  Crano, John C., and Fleming. 3,380,946.
Fletcher, Arthur F., and J. P. Scullin, to Tenneco Chemicals, Inc. Stabilized vinyl halide resin compositions. 3,380,956, 4–30–68. Cl. 260—41.
Flex-O-Glass, Inc.: *See*—
  Warp, Harold. 3,380,580.
Flook, William M., Jr., to E. I. Du Pont de Nemours and Co. Compressional wave transducer. 3,381,265, 4–30–68, Cl. 340—10.
Fluidrive Engineering Co. Ltd.: *See*—
  Bilton, John. 3,380,319.
Folden, Norman C., to The Vigilantes. Fluid infusion apparatus. 3,380,468, 4–30–68, Cl. 137—101.19.
Fooks, James M.: *See*—
  De Francis, Dominick J., Fooks, and Staats. 3,380,639.
Ford, John: *See*—
  Wrench, Edwin H., Lindkvist, Mandoza, Close, Gibb, and Ford. 3,380,687.
Ford Motor Co.: *See*—
  Leese, Albert H. 3,380,604.
Foreman, Donald F.: *See*—
  Delanoy, Richard L., Foreman, and Laurer. 3,381,089.
Fornerod. Andre, to Matisa Materiel Industriel S.A. Equipment for determining the geometric condition of a track and controlling the slew or lift thereof. 3,380,394, 4–30–68, Cl. 104—8.
Forslund, Donald C., and R. Waxman, to International Business Business Machines Corp. Minimal pin multipurpose logic circuits. 3,381,117, 4–30–68, Cl. 235—164.
Forsvarets Fabriksverk: *See*—
  Bergman, Johan E. H., and Haglund. 3,380,340.
Foster, Harold M., to Mobil Oil Corp. Vapor phase conversion of benzofuran to benzothiophene. 3,381,018, 4–30–68, Cl. 260—330.5.
Foster Wheeler Corp.: *See*—
  Johnson, Burford L., and Gillette. 3,380,102.
Fouts, Hollye R., to Celanese Corp. Process for the modification of resinous oxymethylene polymers. 3,380,966, 4–30–68, Cl. 260—67.
Fowler, John H., to Rockwell Mfg. Co. Landing base. 3,380,519, 4–30–68, Cl. 166—.5.
Fox, Edward A.: *See*—
  Garavaglia, Arthur J., and Fox. 3,380,622.
Frank. Alan I W, Corp., The: *See*—
  Czetli, Jess. 3,380,597.
Franz, Albert, to Stribel, Hermann o.H.G. Circuit for switching high beam head lamps to low beam headlamps during short circuit conditions. 3,381,170, 4–30–68, Cl. 315—83.
Franz, Reinhold H.: *See*—
  Hirtl, Ernst E., Dudszus, Franz, Rethfeldt, Wienert, Mülke, Hauptmann, and Bolze. 3,380,114.
Franzen, Gustav, to Palitex Project-Co. G.m.b.H. Double twisting machine. 3,380,240, 4–30–68, Cl. 57—58.83.
Frasier, Jordan D., to International Rectifier Corp. Electrical pickup structure for electrocardiographs and the like. 3,380,445, 4–30–68, Cl. 128—2.06.
Freeguard, Graham F.: *See*—
  Long, Leonard H., and Freeguard. 3,381,040.
Frehn, Fritz, to Deutsche Edelstahlwerke Aktiengesellschaft. Sintered steel-bonded carbide hard alloys. 3,380,861, 4–30–68, Cl. 148—12.3.
Frey, David A., to Phillips Petroleum Co. Solutions of poly (arylene sulfides). 3,380,951, 4–30–68, Cl. 260—33.6.
Friedman, Robert H., to Getty Oil Co. Secondary recovery of crude oil. 3,380,521. 4–30–68, Cl. 166—8.
Fritzmeier, Rupert: *See*—
  Wingen, Wilhelm. 3,380,700.
Frobese, Charles W., and S. H. Van Wambeck, to Mandrel Industries, Inc. Sorting machine with magnetic memory. 3,380,586, 4–30–68, Cl. 209—74.
Froemel, John G.: *See*—
  Sapoff, Meyer, Jacobs, and Froemel. 3,381,253.
Frontier Chemical Co., Division of Vulcan Materials Co.: *See*—
  Bradbury, Walter C., and Cooper. 3,380,806.
Fruitman, Frank W.: *See*—
  Baxter, Joseph, Jr., Fruitman, and Phelps. 3,380,675.
Frump, John A., to Commercial Solvents Corp. Vinyl halide resins containing oxazoline heat stabilizers. 3,380,959, 4–30–68, Cl. 260—45.8.
Fry, John A., and H. J. Taylor, to The DeHavilland Aircraft of Canada Ltd. Axially projectable stem device. 3,380,204, 4–30–68. Cl. 52—108.
Fuis, Frank, Jr., C. L. Moulton, and C. J. Green, to True-Grade, Inc. Tobacco strippers and/or graders. 3,380,460, 4–30–68, Cl. 131—131.
Fujii, Tatsuo: *See*—
  Tonami, Hitoshi, Uchida, and Fujii. 3,381,075.
Fukui, Takasuke: *See*—
  Oshima, Shintaro, Enomoto, Futami, Kobayashi, Kamibayashi, Fukui, Okada, Sahiki, Koyama, Saito, Moriyama, Abe, and Saito. 3,381,138.
Fukushima, Osamu, to Kurashiki Rayon Co. Ltd. Process for preparing dispersions of low denier fibers. 3,380,953, 4–30–68, Cl. 260—34.2.
Fuller, Robert A. Miniature transformer. 3,381,251, 4–30–68, Cl. 336—83.
Fulmer, Gary C.: *See*—
  Schaefer, Steven W., Godes, and Fulmer. 3,380,215.
Fulwyler, Mack J., to United States of America, Atomic Energy Commission. Particle separator. 3,380,584, 4–30–68, Cl. 209—3.
Fumat, Auguste. Soap dispenser. 3,380,699, 4–30–68, Cl. 248—309.
Funahashi, Takaji. Stamp device incorporating composite porous material. 3,380,380, 4–30–68, Cl. 101—379.
Funk, Michael: *See*—
  Neeff, Joachim, Seiz, and Funk. 3,380,191.
Furth, Harold P. Magnetic pressure liquid circuit breaker. 3,381,248, 4–30–68, Cl. 335—51.
Furukawa, Yasuyoshi: *See*—
  Kometani, Yutaka, Sugino, and Furukawa. 3,381,041.
Futami, Kakuo: *See*—
  Oshima, Shintaro, Enomoto, Futami, Kobayashi, Kamibayashi, Fukui, Okada, Sahiki, Koyama, Saito, Moriyama, Abe, and Saito. 3,381,138.
Gabbert, James D.: *See*—
  Deex, Oliver de S., and Gabbert. 3,380,945.
Gagg, James: *See*—
  Yongman, Derek H., Bridger, and Gagg. 3,380,227.
Galgoczi, Bela, L. Demeter, I. Zagyvai, L. Soltesz, L. Sommer, M. Hercsel, and L. Raab, to Chemolimpex Magyar Vegyiaru Kulkereskedelmi Vallalat. Process for the preparation of aqueous solutions of flocculating agents of the poly-acrylic amide type having high molecular weight. 3,380,947, 4–30–68, Cl. 260—29.6.
Gamel, Gayne D., and J. D. Findley, Jr., to Westinghouse Electric Corp. Tripping means for high speed circuit interrupters. 3,381,247, 4–30–68, Cl. 335—6.
Gans, Francois: *See*—
  Lecomte, Jean, and Gans. 3,380,614.
Ganteaume T., Harry. Means and method for forming seedling beds. 3,380,538, 4–30–68, Cl. 172—701.
Garabedian, Edward. Molding apparatus with selected mold pivoting means. 3,380,512, 4–30–68, Cl. 164—341.
Garavaglia, Arthur J., and E. A. Fox, to The Procter & Gamble Co. Method and material for hermetically sealing containers. 3,380,622, 4–30–68, Cl. 220—53.
Garbutt, John T., to Grain Processing Corp. Process of purifying glucoamylase. 3,380,892, 4–30–68, Cl. 195—31.
Gardner, William L., to The Bendix Corp. Method of making a vitreous off-axis light filter. 3,380,817, 4–30–68. Cl. 65—3.
Garkisch, Otto: *See*—
  Scheiber, Werner, and Garkisch. 3,380,890.
Garrett, Roger E., to The Regents of The University of California. Lettuce harvester. 3,380,234, 4–30–68, Cl. 56—327.
Garrett, Roger E., to The Regents of the University of California. Lettuce harvester. 3,380,237, 4–30–68, Cl. 56—327.
Garrison, Harry F. Hot and cold water mixing faucet. 3,380,478, 4–30–68, Cl. 137—625.41.
Garton, Albert M., to Philip Morris Inc. Adjustable filter rod forming plate assembly. 3,380,352, 4–30–68, Cl. 93—1.
Gaskins, Thomas. Grass cutting apparatus. 3,380,231, 4–30–68, Cl. 56—26.5.
Gaudin, Jean, to Societe de Constructions Mecaniques de Creil. Apparatus for winding electrically conducting metal strips. 3,380,686, 4–30–68, Cl. 242—75.2.
Gaylord, John A., to H. Koch & Sons. Emergency release for webbing and lines. 3,380,692, 4–30–68, Cl. 244—151.
Gearing, James W.: *See*—
  Grootenhuis, Peter, and Gearing. 3,380,515.
Gebruder Netzsch: *See*—
  John. Willy. 3,380.391.
Gehrt, Edwin E., and W. T. Jensen, to Methode Electronics, Inc. Forked contact and method of manufacture. 3,381,263, 4–30–68, Cl. 339—277.
Geigy Chemical Corp.: *See*—
  Peterson, Janet B., and Dexter. 3,380,962.
Gelinas, Ralph J., to Unicon Systems Inc. Flowmeter. 3,380,302, 4–30–68, Cl. 73—228.
Gendron, Lester J.: *See*—
  Leveille, James W. 3,380,453.
General Dynamics Corp.: *See*—
  Di Tommaso, Anthony. Martin, and McKown. 3,380,310.
  Redmond, John C. 3 380.294.
  Wrench, Edwin H., Lindkvist, Mandoza, Close, Gibb, and Ford. 3,380,687.
General Electric Co.: *See*—
  Allen, Wendell P. 3,381,177.
  Andrews, Charles L. 3,381,160.
  Chiabrandy, Robert E. 3,380,341.
  Chiabrandy, Robert E. 3,380,342.
  Chiabrandy, Robert E., and Tassie. 3,380,343.
  Dowell, Millard F. 3,380,246.
  Hoogenboom, Leo. 3,381,190.
  Jones, Clifford M., and Harnden. 3,381,226.
  Moore, Marshall G. 3,380,264.
  Roberts, John M. 3,380,649.
  Waters, James L., and Slonneger. 3,381,197.
  Whitman, Philip C., and Selig. 3,381,185.
  Wilcock, Donald F. 3,380,788.
  Zyak, Stephen, and Borg. 3,380,304.

- General Kinetics Corp.: *See*—
  - Nelson, Daniel E. 3,380,345.
- General Machine Co., Inc.: *See*—
  - Popyk, William W. 3,381,111.
- General Mills, Inc.: *See*—
  - Benson, John O., and Morrison. 3,380,375.
  - Harrison, Stuart A. 3,380,840.
- General Motors Corp.: *See*—
  - Brock, Eugene W., Woodward, and Miller. 3,381,169.
  - Halsted, Edwin H. 3,380,314.
  - Harvey, Douglas J. 3,380,821.
  - Hetke, Adolf, and Zimmerman. 3,380,820.
  - Hill, Ronald C. 3,380,193.
  - Jalbing, John I., and Myers. 3,380,510.
  - Lewis, Donald B. 3,380,441.
  - Mick, Stanley H. 3,380,245.
  - Nigh, Carl L. 3,380,789.
  - Rogers, Lloyd W., Jr. 3,380,771.
  - Strahan, Robert M. 3,380,702.
- General Precision Systems Inc.: *See*—
  - Wallen, David L. 3,381,285.
- General Tire & Rubber Co., The: *See*—
  - Elmer, Otto C., and Gruber. 3,380,957.
  - Peck, Richard O. 3,380.791.
- Gentle, Alexander H.: *See*—
  - Richmond, Alfred, King, and Gentle. 3,380,242.
- Georgantas, Peter D., R. E. Loosen, and E. S. Kinney, to Ampex Corp. Magnetic tape transport. 3,380,682, 4–30–68, Cl. 242—55.12.
- George, Frederick A.: *See*—
  - Janovtchik, Vlacheslav J., Bartlett, and George. 3,380,834.
- Georgia-Pacific Corp.: *See*—
  - Watson, Carter A. 3.380,842.
- Gerard, William A., to Westinghouse Electric Corp. Frequency stable coaxial magnetron utilizing low coefficient of thermal expansion material. 3,381,168, 4–30–68, Cl. 315—39.75.
- Gerlach, Pierre, to Compagnie Francaise Thomson Houston-Hotchkiss Brandt. Electron tube assembly having an incorporated mode suppressor. 3,381,166, 4–30–68, Cl. 315—39.
- Gerlovich, Albert F., to Rheem Mfg. Co. Apparatus for applying a particulate material to an object. 3,380,433, 4–30–68, Cl. 118—111.
- Getty Oil Co.: *See*—
  - Friedman, Robert H. 3,380,521.
- Giannini, George R., to The Regents of The University of California. Single seed selector and planter. 3,380,626, 4–30–68, Cl. 221—200.
- Gibb, William E.: *See*—
  - Wrench, Edwin H., Lindkvist, Mandoza, Close, Gibb, and Ford. 3,380,687.
- Gibel, Stephen J. Exhaust muffler with expansion chambers in inlet cover dome. 3,380,553, 4–30–68, Cl. 181—56.
- Gibson, John: *See*—
  - Richardson, Philip, and Gibson. 3,381,209.
- Gilbert, Edward O., and C. H. Single, to Applied Dynamics, Inc. Electronic integration apparatus. 3,381,230, 4–30–68, Cl. 328—127.
- Gilbert, Elmer G., to Applied Dynamics, Inc. Track-transfer sample-hold circuits. 3,381,231, 4–30–68, Cl. 328—151.
- Gilchrist, James J.: *See*—
  - Brougham, Harold E., and Gilchrist. 3,380,611.
- Gilker, Clyde: *See*—
  - Riebs, Richard E., and Gilker. 3,381,176.
- Gillette, Robert P.: *See*—
  - Johnson, Burford L., and Gillette. 3,380,102.
- Gillman, Robert, and M. R. Linder. Portable dock. 3,380,257, 4–30–68. Cl. 61—48.
- Gilmore, William J., to Beloit Eastern Corp. Top slitter adjustment. 3,380,330, 4–30–68, Cl. 83—482.
- Ginsberg, Jacob J., to Kenro Corp. Apparatus for the automatic processing of photographically exposed materials. 3,380,367, 4–30–68, Cl. 95—89.
- Ginter, Thomas O., to The Dow Chemical Co. Method of joining polyester resin structures using foamable polyester adhesive. 3,380,866, 4–30–68, Cl. 156—79.
- Giroux, Joseph H. Safety guard for chain saw. 3,380,493, 4–30–68. Cl. 143—32.
- Giurgea, Corneliu, to UCB(Union Chimique-Chemische Bedrijven) S.A. Use of butyrolactam for treating motion sickness. 3,380,887, 4–30–68, Cl. 167—65.
- Glandin, Constan, and E. O. Jansson, to Allmanna Svenska Elektriska Aktiebolaget. Spacer for fuel assemblies. 3,380,890, 4–30–68, Cl. 176—78.
- Glasscock, Glen C.: *See*—
  - Elizer, Lee H., Glasscock, and Seitz. 3,380,799.
- Glaverbel: *See*—
  - Brichard, Edgard, Dupont, and De Keersmaecker. 3,381,073.
- Glaverbel S.A.: *See*—
  - Plumat, Emile, and Jacobs. 3,381,078.
- Globe-Union Inc.: *See*—
  - Kirchberger, Walter C., and Nelson. 3,380,160.
- Glogover, Stanley, to De Luxe Girdlecraft Co., Inc. Undergarment. 3,380,455, 4–30–68, Cl. 128—528
- Glovak, Michael: *See*—
  - Dittman, David O., Licari, and Glovak. 3.380,941.
- Glover, George E., and J. B. Pratt, to Crane Co. Process for zinc recovery. 3,380,804, 4–30–68, Cl. 23—125.
- Gluck, William. Automatic molding machine. 3,380,117, 4–30–68, Cl. 18—16.
- Godes, David A.: *See*—
  - Schaefer, Steven W., Godes, and Fulmer. 3,380,215.
- Godfrey, Murrel: *See*—
  - Greene, Janice L., and Godfrey. 3,381,034.
- Godziemba-Dambski, Zdzislaw R.: *See*—
  - Duffield, Joseph F., and Godziemba-Dambski. 3,381,103.
- Goettl, Adam D., and J. Utility cart. 3,380,752, 4–30–68, Cl. 280—43.
- Goettl, John: *See*—
  - Goettl, Adam D., and J. 3,380,752.
- Goetzberger, Adolf, to Bell Telephone Laboratories, Inc. Method of forming an oxide coating on semiconductor bodies. 3,380,852, 4–30–68, Cl. 117—201.
- Gohlke, Gerhard A.: *See*—
  - Drummond, John A., and Gohlke. 3,380,650.
- Golczynski, Edward S. Tool and method for removing insoles. 3,380,092, 4–30–68, Cl. 12—142.
- Gold, Robert M., to Itek Corp. Photocopying method. 3,380,823, 4–30–68, Cl. 96—27.
- Goldberg, Herbert S., and A. W. Volchenboum. Bicycle holder for transistor radios. 3,380,698, 4–30–68, Cl. 248—229.
- Goldberger, William M., to The Development Corp. Confining the reaction zone in a plasma arc by solidifying a confining shell around the zone. 3,380,904, 4–30–68, Cl. 204—164.
- Good, Charles R., D. S. Harris, R. L. Lindahl, and B. W. Merrill, to New Castle Products, Inc. Movable space divider structure. 3,380,506, 4–30–68, Cl. 160—40.
- Goodlet, John L., Jr.: *See*—
  - Barnes, John W., and Goodlet. 3,381,133.
- Goodman, Harold S. Package. 3,380,583, 4–30–68, Cl. 206—80.
- Goodrich, B. F., Co.: *See*—
  - Kuts, Mathew. 3,380,588.
- Goodspeed, Edwin W.: *See*—
  - Dell, Gaillard W., and Goodspeed. 3,380,859.
- Goodspeed, Edwin W., and G. W. Dell, to Hooker Chemical Corp. Process for desmutting metal. 3,380,921, 4–30–68, Cl. 252—95.
- Gore, W. L. & Associates, Inc.: *See*—
  - Arnold, Howard W., Eldreth, and Gore. 3,380,269.
- Gore, Wilbert L.: *See*—
  - Arnold, Howard W., Eldreth, and Gore. 3,380,269.
- Gosnell, Rex B., to Whittaker Corp. Composite design for transparent armour. 3,380,406, 4–30–68, Cl. 109—80.
- Gosudarstvenny souzny Institе po Proektirovaniu: *See*—
  - Gubert, Stanislav V., and Rabinovich. 3,380,725.
- Govatsos, Charles A. Method for shaping and forming selected portions of a foamed sheet. 3,381,076, 4–30–68, Cl. 264—321.
- Grace, W. R., & Co.: *See*—
  - Flack, Herbert P., Smith, and Fitch. 3,380,894.
  - O'Brien, John J. 3,380,862.
  - Steyermark, Paul R. 3,381,008.
- Grain Processing Corp.: *See*—
  - Corman, Julian. 3,380,891.
  - Garbutt, John T. 3,380,892.
- Gramm, Eduard: *See*—
  - Hansl, Werner, and Gramm. 3,380,940.
- Granger, Charles R. Method and apparatus for demonstrating tropistic principles. 3,380,190, 4–30–68, Cl. 47—58.
- Granning, Ole, to Ole Granning Trailer Service Inc. Air lift fifth wheel control system. 3,380,758, 4–30–68, Cl. 280—425.
- Granning, Ole, Trailer Service Inc.: *See*—
  - Granning, Ole. 3,380,758.
- Granryd, Thorvald G., to International Harvester Co. Steering system. 3,380,547, 4–30–68, Cl. 180—79.2.
- Gray, C. F., to Esso Research and Engineering Co. Magnetic separation. 3,380,589, 4–30–68, Cl. 209—221.
- Gray, Jack N., to Fiber Industries Inc. Method and apparatus deflecting and drawing tow. 3,380,131, 4–30–68, Cl. 28—1.
- Gray, John L. Radio Telephone with automatically tuned loaded antenna. 3,381,222, 4–30–68, Cl. 325—25.
- Gray, William H., to Allied Chemical Corp. Tufting machine. 3,380,414, 4–30–68, Cl. 112—79.
- Grayson, John R. Water softener having a main control valve and an auxiliary brine control valve. 3,380,590, 4–30–68, Cl. 210—134.
- Grayson, Martin: *See*—
  - Wagner, Frank L., and Grayson. 3,380,837.
- Green, Carl J.: *See*—
  - Fuls, Frank, Jr., Moulton, and Green. 3 380,460.
- Green, Harry W., to Kurl King (Broom Protectors) Ltd. Curling broom cover. 3,380,504, 4–30–68, Cl. 150—52.
- Greene, Janice L., and M. Godfrey, to The Standard Oil Co. Process for hydrolyzing nitriles. 3,381,034, 4–30–68, Cl. 260—557.
- Gregg, David P.: *See*—
  - De Moss, Dean L., Gregg, and Johnson. 3,381,086.
- Grier, James S., and S. H. Pines. Merck & Co., Inc. Continuous crystallization of glutamic acid in its alpha orthorhombic form. 3 381,033. 4–30–68, Cl. 260—534
- Griffiths, Graham N., to Chemical Construction Corp. Production of synthetic crude oil. 3,380,910, 4–30–68, Cl. 208—58.
- Grimm, Eberhard, to Deutscher Spinnereimaschinenbau Ingolstadt. Apparatus for the removal of full cops on ring spinning and ring twisting machines. 3,380,239, 4–30–68, Cl. 57—53.
- Groenewegen, Johannes B., to Consolidated Electrodynamics Corp. Pre-accelerated pinch roller for magnetic tape transport. 3,380,638, 4–30–68, Cl. 226—181.
- Gronberg, Anton Bertil. Straw chopper attachment for combine. 3 380 502, 4–30–68, Cl. 146—123.
- Grootenhuis, Peter, and J. W. Gearing, to Derritron Ltd. Electromechanical vibrators. 3,380,515, 4–30–68, Cl. 165—40.
- Grotsch, Horst, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Process for preparing sulfuric acid esters of levans. 3,380,999, 4–30–68, Cl. 260—234.
- Grubb, George S. Wellhole notcher. 3,380,544, 4–30–68, Cl. 175—289.

- Gruber, Elbert E.: *See*—
  - Elmer, Otto C., and Gruber. 3,380,957.
- Grundschober, Friedrich, and J. Sambeth, to Rhodiaceta. Reticulated polyimides and method of producing same from N,N′-bis-imides. 3,380,964, 4–30–68, Cl. 260—47.
- Gruska, Ralph, to Cope Allman Export S.A. Lipstick cartridge. 3,380,795, 4–30–68, Cl. 401—78.
- Gualtier, Quentin E., to Rapid Tool & Mfg. Co., Inc. Apparatus for making composite articles. 3,380,118, 4–30–68, Cl. 18—30.
- Guanella, Gustav, to Patelhold Patentverwertungs- und Electro-Holding AG. Compensation system having feed forward and feedback circuits for canceling leading and trailing edge distortion of signal pulses. 3,381,245, 4–30–68, Cl. 333—20.
- Gubert, Stanislav V., and D. M. A. Rabinovich, to Gosudarstvenny souzny Institе po Proektirovaniu. Machine for thorough quenching of rolled profiles especially of railway rails. 3,380,725, 4–30–68, Cl. 266—6.
- Guenter, Richard G., to United States of America, Army. Propellant grains. 3,380,386, 4–30–68, Cl. 102—99.
- Guggenheim, Howard J.: *See*—
  - Dietz, Robert E., Guggenheim, and Johnson. 3,381,240.
- Gulf Oil Corp.: *See*—
  - Alexander, Andrew, Jack, and Kreiter. 3,381,049.
- Gulf Research & Development Co.: *See*—
  - Taylor, Maurice E. 3,381,218.
- Gulledge, Hugh C.: *See*—
  - Lewis, George L., Gulledge, and Teufer. 3,380,847.
- Gulotta, Gerald D., to Clay-Adams, Inc. Case for dissecting kit. 3,380,578. 4–30–68, Cl. 206—16.
- Gunderson, Dennis E., to United States of America, Army. Method and apparatus for measurement of incremental resistances with capacitively coupled probe means. 3,381,206, 4–30–68, Cl. 324—62.
- Gundrum, Ralph J.: *See*—
  - Breitenbach, Edward J., Gundrum, and Hinkein. 3,381,290.
- Gustafson, George W.: *See*—
  - Jasper, Ronald J., and Gustafson. 3,380,223.
- Gustavsson, John O., to Pullman Aktiebolag. Bordering machine and method of bordering plates by means of the machine. 3,380,274, 4–30–68, Cl. 72—85.
- Gustin, Cassius P. Apparatus for improving accuracy of semiautomatic firearms. 3,380,346, 4–30–68, Cl. 89—196.
- Guthrie, Everett E., to Fairchild Camera and Instrument Corp. Compact frequency multiplier. 3,381,207, 4–30–68, Cl. 321—69.
- Gutowski, Edward J. T.: *See*—
  - Panicci, Elio W. and Gutowski. 3,380,632.
- Gyorgy, Ernst M., and F. B. Hagedorn, to Bell Telephone Laboratories, Inc. Open flux memory with sensing plane. 3,381,283, 4–30–68, Cl. 340—174.
- Habdas, Edward P., to Calumet & Hecla, Inc. Structure for and method of tube expansion. 3,380,271, 4–30–68, Cl. 72—56.
- Habib, Robert. Machine tool. 3,380,347, 4–30–68, Cl. 90—17.
- Hackett, John A., and C. A. Sepulveda, to Bell Telephone Laboratories, Inc. Dial pulse incoming trunk having a self-contained pulse counter. 3,381,094, 4–30–68, Cl. 179—18.
- Hagedorn, Fred B., to Bell Telephone Laboratories, Inc. Superconductive memory. 3,381,280, 4–30–68, Cl. 340—173.1.
- Hagedorn, Fred B.: *See*—
  - Gyorgy, Ernst M., and Hagedorn. 3,381,283.
- Haglund, Nils E.: *See*—
  - Bergman, Johan E. H., and Haglund. 3,380,840.
- Hahndorff, Axel: *See*—
  - Barthel, Gunter, Scholz, and Hahndorff. 3,380,906.
- Haig, Sarah. Heel garment and combination footwear and heel garment. 3,380,178, 4–30–68, Cl. 36—2.5.
- Hale Fire Pump Co.: *See*—
  - Diehl, Charles H., Jr., and Eberhardt. 3,380,467.
- Hall, Elmer D., and Jesse E., Jr., to Weatherford Oil Tool Co., Inc. Well bore cleaner and cement disperser. 3,380,534, 4–30–68, Cl. 166—173.
- Hall, Jesse E., Jr.: *See*—
  - Hall, Elmer D., and Jesse E., Jr. 3,380,534.
- Hall, Reginald H., to The Distillers Co. Ltd. Pyridine production. 3,381,011, 4–30–68, Cl. 260—290.
- Hall Ski-Lift Co., Inc.: *See*—
  - Savage, Phillip D. 3.380,084.
- Hallstead, Herbert J.: *See*—
  - Flaherty, Robert J., Hallstead, Judge, Vaudreuil, Wyckoff, and Schug. 3,381,282.
- Halpern, Bert: *See*—
  - Dwyer, Francis P., and Halpern. 3.381,031.
- Halsted, Edwin H., to General Motors Corp. Motor vibration damping system. 3,380,314, 4–30–68, Cl. 74—228.
- Halter, Stanley J., to Kaiser Aluminum & Chemical Corp. Apparatus for forming foil containers. 3,380,272, 4–30–68, Cl. 72—57.
- Hamblin, Robert J. J., to Universal Oil Products Co. Catalytic converter-muffler with a protected catalyst retainer means. 3,380,810, 4–30–68, Cl. 23—288.
- Hammond, George S.: *See*—
  - Liu, Robert S. H., and Hammond. 3,380,903.
- Hancock Brick & Tile Co., The: *See*—
  - Schmunk, John D. 3,380,763.
- Hanks, Jimmy C., to Mobil Oil Corp. Inclined light bar oscillographic recorder. 3,381,301, 4–30–68, Cl. 346—109.
- Hansen, Vilhelm G. to United States of America, Army. Radar detection system. 3,381,292, 4–30–68, Cl. 343—17.5.
- Hansl, Werner, and E. Gramm, to Kalle Aktiengesellschaft. Process and material for the preparation of an aqueous solution for neutralizing and pre-gluing building surfaces. 3,380,940, 4–30–68, Cl. 260—15.
- Hanson, Adelheid. Bathtub with sliding door closure. 3,380,078, 4–30–68, Cl. 4—173.
- Hanson, Victor W., to Ajem Laboratories, Inc. Device for purging pitot tubes. 3,380,298, 4–30–68, Cl. 73—172.
- Hara, Nobuhiro: *See*—
  - Kamoshita, Genichi, Hirano, Shiba and Hara. 3,380,812.
- Harautunelan, Andrew, to Pharmaseal Laboratories. Medical container with closure. 3,380,489, 4–30–68, Cl. 141—27.
- Harbison-Walker Refractories Co.: *See*—
  - Snellman, Roger. 3,380,211.
- Hard af Segerstad, Goran J. F., to Per Granebro AB. Arrangement for supporting curtains, draperies and the like. 3,380,111, 4–30–68, Cl. 16—94.
- Harnden, John D., Jr.: *See*—
  - Jones, Clifford M., and Harnden. 3,381,226.
- Harnisch, Heinz F.: *See*—
  - Niermann, Hermann, and Harnisch. 3,380,808.
- Harper, Chester H.: *See*—
  - Allen, Kenneth M., and Harper. 3,380,780.
- Harper, Stanley A., to Radio Corp. of America. Method for preparing a europium activated yttrium vanadate phosphor. 3,380,926, 4–30–68, Cl. 252—301.4.
- Harris, Alexander T.: *See*—
  - Cluff, Edward F., Harris, and King. 3,380,952.
- Harris, Alva F., to Monsanto Co. Mass polymerization process in the presence of an alkylated phenoxy poly(alkyleneoxy) alkanol. 3,381,059, 4–30–68, Cl. 260—880.
- Harris, Donald S.: *See*—
  - Good, Charles R., Harris, Lindahl, and Merrill. 3,380,506.
- Harris, Donald S., to New Castle Products, Inc. Latch unit for longitudinally movable closures. 3,380,647, 4–30–68, Cl. 292—64.
- Harris, Elbert E., D. W. Rosenburg, and E. M. Chamberlin, to Merck & Co., Inc. Process for producing pyridoxine and novel intermediates thereof. 3,381,014, 4–30–68, Cl. 260—294.9.
- Harris, Norris R., to Mobile Oil Corp. Stacking of seismic traces having common offset distances. 3,381,266, 4–30–68, Cl. 340—15.5.
- Harrison, Stuart A., to General Mills, Inc. Certain modified polyesteramides and the use thereof as adhesives. 3,380,840, 4–30–68, Cl. 106—243.
- Hart-Carter Co.: *See*—
  - Luger, George W. 3.380,572.
- Harting, Wilhelm, Werk fuer Elektrotechnik und Mechanik: *See*—
  - Horstmann, Friedel. 3.380,742.
- Hartinger, Joseph E. Solder fitting cleaning tool. 3,380,202, 4–30–68, Cl. 51—364.
- Härtl, Ernst E., A. A. Dudszus, R. H. Franz, C. F. W. Rethfeldt, G. H. R. Wienert, R. Müke, F. A. Hauptmann, and G. Bolze, to Institut Fur Schiffbau. Fish treating method. 3,380,114, 4–30–68, Cl. 17—45.
- Hartman, Seymour, and F. G. Snook, to U.S. Plywood-Champion Papers Inc. Upgrading wood panels. 3,380,213, 4–30–68, Cl. 52—309.
- Hartzell Propeller, Inc.: *See*—
  - Biermann, David. 3,380,535.
- Harvey, Donald M., to Eastman Kodak Co. Multilamp flash photography signal means indicating the number of successive, good flash lamps. 3,380.357, 4–30–68, Cl. 95—11.5.
- Harvey, Douglas J., to General Motors Corp. Heat treatable creep resistant solder alloy. 3,380,821, 4–30–68, Cl. 75—166.
- Hatton, Derald R., to The Black Clawson Co. Plural defibering zones in a pulping apparatus. 3,380,669, 4–30–68, Cl. 241—43.
- Haugh, Connor F., to International Business Machines Corp. Circuit for resonant charging of reactance in response to data source. 3,381,241, 4–30–68, Cl. 332—14.
- Hauptmann, Franz A.: *See*—
  - Härtl, Ernst E., Dudszus, Franz, Rethfeldt, Wienert, Müke, Hauptmann, and Bolze. 3,380,114.
- Hawker Siddeley Dynamics Ltd.: *See*—
  - Osmond, Michael H. 3,380,790.
- Hawley Mfg. Corp.: *See*—
  - Scheel, John B. 3,380,371.
- Hazelet, Gerald L., and L. E. Wilson, to The Magnavox Co. Energy absorbing interrupter. 3,380,385, 4–30–68, Cl. 102—76.
- Heath Co.: *See*—
  - Mitchell, Robert W. 3,380,338.
- Heath, Samuel, to The Plessey Co. Ltd. Captive cap nuts. 3,380,505, 4–30–68, Cl. 151—41.
- Heathe, William R., to The Dentists' Supply Co. of New York. Air turbine motor with resiliently biased adjustable tapered bearings. 3,380,162, 4–30–68, Cl. 32—27.
- Hedberg, James H.: *See*—
  - McKenney, John D., and Hedberg. 3,381,296.
- Hedberg, Olof J. G.: *See*—
  - Pehrsson, Lennart A., and Hedberg. 3,380,536.
- Hedderich, William E. Encoding machine for data cards. 3,380,652. 4–30–68, Cl. 234—117.
- Hedstrom, Warren W.: *See*—
  - McConnell, Malcolm F., Cabeen, and Hedstrom. 3,380,530.
- Held, Hans-Joachim: *See*—
  - Stark, Rudolf, and Held. 3,381,273.
- Held, Mildred M. Scarf. 3.380,076, 4–30–68, Cl. 2—207.
- Helfrich, George F., and E. J. Rothermel, Jr., to The Dow Chemical Co. Preparation of fluorinated polymers. 3,380,977, 4–30–68, Cl. 260—87.5.
- Heller, Milton, and S. Bernstein, to American Cyanamid Co. Nitrogen containing pregnenes and method of preparing the same. 3,381,004. 4–30–68, Cl. 260—239.55.
- Helmersson, Sven: *See*—
  - Madsen, Kristian D., Helmersson, and Sivertsen. 3,381,154.

Henderson, Miles L., to Phillips Petroleum Co. Refining of effluent from in situ combustion operation. 3,380,913, 4–30–68, Cl. 208—187.
Hendrickson, Alfred R., to The Dow Chemical Co. Method of acidizing a fluid-bearing formation. 3,380,529, 4–30–68, Cl. 166—33.
Hendrix, Grover E., and C. M. Tunnell. Method and apparatus for making ice. 3,380,261, 4–30–68, Cl. 62—138.
Henkel & Cie, G.m.b.H. : *See—*
Blaser, Bruno, and Rutzen. 3,380,925.
Werdelmann, Bruno, Worms, and Blaser. 3,380,924.
Hennessey, Russell J., to Hoerner Waldorf Corp. Display package. 3,380,575, 4–30–68, Cl. 206—45.34.
Henning, Andrew R., to Shakespeare Co. Cable assembly. 3,380,318, 4–30–68, Cl. 74—501.
Henningsen, Erik : *See—*
Pharris, John A., and Henningsen. 3,380,100.
Hentrich, Robert, and A. Randak, to Stahlwerke Sudwestfalen AG. Method of pressure treatment of metallic melts, especially steel melts. 3,380,509, 4–30–68, Cl. 164—62.
Herbst, Walter A., to Esso Research and Engineering Co. Cetane improver for diesel fuel oils. 3,380,815, 4–30–68, Cl. 44—57.
Herbst, Wilhelm, to Enzinger-Union-Werke AG. Valved filling device for filling carbon dioxide-containing beverages into a vessel and method for doing so. 3,380,488, 4–30–68, Cl. 141—6.
Hercsel, Marton : *See—*
Galgoczi, Bela, Demeter, Zagyval, Soltesz, Sommer, Hercsel, and Raab. 3,380,947.
Hermanie, Pieter H. J. : *See—*
Van der Minne, Johan L., Hermanie, and Douwes. 3,380,-970.
Hester, Edgar, and L. C. Price, to Edco, Inc. Machine for breading food products. 3,380.432, 4–30–68, Cl. 118—16.
Hetke, Adolf, and R. H. Zimmerman, to General Motors Corp. Method of making high iron content aluminum alloys. 3,380,820, 4–30–68, Cl. 75—138.
Hewlett-Packard Co. : *See—*
Bergh, Arndt B., and Near. 3,381,279.
Hight, Hanford Z., P. J. Kassak, and S. Lesky, to Bonded Products, Inc. Insulated pipe joint. 3,380,762, 4–30–68, Cl. 285—53.
Hill, Edward H. : *See—*
Caldwell, John R., and Hill. 3,381,058.
Hill, Emil H. Cutter link for saw chain. 3,380,496, 4–30–68, Cl. 143—135.
Hill, Frederick P. : *See—*
Shano, Charles L., and Hill. 3,381,210.
Hill, Harold W., Jr., S. L. Kwolek, and W. Sweeny, to E. I. du Pont de Nemours and Co. Aromatic polyamides. 3,380,-969, 4–30–68, Cl. 260—78.
Hill, Mary E., ½ to L. Carter. Battery powered scouring appliance. 3,380,093, 4–30–68, Cl. 15—23.
Hill, Ronald C., to General Motors Corp. Retractable protector for vehicle door. 3,380,193, 4–30–68, Cl. 49—462.
Hille, Frances M. Safety device controlling vehicl eemergency brake. 3,380,549, 4–30–68, Cl. 180—114.
Hillman, Fred J., to Hillman-Kelley. Power-wrench control system. 3,380,324, 4–30–68, Cl. 81—54.
Hillman-Kelley : *See—*
Campbell, Andrew B. 3,380,323.
Hillman, Fred J. 3,380,324.
Himmel, Franz, to Dilo-Gesellschaft, Drexler & Co. Pipe union. 3,380,765, 4–30–68, Cl. 285—331.
Hinkein, Donald J. : *See—*
Breitenbach, Edward J., Gundrum, and Hinkein. 3,381,-290.
Hinkle, Verda O., Jr. : *See—*
Zuleeg, Rainer, and Hinkle. 3 381,188.
Hinkle, Verda O., Jr., and R. Zuleeg, to Hughes Aircraft Co. Mesa multi-channel field-effect triode. 3,381,189, 4–30–68, Cl. 317—235.
Hinshelwood, George D. : *See—*
Metzger, Eric E., and Hinshelwood. 3,380,827.
Hiraga, Kentaro : *See—*
Miki. Takuichi. Hiraga, Asako, and Masuya. 3,381,035.
Hirano, Mikio : *See—*
Kamoshita, Genichi, Hirano, Shiba, and Hara. 3,380,812.
Hitachi, Ltd. : *See—*
Kamoshita, Genichi, Hirano, Shiba, and Hara. 3,380,812.
Takuma, Yutaka. 3,381,194.
Hoch, Manfried L., to International Harvester Co. Forage harvester having cutter head with offset cutting edges. 3,380,501, 4–30–68, Cl. 146—107.
Hochner, Walter L., to Kaumagraph Co. Method of stiffening fabric shoe uppers. 3,380,269, 4–30–68, Cl. 156—230.
Hodgson, R. W. Apparatus and method for physically defining an instrument-perceptible spacial location. 3,381,294, 4–30–68, Cl. 343—108.
Hodogaya Chemical Co., Ltd. : *See—*
Mitsumori, Hidetoshi, Murakami, Miyoshi, and Shimatani. 3,381,025.
Hoeksema, Herman : *See—*
Argoudelis, Alexander D., Bannister, Hoeksema, Kagan, and Magerlein. 3,380,992.
Hoelscher, Heintich, to Triumph Intertrade Aktiengesellschaft. Brassiere having elastic shoulder straps and edging. 3,380,-454, 4–30–68, Cl. 128—483.
Hoerner Waldorf Corp. : *See—*
Hennessey, Russel J. 3,380,575.
Hoernes, Gerhard E., and G. A. Maley, to International Business Machines Corp. Gated latch. 3,381,232, 4–30–68, Cl. 328—206.
Hoesch Aktiengesellschaft : *See—*
Colmerauer, Paul J. 3,380,247.
Hoffmann, Hans-Jurgen, and Lohr. 3,380,729.
Hoffman, Palmer A. : *See—*
Doughty, Frederic C., and Hoffman. 3,381,281.
Hoffmann, Arthur H., to Westinghouse Electric Corp. Excitation control system for synchronous motors. 3,381,195, 4–30–68, Cl. 318—174.
Hoffmann, Hans-Jurgen, and M. Lohr, to Hoesch Aktiengesellschaft. Hydropneumatic apparatus. 3,380,729, 4–30–68, Cl. 267—64.
Hoffmann-La Roche Inc. : *See—*
Jaffe, Gerald M., and Pleven. 3,381,027.
Marbet, Roman. 3,381,039.
Hogel, Joseph E., to Honeywell Inc. Pneumatic fire alarm system. 3,380,430, 4–30–68, Cl. 116—65.
Hohwart, George, and P. Toth, to N. A. Woodworth Co. Adjustable compensating and centralizing chuck. 3,380,747, 4–30–68, Cl. 279—106.
Holbrook, Rex R., to King-Seeley Thermos Co. Method of and apparatus for assembling odometer. 3,380,149, 4–30–68, Cl. 29—464.
Holden, John L. and P. J. Liquid-level indicating means. 3,380,168, 4–30–68, Cl. 33—126.4.
Holden, Philip J. : *See—*
Holden, John L. and P. J. 3,380,168.
Holm, William J to Parks & Woolson Machine Co. Oscillating shearing apparatus. 3,380,130, 4–30–68, Cl. 26—15.
Holme, John C. : *See—*
Lehrer, Stanley, and Holme. 3,380,300.
Home Metal Products Co. : *See—*
Stalker, James E. 3,380,444.
Honeywell Inc. : *See—*
Exworthy, Kenneth W. 3,381,214.
Hogel, Joseph E. 3,380,430.
Kompelien. Arlon D. 3,380,796.
Mahy. Tyler X., and Abens. 3,380,855.
Sikorra, Daniel J. 3,381,229.
Honjo, Mikio, and K. Imai, to Takeda Chemical Industries, Ltd. Method for producing purine nucleosides. 3,380,996, 4–30–68, Cl. 260—211.5.
Hoogenboom, Leo, to General Electric Co. Variable capacitance force measuring transducer. 3,381,190, 4–30–68, Cl. 317—248.
Hooker Chemical Corp. : *See—*
Champaneria, Ashok J., and Russell. 3,380,858.
Dell, Galliard W., and Goodspeed. 3,380,859.
Goodspeed. Edwin W., and Dell. 3,380,921.
Kay, Daniel J., and Knipple. 3,380,944.
Hopfensperger Roger D. : *See—*
Brodersen, Edward M., and Hopfensperger. 3,380,774.
Horowitz, Carl, to Polymer Research Corp. of America. Method of producing solid polymeric material having bactericidal properties. 3,380,848, 4–30–68, Cl. 117—113.
Horrocks, James A. : *See—*
Jack, James, and Horrocks. 3,380,938.
Horstmann, Friedel, to Wilhelm Harting Werk fuer Elektrotechnik und Mechanik. Record players for playing selected sides of selected disc records. 3,380,742, 4–30–68, Cl. 274—10.
Horton, Horace R. : *See—*
Koshland, Daniel E., Jr., Latham, and Horton. 3,380,893.
Horton, Ralph A. : *See—*
Adams, George E. and R., and Horton. 3,380,717.
Hostynek, Juraj J. : *See—*
Malhotra, Sudarshan K., and Hostynek. 3,381,021.
Howell, Howell R., D. M. Lamaster, and D. L. Roeder, to Westinghouse Electric Corp. Phase shift regulated electrical inverter system. 3,381,205, 4–30–68, Cl. 321—18.
Hoyle, James E. T-square stabilizer. 3,380,166, 4–30–68, Cl. 33—80.
Hoyt, Donald L. : *See—*
Altamira, Anthony F., and Hoyt. 3,380,524.
Altamira, Anthony F., and Hoyt. 3,380 525.
Altamira, Anthony F., and Hoyt. 3,380,526.
Hoyt, Donald L., and A. F. Altamira, to Texaco Inc. 10-well delta pattern for secondary recovery. 3,380,523, 4–30–68, Cl. 166—9.
Hsu, Kuei-Yin : *See—*
Knoll, Jack, and Hsu. 3,381,278.
Hu, Yow-Jiun. Information storage device. 3,381,299, 4–30–68, Cl. 346—21.
Hubinger Co., The : *See—*
Elizer, Lee H., Glasscock, and Seitz. 3,380,799.
Huffman, Donald W., and W. N. Toy, to Bell Telephone Laboratories, Inc. Error detection circuits. 3,381,270, 4–30–68, Cl. 340—146.1.
Hughes Aircraft Co. : *See—*
Beintema, Chester D. 3,380,841.
Hinkle, Verda O., Jr., and Zuleeg. 3,381,189.
Riley, Ray L. 3,381 284.
Zuleeg, Rainer. 3,381,187.
Zuleeg. Rainer, and Hinkle. 3,381,188.
Hughes, John, and J. M. Soesan, to Shell Oil Co. Lubricating oil composition. 3,380 928, 4–30–68, Cl. 252—32.7.
Hughes, Marion D. : *See—*
Payne, Winfield S., Jr., and Hughes. 3,380,522.
Hughes, Thomas H. : *See—*
Stroud, Charles E., Cerutti, and Hughes. 3,380,145.
Hughes Vincent A. : *See—*
Brown, Jack K., Hughes, and Burnett. 3,381,175.
Hunt, Joe B. and N. E. Hunt, to J. Douglas, H. Douglas, and J. C. Robinson. Fluorescent fixture cleaning device. 3,380,-099, 4–30–68, Cl. 15—210.
Hunt, Nina E. : *See—*
Hunt, Joe B. and N. E. 3,380,099.
Hunter, Jack C., to Black, Sivalls & Bryson, Inc. Conduit for pneumatically conveying plastic particulate material. 3,380,783, 4–30–68, Cl. 302—64.
Hupp Corp. : *See—*
Perry, Robert P. 3,380,372.

Hurt, Robert D. : *See—*
Bryan, James C., and Hurt. 3,381,074.
Husher, John D., and P. M. Kisinko, to Westinghouse Electric Corp. Method of forming a semiconductor integrated circuit that includes a fast switching transistor. 3,380,153, 4–30–68, Cl. 29—577.
Hwa, Jesse C. H., to Stauffer Chemical Co. Trithiocarbonation of polyvinyl chloride. 3,380,973, 4–30–68, Cl. 260—79.5.
Ichiki, Eiichi : *See—*
Toyoshima, Kiyoshi, Ichiki, Ryu, and Yashima. 3,381,024.
Ikeda, Minoru : *See—*
Ono, Kensuke, Tojima, and Ikeda. 3,380,908.
Ilford Ltd. : *See—*
Mason, Leslie F. A., and Sinclair. 3,380,829.
Imai, Kin-ichi : *See—*
Honjo, Mikio, and Imai. 3,380,996.
Imperial Chemical Industries Ltd. : *See—*
Jones, Gwillym T., Owen, and Sagar. 3,380,850.
Roberts, Hugh L. 3,381,043.
Stacey, Gilbert J. 3,381,005.
Industrial Tectonics, Inc. : *See—*
Bradley, Robert H. 3,380,288.
Insley, Marius D. : *See—*
Komas, John, Insley, and Palm. 3,380,679.
Institut Francais du Petrole des Carburants et Lubrifiants : *See—*
Lavergne, Michel, and Robert. 3,381,264.
Institut Fur Schiffbau : *See—*
Hürtl, Ernst E., Dudszus, Franz, Rethfeldt, Wienert, Müke, Hauptmann, and Bolze. 3,380,114.
Institute Khimicheskoi Fiziki : *See—*
Berlin, Alfred A., and Dudnik. 3,380,982.
Interchemical Corp. : *See—*
Robinson, Herbert J. 3,380,836.
Intercontinental Systems, Inc. : *See—*
Becking, Paul E., Bungard, and McCormick. 3,380,569.
Interlake Steel Corp. : *See—*
Plattner, Robert F., and Kirsinas. 3,380,485.
Tetens Harold G. 3,380,127.
Intermountain Research and Engineering Co. Inc. : *See—*
Clay, Robert B., Cook, Udy, and Pack. 3,380,333.
International Business Machines Corp. : *See—*
Breitenbach, Edward J., Gundrum, and Hinkein. 3,381,290.
Delanoy, Richard L., Foreman, and Laurer. 3,381,089.
Dorrell, Carter E., and Laurer. 3,381,090.
Flaherty, Robert J., Hallstead, Judge, Vaudreuil, Wyckoff, and Schug. 3,381 282.
Forslund Donald C., and Waxman. 3,381,117.
Haugh, Connor F. 3,381,241.
Hoernes, Gerhard E., and Maley. 3,381,232.
Quade, Edward A., and Weeks. 3,381,274.
Walsh, James L. 3,381,140.
International Controls Corp. : *See—*
Mills, Wallace R. 3,380,474.
International Harvester Co. : *See—*
Cary, Philip E. 3,380,724.
Connor, Donald E., and Lienemann. 3,380,412.
Granryd. Thorvald G. 3,380,547.
Hoch, Manfried L. 3,380,501.
Morkoski, James. 3,380,537.
Orendorff, John W. 3,380.411.
Sewelin, Ernest R. 3,380,773.
International Packers Ltd. : *See—*
Turner, Earl W. 3,380.833.
International Rectifier Corp. : *See—*
Frasier, Jordan D. 3,380,445.
Jamison, George E. 3,381,184.
International Standard Electric Corp. : *See—*
Thyssens, Guido M. J. B. 3,381,096.
International Telephone and Telegraph Corp. : *See—*
Adams, Paul R., and Whitesel. 3,380,568.
Rofer, David. 3,380,141.
Uhl, Robert J. 3,381.179.
Van Lenten, Lee, and Van Dyk. 3,380,673.
Irving Air Chute Co., Inc. : *See—*
Dillender. Karl E. 3,380,776.
Isley, Ralph E., and K. E. Blower, to The Standard Oil Co. Manufacture of shaped synthetic polymer articles. 3,380,-949, 4–30–68, Cl. 260—30.4.
Israely, Ilan, to Clary Corp. Digital information transferring system. 3,381 275, 4–30–68, Cl. 340—172.5.
Itek Corp. : *See—*
Gold, Robert M. 3,380,823.
Ito, Reijiro, to Matsushita Electric Industrial Co., Ltd., and Kokusai Display Kogyo Kabushiki Kaisha. Device for imparting horizontally oscillatory rotating movement to articles. 3.380,656, 4–30–68, Cl. 335—229.
Izumi, Zenzi, H. Kitagawa, and M. Shinto, to Toyo Rayon Kabushiki Kaisha. Method of producing acrylonitrile polymers in the presence of a catalyst comprising octanoyl peroxide or t-butyl peroxypivalate and using as a solvent dimethylsulfoxide or ethylene carbonate. 3,380,976, 4–30–68, Cl. 260—85.5.
Jablansky, Louis, to United States of America, Army. Gun launched liquid rocket. 3,380,382, 4–30–68, Cl. 102—49.8.
Jache, Albert W., and S. Kongpricha, to Olin Mathieson Chemical Corp. Process for manufacture of alkali metal and alkaline earth metal hexafluorophosphates. 3,380,803, 4–30–68, Cl. 23—88.
Jack, David H. : *See—*
Alexander, Andrew, Jack, and Kreiter. 3,381 049.
Jack, James, and J. A. Horrocks, to BX Plastics Ltd. Pressure sensitive adhesive comprising natural rubber and a styrene-methyl methacrylate-ethyl acrylate terpolymer. 3,380,938, 4–30–68, Cl. 260—4.
Jackson, Harold S. : *See—*
Murtland, James B., Jr., Jackson, and Rebhun. 3,381,-079.
Jackson, Robert G., to Conch International Methane Ltd. Containers for very cold or very hot liquids. 3,380,613, 4–30–68, Cl. 220—5.
Jacobs, Alfred : *See—*
Plumat, Emile, and Jacobs. 3,381,078.
Jacobs, Barry B. : *See—*
Sapoff, Meyer, Jacobs, and Froemel. 3,381,253.
Jacobsen, Carl A. : *See—*
Klausen, Svend E., and Jacobsen. 3,380,595.
Jacques, James K., and E. J. Lowe, to Albright & Wilson (Mfg.) Ltd. Heat storage apparatus. 3,381,113, 4–30–68, Cl. 219—378.
Jaffe, Gerald M., and E. J. Pleven, to Hoffmann-La Roche Inc. Preparation and recovery of methyl 2-ketogluconate. 3,381,-027, 4–30–68, Cl. 260—483.
Jaffee, Robert I. : *See—*
Babel, Henry W., Jaffee, and Moss. 3,380,146.
Jalbing, John I., and E. H. Myers, to General Motors Corp. Silver casting method for spark plug electrodes. 3,380,510, 4–30–68, Cl. 164—108.
James, George A., to F & E Mfg. Co. Vacuum motor. 3,380,-349, 4–30–68, Cl. 91—357.
James, Peter, to Photo Magnetic Systems, Inc. Computer systems. 3,381,276, 4–30–68, Cl. 340—172.5.
Jamison, George E., to International Rectifier Corp. Lead termination structure. 3,381,184, 4–30–68, Cl. 317—236.
Janis, Peter, to Raytheon Co. Double folded interdigital delay line. 3,381,159, 4–30–68, Cl. 315—3.5.
Janovtchik, Vlacheslav J., J. R. Bartlett, and F. A. George. Freeze-dried food package. 3,380,834, 4–30–68, Cl. 99—171.
Janssen, Paul : *See—*
Vogt, Wilhelm, Janssen, and Richtzenhain. 3,381,053.
Jansson, Erik O. : *See—*
Glandin, Constan, and Jansson. 3,380,890.
Jaroff, David B. : *See—*
Ellenberg, Carl H., Weinstein, Litt, and Jaroff. 3,380,490.
Jasper, Ronald J., and G. W. Gustafson, to Lambs-Grays Harbor Co., Inc. Counter roll finishing system. 3,380,223, 4–30–68, Cl. 53—66.
Jeanrenaud, Edouard, to Usine Metallurgique Doloise S.A. Device for the protection of the elastic member of a coupling. 3 381.262, 4–30–68, Cl. 339—258.
Jellen, George M. Sled. 3.380,751, 4–30–68, Cl. 280—25.
Jenaer Glaswerk Schott & Gen. : *See—*
Sack, Werner. 3,380,838.
Jennings, Walter E., S. E. Watson, and W. H. Borough, to The Dow Chemical Co. Plastic bag tree packaging. 3,380,-220, 4–30–68, Cl. 53—24.
Jenny, Rudolf, to Maschinenfabrik Schweiter A.G. Cutting mechanism for automatic winding machines. 3,380,676, 4–30–68, Cl. 242—19.
Jensen, Charles E., deceased ; by A. L. Johnson, administratrix. Fishing lure. 3,380,185, 4–30–68, Cl. 43—42.11.
Jensen, Peter W., C. H. Coleman, and A. J. Trost, to Ampex Corp. Magnetic recorder equalization system having continually adjusted compensation. 3,381,083, 4–30–68, Cl. 178—5.2.
Jensen, William T. : *See—*
Gehrt. Edwin E., and Jensen. 3,381,263.
Jester, Harry C., and R. S. McNeil, to National Lead Co. Multi-stage milling. 3 380,665, 4–30–68, Cl. 241—5.
Jezek, Henry J. Cotton stripper. 3,380,232, 4–30–68, Cl. 56—34.
Jimenez, Roberto J. Serialograph with spaced carriers for movable X-ray film cassettes in shielded trays. 3,381,128, 4–30–68, Cl. 250—66.
John, Willy, to Gebruder Netzsch. Pump rotor. 3,380,391, 4–30–68, Cl. 103—117.
Johnson, Arthur O., to Advance Research and Engineering Corp. Fuel evaporating economizer for internal combustion engines. 3,380,442, 4–30–68, Cl. 123—127.
Johnson, Audrey L. : *See—*
Jensen, Charles E. 3,380,185.
Johnson, Burford L., and R. P. Gillette, to Foster Wheeler Corp. Rotary soot blower. 3,380,102, 4–30–68, Cl. 15—318.
Johnson, Carl E., Jr. : *See—*
McAuliffe. Clayton D., Simon, and Johnson. 3,380,531.
Johnson, Delmar R. : *See—*
Dunsheath, Thomas J., and Johnson. 3,380,680.
Johnson, Jay H., to Kentucky Electronics, Inc. Electrodes for cathode ray tubes with abutted ends meeting in a seam. 3,381,156, 4–30–68, Cl. 313—82.
Johnson, Leo F. : *See—*
Dietz, Robert E., Guggenheim, and Johnson. 3,381,240.
Johnson, Wayne R. : *See—*
De Moss, Dean L., Gregg, and Johnson. 3,381,086.
Johnson, Wayne R., and D. L. De Moss, to Minnesota Mining and Mfg. Co. Duplication of video disc recordings. 3,381,-085, 4–30–68, Cl. 178—6.7.
Jones, Clifford M., and J. D. Harnden, Jr., to General Electric Co. Zero crossing synchronous switching circuits for power semiconductors. 3,381,226, 4–30–68, Cl. 328—3.
Jones, Clintford R. : *See—*
Larsen, Earl I., Krock, and Jones. 3,380,813.
Jones, Gwillym T., J. B. Owen, and H. Sagar, to Imperial Chemical Industries Ltd. Treatment of synthetic polyamide textile material to improve its moisture absorbency and to reduce its electrification and soiling tendencies. 3,380,850, 4–30–68, Cl. 117—138.8.
Jones, Lawrence R. Preparation of hydroxylamine and monocarboxylic acids from primary nitroparaffins and oxalic acid. 3,380,807, 4–30–68, Cl. 23—190.
Jones, Richard S., to Westland Aircraft Ltd. Controllable priming means for the cushion of air cushion vehicles. 3,380,550, 4–30–68, Cl. 180—128.
Jordan, Ivy S., III, to The Cardwell Machine Co. Apparatus for conveying and turning panels in a grade line. 3,380,570, 4–30–68, Cl. 198—33.

Jordan, Richard H., and S. A. Findley, to Kingston Products Corp. Switch construction for use in motor vehicles. 3,380,753, 4–30–68, Cl. 200—61.27.
Joyce, William H.: *See*—
  Peacock, Glenn S., and Joyce. 3,381,060.
Judd, Claude I.: *See*—
  Drukker, Alexander E., and Judd. 3,381,000.
Judge, Robert L.: *See*—
  Flaherty, Robert J., Hallstead, Judge, Vaudreuil, Wyckoff, and Schug. 3,381,282.
Juhász, Jozsef: *See*—
  Wiedmann, Otto, Leitsmann, Juhász, and Vetter 3,381,044.
Jumelle, Louis F., to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation. Inflatable apparatus for maintaining continuity of a variable contour of an adjustable jet pipe. 3,380,663, 4–30–68, Cl. 239—265.43.
Kabushiki Kaisha Hitachi Seisakusho: *See*—
  Okano, Hiroshi. 3,381,132.
Kabushiki Kaisha Ricoh: *See*—
  Umahashi, Minoru. 3,380,365.
Kagan, Fred: *See*—
  Argoudelis, Alexander D., Bannister, Hoeksema, Kagan, and Magerlein. 3,380,992.
Kaiser Aluminum & Chemical Corp.: *See*—
  Boru, Herbert H., and Smith. 3,380,875.
  Halter, Stanley J. 3,380,272.
Kaiser, Paul, and J. Muller, to Messrs. Gebruder Junghans Aktiengesellschaft. Self-destroying fuse. 3,380,384, 4–30–68, Cl. 102—71.
Kajiura, Takehiko: *See*—
  Naito, Kenji, Nomura, Noguchi, and Kajiura. 3,380,998.
Kalle Aktiengesellschaft: *See*—
  Hansl, Werner, and Gramm. 3,380,940.
Kaman, Frank A., to Skil Corp. Impact clutch. 3,380,539, 4–30–68, Cl. 173—93.5.
Kamibayashi, Tetsusaburo: *See*—
  Oshima, Shintaro, Enomoto, Futami, Kobayashi, Kamibayashi, Fukui, Okada, Sahiki, Koyama, Saito, Moriyama, Abe, and Saito. 3,381,138.
Kamoshita, Genichi, M. Hirano, J. Shiba, and N. Hara, to Hitachi, Ltd. Sintered palladium materials for electric contact. 3,380,812, 4–30–68, Cl. 29—182.5.
Karel, Bernard. Advertisement attachment for gable top containers. 3,380,181, 4–30–68, Cl. 40—312.
Kartridg Pak Co., The: *See*—
  Rousseau, Roy S. 3,380,224.
  Tracy, Alan C. 3,380,226.
Kassak, Peter J.: *See*—
  Hight, Hanford Z., Kassak, and Lesky. 3,380,762.
Katz, Herbert, and M. Rothbart, to United States of America, Atomic Energy Commission. Ion exchange process. 3,380,916, 4–30–68, Cl. 210—30.
Katz, Maurice. Flow regulator for fluid working devices. 3,380,560, 4–30–68, Cl. 188—88.
Katz, Seymour: *See*—
  Fleisher, Bernard L., Katz, Stern, and Weiss. 3,381,120.
Kaumagraph Co.: *See*—
  Hochner, Walter L. 3,380,869.
Kawabe, Takao. Starter for alternating current driven motors. 3,381,198, 4–30–68, Cl. 318—229.
Kay, Daniel J., and R. P. Knipple, to Hooker Chemical Corp. Ammonia soluble resin. 3,380,944, 4–30–68, Cl. 260—28.5.
Kaye, Minton W., to Raypak Co., Inc. Heat exchanger including tube expansion means. 3,380,516, 4–30–68, Cl. 165—81.
Keith, Wayland D.: *See*—
  Petty, Frances M., and Keith. 3,380,087.
Keller, John D., to Bausch & Lomb Inc. Density measuring system having optical wedge to vary length of light path. 3,381,135, 4–30–68, Cl. 250—218.
Keller, William J., to E. I. du Pont de Nemours and Co. Process for polymerizing tetrafluoroethylene epoxide. 3,380,937, 4–30–68, Cl. 260—2.
Kelly, Francis J., and F. Przybyla, to Mallory Battery Co. of Canada Ltd. Method of making porous zinc structures. 3,380,822, 4–30–68, Cl. 75—214.
Kemmler, James W., to Congoleum-Nairn Inc. Method of making a terrazo plastic composition product. 3,381,067, 4–30–68, Cl. 264—73.
Kemper, James M., to Westinghouse Air Brake Co. Cable reel control mechanism. 3,380,545, 4–30–68, Cl. 180—2.
Kenmuir, Lester P. Water sled. 3,380,090, 4–30–68, Cl. 9—6.
Kenro Corp.: *See*—
  Ginsberg, Jacob J. 3,380,367.
  Welch, Kenneth B. 3,381,115.
Kent, R. O., Corp.: *See*—
  Kraszeski, Arthur. 3,380,484.
  Kraszeski, Arthur, and Kent. 3,380,487.
Kent, Stephen D.: *See*—
  Kraszeski, Arthur, and Kent. 3,380,487.
Kentucky Electronics, Inc.: *See*—
  Johnson, Jay H. 3,381,156.
Kessler, Gottlieb G. Swivel pipe wrench. 3,380,325, 4–30–68, Cl. 81—100.
Kessler, Michael H., to Westinghouse Electric Corp. Refrigeration apparatus cabinet construction. 3,380,615, 4–30–68, Cl. 220—9.
Keyes, Marion A., and R. J. Farrell, to Beloit Corp. Reducing sheet breaks at roll coaters. 3,380,431, 4–30–68, Cl. 118—8.
Keystone Lighting Corp.: *See*—
  Risley, James A. 3,380,770.
Kienast, Peter F., to Westinghouse Electric Corp. Variable frequency magnetic field arc heater apparatus and variable frequency field producing means for use therein. 3,381,171, 4–30–68, Cl. 315—176.
Kimberly-Clark Corp.: *See*—
  Laumer, Edward P. 3,380,734.
  McCurry, Marion A. 3,380,086.
King, Kenneth F.: *See*—
  Cluff, Edward F., Harris, and King. 3,380,952.
King, Robert A.: *See*—
  Richmond, Alfred, King, and Gentle. 3,380,242.
King-Seeley Thermos Co.: *See*—
  Holbrook, Rex R. 3,380,149.
Kingston Products Corp.: *See*—
  Jordan, Richard H., and Findley. 3,380,753.
Kinney, Edward S.: *See*—
  Georgantas, Peter D., Loosen, and Kinney. 3,380,682.
Kiper, Gerd, D. Engelsmann, J. V. Albedyll, and R. Schroeder, to Agfa Aktiengesellschaft. Adjustable automatic photographic camera. 3,380,356, 4–30–68, Cl. 95—10.
Kirby, David: *See*—
  Lowe, James N., Reyntiens, and Kirby. 3,381,066.
Kirchberger, Walter C., and D. E. Nelson, to Globe-Union Inc. Piercing punch device. 3,380,160, 4–30–68, Cl. 30—362.
Kirk, Fred J., to Dennison Mfg. Co. Mold for making an attachment device. 3,380,122, 4–30–68, Cl. 18—42.
Kirsinas, Peter: *See*—
  Plattner, Robert F., and Kirsinas. 3,380,485.
Kirwin, Ralph S. Drill grinding machine. 3,380,200, 4–30–68, Cl. 51—124.
Kis, John S., and R. M. Theisen, to Alum-Alloy Casting Co. Method of making an insert and cast piston combination. 3,380,139, 4–30–68, Cl. 29—156.5.
Kisinko, Paul M.: *See*—
  Husher, John D., and Kisinko. 3,380,153.
Kitagawa, Hideji: *See*—
  Izumi, Zenzi, Kitagawa, and Shinto. 3,380,976.
Kito, Miyoshi. Device for guiding a load chain in a hoisting and pulling apparatus. 3,380,712, 4–30–68, Cl. 254—167.
Kitze, Theodore J., Jr., and W. J. Rosecrants, Jr., to Eastman Kodak Co. Antistain agents for spectrally sensitized silver halide photographic elements. 3,380,828, 4–30–68, Cl. 96—61.
Klanner, Rudolf, and M. Roedel, to Maschinenfabrik Augsburg-Nurnberg Aktiengesellschaft. Trash truck having removable tank. 3,380,600, 4–30–68, Cl. 214—38.
Klausen, Svend E., and C. A. Jacobsen. Drying rack. 3,380,595, 4–30–68, Cl. 211—87.
Klein, Walter, to Ernst Leitz G.m.b.H. Optische Werke. Microscope objective. 3,380,793, 4–30–68, Cl. 350—215.
Kling, Frederick R., and R. Serrell, to Educational Testing Service. Self-correcting educational device, game and associative display. 3,380,176, 4–30–68, Cl. 35—9.
Knapp, George P., to Mount Hope Machinery Co. Sheet guiding apparatus. 3,380,637, 4–30–68, Cl. 226—20.
Knapsack Aktiengesellschaft: *See*—
  Niermann, Hermann, and Harnisch. 3,380,808.
Knipple, Raymond P.: *See*—
  Kay, Daniel J., and Knipple. 3,380,944.
Knoll, Jack, and K.-Y. Hsu, to Teleregister Corp. Data holding system. 3,381,278, 4–30–68, Cl. 340—172.5.
Kobayashi, Toshihiko: *See*—
  Oshima, Shintaro, Enomoto, Futami, Kobayashi, Kamibayashi, Fukui, Okada, Sahiki, Koyama, Saito, Moriyama, Abe, and Saito. 3,381,138.
Kobe, Inc.: *See*—
  McArthur, Ralph F., and Mecusker. 3,380,760.
Koch, H., & Sons: *See*—
  Gaylord, John A. 3,380,692.
Koch, Theodore A.: *See*—
  Eleuterio, Herbert S., and Koch. 3,381,047.
Koch, Theodore A., and H. S. Eleuterio, to E. I. du Pont de Nemours and Co. Cyclododecatriene 1,5,9 process. 3,381,045, 4–30–68, Cl. 260—666.
Kochalka, Paul J.: *See*—
  Moyer, Wendell W., Jr., and Kochalka. 3,380,582.
Koep, Armin: *See*—
  Fierbaugh, Lloyd W., and Koep. 3,381,269.
Kofink, Siegfried, to J. Eberspaecher. Reciprocating pump. 3,380,387, 4–30–68, Cl. 103—37.
Kohlenscheidungs-Gesellschaft m.b.H.: *See*—
  Weispfenning, Helmut. 3,380,672.
Kokusai Denshin Denwa Kabushiki Kaisha: *See*—
  Oshima, Shintaro, Enomoto, Futami, Kobayashi, Kamibayashi, Fukui, Okada, Sahiki, Koyama, Saito, Moriyama, Abe, and Saito. 3,381,138.
Kokusai Display Kogyo Kabushiki Kaisha: *See*—
  Ito, Reijiro. 3,380,656.
Kolb, Paul, A.G.: *See*—
  Togni, Daniel. 3,381,112.
Kollsman Instrument Corp.: *See*—
  Angus, James W. 3,381,191.
  Barnes John W., and Goodlet. 3,381,133.
  Rosenthal, Adolph H. 3,381,242.
Kolodney, Morris, to United States of America, Atomic Energy Commission. Plutonium etching. 3,380,865, 4–30–68, Cl. 156—18.
Komas, John, M. D. Insley, and G. U. Palm, to Mark Systems Inc. Mat processor. 3,380,679, 4–30–68, Cl. 242—55.11.
Komeno, Taichiro, and N. Tokutake, to Shionogi & Co., Ltd. 16β-alkylthio-17-oxo-steroids. 3,381,002, 4–30–68, Cl. 260—239.55.
Kometani, Yutaka, T. Sugino, and Y. Furukawa, to Daikin Kogyo Kabushiki Kaisha. Purification of fluorinated compounds. 3,381,041, 4–30–68, Cl. 260—653.
Kompelien, Arlon D., to Honeywell Inc. Fuel burner control apparatus. 3,380,796, 4–30–68, Cl. 158—28.
Komsa, Sasha: *See*—
  Deemie, Gerald W., Sage, Komsa, Rakus, and Yocum. 3,380,641.
Kongpricha, Santad: *See*—
  Jache, Albert W., and Kongpricha. 3,380,803.
Kongskilde Maskinfabrik A/S: *See*—
  Petersen, Mogens. 3,380,786.

Konopka, Leo J. Saw and miter guide. 3,380,492, 4–30–68, Cl. 143—6.
Kontra, Joseph, and G. F. Crate, to G. F. Crate. Beverage dispensing apparatus. 3,380,629, 4–30–68, Cl. 222—26.
Koppers Co., Inc.: *See*—
  Dressler, Hans, and Reabe. 3,380,961.
Korpics, Charles J.: *See*—
  Deschner, Reinhart P., and Korpics. 3,381,065.
Korte, Friedrich W. A. G. K.: *See*—
  Palm, Richard A., Cherdron, Ohse, and Korte. 3,380,939.
  Palm, Richard A., Cherdron, Ohse, and Korte. 3,380,987.
Koshland, Daniel E., Jr., H. G. Latham, and H. R. Horton, to United States of America, Atomic Energy Commission. Method of introducing a colored group sensitive to pH changes into enzymes by reacting with 2-methoxy-5-nitrobenzyl bromide. 3,380,893, 4–30–68, Cl. 195—68.
Kosugi Sangyo Co., Ltd.: *See*—
  Muto, Tokutaro. 3,380,074.
Kotowick, Joseph L. Partition structures. 3,380,642, 4–30–68, Cl. 229—15.
Kovanic, Edward F., to Bell Telephone Laboratories, Inc. Pulse frequency divider using delay line timing. 3,381,227, 4–30–68, Cl. 328—56.
Kowalewski, John J.: *See*—
  Allen, Oliver L., Kowalewski, and Ritsau. 3,380,108.
Koyama, Haruo: *See*—
  Oshima, Shintaro, Enomoto, Futami, Kabayashi, Kamibayashi, Fukui, Okada, Sahiki, Koyama, Saito, Moriyama, Abe, and Saito. 3,381,138.
Kramer, David N.: *See*—
  Vaughan, Lawrence G., and Kramer. 3,381,007.
Kramer, Sol, to Life-Like Products, Inc. Chest lid retaining means. 3,380,617, 4–30–68, Cl. 220—32.
Kraszeski, Arthur, to R. O. Kent Corp. Apparatus and method for making ventilating units for seat pads. 3,380,484, 4–30–68, Cl. 140—1.
Kraszeski, Arthur, and S. D. Kent, to R. O. Kent Corp. Machine for assembling artificial trees, branches and the like. 3,380,487, 4–30–68, Cl. 140—149.
Kraus, Otto K., to Minigrip, Inc. Closed tube with fastener members 3,380,481, 4–30–68, Cl. 138—118.
Kreeger, Elamer W., to Pinckney Molded Plastics, Inc. Nest and stack containers. 3,380,625, 4–30–68, Cl. 220—97.
Kreiter, Bernard A.: *See*—
  Alexander, Andrew, Jack, and Kreiter. 3,381,049.
Krieps, Frank J., to Container Corp. of America. Snap-on lid for plastic container. 3,380,610, 4–30–68, Cl. 215—41.
Krock, Richard H.: *See*—
  Larsen, Earl I., Krock, and Jones. 3,380,813.
Kroffke, Kenneth K., to Airmatic Valve, Inc. Pneumatic reciprocating valve. 3,380,348, 4–30–68, Cl. 91—318.
Kubodera, Hisayoshi. Apparatus for mixing, milling, washing, extracting, and other processes. 3,380,671, 4–30–68, Cl. 241—98.
Kudlaty, Walter J., to Marvel Engineering Co. Rod seal. 3,380,745, 4–30–68, Cl. 277—152.
Kuramochi, Shigeaki. Toy sewing machine. 3,380,413, 4–30–68, Cl. 112—1.
Kurashiki Rayon Co. Ltd.: *See*—
  Fukushima, Osamu. 3,380,953.
Kurl King (Broom Protectors) Ltd.: *See*—
  Green, Harry W. 3,380,504.
Kuts, Mathew, to B. F. Goodrich Co. Golf ball sizer. 3,380,588, 4–30–68, Cl. 209—87.
Kwolek, Stephanie L.: *See*—
  Hill, Harold W., Jr., Kwolek, and Sweeny. 3,380,969.
L & C Steinmuller G.m.b.H.: *See*—
  Veldgen, Willy, and Clemens. 3,380,143.
LTV Aerospace Corp.: *See*—
  Brougham, Harold E., and Gilchrist. 3,380,611.
Labbe, Francis A. M., to Molins Machine Co. Ltd. Tobacco manipulating machines. 3,380,782, 4–30–68, Cl. 302—51.
l'Air Liquide, Societe Anonyme Pour d'Etude et l'Exploitation des Procedes Georges Claude: *See*—
  Lecomte, Jean, and Gans. 3,380,614.
Lakin, Ira W.: *See*—
  Mevissen, Ernst A., and Lakin. 3,380,726.
Lamaster, Donald M.: *See*—
  Howell, Homer R., Lamaster, and Roeder. 3,381,205.
Lambs-Grays Harbor Co., Inc.: *See*—
  Jasper, Ronald J., and Gustafson. 3,380,223.
Landbrecht, Franz, to AGFA-Gevaert Aktiengesellschaft. Camera for synchro-flash photography. 3,380,359, 4–30–68, Cl. 95—11.5.
Landgraf, Walter D. Ribbon spool mounting bracket. 3,380,581, 4–30–68, Cl. 206—59.
Lang, Harold M., to Pan American Petroleum Corp. Gas igniting seismic source for well bores. 3,380,551, 4–30–68, Cl. 181—.5.
Lang, Richard E. Metalworking apparatus. 3,380,279, 4–30–68, Cl. 72—294.
Langen, Eugen, and K. Pause, to Maschinenfabrik Buckau R. Wolf Aktiengesellschaft. Laminated body. 3,380,623, 4–30–68, Cl. 220—63.
Lankro Chemicals Ltd.: *See*—
  Lowe, Arnold J., Chandley, and Molinario. 3,380,967.
Lappin, Gerald R., to Eastman Kodak Co. Copolymeric ether glycol. 3,381,038, 4–30–68, Cl. 260—611.
Laquerriere, Michel: *See*—
  Schaeffer, Andre, Clauss, and Laquerriere. 3,380,830.
Larose, Gerard M., to Allis-Chalmers Mfg. Co. System for controlling excitation to synchronous motor during starting. 3,381,196, 4–30–68, Cl. 318—176.
Larsen, Earl I., R. H. Krock, and C. R. Jones, to P. R. Mallory & Co., Inc. Composites of beryllium-copper-tin. 3,380,813, 4–30–68, Cl. 29—182.1.
Larson, Melvin E., and C. W. Shaver, to Rose Patch & Label Co. Cloth label singulating method and apparatus. 3,380,731, 4–30–68, Cl. 271—20.
La Rue, Albert D., and R. S. Symons, to Varian Associates. Klystron amplifier having one cavity resonator coated with lossy material to reduce the undesired modes, unloaded cavity. 3,381,163, 4–30–68, Cl. 315—5.39.
Lasko Metal Products, Inc.: *See*—
  Preis, Fritz. 3,380,376.
Latham, Harry G.: *See*—
  Koshland, Daniel E., Jr., Latham, and Horton. 3,380,893.
Laumer, Edward P., to Kimberly-Clark Corp. Papermaking machine. 3,380,734, 4–30–68, Cl. 271—76.
Laurer, George J.: *See*—
  Delanoy, Richard L., Foreman, and Laurer. 3,381,089.
  Dorrell, Carter E., and Laurer. 3,381,090.
La Velle, Donald R. Planing saw. 3,380,497, 4–30–68, Cl. 143—140.
Lavergne, Michel, and J.-P. Robert, to Institut Francais du Petrole des Carburants et Lubrifiants. Submarine topography. 3,381,264, 4–30–68, Cl. 340—3.
LeBlanc, John R., and J. Fantl, to Monsanto Co. Polymerization process. 3,380,972, 4–30–68, Cl. 260—78.5.
LeBlanc, John R., J. Fantl, S. H. Rider, and F. S. O'Connell, to Monsanto Co. Thermally stable and thermally flexible thermosetting resin composition. 3,381,055, 4–30–68, Cl. 260—848
Lecomte, Jean, and F. Gans, to l'Air Liquide, Societe Anonyme Pour d'Etude et l'Exploitation des Procedes Georges Claude. Thermal insulation under vacuum. 3,380,614, 4–30–68, Cl. 220—9.
Lee, Paul R., to Westinghouse Electric Corp. Electric water heater thermostatic control with an overheat control switch for open-circuiting a pair of heaters. 3,381,100, 4–30–68, Cl. 200—138.
Lee, Richard J., to Standard Oil Co. Anti-foulant for hydrocarbon feed streams. 3,380,909, 4–30–68, Cl. 208—48.
Leek, Nathaniel L.: *See*—
  Purington, Ellison S., and Chaffee. 3,381,224.
Leese, Albert H., to Ford Motor Co. Backhoe bucket construction. 3,380,604, 4–30–68, Cl. 214—138.
Le Fournier, Jacques F. M., to Compagnie d'Exploration Petroliere. Distribution of fluids in a medium. 3,380,292, 4–30–68, Cl. 73—38.
Lehman, Harvey R., to Bell Telephone Laboratories, Inc. Highly reliable oscillator-clock unit containing duplicated equipment. 3,381,239, 4–30–68, Cl. 331—56.
Lehrer, Stanley, and J. C. Holme, to Astrosystems International, Inc. Electromagnetic flowmeter for engine exhaust gases. 3,380,300, 4–30–68, Cl. 73—194.
Leighton, Joseph T. Gas lighter valve. 3,380,472, 4–30–67, Cl. 137—360.
Leiper, Charles H., M. A. Lowenthal, and W. B. Shearer, to Mobil Oil Corp. Thermoforming and scoring method and apparatus. 3,381,068, 4–30–68, Cl. 264—89.
Leitsmann, Reinhard: *See*—
  Wiedmann, Otto, Leitsmann, Juhász, and Vetter. 3,381,044.
Leitz, Ernst, G.m.b.H. Optische Werke: *See*—
  Klein, Walter. 3,380,793.
Lentz, Norman E., and D. E. Mack, to Bell Telephone Laboratories, Inc. Unipolar to bipolar pulse converter. 3,381,088, 4–30–68, Cl. 178—70.
Lenz, Conrad. Straining vat. 3,380,373, 4–30–68, Cl. 99—278.
Le Roy, Gene. Sight glass for reaction vessels. 3,380,303, 4–30–68, Cl. 73—334.
Lesky, Stephen: *See*—
  Hight, Hanford Z., Kassak, and Lesky. 3,380,762.
Le Suer, William M., to The Lubrizol Corp. Polymerized olefin substituted succinic acid esters. 3,381,022, 4–30–68, Cl. 260—404.8.
Letter, Eugene C., to Bausch & Lomb Inc. Thin film optical shutter. 3,380,792, 4–30–68, Cl. 350—160.
Leveille, James W., 50% to L. J. Gendron. Livestock cervical tube. 3,380,453, 4–30–68, Cl. 128—260.
Levine, Seymour D., and P. A. Diassi, to E. R. Squibb & Sons, Inc. A-norprogesterone derivatives. 3,381,029, 4–30–68, Cl. 260—488.
Lewis, Donald B., to General Motors Corp. Crankcase ventilation flow regulator valve. 3,380,441, 4–30–68, Cl. 123—119.
Lewis, George L., H. C. Gulledge, and G. Teufer, to E. I. du Pont de Nemours and Co. Thermally stable fibrous alkali metal titanates. 3,380,847, 4–30–68, Cl. 117—100.
Libbey-Owens-Ford Glass Co.: *See*—
  Walters, Emmett L., and Boicey. 3,380,289.
Licari, James J.: *See*—
  Dittman, David O., Licari, and Glovak. 3,380,941.
Licentia Patent-Verwaltungs-G.m.b.H.: *See*—
  Arends, Enno. 3,381,186.
  Pohl, Franz A. 3,380,856.
Lienemann, Dario E.: *See*—
  Connor, Donald E., and Lienemann. 3,380,412.
Life-Like Products, Inc.: *See*—
  Kramer, Sol. 3,380,617.
Liljequist, Jon L. Engine controls. 3,380,317, 4–30–68, Cl. 74—479.
Lincoln, Gilbert, and R. C., Jr. Container cover assembly. 3,380,624, 4–30–68, Cl. 220—93.
Lincoln, Richard C., Jr.: *See*—
  Lincoln, Gilbert, and R. C., Jr. 3,380,624.
Lindahl, Robert L.: *See*—
  Good, Charles R., Harris, Lindahl, and Merrill. 3,380,506.
Lindemann, Martin K., and R. P. Volpe, to Air Reduction Co., Inc. Nonwoven fabric with vinyl acetate-ethylene-N-methylol acrylamide interpolymer as binder. 3,380,851, 4–30–68, Cl. 117—140.

- Linder, Michael R.: *See—*
  - Gillman, Robert, and Linder. 3,380,257.
- Lindkvist, Erik C.: *See—*
  - Wrench, Edwin H., Lindkvist, Mandoza, Close, Gibb, and Ford. 3,380,687.
- Lindsey, L. E. Cable clamp with means for distributing the cable load between the clamping jaw and the clamp body. 3,380,693, 4-30-68, Cl. 248—63.
- Linnemann, Helmut. Pin setting apparatus including sorting means for segregating pins of different types. 3,380,739, 4-30-68, Cl. 273—43.
- Lins, Albert: *See—*
  - Meier, Bernhard. 3,380,657.
- Lipinski, Richard J., to Lord Corp. Treatment of aluminum, compositions therefor and products thereof. 3,380,860, 4-30-68, Cl. 148—6.27.
- Lisenby, Edward P.: *See—*
  - Proffit, John D., and Lisenby. 3,380,415.
- Lissakers, Axel. Scoop shovel. 3,380,772, 4-30-68, Cl. 294—54.
- Litt, Donald D.: *See—*
  - Ellenberg, Carl H., Weinstein, Litt, and Jaroff. 3,380,490.
- Littau, Erwin F.: *See—*
  - Schuller, Max J., Urban, and Littau. 3,381,256.
- Liu, Robert S. H., and G. S. Hammond, to United States of America, Atomic Energy Commission. Photosensitization method of cyclization of myrcene. 3,380,903, 4-30-68, Cl. 204—162.
- Loebel, Frederick A., to Aqua-Chem, Inc. Water supply system. 3,380,895, 4-30-68, Cl. 202—176.
- Logan, Charles W., and R. L. Trent, to National Semiconductor Corp. Electrical circuit insulation method. 3,381,071, 4-30-68, Cl. 264—135.
- Lohr, Manfred: *See—*
  - Hoffmann, Hans-Jurgen, and Lohr. 3,380,729.
- Long, Leonard H., and G. F. Freeguard, to National Research Development Corp. Preparation of organic halides. 3,381,040, 4-30-68, Cl. 260—633.
- Longaker, Perry R.: *See—*
  - Carbone, Robert J., and Longaker. 3,381,136.
- Lood, Douglas E., R. S. Spriggs, and J. L. Rogers, to TRW Inc. Method of fabricating thin film resistors. 3,380,156, 4-30-68, Cl. 29—620.
- Loomans, Bernard A.: *See—*
  - Cox, Bradley G., Yablonski, and Loomans. 3,380,116.
- Loose, Robert A., to Westinghouse Electric Corp. Boric acid removal process and apparatus. 3,380,889, 4-30-68, Cl. 176—22.
- Loosen, Ronald E.: *See—*
  - Georgantas, Peter D., Loosen, and Kinney. 3,380,682.
- Lord Corp.: *See—*
  - Lipinski, Richard J. 3,380,860.
- Loreck, Werner. Round link chain for chain conveyors. 3,380,571, 4-30-68, Cl. 198—168.
- Loucks Russell D., and P. J. Lupoli, to Technipower Inc. DC voltage magnitude modifying arrangement. 3,381,202, 4-30-68, Cl. 321—2.
- Lovell, Lyle M., and E. R. Strong, to Standard Oil Co. Isomerization of xylene isomers. 3,381,048, 4-30-68, Cl. 260—668.
- Lowe, Arnold J., E. F. Chandley, and L. Molinario, to Lankro Chemicals Ltd. Polyethers and polyurethanes obtained therefrom. 3,380,967, 4-30-68, Cl. 260—77.5.
- Lowe, Edward J.: *See—*
  - Jacques, James K., and Lowe. 3,381,113.
- Lowe, James N., P. Reyntiens, and D. Kirby; said Lowe assor. to said Reyntiens and said Kirby. Method of making a translucent panel. 3,381,066, 4-30-68, Cl. 264—71.
- Lowenthal, Morton A.: *See—*
  - Leiper, Charles H., Lowenthal, and Shearer. 3,381,068.
- Lowerre, William M., Jr. Liquid infusion device. 3,380,374, 4-30-68, Cl. 99—281.
- Lowy, S. Leo: *See—*
  - Daugirdas, Kristupas, Lynn, and Lowy. 3,380,110.
- Lstiburek, Josef F. Hydrofoil craft. 3,380,421, 4-30-68, Cl. 114—66.5.
- Lubrizol Corp., The: *See—*
  - Le Suer, William M. 3,381,022.
- Lucas, Ralph G.: *See—*
  - Purington, Ellison S., and Chaffee. 3,381,224.
- Luger, George W., to Hart-Carter Co. Vibratory conveyor. 3,380 572. 4-30-68, Cl. 198—220.
- Luminous Ceilings, Inc.: *See—*
  - Segil, Arthur W., and White. 3,380,552.
- Lupoli, Peter J.: *See—*
  - Loucks, Russell D., and Lupoli. 3,381,202.
- Lutz, Heinrich, to Maschinenfabrik Oerlikon. Pressing means for ready-to-use winding unit. 3,381,252, 4-30-68, Cl. 336—197.
- Lynn, Robert J.: *See—*
  - Daugirdas, Kristupas, Lynn, and Lowy. 3,380,110.
- Maasberg, Wolfgang, and O. Taufer, to Firma Woma-Apparatebau W. Maasberg & Co. G.m.b.H. Pipe-cleaning head. 3,380,461, 4-30-68, Cl. 134—167.
- Mabille, Georges A., to Promecam Sisson-Lehmann. Surface treating apparatus. 3,380,196, 4-30-68, Cl. 51—9.
- MacCluney, William R. Rack for pre-tied neckties. 3,380,594, 4-30-68, Cl. 211—13.
- Machinecraft: *See—*
  - Butler, Richard K. 3,380,126.
- Mack, Donald E.: *See—*
  - Lentz, Norman E., and Mack. 3,381,088.
- Mack, Richard G. Foldable and adjustable vent. 3,380,370, 4-30-68, Cl. 98—37.
- MacPetrie, John D., and V. Milewski, to The Valeron Corp. Cylindrical insert cutting tool. 3,380,137, 4-30-68, Cl. 29—105.
- Madl, Joseph, Jr. Unit mounting and circulation-sealing frame. 3,380,219, 4-30-68, Cl. 52—664.
- Madsen, Kristian D., S. Helmersson, and R. Sivertsen, to Allmanna Svenska Elektriska Aktiebolaget. High power synchronous machine. 3,381,154, 4-30-68, Cl. 310—213.
- Magerlein, Barney J.: *See—*
  - Argoudelis, Alexander D., Bannister, Hoeksema, Kagan, and Magerlein. 3,380,992.
- Magnavox Co., The: *See—*
  - Hazelet, Gerald L., and Wilson. 3,380,385.
- Magruder, George M., to Richland Shale Products Co. Extrusion die for drain tile cluster. 3,380,129, 4-30-68, Cl. 25—17.
- Mahy, Tyler X., and S. G. Abens, to Honeywell Inc. Battery including methyl formate and lithium perchlorate. 3,380,835, 4-30-68, Cl. 136—100.
- Majewski, Theodore E.: *See—*
  - Surine, William R., and Majewski. 3,381,032.
- Malanga, Orlando A. Tire gauge and marking device assembly. 3,380,296, 4-30-68, Cl. 73—146.3.
- Maley, Gerald A.: *See—*
  - Hoernes, Gerhard E., and Maley. 3,381,232.
- Malhotra, Sudarshan K., and J. J. Hostynek, to The Dow Chemical Co. Method for the preparation of α,α diketones from α,β-ethylenically unsaturated monoketones. 3,381,021, 4-30-68, Cl. 260—397.2.
- Mallory Battery Co. of Canada Ltd.: *See—*
  - Kelly, Francis J., and Przybyla. 3,380,822.
- Mallory, P. R., & Co. Inc.: *See—*
  - Larsen, Earl I., Krock, and Jones. 3,380,813.
- Mandoza, Barry A.: *See—*
  - Wrench, Edwin H., Lindkvist, Mandoza, Close, Gibb, and Ford. 3,380,687.
- Mandrel Industries, Inc.: *See—*
  - Frobese, Charles W., and Van Wambeck. 3,380 586.
- Mannherz, Elmer D., and R. F. Schmoock, to Fischer & Porter Co. Magnetic flowmeter for magnetic slurries. 3,380,301, 4-30-68, Cl. 73—194.
- Manos, Steven, to Bell Telephone Laboratories, Inc. Twin plug connector having a coupling pin. 3,381,259, 4-30-68, Cl. 339—64.
- Manton Gaulin Mfg. Co., Inc.: *See—*
  - Rees, Lancelot H. 3,380,958.
- Marbet, Roman, to Hoffmann-La Roche Inc. 1,1-diethoxy-4-cyclohexylidene butane. 3,381,039, 4-30-68, Cl. 260—611.
- Marchand, John F. Semi-ballistic switch mechanism. 3,381,099, 4-30-68, Cl. 200—38.
- Mark Systems Inc.: *See—*
  - Komas, John, Insley, and Palm. 3,380,679.
- Markillie, John H., to The Upjohn Co. Isoxazolo [5,4-b] pyridine derivatives and a method of their preparation. 3,381,016, 4-30-68, Cl. 260—296.
- Markowski, Stanley J., to United Aircraft Corp. Variable area exhaust deflector. 3,380,660, 4-30-68, Cl. 239—265.27.
- Markowski, Stanley J., to United Aircraft Corp. Thrust deflector. 3,380,661, 4-30-68, Cl. 239—265.29.
- Marschhausen, Clayton J. Retractable board holder for printing presses. 3,380,598, 4-30-68, Cl. 214—6.
- Marshall, John D.: *See—*
  - Bridgham, Noyes W. 3,380,483.
- Marston, Frederick T. Welder's chipping and cleaning tool. 3,380,096, 4-30-68, Cl. 15—105.
- Marten, Jerome H., to Chemical Construction Corp. Removal of carbon monoxide from gas mixtures. 3,384,800, 4-30-68, Cl. 23—2.
- Marthinsson, Barbara K., now by change of name, B. K. McLoughlin. Adaptable garment accessory. 3,380,075, 4-30-68, Cl. 2—126.
- Martin, Emmet L., to American Coleman Co. Hydraulic suspension system for motor vehicles. 3,380,748, 4-30-68, Cl. 280—6.
- Martin, Leonard G. Dental applicator. 3,380,446, 4-30-68, Cl. 128—24.
- Martin, Leonard R., to The British Petroleum Co. Ltd. Correction system for use in carrying out line operations in an underwater borehole. 3,380,714, 4-30-68, Cl. 254—172.
- Martin, Merrill D. Rotary die cutter. 3,380,328, 4-30-68, Cl. 83—156.
- Martin, Robert M. Ankle device for supporting an individual in an inverted position. 3,380,447, 4-30-68, Cl. 128—75.
- Martin, Robert S., to E. I. du Pont de Nemours and Co. Core-spun elastic yarn product and process. 3,380,244, 4-30-68, Cl. 57—152.
- Martin, Walter C.: *See—*
  - Di Tommaso, Anthony, Martin, and McKown. 3,380,310.
- Marvel Engineering Co.: *See—*
  - Kudlaty, Walter J. 3,380,745.
- Marvin Electric Mfg. Co.: *See—*
  - Docimo, Peter J. 3,381,123.
- Maschinenfabrik Augsburg - Nurnberg Aktiengesellschaft: *See—*
  - Klanner, Rudolf, and Roedel. 3,380,600.
- Maschinenfabrik Buckau R. Wolf Aktiengesellschaft: *See—*
  - Langen, Eugen, and Pause. 3,380,623.
- Maschinenfabrik Oerlikon: *See—*
  - Lutz, Heinrich. 3,381,252.
- Maschinenfabrik Schweiter A.G.: *See—*
  - Jenny, Rudolf. 3,380,676.
- Mason, Leslie F. A., and A. M. Sinclair, to Ilford Ltd. Photographic developing compositions. 3,380,829, 4-30-68, Cl. 96—66.
- Mason, Richard A.: *See—*
  - Eilertson, Donald H., and Mason. 3,380,081.
- Mason, Richard A.: *See—*
  - Miller, Leon C., and Mason. 3,380,664.
- Massachusetts Institute of Technology: *See—*
  - Carbone, Robert J., and Longaker. 3,381,136.
- Masuya, Hirotomo: *See—*
  - Miki, Takuichi, Hiraga, Asako, and Masuya. 3,381,035.

- Masuyama, Takeshi, and M. Matsuoka, to Matsushita Electric Industrial Co., Ltd. Silicon carbide varistors. 3,380,936, 4-30-68, Cl. 252—516.
- Mathe, George L.: *See—*
  - Boothe, Floyd G., Jr., and Mathe. 3,380,331.
- Mathe, George L., F. G. Boothe, Jr., and R. H. Dickerson, to Philip Morris Inc. Continuous rod cutter. 3,380,329, 4-30-68, Cl. 83—169.
- Matichard, Eugene, to Etablissement Aesup. Electric razor with approximately cylindrical handle and cylindrical cutting surface at an angle thereto. 3,380,157, 4-30-68, Cl. 30—43.92.
- Matisa Materiel Industriel S.A.: *See—*
  - Fornerod, Andre. 3,380,394.
- Matsumoto, Shoji, and M. Miyazaki, to Tanabe Seiyaku Co., Ltd. Process for preparing D-ribose. 3,380,901, 4-30-68, Cl. 204—73.
- Matsuoka, Michio: *See—*
  - Masuyama, Takeshi, and Matsuoka. 3,380,936.
- Matsushiro, Keizo: *See—*
  - Ohmae, Tsutomu, Matsushiro, and Yamamoto. 3,381,037.
- Matsushita Electric Industrial Co., Ltd.: *See—*
  - Ito, Reijiro. 3,380,656.
  - Masuyama, Takeshi, and Matsuoka. 3,380,936.
  - Nakamura, Shoichi, and Mori. 3,381,223.
- Mattox, William J., and W. F. Arey, Jr., to Esso Research and Engineering Co. Process for desulfurization with regenerable salts of weak acids. 3,380,915, 4-30-68, Cl. 208—284.
- Matzner, Markus, to Union Carbide Corp. Process of preparing acetylenically unsaturated polycarbonates. 3,380,965, 4-30-68, Cl. 260—47.
- Maynard, William J.: *See—*
  - Boucher, Raymond R., Maynard, and Sabo. 3,380,917.
- Mayo, George L. Wood component member cutting apparatus. 3,380,494, 4-30-68, Cl. 143—38.
- McArthur, Ralph F., and M. R. Mecusker, to Kobe, Inc. Bottom hole assembly for fluid operated pump system with tensioning means therein. 3,380,760, 4-30-68, Cl. 285—32.
- McAuliffe, Clayton D., R. Simon, and C. E. Johnson, Jr., to Chevron Research Co. Method of pumping viscous crude. 3,380,531, 4-30-68, Cl. 166—45.
- McClaflin, Gifford G.: *See—*
  - Miller, Donald B., and McClaflin. 3,380,981.
- McClaren, Jay L. Method and apparatus for conditioning grain. 3,380,174, 4-30-68, Cl. 34—26.
- McComas, Jean W., to Fairchild Hiller Corp. Minimum airframe for maximum external load. 3,380,691, 4-30-68, Cl. 244—118.
- McCombs, Frank P.: *See—*
  - Smucker, Clayton A., Rigby, and McCombs. 3,380,877.
- McConnell, Malcolm F., R. P. Cabeen, and W. W. Hedstrom. Steam stimulation of oil-bearing formations. 3,380,530, 4-30-68, Cl. 166—40.
- McCormick, Donald J.: *See—*
  - Becking, Paul E., Bungard, and McCormick. 3,380,569.
- McCown, Joseph M.: *See—*
  - Wood, Carl R., and McCown. 3,380,135.
- McCurry, Marion A., to Kimberly-Clark Corp. Cellulosic product. 3 380,086, 4-30-68, Cl. 5—334.
- McDonald, Eldon O. Method of making a circular building structure. 3,380,147, 4-30-68, Cl. 29—429.
- McDonald, Winford G. Merchandise display board illuminating means for coin-controlled vending machines. 3,381,121, 4-30-68, Cl. 240—6.
- McDonnell Douglas Corp.: *See—*
  - Babel, Henry W., Jaffee, and Moss. 3,380,146.
- McElwrath, Allen K., and H. W. Field, to Wagner Electric Corp. Friction device. 3,380 559, 4-30-68, Cl. 188—78.
- McEwen, Lillian O., and H. W. Ulmer. Automatic telephone alarm system with particular hook switch pulse arrangement. 3,381 092, 4-30-68, Cl. 179—5.
- McFeeters, James N.: *See—*
  - Saurin, Brendan F., and McFeeters. 3,380,091.
- McGrath Brian P., and L. Turner, to The British Petroleum Co. Ltd. Isomerisation of olefines. 3,381,052, 4-30-68, Cl. 260—683.2.
- McGraw-Edison Co.: *See—*
  - Riebs, Richard E., and Gilker. 3,381,176.
- McGraw, George P., Jr., to Western Electric Co., Inc. Spin forming device. 3,380 275, 4-30-68, Cl. 72—121.
- McGregor, Donald N., to Bristol-Myers Co. Synthetic penicillins. 3,381,001, 4-30-68, Cl. 260—239.1.
- McKenna, Thomas P. Fire door. 3,380,192, 4-30-68, Cl. 49—62.
- McKenney, John D., and J. H. Hedberg, to Aerojet-General Corp. Radio apparatus and method for determining the bearing and range of a remote radio beacon. 3,381,296, 4-30-68, Cl. 343—112.
- McKew, Marshall, to Caron Spinning Co. Apparatus for production of bulked yarn. 3,380,132, 4-30-68, Cl. 28—1.
- McKown, Daniel C.: *See—*
  - Di Tommaso Anthony, Martin, and McKown. 3,380,310.
- McLaughlin, James T. Protective device such as welder shield. 3,380,073, 4-30-68, Cl. 2—8.
- McLeod, Willard W., Jr., and J. R. Caswell, to United States of America, Army. Pulse rise time enhancing saturable reactor. 3,381,139 4-30-68, Cl. 307—106.
- McMullen, John J., Associates, Inc.: *See—*
  - Field, Sheldon B. 3,380,423.
- McNab, Robert F., Jr.: *See—*
  - Sibley, William A. L., Jr., and McNab. 3,381,216.
- McNeil Corp.: *See—*
  - Soderquist, Leslie E. 3,380,115.
- McNeil Laboratories, Inc.: *See—*
  - Suh, John T. 3,381,006.
- McNeil, Robert S.: *See—*
  - Jester, Harry C., and McNeil. 3,380,665.
- Meal, Thomas J., and A. J. Stokes, to Reuter-Stokes Electronic Components, Inc. Neutron detector for operation in high gamma fluxes. 3,381,131, 4-30-68, Cl. 250—83.1.
- Meckel, Benjamin B., to Physics Technology Laboratories, Inc. Propulsive device. 3,380,249, 4-30-68, Cl. 60—202.
- Mecusker, Mathew R.: *See—*
  - McArthur, Ralph F., and Mecusker. 3,380,760.
- Meibuhr, George C. Screw thread insert. 3,380,766, 4-30-68, Cl. 287—52.03.
- Meier, Bernard, to A. Lins. Mixing valve. 3,380,657, 4-30-68, Cl. 236—12.
- Meierhofer, Hugo, to Zellweger, Ltd. Device for securing warp threads. 3,380,133, 4-30-68, Cl. 28—44.
- Meise, Henry A., Jr.: *See—*
  - Baker, William E., De Stefano, and Meise. 3,381,095.
- Melcher, Norman J. Portable steps for climbing trees or poles. 3,380,697, 4-30-68, Cl. 248—216.
- Menich, Stephen J., to Sutherland-Schulz Ltd. Fabric polishing machine. 3,381,116, 4-30-68, Cl. 219—470.
- Menikheim, Virginia C., and E. M. Rodriguez, to Union Carbide Corp. Coating composition and method for applying same to polyolefin films. 3,380,844, 4-30-68, Cl. 117—47.
- Menke, John M., to Velsicol Chemical Corp. Air-drying water-soluble, halogen-containing polymeric composition. 3,380,942, 4-30-68, Cl. 260—22.
- Merck & Co., Inc.: *See—*
  - Grier, James S., and Pines. 3,381,033.
  - Harris, Elbert E., Rosenburg, and Chamberlin. 3,381,014.
  - Miller, Brinton M. 3,380,885.
  - Patchett, Arthur A., and Windholz. 3,381,003.
  - Shen, Tsung-Ying, and Shunk. 3,381,015.
- Merrill, Bennett W.: *See—*
  - Good, Charles R., Harris, Lindahl, and Merrill. 3,380,506.
- Messrs. Gebruder Junghans Aktiengesellschaft: *See—*
  - Kaiser, Paul, and Muller. 3,380,384.
- Metallgesellschaft Aktiengesellschaft: *See—*
  - Scheiber, Werner, and Garkisch. 3,380,896.
- Meteor A.G.: *See—*
  - Angst, Walter. 3,380,873.
- Methode Electronics, Inc.: *See—*
  - Gehrt, Edwin E., and Jensen. 3,381,263.
- Metzger, Eric E., and G. D. Hinshelwood, to Bowles Engineering Corp. Optical machining process. 3,380,827, 4-30-68, Cl. 96—35.1.
- Mevissen, Ernst A., and I. W. Lakin, to Dravo Corp. Basic oxygen furnace plant. 3,380,726, 4-30-68, Cl. 266—13.
- Meyer, William H.: *See—*
  - Trbovich, Nicholas D., and Meyer. 3,381,150.
- Meynig, Robert E. Time cycle actuator. 3,380,389, 4-30-68, Cl. 103—50.
- Michel, Max, and J. Courbon, to Produits Chimiques Pechiney-Saint-Gobain. Porous alumina products and method of manufacture. 3,380,933, 4-30-68, Cl. 252—455.
- Michelson, Gunnar P., to Plas-Tech Equipment Corp. Dynamic tester with testing between hydraulic launching of test masses and inelastic collisions. 3,380,290, 4-30-68, Cl. 73—12.
- Mick, Stanley H., to General Motors Corp. Engine with exhaust driven supercharger and afterburner air supply controls. 3,380 245, 4-30-68, Cl. 60—13.
- Micromatic Hone Corp.: *See—*
  - Fitzpatrick, Paul. 3,380,197.
- Midwest Gage Co., Inc.: *See—*
  - Stewart, Phillip M. 3,380,350.
- Miki, Takuichi, K. Hiraga, T. Asako, and H. Masuya, to Takeda Chemical Industries, Ltd. Process for producing 2-substituted cyclopentane-1,3-diones. 3,381,035, 4-30-68, Cl. 260—586.
- Mikos, Aloysius J., to The Seng Co. Sofa bed with improved seat deck structure. 3,380,082, 4-30-68, Cl. 5—12.
- Mikos, Aloysius J., to The Seng Co. Sofa bed with leg actuated section locking means. 3,380,083, 4-30-68. Cl. 5—13.
- Mikus, John S., to National Lead Co. Raised floor plate. 3,380,217, 4-30-68, Cl. 52—630.
- Milewski, Victor: *See—*
  - MacPetrie, John D., and Milewski. 3 380,137.
- Miller, Albert E., to United States of America, Atomic Energy Commission. Rare earth suboxides. 3,380,805, 4-30-68, Cl. 23—183.
- Miller, Art: *See—*
  - Ungar, Joseph, and Miller. 3,380,169.
- Miller, Arthur, C. H. Dorchester, and G. C. Sullivan, to Armalite, Inc. Upper handguard fixedly mounted on barrel assembly by breechblock guide rods. 3,380,183, 4-30-68, Cl. 42—75.
- Miller, Brinton M., to Merck & Co., Inc. Treating chronic respiratory disease with antibiotic bottromycin. 3,380,885, 4-30-68, Cl. 167—53.1.
- Miller, Charles W.: *See—*
  - Brock, Eugene W., Woodward, and Miller. 3,381,169.
- Miller, Donald B., to Continental Oil Co. Olefin polymerization process and catalyst for use therein. 3,380,930, 4-30-68, Cl. 252—429.
- Miller, Donald B., and G. G. McClaflin, to Continental Oil Co. Olefin polymerization process and catalyst for use therein. 3,380,981, 4-30-68, Cl. 260—93.7.
- Miller, Guy W., to United Aircraft Corp. Folding flap thrust reverser. 3,380,662, 4-30-68, Cl. 239—265.37.
- Miller, Leon C., and R. A. Mason, to National Distillers and Chemical Corp. Adjustable shower head. 3,380,664, 4-30-68, Cl. 239—458.
- Miller, Roland E.: *See—*
  - Scaletta, Joseph A., Miller, and Valek. 3,380,282.
- Millon, William J., to Motorola, Inc. Amplitude detector employing specially biased transistorized Schmitt trigger in combination with transistorized input amplifier for temperature compensation. 3,381,141, 4-30-68, Cl. 307—235.

- Mills, Wallace R., to International Controls Corp. Flap valve device. 3,380,474, 4–30–68, Cl. 137—517.
- Miner Industries, Inc.: *See—*
  - Ellenberg, Carl H., Weinstein, Litt, and Jaroff. 3,380,490.
- Miner, Robert G., to The Trane Co. Refrigeration apparatus with load limit control. 3,380,262, 4–30–68, Cl. 62—209.
- Miner, Warren M., and A. A. Yamasaki, to The Solocast Co. Record player. 3,380,743, 4–30–68, Cl. 274—13.
- Minigrip, Inc.: *See—*
  - Kraus, Otto K. 3,380,481.
- Ministere Des Richesses Naturelles: *See—*
  - Archambault, Maurice, and Olivier. 3,380,802.
- Minnesota Mining and Mfg. Co.: *See—*
  - De Moss, Dean L., Gregg, and Johnson. 3,381,086.
  - Johnson, Wayne R., and De Moss. 3,381,085.
- Minnis, Harvey: *See—*
  - Alexander, Douglas S., Minnis, and Ambridge. 3,380,932.
- Minor, William F., to Bristol-Myers Co. Heterocyclic-amino ethers of benzylphenols. 3,381,013, 4–30–68, Cl. 260—294.7.
- Mitchell, Daniel M., to Collins Radio Co. A-C to D-C converter. 3,381,203, 4–30–68, Cl. 321—8.
- Mitchell, Robert W., to Heath Co. Method and apparatus for computing color balance characteristics and preparing improved color prints. 3,380,338, 4–30–68, Cl. 88—24.
- Mitsumori, Hidetoshi, Y. Murakami, G. Miyoshi, and T. Shimatani, to Hodogaya Chemical Co., Ltd. Process for preparing isocyanates. 3,381 025, 4–30–68, Cl. 260—453.
- Mittermayer, Emerick J., to American Envelope Co. Apparatus for producing lined envelopes. 3,380,353, 4–30–68, Cl. 93—61.
- Miyahira, Harrison Y., to TRW, Inc. High order varactor frequency multiplier. 3 381,208, 4–30–68, Cl. 321—69.
- Miyazaki, Michihiko: *See—*
  - Matsumoto, Shoji, and Miyazaki. 3,380,901.
- Miyoshi, Goichi: *See—*
  - Mitsumori, Hidetoshi, Murakami, Miyoshi, and Shimatani 3,381,025.
- Mobay Chemical Co.: *See—*
  - Cross, James M., and Nolen. 3,380,955.
- Mobil Oil Corp.: *See—*
  - Cook, Evin L. 3,380,532.
  - Foster, Harold M. 3,381,018.
  - Hanks, Jimmy C. 3,381.301.
  - Harris, Norris R. 3,381,266.
  - Leiper, Charles H., Lowenthal, and Shearer. 3,381,068.
  - Owen, Hartley. 3,380,911.
  - Wilkinson, William H. 3,380,565.
- Moi, Manfred E., to Radio Corp. of America. Gas leak valve device. 3,380,473, 4–30–68, Cl. 137—487.5.
- Moinicken, Frank A., and M. G. Auspos. Traffic warning device. 3,380,429, 4–30–68, Cl. 116—63.
- Molinario, Lelio: *See—*
  - Lowe, Arnold J., Chandley, and Molinario. 3,380,967.
- Molins Machine Co. Ltd.: *See—*
  - Labbe, Francis A. M. 3,380,782.
  - Williamson, David T. N., Muir, and Chapman. 3,380,436.
- Molins Organisation Ltd.: *See—*
  - Williamson. David T. N., and Muir. 3,381.217.
  - Yongman. Derek H., Bridger, and Gagg. 3 380.227.
- Moloney, John J., to Continental Can Co., Inc. Method of making closure caps. 3,380 419, 4–30–68, Cl. 113—121.
- Monsanto Chemicals (Australia) Ltd.: *See—*
  - Dwyer, Francis P., and Halpern. 3,381,031.
- Monsanto Co.: *See—*
  - Beer, Ludwig A. 3 381,056.
  - Bodre, Robert J. 3,381,050.
  - Chiang, Robert. 3,080,979.
  - Deex. Oliver de S., and Gabbert. 3,380,945.
  - Harris, Alva F. 3,381,059.
  - Le Blanc, John R., and Fantl. 3.380 972.
  - Le Blanc, John R., O'Connell, and Rider. 3.381,054.
  - Le Blanc, John R., Fantl, Rider, and O'Connell. 3,381,055.
  - Ridgway, James S. 3,380,968.
  - Schuller. Max J., Urban, and Littau. 3,381,256.
  - Wood, Carl R., and McCown. 3,380,135.
- Moore, Lawrence A. Self-adjusting unwind brake. 3,380,558, 4–30–68, Cl. 188—74.
- Moore, Marshall G., to General Electric Co. Torque sensitive disconnect coupling. 3,380.264, 4–30–68, Cl. 64—28.
- Moore. William P., and D. E. Elliott, to Allied Chemical Corp. Free-flowing cyanuric acid. 3.380,667, 4–30–68, Cl. 241—30.
- Morbeck, James A., to American Can Co. Molded integral cap and container. 3,380,608, 4–30–68, Cl. 215—1.
- Morehouse, Edward L., to Union Carbide Corp. Siloxane-alcohol ethers 3,381,019, 4–30–68, Cl. 260—340.9.
- Morey, Glen H., to Templeton Coal Co. Method of making electrical heating tape. 3,380,867, 4–30–68, Cl. 156—179.
- Morgan, Elliott R.: *See—*
  - Numerof, Paul, and Morgan. 3,380,888.
- Mori, Eizo: *See—*
  - Nakamura, Shoichi, and Mori. 3,381,223.
- Moriyama, Tokuhisa: *See—*
  - Oshima, Shintaro, Enomoto, Futami, Kobayashi, Kamibayashi, Fukui, Okada Sahiki. Koyama, Saito, Moriyama, Abe, and Saito. 3,381,138.
- Morkoski, James, to International Harvester Co. Implement weight transfer device. 3,380,537, 4–30–68, Cl. 172—445.
- Morris, Philip, Inc.: *See—*
  - Boothe. Floyd G., Jr., and Mathe. 3.380 331.
  - Cox, Edward W., and Cashwell. 3,380,351.
  - Garton, Albert M. 3,380,352.
  - Mathe, George L., Boothe, and Dickerson. 3,380,329.
- Morrison, Clifton: *See—*
  - Benson, John O., and Morrison. 3.380,375.
- Mortenson, Victor A., to Anderson Power Products, Inc. Modular high current switch. 3,381,105, 4–30–68, Cl. 200—164.
- Mosch, Franz: *See—*
  - Enders, Heinz, Deiner, Bernheim, Mosch, and Stenzinger. 3,380,943.
- Moser, Rabin, to National Distillers and Chemical Corp. Method for producing and orienting polypropylene films. 3,380,868, 4–30–68, Cl. 156—229.
- Moss, Bernard B.: *See—*
  - Babel, Henry W., Jaffee, and Moss. 3,380,146.
- Moss, Mortimer. Photoelectric followup system. 3,380,339, 4–30–68, Cl. 88—24.
- Mossburg, Frank B., and H. F. Campbell. Outlet box. 3,380,612, 4–30–68, Cl. 220—3.6.
- Motorola, Inc. *See—*
  - Million, William J. 3,381,141.
  - Shano, Charles L., and Hill. 3,381,210.
  - Taylor, Douglas W. 3,381,165.
- Moulton, Charles L.: *See—*
  - Fuis, Frank, Jr., Moulton, and Green. 3,380,460.
- Mouat Hope Machinery Co.: *See—*
  - Knapp. George P. 3,380,637.
- Moyer, Wendell W., Jr., and P. J. Kochalka, to Daubert Chemical Co. Insulating article and method. 3,380,582, 4–30–68, Cl. 206—59.
- Mueller Co.: *See—*
  - Mueller, Frank H., and Smith. 3,380,471.
- Mueller, Frank H., and J. J. Smith, to Mueller Co. Wet-barrel fire hydrant. 3,380,471, 4–30–68, Cl. 137—298.
- Muessig, Clifford W.: *See—*
  - Cohen, Charles A., and Muessig. 3,381,046.
- Muir, Douglas W. B.: *See—*
  - Williamson, David T. N., Muir, and Chapman. 3,380,436.
  - Williamson, David T. N., and Muir. 3,381,217.
- Müke, Rudolf: *See—*
  - Härtl, Ernst E., Dudszus, Franz, Rethfeldt, Wienert, Müke, Hauptmann, and Bolze. 3,380,114.
- Mulflur, Walter H., to The Algoma Steel Corp., Ltd. Process for gauge control in hot rolled sheet and strip. 3,380,277, 4–30–68, Cl. 72—200.
- Muller, Jacques, to Inter Rellumit, S.a.r.L. Fluid filter with automatic cleaning device. 3,380,591, 4–30–68, Cl. 210—148.
- Muller, Josef: *See—*
  - Kaiser, Paul, and Muller. 3,380,384.
- Mumpower, Robert C., II: *See—*
  - Touey, George P., and Mumpower. 3,380,458.
- Murakami, Yasuo: *See—*
  - Mitsumori, Hidetoshi, Murakami, Miyoshi, and Shimatani. 3,381,025.
- Murphy, John H. Ultrasonic inspection apparatus. 3,380,293, 4–30–68, Cl. 73—67.7.
- Murray, Lawrence K., to Phillips Petroleum Co. Apparatus for quenching hot reactor gases. 3,380,719, 4–30–68, Cl. 261—115.
- Murray, Robert, Jr.: *See—*
  - Rice, Leslie R., and Murray. 3,381,213.
- Murray, Robert S., and R. Andrews, to B. F. Drakenfeld & Co., Inc. Matte surface vitreous enamels and articles made therefrom. 3,380,846, 4–30–68, Cl. 117—70.
- Murthy, Nanjundiah N.: *See—*
  - Felcheck, Marvin, and Murthy. 3,381,180.
- Murtland, James B., Jr., H. S. Jackson, and C. F. Rebhun, to Allegheny Ludium Steel Corp. Electrode regulating systems for arc melting furnaces. 3,381,079, 4–30–68, Cl. 13—13.
- Musgrave, Ray D., to Western Printing Machinery Co. Rotary press printing cylinder for clamping flexible plates. 3,380,381, 4–30–68, Cl. 101—415.1.
- Muskulus, Willi, to Balzer & Droll. Apparatus for converting uniform rotary motion into intermittent reciprocating motion. 3,380,311, 4–30–68, Cl. 74—52.
- Muto, Tokutaro, to Kosugi Sangyo Co., Ltd. Coat printed with an allover pattern of design and the manufacturing process. 3,380,074, 4–30–68, Cl. 2—93.
- Mutton, Clifford A., P. H. Rossiter, P. Thiessen, and W. J. Weir, to Welding Engineers, Inc. Bale-forming machine and process. 3,381,072, 4–30–68, Cl. 264—148.
- Myers, Ernest H.: *See—*
  - Jalbing, John I., and Myers. 3,380,510.
- Myers, Jimmy D., and W. G. Stevens, to Caterpillar Tractor Co. System for lubrication of rotating elements. 3,380,555, 4–30–68, Cl. 184—6.
- Naito, Kenji, H. Nomura, Y. Noguchi, and T. Kajiura, to Takeda Chemical Industries, Ltd. Cellulose derivatives and their application for coating agents. 3,380,998, 4–30–68, Cl. 260—226.
- Nakamura, Shoichi, and E. Mori, to Matsushita Electric Industrial Co., Ltd. Transmission system for use in a suscription radio communication system. 3,381,223, 4–30–68, Cl. 325—34.
- Nakane, Masao: *See—*
  - Niki, Akira, Nakayama, and Nakane. 3,380,651.
- Nakanuma, Sho, to Nippon Electric Co., Ltd. Device for manufacturing epitaxial crystals. 3,381,114, 4–30–68, Cl. 219—385.
- Nakayama, Shozo: *See—*
  - Niki, Akira, Nakayama, and Nakane. 3,380,651.
- Nash, George V.: *See—*
  - Wainwright, Ralph, and Nash. 3,380,398.
- Nather, Roy E., to Beckman Instruments, Inc. Method and apparatus for counting standardization in scintillation spectrometry. 3,381,130, 4–30–68, Cl. 250—71.5.
- Nalco Chemical Co.: *See—*
  - Braithwaite, David G., and Bott. 3.380.899.
  - Braithwaite, David G., Bott, and Phillips. 3,380,900.
- National Dairy Products Corp.: *See—*
  - Scaletta, Joseph A., Miller, and Valek. 3,380,282.

- National Distillers & Chemical Corp.: *See—*
  - Ellertson, Donald H., and Mason. 3,380,081.
  - Miller, Leon C., and Mason. 3,380,664.
  - Moser, Rabin. 3,380,868.
  - Birchall, William R., and Allgeier. 3,380,984.
- National Lead Co.: *See—*
  - Mikus, John S. 3,380,217.
- National Research Corp.: *See—*
  - Bassan, Benjamin, and Briggs. 3,380,479.
  - Bauer, Alfred F. 3,380,548.
  - Jester, Harry C., and McNeil. 3,380,665.
  - Bauer, Alfred F. 3,380,720.
- National Research Development Corp.: *See—*
  - Long, Leonard H., and Freeguard. 3,381,040.
- National Semiconductor Corp.: *See—*
  - Logan, Charles W., and Trent. 3,381,071.
- National Shawmut Bank, The: *See—*
  - Purington, Ellison S., and Chaffee. 3,381,224.
- National Video Corp.: *See—*
  - Thornton, Douglas. 3,380,354.
- Neal, Harry B., and D. C. Ehrlich, to Anaconda Aluminium Co. Frame member assemblies for wall structures. 3,380,210, 4–30–68, Cl. 52—235.
- Near, Charles W.: *See—*
  - Bergh, Arndt B., and Near. 3,381,279.
- Neary, Francis C.: *See—*
  - Shapiro, Uriel G., and Neary. 3,380,845.
- Neefe. Charles W., to Neefe-Hamilton Research Co. Process for molding high quality plastic lenses. 3,380,718, 4–30–68, Cl. 264—1.
- Neefe-Hamilton Research Co.: *See—*
  - Neefe, Charles W. 3,380,718.
- Neeff, Joachim, R. Seiz, and M. Funk, to Bochumer Eisenhutte Heintzmann & Co. Arrangement for controlling the flow of people in the entrance of an air-raid or other shelter. 3,380,191, 4–30–68, Cl. 49—49.
- Nelson, Brooks E., to The Osborn Mfg. Co. Brush. 3,380,098. 4–30–68, Cl. 15—179.
- Nelson, Daniel E., to General Kinetics Corp. Engine weapons. 3,380,345, 4–30–68, Cl. 89—7.
- Nelson, Dennis E.: *See—*
  - Kirchberger, Walter C., and Nelson. 3,380.160.
- Nelson, Iver L., to Waldorf Paper Products Co. Apparatus for heat sealing thermoplastic surfaces. 3,380,229, 4–30–68, Cl. 53—375.
- Nelson, Jerome W., G. E. Faulkner, and H. C. Cook, to Esso Research and Engineering Co. Method of guiding and locating welding equipment for subsequent welding. 3,380,148, 4–30–68, Cl. 29—464.
- Nelson, Theodore M., to United States of America, Air Force. Microwave gas TR tubes. 3,381,167, 4–30–68, Cl. 315—39.
- Nelson, Wilbur W., to Chrysler Corp. Antirotation device. 3,381,257, 4–30–68, Cl. 339—10.
- Nettleton, Donald E., Jr., to Bristol-Myers Co. Coumermycin derivatives. 3,380.994, 4–30–68, Cl. 260—210.
- Neumann, Don B. Range gated imaging system. 3,380,358, 4–30–68, Cl. 95—11.5.
- Neville, Donald G., and D. Platnick, to Carrier Corp. Motor control circuitry responsive to a rotor position sensing arrangement. 3,381,192, 4–30–68, Cl. 318—138.
- New Castle Products, Inc.: *See—*
  - Good, Charles R., Harris, Lindahl, and Merrill. 3,380,506.
  - Harris, Donald S. 3,380,647.
- Newton, Gordon: *See—*
  - Rys, Tadeusz J., and Newton. 3,381,106.
- New York State Concord Grape Production Research Fund, Inc.: *See—*
  - Shepardson, Edwin S. 3 380,236.
- Newaygo Engineering Co.: *See—*
  - Witte, Bernard G. 3,380,601.
- Newton, Charles L., to Air Products and Chemicals, Inc. Process for liquefaction and conversion of hydrogen. 3,380.809, 4–30–68, Cl. 23—210.
- Nicola, William H.: *See—*
  - Allen, Scott E., and Nicola. 3,380,653.
- Nid Pty, Ltd.: *See—*
  - Faerber. Hans A. 3,380,401.
- Nielsen, Adolph. Variable venturi injector. 3,380,393, 4–30–68, Cl. 103—271.
- Niermann, Hermann, and H. F. Harnisch, to Knapsack Aktiengesellschaft. Process for the manufacture of phosphorus pentasulfide of predetermined reactivity. 3,380,808, 4–30–68, Cl. 23—206.
- Nigh, Carl L., to General Motors Corp. Bearing means particularly for oscillating motion. 3,380,789, 4–30–68, Cl. 308—78.
- Niki, Akira, S. Nakayama, and M. Nakane, to Toyoda Automatic Loom Works, Ltd. Swash plate compressor for use in air conditioning system for vehicles. 3,380,651, 4–30–68, Cl. 230—178.
- Nilco, Inc.: *See—*
  - Pletcher, Donald L., and Stalter. 3,380,710.
- Nilsson, Nils F., to Aktiebolaget Landsverk. Rotary incinerators for waste and refuse matter. 3,380,407, 4–30–68, Cl. 110—14.
- Nippon Electric Co. Ltd.: *See—*
  - Nakanuma, Sho. 3,381,114.
- Nippon Gosei Kagaku Kogyo Kabushiki Kaisha: *See—*
  - Ohmae, Tsutomu, Matsushiro, and Yamamoto. 3,381,037.
- Nishimura, Kunimasa: *See—*
  - Ohnishi, Shinji, and Nishimura. 3,380,744.
- Nitto Boseki Co. Ltd.: *See—*
  - Senoo, Tadao, and Onaya. 3,381,057.
- Noguchi, Yasuo: *See—*
  - Naito, Kenji, Nomura, Noguchi, and Kajiura. 3,380,998.
- Nolen, Charles D.: *See—*
  - Cross, James M., and Nolen. 3,380,955.

- Nomura, Hiroaki: *See—*
  - Naito, Kenji, Nomura, Noguchi, and Kajiura. 3,380,998.
- Norbedo, Joseph. Drafting tool. 3,380,164, 4–30–68, Cl. 33—42.
- Nordstrom, Donald B.: *See—*
  - Scholer, Henry G., and Nordstrom. 3,381,221.
- North American Philips Co., Inc.: *See—*
  - Spielberg, Nathan. 3,381,127.
  - Daniels, Henricus P. C. 3,380,150.
  - Van Vlodrop, Peter H. G. 3,381,288.
  - Weiss, Kurt W. 3,380,902.
- North American Rockwell Corp.: *See—*
  - Dittman, David O., Licari, and Glovak. 3,380,941.
- North Electric Co.: *See—*
  - Southard, George G. D., and Tilk. 3,380,399.
- Northern Electric Co. Ltd.: *See—*
  - Stansby, Anthony G. 3,381,277.
- Northern Gas Products Co.: *See—*
  - Yingst, Parke O., and Sharps. 3,380,784.
- Northwestern Corrugated Box Co.: *See—*
  - Sorensen, Roger A., and Boeye. 3,380,643.
- Northwestern National Bank, The: *See—*
  - Pazandak. Louis A. 3,380,306.
- Nungesser, Wilbur A.: *See—*
  - Ochs, Charles S., and Nungesser. 3,380,225.
- Nuovo Pignone S.p.A.: *See—*
  - Scherillo, Vittorio. 3,380,482.
- Nugarus, Anthony R., to Crompton & Knowles Corp. Valve. 3,380,704, 4–30–68, Cl. 251—89.
- Numerof, Paul, and E. R. Morgan, to E. R. Squibb & Sons, Inc. Test units. 3,380,888, 4–30–68, Cl. 167—84.5.
- Oakite Products, Inc.: *See—*
  - Parsons, Richard. 3,380,151.
- Obermaier, Alfred A.: *See—*
  - Peltola, Veikko K., and Obermaier. 3,381,212.
- O'Brien, John J., to W. R. Grace & Co. Solder flux. 3,380,862, 4–30–68, Cl. 148—23.
- Ochs, Charles S., and W. A. Nungesser, to Anchor Hocking Glass Corp. Cap applicator. 3,380,225, 4–30–68, Cl. 53—110.
- O'Connell Frank S.: *See—*
  - Le Blanc, John R., O'Connell, and Rider. 3,381,054.
- O'Connell, Frank S.: *See—*
  - Le Blanc, John R., Fantl, Rider, and O'Connell. 3,381,055.
- Offenbacker, Donald L. Safety car seat for children. 3,380,775, 4–30–68, Cl. 297—385.
- Offshore Co., The: *See—*
  - Pease, Floyd T. 3,380,520.
- O'Heron, C. J.: *See—*
  - Pazandak, Louis A. 3,380,306.
- Ohmae, Tsutomu, K. Matsushiro, and H. Yamamoto, to Nippon Gosei Kagaku Kogyo Kabushiki Kaisha. Process for producing acetaldehyde. 3,381,037, 4–30–68, Cl. 260—604.
- Ohnishi, Shinji, and K. Nishimura, to Victor Co. of Japan Ltd. Pickup device. 3,380,744, 4–30–68, Cl. 274—23.
- Ohse, Hans H. W.: *See—*
  - Palm, Richard A., Cherdron, Ohse, and Korte. 3,380,939.
  - Palm, Richard A., Cherdron, Ohse, and Korte. 3,380,987.
- Okada, Akira: *See—*
  - Oshima, Shintaro, Enomoto, Futami, Kobayashi, Kamibayashi, Fukui, Okada, Sahiki, Koyama, Saito, Moriyama, Abe, and Saito. 3,381,138.
- Okano, Hiroshi, to Kabushiki Kaisha Hitachi Seisakusho. Electron detector for selectively detecting secondary electrons and high-energy reflected electrons. 3,381,132, 4–30–68, Cl. 250—83.3.
- Olin Mathieson Chemical Corp.: *See—*
  - Clark, Benjamin F., and Zaslowsky. 3 381 036.
  - Jache, Albert W., and Kongpricha. 3,380,803.
  - Preusse, William C. 3 380,811.
  - Rätz, Rudi F. W., and Pivawer. 3,381,061.
- Olivetti Ing. C. & C., S.p.A.: *See—*
  - Pasini, Arnaldo 3,381,272.
- Olivier, Charles A.: *See—*
  - Archambault, Maurice, and Olivier. 3,380,802.
- Olivier, Kenneth L.: *See—*
  - Biale, Giovanni, Fenton, Olivier, and Schaeffer. 3,381,030.
- Olsen, Arnold R., to Dresser Industries, Inc. Air cooled wall construction for incinerators. 3,380,409, 4–30–68, Cl. 110—56.
- Olson, Richard J., to Eastman Kodak Co. Camera with a retractable hand grip. 3,380,366, 4–30–68, Cl. 95—86.
- O'Millian, William J. Folded wing aerospace craft. 3,380,189, 4–30–68, Cl. 46—80.
- Onaya, Yoshizo: *See—*
  - Senoo, Tadao, and Onaya. 3,381,057.
- Ono, Kensuke, S. Tojima, and M. Ikeda, to Asaki Kasei Kogyo Kabushiki. Explosion bonded electrode for electrolysis. 3,380,908, 4–30–68. Cl. 204—290.
- Onoda Cement Co., Ltd.: *See—*
  - Yamaguchi, Taro, and Shido. 3,381,064.
- Onyskin, Alexander. Torque measuring device. 3,380,287, 4–30–68, Cl. 73—1.
- Optomechanisms, Inc.: *See—*
  - Brault, Andre R. 3,380,322.
- Orendorff, John W., to International Harvester Co. Balk remover for planters. 3.380,411, 4–30–68, Cl. 111—63.
- Osborn Mfg. Co., The: *See—*
  - Nelson, Brooks E. 3,380,098.
- Osborn, William F., to Arps Corp. Measurement of electrical resistivity by variation of magnetic flux. 3,381,215, 4–30–68, Cl. 324—6.
- O'Shea, Francis X., to Uniroyal, Inc. 3-alkyl-4-hydroxy-a-(dialkyl-aminoalkyl)-benzyl N,N-dialkyldithiocarbamates and method of preparation. 3,381,026, 4–30–68, Cl. 260—455.

- Oshima, Shintaro, H. Enomoto, K. Futami, T. Kobayashi, T. Kamibayashi, T. Fukui, A. Okada, M. Sahiki, H. Koyama, M. Saito, T. Moriyama, K. Abe, and S. Saito, to Kokusai Denshin Denwa Kabushiki Kaisha. Parametron element using ferro-magnetic thin film. 3,381,138, 4–30–68, Cl. 307—88.
- Osmond, Michael H., to Hawker Siddeley Dynamics Ltd. Roller bearings especially for aircraft propeller blades. 3,380,790, 4–30–68, Cl. 308—234.
- Osterreichische Studiengesellschaft fur Atomenergie Ges. m.b.H.: *See*—
  - Duftschmid, Klaus E. 3,381,129.
- Ota, Mitsuhiro: *See*—
  - Tado. Hiroshi, and Ota. 3,380,443.
- Owatonna Tool Co., The: *See*—
  - Boers, Jan H. 3,380,392.
- Owen, Hartley, to Mobil Oil Corp. Method for converting hydrocarbons in two stages. 3,380,911, 4–30–68, Cl. 208—74.
- Owen, John B.: *See*—
  - Jones, Gwillym T., Owen, and Sagar. 3,380,850.
- Owens-Corning Fiberglas Corp.: *See*—
  - Simison, Allen L. 3,381,069.
  - Smucker, Clayton A., Rigby, and McCombs. 3,380,877.
  - Trethewey, William C. 3,380,463.
- Owens-Illinois, Inc.: *See*—
  - Smith, William E. 3,380,818.
- Pack, Douglas H.: *See*—
  - Clay, Robert B., Cook, Udy, and Pack. 3,380,333.
- Palazzo, Giuseppe, and B. Silvestrini, to Aziende Chimiche Riunite Angelini Francesco a Roma. Triazole-[4,3-*a*]-pyridines. 3,381,009, 4–30–68, Cl. 260—268.
- Palitex Project Co. G.m.b.H.: *See*—
  - Franzen, Gustav. 3,380,240.
- Palm, George U.: *See*—
  - Komas. John, Insley, and Palm. 3,380,679.
- Palm, Richard A., H. H. O. Cherdron, H. H. W. Ohse, and F. W. A. G. K. Korte, to Shell Oil Co. Reaction products of unsaturated heterocyclic lactones with polyhydroxy compounds. 3,380,939, 4–30–68, Cl. 260—9.
- Palm, Richard A., H. H. O. Cherdron, H. H. W. Ohse, and F. W. A. G. K. Korte, to Shell Oil Co. Process for preparing colored polyepoxide polymers 3,380,987, 4–30–68, Cl. 260—141.
- Pan American Petroleum Corp.: *See*—
  - Vincent, Renic P. 3,380,543.
  - Lang, Harold M. 3,380,551.
- Pancoast, Leonidas H., Jr.: *See*—
  - Williams, Robert F., Jr., and Pancoast. 3,380,997.
- Panicci, Elio W., and E. J. Gutowski, to Tele-Con Enterprises, Inc. Metronome. 3 380,332. 4–30–68. Cl. 84—484.
- Papke, Friedrich, to Voigtlander A.G. Viewer for photographic cameras. 3,380,336, 4–30–68, Cl. 88—1.5.
- Papp, Stephen J. Batting practice device. 3,380,738, 4–30–68, Cl. 273—26.
- Pardue, George H.: *See*—
  - Cubberly, Walter E., Jr., and Pardue. 3,381,267.
- Paris, Rene A.: *See*—
  - Clar, Edith. and Paris. 3,380,839.
- Park, Vernon K.: *See*—
  - Edwards, Marvin B., Park, and Carter. 3,380,985.
- Parke, Thomas A., to Richards Structural Steel Co., Ltd. Distribution of lubricant and compressed air in a mulling machine. 3,380,668, 4–30–68, Cl. 241—38.
- Parker-Hannifin Corp.: *See*—
  - Wilson, Frank R., and Stanley. 3,380,283.
  - Wilson, Frank R. 3,380,285.
- Parish, Albert A. Bootjack. 3,380,634, 4–30–68, Cl. 223—116.
- Parks & Woolson Machine Co.: *See*—
  - Holm, William J. 3,380,130.
- Parsons, C. A., & Co., Ltd.: *See*—
  - Richardson, Philip, and Gibson. 3,381,209.
- Parsons, Richard, to Oakite Products, Inc. Fusion-joining coarse-surfaced high carbon ferrous metals to metals. 3,380,-151, 4–30–68, Cl. 29—488.
- Pasini, Arnaldo, to Olivetti Ing. C. & C., S.p.A. Data transmission system. 3,381,272, 4–30–68, Cl. 340—146.1.
- Pasqualetti. Edna. Buttonhole sewing guide. 3,380,173. 4–30–68, Cl. 33—190.
- Patchett, Arthur A., and T. B. Windholz, to Merck & Co., Inc. 3-keto-13β-alkyl-17β-acetyl-gona-4-ene-17α-ol compounds and processes of preparing them. 3,381,003, 4–30–68, Cl. 260—239.55.
- Patelhold Patentverwertungs- und Electro-Holding AG: *See*—
  - Gnaneila, Gustav. 3,381,245.
- Paterson, Norman J., to Chevron Research Co. Combination extraction-demetalation process for heavy oils. 3,380,912, 4–30–68, Cl. 208—86.
- Patterson. Charles B.: *See*—
  - Shields, Gordon G., and Patterson. 3,380,922.
- Patterson, Norman S. Power-operated tools. 3,380,201, 4–30–68, Cl. 51—134.5.
- Patton, Thomas O.: *See*—
  - Stockbridge, Bruce W., Patton, and Bishop. 3.380,360.
- Pauly. Ronald R., and T. H. Zbikowski, to Tonka Corp. Supporting standard for barbecue grills or the like. 3,380,696, 4–30–68, Cl. 248—188.7.
- Pause, Kurt: *See*—
  - Langen, Eugen, and Pause. 3,380,623.
- Payne. Winfield S., Jr., and M. D. Hughes. Method of inhibiting saline water intrusion into fresh water aquifers. 3,380,-522, 4–30–68, Cl. 166—9.
- Pazandak, Louis A., deceased (by The Northwestern National Bank, executor), to C. J. O'Heron. and P. J. Platzer. Method and means for dividing an aggregate sample. 3,380,306, 4–30–68, Cl. 73—424.
- Peacock, Glenn S., and W. H. Joyce, to Union Carbide Corp. Low density polyethylene containing two high density polyethylenes. 3,381,060, 4–30–68, Cl. 260—897.
- Pearce, Pelham G.: *See*—
  - Edwards, Beverly E., and Pearce. 3,380,378.
- Pease, Floyd T., to The Offshore Co. Drilling and production platform. 3,380,520, 4–30–68, Cl. 166—.5.
- Peberdy, Roland, to The Bentley Engineering Co. Ltd. Knitting machines. 3,380,265, 4–30–68, Cl. 66—14.
- Pechiney Compagnie de Products Chimiques et Electrometallurgiques: *See*—
  - Clar, Edith, and Paris. 3,380,839.
- Peck, Richard O., to The General Tire & Rubber Co. Sealed bushing assembly. 3,380,791, 4–30–68, Cl. 308—36.1.
- Pehrsson, Lennart A., and O. J. G. Hedberg, to Aktiebolaget Karlstads Mekaniska Werkstad. Propeller sealing device. 3,380,536, 4–30–68, Cl. 170—160.23.
- Peltola, Veikko K., and A. A. Obermaier, to Alnor Instrument Co. Voltage regulator with proportional control. 3,381,212, 4–30–68, Cl. 323—21.
- Pennsylvania Engineering Corp.: *See*—
  - Cugini, Joseph. 3,380,599.
- Pentecost, Richard D.: *See*—
  - Rosell, Lester P., and Pentecost. 3,380,491.
- Per Granebro AB: *See*—
  - Hard af Segerstad, Goran J. F. 3,380,111.
- Perma-Shake Mfg. Corp.: *See*—
  - Stevens, Norman C. 3,380,214.
- Perrill, Harlan K. Pin tumbler lock. 3,380,268, 4–30–68, Cl. 70—363.
- Perrinjaquet, Rober P., to Soprotec. Self-defence apparatus. 3,380,631, 4–30–68, Cl. 222—96.
- Perry, Bernard D., to United States of America, Air Force. Distributed transducer ultrasonic delay line and coupling apparatus. 3,381,246, 4–30–68, Cl. 333—30.
- Perry, Robert P., to Hupp Corp. Air guide structure. 3,380,-372, 4–30–68, Cl. 98—121.
- Persson, Erland K., to Electro-Craft Corp. Compensated direct current motor control apparatus. 3,381,199, 4–30–68, Cl. 318—327.
- Peterschmidt, Paul L., to Diversification Development Inc. Modular free-span curvilinear structures. 3,380,203, 4–30–68, Cl. 52—81.
- Petersen, Arne J., to Beckman Instruments, Inc. Standard gas solution. 3,380,929, 4–30–68, Cl. 252—408.
- Petersen, Mogens, to Kongskilde Maskinfabrik A/S. Bolt connection particularly for fixing a harrow tooth to a supporting bar. 3,380,786, 4–30–68, Cl. 306—1.5.
- Peterson, George E., to Communication Equipment and Engineering Co. Cable splicers and the like. 3,381,082, 4–30–68, Cl. 174—93.
- Peterson, Gerald H. Variable kinetic energy absorber. 3,380,-557, 4–30–68, Cl. 188—1.
- Peterson, Janet B., and M. Dexter, to Geigy Chemical Corp. Stabilization of polyolefins with derivatives of 3-lower alkyl-4-hydroxyphenoxyalkanoic acids. 3,380,962, 4–30–68, Cl. 260—45.85.
- Petrikov, Victor G., to Zavod Normal. Conveyor furnace for heat-treatment of parts. 3,380,721, 4–30–68, Cl. 263—6.
- Petty, Frances M., and W. D. Keith. Electrically heated sleeping bag. 3,380,087, 4–30–68. Cl. 5—343.
- Pezirtzoglou, Evangelos I., to Ampex Corp. Record bias supply. 3 381,098, 4–30–68, Cl. 179—100.2.
- Pharmaseal Laboratories: *See*—
  - Harantuneian, Andrew. 3,380 489.
- Pharris, John A., to EZ Paintr Corp. Extension handle for paint roller. 3,380,097, 4–30–68, Cl. 15—145.
- Pharris, John A., and E. Henningsen, to EZ Paintr Corp. Paint tray. 3,380,100, 4–30–68, Cl. 15—257.06.
- Phelps, Richard W.: *See*—
  - Baxter, Joseph, Jr., Fruitman, and Phelps. 3,380,675.
- Philco-Ford Corp.: *See*—
  - Thornton, Clarence G. 3,381,182.
- Phillips, Kenneth G.: *See*—
  - Braithwaite, David G., Bott, and Phillips. 3,380.900.
- Phillips, Melville J., to Rheem Australia Pty. Ltd. Plugs for container closures. 3,380,618, 4–30–68, Cl. 220—39.
- Phillips Petroleum Co.: *See*—
  - Venable, Charles R., Jr. 3,380,410.
  - Craighead, Emery M. 3,380,527.
  - Clear, Elmer E. 3,380,542.
  - Drummond, John A., and Gohlke. 3,380,650.
  - Murray, Lawrence K. 3,380,719.
  - Henderson, Miles L. 3 380,913.
  - Frey, David A. 3,380,951.
- Phillips Thomas C. Cleanup pan. 3,380,101, 4–30–68, Cl. 15—257.1.
- Photo Magnetic Systems, Inc.: *See*—
  - James, Peter. 3 381 276.
- Phrix-Werke Aktiengesellschaft: *See*—
  - Anders, Fritz. 3,380,134.
- Physical Sciences Corp.: *See*—
  - Brown, Ray S. 3,381 260
- Physics Technology Laboratories, Inc.: *See*—
  - Meckel, Benjamin B. 3,380,249.
- Picker Corp.: *See*—
  - Snarr, James L. 3,380,368.
- Pierce, Chester J., Jr., to Certipak Corp. Glueless interlocks for folding box panels. 3 380,645, 4–30–68, Cl. 229—40.
- Piget, Maurice A. Structural members for interconnecting panels to form shelving. furniture, doors and the like. 3,380,769. 4–30–68, Cl. 287—189.36.
- Pike Trailer Co.: *See*—
  - Spence, John R. 3,380,216.
- Pilarczyk, Karol: *See*—
  - Blattner, Ernest W., Pilarczyk, and Toth. 3,380,711.
- Pinckney Molded Plastics, Inc.: *See*—
  - Kreeger, Elsmer W. 3,380,625.
- Pines, Seemon H.: *See*—
  - Grier, James S., and Pines. 3,381,033.
- Pinto, Patrick J., to W. E. Young. Grouping of flexible bags. 3,380,579, 4–30–68, Cl. 206—57.

- Pintsch Bamag AG.: *See*—
  - Barthel, Gunter, Scholz, and Halindorff. 3,380,906.
- Piper, John C., Jr., 51% to D. E. Brown. Golf ball washer. 3,380,095, 4–30–68, Cl. 15—97.
- Pitre, Oliver. Journal protector. 3,380,787, 4–30–68, Cl. 308—1.
- Pitts, Stanley B., to United States of America, Air Force. Highly directive electrically small antenna. 3,381,298, 4–30–68, Cl. 343—753.
- Pittsburgh Plate Glass Co.: *See*—
  - Stroud, Charles E., Cerutti, and Hughes. 3,380,145.
  - Crano, John C., and Fleming. 3,380,946.
- Pivawer, Philip M.: *See*—
  - Rätz, Rudi F. W., and Pivawer. 3,381,061.
- Plasser, Franz, and J. Theurer. Apparatus for tamping ballast. 3,380,395, 4–30–68, Cl. 104—12.
- Plas-Tech Equipment Corp.: *See*—
  - Michelson, Gunnar P. 3,380,290.
- Platnick, David: *See*—
  - Neville, Donald G., and Platnick. 3,381,192.
- Platt, Lawrence A., to Stephens Industries, Inc. Box lidder. 3,380,228, 4–30–68, Cl. 53—315.
- Plattner, Robert F., and P. Kirsinas, to Interlake Steel Corp. Strapping tool. 3,380,485, 4–30–68, Cl. 140—93.4.
- Platzer, P. J.: *See*—
  - Pazandak, Louis A. 3,380,306.
- Plessey Co. Ltd., The: *See*—
  - Heath, Samuel. 3,380,505.
- Pletcher, Donald L., and J. D. Stalter, to Nilco, Inc. Valve. 3,380,710. 4–30–68, Cl. 251—266.
- Pleven, Edward J.: *See*—
  - Jaffe, Gerald M., and Pleven. 3,381,027.
- Plumat, Emile, and A. Jacobs, to Glaverbel S.A. Electrode device for electric furnaces. 3,381,078 ,4–30–68, Cl. 13—6.
- Pneumatiques Caoutchouc Mfg. et Plastiques Kleber-Colombes: *See*—
  - Pouilloux, Jacques. 3,380,872.
- Poerschke, Karl O. A., to Beteiligungs- und Patentverwaltungsgesellschaft mit beschrankter Haftung. Method of controlling the feed in connection with electroerosive machining. 3,381,107, 4–30–68, Cl. 219—69.
- Pohl, Franz A., to Licentia Patent-Verwaltungs-G.m.b.H. Method of making fuel cell electrodes comprised of borides, carbides, nitrides and/or silicides of one or more transition metals. 3,380,856, 4–30–68, Cl. 136—120.
- Pollack, Harold, to E. I. du Pont de Nemours and Co. Alumina-zircon ceramic coatings and bodies. 3,380,849, 4–30–68, Cl. 117—123.
- Polymer Corp. Ltd.: *See*—
  - Alexander, Douglas S., Minnis, and Ambridge. 3,380,932.
  - Davis, William J. 3,380,843.
- Polymer Research Corp. of America: *See*—
  - Horowitz, Carl. 3,380,848.
- Popyk. William W., to General Machine Co., Inc. Electric heating boiler. 3,381,111, 4–30–68, Cl. 219—312.
- Porter, Clyde R. Hydraulic locking device. 3,380,561, 4–30–68, Cl. 188—96.
- Porter, Richard E., to Abex Corp. Method and apparatus for calibrating unbalance analyzers. 3,380,286, 4–30–68, Cl. 73—1.
- Porter, Robert E., and C. J. Sorensen, Jr. Two compartment syringe. 3,380,451, 4–30–68, Cl. 128—218.
- Postol, Steven M.: *See*—
  - Ericson, Kenneth R., Postol, and Walker. 3,380,948.
- Potts, Vinson S., to Crown Cork & Seal Co., Inc. Roll-on crown with ring tab. 3,380,609, 4–30–68, Cl. 215—40.
- Pouilloux, Jacques, to Pneumatiques Caoutchouc Mfg. et Plastiques Kleber-Colombes. Pneumatic tire building machines. 3,380,872, 4–30–68, Cl. 156—416.
- Pouncy, Hillard W., Jr., to Union Carbide Corp. Method of heat sealing polypropylene. 3,380,870. 4–30–68, Cl. 156—308.
- Pound. James M. Hoop-type cycle. 3,380,755, 4–30–68, Cl. 280—207.
- Poynter, Donald B. Novelty accessory for bicycles. 3,380,756, 4–30–68. Cl. 280—289.
- Prapis, Frank, and J. A. Zbuchalski, to The Bendix Corp. Current limiting network. 3,381,211, 4–30–68, Cl. 323—9.
- Pratt, Jack B.: *See*—
  - Glover, George E., and Pratt. 3,380,804.
- Preis, Fritz, to Lasko Metal Products, Inc. Fryer basket. 3,380,376, 4–30–68, Cl. 99—413.
- Preis, Otto H.: *See*—
  - Schieber, John R., and Preis. 3,380,462.
- Premium Iron Ores Ltd.: *See*—
  - Cavanagh, Patrick E. 3,380,819.
- Preusse, William C., to Olin Mathieson Chemical Corp. Phosphoramidic difluoride and method of preparation. 3,380,-811. 4–30–68, Cl. 23—357.
- Price, La Vaun C.: *See*—
  - Hester, Edgar, and Price. 3,380,432.
- Procter & Gamble Co., The: *See*—
  - Garavaglia, Arthur J., and Fox. 3,380,622.
  - Ericson, Kenneth R., Postol, and Walker. 3,380,948.
- Produits Chimiques Pechiney-Saint-Gobain: *See*—
  - Michel, Max, and Courbon. 3,380,933.
- Proffit, John D., and E. P. Lisenby. Needle bar and pressure foot lifting attachment with brake. 3,380,415, 4–30–68, Cl. 112—219.
- Promecam Sisson-Lehmann: *See*—
  - Mabille, Georges A. 3,380,196.
- Prototypes, Inc.: *See*—
  - Seymour, Malcolm. 3,380,299.
- Przedpelski, Andrzej B.: *See*—
  - Ringer, Kenneth M., and Przedpelski. 3,381,237.
- Przybyla, Franciszek: *See*—
  - Kelly, Francis J., and Przybyla. 3,380,822.
- Pullman Aktiebolag: *See*—
  - Gustavsson, John O. 3,380,274.
- Purcell, Robert F., to Commercial Solvents Corp. Vinyl halide resins containing oxazoline heat stabilizers. 3,380,975, 4–30–68. Cl. 260—80.72.
- Purex Corp. Ltd.: *See*—
  - Shields, Gordon G., and Patterson. 3,380,922.
  - Silberberg, Kenneth J. 3,380,863.
- Purington, Ellison S., and E. L. Chaffee, to R. G. Lucas, N. L. Leek, and The National Shawmut Bank, executors of the Estate of J. H. Hammond, Jr., (deceased). Phase selective receiver with frequency control. 3,381,224, 4–30–68. Cl. 325—342.
- Purolator Products, Inc.: *See*—
  - Torres, Jorge. 3,380,476.
- Quade, Edward A., and R. W. Weeks, to International Business Machines Corp. Recognition systems. 3,381,274, 4–30–68, Cl. 340—146.3.
- Quaker Oats Co., The: *See*—
  - Bone, David P. 3,380,832.
- Qualter, Hall & Co. (Sales) Ltd.: *See*—
  - Wainwright, Ralph, and Nash. 3,380,398.
- Quayle, George F., to Eaton Yale & Towne Inc. Casing for hoist. 3,380,713. 4–30–68, Cl. 254—167.
- Raab, Lajos: *See*—
  - Galgoczi, Bela, Demeter, Zagyvai, Soltesz, Sommer, Hercsel, and Raab. 3,380,947.
- Rabinovich, Dvoira M. A.: *See*—
  - Gubert, Stanislav V., and Rabinovich. 3,380,725.
- Rabjohn, Rodney R. Traction drive for small vehicles. 3,380,-546, 4–30–68, Cl. 180—15.
- Rachman, David. Centrifugal pumps. 3,380,390, 4–30–68, Cl. 103—113.
- Radio Corp. of America: *See*—
  - Harper, Stanley A. 3,380,926.
  - Moi, Manfred E. 3,380,473.
  - Simshauser, Elvin D. 3,381,291.
  - Turner, Norman C., and Cavitt. 3,381,183.
- Rakus, Alphonzo: *See*—
  - Deemie, Gerald W., Sage, Komsa, Rakus, and Yocum. 3,380,641.
- Ramsey Engineering Co.: *See*—
  - Adams, George E. and R. W., and Horton. 3,380,717.
- Randak, Alfred: *See*—
  - Hentrich, Robert, and Randak. 3,380,509.
- Rapid Tool & Mfg. Co., Inc.: *See*—
  - Gualtier, Quentin E. 3,380,118.
- Ratchford, Raymond G., to Ratchford Tool Corp. Foundations for trailer type homes. 3,380,205, 4–30–68, Cl. 52—126.
- Ratchford Tool Corp.: *See*—
  - Ratchford, Raymond G. 3,380,205.
- Rätz, Rudi F. W., and P. M. Pivawer, to Olin Mathieson Chemical Corp. Pentaerythritol phosphorus diisocyanates and process for preparing same. 3,381,061, 4–30–68, Cl. 260—927.
- Rails, Francis T. Retaining device for pivotal points. 3,380,-754, 4–30–68. Cl. 280—96.2.
- Raybestos-Manhattan, Inc.: *See*—
  - Rowland, Thomas W., and Tavelle. 3,380,120.
  - Bell, De Witt. 3,380,816.
- Raynolds Metals Co.: *See*—
  - Thomas, Joseph Y. 3,380,871.
- Raypak Co., Inc.: *See*—
  - Kaye, Minton W. 3,380,516.
- Raytheon Co.: *See*—
  - Janis, Peter. 3,381,159.
- Reabe. Kenneth G.: *See*—
  - Dressler, Hans, and Reabe. 3,380,961.
- Read. James G. Gauge. 3,380,170, 4–30–68, Cl. 33—174.
- Reber, Bruce E.: *See*—
  - Uhen, James R., and Reber. 3,380,593.
- Rebhun, Charles F.: *See*—
  - Murtland, James B., Jr., Jackson, and Rebhun. 3,381,079.
- Rebikoff, Dimitri I., to Rebikoff Oceanics, Inc. Underwater drilling installation and method of construction. 3,380,256, 4–30–68, Cl. 61—46.5.
- Rebikoff Oceanics, Inc.: *See*—
  - Rebikoff, Dimitri I. 3,380,256.
- Redl, Narciss A. Tunnel boring machine. 3,380,260, 4–30–68, Cl. 61—84.
- Redmond, John C., to General Dynamics Corp. Inertial impact probe instrument. 3,380,294. 4–30–68, Cl. 73—82.
- Reed, Donald E.: *See*—
  - Baldwin, John L., Jr., Reed, and Walker. 3,380,681.
- Rees, Earl W. Meat grinder. 3,380,503, 4–30–68, Cl. 146—189.
- Rees, Lancelot H., to Manton Gaulin Mfg. Co., Inc. Method of incorporating carbon black and other materials into elastomers. 3,380,958, 4–30–68, Cl. 260—41.5.
- Refaccionaria de Molinos S.A.: *See*—
  - Salete, Felipe. 3,380,585.
- Regents of The University of California, The: *See*—
  - Garrett, Roger E. 3,380,234.
  - Garrett, Roger E. 3,380,237.
- Rego, Jose D. Aircraft landing system. 3,380,690, 4–30–68, Cl. 244—114.
- Reimus, Richard G., and A. Saporito, to Struthers Scientific and International Corp. Freeze concentration of coffee extract. 3,381,302. 4–30–68, Cl. 99—71.
- Reiner, Alberto. Organic salts obtained by quaternizing the nitrogen of D-glucosamine, and process for the preparation thereof. 3,380,995, 4–30–68, Cl. 260—211.
- Reisini, Nicholas: *See*—
  - De Montremy, Jean, and Dejoux. 3,380,794.
- Rellumit, Inter, S.a.r.L.: *See*—
  - Muller, Jacques. 3,380,591.
- Remmele Engineering, Inc.: *See*—
  - Zastrow, Thomas S. 3,380,703.

Remund, Erwin: *See*—
  Vollenweider, Max, and Remund. 3,380,684.

Remy, Hermann, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Copper-containing dis-, tris- and tetrakisazo dyestuffs of resorcin with -β-oxyethylsulfonesulfuric acid ester groups. 3,380,989, 4–30–68, Cl. 260—145.

Renshaw, Clarence. Installation for preserving fresh-water supply. 3,380,252, 4–30–68, Cl. 61—1.

Rethfeldt, Christoph F. W.: *See*—
  Härtl, Ernst E., Dudszus, Franz, Rethfeldt, Wienert, Müke, Hauptmann, and Bolze. 3,380,114.

Reuter-Stokes Electronic Components, Inc.: *See*—
  Meal, Thomas J., and Stokes. 3,381,131.

Reynolds Metals Co.: *See*—
  Dewey, John L. 3,380,897.

Reynolds, R. J., Tobacco Co.: *See*—
  Roberts, Donald L., and Schumacher. 3,380,456.
  Schumacher, Joseph N., Rohde, and Roberts. 3,380,457.

Reyntiens, Patrick: *See*—
  Lowe, James N., Reyntiens, and Kirby. 3,381,066.

Rheem Mfg. Co.: *See*—
  Gerlovich, Albert F. 3,380,433.

Rheem Australia Pty. Ltd.: *See*—
  Phillips, Melville J. 3,380,618.

Rhodiaceta: *See*—
  Grundschober, Friedrich, and Sambeth. 3,380,964.

Rice, Leslie R., and R. Murray, Jr., to Westinghouse Electric Corp. Tap changer apparatus. 3,381,213, 4–30–68, Cl. 323—43.5.

Richardson, Philip, and J. Gibson, to C. A. Parsons & Co., Ltd. Dynamo-electric machine having rectifier assembly mounted within rotary shaft. 3,381,209, 4–30–68, Cl. 322—59.

Richards Structural Steel Co. Ltd.: *See*—
  Parke, Thomas A. 3,380,668.

Richland Shale Products Co.: *See*—
  Magruder, George M. 3,380,129.

Richmond, Alfred, R. A. King, and A. H. Gentle, to American Enka Corp. Yarn and method of making same. 3,380,242, 4–30–68, Cl. 57—140.

Richter, Johan C. F. C. and O. J., to Aktiebolaget Kamyr. Method and apparatus for performing prehydrolysis in a continuous counterflow digester. 3,380,883, 4–30–68, Cl. 162—19.

Richter, Ole J.: *See*—
  Richter, Johan C. F. C. and O. J. 3,380,883.

Richtzenhain, Hermann: *See*—
  Vogt, Wilhelm, Janssen, and Richtzenhain. 3,381,053.

Rider, Stuart H.: *See*—
  Le Blanc, John R., O'Connell, and Rider. 3,381,054.
  Le Blanc, John R., Fantl, Rider, and O'Connell. 3,381,055.

Ridgway, James S., to Monsanto Co. Novel terpolyamides from phenylindan carboxylic acid. 3,380,968, 4–30–68, Cl. 260—78.

Riebs, Richard E., and C. Gilker, to McGraw-Edison Co. Repeating circuit interrupter including protection means for the secondary source. 3,381,176, 4–30–68, Cl. 317—22.

Rigaudy, Jean, to Roussel-UCLAF. Diazonium salts and process for their preparation. 3,380,988, 4–30–68, Cl. 260—142.

Rigby, Gloria M. Rockable and rotatable amusement device for children. 3,380,735, 4–30–68, Cl. 272—33.

Rigby William H., Jr.: *See*—
  Smucker, Clayton A., Rigby, and McCombs. 3,380,877.

Riley, Ray L., to Hughes Aircraft Co. Digital memory timing system. 3,381,284, 4–30–68, Cl. 340—174.1.

Ring, Harold F., to E. I. du Pont de Nemours and Co. Composite superconducting structures. 3,380,935, 4–30–68, Cl. 252—512.

Ringer, Kenneth M., and A. B. Przedpelski, to A.R.F. Products, Inc. Radio frequency device and resonator therefor. 3,381,237, 4–30–68, Cl. 330—66.

Risley, James A., to Keystone Lighting Corp. Latch for diffuser panel doors in lighting fixtures. 3,380,770, 4–30–68, Cl. 292—175.

Rissberger, Arthur C., Jr., and L. A. Ulmschneider, to Eastman Kodak Co. Hermetically sealed container. 3,380,621, 4–30–68, Cl. 220—44.

Ritzau, William P.: *See*—
  Allen, Oliver L., Kowalewski, and Ritzau. 3,380 108.

Ritzau, William P., to Electrolux Corp. Duplex vacuum cleaner nozzle. 3,380,103, 4–30–68, Cl. 15—417.

Ritzau, William P., and R. A. Budington III, to Electrolux Corp. Duplex vacuum cleaner nozzle. 3,380.104, 4–30–68, Cl. 15—417.

Ritzau, William P., and R. Danks, to Electrolux Corp. Duplex vacuum floor cleaning tool. 3,380,107, 4–30–68, Cl. 15—417.

Rivers, Russell C., to Riley Stoker Corp. Air supply to chain grate. 3,380,408, 4–30–68, Cl. 110—40.

Robert, Jacques: *See*—
  Bergier, Andre, and Robert. 3,381,051.

Robert, Jean-Paul: *See*—
  Lavergne, Michel, and Robert. 3,381,264.

Roberts, Donald L.: *See*—
  Schumacher, Joseph N., Rohde, and Roberts. 3,380,457.

Roberts, Donald L., and J. N. Schumacher, to R. J. Reynolds Tobacco Co. Tobacco product. 3,380,456, 4–30–68, Cl. 131—17.

Roberts, Hugh L., to Imperial Chemical Industries, Ltd. Preparation of telomers of tetrafluoroethylene. 3,381,043, 4–30–68, Cl. 260—653.1.

Roberts, John M., to General Electric Co. Reactor pumping system. 3,380,649, 4–30–68, Cl. 230—102.

Robertson, Elmer W. Device for guiding tire casings on curing rims. 3,380,124, 4–30–68, Cl. 18—45.

Robinson, Geoffrey C., to Canadian Patents and Development Ltd. Method of making ceramic capacitors. 3,380,854, 4–30–68, Cl. 117—217.

Robinson, Herbert J., to Interchemical Corp. Corrosion inhibiting pigment. 3,380,836, 4–30–68, Cl. 106—14.

Robinson, John C.: *See*—
  Hunt, Joe B. and H. E. 3,380,099.

Rockefeller, George D., Jr., to Westinghouse Electric Corp. Relaying system for high voltage transmission line utilizing a coupling capacitor. 3,381,178, 4–30–68, Cl. 317—27.

Rockwell Mfg. Co.: *See*—
  Fowler, John H. 3,380,519.

Rodriguez, Esther M.: *See*—
  Menikheim, Virginia C., and Rodriguez. 3,380,844.

Roedel, Max: *See*—
  Klanner, Rudolf, and Roedel. 3,380,600.

Roeder, David L.: *See*—
  Howell, Homer R., Lamaster, and Roeder. 3,381,205.

Rofer, David, to International Telephone and Telegraph Corp. Contact terminal extraction tool. 3,380,141, 4–30–68, Cl. 29—203.

Rogers, John L.: *See*—
  Lood, Gouglas E., Spriggs, and Rogers. 3,380,156.

Rogers, Lloyd W., Jr., to General Motors Corp. Closure latch. 3,380,771, 4–30–68, Cl. 292—201.

Rohde, Wilmer A.: *See*—
  Schumacher, Joseph N., Rohde, and Roberts. 3,380,457.

Rollei-Werke Franke & Heidecke: *See*—
  Bethmann, Gustav. 3,380,364.
  Sommermeyer, Friedrich. 3,380,363.

Rona, Janos, to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation. Pneumatic or hydraulic adding circuit. 3 380,465, 4–30–68, Cl. 137—81.5.

Rose Patch & Label Co.: *See*—
  Larson, Melvin E., and Shaver. 3,380,731.

Rosecrants, William J., Jr.: *See*—
  Kitze, Theodore J., Jr., and Rosecrants. 3,380,828.

Rosell, Lester P., and R. D. Pentecost, to Emco Wheaton, Inc. Universal electric nozzle. 3,380,491, 4–30–68, Cl. 141—209.

Rosenburg, Dale W.: *See*—
  Harris, Elbert E., Rosenburg, and Chamberlin. 3,381,014.

Rosenthal, Adolph H., to Kollsman Instrument Corp. Optical maser modulator and amplifier. 3,381,242, 4–30–68, Cl. 332—7.51.

Ross, Sidney H.: *See*—
  Dougherty, Francis J., and Ross. 3,380,884.

Rossi, Mario, to S.p.A. Officine Maccaferri. Protective linings and method of forming the same in watercourses. 3,380,254, 4–30–68, Cl. 61—7.

Rossiter, Paul H.: *See*—
  Mutton, Clifford A., Rossiter, Thiessen, and Weir. 3,381,072.

Rothbart, Michael: *See*—
  Katz, Herbert, and Rothbart. 3,380,916.

Rothermel, Earl J., Jr.: *See*—
  Helfrich, George F., and Rothermel. 3,380,977.

Rouleau, Georges O. Archery score determining means and process. 3,380,171, 4–30–68, Cl. 33—174.

Rousseau, Roy S., to The Kartridg Pak Co. Aerosol container sealing apparatus. 3,380,224, 4–30–68, Cl. 53—88.

Roussel-UCLAF: *See*—
  Rigaudy, Jean. 3,380,988.

Rowland, Thomas W., and C. L. Tavelle, to Raybestos-Manhattan, Inc. Manufacture of metal cored rubber rolls. 3,380,120, 4–30–68, Cl. 18—30.

Rubenstein, David. Manufacture of reinforced composite concrete pipe-line constructions. 3,380.259, 4–30–68, Cl. 61—72.2.

Rubin, Paul. Direct mounting tire gage. 3,380,427, 4–30–68, Cl. 116—34.

Ruegg-Naegeli & Cie Aktiengesellschaft: *See*—
  Wagner, Heinz R. 3,380,177.

Ruiz, William B. Self-closing door hinge. 3,380,109, 4–30–68, Cl. 16—50.

Rusher, Robert L., to E. I. du Pont de Nemours and Co. Bonding thermoplastic materials to substrates with colloidal silica. 3,380,876, 4–30–68, Cl. 161—162.

Russell, William S.: *See*—
  Champaneria, Ashok J., and Russell. 3,380,858.

Ruston & Hornsby Ltd.: *See*—
  Whitehead, Herbert A. 3,380,556.

Ruttiger, Karl, and A. Diener, to Dortmund-Horder Huttenunion Aktiengesellschaft. Devices for introducing gas into a metal melt. 3,380,727, 4–30–68, Cl. 266—34.

Rutzen, Horst: *See*—
  Blaser, Bruno, and Rutzen. 3,380,925.

Ryan, Donald J., and B. J. Starkey, to E. I. du Pont de Nemours and Co. Process for producing hydrocarbon polymers. 3 380,978, 4–30–68, Cl. 260—88.2.

Ryan, George R.: *See*—
  Sedove, Max S., Ryan, Beall, and Scislowicz. 3,380,448.

Ryland, Lloyd B., to Shell Oil Co. Oxidation catalysts. 3,380,931, 4–30–68, Cl. 252—432.

Rys, Tadeusz J., and G. Newton, to Square D Co. Switch enclosure and sealing means therefor. 3,381,106, 4–30–68, Cl. 200—168.

Ryu, Hirosuke: *See*—
  Toyoshima, Kiyoshi, Ichiki, Ryu, and Yashima. 3,381,024.

SKF Kugelagerfabriken Gesellschaft mit beschrankter Haftung: *See*—
  Steichele, Joseph. 3,380,138.

Sabo, Bernard: *See*—
  Boucher, Raymond R., Maynard, and Sabo. 3,380,917.

Sachnik, Norman H.: *See*—
  Culpepper, Jesse L., Jr., and Sachnik. 3,380,470.

Sack, Werner, to Jenaer Glaswerk Schott & Gen. Substances for producing crystalline heat resistant coatings and fused layers. 3,380,838, 4–30–68, Cl. 106—39.

Sadove, Max S., G. R. Ryan, G. L. Beall, and H. M. Scislowicz, to Abbott Laboratories. Cervical-pudental indwelling catheter set with tissue piercing means. 3,380,448, 4–30–68, Cl. 128—215.

Sagar, Harold: *See*—
  Jones, Gwillym T., Owen, and Sagar. 3,380,850.

Sage, Ira H.: *See*—
  Deemie, Gerald W., Sage, Komsa, Rakus, and Yocum. 3,380,641.

Sahiki, Makoto: *See*—
  Oshima, Shintaro, Enomoto, Futami, Kabayashi, Kamibayashi, Fukui, Okada, Sahiki, Koyama, Saito, Moriyama, Abe, and Saito. 3,381,138.

Sala, Anthony, and R. E. Edelman, to United States of America, Army. Process of casting a reactive metal. 3,380,508, 4–30–68, Cl. 164—42.

Saito, Makoto: *See*—
  Oshima, Shintaro, Enomoto, Futami, Kabayashi, Kamibayashi, Fukui, Okada, Sahiki, Koyama, Saito, Moriyama, Abe, and Saito. 3,381,138.

Saito, Sachio: *See*—
  Oshima, Shaintaro, Enomoto, Futami, Kobayashi, Kamibayashi, Fukui, Okada, Sahiki, Koyama, Saito, Moriyama, Abe, and Saito. 3,381,138.

Salerno, Paul G., R. P. Smith, and M. A. Sime, to Vapor Corp. Valve assembly. 3,380,469, 4–30–68, Cl. 137—219.

Salate, Felipe, to Refaccionaria de Molinos S.A. Material purifying machine. 3,380,585, 4–30–68, Cl. 209—37.

Salomon, Georges P. J. Safety fastening for skis, especially in front. 3,380,749, 4–30–68, Cl. 280—11.35.

Salomon, Georges P. J. Front safety attachment for skis. 3,380,750, 4–30–68, Cl. 280—11.35.

Sambeth, Joerg: *See*—
  Grundschober, Friedrich, and Sambeth. 3,380,964.

Sapoff, Meyer, B. B. Jacobs, and J. G. Froemel, to Victory Engineering Corp. High speed wide range surface sensor thermistor. 3,381,253, 4–30–68, Cl. 338—22.

Saporito, Anthony: *See*—
  Reimus, Richard G., and Saporito. 3,381,302.

Sarnoff, Stanley J. Cartridge with burstable seal. 3,380,449, 4–30–68, Cl. 128—218.

Sarra, Salvatore S., to Daytona Marine Engine Corp. Thermostatic by-pass valves. 3,380,466, 4–30–68, Cl. 137—87.

Saurin, Brendan F., and J. N. McFeeters, to The British Petroleum Co. Single point mooring arrangement for tank ships. 3,380,091, 4–30–68, Cl. 9—8.

Sauve, Charles, to Commissariat a l'Energie Atomique. Plugging system for extrusion containers. 3,380,270, 4–30–68, Cl. 72—45.

Savage, Phillip D., to Hall Ski-Lift Co., Inc. Ski rescue sled lift device. 3,380,084, 4–30–68, Cl. 5—81.

Scaletta, Joseph A., R. E. Miller, and J. Valek, to National Dairy Products Corp. Method and apparatus for forming blanks. 3,380,282, 4–30–68, Cl. 72—335.

Scaramucci, Domer, to Balon Corp. Ball valve with reinforced seals. 3,380,706, 4–30–68, Cl. 251—148.

Scaramucci, Domer, to Balon Corp. Ball valve. 3,380,707, 4–30–68, Cl. 251—148.

Scaramucci, Domer, to Balon Corp. Body pressure relieving valve and seals therefor. 3,380,707, 4–30–68, Cl. 251—172.

Scaramucci, Domer, to Balon Corp. Valves and seals therefor. 3,380,709, 4–30–68, Cl. 251—172.

Schadowski, Werner: *See*—
  Bergmann, Karl H., and Schadowski. 3,380,222.

Schaefer, Steven W., D. A. Godes, and G. C. Fulmer, to Diamond Shamrock Corp. Siding. 3,380,215, 4–30–68, Cl. 52—522.

Schaeffer, Andre, B. Clauss, and M. Laquerriere, to Etablissements Bauchet & Cie. Heat developable diazo photocopying sheet. 3,380,830, 4–30–68, Cl. 96—75.

Schaeffer, William D.: *See*—
  Biale, Giovanni, Fenton, Olivier, and Schaeffer. 3,381,030.

Schaffler, Willi. Boring bar. 3,380,321, 4–30–68, Cl. 77—58.

Schalliol, Willis L., to CTS Corp. Electrical connection and method of making the same. 3,381,081, 4–30–68, Cl. 174—68.5.

Scheel, John R., to Hawley Mfg. Corp. Fumes control system including movable hood. 3,380,371, 4–30–68, Cl. 98—115.

Schieber, Werner, and O. L. Garkisch, to Metallgesellschaft Aktiengesellschaft. High purification of phthalic anhydride by multi-stage reduced pressure distillation. 3,380,896, 4–30–68, Cl. 203—77.

Scherillo, Vittorio, to Nuovo Pignone S.p.A. Device for positively cutting the weft in a shuttleless loom having a continuous weft-supply mechanism. 3,380,482, 4–30–68, Cl. 139—122.

Schieber, John R., and O. H. Preis, to Betz Laboratories, Inc. Method and apparatus for the use of acrolein. 3,380,462, 4–30–68, Cl. 137—3.

Schlumberger Technology Corp.: *See*—
  Cubberly, Walter E., Jr., and Pardue. 3,381,267.
  Fields, Roger Q. 3,380,540.

Schmermund, Alfred. Devices for attaching mouthpieces to elongated articles such as cigarettes or cigars. 3,380,459, 4–30–68, Cl. 131—94.

Schmermund, Alfred: *See*—
  Delmann, Karl H. 3,380,576.

Schmidt, Fred J., to Ellicott Machine Corp. Automatic control of swing speed for dredges. 3,380,179, 4–30–68, Cl. 37—58.

Schmidt, Fritz: *See*—
  Burhorn, Friedrich, Schmidt, and Strossner. 3,381,158.

Schmidt, Oskar. Apparatus for the manufacture of shoes with an inner leg, particularly ski-boots. 3,380,123, 4–30–68, Cl. 18—42.

Schmoock, Roy F.: *See*—
  Mannherz, Elmer D., and Schmoock. 3,380,301.

Schmunk, John D., to The Hancock Brick & Tile Co. Plain end pipe coupling. 3,380,763, 4–30–68, Cl. 285—110.

Schneider & Co.: *See*—
  Cremer, Gottfried, Behrens, and Dietzsch. 3,380,128.

Schneider, Sol: *See*—
  Creedon, John E., Schneider, and Shapiro. 3,381,148.

Schnepfe, Robert W., Jr., to AAI Corp. Directional dispensing grenade. 3,380,383, 4–30–68, Cl. 102—64.

Schober, Albert. Combination kitchen tool. 3,380,089, 4–30–68, Cl. 7—14.2.

Schoeller, Alexander. Bottle crate of plastic material. 3,380,616, 4–30–68, Cl. 220—21.

Scholer, Henry G., and D. B. Nordstrom, to The Bendix Corp. Test socket for transistors and the like. 3,381,221, 4–30–68, Cl. 324—158.

Scholz, Gunther: *See*—
  Barthel, Gunter, Scholz, and Hahndorff. 3,380,906.

Schonhorn, Harold, and L. H. Sharpe, to Bell Telephone Laboratories, Inc. Method of forming a seal directly between an unmodified fluorocarbon polymer surface and an epoxy adhesive, and article made thereby. 3,380,879, 4–30–68, Cl. 161—184.

Schroeder, Carl E., Jr., to Continental Oil Co. Underwater ice structure and method for constructing same. 3,380,255, 4–30–68, Cl. 61—34.

Schroeder, Rolf: *See*—
  Kiper, Gerd, Engelsmann, Albedyll, and Schroeder. 3,380,356.

Schug, Charles J.: *See*—
  Flaherty, Robert J., Hallstead, Judge, Vaudreuil, Wyckoff, and Schug. 3,381,282.

Schuller, Max J., M. J. Urban, and E. F. Littau, to Monsanto Co. Resistor and contact means on a base. 3,381,256, 4–30–63, Cl. 338—309.

Schumacher, Joseph N., W. A. Rohde, and D. L. Roberts, to R. J. Reynolds Tobacco Co. Tobacco product. 3,380,457, 4–30–68, Cl. 131—17.

Schumacher, Joseph N.: *See*—
  Roberts, Donald L., and Schumacher. 3,380,456.

Schwartz, James R., and W. G. Abraham, to Varian Associates. High frequency electron discharge devices having asymmetric self-biased ion draining electrodes. 3,381,162, 4–30–68, Cl. 315—5.38.

Schweiter Engineering Works Ltd.: *See*—
  Stapfer, Jakob. 3,380,677.

Scislowicz, Henry M.: *See*—
  Sadove, Max S., Ryan, Beall, and Scislowicz. 3,380,448.

Scribner, Richard M. to E. I. du Pont de Nemours and Co. Perfluorocarbylthiobenzoquinones and hydroquinones and related sulfoxy and sulfonyl benzoquinones and hydroquinones. 3,381,020, 4–30–68, Cl. 260—396.

Scullin, James P.: *See*—
  Fletcher, Arthur F., and Scullin. 3,380,956.

Seablom, Wendell. Pop-up sprinkler surrounded by open cell resilient material. 3,380,659, 4–30–68, Cl. 239—205.

Sealectro Ltd.: *See*—
  Deakin, Stanley T. 3,381,261.

Season-All Industries, Inc.: *See*—
  Biro, Alexander J. 3,380,194.

Sedove, Max S., G. R. Ryan, G. L. Beall, and H. M. Scislowicz, to Abbott Laboratories. Cervical-pudendal indwelling catheter set with tissue piercing means. 3,380,448, 4–30–68, Cl. 128—215.

Seeburg Corp., The: *See*—
  Champ, Frank G. 3,380.140.

Segil, Arthur W., and R. N. White, to Luminous Ceilings, Inc. Acoustical panel with honeycomb core and ventilation passageways. 3,380.552, 4–30–68, Cl. 181—33.

Seidel, Harold, to Bell Telephone Laboratories, Inc. Parametric amplifier combining signal and idler outputs. 3,381,233, 4–30–68, Cl. 330—4.5.

Seitz, John M.: *See*—
  Elizer, Lee H., Glasscock, and Seitz. 3,380,799.

Seiz, Rudolph: *See*—
  Neeff, Joachim, Seiz, and Funk. 3,380,191.

Sel-Rex Corp.: *See*—
  Cathrein, Rene, and Danemark. 3,380,814.
  Danemark, Marius, Cathrein, and Simonian. 3,380,898.

Selig, George A.: *See*—
  Ferneau, Richard H., and Selig. 3,380,085.

Selig, Thomas R.: *See*—
  Whitman, Philip C., and Selig. 3,381,185.

Semplonius, Frans: *See*—
  Barecki, Chester J., and Semplonius. 3,380,405.

Seng Co., The: *See*—
  Mikos, Aloysius J. 3,380,082.
  Mikos, Aloysius J. 3,380,083.

Senoo, Tadao, and Y. Onaya, to Nitto Boseki Co., Ltd. Crimped polyester filaments. 3,381,057, 4–30–68, Cl. 260—860.

Sepulveda, Carlos A.: *See*—
  Hackett, John A., and Sepulveda. 3,381,094.

Serrell, Robert: *See*—
  Kling, Frederick R., and Serrell. 3,380,176.

Servotronics, Inc.: *See*—
  Trbovich, Nicholas D., and Meyer. 3,381,150.

Sewelin, Ernest R., to International Harvester Co. Mounting means for cabs of cab-over-engine type motor vehicles. 3,380,773, 4–30–68, Cl. 296—28.

Seymour, Malcolm, to Prototypes, Inc. Boat speedometer. 3,380,299, 4–30–68, Cl. 73—186.

- Shakespeare Co. : *See—*
  - Henning, Andrew R. 3,380,318.
- Shano, Charles L., and F. P. Hill, to Motorola, Inc. Alternator-regulator system with arc reduction means. 3,381,210, 4–30–68, Cl. 322—100.
- Shapiro, Stuart J. : *See—*
  - Creedon, John E., Schneider, and Shapiro. 3,381,148.
- Shapiro, Uriel G., and F. C. Neary, to Commercial Plastics Ltd. Coating opposite sides of web employing electrostatic field. 3,380,845, 4–30–68, Cl. 117—068.
- Sharpe, Louis H. : *See—*
  - Schonhorn, Harold, and Sharpe. 3,380,879.
- Sharps, Thomas I. : *See—*
  - Yingst, Parke O., and Sharps. 3,380,784.
- Shaver, Carl W. : *See—*
  - Larson, Melvin E., and Shaver. 3,380,731.
- Shearer, Wendell B. : *See—*
  - Leiper, Charles H., Lowenthal, and Shearer. 3,381,068.
- Shell, Melvin E. Cargo handling and storage apparatus. 3,380,404, 4–30–68, Cl. 108—52.
- Shell Oil Co. : *See—*
  - Hughes, John, and Soesan. 3,380,928.
  - Palm, Richard A., Cherdron, Ohse, and Korte. 3,380,939.
  - Palm, Richard A., Cherdron, Ohse, and Korte. 3,380,987.
  - Ryland, Lloyd B. 3,380,931.
  - Van der Minne, Johan L., Hermanie, and Douwes. 3,380,970.
  - Young, Homer F. 3,380,258.
- Shen, Tsung-Ying, and C. H. Shunk, to Merck & Co., Inc. Lower-cycloalkyl and lower-cycloalkenyl pyridineacetic acid and derivatives. 3,381,015, 4–30–68, Cl. 260—295.
- Shepardson, Edwin S., to New York State Concord Grape Production Research Fund, Inc. Apparatus for harvesting grapes. 3,380,236, 4–30–68, Cl. 56—330.
- Sherrod, Eugene L., ½ to R. T. Sherrod. Automatic control system for concrete pump. 3,380,388, 4–30–68, Cl. 103—49.
- Sherrod, Robert T. : *See—*
  - Sherrod, Eugene L. 3,380,388.
- Shiba, Junko : *See—*
  - Kamoshita, Genichi, Hirano, Shiba, and Hara. 3,380,812.
- Shido, Fumiko : *See—*
  - Yamaguchi, Taro, and Shido. 3,381,064.
- Shields, Gordon G., and C. B. Patterson, to Purex Corp., Ltd. Spray dried products. 3,380,922, 4–30–68, Cl. 252—99.
- Shimatani, Takehiko : *See—*
  - Mitsumori, Hidetoshi, Murakami, Miyoshi, and Shimatani. 3,381,025.
- Shinto, Masakatu : *See—*
  - Izumi, Zenzi, Kitagawa, and Shinto. 3,380,976.
- Shionogi & Co., Ltd. : *See—*
  - Komeno, Taichiro, and Tokutake. 3,381,002.
- Shoenthaler, Arnold C. : *See—*
  - Cohen, Abraham B., and Shoenthaler. 3,380,831.
- Short, Oliver A., to E. I. du Pont de Nemours and Co. Metalizing compositions. 3,380,835, 4–30–68, Cl. 106—1.
- Shunk, Clifford H. : *See—*
  - Shen, Tsung-Ying, and Shunk. 3,381,015.
- Sibley, William A. L., Jr., and R. F. McNab, Jr., to J. P. Stevens & Co., Inc. Combination of a textile spinning frame or the like and a mechanism for determining the misalignment centering of a spindle therein. 3,381,216, 4–30–68, Cl. 324—34.
- Siebertz, Karl, and R. Wiesner, to Siemens Aktiengesellschaft. Unipolar diffusion transistor. 3,380,154, 4–30–68, Cl. 29—571.
- Siegart, William R., W. D. Blackley, H. Chafetz, and R. C. Suber, to Texaco Inc. Fluorocarbon derivative of polystyrene and process of preparing same. 3,380,983, 4–30–68, Cl. 260—93.5.
- Siemens Aktiengesellschaft : *See—*
  - Burhorn, Friedrich, Schmidt, and Strossner. 3,381,158.
  - Siebertz, Karl, and Wiesner. 3,380,154.
- Sievers, Martin : *See—*
  - Wilens, Seymour, Sievers, and Achatz. 3,380,142.
- Signetics Corp. : *See—*
  - Youmans, Albert P. 3,381,255.
- Sikorra, Daniel J., to Honeywell Inc. Bipolar capacitive integrator with fast reset. 3,381,229, 4–30–68, Cl. 328—127.
- Silberberg, Kenneth J., to Purex Corp. Ltd. Method of etching with a strippable maskant. 3,380,863, 4–30–68, Cl. 156—12.
- Silvestrini, Bruno : *See—*
  - Palazzo, Giuseppe, and Silvestrini. 3,381,009.
- Sime, Malcolm A. : *See—*
  - Salerno, Paul G., Smith, and Sime. 3,380,469.
- Simison, Allen L., to Owens-Corning Fiberglas Corp. Method for producing a fibrous mat. 3,381,069, 4–30–68, Cl. 264—91.
- Simon, Ralph : *See—*
  - McAuliffe, Clayton D., Simon, and Johnson. 3,380,531.
- Simonian, Atkin Y. : *See—*
  - Danemark, Marius, Cathrein, and Simonian. 3,380,898.
- Simpson, Justin, to Continental Can Co., Inc. Sheet feeding apparatus. 3,380,732, 4–30–68, Cl. 271—44.
- Simpson, William G. Tables. 3,380,402, 4–30–68, Cl. 108—50.
- Simshauser, Elvin D., to Radio Corp. of America. Display module having electromagnetic coil sensing of armature position. 3,381,291, 4–30–68, Cl. 340—373.
- Sinclair, Abraham M. : *See—*
  - Mason, Leslie F. A., and Sinclair. 3,380,829.
- Singerman, Paul, W. H. Smedly, and G. H. Adkins. Stapling machines. 3,380,640, 4–30–68, Cl. 227—131.
- Single, Charles H. : *See—*
  - Gilbert, Edward O., and Single. 3,381,230.
- Sivertsen, Richard : *See—*
  - Madsen, Kristian D., Helmersson, and Sivertsen. 3,381,154.
- Skil Corp. : *See—*
  - Kaman, Frank A. 3,380,539.
- Skinner, Charles W. Mechanism for and method of making glaziers' point. 3,380,281, 4–30–68, Cl. 72—330.
- Slonneger, John L. : *See—*
  - Waters, James L., and Slonneger. 3,381,197.
- Smedly, William H. : *See—*
  - Singerman, Paul, Smedly, and Adkins. 3,380,640.
- Smith, Alexander, and B. D. Baggs, Jr. Mechanical fruit picker. 3,380,235, 4–30–68, Cl. 56—328.
- Smith, Ford E. : *See—*
  - Born, Herbert H., and Smith. 3,380,875.
- Smith, George E. : *See—*
  - Barton, David M., and Smith. 3,381,238.
- Smith, Jean G. : *See—*
  - Flack, Herbert P., Smith, and Fitch. 3,380,894.
- Smith, John J. : *See—*
  - Mueller, Frank H., and Smith. 3,380,471.
- Smith Kline & French Laboratories : *See—*
  - Caldwell, Henry C., and Smith. 3,381,010.
- Smith, Robert P. : *See—*
  - Salerno, Paul G., Smith, and Sime. 3,380,469.
- Smith & Stone Ltd. : *See—*
  - Duffield, Joseph F., and Godziemba-Dambski. 3,381,103.
- Smith, William E., to Owens-Illinois, Inc. Glass composition and method and product. 3,380,818, 4–30–68, Cl. 65—33.
- Smith, William E. : *See—*
  - Caldwell, Henry C., and Smith. 3,381,010.
- Smith, William E., to California Computer Products, Inc. Incremental stepping motor apparatus and methods for driving. 3 381 193, 4–30–68, Cl. 318—138.
- Smucker, Clayton A., W. H. Rigby, Jr., and F. P. McCombs, to Owens-Corning Fiberglas Corp. Binder composition and method. 3,380,877, 4–30–68, Cl. 161—170.
- Snarr, James L., to Picker Corp. Film processor transport mechanism. 3,380,368, 4–30–68, Cl. 95—94.
- Snellman, Roger, to Harbison-Walker Refractories Co. Shapes and method for lining a rotary kiln. 3,380,211, 4–30–68, Cl. 52—249.
- Snook, Frederick G. : *See—*
  - Hartman Seymour, and Snook. 3,380,213.
- Snyder, James H. : *See—*
  - Burch, Arthur R., and Snyder. 3,380,308.
- Societe de Constructions Mecaniques de Creil : *See—*
  - Gaudin, Jean. 3,380,686.
- Societe Labavia : *See—*
  - Bessiere, Pierre E. 3,381,152.
  - Bessiere, Pierre E. 3,381,153.
- Societe Nationale d'Etude et de Construction de Moteurs d'Aviation : *See—*
  - Jumelle, Louis F. 3,380,663.
  - Rona, Janos. 3,380,465.
- Soderquist, Leslie E., to McNeil Corp. Universal tire press loader. 3,380,115, 4–30–68, Cl. 18—2.
- Soesan, Joseph M. : *See—*
  - Hughes, John, and Soesan. 3,380,928.
- Solar Light Mfg. Co. : *See—*
  - Eisenberg, Maurice. 3,381,124.
- Solocast Co., The : *See—*
  - Miner, Warren M., and Yamasaki. 3,380,743.
- Soltesz, Laszlo : *See—*
  - Galgoczi, Bela, Demeter, Zagyvai, Soltesz, Sommer, Hercsel, and Raab. 3,380,947.
- Sommer, Laszlo : *See—*
  - Galgoczi, Bela, Demeter, Zagyvai, Soltesz, Sommer, Hercsel, and Raab. 3,380,947.
- Sommermeyer, Friedrich, to Rollei-Werke Franke & Heidecke. Film winding mechanism for photographic cameras. 3,380,363, 4–30–68, Cl. 95—31.
- Sondhi, Man M., to Bell Telephone Laboratories, Inc. Apparatus for determining the periodicity and aperiodicity of a complex wave. 3,381,091, 4–30–68, Cl. 179—1.
- Sopchack, George R., to Titzel Engineering, Inc. Furnace for heating slabs and the like and conveyor for use thereon. 3,380,722, 4–30–68, Cl. 263—6.
- Soprotec : *See—*
  - Perrinjaquet, Rober P. 3,380,631.
- Sorensen, Cloyd J., Jr. : *See—*
  - Porter, Robert E., and Sorensen. 3,380,451.
- Sorensen, Roger A., and P. F. Boeye, to Northwestern Corrugated Box Co. Shipping cartons. 3,380,643, 4–30–68, Cl. 229—40.
- Soundlock Corp., The : *See—*
  - Barnett, Richard G. 3,380,206.
- Southard, George G. D., and T. Tilk, to North Electric Co. Remote control and supervision system for a railroad train. 3,380,399, 4–30–68, Cl. 105—61.
- Southwest Welding & Mfg. Co. : *See—*
  - Brodersen, Edward M., and Hopfensperger. 3,380,774.
- S.p.A. Officine Maccaferri : *See—*
  - Rossi, Mario. 3,380,254.
- Sparks, George C. Strip package assembly. 3,380,578, 4–30–68, Cl. 206—56.
- Spelbrink, Sherburne W. Panel router. 3,380,498, 4–30–68, Cl. 144—69.
- Spence, John R., to Pike Trailer Co. Trailer enclosure construction. 3,380,216, 4–30–68, Cl. 52—595.
- Speno, Frank, Railroad Ballast Cleaning Co., Inc. : *See—*
  - Speno, Martin J. 3,380,180.
- Speno, Martin J., to Frank Speno Railroad Ballast Cleaning Co., Inc. Ballast cleaning apparatus. 3,380,180, 4–30–68, Cl. 37—105.
- Sperry Rand Corp. : *See—*
  - Blackledge, Vernon O. 3,381,295.
  - Cook, George W. 3,381,142.
  - Weathers, Leland C. 3,381,181.
  - Weathers, Leland C. 3,381,250.

- Spielberg, Nathan, to North American Philips Co., Inc. Method of producing X-ray interference patterns and X-ray holograms. 3,381,127, 4–30–68, Cl. 250—65.
- Spinnfaser Aktiengesellschaft : *See—*
  - Thiele, Hans. 3,380,221.
- Sprague Electric Co. : *See—*
  - Burks, Darnall P. 3,380,155.
- Spriggs, Rueben S. : *See—*
  - Lood, Douglas E., Spriggs, and Rogers. 3,380,156.
- Sprout, John W. and K. I., and T. W. Stein. Trailer hitch assembly. 3,380,757, 4–30–68, Cl. 280—406.
- Sprout, Kenneth I. : *See—*
  - Sprout, John W. and K. I., and Stein. 3,380,757.
- Square D Co. : *See—*
  - Rys, Tadeusz J., and Newton. 3,381,106.
- Squibb, E. R., & Sons, Inc. : *See—*
  - Levine, Seymour D., and Diassi. 3,381,029.
  - Numerof, Paul, and Morgan. 3,380,888.
  - Yale, Harry L. 3,381,042.
- Squire, Edward N. : *See—*
  - Calkins, William H., Squire, and Ziegler. 3,380,980.
- St. Louis Shipbuilding-Federal Barge, Inc. : *See—*
  - Baker, Marion L. 3,380,439.
- Staats, Louis T., Sr. : *See—*
  - De Francis, Dominick J., Fooks, and Staats. 3,380,639.
- Staats, Louis T., Jr., to E. I. du Pont de Nemours and Co. Heat exchange arrangement. 3,380,513, 4–30–68, Cl. 165—1.
- Stacey, Gilbert J., to Imperial Chemical Industries Ltd. 2,5-dihydro-4-hydroxy-2-oxothiophen-3-carboxylates. 3,381,005, 4–30–68, Cl. 260—240.
- Stackpole Carbon Co. : *See—*
  - Campbell, Dudley H. 3,381,234.
- Stahlwerke Sudwestfalen AG : *See—*
  - Hentrich, Robert, and Randak. 3,380,509.
- Stalker, James E., to Home Metal Products Co. Transportable cooking and storage apparatus. 3,380,444, Cl. 126—25.
- Stalter, John D. : *See—*
  - Pletcher, Donald L., and Stalter. 3,380,710.
- Stamicarbon N.V. : *See—*
  - Van Vucht, Henricus A. 3,380,986.
- Standard Car Truck Co. : *See—*
  - Barber, Franklin D. 3,380,400.
- Standard Oil Co. (Ill.) : *See—*
  - Lee, Richard J. 3,380,909.
  - Lovell, Lyle M., and Strong. 3,381,048.
- Standard Oil Co. (Ind.) : *See—*
  - Deschner, Reinhart P., and Korpics. 3,381,065.
  - Ebner, Herman G. 3,380,960.
- Standard Oil Co., The (Ohio) : *See—*
  - Greene, Janice L., and Godfrey. 3,381,034.
  - Isley, Ralph E., and Blower. 3,380,949.
- Stanley, John H. : *See—*
  - Wilson, Frank R., and Stanley. 3,380,283.
- Stansby, Anthony G., to Northern Electric Co. Ltd. System for selective readout of an information store. 3,381,277, 4–30–68, Cl. 340—172.5.
- Stanton, Robert L., to American Mfg. Co., Inc. Plastic cordage. 3,380,243, 4–30–68, Cl. 57—144.
- Stapfer, Jakob, to Schweiter Engineering Works Ltd. Method and apparatus for increasing the efficiency of automatic winding machine. 3,380,677, 4–30–68, Cl. 242—35.5.
- Star Tank and Boat Co. : *See—*
  - Bontrager, Lloyd J. 3,380,507.
- Stark, Rudolf, and H.-J. Held, to Telefunken Patentverwertungs-G.m.b.H. Transmission system. 3,381,273, 4–30–68, Cl. 340—146.1.
- Starkey, Bartholomew J. : *See—*
  - Ryan, Donald J., and Starkey. 3,380,978.
- Stasz, Clarence J., and R. F. Swan ; said Swan, assor. to D. J. Basch. Portable power washing apparatus. 3,380,658, 4–30–68, Cl. 239—130.
- Stauffer Chemical Co. : *See—*
  - Hwa, Jesse C. H. 3,380,973.
- Staver Co., Inc., The : *See—*
  - Wilens, Seymour, Sievers, and Achatz. 3,380,142.
- Steichele, Joseph, to SKF Kugelagerfabriken Gesellschaft mit beschrankter Haftung. Textile guide roll structure, particularly for drawing machines. 3,380,138, 4–30–68, Cl. 29—116.
- Stein, Thomas W. : *See—*
  - Sprout, John W., K. I., and Stein. 3,380,757.
- Steiner, Robert E., to Emerson Electric Co. Lighting fixture globe attaching means. 3,381,126, 4–30–68, Cl. 240—78.
- Stelmak, John P., to Westinghouse Electric Corp. Hermetically sealed semiconductor device. 3,381,080, 4–30–68, Cl. 174—52.
- Stemmler, Kurt, to R. Winkler, and K. Dunnebier. Cutting device for cutting webs and blanks. 3,380,327, 4–30–68, Cl. 83—100.
- Stenudd, Gunnar, to Aktiebolaget Atvidabergs Industrier. Electric step-by-step motor. 3,381,151, 4–30–68, Cl. 310—49.
- Stenzinger, Theodor : *See—*
  - Enders, Heinz, Deiner, Bernheim, Mosch, and Stenzinger. 3,380,943.
- Stephens Industries, Inc. : *See—*
  - Platt, Lawrence A. 3,380,228.
- Sterff, Wilhelm. Transistorized control circuit. 3,381,145, 4–30–68, Cl. 307—88.5.
- Sterling Drug Inc. : *See—*
  - Zenitz, Bernard L., and Surrey. 3,381,012.
- Stern, Henry P. : *See—*
  - Fleisner, Bernard L., Katz, Stern, and Weiss. 3,381,120.
- Stevens, J. P., & Co., Inc. : *See—*
  - Sibley, William A. L., Jr., and McNab. 3,381,216.
- Stevens, Norman C., to Perma-Shake Mfg. Corp. Metal shingle support clip. 3,380,214, 4–30–68, Cl. 52—478.
- Stevens, Wallace G. : *See—*
  - Myers, Jimmy D., and Stevens. 3,380,555.
- Stewart, Phillip M., to Midwest Gage Co., Inc. Rotating air cylinder utilizing air as air seal. 3,380,350, 4–30–68, Cl. 92—106.
- Stewart, Walter N., to United States of America, Army. Fuze testing apparatus. 3,380,297, 4–30–68, Cl. 73—167.
- Steyermark, Paul R., to W. R. Grace & Co. Polymerization of aryl and aralkyl isocyanates. 3,381,008, 4–30–68, Cl. 260—248.
- Stilmar, Frederic B. : *See—*
  - Chalmers, John R., and Stilmar. 3,380,971.
- Stilmar, Frederic B., to E. I. du Pont de Nemours and Co. Tetrafluoroethylene, isobutylene, carboxylic copolymers. 3,380,974, 4–30–68, Cl. 260—80.8.
- Stockbridge, Bruce W., T. O. Patton, and L. R. Bishop, to Eastman Kodak Co. Camera for taking parallax panoramagrams. 3,380,360, 4–30–68, Cl. 95—18.
- Stoker, Riley, Corp. : *See—*
  - Rivers, Russell C. 3,380,408.
- Stokes, Arthur J. : *See—*
  - Meal, Thomas J., and Stokes. 3,381,131.
- Stone, William R., and A. H. Whitaker. Pocket container for tumbler. 3,380,635, 4–30–68, Cl. 224—5.
- Stookey, Kenneth W. Blast air heating stove in metallurgical furnaces and the like. 3,380,723, 4–30–68, Cl. 263—19.
- Stork, Willi, to Windmoller & Holscher. Sack-making machine including a delivery station. 3,380,587, 4–30–68, Cl. 209—80.
- Strahan, Robert M., to General Motors Corp. Freezing tray. 3,380,702, 4–30–68, Cl. 249—71.
- Straley, James M. : *See—*
  - Wallace, David J., Straley, and Weaver. 3,380,990.
- Straley, James M. : *See—*
  - Dale, John I., III, Straley, and Weaver. 3,380,991.
- Stribel, Hermann o.H.G. : *See—*
  - Franz, Albert. 3,381,170.
- Strom, Albert P., C. F. Cromer, and T. E. Browne, Jr., to Westinghouse Electric Corp. Cross-blast circuit breakers with positive coordination between contact members and puffer structure. 3,381,101, 4–30–68, Cl. 20—148.
- Strom, Albert P., to Westinghouse Electric Corp. Synchronous-type hydraulic operator for alternating current synchronous type circuit interrupter. 3,381,102, 4–30–68, Cl. 200—148.
- Strong, Erwin R. : *See—*
  - Lovell, Lyle M., and Strong. 3,381,048.
- Strossner, Manfred : *See—*
  - Burhorn, Friedrich, Schmidt, and Strossner. 3,381,158.
- Stroud, Charles E., H. C. Cerutti, and T. H. Hughes, to Pittsburgh Plate Glass Co. Method of fabricating multiple glazing unit. 3,380,145, 4–30–68, Cl. 29—411.
- Struthers Scientific and International Corp. : *See—*
  - Reimus, Richard G., and Saporito. 3,381,302.
- Stuart, C. H. & Co., Inc. : *See—*
  - De Frank, William. 3,380,307.
- Strydom, Mauritz L., to Tobacco Research & Development Institute (Proprietary) Ltd. Automatic stacking. 3,380,781, 4–30–68, Cl. 302—31.
- Stute, Carlton F., to Admiral Corp. Phonograph elevation mechanism. 3,380,740, 4–30–68, Cl. 274—2.
- Suber, Ralph C. : *See—*
  - Siegart, William R., Blackley, Chafetz, and Suber. 3,380,983.
- Sublett, Bobby J., and G. P. Touey, to Eastman Kodak Co. Method of producing a filter element. 3,381,070, 4–30–68, Cl. 264—122.
- Sugino, Tadahiko : *See—*
  - Kometani, Yutaka, Sugino, and Furukawa. 3,381,041.
- Suh, John T., to McNeil Laboratories, Inc. Certain β-substituted-α-,4,5-dimethoxy-2-nitrophenyl) acrylonitriles and 2-aminophenyl derivatives thereof. 3,381,006, 4–30–68, Cl. 260—240.
- Sullivan, George C. : *See—*
  - Miller, Arthur, Dorchester, and Sullivan. 3,380,183.
- Sullivan, Matthew A., to Sullifoam, Inc. Pallet. 3,380,403, 4–30–68, Cl. 108—51.
- Sullifoam, Inc. : *See—*
  - Sullivan, Matthew A. 3,380,403.
- Sumitomo Chemical Co., Ltd. : *See—*
  - Toyoshima, Kiyoshi, Ichiki, Ryu, and Yashima. 3,381,024.
- Summers, James R. Rigid core-wick candle and candle device. 3,380 797, 4–30–68, Cl. 431—292.
- Sun Oil Co. : *See—*
  - Bover, Jackson S., and Zaayenga. 3,380,882.
- Superflexit Ltd. : *See—*
  - Wilson, John W. 3,380,764.
- Surine, William R., and T. E. Majewski, to The Dow Chemical Co. Preparation of 3,5-dibromosalicylic acid. 3,381,032, 4–30–68, Cl. 260—521.
- Surrey, Alexander R. : *See—*
  - Zenitz, Bernard L., and Surrey. 3,381,012.
- Sutherland-Schulz Ltd. : *See—*
  - Menich, Stephen J. 3,381,116.
- Swan, Robert F. : *See—*
  - Stasz, Clarence J., and Swan. 3,380,658.
- Swartz, Elmer L., to United States of America, Army. Flueric binary adder. 3,380,655, 4–30–68, Cl. 235—201.
- Sweeny, Wilfred : *See—*
  - Hill, Harold W., Jr., Kwolek, and Sweeny. 3,380,969.
- Swingspout Measure Co. : *See—*
  - Allen, Scott E., and Nicola. 3,380,653.
- Swyler, Karl J., to Xerox Corp. Transversely reciprocating fluidized bed development apparatus. 3,380,437, 4–30–68, Cl. 118—637.

- Sylvania Electric Products Inc. : *See—*
  - Deary, Louis, and Wirth. 3,380,826.
- Symons, Robert S. : *See—*
  - La Rue, Albert D., and Symons. 3,381,163.
- Syntex Corp. : *See—*
  - Waugh, Thomas D. 3,381,017.
- TRW, Inc. : *See—*
  - Lood, Douglas E., Spriggs, and Rogers. 3,380,156.
  - Miyahira, Harrison Y. 3,381,208.
- Tado, Hiroshi, and M. Ota, to Yanmar Diesel Engine Co., Ltd. Lubricant cooling arrangement for outboard propulsion apparatus. 3,380,443, 4–30–68, Cl. 123—196.
- Takada, Susumu. Parallel plane honing equipment. 3,380,198, 4–30–68, Cl. 51—54.
- Takeda Chemical Industries, Ltd. : *See—*
  - Honjo, Mikio, and Imai. 3,380,996.
  - Miki, Takuichi, Hiraga, Asako, and Masuya. 3,381,035.
  - Naito, Kenji, Nomura, Noguchi, and Kajiura. 3,380,998.
- Takuma, Yutaka, to Hitachi, Ltd. Digital generator-fed motor control system. 3,381,194, 4–30–68, Cl. 318—145.
- Tamburro, Francis P., to Willcox & Gibbs Sewing Machine Co. Cutting device for sewing machines. 3,380,417, 4–30–68, Cl. 112—252.
- Tanabe Seiyaku Co., Ltd. : *See—*
  - Matsumoto, Shoji, and Miyazaki. 3,380,901.
- Tarpley, William B., Jr., to Aeroprojects Inc. Radar markers. 3,381,293, 4–30–68, Cl. 343—18.
- Tassie, Douglas P. : *See—*
  - Chiabrandy, Robert E., and Tassie. 3,380,343.
- Taufer, Otto : *See—*
  - Maasberg, Wolfgang, and Taufer. 3,380,461.
- Tavelle, Charles L. : *See—*
  - Rowland, Thomas W., and Tavelle. 3,380,120.
- Taverna, Italo : *See—*
  - Canteloube, Andre, and Taverna. 3,380,518.
- Taylor, Douglas W., to Motorola, Inc. Electronic circuit in which the operating voltage is obtained from the high voltage side of the circuit. 3,381,165, 4–30–68, Cl. 315—27.
- Taylor, Henry J. : *See—*
  - Fry, John A., and Taylor. 3,380,204.
- Taylor, Maurice E., to Gulf Research & Development Co. Signal channel testing method and apparatus utilizing an inverse filter. 3,381,218, 4–30–68, Cl. 324—57.
- Technipower Inc. : *See—*
  - Loucks, Russell D., and Lupoli. 3,381,202.
- Teijin Ltd. : *See—*
  - Tonami, Hitoshi, Uchida, and Fujii. 3,381,075.
- Tektronix, Inc. : *See—*
  - Barton, David M., and Smith. 3,381,238.
- Tele-Con Enterprises, Inc. : *See—*
  - Panicci, Elio W., and Gutowski. 3,380,332.
- Telefunken Patentverwertungs-G.m.b.H. : *See—*
  - Stark, Rudolf, and Held. 3,381,273.
- Teleregister Corp. : *See—*
  - Knoll, Jack, and Hsu. 3,381,278.
- Templeton Coal Co. : *See—*
  - Morey, Glen H. 3,380,867.
- Tenneco Chemicals, Inc. : *See—*
  - Fletcher, Arthur F., and Scullin. 3,380,956.
- Terrametrics : *See—*
  - Abel, John F., Jr., and Wieselmann. 3,380,167.
- Tetens, Harold G., to Interlake Steel Corp. Stacking seal. 3,380,127, 4–30–68, Cl. 24—23.
- Teufer, Gunter : *See—*
  - Lewis, George L., Gulledge, and Teufer. 3,380,847.
- Texaco Inc. : *See—*
  - Altamira, Anthony F., and Hoyt. 3,380 524.
  - Altamira, Anthony F., and Hoyt. 3,380,525.
  - Altamira, Anthony F., and Hoyt. 3,380 526.
  - Hoyt, Donald L., and Altamira. 3,380,523.
  - Siegart, William R., Blackley, Chafetz, and Suber. 3,380,983.
- Texsteam Corp. : *See—*
  - Culpepper, Jesse L., Jr., and Sachnik. 3,380,470.
- Textron, Inc. : *See—*
  - Wilcox, Gary L. 3 380,152.
- Theisen, Robert M. : *See—*
  - Kis, John S., and Theisen. 3,380,139.
- Theurer, Josef : *See—*
  - Plasser, Franz, and Theurer. 3,380,395.
- Thiele, Hans, to Spinnfaser Aktiengesellschaft. Bale packaging. 3,380.221, 4–30–68, Cl. 53—24.
- Thiessen, Peter : *See—*
  - Mutton, Clifford A., Rossiter, Thiessen, and Weir. 3,381,072.
- Thiokol Chemical Corp. : *See—*
  - Wall, Bobby M. 3,380.251.
- Thomas, Joseph Y., to Reynolds Metals Co. Method for making printable and/or glueable polyolefinic material. 3,380,871, 4–30–68, Cl. 156—308.
- Thomas, Preston D., to Ferroxcube Corp. of America. Transistor switch. 3,381,144, 4–30–68, Cl. 307—254.
- Thomas, William R., to Westinghouse Electric Corp. Boron and nitrogen-containing catalyst and mixtures thereof with an epoxy resin. 3,380,963, 4–30–68, Cl. 260—47.
- Thomson-Medical-Telco : *See—*
  - Degonde, Jean, and Bailly. 3,381,30.
- Thornton, Clarence G., to Philco-Ford Corp. Microcircuits having buried conductive layers. 3,381,182, 4–30–68, Cl. 317—234.
- Thornton, Douglas, to National Video Corp. Light source for shadow mask tubes. 3,380,354. 4–30–68, Cl. 95—1.
- Thuesen, Niel C. Oil-damped valve-seating compensator. 3,380,440, 4–30–68, Cl. 123—90.
- Thurman & Younkin, Inc. : *See—*
  - Younkin, James R. 3,381,249.
- Thyssens, Guido M. J. B., to International Standard Electric Corp. Signalling and detecting systems. 3,381,096, 4–30–68, Cl. 179—84.
- Tilk, Tonis : *See—*
  - Southard, George G. D., and Tilk. 3,380,399.
- Timmons, Archie D., to Tri-State Oil Tool Industries, Inc. Method and apparatus of removing well pipe from a well bore. 3,380,528, 4–30–68, Cl. 166—14.
- Titanium Metals Corp. of America : *See—*
  - Dilling, Elmer D. 3,380,278.
- Titzel Engineering, Inc. : *See—*
  - Sopchack, George R. 3,380,722.
- Tjernstrom, Ove, to Allmanna Svenska Elektriska Aktiebolaget. Brake arrangement. 3,380,785, 4–30–68, Cl. 303—21.
- Tobacco Research & Development Institute (Proprietary) Ltd. : *See—*
  - Strydom, Mauritz L. 3,380,781.
- Togni, Daniel, to Paul Kolb, A.G. Electric boiler for central heating. 3,381,112, 4–30–68, Cl. 219—326.
- Tojima, Shoji : *See—*
  - Ono, Kensuke, Tojima, and Ikeda. 3,380,908.
- Tokutake, Norio : *See—*
  - Komeno, Taichiro, and Tokutake. 3,381,002.
- Tonami, Hitoshi, Y. Uchida, and T. Fujii, to Teijin Ltd. Process for preparation of viscose regenerated cellulose fibers. 3,381,075, 4–30–68, Cl. 264—193.
- Tonka Corp. : *See—*
  - Pauly, Ronald R., and Zbikowski. 3 380,696.
- Torres, Jorge, to Purolator Products, Inc. Fluid coupling with vacuum assisted valve elements. 3,380,476, 4–30–68, Cl. 137—614.05.
- Toth, Michael, Jr. : *See—*
  - Blattner, Ernest W., Pilarczyk, and Toth. 3,380,711.
- Toth, Paul : *See—*
  - Hohwart, George, and Toth. 3,380,747.
- Touey, George P., and R. C. Mumpower, II, to Eastman Kodak Co. Method for producing a cigarette with low tar yield. 3,380,458. 4–30–68, Cl. 131—17.
- Touey, George P. : *See—*
  - Sublett, Bobby J., and Touey. 3,381,070.
- Toy, Wing N. : *See—*
  - Huffman, Donald W., and Toy. 3,381,270.
- Toyo Rayon Kabushiki Kaisha : *See—*
  - Izumi, Zenzi, Kitagawa, and Shinto. 3,380,976.
- Toyoda Automatic Loom Works, Ltd. : *See—*
  - Araki, Hidejiro, and Tsujioka. 3,380,238.
  - Niki, Akira, Nakayama, and Nakane. 3,380.651.
- Toyoshima, Kiyoshi, E. Ichiki H. Ryu, and A. Yashima, to Sumitomo Chemical Co., Ltd. Method for directly manufacturing alkylaluminum compounds. 3,381,024, 4–30–68, Cl. 260—448.
- Tracor, Inc. : *See—*
  - Brown, Buck C. 3,381.137.
- Tracy, Alan C., to The Katridg Pak Co. Packaging machine. 3 380,226. 4–30–68, Cl. 53—138.
- Trane Co., The : *See—*
  - Butt. Alan G. 3,380,517.
  - Miner, Robert G. 3,380,262.
- Trak-Chief Mfg. Proprietary Ltd. : *See—*
  - Yard, William J. 3,380,397.
- Trbovich, Nicholas D., and W. H. Meyer; said Meyer assor., to Servotronics, Inc. Torque motor. 3,381,150, 4–30–68, Cl. 310—29.
- Trent, Robert L. : *See—*
  - Logan, Charles W., and Trent. 3,381,071.
- Trethewey, William C., to Owens-Corning Fiberglas Corp. Viscosity measuring process and apparatus. 3,380,463, 4–30–68. Cl. 137—4.
- Tri-State Oil Tool Industries, Inc. : *See—*
  - Timmons, Archie D. 3 380,528.
- Triumph Intertrade Aktiengesellschaft : *See—*
  - Hoelscher, Heintich. 3,380,454.
- Trost. Allen J. : *See—*
  - Jensen, Peter W., Coleman, and Trost. 3,381,083.
- True-Grade, Inc. : *See—*
  - Fuis, Frank, Jr., Moulton, and Green. 3,380,460.
- Trumbull, Harold E. : *See—*
  - Davis, Howard C., and Trumbull. 3,380,379.
- Trumpore, Lawrence R. Lift truck. 3,380,606, 4–30–68, Cl. 214—505.
- Tsujioka, Kenji : *See—*
  - Araki Hidejiro, and Tsujioka. 3,380,238.
- Tunnell, Charles M. : *See—*
  - Hendrix, Grover E., and Tunnel. 3,380,261.
- Turner, Earl W., to International Packers Ltd. Process for inactivating foot-and-mouth virus in meat infected therewith. 3,380,833, 4–30–68, Cl. 99—159.
- Turner, Leonard : *See—*
  - McGrath, Brian P., and Turner. 3,381,052.
- Turner, Norman C., and J. H. Cavitt, to Radio Corp. of America. High power multi-emitter transistor. 3,381,183, 4–30–68, Cl. 317—234.
- Tveten, John L. : *See—*
  - Wesselhoft, Robert D., Winegartner, Wadley, and Tveten. 3 380,954.
- UCB (Union Chimique-Chemische Bedrijven) S.A. : *See—*
  - Giurgea, Corneliu. 3,380,887.
- U.S. Plywood-Champion Papers Inc. : *See—*
  - Hartman, Seymour, and Snook. 3,380,213.
- Ucci, Pompelio A. Preparation of dyeable acrylonitrile polymer fibers using 4,4′ diaminostilbene-2,2′-disulfonic acid. 3,380,798, 4–30–68, Cl. 8—100.
- Udy, Lex L. : *See—*
  - Clay, Robert B., Cook, Udy, and Pack. 3,380,333.
- Uchida, Yoichi : *See—*
  - Tonami, Hitoshi, Uchida, and Fujii. 3,381,075.
- Uhen, James R., and B. E. Reber, to Walker Mfg. Co. Twist-on, axial flow filter element. 3,380,593, 4–30–68, Cl. 210—356.

- Uhl, Robert J., to International Telephone and Telegraph Corp. Electrical matrix with improved frame and plug structure. 3,381,179, 4–30–68, Cl. 317—101.
- Ulmer, Harold W. : *See—*
  - McEwen, Lillian A., and Ulmer. 3,381,092.
- Ulmschneider, Lawrence A. : *See—*
  - Rissberger, Arthur C., Jr., and Ulmschneider. 3,380,621.
  - Feasey, Raymond D. J., and Ulmschneider. 3,380,678.
- Umahashi, Minoru, to Kabushiki Kaisha Ricoh. Automatic copying apparatus. 3,380,365, 4–30–68, Cl. 95—75.
- Ungar, Joseph, and A. Miller. Pie and cake divider. 3,380,169, 4–30–68, Cl. 33—174.
- Unicon Systems Inc. : *See—*
  - Gelinas, Ralph J. 3,380,302.
- Union Carbide Corp. : *See—*
  - Matzner, Markus. 3,380,965.
  - Menikheim, Virginia C., and Rodriguez. 3,380,844.
  - Morehouse, Edward L. 3,381,019.
  - Peacock, Glenn S., and Joyce. 3,381,060.
  - Pouncy, Hillard W., Jr. 3,380,870.
  - Wheeler, John B., III. 3,380,878.
  - Wheeler, John B., III. 3,380,880.
  - Williamson, Frank L., and Burns. 3,380,881.
- Union Oil Co. of California : *See—*
  - Biale, Giovanni, Fenton, Olivier, and Schaeffer. 3,381,030.
- United Aircraft Corp. : *See—*
  - Beurer, Frederick C. 3,380,564.
  - Boucher, Raymond R., Maynard, and Sabo. 3,380,917.
  - Ferreira, Fernand J. 3,381,157.
  - Markowski, Stanley J. 3,380,660.
  - Markowski, Stanley J. 3,380,661.
  - Miller, Guy W. 3,380,662.
  - Whatley, Thomas A. 3,380,250.
- United States of America
  - Air Force : *See—*
    - Achramowicz, William J., and Ayer. 3,381,087.
    - De Angelis, Henry M. 3,380.853.
    - Nelson, Theodore M. 3,381,167.
    - Perry, Bernard D. 3,381,246.
    - Pitts, Stanley B. 3,381,298.
  - Army : *See—*
    - Angello, Joseph P. 3,381 201.
    - Burch, Arthur R., and Snyder. 3,380,308.
    - Creedon, John E., Schneider, and Shapiro. 3,381,148.
    - Guenter, Richard G. 3,380,386.
    - Gunderson, Dennis E. 3,381,206.
    - Hansen, Vilhelm G. 3,381,292.
    - Jablansky, Louis. 3,380,882.
    - McLeod, Willard W., Jr., and Caswell. 3,381,139.
    - Sala, Anthony, and Edelman. 3,380,508.
    - Stewart, Walter N. 3,380,297.
    - Swartz, Elmer L. 3,380,655.
    - Vaughan Lawrence G., and Kramer. 3,381,007.
    - Vocci, Frank J., and Wirth. 3,380,499.
    - Wilson, Angus F. 3,380,291.
    - Dougherty, Francis J., and Ross. 3,380,884.
    - Baldwin, John L., Jr., Reed, and Walker. 3,380,681.
    - Yamamoto, Mitsuru, and Carlin. 3,380,683.
  - Atomic Energy Commission : *See—*
    - Zane, Ronald. 3,381,234.
    - Fulwylar, Mack J. 3,380,584.
    - Van Devender, Russell R., Jr. 3,380,761.
    - Miller, Albert E. 3,380,805.
    - Kolodney, Morris. 3,380,865.
    - Koshland, Daniel E., Jr., Latham, and Horton. 3,380,893.
    - Liu, Robert S. H., and Hammond. 3,380,903.
    - Katz, Herbert, and Rothbart. 3,380,916.
  - Navy : *See—*
    - Egan, William E. 3,381,146.
- United States Borax & Chemical Corp. : *See—*
  - Barnhill, Kenneth S., Jr. 3,380,666.
- United States Lines, Inc. : *See—*
  - Bachko, Nicholas. 3,380,422.
- United States Steel Corp. : *See—*
  - Baillie, Henry M. 3,380,728.
  - Davie, William R. 3,381,028.
- Universal Oil Products Co. : *See—*
  - Hamblin, Robert J. J. 3,380,810.
- Uniroyal, Inc. : *See—*
  - O'Shea, Francis X. 3.381,026.
- University of California, the Regents of The : *See—*
  - Giannini, George R. 3,380,626.
- Upjohn Co., The : *See—*
  - Markillie, John H. 3,381,016.
  - Campbell, J. Allan, and Babcock. 3,380,886.
  - Argoudelis, Alexander D., Bannister, Hoeksema, Kagan, and Magerlein. 3,380,992.
- Urban, Michael J. : *See—*
  - Schuller, Max J., Urban, and Littau. 3,381,256.
- Urban, Robert P. Angle gauge. 3,380,165, 4–30–68, Cl. 33—75.
- Ushkow, David E. : *See—*
  - Ushkow, Meyer and D. E. 3,380,636.
- Ushkow, Meyer and D. E. Ampul stand and opener. 3,380,636, 4–30–68, Cl. 225—103.
- Usine Metallurgique Doloise S.A. : *See—*
  - Jeanrenaud, Edouard. 3,381,262.
- Usinger, Walter, to Erich Lendle & Co. Removal device for molded articles made of plastics from a molding device. 3,380,605, 4–30–68, Cl. 214—300.
- Valek, John : *See—*
  - Scaletta, Joseph A., Miller, and Valek. 3,380,282.
- Valeron Corp., The : *See—*
  - MacPetrie, John D., and Milewski. 3,380,137.
- Van der Minne, Johan L., P. H. J. Hermanie, and C. Douwes, to Shell Oil Co. Salts of certain nitrogen-containing polymers with sulfodicarboxylates and hydrocarbon compositions containing the same. 3,380,970, 4–30–68, Cl. 260—78.4.
- Van der Schee, Bernard L. A., to American Enka Corp. Apparatus for treating highly viscous material. 3,380,715, 4–30–68, Cl. 259—6.
- Van Devender, Russell R., Jr., to United States of America, Atomic Energy Commission. Quick disconnect coupling device. 3,380,761, 4–30–68, Cl. 285—34.
- Van Duuren, Hendrik C. A., to De Staat der Nederlanden ten deze Vertegenwoordigd Door de Directeur-Generaal der Posterijen, Telegrafie en Telefonie. Transposition error protection system for telegraph signals. 3,381,271, 4–30–68, Cl. 340—146.1.
- Van Dyk, Charles M. : *See—*
  - Van Lenten, Lee, and Van Dyk. 3,380,673.
- Van Lenten, Lee, and C. M. Van Dyk, to International Telephone and Telegraph Corp. Pump apparatus. 3,380,673, 4–30–68, Cl. 241—191.
- Van-Mark Products Corp. : *See—*
  - Wise, Ralph H. 3,380.280.
- Van Vlodrop, Peter H. G., to North American Philips Co., Inc. Apparatus for the remote indication of the position of a rotary shaft. 3,381,288, 4–30–68, Cl. 340—324.
- Van Vucht, Henricus A., to Stamicarbon N.V. Process for the addition of water-insoluble solid substances to crystalline polyolefines. 3,380,986, 4–30–68, Cl. 260—94.9.
- Van Wambeck, Stanley H. : *See—*
  - Frobese, Charles W., and Van Wambeck. 3,380,586.
- Vanhove, Robert, to SCM-Compagnie Generale de Telegraphie Sans Fil. Pulse duration discriminator circuit. 3,381,228, 4–30–68, Cl. 328—112.
- Vapor Corp. : *See—*
  - Daugirdas, Kristupas, Lynn, and Lowy. 3,380,110.
  - Salerno, Paul G., Smith, and Sime. 3,380,469.
- Varga, John M. J., to Carding Specialists (Canada) Ltd. Drive knock-off motions for carding machines. 3,380.125, 4–30–68, Cl. 19—.25.
- Varian Associates : *See—*
  - Schwartz, James R., and Abraham. 3,381,162.
  - La Rue, Albert D., and Symons. 3,381,163.
  - Abraham, Wayne G. 3,381,164.
- Vaudreuil, Raymond L. : *See—*
  - Flaherty, Robert J., Hallstead, Judge, Vaudreuil, Wyckoff, and Schug. 3,381,282.
- Vaughan, Lawrence G., and D. N. Kramer, to United States of America, Army. Purification of phenothiazine. 3,381,007, 4–30–68, Cl. 260—243.
- Veara, Jack R. : *See—*
  - Abell, William D., and Veara. 3,381,104.
- Veldgen, Willy, and K. Clemens, to L & C Steinmuller G.m.b.H. Apparatus for loading stud welding guns. 3,380,143, 4–30–68, Cl. 29—212.
- Velsicol Chemical Corp. : *See—*
  - Menke, John M. 3,380,942.
- Venable, Charles R., Jr., to Phillips Petroleum Co. Burner apparatus. 3,380 410, 4–30–68, Cl. 110—97.
- Vetter, Rudolf : *See—*
  - Wiedmann, Otto, Leitsmann, Juhász, and Vetter. 3,381,044.
- Victor Co. of Japan Ltd. : *See—*
  - Ohnishi, Shinji, and Nishimura. 3,380,744.
- Victory Engineering Corp. : *See—*
  - Sapoff, Meyer, Jacobs, and Froemel. 3,381,253.
- Vigilantes, The : *See—*
  - Folden, Norman C. 3,380.468.
- Vincent, Renic P., to Pan American Petroleum Corp. Directional well drilling apparatus. 3,380,543, 4–30–68, Cl. 175—73.
- Vita, Lawrence. Apparatus for controlling erosion. 3,380,253, 4–30–68, Cl. 61—3.
- Vocci, Frank J., and M. E. Wirth, to United States of America, Army. Pulsating tissue homogenizer. 3,380,499, 4–30–68, Cl. 146—68.
- Vogt, Wilhelm, P. Janssen, and H. Richtzenhain, to Dynamit Nobel Aktiengesellschaft. Epoxy resin compositions containing glycidyl ethers of hydroxymethyl-1,3-dioxolane. 3,381,053, 4–30–68, Cl. 260—830.
- Voigtlander A.G. : *See—*
  - Papke, Friedrich. 3,380.336.
- Volchenboum, Albert W. : *See—*
  - Goldberg, Herbert S., and Volchenboum. 3 380,698.
- Vollenweider, Max, and E. Remund, to Sam Vollenweider A.G. Method of and apparatus for the connection of cloth layers at their ends. 3,380,684, 4–30–68, Cl. 242—58.4.
- Vollenweider, Sam, A.G. : *See—*
  - Vollenweider, Max, and Remund. 3,380,684.
- Volpe, Rocco P. : *See—*
  - Lindemann, Martin K., and Volpe. 3,380,851.
- Volpert, Ludger : *See—*
  - Bucklisch, Ludwig, and Volpert. 3,380,344.
- Vranian, Henry, to The Chesapeake Corp. of Virginia. Selective absorption system. 3,380,914, 4–30–68, Cl. 208—188.
- Waddy, Lewis W., to The Warner & Swasey Co. Toolholder. 3,380,326, 4–30–68, Cl. 82—34.
- Wadley, Edward F. : *See—*
  - Wesselhoft, Robert D., Winegartner, Wadley, and Tveten. 3,380,954.
- Wagner, Charlotte B. : *See—*
  - Wagner, Emil J. 3,380,435.
- Wagner Electric Corp. : *See—*
  - McElwrath, Allen K., and Field. 3,380,559.
- Wagner, Emil J., deceased; C. B. Wagner, surviving spouse. Work attached paint shield. 3,380,435, 4–30–68, Cl. 118—505.

- Wagner, Frank L., and M. Grayson, to American Cyanamid Co. Corrosion inhibiting composition. 3,380,837, 4–30–68, Cl. 106—14.
- Wagner, Heinz R., to Ruegg-Naegeli & Cie Aktiengesellschaft. Critical path and project evolution review planning device. 3,380,177, 4–30–68, Cl. 35—24.
- Wainwright, Ralph, and G. V. Nash, to Qualter, Hall & Co. (Sales) Ltd. Monorail locomotive. 3,380,398, 4–30–68, Cl. 105—30.
- Waldorf Paper Products Co.: *See—*
  - Nelson, Iver L. 3,380,229.
- Walker, David D.: *See—*
  - Benjamin, Milton L., and Walker. 3,380,746.
- Walker, George B.: *See—*
  - Ericson, Kenneth R., Postol, and Walker. 3,380,948.
- Walker Mfg. Co.: *See—*
  - Uhen, James R. 3,380,593.
- Walker, Ralph E.: *See—*
  - Baldwin, John L., Jr., Reed, and Walker. 3,380,681.
- Wall, Bobby M., to Thiokol Chemical Corp. Ignition control of solid propellant rocket engines. 3,380,251, 4–30–68, Cl. 60—219.
- Wallace, David J., J. M. Straley, and M. A. Weaver, to Eastman Kodak Co. Thiazolyl azo dyestuffs. 3,380,990, 4–30–68, Cl. 260—158.
- Wallen, David L., to General Precision Systems Inc. Serrated record disc with internally generated air pressure. 3,381,-285, 4–30–68, Cl. 340—174.1.
- Walsh, James L., to International Business Machines Corp. Power amplifier utilizing cross-coupled current switches. 3,381,140, 4–30–68, Cl. 307—230.
- Walsh, Robert R., to All American Engineering Co. Automatic alarm annunciator circuits. 3,381,286, 4–30–68, Cl. 340—213.1.
- Walters, Emmett L., and J. H. Boicey, to Libbey-Owens-Ford Glass Co. Testing apparatus. 3,380,289, 4–30–68, Cl. 73—12.
- Warner & Swasey Co., The: *See—*
  - Waddy, Lewis W. 3,380,326.
- Warp, Harold, to Flex-O-Glass, Inc. Rolled sheet material. 3,380,580, 4–30–68, Cl. 206—58.
- Washburn, Robert L., to E. I. du Pont de Nemours and Co. Filament package. 3,380,577, 4–30–68, Cl. 206—46.
- Waters, James L., and J. L. Slonneger, to General Electric Corp. Motor speed responsive arrangement for controlling motor winding circuits. 3,381,197, 4–30–68, Cl. 318—221.
- Watson, Carter A., to Georgia-Pacific Corp. Decorative composition and a process for its use. 3,380,842, 4–30–68, Cl. 117—27.
- Watson, Stewart E.: *See—*
  - Jennings, Walter E., Watson, and Borough. 3,380,220.
- Waugh, Thomas D., to Syntex Corp. Production of carbinols employing cyclopentadienyl or lower alkyl substituted cyclopentadienyl grignard reagents and hydrogenation. 3,381,-017, 4–30–68, Cl. 260—297.
- Waxman, Ronald: *See—*
  - Forslund, Donald C., and Waxman. 3,381,117.
- Weatherford Oil Tool Co., Inc.: *See—*
  - Hall, Elmer D., and J. E., Jr. 3,380,534.
- Weathers, Leland C., to Sperry Rand Corp. Electromagnetic device. 3,381,181, 4–30–68, Cl. 317—155.5.
- Weathers, Leland C., to Sperry Rand Corp. Electromagnetic device. 3,381,250, 4–30–68, Cl. 335—255.
- Weaver, Max A.: *See—*
  - Dale, John I., III, Straley, and Weaver. 3,380,991.
  - Wallace, David J., Straley, and Weaver. 3,380,990.
- Webers, Vincent J., to E. I. du Pont de Nemours and Co. Process for producing images. 3,380,825, 4–30–68, Cl. 96—35.1.
- Webster Electric Co., Inc.: *See—*
  - Campbell, Richard H. 3,381,235.
- Weeks, Richard W.: *See—*
  - Quade, Edward A., and Weeks. 3,381,274.
- Weiner, Phillip J. Solid state silicon control rectifier ignition system for internal combustion engines. 3,381,172, 4–30–68, Cl. 315—212.
- Weinstein, Arnold: *See—*
  - Ellenberg, Carl H., Weinstein, Litt, and Jaroff. 3,380,490.
- Weir, Wilfred J.: *See—*
  - Mutton, Clifford A., Rossiter, and Thiessen, and Weir. 3,381,072.
- Weispfenning, Helmut, to Kohlenscheidungs - Gesellschaft, m.b.H. Beater mill having improved beater arm support. 3,380,672, 4–30–68, Cl. 241—154.
- Weiss, Kurt W., to North American Philips Co., Inc. Method of varying the concentration of impurities in a semiconductor body. 3,380,902, 4–30–68, Cl. 204—140.
- Weiss, Richard V.: *See—*
  - Fleisher, Bernard L., Katz, Stern, and Weiss. 3,381,120.
- Weissman, Bernard. Detent for an artificial tooth. 3,380,161, 4–30–68, Cl. 32—5.
- Welch, Kenneth B., to Kenro Corp. Electrically heated container. 3,381,115, 4–30–68, Cl. 219—441.
- Welding Engineers, Inc.: *See—*
  - Mutton, Clifford A., Rossiter, Thiessen, and Weir. 3,381,-072.
- Welles, Ernest: *See—*
  - Edelstein, Sidney M., and Welles. 3,380,927.
- Wendt, Georg: *See—*
  - Arnaud, Jacques, and Wendt. 3,381,155.
- Wenger, Harvey M., to Big Dutchman, Inc. Hydraulic control reversing valve. 3,380,477, 4–30–68, Cl. 137—624.14.
- Werdelmann, Bruno, K.-H. Worms, B. Blaser, deceased, I. Blaser, administratrix, to Henkel & Cie. G.m.b.H. Surface-active products. 3,380,924, 4–30–68, Cl. 252—117.
- Werstlein, Peter F. Trap for catching crabs. 3,380,187, 4–30–68, Cl. 43—100.
- Wesselhoft, Robert D., E. C. Winegartner, E. F. Wadley, and J. L. Tveten, to Esso Research and Engineering Co. Condensed xylene - formaldehyde - phenol plywood adhesive 3,380,954, 4–30–68, Cl. 260—38.
- Westerman, Robert D. Precision intra-oral instrument. 3,380,-163, 4–30–68, Cl. 32—67.
- Western Electric Co., Inc.: *See—*
  - McGraw, George P., Jr. 3,380,275.
  - Wydro, Richard A., Sr. 3,380,136.
- Western Printing Machinery Co.: *See—*
  - Musgrave, Ray D. 3,380,381.
- Westinghouse Air Brake Co.: *See—*
  - Kemper, James M. 3,380,545.
- Westinghouse Electric Corp.: *See—*
  - Arnold, Wayne E. 3,381,289.
  - Cochardt, Alexander W. 3,380,920.
  - Gamel, Gayne D., and Findley. 3,381,247.
  - Gerard, William A. 3,381,168.
  - Hoffmann, Arthur H. 3,381,195.
  - Howell, Homer R., Lamaster and Roeder. 3,381,205.
  - Husner, John D., and Kisinko. 3,380,153.
  - Kessler, Michael H. 3,380,615.
  - Kienast, Peter F. 3,381,171.
  - Lee, Paul R. 3,381,100.
  - Loose, Robert A. 3,380,889.
  - Rice, Leslie R., and Murray. 3,381,213.
  - Rockefeller, George D., Jr. 3,381,178.
  - Stelmak, John P. 3,381,080.
  - Strom, Albert P. 3,381,102.
  - Strom, Albert P., Cromer, and Browne. 3,381,101.
  - Thomas, William R. 3,380,963.
- Westland Aircraft Ltd.: *See—*
  - Jones, Richard S. 3,380,550.
- Weston, Clement W., Jr., to Corinth Machinery Co., Inc. Digital electronic setworks control for sawmills. 3,380,495, 4–30–68, Cl. 143—120.
- Westshore Products, Inc.: *See—*
  - Ceraldi, Bernard A. 3,381,174.
- Whatley, Thomas A., to United Aircraft Corp. Bi-propellant rocket system. 3,380,250, 4–30–68, Cl. 60—204.
- Wheeler, John B., III, to Union Carbide Corp. Thermoplastic matrix. 3,380,878, 4–30–68, Cl. 161—184.
- Wheeler, John B., III, to Union Carbide Corp. Thermoplastic matrix. 3,380,880, 4–30–68, Cl. 161—184.
- Wheeler, Lionel H., to M. Feigenbaum. Color television camera optical system. 3,381,084, 4–30–68, Cl. 178—5.4.
- Whitaker, Albert H.: *See—*
  - Stone, William R., and Whitaker. 3,380,635.
- White, Richard N.: *See—*
  - Segil, Arthur W., and White. 3,380,552.
- Whitehead, Herbert A., to Ruston & Hornsby Ltd. Lubricating means for oscillatory bearings. 3,380,556, 4–30–68, Cl. 184—6.
- Whitesel, James W.: *See—*
  - Adams, Paul R., and Whitesel. 3,380,568.
- Whiting, Mark C., to Ethyl Corp. Preparation of aromatic group VIB metal tricarbonyls. 3,381,023, 4–30–68, Cl. 260—429.
- Whitman, Philip C., and T. R. Selig, to General Electric Co. Double heat sink semiconductor diode with glass envelope. 3,381,185, 4–30–68, Cl. 317—234.
- Whitmoyer-Reed Ltd.: *See—*
  - Beach, Martin D. 3,380,923.
- Whittaker Corp.: *See—*
  - Gosnell, Rex B. 3,380,406.
- Wickham, Donald G., to Ampex Corp. Preparation of ferromagnetic $NiMnO_3$. 3,380,919, 4–30–68, Cl. 252—62.51.
- Widner, Harold A., to Fabricators Inc. Lighting unit. 3,381,-118, 4–30–68, Cl. 240—3.
- Wiedmann, Otto, R. Leitsmann, J. Juhász, and R. Vetter, to Chemische Fabrik von Heyden Aktiengesellschaft. Process for the production of substitution-fluorinated hydrocarbons from chlorinated hydrocarbons. 3,381,044, 4–30–68, Cl. 260—653.7.
- Wienert, Günther H. R.: *See—*
  - Härtl, Ernst E., Dudszus, Franz, Rethfeldt, Wienert, Müke, Hauptmann, and Bolze. 3,380,114.
- Wieselmann, Egon A.: *See—*
  - Abel, John F., Jr., and Wieselmann. 3,380,167.
- Wiesner, Richard: *See—*
  - Siebertz, Karl, and Wiesner. 3,380,154.
- Wiggins, Alpha M., and J. F. Wood, to Electro-Voice, Inc. Multichannel piezoelectric transducer. 3,381,149, 4–30–68, Cl. 310—8.6.
- Wight, Reed J.: *See—*
  - Zebarth, Ralph S., and Wight. 3,380,113.
- Wilcock, Donald F., to General Electric Co. Hydrostatic bearing. 3,380,788, 4–30–68, Cl. 308—9.
- Wilcox, Gary L., to Textron, Inc. Writing implement. 3,380,-152, 4–30–68, Cl. 29—527.
- Wilens, Seymour, M. Sievers, and L. Achatz, to The Staver Co., Inc. Apparatus for applying can leads. 3,380,142, 4–30–68, Cl. 29—203.
- Wilkinson, Alvin H., to Auto Crane Co. Two-speed drive. 3,380,316, 4–30–68, Cl. 74—424.8.
- Wilkinson, William H., to Mobil Oil Corp. Clutch. 3,380,565, 4–30–68, Cl. 192—58.
- Willcox & Gibbs Sewing Machine Co.: *See—*
  - Du Buis, Edwin O., and Cucksey. 3,380,416.
  - Tamburro, Francis P. 3,380,417.
- Williams, Robert E., and J. H. Bayless, to Esso Production Research Co. Separation of cobalt from nickel. 3,380,801, 4–30–68 Cl. 23—50.

- Williams, Robert F., Jr., and L. H. Pancoast, Jr., to Eastman Kodak Co. Plasticized cellulose derivatives. 3,380,997, 4–30–68, Cl. 260—225.
- Williams, Winston F., to Collins Radio Co. Drive mechanism for a mechanical counter. 3,380,654, 4–30–68, Cl. 235—143.
- Williamson, Andrew J., and W. P. Chesnutt, Jr. Attachment for circular knitting machine. 3,380,266, 4–30–68, Cl. 66—150.
- Williamson, David T. N., D. W. B. Muir, and B. F. Chapman, to Molins Machine Co. Ltd. Printing apparatus. 3,380,436, 4–30–68, Cl. 118—637.
- Williamson, David T. N., and D. W. B. Muir, to Molins Organisation Ltd. Detectors for electrically conductive particles. 3,381,217, 4–30–68, Cl. 324—41.
- Williamson, Frank L., and R. J. Burns, to Union Carbide Corp. Curable compositions comprising a polyepoxide and a glycol polyamine. 3,380,881, 4–30–68, Cl. 161—185.
- Willis, John D. Vehicle conveying means. 3,380,396, 4–30–68, Cl. 104—172.
- Wilson, Angus F., to United States of America, Army. Measurement of elastic behavior at low temperatures. 3,380,291, 4–30–68, Cl. 73—15.6.
- Wilson, David L. High rise mobile home structure. 3,380,207, 4–30–68, Cl. 52—176.
- Wilson, Frank R., and J. H. Stanley, to Parker-Hannifin Corp. Tube bending tool. 3,380,283, 4–30–68, Cl. 72—387.
- Wilson, Frank R., to Parker-Hannifin Corp. Swedging tool. 3,380,285, 4–30–68, Cl. 72—477.
- Wilson, Henry A. Collapsible container. 3,380,632, 4–30–68, Cl. 222—94.
- Wilson, Henry A. Surfboard. 3,380,425, 4–30–68, Cl. 114—235.
- Wilson, John W., to Superflexit Ltd. End fitting for flexible conduits and the like. 3,380,764, 4–30–68, Cl. 285—249.
- Wilson, Larry E.: *See—*
  - Hazelet, Gerald L., and Wilson. 3,380,385.
- Wilson, Ronald M., to William M. Wilson's Sons, Inc. Two-key multiple totalizer. 3,380,630, 4–30–68, Cl. 222—26.
- Wilson's, William M., Sons, Inc.: *See—*
  - Wilson, Ronald M. 3,380,630.
- Winchester, William E. Sealing device for vehicle speedometers. 3,380,267, 4–30–68, Cl. 70—232.
- Windholz, Thomas B.: *See—*
  - Patchett, Arthur A., and Windholz. 3,381,003.
- Windmoller & Holscher: *See—*
  - Stork, Willi. 3,380,587.
- Winegartner, Edgar C.: *See—*
  - Wesselhoft, Robert D., Winegartner, Wadley, and Tveten. 3,380,954.
- Winkler, Alfred, to Agfa Aktiengesellscsaft. Photographic camera with presser plate means. 3,380,361, 4–30–68, Cl. 95—31.
- Winkler, Alfred, H. Ernst, and D. Engelsmann, to Agfa-Gevaert Aktiengesellschaft. Camera housing. 3,380,362, 4–30–68, Cl. 95—31.
- Winkler, Richard: *See—*
  - Stemmler, Kurt. 3,380,327.
- Winston, Emanuel A. Cutting device. 3,380,159, 4–30–68, Cl. 30—293.
- Wirth, Milton E.: *See—*
  - Vocci, Frank J., and Wirth. 3,380,499.
- Wirth, Siegbert M.: *See—*
  - Deary, Louis, and Wirth. 3,380,826.
- Wise, Ralph H., to Van-Mark Products Corp. Sheet metal bending brake. 3,380,280, 4–30–68, Cl. 72—319.
- Witte, Bernard G., to Newaygo Engineering Co. Foundry dump mechanism. 3,380,601, 4–30–68, Cl. 214—46.22.
- Wolf, Philip C. Mass flow indicating means including an interferometer system. 3,381,134, 4–30–68, Cl. 250—218.
- Wolfensberger, Paul. Profile rail and corner connecting piece. 3,380,768, 4–30–68, Cl. 287—189.36.
- Wood, Carl R., and J. M. McCown, to Monsanto Co. Tow tie-in method. 3,380,135, 4–30–68, Cl. 28—72.
- Wood, John F.: *See—*
  - Wiggins, Alpha M., and Wood. 3,381,149.
- Woodward, Myrneth L.: *See—*
  - Brock, Eugene W., Woodward, and Miller. 3,381,169.
- Woodworth, N. A., Co.: *See—*
  - Hohwart, George, and Toth. 3,380,747.
- Worms, Karl-Heinz: *See—*
  - Werdelmann, Bruno, Worms, and Blaser. 3,380,924.
- Wrench, Edwin H., E. C. Lindkvist, B. A. Mandoza, R. A. Close, W. E. Gibb, and J. Ford, to General Dynamics Corp. Satellite spin dispenser. 3,380,687, 4–30–68, Cl. 244—1.
- Wuck, Christine. Apartment or house with centralized heating system and sauna room. 3,381,108, 4–30–68, Cl. 219—213.
- Wurm, Joseph G., to European Atomic Energy Community-Euratom. Apparatus for the electrolytic refining of nuclear metals. 3,380,907, 4–30–68, Cl. 204—247.
- Wyckoff, John W.: *See—*
  - Flaherty, Robert J., Hallstead, Judge, Vaudreuil, Wyckoff, and Schug. 3,381,282.
- Wydro, Richard A., Sr., to Western Electric Co., Inc. Method of making capacitors. 3,380,136, 4–30–68, Cl. 29—25.42.
- Wyman, Floyd H., to Taylor Wyman Co. Moving-leg control for internal spring suspension hobbyhorse device. 3,380,736, 4–30–68, Cl. 272—53.2.
- Wyman, Taylor, Co.: *See—*
  - Wyman, Floyd H. 3,380,736.
- Xerox Corp.: *See—*
  - Davis, Howard C., and Trumbull. 3,380,379.
  - Draugelis, Vaidevutis C. 3,380,733.
  - Eichorn, Roger H. 3,380,355.
  - Swyler, Karl J. 3,380,437.
- Yablonski, Leon: *See—*
  - Cox, Bradley G., Yablonski, and Loomans. 3,380,116.
- Yale, Harry L., to E. R. Squibb & Sons, Inc. Process for preparing halogenated propanes. 3,381,042, 4–30–68, Cl. 260—653.
- Yamaguchi, Taro, and F. Shido, to Onoda Cement Co., Ltd. Method of making pseudowollastonite clinker with the rotary kiln. 3,381,064, 4–30–68, Cl. 263—53.
- Yamamoto, Hiroshi: *See—*
  - Ohmae, Tsutomu, Matsushiro, and Yamamoto. 3,381,037.
- Yamamoto, Mitsuru, and T. F. Carlin, to United States of America, Army. Tape transport apparatus. 3,380,683, 4–30–68, Cl. 242—55.17.
- Yamasaki, Akira A.: *See—*
  - Miner, Warren M., and Yamasaki. 3,380,743.
- Yanmar Diesel Engine Co., Ltd.: *See—*
  - Tado, Hiroshi, and Ota. 3,380,443.
- Yanow, Harold H. Cargo handling apparatus. 3,380,602, 4–30–68, Cl. 214—95.
- Yard, William J., to Australian Railway Equipment Supply Co., Proprietary Ltd., and Trak-Chief Mfg. Proprietary Ltd. Convertible rail-highway locomotive. 3,380,397, 4–30–68, Cl. 105—26.
- Yashima, Akira: *See—*
  - Toyoshima, Kiyoshi, Ichiki, Ryu, and Yashima. 3,381,024.
- Yingst, Parke O., and T. I. Sharps, to Northern Gas Products Co. Process of transporting a slurry in a pipeline. 3,380,-784, 4–30–68, Cl. 302—66.
- Yocum, Ralph W.: *See—*
  - Deemie, Gerald W., Sage, Komsa, Rakus, and Yocum. 3,380,641.
- Yonan, John. Wire twisting tool. 3,380,486, 4–30–68, Cl. 140—118.
- Yongman, Derek H., W. C. H. Bridger, and J. Gagg, to The Molins Organisation Ltd. Packing or wrapping machine of the mould wheel type. 3,380,227, 4–30–68, Cl. 53—171.
- Youhouse, Joseph. Electric cigar lighter. 3,381,109, 4–30–68, Cl. 219—265.
- Youmans, Albert P., to Signetics Corp. Thin film resistor. 3,381,255, 4–30–68, Cl. 338—308.
- Young, Homer F., to Shell Oil Co. Method of molding insulation about a metal pipe. 3,380,258, 4–30–68, Cl. 61—72.2.
- Young, William E.: *See—*
  - Pinto, Patrick J. 3,380,579.
- Younkin, James R., to Thurman & Younkin, Inc. Aircraft switching console with magnetic detent. 3,381,249, 4–30–68, Cl. 335—120.
- Zaayenga, Ralph: *See—*
  - Boyer, Jackson S., and Zaayenga. 3,380,882.
- Zagyval, Istvan: *See—*
  - Galgoczi, Bela, Demeter, Zagyval, Soltesz, Sommer, Hercsel, and Raab. 3,380,947.
- Zahir, Sheik A.-C., to Ciba Ltd. Cyclic diphosphono-carboxylic amides. 3,381,062, 4–30–68, Cl. 260—927.
- Zahir, Sheik A.-C., to Ciba Ltd. Cyclic phosphono-carboxylic amides. 3,381,063, 4–30–68, Cl. 260—937.
- Zane, Ronald, to United States of America, Atomic Energy Commission. Push-pull emitter follower circuit. 3,381,234, 4–30–68, Cl. 330—13.
- Zaslowsky, Joel A.: *See—*
  - Clark, Benjamin F., and Zaslowsky. 3,381,036.
- Zastrow, Thomas S., to Remmele Engineering, Inc. Supporting fixture for foam-filled articles. 3,380,703, 4–30–68, Cl. 249—172.
- Zavod, Normal: *See—*
  - Petrikov, Victor G. 3,380,721.
- Zbikowski, Theodore H.: *See—*
  - Pauly, Ronald R., and Zbikowski. 3,380,696.
- Zbuchalski, Joseph A.: *See—*
  - Prapis, Frank, and Zbuchalski. 3,381,211.
- Zebarth, Ralph, Inc.: *See—*
  - Zebarth, Ralph S., and Wight. 3,380,113.
- Zebarth, Ralph S., and R. J. Wight, to Ralph Zebarth Inc. Poultry shackle unloading device. 3,380,113, 4–30–68, Cl. 17—11.
- Zellstoffabrik Waldhof: *See—*
  - Bergmann, Karl H., and Schadowski. 3,380,222.
- Zellweger, Ltd.: *See—*
  - Meierhofer, Hugo. 3,380,133.
- Zenitz, Bernard L., and A. R. Surrey, to Sterling Drug Inc. Primary, secondary, and tertiary-(1-piperidyl)-lower-alkylamines. 3,381,012, 4–30–68, Cl. 260—293.
- Ziegler, Mandell S.: *See—*
  - Calkins, William H., Squire, and Ziegler. 3,380,980.
- Zierick, Ambrose E. Hydraulic super-charged variable transmission. 3,380,320, 4–30–68, Cl. 74—794.
- Zimmerman, Robert H.: *See—*
  - Hetke, Adolf, and Zimmerman. 3,380,820.
- Zisler, Siegfried, and G. Dubost, to CSF-Compagnie Generale de Telegraphie Sans Fil. Wide-band goniometer system. 3,381,297, 4–30–68, Cl. 343—113.
- Zukowski, Edward, Z. Eckstein, and W. Drzewinski. Methods of producing erythromycin esters. 3,380,993, 4–30–68, Cl. 260—210.
- Zuleeg, Rainer, to Hughes Aircraft Co. High-frequency field-effect triode device. 3,381,187, 4–30–68, Cl. 317—235.
- Zuleeg, Rainer, and V. O. Hinkle, Jr., to Hughes Aircraft Co. Planar multi-channel field-effect triode. 3,381,188, 4–30–68, Cl. 317—235.
- Zuleeg, Rainer: *See—*
  - Hinkle, Verda O., Jr., and Zuleeg. 3,381,189.
- Zysk, Stephen, and T. E. Borg, to General Electric Co. Remote station for oceanographic data sensing. 3,380,304, 4–30–68, Cl. 73—342.

CLASSIFICATION OF PATENTS

ISSUED APRIL 30, 1968

NOTE.—First number, class; second number, subclass; third number, patent number

2– 8 : 3,380,073
93 : 3,380,074
126 : 3,380,075
207 : 3,380,076
4– 67 : 3,380,077
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3,380,079
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7– 14.2 : 3,380,089
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116.2 : 3,380,799
9– 6 : 3,380,090
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12–142 : 3,380,092
13– 6 : 3,381,078
13 : 3,381,079
15– 23 : 3,380,093
93 : 3,380,094
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257.06: 3,380,100
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3,380,104
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3,380,119
3,380,120
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45 : 3,380,124
19– .25: 3,380,125
267 : 3,380,126
23– 2 : 3,380,800
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470.1 : 3,380,150
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30– 43.92: 3,380,157
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32– 5 : 3,380,161
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33– 42 : 3,380,164
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174 : 3,380,169
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190 : 3,380,173
34– 26 : 3,380,174
115 : 3,380,175
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24 : 3,380,177
36– 2.5 : 3,380,178
37– 58 : 3,380,179
105 : 3,380,180
40–312 : 3,380,181
42– 75 : 3,380,182
3,380,183
43– 26.2 : 3,380,184
42.11: 3,380,185
56 : 3,380,186
100 : 3,380,187
44– 57 : 3,380,815
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80 : 3,380,189
47– 58 : 3,380,190
49– 49 : 3,380,191
62 : 3,380,192
462 : 3,380,193
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9 : 3,380,196
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364 : 3,380,202
52– 81 : 3,380,203
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53– 24 : 3,380,220
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88 : 3,380,224
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138 : 3,380,226
171 : 3,380,227
315 : 3,380,228
375 : 3,380,229
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56– 26.5 : 3,380,231
56– 34 : 3,380,232
119 : 3,380,233
327 : 3,380,234
3,380,237
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58.83: 3,380,240
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33 : 3,380,818
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150 : 3,380,266
70–232 : 3,380,267
363 : 3,380,268
72– 4 : 3,380,269
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74–794 : 3,380,320
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64 : 3,380,322
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83–100 : 3,380,327
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169 : 3,380,329
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84–484 : 3,380,332
86– 20 : 3,380,333
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37 : 3,380,370
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99– 7 : 3,380,832
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278 : 3,380,373
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64 : 3,380,383
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49 : 3,380,388
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113 : 3,380,390
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103–271 : 3,380,393
104– 8 : 3,380,394
12 : 3,380,395
172 : 3,380,396
105– 26 : 3,380,397
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137– 3 : 3,380,462
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101.19: 3,380,468
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360 : 3,380,472
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614.05: 3,380,476
624.14: 3,380,477
625.41: 3,380,478
627.5 : 3,380,479
138– 30 : 3,380,480
118 : 3,380,481
139–122 : 3,380,482
263 : 3,380,483
140– 1 : 3,380,484
93.4 : 3,380,485
118 : 3,380,486
149 : 3,380,487
141– 6 : 3,380,488
27 : 3,380,489
167 : 3,380,490
209 : 3,380,491
143– 6 : 3,380,492
32 : 3,380,493
38 : 3,380,494
120 : 3,380,495
135 : 3,380,496
140 : 3,380,497
144– 69 : 3,380,498
146– 68 : 3,380,499
78 : 3,380,500
107 : 3,380,501
123 : 3,380,502
189 : 3,380,503
148– 6.15: 3,380,859
.2 : 3,380,858
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12.3 : 3,380,861
23 : 3,380,862
150– 52 : 3,380,504
151– 41 : 3,380,505
156– 12 : 3,380,863
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229 : 3,380,868
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160– 40 : 3,380,506
327 : 3,380,507
161– 43 : 3,380,875
162 : 3,380,876
170 : 3,380,877
184 : 3,380,878
3,380,879
3,380,880
185 : 3,380,881
234 : 3,380,882
162– 19 : 3,380,883
164– 42 : 3,380,508
62 : 3,380,509
108 : 3,380,510
155 : 3,380,511
341 : 3,380,512
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166– .5 : 3,380,519
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166– 9 : 3,380,524
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11 : 3,380,527
14 : 3,380,528
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46 : 3,380,532
88 : 3,380,533
173 : 3,380,534
167– 39 : 3,380,884
53.1 : 3,380,885
65 : 3,380,886
3,380,887
84.5 : 3,380,888
170–160.2 : 3,380,535
.23: 3,380,536
172–445 : 3,380,537
701 : 3,380,538
173– 93.5 : 3,380,539
174– 52 : 3,381,080
68.5 : 3,381,081
93 : 3,381,082
175– 4.55: 3,380,540
19 : 3,380,541
72 : 3,380,542
73 : 3,380,543
289 : 3,380,544
176– 22 : 3,380,889
78 : 3,380,890
178– 5.2 : 3,381,083
.4 : 3,381,084
6.7 : 3,381,085
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179– 1 : 3,381,091
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15.55: 3,381,093
18 : 3,381,094
27 : 3,381,095
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100.2 : 3,381,097
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180– 2 : 3,380,545
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33 : 3,380,552
56 : 3,380,553
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188– 1 : 3,380,557
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192– 8 : 3,380,562
44 : 3,380,563
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194– 84 : 3,380,567
195– 31 : 3,380,891
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68 : 3,380,893
197– 20 : 3,380,568
3,380,569
198– 33 : 3,380,570
168 : 3,380,571
220 : 3,380,572
200– 38 : 3,381,099
61.27: 3,380,753
138 : 3,381,100
148 : 3,381,101
3,381,102
156 : 3,381,103
157 : 3,381,104
164 : 3,381,105
168 : 3,381,106
202–169 : 3,380,894
176 : 3,380,895
203– 77 : 3,380,896
204– 1 : 3,380,897
44 : 3,380,898
59 : 3,380,899
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140 : 3,380,902
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164 : 3,380,904
195 : 3,380,905
220 : 3,380,906
247 : 3,380,907
290 : 3,380,908
206– 16 : 3,380,573
41 : 3,380,576
45.14: 3,380,574
.34: 3,380,575

206– 46 : 3,380,577
56 : 3,380,578
57 : 3,380,579
58 : 3,380,580
59 : 3,380,581
3,380,582
80 : 3,380,583
208– 48 : 3,380,909
58 : 3,380,910
74 : 3,380,911
86 : 3,380,912
187 : 3,380,913
188 : 3,380,914
284 : 3,380,915
209– 3 : 3,380,584
37 : 3,380,585
74 : 3,380,586
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210– 30 : 3,380,916
134 : 3,380,590
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213 : 3,381,108
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378 : 3,381,113
385 : 3,381,114
441 : 3,381,115
470 : 3,381,116
220– 1 : 3,380,611
3.6 : 3,380,612
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93 : 3,380,624
97 : 3,380,625
221–200 : 3,380,626
224 : 3,380,627
222– 1 : 3,380,628
26 : 3,380,629
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94 : 3,380,632
96 : 3,380,631
137 : 3,380,633
223–116 : 3,380,634
224– 5 : 3,380,635
225–103 : 3,380,636
226– 20 : 3,380,637
181 : 3,380,638
227– 4 : 3,380,639
131 : 3,380,640
228– 2 : 3,380,641
229– 15 : 3,380,642
40 : 3,380,643
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57 : 3,380,646
71 : 3,380,648
230–102 : 3,380,649
114 : 3,380,650
178 : 3,380,651
234–117 : 3,380,652
235– 1 : 3,380,653
143 : 3,380,654
164 : 3,381,117
201 : 3,380,655
236– 12 : 3,380,657
239–130 : 3,380,658
205 : 3,380,659
265.27: 3,380,660
.29: 3,380,661
.37: 3,380,662
.43: 3,380,663
458 : 3,380,664
240– 3 : 3,381,118

240– 4.2 : 3,381,119
3,381,120
6 : 3,381,121
.4 : 3,381,122
11.4 : 3,381,125
78 : 3,381,123
3,381,124
3,381,126
241– 5 : 3,380,665
20 : 3,380,666
30 : 3,380,667
38 : 3,380,668
43 : 3,380,669
91 : 3,380,670
98 : 3,380,671
154 : 3,380,672
191 : 3,380,673
291 : 3,380,674
242– 7 : 3,380,675
19 : 3,380,676
35.5 : 3,380,677
55.01: 3,380,678
.11: 3,380,679
.12: 3,380,680
3,380,681
3,380,682
.17: 3,380,683
58.4 : 3,380,684
65 : 3,380,685
75.2 : 3,380,686
244– 1 : 3,380,687
17.11: 3,380,688
39 : 3,380,689
114 : 3,380,690
118 : 3,380,691
151 : 3,380,692
248– 63 : 3,380,693
118 : 3,380,694
119 : 3,380,695
188.7 : 3,380,696
216 : 3,380,697
229 : 3,380,698
309 : 3,380,699
399 : 3,380,700
459 : 3,380,701
249– 71 : 3,380,702
172 : 3,380,703
250– 65 : 3,381,127
66 : 3,381,128
71 : 3,381,129
.5 : 3,381,130
83.1 : 3,381,131
.3 : 3,381,132
203 : 3,381,133
218 : 3,381,134
3,381,135
220 : 3,381,136
251– 89 : 3,380,704
3,380,705
148 : 3,380,706
3,380,707
172 : 3,380,708
3,380,709
266 : 3,380,710
252– 25 : 3,380,917
32.7 : 3,380,928
51.5 : 3,380,918
62.51: 3,380,919
.63: 3,380,920
95 : 3,380,921
99 : 3,380,922
106 : 3,380,923
117 : 3,380,924
161 : 3,380,925
301.4 : 3,380,926
308 : 3,380,927
408 : 3,380,929
429 : 3,380,930
432 : 3,380,931
437 : 3,380,932
455 : 3,380,933
462 : 3,380,934
512 : 3,380,935
516 : 3,380,936
253– 76 : 3,380,711
254–167 : 3,380,712
3,380,713
172 : 3,380,714
259– 6 : 3,380,715
9 : 3,380,716
154 : 3,380,717
260– 2 : 3,380,937
4 : 3,380,938
9 : 3,380,939
15 : 3,380,940
17.4 : 3,380,941
22 : 3,380,942
28.5 : 3,380,944
29.2 : 3,380,943
.6 : 3,380,945
3,380,946
3,380,947
30.4 : 3,380,948
3,380,949
31.2 : 3,380,950
33.6 : 3,380,951

260– 33.8 : 3,380,952
34.2 : 3,380,953
38 : 3,380,954
40 : 3,380,955
41 : 3,380,956
3,380,957
.5 : 3,380,958
45.8 : 3,380,959
.85: 3,380,962
.9 : 3,380,961
47 : 3,380,963
3,380,964
3,380,965
67 : 3,380,966
77.5 : 3,380,967
78 : 3,380,968
3,380,969
.4 : 3,380,970
.5 : 3,380,971
3,380,972
79.5 : 3,380,973
80.72: 3,380,975
.8 : 3,380,974
85.5 : 3,380,976
87.5 : 3,380,977
88.2 : 3,380,978
.7 : 3,380,979
89.5 : 3,380,980
93.5 : 3,380,983
.7 : 3,380,981
3,380,982
94.2 : 3,380,984
.9 : 3,380,985
3,380,986
141 : 3,380,987
142 : 3,380,988
145 : 3,380,989
158 : 3,380,990
3,380,991
210 : 3,380,992
3,380,993
3,380,994
211 : 3,380,995
.5 : 3,380,996
225 : 3,380,997
226 : 3,380,998
234 : 3,380,999
239 : 3,381,000
.1 : 3,381,001
.55: 3,381,002
3,381,003
3,381,004
240 : 3,381,005
3,381,006
243 : 3,381,007
248 : 3,381,008
268 : 3,381,009
285 : 3,381,010
290 : 3,381,011
293 : 3,381,012
294.7 : 3,381,013
.9 : 3,381,014
295 : 3,381,015
296 : 3,381,016
297 : 3,381,017
330.5 : 3,381,018
340.9 : 3,381,019
396 : 3,381,020
397.2 : 3,381,021
404.8 : 3,381,022
429 : 3,381,023
448 : 3,381,024
453 : 3,381,025
455 : 3,381,026
483 : 3,381,027
485 : 3,381,028
488 : 3,381,029
497 : 3,381,030
518 : 3,381,031
521 : 3,381,032
534 : 3,381,033
557 : 3,381,034
586 : 3,381,035
601 : 3,381,036
604 : 3,381,037
611 : 3,381,038
3,381,039
633 : 3,381,040
653 : 3,381,041
3,381,042
.1 : 3,381,043
.7 : 3,381,044
666 : 3,381,045
3,381,046
3,381,047
.5 : 3,380,960
668 : 3,381,048
671 : 3,381,049
3,381,050
679 : 3,381,051
683.2 : 3,381,052
830 : 3,381,053
839 : 3,381,054
848 : 3,381,055
859 : 3,381,056
860 : 3,381,057

260–860 : 3,381,058
880 : 3,381,059
897 : 3,381,060
927 : 3,381,061
3,381,062
937 : 3,381,063
261–115 : 3,380,719
263– 5 : 3,380,720
6 : 3,380,721
3,380,722
19 : 3,380,723
53 : 3,381,064
264– 1 : 3,380,718
3 : 3,381,065
71 : 3,381,066
73 : 3,381,067
89 : 3,381,068
91 : 3,381,069
122 : 3,381,070
135 : 3,381,071
148 : 3,381,072
154 : 3,381,073
171 : 3,381,074
193 : 3,381,075
321 : 3,381,076
3,381,077
266– 4 : 3,380,724
6 : 3,380,725
13 : 3,380,726
34 : 3,380,727
35 : 3,380,728
267– 64 : 3,380,729
269– 25 : 3,380,730
271– 20 : 3,380,731
44 : 3,380,732
51 : 3,380,733
76 : 3,380,734
272– 33 : 3,380,735
53.2 : 3,380,736
72 : 3,380,737
273– 26 : 3,380,738
43 : 3,380,739
274– 2 : 3,380,740
10 : 3,380,741
3,380,742
13 : 3,380,743
23 : 3,380,744
277–152 : 3,380,745
279– 91 : 3,380,746
106 : 3,380,747
280– 6 : 3,380,748
11.35: 3,380,749
3,380,750
25 : 3,380,751
43 : 3,380,752
96.2 : 3,380,754
207 : 3,380,755
289 : 3,380,756
406 : 3,380,757
425 : 3,380,758
474 : 3,380,759
285– 32 : 3,380,760
34 : 3,380,761
53 : 3,380,762
110 : 3,380,763
249 : 3,380,764
331 : 3,380,765
287– 52.03: 3,380,766
99 : 3,380,767
189.36: 3,380,768
3,380,769
292– 64 : 3,380,647
175 : 3,380,770
201 : 3,380,771
294– 54 : 3,380,772
296– 28 : 3,380,773
102 : 3,380,774
297–385 : 3,380,775
389 : 3,380,776
440 : 3,380,777
451 : 3,380,778
301– 38 : 3,380,779
302– 26 : 3,380,780
31 : 3,380,781
51 : 3,380,782
64 : 3,380,783
66 : 3,380,784
303– 21 : 3,380,785
306– 1.5 : 3,380,786
307– 41 : 3,381,137
88 : 3,381,138
106 : 3,381,139
230 : 3,381,140
235 : 3,381,141
3,381,142
247 : 3,381,143
254 : 3,381,144
297 : 3,381,145
305 : 3,381,146
311 : 3,381,147
308– 1 : 3,380,787
9 : 3,380,788
36.1 : 3,380,791
78 : 3,380,789
234 : 3,380,790
310– 4 : 3,381,148

310– 8.6 : 3,381,149
29 : 3,381,150
49 : 3,381,151
93 : 3,381,152
3,381,153
213 : 3,381,154
313– 82 : 3,381,155
3,381,156
348 : 3,381,157
314–136 : 3,381,158
315– 3.5 : 3,381,159
5.38: 3,381,162
.39: 3,381,163
.48: 3,381,164
14 : 3,381,160
27 : 3,381,161
3,381,165
39 : 3,381,166
3,381,167
.75: 3,381,168
83 : 3,381,169
3,381,170
176 : 3,381,171
212 : 3,381,172
317– 2 : 3,381,173
3,381,174
11 : 3,381,175
22 : 3,381,176
3,381,177
27 : 3,381,178
101 : 3,381,179
148.5 : 3,381,180
155.5 : 3,381,181
234 : 3,381,182
3,381,183
3,381,184
3,381,185
235 : 3,381,186
3,381,187
3,381,188
3,381,189
246 : 3,381,190
318– 23 : 3,381,191
138 : 3,381,192
3,381,193
145 : 3,381,194
174 : 3,381,195
176 : 3,381,196
221 : 3,381,197
229 : 3,381,198
327 : 3,381,199
332 : 3,381,200
321– 2 : 3,381,201
3,381,202
8 : 3,381,203
15 : 3,381,204
18 : 3,381,205
69 : 3,381,207
3,381,208
322– 39 : 3,381,209
100 : 3,381,210
323– 9 : 3,381,211
21 : 3,381,212
43.5 : 3,381,213
324– .5 : 3,381,214
6 : 3,381,215
34 : 3,381,216
41 : 3,381,217
57 : 3,381,218
62 : 3,381,206
70 : 3,381,219
82 : 3,381,220
158 : 3,381,221
325– 25 : 3,381,222
34 : 3,381,223
342 : 3,381,224
445 : 3,381,225
328– 3 : 3,381,226
41 : 3,381,227
112 : 3,381,228
127 : 3,381,229
3,381,230
151 : 3,381,231
206 : 3,381,232
330– 4.5 : 3,381,233
18 : 3,381,234
40 : 3,381,235
58 : 3,381,236
66 : 3,381,237
165 : 3,381,238
331– 56 : 3,381,239
94.5 : 3,381,240
332– 7.51: 3,381,242
14 : 3,381,241
45 : 3,381,243
333– 10 : 3,381,244
20 : 3,381,245
30 : 3,381,246
335– 6 : 3,381,247
51 : 3,381,248
120 : 3,381,249
229 : 3,380,656
253 : 3,381,250
336– 83 : 3,381,251
197 : 3,381,252
338– 22 : 3,381,253

338–179 : 3,381,254
308 : 3,381,255
309 : 3,381,256
339– 10 : 3,381,257
14 : 3,381,258
64 : 3,381,259
93 : 3,381,260
248 : 3,381,261
258 : 3,381,262

339–277 : 3,381,263
340– 3 : 3,381,264
10 : 3,381,265
15.5 : 3,381,266
17 : 3,381,267
52 : 3,381,268
3,381,269
146.1 : 3,381,270
3,381,271

340–146.1 : 3,381,272
3,381,273
.3 : 3,381,274
172.5 : 3,381,275
3,381,276
3,381,277
3,381,278
173 : 3,381,279
.1 : 3,381,280

340–174 : 3,381,281
3,381,282
3,381,283
.1 : 3,381,284
3,381,285
213.1 : 3,381,286
282 : 3,381,287
324 : 3,381,288
3,381,289

340–347 : 3,381,290
373 : 3,381,291
343– 17.5 : 3,381,292
18 : 3,381,293
108 : 3,381,294
3,381,295
112 : 3,381,296
113 : 3,381,297
753 : 3,381,298

346– 21 : 3,381,299
35 : 3,381,300
109 : 3,381,301
350–160 : 3,380,792
215 : 3,380,793
352– 44 : 3,380,794
401– 78 : 3,380,795
431– 68 : 3,380,796
292 : 3,380,797

Classification of Designs

D 2–251 : 210,863
309 : 210,864
D 9– 10 : 210,865
32 : 210,866
154 : 210,867
187 : 210,868
235 : 210,869
256 : 210,870
D13– 1 : 210,871
6 : 210,872
D14– 27 : 210,873

D15– 8 : 210,874
11 : 210,875
D18– 2 : 210,876
D22– 28 : 210,877
D23– 2 : 210,878
D24– 1 : 210,879
D26– 1 : 210,880
210,881
14 : 210,882
210,883
210,884

D26– 15 : 210,885
D29– 1 : 210,886
210,887
210,888
28 : 210,889
D30– 15 : 210,890
D34– 5 : 210,891
210,892
D37– 1 : 210,893
D42– 7 : 210,894
210,895

D44– 10 : 210,896
210,897
15 : 210,898
210,899
210,900
21 : 210,901
26 : 210,902
D48– 16 : 210,903
210,904
24 : 210,905

D48– 27 : 210,906
31 : 210,907
D54– 1 : 210,908
11 : 210,909
12 : 210,910
210,911
D55– 1 : 210,912
D56– 4 : 210,913
210,914
D61– 1 : 210,915

D61– 1 : 210,916
210,917
210,918
D65– 1 : 210,919
D77– 1 : 210,920
D80– 9 : 210,921
D83– 1 : 210,922
210,923
D86– 8 : 210,924
D90– 20 : 210,925

Classification of Plants

P. – 20 : 2,810

P. – 24 : 2,809

GEOGRAPHICAL INDEX OF RESIDENCE OF INVENTORS

(U.S. States, Territories and Armed Forces, the Commonwealth of Puerto Rico, and the Canal Zone)

(NOTE.—CODES ARE CHANGED AS OF JANUARY 1, 1967)

Alabama	1
Alaska	2
American Samoa	3
Arizona	4
Arkansas	5
California	6
Canal Zone	7
Colorado	8
Connecticut	9
Delaware	10
District of Columbia	11
Florida	12
Georgia	13
Guam	14
Hawaii	15
Idaho	16
Illinois	17
Indiana	18
Iowa	19
Kansas	20
Kentucky	21
Louisiana	22
Maine	23
Maryland	24
Massachusetts	25
Michigan	26
Minnesota	27
Mississippi	28
Missouri	29
Montana	30
Nebraska	31
Nevada	32
New Hampshire	33
New Jersey	34
New Mexico	35
New York	36
North Carolina	37
North Dakota	38
Ohio	39
Oklahoma	40
Oregon	41
Pennsylvania	42
Puerto Rico	43
Rhode Island	44
South Carolina	45
South Dakota	46
Tennessee	47
Texas	48
Utah	49
Vermont	50
Virginia	51
Virgin Islands	52
Washington	53
West Virginia	54
Wisconsin	55
Wyoming	56
U.S. Air Force	57
U.S. Army	58
U.S. Navy	59

(First number in listing denotes location according to above key. Refer to patent number in body of the Official Gazette to obtain details as to inventor name, location, etc.)

PATENTS

1 : 3,380,378
3,380,897
3,380,905
3,381,089
4 : 3,380,099
3,380,173
3,380,752
3,381,142
3,381,165
3,381,291
3,381,295
5 : 3,380,692
6 : 3,380,077
3,380,080
3,380,092
3,380,094
3,380,124
3,380,141
3,380,146
3,380,156
3,380,166
3,380,172
3,380,183
3,380,184
3,380,195
3,380,207
3,380,214
3,380,216
3,380,219
3,380,234
3,380,237
3,380,249
3,380,250
3,380,259
3,380,268
3,380,288
3,380,290
3,380,296
3,380,302
3,380,310
3,380,323
3,380,324
3,380,328
3,380,345
3,380,346
3,380,370
3,380,393
3,380,406
3,380,427
3,380,428

6 : 3,380,435
3,380,440
3,380,445
3,380,447
3,380,451
3,380,453
3,380,468
3,380,472
3,380,476
3,380,484
3,380,489
3,380,500
3,380,503
3,380,511
3,380,516
3,380,522
3,380,530
3,380,531
3,380,541
3,380,546
3,380,557
3,380,561
3,380,602
3,380,626
3,380,629
3,380,635
3,380,638
3,380,640
3,380,645
3,380,649
3,380,653
3,380,659
3,380,664
3,380,679
3,380,682
3,380,687
3,380,693
3,380,701
3,380,751
3,380,754
3,380,755
3,380,760
3,380,761
3,380,774
3,380,775
3,380,841
3,380,863
3,380,875
3,380,912
3,380,918

6 : 3,380,919
3,380,922
3,380,929
3,380,931
3,380,941
3,381,030
3,381,083
3,381,084
3,381,085
3,381,086
3,381,092
3,381,098
3,381,120
3,381,123
3,381,130
3,381,162
3,381,163
3,381,164
3,381,184
3,381,187
3,381,188
3,381,189
3,381,193
3,381,207
3,381,208
3,381,234
3,381,248
3,381,255
3,381,256
3,381,260
3,381,274
3,381,275
3,381,279
3,381,284
3,381,285
3,381,294
3,381,296
8 : 3,380,075
3,380,167
3,380,633
3,380,705
3,380,738
3,380,748
3,380,784
3,381,017
3,381,237
9 : 3,380,081
3,380,103
3,380,104
3,380,105

9 : 3,380,107
3,380,108
3,380,140
3,380,304
3,380,332
3,380,564
3,380,624
3,380,660
3,380,661
3,380,662
3,380,767
3,380,803
3,380,837
3,380,910
3,380,917
3,380,973
3,381,026
3,381,036
3,381,061
3,381,068
3,381,071
3,381,144
3,381,157
3,381,222
3,381,258
10 : 3,380,269
3,380,386
3,380,639
3,380,835
3,380,847
3,380,869
3,380,876
3,380,882
3,380,903
3,380,935
3,380,937
3,380,952
3,380,974
3,380,980
3,381,007
3,381,020
3,381,045
3,381,047
3,381,077
3,381,265
3,381,286
11 : 3,381,147
3,381,268
12 : 3,380,078
3,380,088

12 : 3,380,109
3,380,135
3,380,170
3,380,231
3,380,235
3,380,253
3,380,256
3,380,267
3,380,425
3,380,442
3,380,450
3,380,466
3,380,632
3,380,648
3,380,688
3,380,699
3,380,753
3,380,798
3,381,109
13 : 3,380,210
17 : 3,380,082
3,380,083
3,380,095
3,380,110
3,380,121
3,380,127
3,380,159
3,380,181
3,380,186
3,380,200
3,380,201
3,380,203
3,380,206
3,380,209
3,380,230
3,380,233
3,380,272
3,380,275
3,380,282
3,380,317
3,380,353
3,380,354
3,380,381
3,380,385
3,380,400
3,380,411
3,380,412
3,380,419
3,380,430
3,380,431

17 : 3,380,448
3,380,469
3,380,471
3,380,485
3,380,486
3,380,501
3,380,537
3,380,539
3,380,545
3,380,547
3,380,552
3,380,555
3,380,563
3,380,580
3,380,581
3,380,582
3,380,590
3,380,608
3,380,610
3,380,641
3,380,652
3,380,654
3,380,680
3,380,698
3,380,704
3,380,724
3,380,728
3,380,732
3,380,740
3,380,741
3,380,745
3,380,810
3,380,811
3,380,824
3,380,832
3,380,833
3,380,899
3,380,900
3,380,909
3,380,942
3,380,951
3,381,082
3,381,119
3,381,124
3,381,131
3,381,141
3,381,197
3,381,210
3,381,212
3,381,235

17 : 3,381,251
3,381,263
18 : 3,380,280
3,380,371
3,380,506
3,380,507
3,380,524
3,380,619
3,380,647
3,380,710
3,380,723
3,380,773
3,380,789
3,380,807
3,380,813
3,380,867
3,380,959
3,380,960
3,380,975
3,381,048
3,381,065
3,381,081
3,381,169
19 : 3,380,152
3,380,190
3,380,192
3,380,224
3,380,226
3,380,248
3,380,313
3,380,799
3,380,805
3,380,891
3,380,892
3,381,203
20 : 3,380,174
3,380,189
3,380,199
3,380,228
3,380,757
3,380,806
3,380,866
21 : 3,380,776
3,381,106
3,381,156
22 : 3,380,495
3,380,528
3,380,589
3,380,915
3,380,977
3,381,219
23 : 3,380,299
24 : 3,380,076
3,380,136
3,380,144
3,380,153
3,380,179
3,380,334
3,380,383
3,380,449
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U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
April 30, 1968 Volume 849 Number 5

TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 23,572 (TIFFANY & CO.), Tiffany & Company, Bronzes and silverware; **Reg. No. 23,573**, same, Jewelry and watches; **Reg. No. 30,599**, same, Stationery; **Reg. No. 55,029**, same, Precious metalware; **Reg. No. 56,105**, same, Watches and clocks; **Reg. No. 58,872**, same, Jewelry of all kinds including nickelware; **Reg. No. 132,262** (TIFFANY), same, Clocks and watches; **Reg. No. 133,063**, same, Jewelry of all kinds and precious metalware; **Reg. No. 133,528** (TIFFANY & CO.), same, Canes, parasols and umbrellas; **Reg. No. 134,196** (TIFFANY), same, Cutlery; **Reg. No. 134,289**, same, Measuring instruments; **Reg. No. 134,290** (TIFFANY & CO.), same; **Reg. No. 134,446** (TIFFANY), same, Bronzes; **Reg. No. 134,447** (TIFFANY & CO.), same; **Reg. No. 134,448** (TIFFANY), same, Glassware; **Reg. No. 134,449** (TIFFANY & CO.), same; **Reg. No. 134,450** (TIFFANY), same, Non-electric lamps; **Reg. No. 134,451** (TIFFANY & CO.), same; **Reg. No. 134,828** (TIFFANY), same, Electric lamps; **Reg. No. 134,829** (TIFFANY & CO.), same; **Reg. No. 135,090**, same, Cleaning materials; **Reg. No. 135,091** (TIFFANY), same, Canes, parasols and umbrellas; **Reg. No. 135,825**, same, Brushes; **Reg. No. 135,826** (TIFFANY & CO.), same; **Reg. No. 135,827** (TIFFANY), same, Chinaware, bric-a-brac, earthenware and porcelain; **Reg. No. 136,215**, same, Leather goods; **Reg. No. 136,216** (TIFFANY & CO.), same; **Reg. No. 136,217** (TIFFANY), same, Stationery; **Reg. No. 136,218**, same, Fancy goods; **Reg. No. 136,219** (TIFFANY & CO.), same; **Reg. No. 136,664**, same, Cutlery; **Reg. No. 137,720**, same, Smokers' article; **Reg. No. 137,721** (TIFFANY), same; **Reg. No. 137,722**, same, Games; **Reg. No. 137,723** (TIFFANY & CO.), same, Chinaware, bric-a-brac, earthenware, and porcelain; **Reg. No. 137,882** (TIFFANY), same, Cleaning materials; **Reg. No. 137,883** (TIFFANY & CO.), same, Games; **Reg. No. 137,884**, same, Printed and engraved matter; **Reg. No. 138,354**, same, Candles; **Reg. No. 138,355** (TIFFANY), same; **Reg. No. 138,356**, same, Music boxes; **Reg. No. 138,506** (TIFFANY & CO.), same; **Reg. No. 139,220**, same, Table and stands; **Reg. No. 139,646** (TIFFANY), same, Special articles precious metalware; **Reg. No. 140,996**, same, Printing and engraving; **Reg. No. 261,711** (TIFFANY & CO.), same, Jewelry, wares made of or plated with precious metals; **Reg. No. 651,467** (TIFFANY VERMEIL), same, Tableware of sterling silver, **filed** Sept. 12, 1967, Washington, D.C., Doc. CA.–2377–67, *Tiffany & Co.* v. ***MVM Corporation, doing business as Tiffany's.***

CONDITION OF TRADEMARK APPLICATIONS AS OF FEBRUARY 29, 1968

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	17, 790
Date of oldest new application	Apr. 4, 1967
Date of oldest amended application (filing date)	Oct. 11, 1963

C. M. WENDT, Director, Trademark Examining Operation **TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION**	**Oldest Application**	
	New	**Amended**
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	4-10-67	10-20-65
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	4-25-67	10-11-63
(III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 36	4-4-67	6-30-65
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	4-5-67	1-5-65
Renewals (All Classes)	1-29-68	....
Sec. 12(c) Publications (All Classes)	2-5-68	....

Applications filed during the month of February 1968—2,340

Registrations Issued	393—No. 848,030 to No. 848,422
Renewals Issued	80

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $12.00 per annum, foreign mailing $4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 30 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

MARKS PUBLISHED FOR OPPOSITION

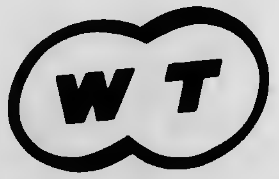
SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 234,490. Water Treatment Corporation of America, Portland, Oreg. Filed Dec. 13, 1965.



Class 6—Chemicals and Chemical Compositions

For Water Treating Chemicals—Namely, Preparations To Control Mineral Scale and Micro-Organisms; Rust and Corrosion Inhibitors; Boiler Compounds; and Biocide-Fungicides for Post Harvest Treatment and Storage of Apples and Pears (Int. Cls. 1 and 5).

First use February 1960.

Class 52—Detergents and Soaps

For Soot and Fire Scale Remover Compounds (Int. Cl. 1).

First use Sept. 9, 1960.

SN 249,374. Womack Electronics, Inc., Danville, Va. Filed June 30, 1966.

WELTRON

Owner of Reg. Nos. 752,858 and 810,968.

Class 21—Electrical Apparatus, Machines, and Supplies

For Antenna Lead-In and Communication Wire, Microphones, and Antenna Accessories and Hardware—Namely, Stand-Offs, Rachet Chimney Mounts, Buckle Straps, Fusable Resistors, and High-Voltage Insulators (Int. Cl. 9).

First use March 1965.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Solder (Int. Cl. 6).

First use August 1965.

Class 52—Detergents and Soaps

For Cleaners and Lubricants for Cleaning Electronic Equipment (Int. Cl. 3).

First use March 1966.

SN 255,251. A & T Tool Company, Inc., Brooklyn, N.Y. Filed Sept. 28, 1966.

ATTCO DESIGNS

The word "Designs" is disclaimed apart from the mark as shown.

Class 32—Furniture and Upholstery

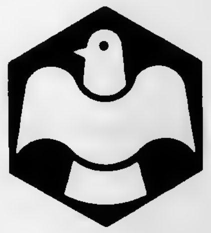
For Screens, Space Dividers, and Window Shutters Made of Plywood (Int. Cls. 19 and 20).

Class 103—Construction and Repair

For Manufacture, to the Specifications and/or Orders of Others, of Die Cutting Used for Finished Products or Parts Thereof Made of Plywood (Int. Cl. 37).

First use Sept. 12, 1960.

SN 258,905. Honsyu Seishi Kabushiki Kaisha, d.b.a. Honshu Paper Mfg. Co., Ltd., Chuo-ku, Tokyo-to, Japan. Filed Nov. 17, 1966.



Class 21—Electrical Apparatus, Machines, and Supplies

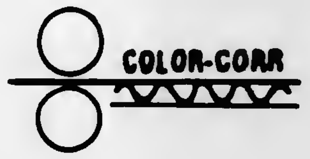
For Condenser Paper (Capacitor Tissue Paper) and Metalized Condenser Paper (Int. Cl. 16).

Class 37—Paper and Stationery

For Paper for Printing, Writing, Typing, Drawing, Duplicating; Parchment or India Paper for Bible Printing and the Like; Glassine, Wrapping and Tissue Paper; Machine Coated Printing Paper for Offset; Off-Machine Coated Printing Paper; Printing Paper for Gravure; Waxed Tissue, Stencil Tissue, and Carbonizing Tissue; Paper Board; Letter Paper Pads; Envelopes; Cigarette Paper in Sheet Form; Tablet Pads; Loose-Leaf Paper; Notebook Paper; Album Paper; Ruled Paper; and Blotting Paper (Int. Cl. 16).

First use Nov. 11, 1919; in commerce June 25, 1964.

SN 261,592. The Mead Corporation, Dayton, Ohio. Filed Dec. 28, 1966.



Owner of Reg. No. 794,969.

Class 2—Receptacles

For Cartons Made of Conditioned Corrugated Board (Int. Cl. 16).

Class 37—Paper and Stationery

For Conditioned Corrugated Board (Int. Cl. 16).

First use Sept. 10, 1966.

SN 262,537. Matsushita Electric Industrial Co. Ltd., Kadoma-shi, Osaka Prefecture, Japan. Filed Jan. 16, 1967.

PANA

Owner of Japanese Reg. Nos. 601,655, 603,916, 604,552, 605,258, 634,487, 649,281, 649,282, and 673,325, dated Nov. 29, 1962, Jan. 24, 1963, Jan. 30, 1963, Feb. 13, 1963, Jan. 17, 1964, Aug. 3, 1964, Aug. 3, 1964, and Apr. 13, 1965, respectively; and U.S. Reg. No. 794,713.

Class 1—Raw or Partly Prepared Materials

For Synthetic Resin Powders (Int. Cl. 1).

Class 12—Construction Materials

For Synthetic Resin Laminated Plates for Walls and Floors, Melamine Decorative Panels, Floor Tile and Alcove, Plastic Resin Rain Gutters (Int. Cl. 19).

Class 19—Vehicles

For Bicycles, Motorbikes, Motorcycles, and Parts Therefor (Int. Cl. 12).

Class 21—Electrical Apparatus, Machines, and Supplies

For (Group I) Electric Household Goods—Namely, Electric Blenders, Electric Juice Extractors, Electric Dish Washers, Electric Vacuum Cleaners, Electric Rice Cookers, Electric Floor Polishers, Electric Automotive Vacuum Cleaners, Electric Garbage Disposals, Electric Heating Plates, Electric Irons, Electric Roasters, Electric Egg Cookers, Electric Toasters, Electric Percolators, Electric Foot Warmers, Electric Cushions and Blankets, Electric Body Warmers, and Electric Waffle Irons; (Group II) Circuitry Components—Namely, Capacitors, Transformers, Resistors, Vacuum Tubes, Cathode Ray Tubes, Coils, Switches, Printed Circuit Boards, Phonograph Pick-Ups, Volume Controls, Transistors, Diodes, Rectifiers, Relays, Electrical Sockets, Tuners, and Semiconductor devices; (Group III) Communication—Namely, Television Receivers, Wireless Microphones, Amplifiers, Transmitters and Receivers, Telephone Apparatus, Intercom Units, Public Address Systems, Radio-Phonographs, Transceivers, Amplifiers, Electric Alarm Systems, Speakers, Microphones, and Automobile Radios; (Group IV) Lamps—Namely, Incandescent Lamps, Fluorescent Lamps, Photoflash Lamps, Infrared Lamps, Mercury Lamps, Ion Lamps, Natrium Lamps, Dynamo Lamps, Flashlights, Lanterns, and Other Battery Operated Lamps, Signal Lights, Vehicle Head Lamps, Emergency Lamps, Automotive Head Lamp Beam Changers, Electronic Flash Lamps, Lighting Fixtures, Lamp Stands, and Movie Projector Carbons; (Group V) Electric Apparatus—Namely, Electric Motors, Voltage Balancers, Voltage Regulators, Electric Vibrators, Electric Insulating Materials, Buzzers, Door Chimes, Dry Cells, Wet Cells, Batteries, Including Automobile Batteries, Carbon Electrodes, Gouging Carbons, Phonomotors, Automatic Headlight Dimmers, Switchboards and Associated Parts, and Automobile Electric Vacuum Cleaners (Int. Cls. 7, 9, 10, 11, and 17).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Electric Water Pumps, Air Compressors, Treadle Sewing Machines, Electric Pencil Sharpeners, Electric Knife Sharpeners, Electric Shavers, Electric Lawn Mowers, Electric Motor Driven Sewing Machines, Electric Hair Clippers, Electric Paper Shreaders, Electric Drills, Electric Saws, Electric Planes, Staplers, and Fire Extinguishers (Int. Cls. 7, 8, 9, and 16).

Class 24—Laundry Appliances and Machines

For Electric Washing and Drying Machines, and Electric Clothing Pressers (Int. Cl. 7).

Class 26—Measuring and Scientific Appliances

For Time Switches, Automatic Lighting Switches; Electric Measuring and Testing Instruments—Namely, Voltmeters, Ammeters, Oscillators, Oscilloscopes, Oscillographs, Signal Generators, Distortion Meters, Insulation Meters, Movie Projectors, Slide Projectors, Stere-Opticons, Cameras, Photoflash Guns, Electronic Photoflash Units, and Microscopes, and Their Parts (Int. Cl. 9).

Class 27—Horological Instruments

For Time Pieces and Their Parts and Accessories—Namely, Electric Timers and Clocks and Battery Clocks (Int. Cl. 14).

Class 31—Filters and Refrigerators

For Refrigerators—Namely, Electric Ice Cream Freezers, Electric Refrigerators, and Electric Water Coolers (Int. Cl. 11).

Class 32—Furniture and Upholstery

For Furniture—Namely, Kitchen Tables, Table Tops, and Sink Tops (Int. Cl. 20).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Heating and Ventilating Apparatus—Namely, Electric Fans, Including Fans or Blowers for Automobile Ventilation, Electric Air Conditioners and Air Cleaners, Electric Dehumidifiers, Electric Soldering Irons, Oil Burners, Kerosene Stoves, Electric Welders, Electric Water Heaters, Electric Ranges, Electronic Ranges, Gas Ranges, Gas Space Heaters, Gas Stoves, Gas Ovens, Gas Cooking Tables, Gas Water Heaters, Gas Rice Cookers, Gas Lighters, and Electric Space Heaters (Int. Cls. 9, 11, and 12).

Class 36—Musical Instruments and Supplies

For Electric Organs, Electronic Organs and Pianos, Tone Cabinets, Electronic Metronomes, Tape Recorders and Magnetic Recording Tapes, Phonographs, and Automobile Stereophonic Tape Players (Int. Cls. 9 and 15).

Class 44—Dental, Medical, and Surgical Appliances

For Electric Medical Apparatus—Namely, Electric Massaging Apparatus, Hearing Aids, X-Ray Systems, Germicidal Lamps; and Electric Hair Dryers (Int. Cls. 7 and 10).

SN 262,739. Instructional Media, Incorporated, Tulsa, Okla. Filed Jan. 18, 1967.

IMI

Class 21—Electrical Apparatus, Machines, and Supplies

For Television Sets (Int. Cl. 16).

Class 26—Measuring and Scientific Appliances

For Video Tape Recorders, Television Cameras, and Parts Therefor (Int. Cl. 9).

Class 36—Musical Instruments and Supplies

For Audio Tape Recorders and Pre-Recorded Magnetic Tapes (Int. Cl. 9).

Class 38—Prints and Publications

For Transparencies, Textbooks, and Workbooks for Use With Audio and Video Teaching Aids (Int. Cl. 16).

First use Dec. 1, 1966.

SN 263,909. Gordon Jewelry Corporation, Houston, Tex. Filed Feb. 3, 1967.

Applicant claims no exclusive rights to the words "Quality Jewelers," nor to the phrase "Diamond Merchants of America," nor to the representation of a diamond apart from the composite mark in the association shown.

Class 27—Horological Instruments

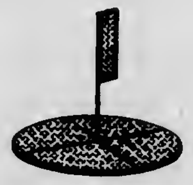
For Men's Wrist Watches and Pocket Watches; Ladies' Wrist Watches and Pendant Watches (Int. Cl. 14).

Class 28—Jewelry and Precious-Metal Ware

For Diamond Wedding Bands and Engagement Rings; Gold Wedding Bands; Ladies' Pearl, Fraternal, Cameo, Diamond, Dome, Cocktail, Dinner, Novelty, Princess, Birthstone and Stone Rings; Men's Diamond, Initial, Birthstone, Cameo, Signet, Lodge, and Stone Rings; Men's Jewelry—Namely, Cuff Links, Tie Bars, Tie Pins and Money Clips; Ladies' Jewelry—Namely, Bracelets, Brooches, Pins, Gold Charms, Pearls, Earrings, Pendants, and Necklaces (Int. Cl. 14).

First use 1935.

SN 264,275. Eugene Desdeyn, d.b.a. Perspecto Map Co., Chicago, Ill. Filed Feb. 9, 1967.



The mark is a fanciful representation of the letter "P" and design. The drawing is lined for the color orange, but color is not claimed as a feature of the mark.

Class 38—Prints and Publications

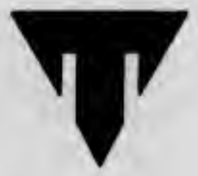
For Souvenir, Industrial, and Commercial Maps and Table Place Mats, Having Maps Printed on the Face Thereof (Int. Cl. 16).

Class 101—Advertising and Business

For Custom Making and Printing of Souvenir, Industrial, and Commercial Maps and Table Place Mats, Having Maps Printed on the Face Thereof (Int. Cl. 35).

First use Aug. 26, 1966.

SN 265,761. Tri-City Industrial Services, Inc., Louisville, Ky. Filed Mar. 2, 1967.



Class 2—Receptacles

For Containers for Compacted Refuse (Int. Cl. 20).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Stationary, Hydraulically-Operated Compacting Units for Refuse Material (Int. Cl. 7).

First use Oct. 1, 1965.

SN 266,106. Robert R. Smith, d.b.a. R-R & Associates, Des Plaines, Ill. Filed Mar. 6, 1967.

R^2

Class 21—Electrical Apparatus, Machines, and Supplies

For Electronic Control Panels and Printed Circuit Boards (Int. Cl. 9).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Tube Stamping Machines for Imprinting Numbers on Plastics and Metals (Int. Cl. 7).

First use on or about May 5, 1965.

SN 266,438. Mid-States Steel and Wire Company, Crawfordsville, Ind. Filed Mar. 10, 1967.

MIDSTATES

Owner of Reg. No. 618,501.

Class 7—Cordage

For Clothesline Wire, Baler Wire (Int. Cl. 6).

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Nails, Bale Ties, Welded Wire Fabric, Ornamental Fence, Hardware Cloth, Wire Lath, Poinsetta Stakes, Florist Netting, Greening Pins, Crimped Rings (Int. Cl. 6).

Class 14—Metals and Metal Castings and Forgings

For Stone Wire, Galvanized Wire, Tie Wire, Twisted Cable, Mechanics' Wire, Paddle Wire, Florist Wire, Bench Wire (Int. Cl. 6).

Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Fence Wire (Int. Cl. 9).

Class 32—Furniture and Upholstery

For Easels (Int. Cl. 16).

Class 50—Merchandise Not Otherwise Classified

For Casket Plaques (Int. Cl. 20).

First use 1950.

SN 266,547. Johnson Products Co., Inc., Chicago, Ill. Filed Mar. 13, 1967.

Kovado

Class 51—Cosmetics and Toilet Preparations

For Hair Conditioners and Hair Straighteners (Int. Cl. 3).

Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 3).

First use Nov. 7, 1966.

SN 278,309. Robert Maniaci, d.b.a. California Auto Radio, Downey, Calif. Filed Aug. 15, 1967.

Boman

Class 21—Electrical Apparatus, Machines, and Supplies

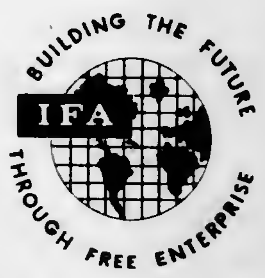
For Car Radios, Car Stereo Radios, and Car Reverberation Units (Int. Cl. 9).

Class 36—Musical Instruments and Supplies

For Magnetic Stereo Tape Players (Int. Cl. 9).

First use March 1960.

SN 285,085. International Franchise Association, Inc., Chicago, Ill. Filed Nov. 17, 1967.



The globe design is disclaimed apart from the mark as shown. Owner of Reg. No. 832,560.

Class 38—Prints and Publications

For Periodicals and Newsletters (Int. Cl. 16).

Class 200

For Indicating Membership in Applicant.

First use Dec. 12, 1962.

SN 290,442. The Procter & Gamble Company, Cincinnati, Ohio. Filed Feb. 7, 1968.

MERIT

Class 51—Cosmetics and Toilet Preparations

For Dentifrice (Int. Cl. 3).

First use Jan. 21, 1966.

Class 52—Detergents and Soaps

For Shampoo (Int. Cl. 3).

First use Sept. 29, 1967.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1 — Raw or Partly Prepared Materials

SN 256,856. Pennington Grain & Seed, Inc., Madison, Ga. Filed Oct. 20, 1966.

GREEN OVERCOAT

The word "Green" is disclaimed apart from the mark as shown.

For Agricultural Seed and Grass Seed (Int. Cl. 31).

First use Oct. 3, 1966.

SN 261,019. American Biltrite Rubber Co., Inc., Chelsea, Mass. Filed Dec. 19, 1966.

PERMA-TURF

Owner of Reg. No. 776,905.

For Vinyl Turf-Like Material Consisting of Synthetic Grass Bonded to Flexible Plastic Backing, for Use as an Indoor-Outdoor Floor Covering for Play and Recreation Areas (Int. Cl. 27).

First use Nov. 18, 1966.

SN 268,569. Geo. J. Ball, Inc., d.b.a. Jiffy Pot Company of America, West Chicago, Ill. Filed Apr. 7, 1967.

GOURMET

For Herb Garden Kit Containing Herb Seeds, Soil Planting Mix, Plastic Growing Trays, and Seed Germinating Bags (Int. Cl. 31).

First use on or before Mar. 2, 1967.

SN 270,672. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed May 4, 1967.

FORCEL

For Shoe Soling Material of a Rubber or Plastic Composition or a Combination Composition of Rubber and Plastic (Int. Cl. 17).

First use Apr. 13, 1967.

SN 271,834. Poco Graphite, Inc., Garland, Tex. Filed May 18, 1967.

EDM

For Graphite (Int. Cl. 1).

First use Aug. 31, 1965.

SN 273,687. Rexall Drug and Chemical Company, d.b.a. Fiberfil, Los Angeles, Calif. Filed June 12, 1967.

PROLODE

Owner of Reg. Nos. 794,615 and 797,924.

For Synthetic Plastic Injection-Molding Materials in Pellet or Granular Form (Int. Cl. 1).

First use May 15, 1967.

SN 273,791. Rexall Drug and Chemical Company, d.b.a. Rexall Chemical Company, Los Angeles, Calif. Filed June 13, 1967.

TUPCITE

For Polystyrene (Int. Cl. 1).

First use Mar. 10, 1967.

SN 273,792. Rexall Drug and Chemical Company, d.b.a. Rexall Chemical Company, Los Angeles, Calif. Filed June 13, 1967.

ABSTREX

For Polystyrene (Int. Cl. 1).

First use Mar. 10, 1967.

Class 2 — Receptacles

SN 255,208. Hugen Corporation, Englewood, N.J., by change of name from Hudson General Paper Corporation, Englewood, N.J. Filed Sept. 27, 1966.

HUGEN

For Paper Boxes; Paper and Plastic Bags (Int. Cls. 16 and 21).

First use Aug. 26, 1966.

SN 265,105. Reserv-A-Roll Co., Houston, Tex. Filed Feb. 20, 1967.

LitterBoy

For Receptacles for Trash and Waste (Int. Cl. 21).

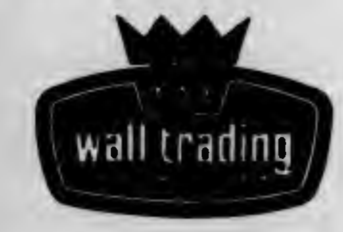
First use Oct. 1, 1966.

SN 265,526. Hoerner-Waldorf Corporation, St. Paul, Minn. Filed Feb. 27, 1967.

Herme-Seal

For Paperboard Cartons (Int. Cl. 16).
First use Oct. 15, 1966.

SN 276,777. Wall Trading Corporation, New York, N.Y. Filed July 25, 1967.



Applicant disclaims the use of the word "Corporation" apart from its use in the mark as shown.
For Wooden Receptacles for Holding Various Articles in the Home—Namely, Knife Holders, Letter Holders, Spice Holders, Recipe Holders, Towel Holders, Desk Caddies, Napkin Holders, and Shopping List Holders (Int. Cl. 21).
First use May 31, 1967.

SN 277,443. Commercial Plastics Company, Chicago, Ill. Filed Aug. 3, 1967.

For Plastic Containers for Food (Int. Cl. 21).
First use January 1950.

SN 279,552. Wilbert, Inc., Forest Park, Ill., by change of name from Wilbert W. Haase Co., Forest Park, Ill. Filed Sept. 1, 1967.

UNIDEX

For Plastic Resinous Combination Caskets and Burial Vaults, Resinous Components Thereof and Bonding Means Between Such Components, Sold as a Unit (Int. Cl. 20).
First use on or about Aug. 16, 1967.

SN 279,553. Wilbert, Inc., Forest Park, Ill., by change of name from Wilbert W. Haase Co., Forest Park, Ill. Filed Sept. 1, 1967.

STRENTEX

For Plastic Resinous Combination Caskets and Burial Vaults and Plastic Resinous Liners Therefor, Sold as a Unit (Int. Cl. 20).
First use on or about Aug. 16, 1967.

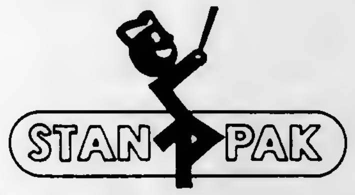
Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 272,401. Carl Pedro and Sons, Inc., St. Paul, Minn. Filed May 25, 1967.

PEDRO'S

For Luggage, Trunks, Brief Cases, Purses, Billfolds, and Carrying Cases of Related Nature (Int. Cl. 18).
First use in or about January 1947.

SN 276,963. Standard Packaging Corporation, New York, N.Y. Filed July 27, 1967.



Owner of Reg. Nos. 595,308, 604,047, and others.
For Wallets, Billfolds, Portfolios, and Key Cases (Int. Cl. 18).
First use Mar. 2, 1967; Sept. 17, 1953, as to "Stanpak."

Class 4 — Abrasives and Polishing Materials

SN 264,743. ITT Wakefield Corporation, Detroit, Mich. Filed Feb. 15, 1967.

For Abrasive Grinding Wheels (Int. Cl. 7).
First use 1954.

Class 5 — Adhesives

SN 267,836. Miracle Adhesives Corporation, Bellmore, N.Y. Filed Mar. 29, 1967.

SHEER-MAGIC

For General Purpose Household Adhesives Containing Epoxy Resin (Int. Cl. 1).
First use on or about June 30, 1961.

SN 278,486. Gulf States Paper Corporation, Tuscaloosa, Ala. Filed Aug. 17, 1967.

E-Z GRIP STIC

Owner of Reg. Nos. 826,888, 831,675, and others.
For Gummed Tape (Int. Cl. 16).
First use July 17, 1967.

Class 6 — Chemicals and Chemical Compositions

SN 260,488. Ritter Pfaudler Corporation, Rochester, N.Y. Filed Nov. 30, 1966.

PFR

For Chemical Preparation Which Reacts With Metal and Becomes an Integral Part Thereof (Int. Cl. 1).
First use Nov. 4, 1966.

SN 262,960. Omni Tech, Inc., Santa Monica, Calif. Filed Jan. 20, 1967.

AMYL-ZYME

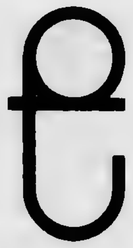
For Chemical Laboratory Test Kits Containing Reagents for Photometric Determination of Serum or Urine Amylase (Int. Cl. 1).
First use Feb. 5, 1961.

SN 262,961. Omni Tech, Inc., Santa Monica, Calif. Filed Jan. 20, 1967.

CEPH/CHOL

For Chemical Laboratory Test Kits Containing a Cephalin Cholesterol Flocculation Antigen (Int. Cl. 1).
First use Feb. 5, 1961.

SN 262,962. Omni Tech, Inc., Santa Monica, Calif. Filed Jan. 20, 1967.



The trademark consists of a logotype design composed of the letter "o" superimposed on the letter "t."
For Chemical Laboratory Test Kits Containing Diagnostic Reagents and Solutions for Laboratory Use (Int. Cl. 1).
First use Feb. 5, 1961.

SN 265,221. Technic, Inc., Cranston, R.I. Filed Feb. 21, 1967.

S-LESS

For Rhodium Plating Solution for the Deposition of Rhodium (Int. Cl. 1).
First use Feb. 13, 1967.

SN 265,496. Dub-L-Kleen Chemical Corporation, College Point, N.Y. Filed Feb. 27, 1967.

DUB-L-KLEEN MELT

For Chemical Compound for Melting Ice and Snow (Int. Cl. 1).
First use Oct. 31, 1966.

SN 266,803. Texize Chemicals, Inc., Greenville, S.C. Filed Mar. 15, 1967.

VINLUB

For Chemical Lubricant for Sizing Warp Yarns for Use in the Textile Industry (Int. Cl. 1).
First use December 1966.

SN 269,181. General Aniline & Film Corporation, New York, N.Y. Filed Apr. 14, 1967.

GAFAX

For Toners, Replenishers, and Dispersants for Use in Electrophotographic Copying (Int. Cl. 1).
First use Jan. 26, 1966.

SN 275,512. Cavalier Chemical Co., Inc., Brooklyn, N.Y. Filed July 7, 1967.

NIH-15

For Non-Medicinal Disinfectant (Int. Cl. 5).
First use May 3, 1967.

SN 276,349. Pittsburgh Activated Carbon Company, Pittsburgh, Pa. Filed July 19, 1967.

BPX

For Activated Carbon (Int. Cl. 1).
First use March 1967.

SN 276,350. Pittsburgh Activated Carbon Company, Pittsburgh, Pa. Filed July 19, 1967.

PCB

For Activated Carbon (Int. Cl. 1).
First use December 1959.

SN 276,355. Robinson-Wagner Company, Inc., Mamaroneck, N.Y. Filed July 19, 1967.

PRODIPATE

For Di-Isopropyl Ester of Adipic Acid (Int. Cl. 1).
First use May 10, 1967.

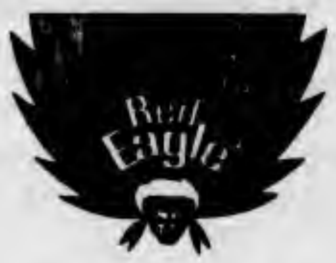
SN 283,314. Air Products and Chemicals, Inc., Allentown, Pa. Filed Oct. 25, 1967.

AP20

For Cotton Defoliant (Int. Cl. 5).
First use on or about Sept. 29, 1967.

Class 11 — Inks and Inking Materials

SN 254,804. Red Eagle Industries, Inc., Amsterdam, N.Y. Filed Sept. 20, 1966.



The drawing is lined for the color red.
For Printing Inks (Int. Cl. 2).
First use Aug. 23, 1965.

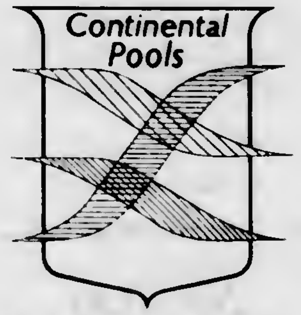
SN 270,551. Chromex Chemical Corp., Brooklyn, N.Y. Filed May 3, 1967.

AQUA-PLEX

For Water Based Ink for Use in Markers (Int. Cl. 16).
First use Mar. 20, 1967.

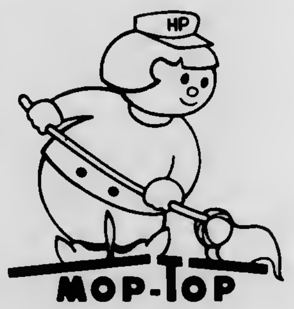
Class 12 — Construction Materials

SN 256,540. General Pools Corporation, Addison, Ill., assignee of General Pool Corporation, Addison, Ill. Filed Oct. 17, 1966.



The word "Pools" is disclaimed. The drawing is lined for the colors green and blue.
For Swimming Pools (Int. Cl. 19).
First use June 22, 1964.

SN 259,730. Holland Plastics Company, Gilman, Iowa. Filed Nov. 30, 1966.



For Polystyrene Foam Roofing Material of Sheet or Block Form (Int. Cl. 19).
First use Jan. 26, 1966.

SN 264,509. Sherrill Broudy, d.b.a. Forms & Surfaces, Santa Barbara, Calif. Filed Feb. 13, 1967.

FORMS & SURFACES

For Carved Wood Panels and Doors (Int. Cl. 19).
First use on or before July 21, 1966.

SN 264,677. National Gypsum Company, Buffalo, N.Y. Filed Feb. 14, 1967.

RIPPLE-TONE

For Asbestos-Cement Panels With a Baked Plastic, Pebble-Like Coating (Int. Cl. 19).
First use Nov. 16, 1961.

SN 270,364. Economy Forms Corporation, Des Moines, Iowa. Filed May 1, 1967.

LIQUID HEAD

For Metal Forms for Use in Retaining Concrete Structures During the Setting and Hardening Thereof (Int. Cl. 6).
First use Feb. 13, 1963.

SN 270,405. National Gypsum Company, Buffalo, N.Y. Filed May 1, 1967.

ABBEY

For Acoustical Ceiling Tile (Int. Cl. 19).
First use Mar. 30, 1967.

SN 270,804. National Gypsum Company, Buffalo, N.Y. Filed May 5, 1967.

TRI-TREATMENT

For Cementitious Dry Powder Mixture for Water Addition Therewith for Adhering Drywall Joint Tape, for a Topping Coating of Taped Joints, and for Texturing Drywall Surfaces (Int. Cl. 19).
First use Aug. 24, 1960.

SN 272,199. Neslo Manufacturing Corp., Doylestown, Pa. Filed May 23, 1967.

NESLO

For Construction Studs, Wallboard Clips, Partitions, Wainscot Wall Coverings, Doors, and Frames (Int. Cl. 19).
First use April 1946.

SN 274,673. Starrco Company, Inc., St. Louis, Mo. Filed June 23, 1967.

PORTA-OFFICE

For Portable Buildings (Int. Cl. 19).
First use Apr. 20, 1967.

SN 275,215. American Metal Climax, Inc., New York, N.Y. Filed July 3, 1967.

KAWNEER / AMAX

Owner of Reg. Nos. 85,449, 800,385, and others.
For Building Entrances, Windows, Curtain Walls, Building Panels, and Metal Moldings (Int. Cl. 6).
First use Oct. 17, 1966.

SN 277,351. The Duriron Company, Inc., Dayton, Ohio. Filed Aug. 2, 1967.

ISOLON

For Bearing Pads Made of Specially Processed Fluorocarbon Resins and Adapted To Be Placed Between Structural Building Members To Allow Relative Movement Therebetween (Int. Cl. 7).
First use Nov. 15, 1966.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 260,519. Briggs Manufacturing Company, Warren, Mich. Filed Dec. 12, 1966.

BEAUTY SPA

Owner of Reg. Nos. 352,412 and 531,685.
For Bathtubs, Incorporating a Whirlpool Device (Int. Cl. 11).
First use November 1966.

SN 262,053. National Lock Co., Rockford, Ill. Filed Jan. 6, 1967.

COUNTRY SQUIRE

For Cabinet Hardware—Namely, Knobs, Pulls, Hinges, and Backplates (Int. Cl. 6).
First use Dec. 7, 1966.

SN 272,652. Vemaline Products Company, Inc., Franklin Lakes, N.J. Filed May 29, 1967.

VEM-A-DIAL

For Dials and Knobs With Planetary Drives (Int. Cl. 6).
First use May 1965.

SN 274,990. Ritter Pfaudler Corporation, Rochester, N.Y. Filed June 28, 1967.

AMCODYNE

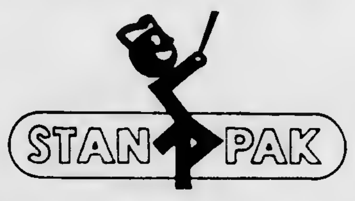
For Quick Clean Spray Nozzles in Sewage Treatment Plants (Int. Cl. 11).
First use about Sept. 30, 1966.

SN 275,084. Texsteam Corporation, Chicago, Ill. Filed June 29, 1967.

EDJOHN

For Valves (Int. Cl. 6).
First use June 14, 1960.

SN 288,373. Standard Packaging Corporation, New York, N.Y. Filed Jan. 8, 1968.



Owner of Reg. Nos. 595,308, 604,047, and others.
For Door Knobs and Non-Electric Coffee Makers (Int. Cls. 6 and 21).
First use at least as early as Apr. 12, 1967; Sept. 17, 1953, as to "Stanpak."

Class 14—Metals and Metal Castings and Forgings

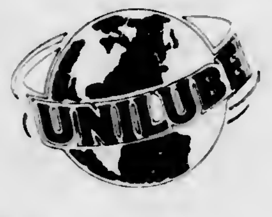
SN 276,193. Unistrut Corporation, Wayne, Mich. Filed July 17, 1967.

UNIROD

For Threaded Rods (Int. Cl. 6).
First use April 1961.

Class 15—Oils and Greases

SN 280,340. Southern Petroleum Company, Inc., d.b.a. Unilube Products, West Memphis, Ark. Filed Sept. 14, 1967.



Owner of Reg. No. 806,615.
For Automatic Transmission Fluids (Int. Cl. 1).
First use Jan. 9, 1967.

SN 284,511. Steven Corporation, Tulsa, Okla. Filed Nov. 9, 1967.

SPRAY EZ

Applicant disclaims the word "Spray" apart from the mark as shown.
For Combination Protective Coating, Lubricant, and Release Agent for Use on Dental Instruments (Int. Cl. 4).
First use Sept. 27, 1967.

Class 16—Protective and Decorative Coatings

SN 265,193. Iowa Paint Manufacturing Company, Inc., Des Moines, Iowa. Filed Feb. 21, 1967.

AIRBAKE

For Enamel for Metal (Int. Cl. 2).
First use on or about Jan. 17, 1967.

SN 266,646. T. C. Dunham Paint Company Inc., Yonkers, N.Y. Filed Mar. 14, 1967.

DUNHAM'S WORLD OF COLOR

For Enamel Paint and Flat Paint (Int. Cl. 2).
First use July 1, 1964.

SN 266,901. McCloskey Varnish Co., Philadelphia, Pa. Filed Mar. 16, 1967.

VARCOPOL

Owner of Reg. No. 710,149.
For Copolymer Vehicles—Namely, Interior Cabinet Finishes and Dry Enamels (Int. Cl. 2).
First use Aug. 12, 1963.

SN 266,902. McCloskey Varnish Co., Philadelphia, Pa. Filed Mar. 16, 1967.

VARKYDANE

Owner of Reg. Nos. 700,722 and 710,149.
For Urethane Vehicles—Namely, Clear Coatings for Floors, Cabinets; Spar Varnishes; Hard, Fast-Drying Architectural Enamels (Int. Cl. 2).
First use Oct. 30, 1962.

Class 17—Tobacco Products

SN 259,266. Rothmans of Pall Mall Limited, Zurich, Switzerland. Filed Nov. 22, 1966.

SIMON DE MONTFORT

"Simon de Montfort" is the name of a well known historical character. Owner of Swiss Reg. No. 214,277, dated Nov. 25, 1965.
For Cigarettes (Int. Cl. 34).

SN 287,026. P. Lorillard Company, New York, N.Y. Filed Dec. 15, 1967.

BERWICK

For Cigarettes (Int. Cl. 34).
First use Dec. 7, 1967.

SN 287,027. P. Lorillard Company, New York, N.Y. Filed Dec. 15, 1967.

WELLESLEY

For Cigarettes (Int. Cl. 34).
First use Dec. 7, 1967.

SN 287,029. P. Lorillard Company, New York, N.Y. Filed Dec. 15, 1967.

SEBRING

For Cigarettes (Int. Cl. 34).
First use Dec. 7, 1967.

SN 287,030. P. Lorillard Company, New York, N.Y. Filed Dec. 15, 1967.

FALMOUTH

For Cigarettes (Int. Cl. 34).
First use Dec. 7, 1967.

SN 290,696. Philip Morris Incorporated, New York, N.Y. Filed Feb. 9, 1968.

MODERATES

For Cigarettes (Int. Cl. 34).
First use Jan. 29, 1968.

Class 18—Medicines and Pharmaceutical Preparations

SN 259,023. Recreo Manufacturing Company, Inc., Rome, N.Y. Filed Nov. 18, 1966.

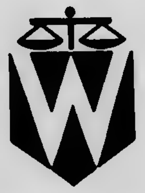
For Medicated Powder for Treating Heat Rash, Bed Sores, etc. for Use by Children and Adults (Int. Cl. 5).
First use 1909.

SN 260,764. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Dec. 14, 1966.

TAF

For Antibiotic Preparation for Veterinary Use (Int. Cl. 5).
First use Oct. 5, 1966.

SN 263,452. Carter-Wallace, Inc., New York, N.Y. Filed Jan. 27, 1967.



Owner of Reg. Nos. 713,416, 718,143, and 746,154.
For Pharmaceutical Preparations (Int. Cl. 5).
First use Jan. 10, 1967.

SN 270,330. Abbott Laboratories, North Chicago, Ill. Filed May 1, 1967.

ACLAN

For Medicated Premix for Poultry Use (Int. Cl. 5).
First use June 29, 1966.

SN 271,824. Organon Inc., West Orange, N.J. Filed Apr. 18, 1967.

OVARIOSTAT

For Medicinal Preparation To Inhibit Ovulation (Int. Cl. 5).
First use May 10, 1967.

SN 272,411. Smith Kline & French Laboratories, Philadelphia, Pa. Filed May 25, 1967.

WORM GUARD

The word "Worm" is disclaimed apart from the mark as shown. Owner of Reg. No. 807,469.
For Pharmaceutical Preparation for Use in Treatment of Gastrointestinal Nematodes in Animals (Int. Cl. 5).
First use May 18, 1967.

SN 272,640. Smith, Miller & Patch Inc., New York, N.Y. Filed May 29, 1967.

SULF-30

For Ophthalmic Preparation (Int. Cl. 5).
First use Mar. 4, 1965.

SN 272,691. Broemmel Pharmaceuticals, San Francisco, Calif. Filed May 31, 1967.

SOAK-TONE

Owner of Reg. No. 703,158.
For Ophthalmic Solution for Conditioning and Storage of Contact Lenses (Int. Cl. 5).
First use Apr. 15, 1967.

SN 287,137. Betan Company, Inc., Knoxville, Tenn. Filed Dec. 18, 1967.

COL-EVAC

For Rectal Suppositories (Int. Cl. 5).
First use Nov. 24, 1967.

SN 288,747. Mead Johnson & Company, Evansville, Ind. Filed Jan. 15, 1968.

DEXATAM

For Appetite Suppressant (Int. Cl. 5).
First use on or prior to Dec. 22, 1967.

SN 290,208. American Home Products Corporation, New York, N.Y. Filed Feb. 5, 1968.

SLEEPEO

For Somnifacient (Int. Cl. 5).
First use Jan. 25, 1968.

SN 290,209. American Home Products Corporation, New York, N.Y. Filed Feb. 5, 1968.

SLEEPIO

For Somnifacient (Int. Cl. 5).
First use Jan. 25, 1968.

SN 290,210. American Home Products Corporation, New York, N.Y. Filed Feb. 5, 1968.

SLEEPYO

For Somnifacient (Int. Cl. 5).
First use Jan. 25, 1968.

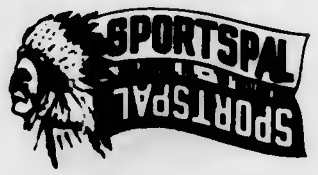
Class 19—Vehicles

SN 256,364. Meyer Products, Inc., Cleveland, Ohio. Filed Oct. 13, 1966.

MEYER

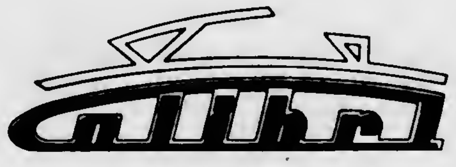
Owner of Reg. Nos. 780,953 and 814,431.
For Customized Cabs and Tire Racks for Utility Vehicles (Int. Cl. 12).
First use July 1964.
Subj. to Intf. with SN 258,564.

SN 257,205. Sportspal, Inc., Emlenton, Pa. Filed Oct. 25, 1966.



Applicant disclaims the term "Emlenton, Pa." apart from the mark as shown.
For Canoes, Anchor Line, Anchor Line Locks, Carrying and Tying Handles, Paddles, Paddle Locks, Seats, Sponsons, and Towing Eyes, Sold as a Unit (Int. Cl. 12).
First use at least as early as Oct. 28, 1963.

SN 259,488. Tomos Tovarna Motornih Vozil, Koper, Yugoslavia. Filed Nov. 25, 1966.



"Colibri" is a "humming bird." Owner of Yugoslav Reg. No. 16,403 Z 229/64, dated Dec. 24, 1964.
For Motorcycles (Int. Cl. 12).

SN 260,104. Unarco Industries, Inc., Chicago, Ill. Filed Dec. 5, 1966.

AUTO LOK

For Lading Divider Equipment for Installation in Railway Cars (Int. Cl. 12).
First use Nov. 14, 1966.

SN 262,209. Skyline Corporation, Elkhart, Ind. Filed Jan. 9, 1967.

GOLDEN FALCON

For Mobile Homes and Travel Trailers (Int. Cl. 12).
First use Apr. 1, 1958.

SN 265,074. Kamei-Auto-Komfort-Wolfsburg K. Meier KG., Wolfsburg, Germany. Filed Feb. 20, 1967.

POROTHERM

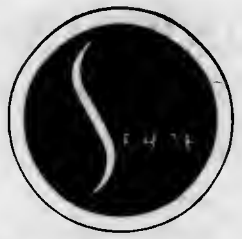
For Steering-Wheel Cover of Porous Plastic Sheet Material (Int. Cl. 12).
First use November 1965; in commerce November 1965.

SN 266,193. Bombardier Snowmobile Ltd., Valcourt, Quebec, Canada. Filed Mar. 8, 1967.

MUSKEG

For Tracked Vehicles Primarily Used for Hauling in Snow Country and Off-the-Road Terrain (Int. Cl. 12).
First use Apr. 27, 1953; in commerce July 23, 1954.

SN 270,967. Sprite Limited, Newmarket, Suffolk, England. Filed May 8, 1967.



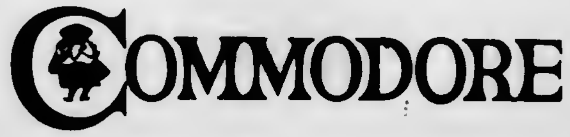
Owner of U.S. Reg. No. 702,172.
For House Trailers, Demonstration and Luggage Trailers (Int. Cl. 12).
First use Aug. 31, 1959; in commerce Sept. 1, 1964.

SN 272,838. Mark Twain Marine Industries, Inc., Kansas City, Mo. Filed June 1, 1967.

MARK TWAIN

For Boats and Boat Trailers (Int. Cl. 12).
First use in or about June 1959.

SN 273,371. The Commodore Corporation, Omaha, Nebr. Filed June 8, 1967.



Owner of Reg. No. 618,120.
For Mobile Homes and House Trailers (Int. Cl. 12).
First use on or about Nov. 15, 1952.

SN 273,389. Frontier Homes Corporation, Omaha, Nebr. Filed June 8, 1967.

Owner of Reg. No. 651,132.
For Mobile Homes and House Trailers (Int. Cl. 12).
First use on or about Nov. 23, 1956.

SN 276,254. Shasta Industries, Inc. Northridge, Calif. Filed July 18, 1967.

LOFLYTE

For Travel Trailers (Int. Cl. 12).
First use May 1, 1967.

SN 276,255. Shasta Industries, Inc., Northridge, Calif. Filed July 18, 1967.

STARFLYTE

For Travel Trailers (Int. Cl. 12).
First use May 1, 1967.

SN 276,257. Shasta Industries, Inc., Northridge, Calif. Filed July 18, 1967.

ASTROFLYTE

For Travel Trailers (Int. Cl. 12).
First use May 1, 1967.

SN 276,472. Robert L. Reemelin, d.b.a. Ministang Ltd., Spring Valley, Calif. Filed July 20, 1967.

MINISTANG

For Ornaments That Are Fixed to the Outside of Automobiles (Int. Cl. 12).
First use June 30, 1967.

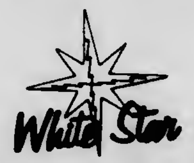
SN 282,070. General Motors Corporation, Detroit, Mich. Filed Oct. 9, 1967.

ENDURA

For Bumpers for Motor Vehicles (Int. Cl. 12).
First use Aug. 24, 1967.

Class 21 — Electrical Apparatus, Machines, and Supplies

SN 241,747. Canadian White Star Products Limited, Montreal, Quebec, Canada. Filed Mar. 24, 1966.



Owner of Canadian Reg. No. 122,736, dated July 7, 1961; and U.S. Reg. No. 800,306.
For Electrical Space Heating Equipment—Namely, Various Designs of Baseboard or Cabinet Type Radiators, and Ceiling Heaters (Int. Cl. 11).

SN 249,789. Nihon Denchi Kabushiki Kaisha, Minami-ku, Kyoto-shi, Japan. Filed July 7, 1966.

GS

For Storage Batteries (Int. Cl. 9).
First use at least as early as May 15, 1963; in commerce at least as early as May 15, 1963.

SN 258,523. The Filtron Company, Inc., Flushing, N.Y. Filed Nov. 14, 1966.

POWERLINE

For Radio Frequency Interference Filters (Int. Cl. 9).
First use March 1964.

SN 259,746. Lava Corporation, Des Plaines, Ill. Filed Nov. 30, 1966.

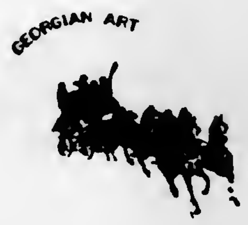
LAVA LITE

The word "Lite" is disclaimed apart from the mark as shown.
For Ornamental Electrical Device in the Form of a Lighting Unit or Lamp (Int. Cl. 11).
First use on or about Nov. 1, 1965.

SN 260,359. Tandy Corporation, Fort Worth, Tex., assignee of Radio Shack Corporation, Boston, Mass. Filed Dec. 8, 1966.

For Stereo Tuners and Amplifiers, and Radio (Int. Cl. 9).
First use at least as early as Sept. 15, 1965.

SN 263,908. Georgian Art Lighting Designs, Inc., Lawrenceville, Ga. Filed Feb. 3, 1967.



For Electric Lighting Designs—Namely, Ceiling, Wall-Mounted, and Table-Supported Lamps in the Nature of Lanterns (Int. Cl. 11).
First use Jan. 30, 1967.

SN 264,733. Fedtro, Inc., Rockville Centre, N.Y. Filed Feb. 15, 1967.

NITE LITE-O-MATIC

For Photo Electric Light Sensitive Switches for Turning Lights On and Off (Int. Cl. 9).
First use Jan. 19, 1967.

SN 265,056. Fedtro, Inc., Rockville Centre, N.Y. Filed Feb. 20, 1967.

POWERHOUSE

For Radio and Television Interference Filters, Battery Powered Megaphones, and Electric Speakers (Int. Cl. 9).
First use July 1960.

SN 266,111. Telemation, Incorporated, Salt Lake City, Utah. Filed Mar. 6, 1967.

CABLECASTER

For Closed Circuit and Broadcast Television Apparatus Comprising Multiple Television Cameras Integrated by a Switching Control Center (Int. Cl. 9).
First use Dec. 24, 1966.

SN 266,542. Jerrold Electronics Corporation, Philadelphia, Pa. Filed Mar. 13, 1967.

CHANNEL COMMANDER

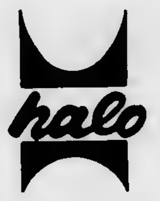
The word "Channel" is disclaimed apart from the mark as a whole.
For Unit Which Processes, Controls and Delivers the Antenna Signal on Any Channel Desired in a Community Antenna Television System (Int. Cl. 9).
First use on or about Dec. 20, 1962.

SN 266,611. Williams Plasti-Chemicals Corporation, Chicago, Ill. Filed Mar. 13, 1967.

SCENT-O-LITE

For Combination Electric Night Lights and Refreshant Dispensers (Int. Cl. 11).
First use Sept. 24, 1964.

SN 267,149. McGraw-Edison Company, Elgin, Ill., assignee of Halo Lighting, Inc., Rosemont, Ill. Filed Mar. 20, 1967.



The mark consists of the stylized letter "H" and design in association with the word "Halo." Owner of Reg. No. 662,854.
For Electric Lighting Fixtures and Electric Switches (Int. Cls. 9 and 11).
First use May 1962.

SN 268,736. Hayes Track Appliance Company, Richmond, Ind. Filed Apr. 10, 1967.

DELECTRIC

For Track Appliances—Namely, Electric Operators for Derails (Int. Cl. 9).
First use Nov. 23, 1966.

SN 269,601. Tork Time Controls, Inc., Mount Vernon, N.Y. Filed Apr. 20, 1967.

TORK

Owner of Reg. Nos. 182,046 and 183,410.
For Adjustable Electric Controls for Automatically Actuating and Terminating Electric Circuits (Int. Cl. 9).
First use on or about Jan. 27, 1923.

SN 274,312. Electric Thermometers, Inc., Norwalk, Conn. Filed June 20, 1967.

THERMOPLATINUM FG

Applicant disclaims the term "FG" appearing in the mark.
For Thermocouple Wire and Resistance Wire (Int. Cl. 9).
First use Nov. 5, 1965.

SN 275,056. Kent Corporation, Princeton, N.J. Filed June 29, 1967.

SIGNAPOINT

For Electrical or Electronic Terminals and Connectors (Int. Cl. 9).
First use Apr. 12, 1967.

SN 277,980. E. W. Bliss Company, Natick, Mass. Filed Aug. 10, 1967.

TRANSDEX

For Electrical Fire Alarm Systems and Components Thereof (Int. Cl. 9).
First use at least as early as Jan. 24, 1967.

SN 279,842. Midland-Ross Corporation, Cleveland, Ohio. Filed Sept. 7, 1967.

VISLOK

For Electrical Switch Box (Int. Cl. 9).
First use July 20, 1967.

SN 280,338. The Scott & Fetzer Company, Cleveland, Ohio. Filed Sept. 14, 1967.

JANITRONIC

For Vacuum Cleaners (Int. Cl. 9).
First use on or about Sept. 6, 1967.

SN 280,873. Joslyn Mfg. and Supply Co., Chicago, Ill. Filed Sept. 21, 1967.

MSP

For Protective Devices for Electrical Equipment—Namely, Spark Gaps (Int. Cl. 9).
First use Aug. 25, 1967.

SN 287,405. TRW, Inc., New York, N.Y. Filed Dec. 22, 1967.

DI-T

For Miniature Transformers Primarily Used in Transistor Circuitry (Int. Cl. 9).
First use July 1, 1958.

Class 22 — Games, Toys, and Sporting Goods

SN 257,966. Lakeside Industries, Inc., Minneapolis, Minn. Filed Nov. 4, 1966.

For Toy Marble Shooting Element or Device for Playing a Bowling-Type Parlor Game of Skill (Int. Cl. 28).
First use on or about Apr. 5, 1966.

SN 258,531. Gar & Co., Long Beach, Calif. Filed Nov. 14, 1966.

The words "El Pescador" means "the fisherman" in the Spanish language.
For Fishing Lure, Both Commercial and Sport Fishing (Int. Cl. 28).
First use in or about January 1960.

SN 260,550. James Heddon's Sons, Dowagiac, Mich. Filed Dec. 12, 1966.

MARK

For Fishing Rods (Int. Cl. 28).
First use on or before Dec. 31, 1959.

SN 261,325. SW Industries, Inc., Newton, Mass. Filed Dec. 22, 1966.

TIGER

For Bowling Balls (Int. Cl. 28).
First use Nov. 18, 1966.

SN 261,464. Createk, Los Angeles, Calif. Filed Dec. 27, 1966.

SEDUCTION

For Equipment for Playing a Board-Type Game (Int. Cl. 28).
First use Sept. 1, 1966.

SN 264,869. Vinylam, Inc., New York, N.Y. Filed Feb. 16, 1967.

MINI

For Inflatable Toys (Int. Cl. 28).
First use Jan. 25, 1967.

SN 266,243. Master Industries, Inc., Santa Ana, Calif. Filed Mar. 8, 1967.

WRIST MASTER

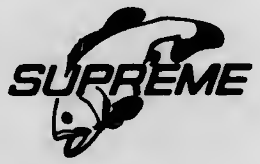
Without waiving any common law rights, applicant disclaims the word "Wrist" apart from its use in the trademark as shown.
For Bowling Aid To Correct Bad Wrist Action and To Insure Proper Delivery of the Ball (Int. Cl. 28).
First use Apr. 2, 1962.

SN 268,061. Pflueger Corporation, Akron, Ohio. Filed Mar. 31, 1967.

E-Z-GRIP

Owner of Reg. No. 203,900.
For Soft Rubber Fishing Reel Handle Covers (Int. Cl. 28).
First use in or about August 1934.

SN 268,066. Pflueger Corporation, Akron, Ohio. Filed Mar. 31, 1967.



Owner of Reg. Nos. 123,029 and 718,896.
For Reels, Parts for Reels, Rods, Hooks, and Fishing Lines (Int. Cl. 28).
First use on or about Jan. 27, 1967.

SN 268,562. A & H Doll Manufacturing Corporation, Woodside, N.Y. Filed Apr. 7, 1967.

MINI-MODS

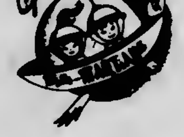
For Dolls (Int. Cl. 28).
First use Mar. 20, 1967.

SN 268,585. The DMR Company, Louisville, Ky. Filed Apr. 7, 1967.

LET'S BOWL-A GAME

No claim of exclusive right is made to the word "Game" apart from the mark as shown.
For Equipment Sold as a Unit for Playing an Amusement Type Card Game (Int. Cl. 28).
First use as early as July 18, 1966.

SN 268,782. J. Swedlin, Inc., d.b.a. Gund Mfg. Co., Brooklyn, N.Y. Filed Apr. 10, 1967.



For Stuffed Toys (Int. Cl. 28).
First use Mar. 20, 1967.

SN 272,020. Cameo Doll Products Co., Inc., Port Allegany, Pa. Filed May 22, 1967.

KEWPIE ♡ KIN

Owner of Reg. Nos. 707,169 and 776,119.
For Dolls (Int. Cl. 28).
First use Mar. 6, 1967.

SN 273,172. Milton Bradley Company, Springfield, Mass. Filed June 6, 1967.

GO! HOUND GO!

For Equipment for Playing a Game of Locating an Article Hidden in One of a Plurality of Clue-Marked Compartments (Int. Cl. 28).
First use Feb. 27, 1967.

SN 273,174. Milton Bradley Company, Springfield, Mass. Filed June 6, 1967.

FEELEY MEELEY

For Apparatus Sold as a Unit for Playing a Parlor Type Game Comprising a Closed Box Having Designated Objects Therein, the Objects Being Retrieved From the Box by Way of the Feel of the Shape of Same (Int. Cl. 28).
First use Feb. 27, 1967.

SN 274,069. Industrial Manufacturing Company, Inc., Morgantown, W. Va. Filed June 16, 1967.

LITE-WRITER

For Play and Educational Concept Toys (Int. Cl. 28).
First use Jan. 13, 1967.

SN 274,814. Marlin Toy Products, Inc., Horicon, Wis. Filed June 26, 1967.

Kiddie Kopter

The word "Kopter" as such, and apart from the design configuration conjoined therewith, is disclaimed apart from the mark.
For Wheeled Push-Pull Helicopter-Type Toys (Int. Cl. 28).
First use Feb. 20, 1967.
Subj. to Intf. with SN 271,858.

SN 276,325. E. S. Lowe Company, Inc., New York, N.Y. Filed July 19, 1967.

NILE

For Equipment Sold as a Unit for Playing a Board-Type Parlor Game (Int. Cl. 28).
First use Feb. 27, 1967.

SN 280,454. The Ohio Art Company, Bryan, Ohio. Filed Sept. 15, 1967.

TARGET MASTER

Applicant disclaims the word "Target," apart from the mark as shown, without waiving any of its common law rights in the mark.
For Game Apparatus Comprising a Target and a Toy Pistol, and a Toy Pistol and Darts (Int. Cl. 28).
First use July 19, 1967.

SN 287,257. Mattel, Inc., Hawthorne, Calif. Filed Dec. 20, 1967.

DRAGGIN' DRAGONS

No claim of exclusive right is made to "Dragons" for the goods recited.
For Toy Kits for Making Plastic Dragon-Type Figures (Int. Cl. 28).
First use Sept. 28, 1967.

SN 287,258. Mattel, Inc., Hawthorne, Calif. Filed Dec. 20, 1967.

DIZZY DRAGONS

No claim of exclusive right is made to "Dragons" for the goods recited.
For Toy Kits for Making Plastic Dragon-Type Figures (Int. Cl. 28).
First use Sept. 28, 1967.

SN 287,259. Mattel, Inc., Hawthorne, Calif. Filed Dec. 20, 1967.

DOUBTFUL DRAGONS

No claim of exclusive right is made to "Dragons" for the goods recited.
For Toy Kits for Making Plastic Dragon-Type Figures (Int. Cl. 28).
First use Sept. 28, 1967.

SN 288,059. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Jan. 4, 1968.

EGGHEAD OR CHICKEN

For Apparatus Sold as a Unit for Playing a Combination Amusement and Educational Game (Int. Cl. 28).
First use Dec. 5, 1967.

SN 288,060. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Jan. 4, 1968.

TEACH KEY

For Apparatus Sold as a Unit for Playing a Combination Amusement and Educational Game (Int. Cl. 28).
First use Dec. 5, 1967.

SN 288,061. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Jan. 4, 1968.

SUM TIMES

For Apparatus Sold as a Unit for Playing a Combination Amusement and Educational Game (Int. Cl. 28).
First use Dec. 5, 1967.

SN 288,062. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Jan. 4, 1968.

3M

Owner of Reg. No. 782,016.
For Apparatus Sold as a Unit for Playing a Combination Amusement and Educational Game (Int. Cl. 28).
First use Dec. 5, 1967.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 250,356. The Chemical and Industrial Corp., Cincinnati, Ohio. Filed July 15, 1966.

C&I GIRDLER

Owner of Reg. No. 609,296.
For Plants for the Production of Chemicals, Petrochemicals, Fertilizers, and the Like, and Components and Parts for Such Plants (Int. Cl. 7).
First use in or about December 1963.

SN 255,377. Varian Associates, Palo Alto, Calif. Filed Sept. 28, 1966.

VA

Owner of Reg. Nos. 582,256, 750,058, and others.
For Vacuum Pumps (Int. Cl. 7).
First use December 1959.

SN 257,269. Foremost Machine Builders, Inc., Fairfield, N.J. Filed Oct. 26, 1966.

FOREMOST

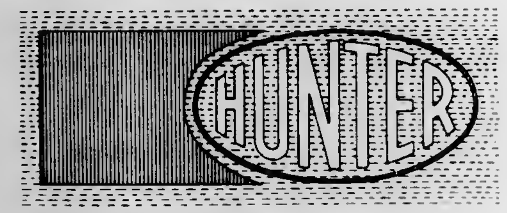
For Materials Handling Machinery and Equipment—Namely, Scrap Grinders, Cutter Blowers, Grinder-Blender-Loader Units, Vacuum Loaders, Bottle Trimmers, Extruders, Shredders, Film Recycling Units, Blender-Loader Units, Compressed Air Loaders; and Bulk Handling Units—Namely, for Bin Loaders, Railroad Car Unloaders, Storage Silos, and Other In-Plant Distribution Systems (Int. Cl. 7).
First use on or about June 13, 1958.

SN 258,127. Mathias Bäuerle Gesellschaft mit beschränkter Haftung, St. Georgen, Black Forest, Germany. Filed Nov. 7, 1966.

NOVOPRINT

Owner of German Reg. No. 821,897, dated July 19, 1966.
For Offset Office Machines (Int. Cl. 16).

SN 259,320. Hunter Automated Machinery Corporation, Morton Grove, Ill. Filed Nov. 23, 1966.



The drawing is lined to show the colors red, grey, and white employed in the use of the mark, but no claim is made to color.

For Automatic Matchplate Moulding Machinery and Components Thereof (Int. Cl. 7).

First use on or about Oct. 1, 1964.

SN 261,511. Omark Industries, Inc., Portland, Oreg. Filed Dec. 27, 1966.

POWER-SHARP

For Sharpening Devices Installed Upon Chain Saws for Sharpening Saw Chain While in Motion Upon a Chain Saw Sprocket and Saw Bar (Int. Cl. 7).

First use Sept. 30, 1966.

SN 262,352. SW Industries, Inc., Newton, Mass. Filed Jan. 11, 1967.

GLOSSMATE

For Rolls for Machinery and Roll Coverings for Rolls (Int. Cl. 7).

First use Apr. 28, 1965.

SN 263,496. Tokyo Juki Kogyo Kabushiki Kaisha, Chofu-shi, Tokyo, Japan. Filed Jan. 27, 1967.

JUKI

The mark "Juki" is a coined word. Owner of Japanese Reg. Nos. 371,242, dated Feb. 23, 1948, 408,922, dated Feb. 23, 1952, and 530,991, dated Dec. 6, 1958.

For Sewing Machines, Knitting Machines, and Parts Thereof (Int. Cl. 7).

SN 264,581. A. B. Chance Company, Centralia, Mo., assignee of Pitman Manufacturing Company, Grandview, Mo. Filed Feb. 13, 1967.

MONO/DYNE

For Turrets for Mounting Derricks, Cranes, and Aerial Devices on Vehicles Therefor (Int. Cl. 7).

First use Dec. 29, 1966.

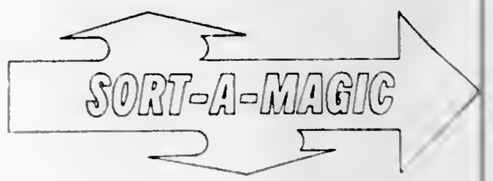
SN 266,559. Master Pneumatic-Detroit, Inc., Utica, Mich. Filed Mar. 13, 1967.

SERV-OIL

For Lubricating Systems and Parts Thereof Including Pumps, Valves, and Pressure Devices Therefor (Int. Cl. 7).

First use Nov. 18, 1966.

SN 271,736. Taylor & Gaskin, Inc., Detroit, Mich. Filed May 17, 1967.



For Mechanical Conveyors and Parts Thereof—Namely, Conveyor Mechanism Comprising a Main Trackway and Communicating Spur Trackways and Conveyors Mounted Thereon and Including Sorting Mechanism To Distribute the Conveyed Merchandise (Int. Cl. 7).

First use on or about Aug. 30, 1965; as early as May 1965 in a different form.

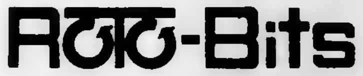
SN 273,876. Detergent Engineering Corporation, Tulsa, Okla. Filed June 14, 1967.

SCRUB-O-MATIC

For Automatic Car Wash Installation (Int. Cl. 7).

First use at least as early as Mar. 15, 1967.

SN 273,938. The Bowdil Company, Canton, Ohio. Filed June 15, 1967.



For Mining Bits (Int. Cl. 7).

First use on or about Apr. 1, 1967.

SN 274,399. Clarence T. Bickner, d.b.a. Kitten Kraft, El Sobrante, Calif. Filed June 21, 1967.

WONDER MASTER

For Apparatus for Use in Making Ornamental Bows and Component Parts Thereof Including Bow Pins (Int. Cl. 7).

First use July 1, 1966.

SN 274,653. Powers & Eaton Industries, Inc., Hawthorne, N.J. Filed June 23, 1967.

SUPER-LOOPER

For Tag Stringing Machines (Int. Cl. 7).

Firs use about June 1962.

SN 274,797. Wayne Products Corporation, Dixon, Ill. Filed June 26, 1967.

PLASMAG

For Magnetically Driven Centrifugal Pumps (Int. Cl. 7).

First use Sept. 13, 1965.

SN 274,828. Nu-Way Manufacturing Company, Inc., Barnard, Kans. Filed June 26, 1967.

TRAC-FORK

For Power Operated Grapple Attachment for Agricultural Type Tractors (Int. Cl. 12).

First use Mar. 1, 1967.

SN 275,839. Degremont S.A., Suresnes (Seine), France. Filed July 12, 1967.

DIAPAC

Owner of French Reg. No. 8,299, dated Mar. 12, 1965 (Versailles); Natl. Inst. No. 243,991.

For Sewage Disposal Plants for the Biological Treatment of Waste Water (Int. Cl. 11).

SN 276,300. Baker Perkins Inc., Saginaw, Mich. Filed July 19, 1967.

C-M

For Bakery Equipment—Namely, Proofers (Int. Cl. 7).

First use June 30, 1967.

SN 276,821. Crossbow, Inc., Cincinnati, Ohio. Filed July 26, 1967.

GRAND PRIX

For Cork Puller (Int. Cl. 21).

First use June 13, 1967.

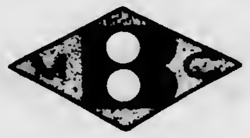
SN 277,176. Imperial Knife Associated Companies, Inc., Providence, R.I. Filed July 31, 1967.

ZYLCUT-EDGE

For Kitchen Cutlery and Carving Knives (Int. Cl. 8).

First use July 20, 1967.

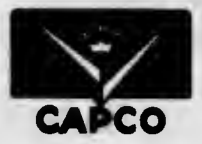
SN 277,512. Bonell Manufacturing Company, Chicago, Ill. Filed Aug. 4, 1967.



For Industrial Rolls and Rollers for Use in Steel Mills, Aluminum and Non-Ferrous Mills, Paper Mills, and the Like (Int. Cl. 7).

First use June 19, 1967.

SN 284,131. Capco Manufacturing Corp., Miami, Fla. Filed Nov. 6, 1967.



For Parts for Automotive Parts—Namely, Oil Pumps, Couplings, Torus Covers, Governors, Clutch Drums, Pumps, and Planetary Assemblies (Int. Cl. 12).

First use June 1961.

Subj. to Intf. with SN 236,495.

SN 284,572. Automation Devices, Inc., Fairview, Pa. Filed Nov. 13, 1967.

VFC

For Catalogue Vibratory Feeders, Bowls Therefor, and Stands Therefor, Side Delivery Hoppers and Stands Therefor, Orienting Rolls and Parts Therefor (Int. Cl. 7).

First use Mar. 1, 1956.

SN 287,403. Page Engineering Company, Chicago, Ill. Filed Dec. 22, 1967.

MIRACLE HITCH

No claim is made to the word "Hitch" apart from the mark as shown.

For Hitches Connected to Rigging for Dragline Earth-Moving Equipment (Int. Cl. 7).

First use Mar. 13, 1964.

SN 290,808. Western Technology, Inc., Santa Ana, Calif. Filed Feb. 12, 1968.

VRP

For Chemical Etching Machines (Int. Cl. 7).

First use Dec. 19, 1967.

Class 24 — Laundry Appliances and Machines

SN 285,288. Ametek, Inc., East Moline, Ill. Filed Nov. 21, 1967.

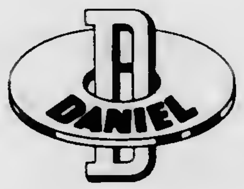
NOPRESS

For Garment Finishing Machines (Int. Cl. 7).

First use July 10, 1967.

Class 26 — Measuring and Scientific Appliances

SN 240,073. Daniel Industries, Inc., Houston, Tex., assignee of Daniel Orifice Fitting Company, Houston, Tex. Filed Mar. 3, 1966.



For Fluid Flow Metering, Measurement and Control Devices, Including Meter Stations, Flow Computers, Indicators, Recorders and Printers, Orifice Fittings, Plates, and Seals, Turbine Meters, Gages, Metering Tubes, Straightening Vanes, Flow Sections, and Parts Therefor (Int. Cl. 9).

First use in or before June 1954; 1930 as to "Daniel."

SN 240,077. Daniel Industries, Inc., Houston, Tex., assignee of Daniel Orifice Fitting Company, Houston, Tex. Filed Mar. 3, 1966.

DUOMATIC

For Orifice Metering Equipment, Such as Orifice Fittings, Plates, Sealing Units and Metering Tubes, and Parts Thereof (Int. Cl. 9).

First use in or before 1960.

SN 249,147. Elcometer Instruments Limited, Droylsden, Manchester, England. Filed June 28, 1966.

ELCOMETER

For Thickness Gauges for Measuring and Checking Surface Coatings (Int. Cl. 9).

First use 1949; in commerce 1949.

SN 259,151. Perspective, Inc., Seattle, Wash. Filed Nov. 21, 1966.

ILLUSTROMAT

For Computing Perspective Drafting Machine (Int. Cl. 9).
First use August 1965.

SN 259,834. George R. Kane, d.b.a. Kane Marine, Burlingame, Calif. Filed Dec. 1, 1966.

P-B-C

For Navigational Plotting Aid in the Form of a Grid Overlay for Charts and Maps (Int. Cl. 9).
First use about Oct. 20, 1965.

SN 261,383. Wm. Ainsworth & Sons, Inc., Denver, Colo., assignee of Magna Vision Corporation, Seattle, Wash. Filed Dec. 23, 1966.

MICRO BIO

For Chamber Microscopes; Equipment for Collecting, Retaining, Examining and Feeding Biological, Bontanical and Aquatic Specimens; and Parts and Accessories of Such Equipment Sold Separately and in Kits, Including, but Not Limited to, Specimen Chambers, Breath- and Battery-Powered Aspirators, and Magnifying Lenses (Int. Cl. 9).
First use Jan. 10, 1964.

SN 264,046. Edroy Products Company, Inc., New York, N.Y. Filed Feb. 6, 1967.

STEREOPTIC

For Magnifying Device Mounted on an Adjustable Stand (Int. Cl. 9).
First use Jan. 27, 1967.

SN 264,872. The Welch Scientific Company, Skokie, Ill. Filed Feb. 16, 1967.

CHEMANAL

For Modular Analysis Instruments for Teaching Optical Methods of Chemical Analysis (Int. Cl. 9).
First use July 1, 1966.

SN 266,180. John B. Sweany, Calistoga, Calif. Filed Mar. 7, 1967.

SITE-A-LINE

For Optical Instruments for Use in Adjusting the Sights and Checking the Bore of Firearms (Int. Cl. 9).
First use about February 1960.

SN 270,270. Radio Corporation of America, New York, N.Y. Filed Apr. 28, 1967.

DIVCON

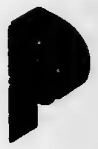
For Digital to Video Converter Display Apparatus (Int. Cl. 9).
First use on or about Aug. 7, 1964.

SN 270,933. The Minster Machine Company, Minster, Ohio. Filed May 8, 1967.

MONITORFLOW

For Recirculation Pressure Lubrication System Controlled by Flow Sensing Switches and Orifice Metering Units (Int. Cl. 9).
First use Apr. 19, 1967.

SN 274,767. Perspective, Inc., Seattle, Wash. Filed June 26, 1967.



For Computing Perspective Drafting Machine (Int. Cl. 9).
First use Feb. 23, 1967.

SN 274,897. Sprague Electric Company, North Adams, Mass. Filed June 27, 1967.

SQUARETROL

For Packaged Electronic Temperature Control Circuits (Int. Cl. 9).
First use Feb. 7, 1967.

SN 275,570. Voigtlander A.G., Braunschweig, Germany. Filed July 7, 1967.

VITESSA

Owner of German Reg. No. 601,250, dated Sept. 19, 1950.
For Cameras (Int. Cl. 9).

SN 275,964. Strandberg Engineering Laboratories, Inc., Greensboro, N.C. Filed July 13, 1967.

PORT-A-TAK

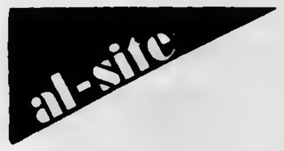
For Portable Tachometers (Int. Cl. 9).
First use Feb. 7, 1962.

SN 276,446. Honeywell Inc., Minneapolis, Minn. Filed July 20, 1967.

μ-COMP

The initial portion of the mark is the symbol for "mu," the twelfth letter of the Greek alphabet.
For Computers (Int. Cl. 9).
First use August 1966.

SN 278,409. Al Nyman & Son, Inc., New York, N.Y. Filed Aug. 16, 1967.



For Magnifiers (Int. Cl. 9).
First use Jan. 15, 1967; June 18, 1959, in a different form.

SN 279,722. Eastman Kodak Company, Rochester, N.Y. Filed Sept. 6, 1967.

EASAMATIC

For Film Reader (Int. Cl. 9).
First use July 14, 1967.

SN 279,723. Emil Busch G.m.b.H., Berlin, Germany. Filed Sept. 6, 1967.

CLARLET

For Spectacles and Spectacle Lenses (Int. Cl. 9).
First use July 1967; in commerce July 31, 1967.

SN 279,740. Ipco Hospital Supply Corporation, New York, N.Y. Filed Sept. 6, 1967.

MIX O THERM

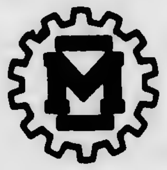
For Magnetic Stirrer and Hotplate Combination for Laboratory Use (Int. Cl. 9).
First use July 31, 1967.

SN 280,118. Visual Systems, Inc., Milwaukee, Wis. Filed Sept. 11, 1967.

O-FRAME

For Visual Aid Transparencies (Int. Cl. 16).
First use on or about Mar. 31, 1966.

SN 280,191. James Millen Manufacturing Company, Inc., Malden, Mass. Filed Aug. 30, 1967.



Owner of Reg. Nos. 375,029, 642,447, and others.
For Electronic Meters and Measuring Appliances—Namely, Synchroscopes, High Frequency Wave Calibrators, Absorption Meters and High Frequency Wave Meters, Used for the Measurement of Pulse Transmission and High Frequency Determination in the Electronic Fields, and Component Parts Thereof (Int. Cl. 9).
First use May 1940.

SN 280,624. Panametrics, Inc., Waltham, Mass. Filed Sept. 18, 1967.

PANA-THERM

For Instrumentation for Making Ultrasonic Wave Measurements at Elevated Temperatures (Int. Cl. 9).
First use on or about Sept. 5, 1967.

SN 281,130. Stanley-Western Corporation, Portland, Oreg. Filed Sept. 25, 1967.

PNEUMATICOUNT

For Air and Hydraulic Actuated Counters for Air and Hydraulic Powered Machines (Int. Cl. 9).
First use 1956.

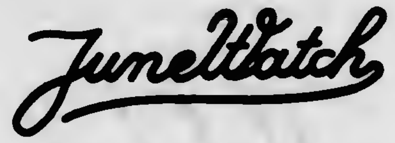
SN 281,608. The Morgan Crucible Company Limited, London, England. Filed Oct. 2, 1967.

METAMATIC

Owner of British Reg. No. 674,642, dated Nov. 18, 1948.
For Pyrometer Sheaths (Int. Cl. 9).

Class 27 — Horological Instruments

SN 261,869. Julius Neufeld, S.A., Sao Paulo, Brazil. Filed Jan. 3, 1967.



Applicant disclaims exclusive right to the word "Watch" apart from the mark as shown. Owner of Brazilian Reg. No. 205,482, dated Dec. 17, 1957.
For Watches and Watch Parts (Int. Cl. 14).

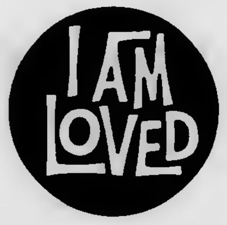
Class 28 — Jewelry and Precious-Metal Ware

SN 274,610. G-K Microcast, Inc., New York, N.Y. Filed June 23, 1967.

Ebonaire

For Precious Jewelry—Namely, Finger Rings, Pendants, Brooch Pins, Cuff Links, and Tie Tacks (Int. Cl. 14).
First use May 10, 1967.

SN 288,515. Helsberg's Diamond Shops, Inc., Kansas City, Mo. Filed Jan. 10, 1968.



For Charm Bracelets, Diamond Rings, Mounted Diamonds, and Jewelry Manufactured of Precious Metals (Int. Cl. 14).
First use Oct. 30, 1967.

Class 29 — Brooms, Brushes, and Dusters

SN 269,133. Vistron Corporation, Cleveland, Ohio. Filed Apr. 13, 1967.

HIPPER

For Comb-Brush (Int. Cl. 21).
First use Jan. 10, 1967.

SN 270,289. The Setwell Company, Traverse City, Mich. Filed Apr. 28, 1967.

STICKY WICKET

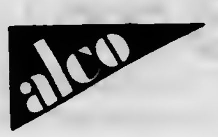
Applicant makes no claim for the term "Sticky" apart from the mark as shown.
For Washable Adhesive Lint Pick-Up Roller (Int. Cl. 21).
First use Sept. 14, 1966.

SN 277,055. Lexsuco Inc., Solon, Ohio. Filed July 28, 1967.

LEXSUCO

Owner of Reg. Nos. 540,159, 660,700, and 660,911.
For Roofers' Mops and Replacement Parts Therefor (Int. Cl. 21).
First use at least as early as 1953.

SN 278,405. Al Nyman & Son, Inc., New York, N.Y. Filed Aug. 16, 1967.



For Artists' Brushes and Clothes Brushes (Int. Cls. 16 and 21).
First use Nov. 18, 1966.

Class 30—Crockery, Earthenware, and Porcelain

SN 262,291. Shenango Ceramics, Inc., New Castle, Pa. Filed Jan. 10, 1967.

LARONDO

For China Dinnerwear (Int. Cl. 21).
First use Nov. 8, 1965.

Class 31—Filters and Refrigerators

SN 265,571. United States Filter Corporation, Whittier, Calif. Filed Feb. 27, 1967.

KITCHEN SPRING

For Water Filters (Int. Cl. 11).
First use Nov. 10, 1966.

SN 267,063. The Rosaen Filter Company, Hazel Park, Mich. Filed Mar. 17, 1967.

The drawing is lined for the color red, but no claim is made to the color apart from the mark as shown. Owner of Reg. Nos. 661,039, 668,235, and others.
For Fluid Filters, Cartridges, Strainers, and Housings Therefor (Int. Cl. 11).
First use Feb. 10, 1967.

SN 267,685. Sparkler Manufacturing Company, Conroe, Tex. Filed Mar. 27, 1967.

Without relinquishing any of its common law rights applicant makes no claim to the words "Filters" and "Cartridge" apart from the mark as shown. Owner of Reg. No. 633,168.
For Filters for Use in Filtering Fluids (Int. Cl. 11).
First use at least as early as Feb. 24, 1967; at least as early as May 1966 as to the mark "Velmac."

Class 32—Furniture and Upholstery

SN 279,911. American Desk Manufacturing Company, Temple, Tex. Filed Sept. 8, 1967.

3000 LINE

The word "Line" is disclaimed apart from the mark as shown.
For Chairs, Tablet Arm Chairs, Desks, Chair Desks, Combination Chair and Desk Units, Tables, and Stools (Int. Cl. 20).
First use March 1966; February 1963 in a different form.

SN 284,548. Morton International, Inc., Chicago, Ill. Filed Nov. 13, 1967.

MORTON FLAVOR-RACK

Owner of Reg. Nos. 509,883 and 509,884.
For Stand for Holding Portion Packets of Condiments (Int. Cl. 20).
First use on or about Oct. 9, 1967.

Class 33—Glassware

SN 270,079. Plasco, Inc., Albuquerque, N. Mex. Filed Apr. 26, 1967.

AIR-PANE

For Sheet Glass With Insulating Properties (Int. Cl. 21).
First use Jan. 19, 1967.

SN 274,424. Gemco-Ware, Inc., Jamaica, N.Y. Filed June 21, 1967.

**PANTRY POPS
GRANNY'S TURNED-ON
GLASSWARE**

The word "Glassware" is disclaimed apart from the mark as shown.
For Servers, Having Metal Caps and Glass Receptacles, for Condiments, Syrup, Cream, Sugar, Oil, and Vinegar (Int. Cl. 21).
First use May 5, 1967.

Class 34—Heating, Lighting, and Ventilating Apparatus

SN 254,829. William C. Nanny, San Francisco, Calif. Filed Sept. 19, 1966.

SONOLUX

For Luminous Panels (Int. Cl. 11).
First use May 1966.

SN 255,594. Vapor Corporation, Chicago, Ill., assignee of C-C Industries, d.b.a. Besler, Emeryville, Calif. Filed Oct. 3, 1966.

OPO

For Heat Recovery Units With Boilers and Water Heaters for Use in Conjunction With Waste Gases (Int. Cl. 11).
First use Mar. 8, 1966.

SN 257,878. Mole-Richardson Co., Hollywood, Calif. Filed Nov. 3, 1966.

Molebrite

For Reflectors for Lamps (Int. Cl. 11).
First use Oct. 6, 1966.

SN 258,120. Karl Fischer Apparate- & Rohrleitungsbau, Berlin-Borsigwalde, Germany. Filed Nov. 7, 1966.

Owner of German Reg. No. 794,963, dated Oct. 9, 1964.
For Chemical Equipment—Namely, Autoclaves, Distillation Apparatus, and Rectification Apparatus (Int. Cl. 11).

SN 263,219. Beverly E. Williams, La Grange Park, Ill. Filed Jan. 24, 1967.

AccelerAger

The word "Ager" is disclaimed apart from the mark as a whole.
For Cabinets or Enclosures Using Heat for Controlled Aging of Fresh Meat (Int. Cl. 11).
First use Sept. 15, 1957.

SN 263,660. Deichi S.p.A., Villasanta, Milan, Italy. Filed Jan. 31, 1967.

HI-JET

For Induction-Type Air Conditioning Plants for Buildings (Int. Cl. 11).
First use July 30, 1955; in commerce July 30, 1955.

SN 264,352. Vapor Corporation, Chicago, Ill. Filed Feb. 9, 1967.

For Gas Fired Heaters for Railroad Switches (Int. Cl. 11).
First use Dec. 23, 1966.

SN 271,619. Gulf Oil Corporation, Pittsburgh, Pa. Filed May 16, 1967.

ECONOJET

Owner of Reg. No. 814,989.
For Oil Burners and Oil Powered Water Heaters (Int. Cl. 11).
First use at least as early as Sept. 3, 1964, on oil burners.

SN 272,262. Environmental Systems Corp., Conyers, Ga. Filed May 24, 1967.

LITE-THERM

Owner of Reg. Nos. 805,960 and 806,870.
For Induction-Type Mixing Boxes for Controlled Mixing of Primary Conditioned Air With Recirculated Air (Int. Cl. 11).
First use Mar. 30, 1967.

SN 272,342. BTU Engineering Corporation, Waltham, Mass. Filed May 25, 1967.

TRANSHEAT

For Conveyor-Type Continuous Furnaces (Int. Cl. 11).
First use Apr. 15, 1967.

SN 272,477. Duro-Dyne Corporation, Farmingdale, N.Y. Filed May 26, 1967.

For Damper Regulator for Air Conditioners, Ventilators, and Heating and Like Ducted Systems, and Parts Therefor (Int. Cl. 11).
First use May 1, 1967.

SN 274,795. Vernois, Inc., Mount Vernon, Ill. Filed June 26, 1967.

For Cooking Ranges (Int. Cl. 11).
First use Apr. 1, 1967.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 270,576. The Kelly-Springfield Tire Company, Cumberland, Md. Filed May 3, 1967.

LONE STAR

Owner of Reg. No. 746,927.
For Tires (Int. Cl. 12).
First use February 1940.

SN 276,837. Habasit, Ltd., Reinach-Basel, Switzerland. Filed July 26, 1967.

FILON

For Flat Belting for Machinery (Int. Cl. 7).
First use July 1, 1963; in commerce July 1, 1963.

SN 277,010. Atlas Supply Company, Springfield, N.J. Filed July 28, 1967.

POLYCRON

Owner of Reg. Nos. 605,169 and 827,160.
For Tire Cord Sold as a Component of Tires (Int. Cl. 12).
First use May 19, 1967.

Class 36—Musical Instruments and Supplies

SN 236,850. Societe a Responsabilite Limitee Dite: Musidisc-Europe, Paris, France. Filed Jan. 19, 1966.

Visadisc

Owner of French Reg. No. 534,005, dated June 30, 1965 (Seine); Natl. Inst. No. 254,300.
For Phonograph Records and Prerecorded Magnetic Tapes (Int. Cl. 9).

SN 245,109. Paul L. Shore, d.b.a. Tapecaster Electronics, Rockville, Md. Filed May 6, 1966.

TAPECASTER

For Tape Recorders (Int. Cl. 9).
First use July 1962.

SN 250,392. J. J. Newberry Co., New York, N.Y. Filed July 15, 1966.

BILTMORE

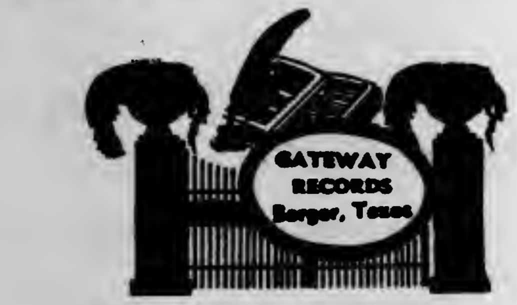
For Phonographs (Int. Cl. 9).
First use June 22, 1966.

SN 261,402. Rangertone Electronics Corporation, Newark, N.J. Filed Dec. 23, 1966.

RANGERTONE

For Tape Recorders/Reproducers (Int. Cl. 9).
First use Mar. 2, 1962.

SN 264,012. Carl A. Banks, d.b.a. Gateway Records, Borger, Tex. Filed Feb. 6, 1967.



Applicant disclaims the word "Records" and the name "Borger, Texas" apart from the mark as shown.
For Phonograph Record Albums and Phonograph Records (Int. Cl. 9).
First use Nov. 4, 1966.

SN 264,600. Shot Records, Inc., Los Angeles, Calif. Filed Feb. 13, 1967.

DOUBLE SHOT

For Phonograph Records and Albums Thereof (Int. Cl. 9).
First use July 1966.

SN 264,601. Shot Records, Inc., Los Angeles, Calif. Filed Feb. 13, 1967.

For Phonograph Records and Albums Thereof (Int. Cl. 9).
First use July 1966.

SN 265,625. Harman-Kardon Incorporated, Plainview, N.Y., assignee of Harman-Kardon, Incorporated, Plainview, N.Y. Filed Feb. 28, 1967.

HARMAN-KARDON

For Phonographs, Parts and Components Thereof (Int. Cl. 9).
First use in or about January 1953.

SN 266,657. Charles F. Gresh, Primos, Pa. Filed Mar. 14, 1967.

SALUTE

For Phonograph Records (Int. Cl. 9).
First use Feb. 2, 1967.

SN 267,016. Compass Records, Inc., New York, N.Y. Filed Mar. 17, 1967.

COMPASS

For Phonograph Records (Int. Cl. 9).
First use Feb. 13, 1967.

SN 289,946. Radio Corporation of America, New York, N.Y. Filed Jan. 31, 1968.

RCA

Owner of Reg. Nos. 167,591, 623,978, and others.
For Tape Recorders, Phonographs, and Record Spindles (Int. Cl. 9).
First use Aug. 21, 1925, on phonographs.

SN 289,949. Radio Corporation of America, New York, N.Y. Filed Jan. 31, 1968.

RCA

Owner of Reg. Nos. 167,591, 623,978, and others.
For Tape Recorders, Phonographs, and Record Spindles (Int. Cl. 9).
First use Aug. 21, 1925, on phonographs.

Class 37 — Paper and Stationery

SN 271,928. Eastex Incorporated, Silsbee, Tex. Filed May 19, 1967.

ECONOCARD

For Paperboard for Printing and Conversion Into Return Postcards, Greeting Cards, Covers, and the Like (Int. Cl. 16).
First use May 1, 1967.

SN 272,596. Dur-O-Lite Pencil Company, Melrose Park, Ill. Filed May 29, 1967.

DUR-O-LITE

Owner of Reg. No. 227,030.
For Refillable and Non-Refillable Ball Point Pens, Non-Refillable Pencils Such as Stick Pencils, and Ink Markers (Int. Cl. 16).
First use on or about Sept. 1, 1951.

SN 272,853. Polyfoam, Inc., Lester Prairie, Minn. Filed June 1, 1967.

SG

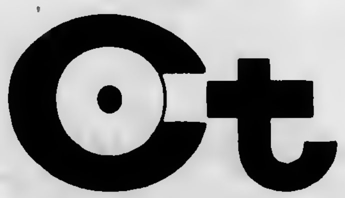
For Protective Cardboard Packing Inserts for Containers (Int. Cl. 16).
First use June 30, 1965.

SN 274,856. Charles E. Carey, Harbor Springs, Mich. Filed June 27, 1967.

SNUFFLES FOR SNIFFLES

No claim is made to the words "For Sniffles" separate and apart from the remainder of the trademark.
For Facial and/or Cleansing Tissues (Int. Cl. 16).
First use on or about June 13, 1967.

SN 275,123. Control Tape, Inc., Atlanta, Ga. Filed June 30, 1967.



For Imprintable Tape for a Computing Machine of the Cash Register, Adding Machine, Calculator, and Like Type (Int. Cl. 16).
First use on or about May 10, 1967.

SN 275,368. Eastex Incorporated, Silsbee, Tex. Filed July 5, 1967.

CARDCOVER

For Paperboard in Rolls and Sheets for Printing Use in the Pocketbook Cover, Greeting Card, and Related Fields (Int. Cl. 16).
First use June 23, 1967.

SN 278,428. Smile-File Albums, Incorporated, Pittsfield, Mass. Filed Aug. 16, 1967.

SMILE-FILE

For Photograph Albums (Int. Cl. 16).
First use June 6, 1967.

SN 287,619. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Dec. 27, 1967.

209

For Copy Paper for Use in Machines Utilizing Both a Photographic and Infra-Red Process (Int. Cl. 1).
First use Sept. 29, 1966.

SN 287,697. Eagle Pencil Company, Danbury, Conn. Filed Dec. 28, 1967.

BEROL

For Pencils (Int. Cl. 16).
First use Sept. 20, 1967.

Class 38 — Prints and Publications

SN 250,987. Microwave Associates, Inc., Burlington, Mass. Filed July 25, 1966.

MICRONOTES

For Series of Technical Newsletters Published Monthly to Persons Interested in Microwave Technology (Int. Cl. 16).
First use during June 1963.

SN 251,261. Advertising Metal Display Co., Chicago, Ill. Filed July 29, 1966.

POP-TOPICS

For Periodical Newsletter Published Quarterly (Int. Cl. 16).
First use in or about March 1966.

SN 260,032. Dun & Bradstreet, Inc., New York, N.Y. Filed Dec. 5, 1966.

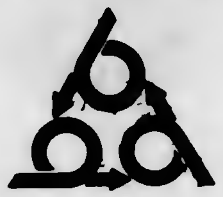
DUN & BRADSTREET

Owner of Reg. Nos. 509,756, 828,011, and others.
For Credit, Financial, Marketing, Sales, and Educational Books, Pamphlets, and Reports (Int. Cl. 16).
First use in or about 1933.

SN 266,886. Household Finance Corporation, Chicago, Ill. Filed Mar. 16, 1967.

For Instructional Manuals (Int. Cl. 16).
First use on or about Feb. 1, 1967.

SN 281,752. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Oct. 4, 1967.



For Printed Pamphlets and Transparencies Useful for Teaching Health Education in Schools (Int. Cl. 16).
First use Mar. 17, 1967.

SN 287,495. Eric Pusinelli, d.b.a. Pusinelli Publications, New York, N.Y. Filed Dec. 26, 1967.

SIMPLE FACTS about your INCOME TAX

For Booklets Published Annually and From Time to Time (Int. Cl. 16).
First use Sept. 19, 1941.

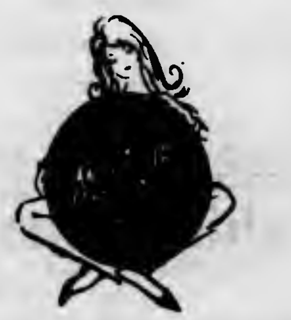
SN 290,445. Creative Associates, Inc., Atlanta, Ga. Filed Feb. 7, 1968.

CALCU-TAB

For Pricing Chart (Int. Cl. 16).
First use Oct. 11, 1967.

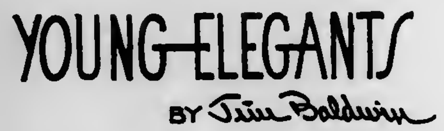
Class 39 — Clothing

SN 240,941. Monique, Inc., Miami, Fla. Filed Mar. 14, 1966.



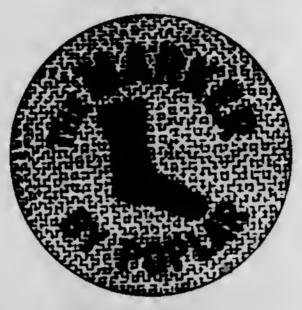
For Sportswear Consisting of Ladies' Slacks, Skirts, Pant Tops (Including Halters and Blouses), and Dresses (Int. Cl. 25).
First use July 1960.

SN 250,201. Young Elegants, Inc., New York, N.Y. Filed July 13, 1966.



The term "Young Elegants" is disclaimed apart from the mark as shown. "Jim Baldwin" is the name of a living individual whose consent is of record.
For Ladies' and Misses' Coats and Suits (Int. Cl. 25).
First use June 10, 1966.

SN 253,782. Poplar Textiles, Inc., Philadelphia, Pa. Filed Sept. 2, 1966.



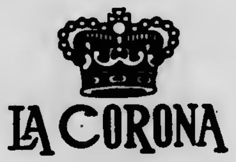
The drawing is lined for yellow. The representation of the sock, apart from the mark as shown, is disclaimed by applicant.
For Hosiery for Men and Boys (Int. Cl. 25).
First use May 31, 1966.

SN 254,572. Cooper's, Incorporated, Kenosha, Wis. Filed Sept. 16, 1966.

TROPHY

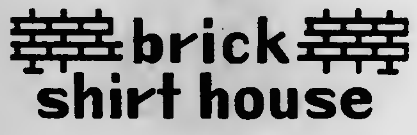
Owner of Reg. No. 398,761.
For Hosiery, Shirts, Sweaters, and Jackets (Int. Cl. 25).
First use at least as early as May 1, 1963, on hosiery.

SN 258,701. L & K General Merchandise Distributors, Inc., Miami, Fla. Filed Nov. 15, 1966.



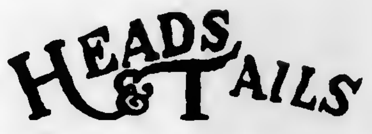
For Men's Socks (Int. Cl. 25).
First use Sept. 26, 1966.

SN 259,152. Peterson & Sanborn, Geneva, Ohio. Filed Nov. 21, 1966.



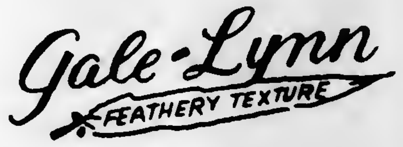
The words "Shirt House" are disclaimed apart from the mark as shown.
For Men's and Women's Shirts, Ties, Jackets, Coats, Sweaters, and Suits (Int. Cl. 25).
First use Oct. 24, 1964.

SN 259,244. Highlander, Ltd., New York, N.Y. Filed Nov. 22, 1966.



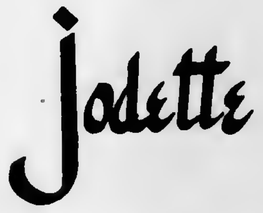
For Men's, Women's, and Children's Sportswear—Namely, Tops, Shirts, Pants, Jackets, Skirts, Shifts, Shorts, Sweaters, and Matching Combinations Thereof (Int. Cl. 25).
First use Nov. 7, 1966.

SN 259,915. Gale Knitting Mills, Inc., Bronx, N.Y. Filed Dec. 2, 1966.



For Sweaters and Dresses (Int. Cl. 25).
First use Apr. 1, 1966.

SN 260,107. University Sportswear of California, Los Angeles, Calif. Filed Dec. 5, 1966.



For Women's Sportswear—Namely, Blouses, Jumpers, Dresses, Skirts, Slacks, Jackets, Shirts, Coats, and Sweaters (Int. Cl. 25).
First use on or about Sept. 26, 1966.

SN 260,454. Royal Manufacturing Company, Inc., Allentown, Pa. Filed Dec. 9, 1966.

HAMILTON

For Boys' and Men's Underwear—Namely, Shorts, Briefs, Athletic Shirts, T-Shirts, and Woven and Knit Sport Shirts (Int. Cl. 25).
First use 1928.

SN 261,806. Charles Glanzrock & Co. Inc., New York, N.Y. Filed Jan. 3, 1967.

BROOKDALE

For Men's Suits, Pants, and Coats (Int. Cl. 25).
First use Sept. 15, 1923.

SN 263,449. Burberrys Limited, London, England. Filed Jan. 27, 1967.

BURBERRY COMMODORE

Owner of British Reg. No. 850,286, dated June 13, 1963.
For Top Coats and Weatherproof Coats (Int. Cl. 25).

SN 263,564. Nancy Greer, Inc., New York, N.Y. Filed Jan. 30, 1967.

NANCY GREER

"Nancy Greer" is a fanciful name and not the name of a known individual.
For Dresses for Women and Young Women (Int. Cl. 25).
First use 1953.

SN 267,718. Bates Manufacturing Company, Incorporated, Lewiston, Maine. Filed Mar. 28, 1967.

MASTERCOAT

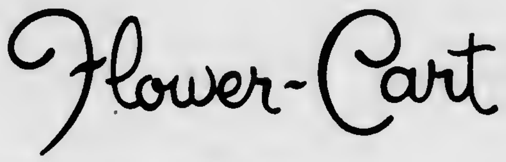
For Rain Wear (Int. Cl. 25).
First use Feb. 15, 1967.

SN 268,521. New York Merchandise Co., Inc., New York, N.Y. Filed Apr. 6, 1967.

NOBILITY

For Gloves and Shirts for Men and Women (Int. Cl. 25).
First use 1933.

SN 270,212. C. W. Anderson Hosiery Company, Clinton, S.C. Filed Apr. 28, 1967.



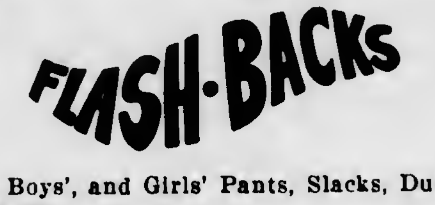
For Ladies' Hosiery (Int. Cl. 25).
First use Mar. 16, 1967.

SN 271,785. M. Fine & Sons Manufacturing Company, Inc., New York, N.Y. Filed May 18, 1967.

BIG MIKE

For Jackets, Playsuits, Boys' Blouses, Boys' Shirts, Pajamas, Flannel Shirts, Sport Shirts, Dress Shirts, Work Shirts, Work Pants, Walking Shorts, Overalls, Overall Coats, and Underwear of Knitted and Textile Fabric for Men, Women, and Children (Int. Cl. 25).
First use at least as early as Jan. 1, 1941.

SN 271,941. M. Hoffman & Co., Inc., Boston, Mass. Filed May 19, 1967.



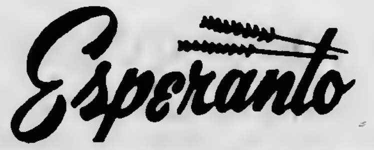
For Men's, Boys', and Girls' Pants, Slacks, Dungarees, and Jeans (Int. Cl. 25).
First use in or before January 1967.

SN 272,030. Dunbrooke Shirt Company, Lexington, Mo. Filed May 22, 1967.

PLA-SHIRT

Owner of Reg. No. 429,926.
For Men's Outer Shirts (Int. Cl. 25).
First use Dec. 10, 1945.

SN 272,282. G. Lieberman & Sons, Incorporated, St. Louis, Mo. Filed May 24, 1967.



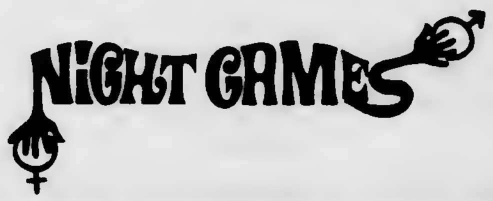
For Socks, Hosiery, Pajamas, Robes, Underwear, Sweat Shirts, Ties, Handkerchiefs, Gym Shorts, and Sport Shirts (Int. Cl. 25).
First use Mar. 20, 1967.

SN 272,595. Dunbrooke Shirt Company, Lexington, Mo. Filed May 29, 1967.

PLA-JAC

Owner of Reg. No. 430,459.
For Men's Jackets Made of Cloth, Leather, or Combinations of Cloth and Leather (Int. Cl. 25).
First use Dec. 10, 1945.

SN 272,821. Ernst, Inc., San Francisco, Calif. Filed June 1, 1967.



For Men's and Women's Nightshirts (Int. Cl. 25).
First use at least as early as May 8, 1967.

SN 275,487. Windbreaker, Incorporated, Danville, Ill. Filed July 6, 1967.

MAN-MAKER

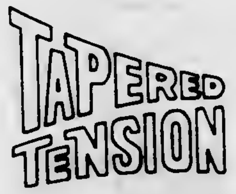
For Men's and Boys' Apparel, i.e., Jackets, Raincoats, Suburban Coats, Sports Jackets, and Vests (Int. Cl. 25).
First use June 5, 1967.

SN 275,488. Windbreaker, Incorporated, Danville, Ill. Filed July 6, 1967.

RAIN-BREAKER

For Men's and Boys' Apparel, i.e., Jackets, Raincoats, Suburban Coats, Sport Jackets, and Vests (Int. Cl. 25).
First use June 5, 1967.

SN 275,530. Jung Products, Inc., Cincinnati, Ohio. Filed July 7, 1967.



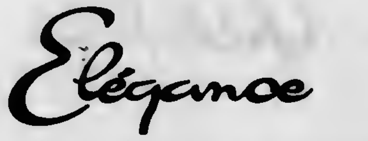
For Support Hosiery (Int. Cl. 25).
First use 1957.

SN 280,478. J. P. Stevens & Co., Inc., New York, N.Y. Filed Sept. 15, 1967.

IN STEP

For Hosiery (Int. Cl. 25).
First use Sept. 6, 1967.

SN 280,913. Lu Wane Products Company, Wayne, N.J. Filed Sept. 22, 1967.



For Ladies' Headgear—Namely, Head Bonnets, Wind Bonnets, Hoods, Veils, Caps, Nets, Matillas, and Babushkas (Int. Cl. 25).
First use Sept. 16, 1963.

SN 282,317. Blue Bell, Inc., Greensboro, N.C. Filed Oct. 12, 1967.

JEANIE

Owner of Reg. Nos. 544,681, 757,382, and others.
For Boots (Int. Cl. 25).
First use Oct. 3, 1967.

SN 282,319. Blue Bell, Inc., Greensboro, N.C. Filed Oct. 12, 1967.

SADDLE BUSTER

Owner of Reg. No. 811,065.
For Boots (Int. Cl. 25).
First use Oct. 4, 1967.

SN 282,861. Chadbourn Gotham, Inc., Charlotte, N.C. Filed Oct. 19, 1967.

MINI-HI

Owner of Reg. No. 803,456.
For Ladies' Hosiery (Int. Cl. 25).
First use Oct. 5, 1967.

SN 283,982. Cape Ann Manufacturing Co., Gloucester, Mass. Filed Nov. 2, 1967.

PORTWEAR

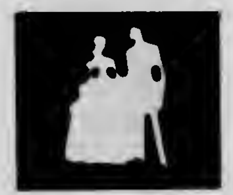
For Outer Coats (Int. Cl. 25).
First use on or about Aug. 1, 1967.

SN 284,422. Blair Fashions, Inc., Chicago, Ill. Filed Nov. 9, 1967.

RESPOND

For Panty Girdle, Girdle and Corselet (Int. Cl. 25).
First use Nov. 2, 1967.

SN 285,169. Lady Romance, Inc., New York, N.Y. Filed Nov. 20, 1967.



For Lingerie (Int. Cl. 25).
First use December 1965.

SN 285,634. Smith Shoe Corporation, Newmarket, N.H. Filed Nov. 27, 1967.

Yankee SHOE MAKERS

No claim is made to the exclusive right to the words "Shoe Makers" apart from the mark as shown. Owner of Reg. No. 438,409.
For Shoes (Int. Cl. 25).
First use on or about Dec. 31, 1950.

SN 286,070. Nugget Distributors' Cooperative of America, Inc., d.b.a. Nugget Distributors, Inc., Stockton, Calif. Filed Dec. 4, 1967.

Nugget

For Disposable Plastic Gloves (Int. Cl. 25).
First use July 12, 1967.

SN 286,605. Mister Trio Uniforms Inc., New York, N.Y. Filed Dec. 11, 1967.

Mister UNIFORMS

The word "Uniforms" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 816,664 and 831,118.
For Men's and Women's Launderable Uniforms as Jackets, Coats, Blouses, Skirts, Dresses, Such as Are Used by Doctors, Nurses, Dentists, Barbers, Beauticians, etc. (Int. Cl. 25).
First use Nov. 1, 1967.

SN 286,878. Stanley Blacker, Inc., Philadelphia, Pa. Filed Dec. 14, 1967.

STANLEY BLACKER

"Stanley Blacker" is the name of a living individual whose consent is of record. Owner of Reg. No. 739,773.
For Sports Coats and Pants Sets, and Pants (Int. Cl. 25).
First use Aug. 7, 1960.

SN 286,976. Ship 'n Shore, Inc., Upland, Pa. Filed Dec. 15, 1967.

Ship'n Shore

Owner of Reg. No. 371,501.
For Ladies' Blouses, Shorts, Shirts, Skirts, Ties, Kerchiefs, Vests, Shells, Sweaters, Jumpers, Slacks, and Dresses (Int. Cl. 25).
First use Apr. 20, 1939.

SN 287,335. Melville Shoe Corporation, New York, N.Y. Filed Dec. 21, 1967.

CHESS KING

For Men's and Boys' Wearing Apparel and Footwear—Namely, Suits, With and Without Extra Pants, Jeans, Dress Pants, Slacks, Vests, Walking Shorts, Shirts, Outerwear Jackets, Raincoats, Sport Coats (Blazers), Sweaters, Swimming Trunks, Apparel Belts, Ties, Undershorts, Pajamas, Caps, Gloves, Surfers' Vests; Shoes, Slippers, Sandals, and Hosiery (Int. Cl. 25).
First use Dec. 11, 1967.

SN 287,336. Melville Shoe Corporation, New York, N.Y. Filed Dec. 21, 1967.

CHESS QUEEN

For Ladies' Wearing Apparel and Footwear—Namely, Sweaters, Shirts, Blouses, Suits, Outerwear Jackets and Coats, Gloves, Swimming Suits, Walking Shorts, Slacks, Apparel Belts, Raincoats, Surfers' Vests, Pajamas, Shoes, Slippers, Sandals, and Hosiery (Int. Cl. 25).
First use Dec. 11, 1967.

SN 287,721. Cerruti, Incorporated, New York, N.Y. Filed Dec. 28, 1967.

CERUTTI·CXIII

For Men's Clothing, Comprising Shirts, Ties, Scarfs, Handkerchiefs, and Sweaters (Int. Cl. 25).
First use Dec. 5, 1966.

Class 40 — Fancy Goods, Furnishings, and Notions

SN 269,834. Abbott Tresses, Inc., Pittsburgh, Pa. Filed Apr. 24, 1967.

MOD-LET

For Hairpiece (Int. Cl. 26).
First use Nov. 23, 1966.

SN 290,139. Fashion Tress, Inc., Miami Beach, Fla. Filed Feb. 2, 1968.

WIGGLES

For Ladies' Wigs and Hairpieces (Int. Cl. 26).
First use on or about Jan. 1, 1968.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 256,151. Spartans Industries, Inc., New York, N.Y. Filed Oct. 10, 1966.

KENTSHIRE

Owner of Reg. No. 672,251.
For Sheets, Pillow Cases, Quilts, Mattress Covers and Pads, Washcloths, Pillow Ticks, Tablecloths, Napkins, Bedspreads, Curtains, Drapes, and Slipcovers (Int. Cl. 24).
First use 1937.

SN 265,578. West Point-Pepperell, Inc., West Point, Ga. Filed Feb. 27, 1967.

LANTUCK

Owner of Reg. No. 548,145.
For Non-Woven Fabrics of Natural and Synthetic Fibers, and Combinations Thereof (Int. Cl. 24).
First use Jan. 11, 1949.

SN 275,907. Auburn Fabrics, Inc., New York, N.Y. Filed July 13, 1967.

SHEET METAL

For Fabric Having a Metallized Polyester Film Bonded to Other Woven or Knitted Backing Fabric, Predominantly Cotton, for Use in Making Women's Clothing—Namely, Skirts, Dresses, Coats, and Millinery (Int. Cl. 24).
First use on or about Apr. 25, 1967.

SN 276,683. Mary Epps Perkins, d.b.a. Saltys Caps & Apparel, Fort Worth, Tex. Filed July 24, 1967.

LIL DUDS!

For Blankets (Int. Cl. 24).
First use July 7, 1967.

SN 278,461. Albany Felt Company, Albany, N.Y. Filed Aug. 17, 1967.

DURAFLO

For Papermakers' Felt (Int. Cl. 7).
First use on or about July 10, 1967.

SN 281,401. Stacy Fabrics Corp., New York, N.Y. Filed Sept. 28, 1967.

PCF

For Precision Coated, Spot Pattern Heat Fusible Fabric, Woven, Non-Woven, or Needle Punched, Used as Supporting Material, Interfacing, Interlining, or Lining in Wearing Apparel and Industrial Applications (Int. Cl. 24).
First use Aug. 9, 1967.

Class 44 — Dental, Medical, and Surgical Appliances

SN 261,491. A. J. Hosmer Corp., Campbell, Calif. Filed Dec. 27, 1966.

HOSMER

For Prosthetic Devices—Namely, Component Parts in Artificial Arms and Legs (Int. Cl. 10).
First use 1943.

SN 262,143. Evans-Peirce, Inc., Boston, Mass. Filed Jan. 9, 1967.

CAPSULE-EAR

For Hearing Aid (Int. Cl. 10).
First use Sept. 15, 1966.

SN 262,918. Bird Space Technology, Inc., Palm Springs, Calif. Filed Jan. 20, 1967.

PNEUMOBAND

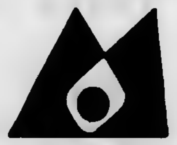
For Device Which Circumscribes the Thoracic Cage of a Patient To Assist in the Expiratory Respiratory Pattern of the Patient and Which May Be Used With a Mechanical Respirator (Int. Cl. 10).
First use on or about May 5, 1966.

SN 264,673. Merck & Co., Inc., Rahway, N.J. Filed Feb. 14, 1967.

MEDIGUN

For Medicinal Applicator Containing Anthelmintic Preparation for Veterinary Use, Sold as a Unit (Int. Cl. 5).
First use Feb. 1, 1967.

SN 265,080. Medtronic, Inc., Minneapolis, Minn. Filed Feb. 20, 1967.



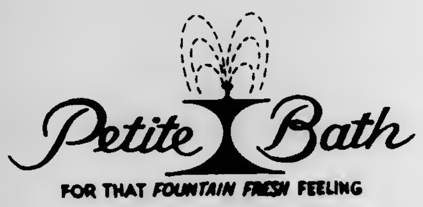
For Medical-Electronic Instruments and Accessories for Implantation in and Operation Upon the Human Body—Namely, Electro-Coagulation Forcep Units; Vein Erasers; Pacemakers and Pacemaker Systems Including Implantable and External Pacemakers and Systems of Both the Demand and Free Running Types; and Electrodes Including Temporary Endocardiac Electrodes for Use With Such Systems (Int. Cl. 10).
First use Oct. 10, 1966.

SN 268,747. Louise Ideas, Inc., Minneapolis, Minn. Filed Apr. 10, 1967.

ACTION BATH

The word "Bath" is disclaimed apart from the mark as shown.
For Mechanical Agitators for Bathtubs (Int. Cl. 11).
First use Dec. 26, 1966.

SN 269,690. Madge Romberger, Indianapolis, Ind. Filed Apr. 20, 1967.


Petite Bath
FOR THAT FOUNTAIN FRESH FEELING

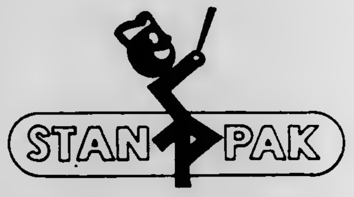
Applicant disclaims the word "Bath" apart from the mark as shown. Owner of Reg. No. 825,359.
For Basin-Like Object Designed To Fit Into the China Bowl of a Commode for Use by a Woman in the Maintenance of Good Feminine Hygiene (Int. Cl. 21).
First use about July 1, 1966.

SN 277,378. Physicare, Sarasota, Fla. Filed Aug. 2, 1967.

PHYSICARE

For Table Mounted for Rotatable and Tilting Movements, to Which a Patient's Body May Be Attached for Various Movements, and To Assume Various Different Positions for Therapeutic Purposes (Int. Cl. 10).
First use June 18, 1967.

SN 288,366. Standard Packaging Corporation, New York, N.Y. Filed Jan. 8, 1968.



Owner of Reg. Nos. 595,308, 604,047, and others.
For Nail Clippers and Manicure Sets (Int. Cl. 8).
First use at least as early as Apr. 12, 1967; Sept. 17, 1953, as to "Stanpak."

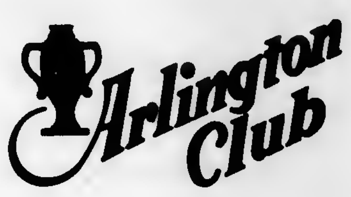
Class 45—Soft Drinks and Carbonated Waters

SN 261,146. The Goody Company, Indianapolis, Ind. Filed Dec. 20, 1966.

GOODY

Owner of Reg. No. 673,262.
For Chocolate Flavored Dairy Drink Containing Water (Int. Cl. 32).
First use Sept. 30, 1966.

SN 275,026. Arlington Club Beverage Company, Inc., Mount Prospect, Ill. Filed June 29, 1967.



For Soft Drinks (Int. Cl. 32).
First use Mar. 1, 1925.

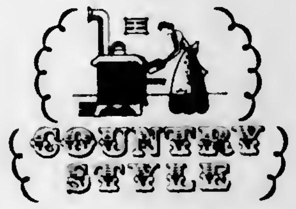
SN 275,027. Arlington Club Beverage Company, Inc., Mount Prospect, Ill. Filed June 29, 1967.

ARLINGTON CLUB

For Soft Drinks (Int. Cl. 32).
First use Mar. 1, 1925.

Class 46—Foods and Ingredients of Foods

SN 178,777. Country Style, Inc., Kalamazoo, Mich. Filed Oct. 11, 1963.



Applicant claims use for the area comprising the United States of America, except for the States of Illinois and Indiana. Applicant hereby disclaims the words "God Bless Our Home." Owner of Reg. No. 805,299.
For Bread, Buns, and Rolls (Int. Cl. 30).
First use Nov. 19, 1955.
Subj. to Concurrent Use Proceeding with SN 199,215.

SN 199,215. New Process Baking Company, Chicago, Ill. Filed Aug. 4, 1964.

COUNTRY STYLE

Applicant claims use for the area comprising the States of Illinois and Indiana.
For Bread (Int. Cl. 30).
First use November 1944.
Subj. to Concurrent Use Proceeding with SN 178,777.

SN 248,977. Cooter, Marra Co., Inc., d.b.a. The Cooter Company, Minneapolis, Minn. Filed June 27, 1966.

HAPPY HOST

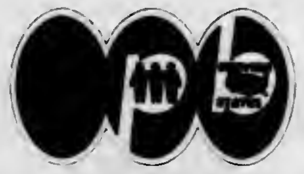
Owner of Reg. No. 375,704.
For Canned Fruit, Such as Pineapple, Apricots, Peaches, Pears, and Plums; Canned Vegetables, Such as Beans, Corn, Peas, Potatoes, Greens, Hominy, and Sauerkraut; Canned Fruit Juices, Such as Pineapple Juice, Apple Juice, Tomato Juice, and Apricot Nectar; Mayonnaise; Catsup; Tomato Sauce; Tomato Puree; Canned Meat and Fish, Such as Sausage, Salmon, and Mackerel; and Canned Prepared Foods, Such as Spaghetti With Tomato Sauce and Cheese, and Pork and Beans With Tomato Sauce (Int. Cls. 29, 30, and 32).
First use Feb. 17, 1944.

SN 251,043. Armour and Company, d.b.a. Pfaelzer Brothers, Chicago, Ill. Filed July 26, 1966.

pfaelzer

For Fresh Meats, Poultry, Sea Foods, Cheeses, and Precooked Frozen Poultry (Int. Cl. 29).
First use in or prior to June 1925.

SN 251,044. Armour and Company, d.b.a. Pfaelzer Brothers, Chicago, Ill. Filed July 26, 1966.



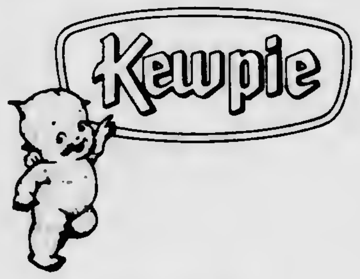
The applicant disclaims the words "The House of Personalized Service," and "Serving Fifty States" apart from the mark as shown. Owner of Reg. No. 527,435.
For Fresh Meats, Poultry, Sea Foods, and Cheeses (Int. Cl. 29).
First use on or prior to Dec. 31, 1959.

SN 254,599. Fin 'n Feather Farm, Inc., Dundee, Ill. Filed Sept. 16, 1966.

MR. PIPPS'

For Popcorn, Candy, Nuts, Cotton Candy, Caramel Corn, and Taffy Apples (Int. Cl. 30).
First use on or about Sept. 8, 1966.

SN 255,536. Mammoth Spring Canning Corp., Sussex, Wis. Filed Sept. 30, 1966.



For Canned Vegetables (Int. Cl. 29).
First use August 1923.

SN 256,157. Uncle Charlie's Sausage Co., Inc., Evansville, Ind. Filed Oct. 10, 1966.

UNCLE CHARLIE'S

For Fresh Meats and Prepared Meat Products (Int. Cl. 29).
First use during August 1952.

SN 256,935. Food Development, Inc., Kansas City, Mo. Filed Oct. 21, 1966.

Mrs. Gaye

"Mrs. Gaye" is not the name of any known individual living or dead.
For Frozen Cream Replacement Product for Use as Whipped Toppings, Fillings, and Icings (Int. Cl. 30).
First use Sept. 21, 1966.

SN 261,458. Carnation Company, Los Angeles, Calif. Filed Dec. 27, 1966.

CARNATION

Owner of Reg. Nos. 35,072, 788,232, and others.
For Dietary Food Concentrate for Weight Control (Int. Cl. 5).
First use Sept. 27, 1966.

SN 262,165. Gray Dunn & Company Limited, Glasgow, Scotland. Filed Jan. 9, 1967.

GRAY DUNN

For Biscuits (Int. Cl. 30).
First use 1853; in commerce Aug. 1, 1966.

SN 262,584. Gray Dunn & Company Limited, Glasgow, Scotland. Filed Jan. 16, 1967.

Gray Dunn

For Biscuits (Int. Cl. 30).
First use 1951; in commerce Aug. 1, 1966.

SN 263,774. Dominic T. Paniccia, d.b.a. Tower of Pizza, Ticonderoga, N.Y. Filed Feb. 1, 1967.

DOMENICK'S

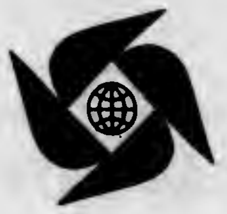
For Frozen Pizza, Bread Dough, and Spaghetti Sauce (Int. Cl. 30).
First use Sept. 1, 1966.

SN 268,320. Mother's Cake & Cookie Co., Oakland, Calif. Filed Apr. 4, 1967.

Mother's PARADE

Owner of Reg. Nos. 577,159, 840,952, and others.
For Cookies (Int. Cl. 30).
First use Mar. 16, 1967.

SN 268,514. Murray-Allen Imports, Inc., New Rochelle, N.Y. Filed Apr. 6, 1967.



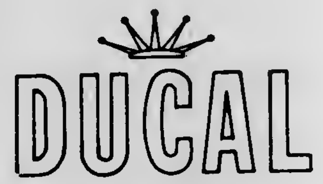
For Candies, Cookies, Biscuits, Jams, Jellies, and Marmalades (Int. Cls. 29 and 30).
First use Mar. 28, 1967.

SN 268,515. Murray-Allen Imports, Inc., New Rochelle, N.Y. Filed Apr. 6, 1967.

MURRAY-ALLEN

For Candies, Cookies, Biscuits, Jams, Jellies, and Marmalades (Int. Cls. 29 and 30).
First use 1948 on candies.

SN 268,630. Tropicana Preserve Co., Inc., Miami, Fla. Filed Apr. 7, 1967.



For Guava Cream; Orange Cream; Prune Cream; Mango Cream; Milk Cream (the term "milk cream" is a translation from the Spanish "Crema de Leche" and consists of a dessert item composed of cooked milk with sugar, corn syrup and vegetable oil); Canned Guava Seeded Halves; Shredded Coconut in Sugar Syrup; Papaya Chunks in Sugar Syrup; Orange Rinds in Syrup; Guava Marmalade; Cream of Sweet Potatoes; Prunes in Syrup; and Mango Marmalade (Int. Cls. 29 and 30).
First use Sept. 6, 1966.

SN 268,993. Einar R. Reinertsen and Bernice J. Reinertsen (joint owners), d.b.a. The E. R. Reinertsens, Granada. Minn. Filed Apr. 12, 1967.

MERRY WINKS!

For Pastry Snack Product Containing Potatoes, Similar to a Potato Chip (Int. Cl. 30).
First use July 6, 1966.

SN 269,587. The Wander Company, d.b.a. Poppycock Candies, Chicago, Ill. Filed Apr. 19, 1967.

MALARKY

For Candy (Int. Cl. 30).
First use Mar. 7, 1967.

SN 269,596. The Theobald Industries, Harrison, N.J. Filed Apr. 17, 1967.

ROYAL BENGAL

For Cat Food (Int. Cl. 31).
First use Feb. 4, 1946.

SN 275,511. Duane E. Carter, d.b.a. Carter Farms, Coloma, Mich. Filed July 7, 1967.

FLAVOR KEY

For Fresh Fruits and Vegetables (Int. Cl. 31).
First use June 16, 1967.

SN 275,682. Pet Incorporated, St. Louis, Mo. Filed July 10, 1967.

SWEET NOTHING

The word "Sweet" is disclaimed apart from the mark as shown.
For Calorie-Free Food Sweetener (Int. Cl. 1).
First use May 4, 1967.

SN 276,427. Fruen Milling Company, Minneapolis, Minn. Filed July 20, 1967.

TOWER

For Livestock and Poultry Feed (Int. Cl. 31).
First use Jan. 4, 1946.

SN 276,428. Fruen Milling Company, Minneapolis, Minn. Filed July 20, 1967.

APEX

For Livestock and Poultry Feed (Int. Cl. 31).
First use Jan. 6, 1956.

SN 276,429. Fruen Milling Company, Minneapolis, Minn. Filed July 20, 1967.

TONKA

For Livestock and Poultry Feed (Int. Cl. 31).
First use June 22, 1967.

SN 276,430. Fruen Milling Company, Minneapolis, Minn. Filed July 20, 1967.

APACHE

For Feed for Livestock (Int. Cl. 31).
First use June 9, 1967.

SN 276,432. Fruen Milling Company, Minneapolis, Minn. Filed July 20, 1967.

MOHAWK

For Livestock and Poultry Feed (Int. Cl. 31).
First use May 12, 1967.

SN 276,433. Fruen Milling Company, Minneapolis, Minn. Filed July 20, 1967.

KING

For Livestock and Poultry Feed (Int. Cl. 31).
First use Feb. 9, 1955.

SN 276,436. Fruen Milling Company, Minneapolis, Minn. Filed July 20, 1967.

NORTH STAR

For Feed for Livestock (Int. Cl. 31).
First use Apr. 22, 1966.

SN 276,437. Fruen Milling Company, Minneapolis, Minn. Filed July 20, 1967.

CHEROKEE

For Feed for Livestock (Int. Cl. 31).
First use June 19, 1967.

SN 276,693. Seaboard Seed Company, Bristol, Ill. Filed July 24, 1967.

SONG 'N BEAUTY

For Bird Feed (Int. Cl. 31).
First use on or before July 5, 1967.

SN 276,941. National Dairy Products Corporation, Chicago, Ill. Filed July 27, 1967.

SOUFFLETTES

For Cheese Flavored Corn Snacks in Expanded Form (Int. Cl. 30).
First use June 21, 1967.

SN 279,085. Mars Limited, Slough, Bucks, England. Filed Aug. 25, 1967.

LOCKETS

Owner of British Reg. No. B896,713, dated Oct. 21, 1966.
For Candy (Int. Cl. 30).

SN 279,505. Sunshine Feed Mills, Inc., Red Bay, Ala. Filed Aug. 31, 1967.

KRACKLIN

For Dog Food (Int. Cl. 31).
First use Apr. 3, 1965.

SN 279,507. Victory Provision Co., Dayton, Ohio. Filed Aug. 31, 1967.

CHEF VICTOR

For Meat and Meat Products—Namely, Chopped, Formed and Cubed Beef, Beef and Cheese, and Ham, Formed Into Patties (Int. Cl. 29).
First use June 16, 1967.

SN 279,735. G. P. Gundlach & Company, Cincinnati, Ohio. Filed Sept. 6, 1967.

GUILD

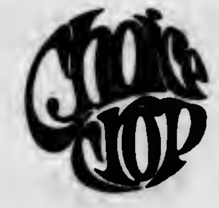
Owner of Reg. No. 553,667.
For Fluid Milk, Chocolate Milk, Cream, Half and Half, Buttermilk, Butter, Cottage Cheese, Cheese Dips, Sour Cream, Ice Cream, Ice Milk, Egg Nog Base, Fresh Eggs, Citrus Fruit Juice, Sherbet, Frozen Custard, Food Flavoring Extracts and Syrups, Fruits Prepared as Ingredients for Ice Cream, and Dessert Toppings of Fruits, Nuts, Flavored Syrups, and of Confection Base (Int. Cls. 29 and 30).
First use October 1949.

SN 279,929. Consolidated Foods Corporation, d.b.a. Joe Lowe Company, Englewood, N.J. Filed Sept. 8, 1967.

MR. CREME

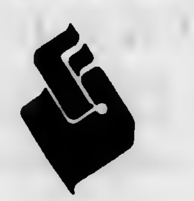
Applicant disclaims the word "Creme" apart from the mark as shown.
For Frozen Confections on Sticks and a Sweet Imitation Chocolate Coating Therefor (Int. Cl. 30).
First use July 25, 1967.

SN 280,556. Citrus Central, Inc., Orlando, Fla. Filed Sept. 18, 1967.



For Frozen Concentrated Orange Juice (Int. Cl. 32).
First use July 24, 1967.

SN 281,080. Hilleary & Partners Ltd., d.b.a. Flaming Pit Restaurants, Clayton, Mo. Filed Sept. 25, 1967.



For Meat Seasoning (Int. Cl. 30).
First use on or about July 11, 1967.

SN 281,402. Standard Brands Incorporated, New York, N.Y. Filed Sept. 28, 1967.

PUTNAM'S INN

For Coffee and Tea (Int. Cl. 30).
First use Aug. 28, 1967.

SN 283,163. San Remo Foods, Toronto, Ontario, Canada. Filed Oct. 23, 1967.

SAN REMO

For Macaroni and Spaghetti (Int. Cl. 30).
First use Nov. 1, 1964; in commerce Apr. 1, 1965.

SN 287,260. Lou Scharf Incorporated, New York, N.Y. Filed Dec. 20, 1967.

REINA DEL CARIBE

The mark is Spanish for "Queen of Caribbean."
For Jams, Jellies, and Fruit Pastes (Int. Cl. 29).
First use Mar. 22, 1966.

SN 287,904. Flavor Tree Foods, Inc., Melrose Park, Ill. Filed Jan. 2, 1968.

FLAVOR TREE

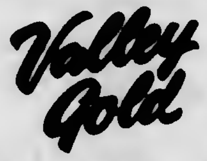
Applicant disclaims the word "Flavor" apart from the mark as shown.
For Sesame Flavored Snack Sticks Containing Wheat Flour (Int. Cl. 30).
First use at least as early as June 15, 1967.

SN 288,416. Tabor City Foods, Inc., Tabor City, N.C. Filed Jan. 9, 1968.

YAM VELVET

The applicant disclaims the term "Yam" separate and apart from its mark as shown, reserving all rights at common law now existing or hereafter arising in the disclaimed matter.
For Canned Processed Sweet Potatoes (Int. Cl. 29).
First use at least as early as Oct. 14, 1967.

SN 288,897. Valley View Packing Co., Inc., San Jose, Calif. Filed Jan. 15, 1968.



For Fried Fruits (Int. Cl. 29).
First use Mar. 4, 1952.
Subj. to Intf. with SN 274,573.

SN 290,690. General Mills, Inc., Minneapolis, Minn. Filed Feb. 9, 1968.

HUCK-L-BUCKS

For Cereal-Derived Ready-To-Eat Snack (Int. Cl. 30).
First use on or prior to Jan. 19, 1968.

Class 47 — Wines

SN 266,440. Lenz Moser, Rohrendorf, near Krems, Lower Austria, Austria. Filed Mar. 10, 1967.

Blue Danube

Owner of Austrian Reg. No. 54,955, dated June 29, 1965.
For Wines (Int. Cl. 33).
Subj. to Intf. with SN 277,303.

SN 277,303. Rudolf Kutschera u. Sohne, Vienna, Austria. Filed Aug. 1, 1967.

BLUE DANUBE SELECTION

No claim is made to "Selection" apart from the mark as shown.
For Austrian Wines (Int. Cl. 33).
First use in early 1953; in commerce in early 1953.
Subj. to Intf. with SN 266,440.

SN 278,912. St. Laurentius-Sektkellerei GmbH., Neustadt/Weinstrasse, Germany. Filed Aug. 23, 1967.

SCHLOSS ST. LAURENTIUS

Owner of German Reg. No. 759,988, dated Feb. 3, 1961; and U.S. Reg. No. 808,626.
For Sparkling Wines (Int. Cl. 33).

Class 48 — Malt Beverages and Liquors

SN 290,561. Rheingold Breweries, Inc., Brooklyn, N.Y. Filed Feb. 8, 1968.

CHUG-A-MUG

Owner of Reg. Nos. 551,817 and 764,681.
For Beer (Int. Cl. 32).
First use Oct. 22, 1962.

Class 49 — Distilled Alcoholic Liquors

SN 262,412. Distillerie König GmbH, Steinhausen, Zug, Switzerland. Filed Jan. 12, 1967.

LEIBWÄCHTER

The word "Leibwächter means "bodyguard." Owner of U.S. Reg. No. 811,908; and Swiss Reg. No. 191,458, dated Mar. 27, 1962.
For Alcoholic Bitters, Liqueurs, Brandies, and Vodka (Int. Cl. 33).

SN 269,584. Block, Grey & Block Limited, London, England. Filed Apr. 28, 1967.

THE SPEAKER

For Whisky (Int. Cl. 33).
First use July 11, 1930; in commerce Mar. 31, 1967.

SN 278,518. Mr. Boston Distillers, Inc., d.b.a. Essex Importers & Distillers, Ltd., Boston, Mass. Filed Aug. 17, 1967.

COUNTRY TOWNE

For Bourbon Whiskey (Int. Cl. 33).
First use Oct. 5, 1965.

SN 279,401. Majestic Distilling Company, Inc., Lansdowne, Md. Filed Aug. 30, 1967.

TRAVELERS CLUB

For Whiskey (Int. Cl. 33).
First use June 10, 1964.

SN 279,637. Foremost-McKesson, Inc., d.b.a. Portside Distilled Products Co., New York, N.Y. Filed Sept. 5, 1967.

PORTSIDE

For Gin and Vodka (Int. Cl. 33).
First use at least as early as July 27, 1967.

Class 50 — Merchandise Not Otherwise Classified

SN 274,341. Polychem Corporation, New Haven, Conn. Filed June 20, 1967.

T.L.C.

Owner of Reg. Nos. 684,664 and 698,619.
For Kits Containing Combinations of the Following Items: Toothbrush, Comb, Toothpaste, Paper Handkerchiefs, and Medicated Emollients for Topical Application (Int. Cl. 21).
First use at least as early as Apr. 13, 1967.

SN 277,688. Mr. Spike Company, Chicago, Ill. Filed Aug. 7, 1967.

MR. SPIKE

For Figurines (Int. Cl. 21).
First use on or about July 20, 1967.

SN 280,645. Sternco Industries, Inc., Harrison, N.J. Filed Sept. 18, 1967.

SEA GEMS

For Ornaments for Home Aquarium Tanks (Int. Cl. 20).
First use June 2, 1967.

SN 285,379. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Nov. 22, 1967.

SCOTCHVIEW

For Solar Control Film for Attachment to Glass Such as Windows To Provide Protection From the Sun (Int. Cl. 17).
First use Nov. 4, 1966.

Class 51 — Cosmetics and Toilet Preparations

SN 257,159. Bonetti Freres, Malakoff, Hauts-de-Seine, France. Filed Oct. 25, 1966.

DIAD

Owner of French Reg. No. 419,474, dated Apr. 17, 1952 (Seine); Natl. Inst. No. 513,270.
For Perfumes and Face Creams (Int. Cl. 3).

SN 259,637. Bonne Bell, Inc., Lakewood, Ohio. Filed Nov. 29, 1966.

SURF STIK

Without waiving common law rights, the word "Stik" is disclaimed apart from the mark as shown.
For Lip Pomade (Int. Cl. 3).
First use Nov. 1, 1966.

SN 263,305. Yardley of London, Inc., Totowa, N.J. Filed Jan. 25, 1967.

THE ROMANTIC LOOK

For Fluid Foundation and Lipstick (Int. Cl. 3).
First use Jan. 3, 1967.

SN 266,921. Rexall Drug and Chemical Company, d.b.a. Vanda Cosmetics Company, Los Angeles, Calif. Filed Mar. 16, 1967.

VANQUISH

For Personal Deodorant (Int. Cl. 5).
First use Feb. 3, 1967.

SN 273,255. Clairol Incorporated, New York, N.Y. Filed June 7, 1967.

SUDDEN SUMMER

For Men's Hair Lightener (Int. Cl. 3).
First use Mar. 14, 1967.

SN 273,257. Clairol Incorporated, New York, N.Y. Filed June 7, 1967.

EMPATHY

For Perfume, Toilet Water, and Cologne (Int. Cl. 3).
First use Mar. 14, 1967.

SN 273,260. Clairol Incorporated, New York, N.Y. Filed June 7, 1967.

THINK PRETTY

For Hair Styling Lotion (Int. Cl. 3).
First use Mar. 14, 1967.

SN 273,587. Avon Products, Inc., New York, N.Y. Filed June 12, 1967.

NEW WORLDS

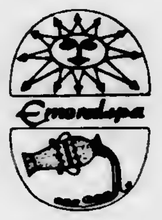
For Men's Toiletries—Namely, After Shave Lotion, After Shave Lotion Spray, Cream Hair Dress, Cologne, Spray Personal Deodorant, and Talc (Int. Cls. 3 and 5).
First use May 25, 1967.

SN 285,394. Clairol Incorporated, New York, N.Y. Filed Nov. 22, 1967.

SUDDEN SUMMER

For Sun Tan Lotion and Sun Tan Gel (Int. Cl. 3).
First use Oct. 27, 1967.

SN 286,460. Cosway Company, Inc., Beverly Hills, Calif. Filed Dec. 8, 1967.



For Bubble Bath Preparation Having Mineral Water Properties (Int. Cl. 3).
First use Dec. 1, 1967.

SN 290,227. Shulton, Inc., Clifton, N.J. Filed Feb. 5, 1968.

FROM THE SEA

For After Shave Cologne (Int. Cl. 3).
First use Dec. 28, 1967.

SN 290,436. Carter-Wallace, Inc., New York, N.Y. Filed Feb. 5, 1968.

SATIN SHIELD

For Hand and Body Cream (Int. Cl. 3).
First use Sept. 25, 1967.

SN 290,437. Carter-Wallace, Inc., New York, N.Y. Filed Feb. 5, 1968.

SATIN SHEATH

For Hand and Body Cream (Int. Cl. 3).
First use Sept. 25, 1967.

Class 52 — Detergents and Soaps

SN 165,162. Roger & Gallet S.A., Paris, France, assignee of Roger & Gallet, New York, N.Y. Filed Mar. 21, 1963.

R & G

Owner of U.S. Reg. No. 35,737.
For Soap (Int. Cl. 3).
First use June 1958; in commerce June 1958.

SN 174,250. Witco Chemical Company, Inc., New York, N.Y. Filed Aug. 1, 1963.

ACTIVE

Owner of Reg. No. 442,240.
For Liquid Detergents for Washing Dishes and Fabrics (Int. Cl. 3).
First use May 1, 1963.

SN 250,966. Hyman Eventoff, d.b.a. Bathbee Company, Long Island City, N.Y. Filed July 25, 1966.

BATHBEE

For Toilet Soap (Int. Cl. 3).
First use as early as July 20, 1966.

SN 264,536. Foseco Trading A.G., Chur, Graubunden, Switzerland. Filed Feb. 13, 1967.

LUPOL

Owner of Swiss Reg. No. 215,969, dated Feb. 8, 1966.
For Chemical Products for Use in the Metallurgical Industry—Namely, a Pickling Bath Additive in the Nature of a Detergent and Lubricant (Int. Cl. 1).
First use May 18, 1966; in commerce May 18, 1966.

SN 265,500. Dub-L-Kleen Chemical Corporation, College Point, N.Y. Filed Feb. 27, 1967.

DUB-L-KLEEN 44

For All-Purpose Cleanser (Int. Cl. 3).
First use Sept. 19, 1966.

SN 272,356. Clairol Incorporated, New York, N.Y. Filed May 25, 1967.

PSSSSSST

For Hair Shampoo (Int. Cl. 3).
First use Apr. 20, 1967.

SN 273,586. Avon Products, Inc., New York, N.Y. Filed June 12, 1967.

NEW WORLDS

For Hair Shampoo and Toilet Soap (Int. Cl. 3).
First use May 25, 1967.

SN 279,513. Dogs of Distinction, Inc., New York, N.Y. Filed Sept. 1, 1967.

SHAMPOODLE BY DOD

For Shampoo for Dogs (Int. Cl. 3).
First use Aug. 12, 1967.

SN 281,359. Clairol Incorporated, New York, N.Y. Filed Sept. 28, 1967.

SUMMER BLONDE

Applicant disclaims the word "Blonde" apart from the mark as shown. Owner of Reg. Nos. 816,260 and 834,432.
For Hair Shampoo (Int. Cl. 3).
First use July 6, 1967.

SN 284,426. Glamorene Products Corporation, Clifton, N.J. Filed Nov. 9, 1967.

COLORLOVE

For Floor Cleaner and Brightener (Int. Cl. 3).
First use Oct. 19, 1967.

SN 288,654. Virginia Chemicals Inc., West Norfolk, Va. Filed Jan. 11, 1968.

VIRSTRIP

Owner of Reg. Nos. 753,571, 772,067, and 820,557.
For Stripping Agent To Remove Color From Hosiery (Int. Cl. 1).
First use July 20, 1967.

SERVICE MARKS

Class 100 — Miscellaneous

SN 261,016. Across the Street Restaurants of America, Inc., Oklahoma City, Okla. Filed Dec. 19, 1966.

ACROSS THE STREET

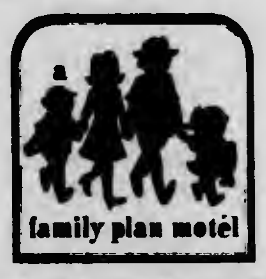
For Restaurant Services (Int. Cl. 42).
First use Aug. 25, 1965.

SN 261,915. Brown Engineering Company, Inc. (California corporation), Huntsville, Ala., assignee of Brown Engineering Company, Inc. (Alabama corporation), Huntsville, Ala. Filed S.R. Jan. 4, 1967; Am. P.R. Mar. 4, 1968.

EXPANDING MAN'S KNOWLEDGE . . . EXTENDING MAN'S REACH

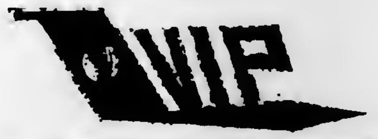
For Research and Development Services in Aerospace Work and Electronics (Int. Cl. 35).
First use at least as early as May 23, 1966.

SN 264,218. Kasco Realty Corp., d.b.a. The Ocean Gate Motel and Apartments, Surfside, Fla. Filed Feb. 8, 1967.



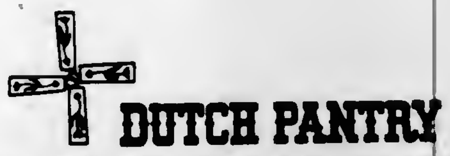
Applicant disclaims the words "A Family Plan Motel" apart from the mark.
For Hotel and Motel Services (Int. Cl. 42).
First use Dec. 20, 1966.

SN 269,829. VIP Industries, Inc., Windermere, Fla. Filed Apr. 24, 1967.



For Providing Facilities for the Personal Comfort and Convenience of Pilots at Airports, Such as, Pilot Lounges, Communications Facilities, Providing Flight Charts, and the Like (Int. Cl. 42).
First use Mar. 13, 1967.

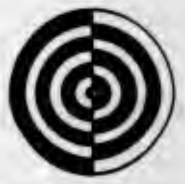
SN 281,562. Dutch Pantry, Inc., Selinsgrove, Pa. Filed Oct. 2, 1967.



Owner of Reg. Nos. 582,150, 659,925, and 688,808.
For Restaurant Services (Int. Cl. 42).
First use November 1954.

Class 101 — Advertising and Business

SN 248,634. Paraphernalia, Inc., New York, N.Y., assignee of Puritan Fashions Corporation, New York, N.Y. Filed June 21, 1966.



For Retail Clothing Store Services (Int. Cl. 35).
First use Oct. 7, 1965.

SN 254,715. Personnel Engineering, Inc., Rockford, Ill. Filed Sept. 19, 1966.

PERSONNEL ENGINEERING

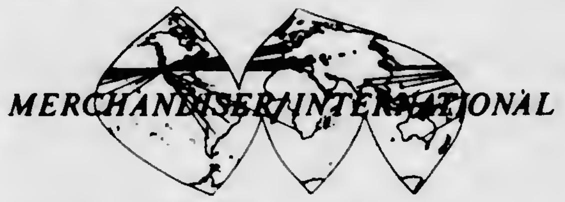
Owner of Reg. No. 735,098.
For Consultant and Employment Services in the Field of Personnel Management (Int. Cl. 35).
First use Sept. 3, 1958.

SN 260,031. Dun & Bradstreet, Inc., New York, N.Y. Filed Dec. 5, 1966.

D & B

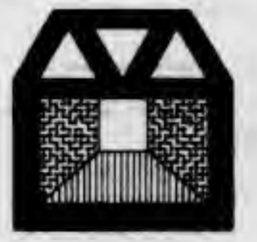
For Furnishing Credit Rating Reports, Marketing Reports, Sales Reports, and Financial Reports, Including Collecting and Reporting Credit, Sales, Financial, and Personnel Information, Credit and Financial Analysis, Commercial Collections, Marketing and Research, and Economic Studies and Services (Int. Cl. 35).
First use in or about 1933.

SN 260,265. Merchandiser/International, Ingelwood, Calif. Filed Dec. 7, 1966.



For Shopping for and Purchasing Merchandise of Others on Behalf of Commercial and Individual Buyers (Int. Cl. 35).
First use at least as early as Feb. 25, 1966.

SN 265,287. E'Con Mills, Inc., Chattanooga, Tenn. Filed Feb. 23, 1967.



The drawing is lined for yellow and red, but these colors are not claimed as an essential feature of the mark.
For Retail Carpeting and Draperies Store Services (Int. Cl. 35).
First use Dec. 31, 1966.

SN 265,923. Rust-Oleum Corporation, Evanston, Ill. Filed Mar. 3, 1967.

PARTNERS-IN-PROFIT

For Direct Mail Advertising Services (Int. Cl. 35).
First use in or about September 1954.

SN 268,506. Marx X Associates, Inc., Lincolnton, N.C. Filed Apr. 6, 1967.

MARK
X

For Advertising and Public Relations Services (Int. Cl. 35).
First use on or about Jan. 2, 1967.

SN 268,749. Lowe's, Inc., Cassopolis, Mich. Filed Apr. 10, 1967.

MR. FRIENDLY

"Mr. Friendly" is a fictitious name and not the name of any particular person.
For Furnishing Advice and Information for and Assistance in Operating Pet Shops and Grooming and Care Technique for Pets (Int. Cl. 35).
First use Sept. 29, 1966.

SN 269,103. Marshall Riconosciuto, d.b.a. UDS, Tacoma, Wash. Filed Apr. 13, 1967.

UDS

Owner of Reg. No. 827,333.
For Retail Drug Store Services (Int. Cl. 35).
First use in or about April 1962.

SN 269,218. Scientific Placement, Inc., Houston, Tex. Filed Apr. 14, 1967.

For Professional Employment Agency Services (Int. Cl. 35).
Filed Feb. 26, 1967.

Class 102 — Insurance and Financial

SN 261,225. Merit Life Insurance Co., Evansville, Ind. Filed Dec. 21, 1966.

MERIT LIFE INSURANCE CO.

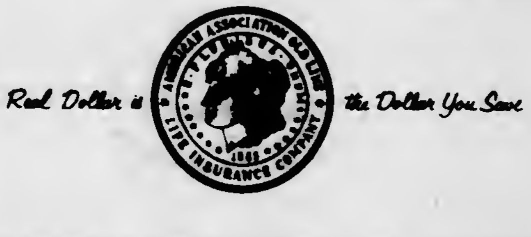
Applicant disclaims the wording "Life Insurance Co." apart from the mark as shown.
For Writing Life Insurance or Accident and Health Insurance, or Both (Int. Cl. 36).
First use during November 1957.

SN 263,472. Mercury Savings & Loan Association, Buena Park, Calif. Filed Jan. 27, 1967.

MAX-INT

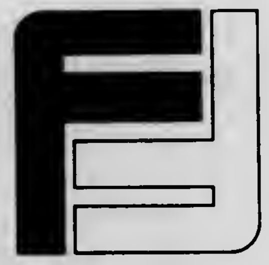
For Savings Account Services (Int. Cl. 36).
First use during the last week of 1966.

SN 265,150. The American Association Old Line Life Insurance Company, Nashville, Tenn. Filed Feb. 21, 1967.



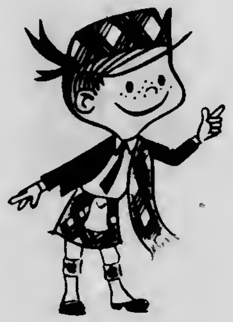
Applicant disclaims exclusive right to the words "Old Line Life Insurance Company" apart from the mark as shown.
For Underwriting Employee Benefit Insurance (Int. Cl. 36).
First use Oct. 15, 1965.

SN 265,416. Fidelity Federal Savings and Loan Association of Jacksonville, Jacksonville, Fla. Filed Feb. 24, 1967.



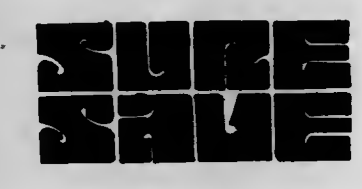
The mark comprises a fanciful representation of the letters "FF."
For Banking Services (Int. Cl. 36).
First use Mar. 18, 1965.

SN 277,363. Joplin Federal Savings and Loan Association, Joplin, Mo. Filed Aug. 2, 1967.



For Banking Services—Namely, the Handling of Savings and Loans (Int. Cl. 36).
First use July 1966.

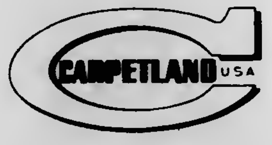
SN 278,919. Sure Save Corporation, Brunswick, Ga. Filed Aug. 23, 1967.



For Combined Life Insurance and Savings Plan Services (Int. Cl. 36).
First use May 15, 1967.

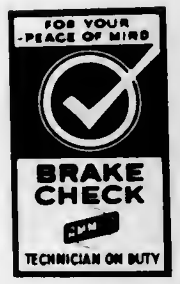
Class 103 — Construction and Repair

SN 256,523. Carpetland U.S.A., Inc., Munster, Ind. Filed Oct. 17, 1966.



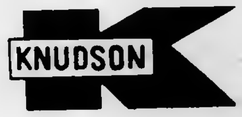
Applicant disclaims "USA" apart from the mark as shown.
For Selection and Installation of Floor Coverings (Int. Cl. 37).
First use on or before July 10, 1966; on or before Apr. 21, 1960, as to the service mark "Carpetland USA."

SN 259,795. Ammco Tools, Inc., North Chicago, Ill. Filed Dec. 1, 1966.



Applicant disclaims the phrases "For Your Peace of Mind," "Brake Check," "Technician on Duty," and the representation of the sign, apart from the mark as shown.
For Automobile and Truck Repair and Maintenance Services (Int. Cl. 37).
First use June 1, 1966.

SN 266,239. Wm. Knudson & Sons, Inc., Des Moines, Iowa. Filed Mar. 8, 1967.



For General Construction Contracting (Int. Cl. 37).
First use Jan. 10, 1965.

SN 267,531. Marolf Hygienic Equipment, Inc., Toledo, Ohio. Filed Mar. 24, 1967.

MAROLF

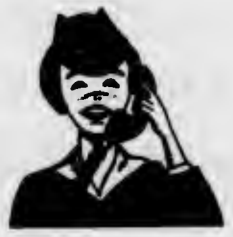
For Servicing and Maintenance of Aerobic Sewage Treatment Systems, Septic Tanks and Apparatus and Equipment Useable Therewith (Int. Cl. 37).
First use November 1958.

Class 105 — Transportation and Storage

SN 262,076. Trans Caribbean Airways, Inc., New York, N.Y. Filed Jan. 6, 1967.

Owner of Reg. No. 823,515.
For Air Transportation Provided for Passengers Transported by Applicant (Int. Cl. 39).
First use Oct. 19, 1966.

SN 268,460. Airways Rent-A-Car System, Los Angeles, Calif. Filed Apr. 6, 1967.



For Leasing and Rental of Cars and Trucks (Int. Cl. 39).
First use January 1960.

Class 107 — Education and Entertainment

SN 247,413. Vincent P. Schneider, d.b.a. Brass Arts Quintet, Bronx, N.Y. Filed June 6, 1966.

BRASS ARTS QUINTET

Applicant disclaims any exclusive rights to the word "Quintet" apart from the mark as shown.
For Public Musical Performances (Int. Cl. 41).
First use Oct. 29, 1963.

SN 260,030. Dun & Bradstreet, Inc., New York, N.Y. Filed Dec. 5, 1966.

D & B

For Correspondence Courses in Credit and Financial Analysis, Fundamentals of the Credit Function, Profitable Management for the Independent Retailer, Personal Investments, Sales Training, the Language of Business, and Problems in Credit and Collections (Int. Cl. 41).
First use in or about 1933.

SN 260,034. Dun & Bradstreet, Inc., New York, N.Y. Filed Dec. 5, 1966.

DUN & BRADSTREET

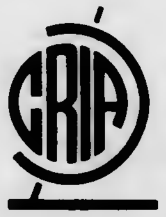
Owner of Reg. Nos. 509,756, 828,011, and others.
For Correspondence Courses in Credit and Financial Analysis, Fundamentals of the Credit Function, Profitable Management for the Independent Retailer, Personal Investments, Sales Training, the Language of Business, and Problems in Credit and Collections (Int. Cl. 41).
First use in or about 1933.

SN 269,762. Watson Sharp James, d.b.a. Sounds Unlimited, Cambridge, Mass. Filed Apr. 21, 1967.

THE RANDOM SAMPLE

For Entertainment Services Rendered by a Rock 'n' Roll Band (Int. Cl. 41).
First use Feb. 1, 1967.

SN 286,303. Council on Religion and International Affairs, New York, N.Y. Filed Dec. 6, 1967.

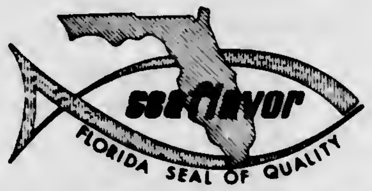


For Educational Services Rendered Through Seminars and Otherwise in the Field of International Affairs (Int. Cl. 41).
First use spring of 1963.

CERTIFICATION MARKS

Class A — Goods

SN 255,504. Florida Board of Conservation, Tallahassee, Fla., assignee of Tom Adams, Tallahassee, Fla. Filed Sept. 30, 1966.



The mark certifies that the goods satisfy Florida quality control standards as to taste, color, appearance, freshness, portion control, and that the goods are Florida seafoods. The drawing is lined for the colors green and purple.
For Florida Seafoods.
First use Aug. 29, 1966.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

848,030. 'TPX'. Imperial Chemical Industries Limited. SN 256,096. Pub. 12–26–67. Filed 10–10–66.

848,031. COMFORS. Ford Motor Company. SN 257,842. Pub. 2–13–68. Filed 11–3–66.

848,032. FORBON AND DESIGN. NVF Company. SN 261,746. Pub. 2–13–68. Filed 12–30–66.

848,033. MOLYCOR. A. O. Smith Corporation. SN 266,597. Pub. 2–13–68. Filed 3–13–67.

848,034. BESTFLEX. Best Quality Plastics, Inc. SN 266,723. Pub. 2–13–68. Filed 3–15–67.

848,035. AYRLEX. Rohm and Haas Company. SN 270,276. Pub. 11–7–67. Filed 4–28–67.

848,036. AMERIPOL CB MICRO-BLACK. Goodrich-Gulf Chemicals, Inc. SN 278,297. Pub. 2–13–68. Filed 8–15–67.

848,037. SH AND DESIGN. Stauffer Hoechst Polymer Corporation. SN 283,205. Pub. 2–13–68. Filed 10–24–67.

Class 2 — Receptacles

848,038. AB-PAC. Industrial Crating & Packing, Inc., d.b.a. Palmer Arzo Company. SN 245,078. Pub. 2–13–68. Filed 5–6–66.

848,039. TOTEM. Best Quality Plastics, Inc. SN 247,312. Pub. 2–13–68. Filed 6–6–66.

848,040. AZTEC. Lenox, Incorporated. SN 253,660. Pub. 1–16–68. Filed 9–1–66.

848,041. KH AND DESIGN. Ken Hagen Manufacturing Co., Inc. MULTIPLE CLASS (Classes 2 and 50). SN 268,729. Pub. 2–13–68. Filed 4–10–67.

848,042. REDI-FRAME. Container Corporation of America. SN 278,192. Pub. 2–13–68. Filed 8–14–67.

848,043. E-Z LOAD. Gulf States Paper Corporation. SN 278,484. Pub. 2–13–68. Filed 8–17–67.

848,044. TRAYSIN. Johnson & Johnson. SN 285,794. Pub. 2–13–68. Filed 11–29–67.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

848,045. SIRE SINE. Horticultural Industries Proprietary Limited. MULTIPLE CLASS (Classes 3 and 37). SN 256,178. Pub. 2–13–68. Filed 10–11–66.

Class 4 — Abrasives and Polishing Materials

848,046. SK. Stephen Charles Kabanick, Sr., d.b.a. S.K. Products. SN 266,429. Pub. 2–13–68. Filed 3–10–67.

848,047. ARMOSHIELD. Armour and Company, d.b.a. Armour Abrasives Company. SN 267,390. Pub. 2–13–68. Filed 3–23–67.

848,048. ARMOLUBE. Armour and Company, d.b.a. Armour Abrasives Company. SN 267,391. Pub. 2–13–68. Filed 3–23–67.

Class 6 — Chemicals and Chemical Compositions

848,049. VITAKRAFT. Heino Wührmann, d.b.a. Vitakraft-Werk. MULTIPLE CLASS (Classes 6, 18, and 46). SN 234,861. Pub. 11–28–67. Filed 12–20–65.

848,050. ENDCOR. W. R. Grace & Co. SN 238,633. Pub. 8–21–67. Filed 2–11–66.

848,051. GAF. General Aniline & Film Corporation. SN 241,449. Pub. 2–13–68. Filed 3–21–66.

848,052. GAF AND BLOCK DESIGN. General Aniline & Film Corporation. SN 248,797. Pub. 2–13–68. Filed 6–23–66.

848,053. PUPPET (DESIGN). Ferrania Societa per Azioni. MULTIPLE CLASS (Classes 6 and 26). SN 255,606. Pub. 2–13–68. Filed 10–3–66.

848,054. STOP-RUST. Rust-Oleum Corporation, d.b.a. Stop-Rust Company. SN 264,592. Pub. 2–13–68. Filed 2–13–67.

848,055. ISOTON. Coulter Electronics, Inc. SN 266,007. Pub. 2–13–68. Filed 3–6–67.

848,056. CONQ-R-DUST. S. C. Johnson & Son, Inc. SN 266,185. Pub. 2–13–68. Filed 3–8–67.

848,057. ZAPONIN ISOTON. Coulter Electronics, Inc. SN 268,475. Pub. 2–13–68. Filed 4–6–67.

848,058. NAUGATUCK. Uniroyal, Inc. SN 268,540. Pub. 2–13–68. Filed 4–6–67.

848,059. AMABOND. American Aniline Products, Inc. SN 268,670. Pub. 11–28–67. Filed 4–10–67.

848,060. AMACRYL. American Aniline Products, Inc. SN 268,671. Pub. 11–28–67. Filed 4–10–67.

848,061. AMASOFT. American Aniline Products, Inc. SN 268,685. Pub. 11–28–67. Filed 4–10–67.

848,062. AMAPEN. American Aniline Products, Inc. SN 268,686. Pub. 11–28–67. Filed 4–10–67.

848,063. INSTA-FIX. Microcopy Inc. SN 270,402. Pub. 2–13–68. Filed 5–1–67.

848,064. INSTA-NEG. Microcopy Inc. SN 270,403. Pub. 2–13–68. Filed 5–1–67.

848,065. PHOSPHASTRATE. Warner-Lambert Pharmaceutical Company. SN 276,066. Pub. 2–13–68. Filed 7–17–67.

848,066. PHOSPHASTRATE. Warner-Lambert Pharmaceutical Company. SN 276,067. Pub. 2–13–68. Filed 7–17–67.

848,067. NOPCOFLEX. Diamond Shamrock Corporation, by change of name from Diamond Alkali Company. SN 284,276. Pub. 1–16–68. Filed 11–7–67.

848,068. GAF AND DESIGN. General Aniline & Film Corporation. SN 285,977. Pub. 2–13–68. Filed 12–1–67.

848,069. GAF. General Aniline & Film Corporation. SN 285,978. Pub. 2–13–68. Filed 12–1–67.

Class 8 — Smokers' Articles, Not Including Tobacco Products

848,070. PREMIER. Ronson Corporation. SN 255,724. Pub. 2–13–68. Filed 10–4–66.

848,071. AIRWELT. Rogers, Inc. SN 280,331. Pub. 2–13–68. Filed 9–14–67.

848,072. FILLS-EASY. Rogers, Inc. SN 280,332. Pub. 2–13–68. Filed 9–14–67.

848,073. NIMBUS. Rogers, Inc. SN 280,333. Pub. 2–13–68. Filed 9–14–67.

848,074. LITETTE. B & S Engineering and Manufacturing Company. SN 284,574. Pub. 2–13–68. Filed 11–13–67.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

848,075. ACCURACY IS OUR AIM AND DESIGN. James L. Wade, d.b.a. Wade Tri-Test Munitions Company. SN 267,702. Pub. 2–13–68. Filed 3–27–67.

Class 10 — Fertilizers

848,076. PRO·ROOT. Gus Dettelbach, d.b.a. Georgia-Tennessee Mining & Chemical Co. SN 268,714. Pub. 2–13–68. Filed 4–10–67.

848,077. HALEY EXCELSIOR CO. AND DESIGN. Jesse C. Haley, Jr., d.b.a. Haley Excelsior Co. SN 285,419. Pub. 2–13–68. Filed 11–22–67.

848,078. PINELAND. Jesse C. Haley, Jr., d.b.a. Haley Excelsior Co. SN 285,420. Pub. 2–13–68. Filed 11–22–67.

848,079. SP–2. Phillips Petroleum Company. SN 285,674. Pub. 2–13–68. Filed 11–27–67.

Class 11 — Inks and Inking Materials

848,080. KODON. Central Compounding Company. SN 256,922. Pub. 10–17–67. Filed 10–21–66.

Class 12 — Construction Materials

848,081. CHEMSTOP. Chemsearch Corporation. SN 240,707. Pub. 2–13–68. Filed 3–11–66.

848,082. HILLYARD ULTRATHANE AND DESIGN. Hillyard Enterprises, Inc. SN 247,921. Pub. 10–24–67. Filed 6–13–66.

848,083. SIR AND DESIGN. L & M-Surco Mfg., Inc., d.b.a. Surco Industrial Repair. MULTIPLE CLASS (Classes 12 and 52). SN 258,442. Pub. 8–8–67. Filed 11–14–66.

848,084. SWINGLINE. Swingline Inc. SN 282,964. Pub. 2–13–68. Filed 10–20–67.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

848,085. SENTRY. Sentry Hardware Corporation. SN 238,822. Pub. 2–13–68. Filed 2–14–66.

848,086. LOC-MASTER. Rex Chainbelt Inc., assignee of Lear Siegler, Inc. SN 250,523. Pub. 2–13–68. Filed 7–18–66.

848,087. FARRISERVO AND DESIGN. Farris Engineering Corporation. SN 264,313. Pub. 2–13–68. Filed 2–9–67.

848,088. ADAPTATUBE. Calumet & Hecla, Inc. SN 269,854. Pub. 2–13–68. Filed 4–24–67.

848,089. CHURCH. American Standard Inc., by change of name from American Radiator & Standard Sanitary Corporation. SN 269,963. Pub. 2–13–68. Filed 4–25–67.

848,090. ROCKWOOD. E. W. Bliss Company. SN 270,344. Pub. 2–13–68. Filed 5–1–67.

848,091. EZ PAINTR. EZ Paintr Corporation. MULTIPLE CLASS (Classes 13, 29, and 32). SN 273,550. Pub. 2–13–68. Filed 6–12–67.

Class 14 — Metals and Metal Castings and Forgings

848,092. THE ROLLS WITH THE STRIPED RED WABBLERS. E. W. Bliss Company. MULTIPLE CLASS (Classes 14 and 23). SN 246,224. Pub. 2–6–68. Filed 5–23–66.

848,093. THAISARCO. Thailand Smelting and Refining Company Limited. SN 269,127. Pub. 2–13–68. Filed 4–13–67.

848,094. PRECO-MET AND DESIGN. Precoat Metals Incorporated. SN 270,605. Pub. 2–13–68. Filed 5–3–67.

Class 15 — Oils and Greases

848,095. VII AND DESIGN. H.R.L. Inc., d.b.a. HRLubricants Inc. SN 274,621. Pub. 2–13–68. Filed 6–23–67.

848,096. ANTIQUE CHARM. J. Gilbert Haller, d.b.a. Haller Oil Company. SN 276,441. Pub. 2–13–68. Filed 7–20–67.

848,097. VICTORIAN. J. Gilbert Haller, d.b.a. Haller Oil Company. SN 276,443. Pub. 2–13–68. Filed 7–20–67.

848,098. QUAKER STATE F-L-M AND DESIGN. Quaker State Oil Refining Corporation. SN 277,473. Pub. 2–13–68. Filed 8–3–67.

Class 16 — Protective and Decorative Coatings

848,099. ENDCOR. W. R. Grace & Co. SN 238,634. Pub. 3–21–67. Filed 2–11–66.

848,100. ZIP DRY. The Valspar Corporation. SN 255,484. Pub. 2–13–68. Filed 9–29–66.

848,101. NEW WOOD. Salmon Products, Inc. SN 265,558. Pub. 2–13–68. Filed 2–27–67.

Class 17 — Tobacco Products

848,102. MALIBU THINS. The American Tobacco Company. SN 266,718. Pub. 2–13–68. Filed 3–15–67.

848,103. SILVA THINS. The American Tobacco Company. SN 270,873. Pub. 2–13–68. Filed 5–8–67.

848,104. PAY CAR. The Pinkerton Tobacco Co. SN 271,722. Pub. 2–13–68. Filed 5–17–67.

848,105. CHAPEL HILL. R. J. Reynolds Tobacco Company. SN 272,749. Pub. 2–13–68. Filed 5–31–67.

848,106. BOUNTY SLIMS. P. Lorillard Company. SN 281,708. Pub. 2–13–68. Filed 10–3–67.

848,107. HANDY PAL. R. J. Reynolds Tobacco Company. SN 282,134. Pub. 2–13–68. Filed 10–9–67.

848,108. AT EASE. The American Tobacco Company. SN 285,511. Pub. 2–13–68. Filed 11–24–67.

848,109. LIMELIGHT. Philip Morris Incorporated. SN 285,627. Pub. 2–13–68. Filed 11–27–67.

Class 18 — Medicines and Pharmaceutical Preparations

848,049. (See Class 6 for this trademark.)

848,110. ANIMA-STRATH. Strath Labor AG. SN 243,513. Pub. 2–13–68. Filed 4–15–66.

848,111. CIRCLE DESIGN. Alborin Corporation. SN 261,440. Pub. 2–13–68. Filed 12–27–66.

848,112. INGALAX. Boehringer Ingelheim G.m.b.H. SN 264,647. Pub. 2–13–68. Filed 2–14–67.

848,113. K–20. Roussel Corporation. SN 265,109. Pub. 2–13–68. Filed 2–20–67.

848,114. KENDALL. The Kendall Company. SN 265,534. Pub. 2–13–68. Filed 2–27–67.

848,115. S/L. Standard Laboratories, Inc. SN 265,771. Pub. 2–13–68. Filed 3–2–67.

848,116. RERRIMYCIN. Chas. Pfizer & Co., Inc. SN 265,841. Pub. 10–17–67. Filed 3–2–67.

848,117. PROCYTOXID. Stanley Drug Products, Inc. SN 266,696. Pub. 2–13–68. Filed 3–14–67.

848,118. FURESTROL. The Norwich Pharmacal Company. SN 267,261. Pub. 2–13–68. Filed 3–21–67.

848,119. DYNOVIL. Mead Johnson & Company (Delaware corporation), assignee of Mead Johnson & Company (Indiana corporation). SN 268,847. Pub. 10–31–67. Filed 4–11–67.

848,120. TORELLEN. The Dow Chemical Company. SN 270,767. Pub. 2–13–68. Filed 5–5–67.

848,121. PERIES. Xttrium Laboratories, Inc. SN 271,585. Pub. 2–13–68. Filed 4–18–67.

848,122. YOUNG SPIRIT. American Home Products Corporation. SN 279,022. Pub. 2–13–68. Filed 8–25–67.

848,123. ANADIN. American Home Products Corporation. SN 283,190. Pub. 2–13–68. Filed 10–24–67.

Class 19—Vehicles

848,124. JUPITER. Mitsubishi Jukogyo Kabushiki Kaisha. SN 243,795. Pub. 11–28–67. Filed 4–19–66.

848,125. ROCKWELL-STANDARD AND DESIGN. Rockwell-Standard Corporation. SN 250,691. Pub. 2–13–68. Filed 7–20–66.

848,126. XL8 PRODUCTS AND DESIGN. Excel Corporation. SN 252,367. Pub. 2–13–68. Filed 8–15–66.

848,127. SHELBY AND DESIGN. Shelby Mobile Homes, Inc. SN 255,359. Pub. 2–13–68. Filed 9–28–66.

848,128. JACK SALMON-14. The Salmon Stiles Corporation. SN 260,962. Pub. 2–13–68. Filed 12–16–66.

848,129. MARCO AND DESIGN. Marine Construction & Design Co. MULTIPLE CLASS (Classes 19 and 23). SN 266,383. Pub. 2–13–68. Filed 3–10–67.

Class 21—Electrical Apparatus, Machines, and Supplies

848,130. AFCO. Afco Electronics, Inc. MULTIPLE CLASS (Classes 21 and 36). SN 242,702. Pub. 11–21–67. Filed 4–5–66.

848,131. AQUAMASTER. Russ International, Inc. SN 259,025. Pub. 2–13–68. Filed 11–18–66.

848,132. FYRE SPIKE. American Home Products Corporation. SN 262,111. Pub. 2–13–68. Filed 1–9–67.

Class 22—Games, Toys, and Sporting Goods

848,133. COLT TROPHY MARK I AND DESIGN. Colt's Inc. SN 239,971. Pub. 5–9–67. Filed 3–2–66.

848,134. ACE IN THE HOLE. Paul W. Wehrle & Associates, Inc. SN 250,319. Pub. 2–13–68. Filed 7–14–66.

848,135. SPRINGBOK SHELF STOR PUZZLES AND DESIGN. Springbok Editions, Inc. SN 257,994. Pub. 2–13–68. Filed 11–4–66.

848,136. SPRINGBOK BOOKCASE PUZZLES AND DESIGN. Springbok Editions, Inc. SN 257,995. Pub. 2–13–68. Filed 11–4–66.

848,137. SPRINGBOK PUZZLES SHELF COLLECTION AND DESIGN. Springbok Editions, Inc. SN 257,996. Pub. 2–13–68. Filed 11–4–66.

848,138. SPRINGBOK SHELF-PUZZLE AND DESIGN. Springbok Editions, Inc. SN 257,997. Pub. 2–13–68. Filed 11–4–66.

848,139. OKTA-PUZZLE. Springbok Editions, Inc. SN 258,328. Pub. 2–13–68. Filed 11–9–66.

848,140. ZILLION BUBBLES. Wham-O Mfg. Co. SN 262,989. Pub. 2–13–68. Filed 1–20–67.

848,141. DUNLOP RANGER. Dunlop Tire and Rubber Corporation. SN 265,814. Pub. 2–13–68. Filed 3–2–67.

848,142. I-QUBE. Science Games. SN 267,679. Pub. 2–13–68. Filed 3–27–67.

848,143. JG JIM-GYM AND DESIGN. Koltanbar Engineering Co. SN 268,197. Pub. 2–13–68. Filed 4–3–67.

848,144. BATTLE PADDLE. Moen and Patton, Inc. SN 271,059. Pub. 2–13–68. Filed 5–9–67.

848,145. INSTANT INSANITY. Parker Brothers, Inc., assignee of Franz O. Armbruster, d.b.a. Products of the Behavioral Sciences. SN 272,253. Pub. 2–13–68. Filed 5–24–67.

848,146. ANIMAL TWISTER. Milton Bradley Company. SN 273,165. Pub. 2–13–68. Filed 6–6–67.

848,147. RANDOO. Hawkins and Hawkins, Inc. SN 277,045. Pub. 2–13–68. Filed 7–28–67.

848,148. FORESTER. South Bend Tackle Company Inc. SN 277,800. Pub. 2–13–68. Filed 8–8–67.

848,149. OUTDOORSMAN. South Bend Tackle Company Inc. SN 277,806. Pub. 2–13–68. Filed 8–8–67.

848,150. FLEX-AIRE. The Coleman Company, Inc. SN 279,273. Pub. 2–13–68. Filed 8–29–67.

848,151. OASIS. The Coleman Company, Inc. SN 279,372. Pub. 2–13–68. Filed 8–30–67.

848,152. CRYSTAL. Atlantic Lures, Inc. SN 281,351. Pub. 2–13–68. Filed 9–28–67.

848,153. JERSEY BOUNCE. Atlantic Lures, Inc. SN 281,352. Pub. 2–13–68. Filed 9–28–67.

848,154. MEDIC. Atlantic Lures, Inc. SN 281,353. Pub. 2–13–68. Filed 9–28–67.

848,155. WATER WIGGLE. Wham-O Mfg. Co. SN 282,035. Pub. 2–13–68. Filed 10–9–67.

848,156. ZEROIN. John E. Durnack. SN 283,233. Pub. 2–13–68. Filed 10–24–67.

848,157. NAROCO. Naroc Industries, Inc. SN 285,094. Pub. 2–13–68. Filed 11–17–67.

848,158. AVALANCHE. Parker Brothers, Inc. SN 285,757. Pub. 2–13–68. Filed 11–28–67.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

848,092. (See Class 14 for this trademark.)

848,129. (See Class 19 for this trademark.)

848,159. PLIMPTON'S. Litton Business Systems, Inc., by change of name from Monroe International, Inc. SN 236,621. Pub. 2–13–68. Filed 1–17–66.

848,160. MR. LONG-ARM. Robert D. Newman, d.b.a. Specialty Products. SN 244,920. Pub. 2–13–68. Filed 5–4–66.

848,161. FEED-A-MATIC. Feed-A-Matic Corp. SN 245,468. Pub. 2–13–68. Filed 5–12–66.

848,162. PAKA. New Jersey Machine Corporation. SN 250,674. Pub. 2–13–68. Filed 7–20–66.

848,163. CUBB-PAC. Cubb-Pac Corporation. SN 252,075. Pub. 2–13–68. Filed 8–10–66.

848,164. SECURITY. Goerlich's, Inc. SN 258,375. Pub. 10–10–67. Filed 11–10–66.

848,165. P. Peer Bearing Company. SN 261,515. Pub. 2–13–68. Filed 12–27–66.

848,166. K (DESIGN). Kershaw Manufacturing Company, Inc. SN 261,734. Pub. 2–13–68. Filed 12–30–66.

848,167. TYRONE MOBIL-MASTER AND DESIGN. Tyrone Hydraulics, Inc. SN 262,980. Pub. 2–13–68. Filed 1–20–67.

848,168. ETSCO AND DESIGN. European Trade Specialists, Inc. SN 263,039. Pub. 2–13–68. Filed 1–23–67.

848,169. POPE. Pope Machinery Corporation. SN 267,663. Pub. 2–13–68. Filed 3–27–67.

848,170. FLEETWOOD. Fawn Engineering Company. SN 268,590. Pub. 2–13–68. Filed 4–7–67.

848,171. ROBO-RINSE AND DESIGN. Robo-Wash, Inc. SN 268,766. Pub. 2–13–68. Filed 4–10–67.

848,172. NO-TIL. Allis-Chalmers Manufacturing Company. SN 268,931. Pub. 2–13–68. Filed 4–12–67.

848,173. SEVEN SEAS. Oneida Ltd. SN 269,921. Pub. 2–13–68. Filed 4–24–67.

848,174. CMC AND DESIGN. Construction Machinery Company. SN 271,771. Pub. 2–13–68. Filed 5–18–67.

848,175. FRE FLO AND DESIGN. Rubberset Company. SN 272,144. Pub. 2–13–68. Filed 5–10–67.

848,176. HAGANATOR. The Vince Hagan Company. SN 279,480. Pub. 2–13–68. Filed 8–31–67.

Class 24—Laundry Appliances and Machines

848,177. PERMAPRESS. Seymour Industries, Inc. SN 267,985. Pub. 2–13–68. Filed 3–30–67.

Class 26—Measuring and Scientific Appliances

848,053. (See Class 6 for this trademark.)

848,178. AUTAC. Walco Electric Company. SN 249,368. Pub. 2–13–68. Filed 6–30–66.

848,179. KIMTEC. Kimtec, Incorporated. SN 250,281. Pub. 2–13–68. Filed 7–14–66.

848,180. CALCON AND DESIGN. Benjamin W. West, d.b.a. California Controls Company. SN 256,988. Pub. 2–13–68. Filed 10–21–66.

848,181. VUE-GUARD. ESB Incorporated, assignee of The Electric Storage Battery Company. SN 270,911. Pub. 2–13–68. Filed 5–8–67.

Class 28—Jewelry and Precious-Metal Ware

848,182. DESIGNCRAFT. C.K. Ring Co., Inc. SN 257,985. Pub. 2–13–68. Filed 11–4–66.

848,183. MINI-CLIP. Coro, Inc. SN 273,263. Pub. 2–13–68. Filed 6–7–67.

Class 29—Brooms, Brushes, and Dusters

848,091. (See Class 13 for this trademark.)

Class 32—Furniture and Upholstery

848,091. (See Class 13 for this trademark.)

848,184. SOUTHERN AND DESIGN. Jim Geurin, d.b.a. Southern Bleacher Construction Co. SN 251,057. Pub. 2–13–68. Filed 7–26–66.

848,185. RHINO DESIGN. Schlumberger Limited, d.b.a. Daystrom Furniture. SN 265,440. Pub. 2–13–68. Filed 2–24–67.

848,186. VERTICOIL. The Salisbury Company. SN 274,463. Pub. 2–13–68. Filed 6–21–67.

848,187. CONFERENCE CENTER. Oravisual Company, Inc. SN 274,983. Pub. 2–13–68. Filed 6–28–67.

848,188. HELPS. Helps Co. SN 275,523. Pub. 2–13–68. Filed 7–7–67.

848,189. BEDDING BARN AND DESIGN. Bedding Barn, Inc. MULTIPLE CLASS (Classes 32 and 101). SN 280,364. Pub. 2–13–68. Filed 9–15–67.

Class 36—Musical Instruments and Supplies

848,130. (See Class 21 for this trademark.)

848,190. KAMA SUTRA AND DESIGN. Kama Sutra Productions, Inc. SN 250,379. Pub. 2–13–68. Filed 7–15–66.

848,191. PROJECT 3. The Total Sound, Inc. SN 264,359. Pub. 2–13–68. Filed 2–7–67.

Class 37—Paper and Stationery

848,045. (See Class 3 for this trademark.)

848,192. REC-O-TEC. Rec-O-Tec Co. SN 258,839. Pub. 2–13–68. Filed 11–16–66.

848,193. SUPER KO-REC-TYPE AND DESIGN. Eaton Allen Corp. SN 258,984. Pub. 2–13–68. Filed 11–18–66.

848,194. PORO-TECH. Duro Pen Company, Inc., assignee, by mesne assignment, of Duro Pen Company, Inc. SN 265,414. Pub. 2–13–68. Filed 2–24–67.

848,195. MICRODRAFT. Micropoint, Inc. SN 265,539. Pub. 2–13–68. Filed 2–24–67.

848,196. DEMI. Ben N. Yasutomo, d.b.a. Yasutomo & Co. SN 268,262. Pub. 2–13–68. Filed 4–3–67.

848,197. CHRISTOPHER BOND. Harper Engraving and Printing Company. SN 270,782. Pub. 2–13–68. Filed 5–5–67.

848,198. KOLD-LOK. Brown Company. SN 271,124. Pub. 2–13–68. Filed 5–10–67.

848,199. PENWORTHY AND DESIGN. Bradner Central Company, assignee of Lakeside Central Company. SN 271,158. Pub. 2–6–68. Filed 5–10–67.

848,200. VISI ROL AND DESIGN. Deering Milliken, Inc. SN 284,965. Pub. 2–13–68. Filed 11–16–67.

Class 38—Prints and Publications

848,201. MISS UNIVERSE THE MARK OF BEAUTY AND DESIGN. Miss Universe, Inc. SN 215,430. Pub. 2–13–68. Filed 3–31–65.

848,202. SQUEEZEM. Milton D. Youngren. SN 250,192. Pub. 1–16–68. Filed 7–13–66.

848,203. TAL AND DESIGN. Clairol Incorporated. SN 256,924. Pub. 2–13–68. Filed 10–21–66.

848,204. GUYS AND DOLLS. Hallmark Cards, Incorporated. SN 260,849. Pub. 2–13–68. Filed 12–15–66.

848,205. GF AND DESIGN. Ground to Flight, Inc. MULTIPLE CLASS (Classes 38 and 107). SN 263,061. Pub. 2–13–68. Filed 1–23–67.

848,206. FUNNY-COMB. Norcross, Inc. SN 265,324. Pub. 2–13–68. Filed 2–23–67.

848,207. PLASTICS TECHNOLOGY. Bill Brothers Publishing Corp. SN 269,624. Pub. 2–13–68. Filed S.R. 4–20–67; Am. P.R. 12–4–67.

848,208. SLEEPY AND DESIGN. The Travelodge Corporation. MULTIPLE CLASS (Classes 38, 100, and 102). SN 276,207. Pub. 2–13–68. Filed 7–18–67.

848,209. STALAR. Safety Sign Company. SN 282,007. Pub. 2–13–68. Filed 10–6–67.

Class 39 — Clothing

848,210. BROWN'S. Buckley & Mann, Inc. SN 237,805. Pub. 2-13-68. Filed 2-2-66.

848,211. LITECOTE. Fashion Park, Inc. SN 252,369. Pub. 2-13-68. Filed 8-15-66.

848,212. SECRET INNERMOULD. T. O. Dey Service Corp. SN 255,071. Pub. 2-13-68. Filed 9-26-66.

848,213. THE RIBBER. The Puritan Sportswear Corp. SN 255,720. Pub. 2-13-68. Filed 10-4-66.

848,214. MERRIMAC. Merrimac Sportswear, Inc. SN 256,574. Pub. 8-1-67. Filed 10-17-66.

848,215. MINNI BY WEBER. The Green Shoe Manufacturing Company. SN 258,306. Pub. 2-13-68. Filed 11-9-66.

848,216. NANCY ANGELA. Bridallure, Inc. SN 261,132. Pub. 12-19-67. Filed 12-20-66.

848,217. BEACHVILLE U.S.A. Petite Cheri California Originals. SN 262,710. Pub. 12-12-67. Filed 1-17-67.

848,218. LA TEDO. C. W. Anderson Hosiery Company. SN 265,388. Pub. 2-13-68. Filed 2-24-67.

848,219. TOESTERS. Rudin & Roth, Inc. SN 277,476. Pub. 2-13-68. Filed 8-3-67.

848,220. AQUANALA. Originala Incorporated. SN 285,704. Pub. 2-13-68. Filed 11-28-67.

Class 40 — Fancy Goods, Furnishings, and Notions

848,221. BIEN JOLIE. Fashion Wigs, Inc. SN 251,997. Pub. 2-13-68. Filed 8-9-66.

848,222. COUTURE COLLECTION. David and David, Inc. SN 267,819. Pub. 2-13-68. Filed 3-29-67.

848,223. DESIREE. Temptress Wigs Inc. SN 270,434. Pub. 2-13-68. Filed 5-1-67.

848,224. ELLIE. Temptress Wigs Inc. SN 270,435. Pub. 2-13-68. Filed 5-1-67.

848,225. LORELEI. Temptress Wigs Inc. SN 270,436. Pub. 2-13-68. Filed 5-1-67.

848,226. MINNIE. Toyo International Corporation. SN 273,005. Pub. 2-13-68. Filed 6-5-67.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

848,227. DESIGN OF PEACOCK. Jakob Schlapfer & Co. AG. SN 264,550. Pub. 2-13-68. Filed 2-13-67.

848,228. SCALON. A.B. Ludvig Svensson. SN 265,476. Pub. 2-13-68. Filed 2-27-67.

848,229. POLISHED APPLE. Concord Fabrics Inc. SN 273,483. Pub. 2-13-68. Filed 6-9-67.

848,230. CURITY. The Kendall Company. SN 273,781. Pub. 2-13-68. Filed 6-13-67.

848,231. RAMSFORD. Deering Milliken, Inc. SN 285,619. Pub. 2-13-68. Filed 11-27-67.

848,232. RAMS HEAD. Deering Milliken, Inc. SN 285,620 Pub. 2-13-68. Filed 11-27-67.

Class 44 — Dental, Medical, and Surgical Appliances

848,233. VITASHIELD. Rodana Research Corporation. SN 250,106. Pub. 2-13-68. Filed 7-12-66.

848,234. HARMONY. Harmony Dental Products Corporation. SN 255,314. Pub. 2-13-68. Filed 9-28-66.

848,235. PROCEDURE PAK. Rexall Drug and Chemical Company, d.b.a. Seamless Rubber Company. SN 256,683. Pub. 2-13-68. Filed 10-18-66.

848,236. DURACREST AND DESIGN. Metro Wholesale Corporation. SN 257,299. Pub. 2-13-68. Filed 10-26-66.

848,237. MEDI/FLEX. Medical Supply Company. SN 262,953. Pub. 11-28-67. Filed 1-20-67.

848,238. BOVIE. Ritter Pfaudler Corporation. SN 265,437. Pub. 2-13-68. Filed 2-24-67.

848,239. FEMS-ULTRA. Kimberly-Clark Corporation. SN 270,140. Pub. 2-13-68. Filed 4-27-67.

848,240. TRACHALLOY. Pilling Co. SN 270,807. Pub. 2-13-68. Filed 5-5-67.

Class 45 — Soft Drinks and Carbonated Waters

848,241. DIAMOND CLEAR. Fries & Fries, Inc. MULTIPLE CLASS (Classes 45 and 46). SN 196,853. Pub. 7-20-65. Filed 7-1-64.

848,242. TOPPEE. Toppee, Inc. SN 257,670. Pub. 2-13-68. Filed 10-31-66.

848,243. EAU MINERALE NATURELLE EVIAN SOURCE CACHAT AND DESIGN. Societe Anonyme des Eaux Minerales d'Evian-les-Bains. SN 261,162. Pub. 2-13-68. Filed 12-20-66.

848,244. FULLA BULLA. The Southland Corporation. SN 261,328. Pub. 2-13-68. Filed 12-22-66.

848,245. GATORADE. Stokely-Van Camp, Inc. SN 280,842. Pub. 2-13-68. Filed 9-21-67.

848,246. JACK IN THE BOX. Foodmaker, Inc. SN 284,066. Pub. 2-13-68. Filed 11-3-67.

Class 46 — Foods and Ingredients of Foods

848,049. (See Class 6 for this trademark.)

848,241. (See Class 45 for this trademark.)

848,247. WINKYS. Winkys Drive-In Restaurants, Inc. SN 228,095. Pub. 6-6-67. Filed 9-17-65.

848,248. RED BARN BULL SHIPPER. Red Barn Chemicals, Inc. (Delaware corporation), assignee of Red Barn Chemicals, Inc. (Louisiana corporation). SN 232,092. Pub. 5-9-67. Filed 11-3-65.

848,249. MUCH 'UP. Mary C. Forester. SN 239,987. Pub. 2-13-68. Filed 3-2-66.

848,250. HEFT. American Home Products Corporation. SN 245,452. Pub. 2-13-68. Filed 5-12-66.

848,251. BALANCED. Balanced Foods, Inc. SN 246,745. Pub. 2-13-68. Filed 5-27-66.

848,252. GIGGLES. General Mills, Inc. SN 246,780. Pub. 2-13-68. Filed 5-27-66.

848,253. FERMA-GRO. Ferma Gro Corporation, by change of name from Hansen Bros. Livestock Co., d.b.a. Ferma-Gro Corporation. SN 248,606. Pub. 12-26-67. Filed 6-21-66.

848,254. GRANDEE. SCM Corporation, assignee of The Glidden Company. SN 249,756. Pub. 2-13-68. Filed 7-7-66.

848,255. AUNT SHIRLEY'S. Berger and Son. SN 250,632. Pub. 2-13-68. Filed 7-20-66.

848,256. SAY "CHEESE" AND DESIGN. Midwest Biscuit Company. SN 250,988. Pub. 2-13-68. Filed 7-25-66.

848,257. PFAELZER BROTHERS AND DESIGN. Armour and Company, d.b.a. Pfaelzer Brothers. SN 251,042. Pub. 2-13-68. Filed 7-26-66.

848,258. CONTADINA. Carnation Company. SN 251,377. Pub. 2-13-68. Filed 8-1-66.

848,259. CURLY TOP CONES. American Dairy Queen Corporation, assignee of Dairy Queen National Development Company. SN 251,394. Pub. 2-13-68. Filed 8-1-66.

848,260. BUSTER BAR. American Dairy Queen Corporation, assignee of Dairy Queen National Development Company. SN 251,395. Pub. 2-13-68. Filed 8-1-66.

848,261. BULKIE. Kasanof's Model Bakery, Inc. SN 252,012. Pub. 2-13-68. Filed 8-9-66.

848,262. OUR OLD TYME. John Krauss, Incorporated. SN 252,108. Pub. 2-13-68. Filed 8-10-66.

848,263. MAJESTY AND DESIGN. Vejle og Omegns Andels-Svineslagteri, Vejle, Tulip Brand Factory. SN 252,435. Pub. 2-13-68. Filed 8-15-66.

848,264. SEACHIPS AND DESIGN. General Chip Corporation. SN 253,647. Pub. 2-13-68. Filed 9-1-66.

848,265. UNCLE DAN'S AND DESIGN. Uncle Dan's, Inc. SN 253,695. Pub. 11-7-67. Filed 9-1-66.

848,266. TOP QUALITY AND DESIGN. Idaho Supreme Potatoes, Inc., assignee of Afton E. Crofts, d.b.a. Crofts & Hone. SN 254,136. Pub. 2-13-68. Filed 9-9-66.

848,267. FLAV-O-DOE. Beatrice Foods Co. SN 255,408. Pub. 2-13-68. Filed 9-29-66.

848,268. FOODLAND. Foodland, Inc. SN 256,732. Pub. 2-13-68. Filed 10-19-66.

848,269. REDI-SERVE. Keebler Company. SN 258,187. Pub. 2-13-68. Filed 11-7-66.

848,270. COUNTRY HEN HOUSE. Agri-Franchising, Inc. SN 258,464. Pub. 2-13-68. Filed 11-14-66.

848,271. FOUR WINDS FARM. Staff Supermarket Associates, Inc., d.b.a. S.S.A., Inc. SN 259,680. Pub. 1-23-68. Filed 11-29-66.

848,272. VETA-LAC. Vet-A-Mix, Inc. SN 260,978. Pub. 2-13-68. Filed 12-16-66.

848,273. MARVIC. SCM Corporation, assignee of The Glidden Company, d.b.a. Durkee Famous Foods. SN 262,329. Pub. 2-13-68. Filed 1-11-67.

848,274. ARMOUR DELUXE. Armour and Company. SN 263,005. Pub. 2-13-68. Filed 1-23-67.

848,275. MR. FUN. The Southland Corporation. SN 263,852. Pub. 2-13-68. Filed 2-2-67.

848,276. LEZIRIA AND DESIGN. Unital—Uniao Agro-Industrial de Concentrados Limitada. SN 264,618. Pub. 2-13-68. Filed 2-13-67.

848,277. LEZIRIA. Unital—Uniao Agro-Industrial de Concentrados Limitada. SN 264,619. Pub. 2-13-68. Filed 2-13-67.

848,278. ISOMEROSE. Standard Brands Incorporated, d.b.a. Clinton Corn Processing Company. SN 266,264. Pub. 2-13-68. Filed 3-8-67.

848,279. DEL FARM. National Tea Co., d.b.a. Del Farm Foods and Del Farm Food Stores. SN 266,444. Pub. 2-13-68. Filed 3-10-67.

848,280. SUPER X. Wyandot Popcorn Company. SN 266,475. Pub. 2-13-68. Filed 3-10-67.

848,281. CHINESE FORTUNE. R. C. Bigelow, Inc. SN 266,725. Pub. 2-13-68. Filed 3-15-67.

848,282. JACK-HORN-ER CHEESE. Cache Valley Dairy Association. SN 267,916. Pub. 2-13-68. Filed 3-30-67.

848,283. ROYAL TREAT. Crown Meat & Provision Co., Inc. SN 268,476. Pub. 2-13-68. Filed 4-6-67.

848,284. SHORT ORDER. General Mills, Inc. SN 269,016. Pub. 7-18-67. Filed 4-13-67.

848,285. RUSSET FARMS. American Potato Company. SN 269,276. Pub. 2-13-68. Filed 4-17-67.

848,286. LIQUI-DEX. Standard Brands Incorporated, d.b.a. Clinton Corn Processing Company. SN 270,087. Pub. 2-13-68. Filed 4-26-67.

848,287. LOYOLA SURF. Loyola Beach Vegetable Company. SN 270,588. Pub. 2-13-68. Filed 5-3-67.

848,288. EASE. Carnation Company. SN 272,693. Pub. 2-13-68. Filed 5-31-67.

848,289. 6. Ralston Purina Company. SN 273,982. Pub. 2-13-68. Filed 6-15-67.

848,290. HI-SET. National Starch and Chemical Corporation. SN 274,085. Pub. 2-13-68. Filed 6-16-67.

848,291. SEA BREEZE. Maplecrest Sausage Company, Inc. SN 274,329. Pub. 2-13-68. Filed 6-20-67.

848,292. MINI LUNCH AND DESIGN. Tid-Bit Products Co. SN 275,087. Pub. 2-13-68. Filed 6-29-67.

848,293. TOGO AND DESIGN. Franck Alimentare Italiana S.p.A. SN 279,060. Pub. 2-13-68. Filed 8-25-67.

848,294. KINDER. P. Ferrero & C. S.p.A. SN 279,345. Pub. 2-13-68. Filed 8-30-67.

848,295. DELECTO AND DESIGN. Penn Dairies, Inc. SN 280,626. Pub. 2-13-68. Filed 9-18-67.

848,296. MEDALLION AND DESIGN. Gro-Pak, Inc. SN 282,956. Pub. 2-13-68. Filed 10-20-67.

848,297. MEATIME. Kal Kan Foods, Inc. SN 283,064. Pub. 2-13-68. Filed 10-23-67.

848,298. WHEL-PUP. Kal Kan Foods, Inc. SN 283,065. Pub. 2-13-68. Filed 10-23-67.

848,299. M'GIN-TEA. Jils Company. SN 284,969. Pub. 2-13-68. Filed 11-16-67.

848,300. FRIENDS OF ALICE. General Mills, Inc. SN 285,090. Pub. 2-13-68. Filed 11-17-67.

848,301. LASCCO AND DESIGN. Los Angeles Smoking & Curing Co. SN 285,093. Pub. 2-13-68. Filed 11-17-67.

848,302. POOH CORNERS. General Mills, Inc. SN 285,290. Pub. 2-13-68. Filed 11-21-67.

848,303. MAX-PAX. General Foods Corporation. SN 285,493. Pub. 2-13-68. Filed 11-24-67.

848,304. IRON HORSE AND DESIGN. Santa Cruz Farms. SN 285,503. Pub. 2-13-68. Filed 11-24-67.

Class 48 — Malt Beverages and Liquors

848,305. AN HONEST BREW MAKES ITS OWN FRIENDS . . . JOHN MOLSON 1786. Molson Breweries Limited. SN 242,142. Pub. 2-13-68. Filed 3-29-66.

848,306. TOPDECK. Beecham Group Limited, d.b.a. H. W. Carter & Company. SN 256,056. Pub. 2-13-68. Filed 10-10-66.

848,307. EAGLE DESIGN. Peter Hand Importers, Inc. SN 260,275. Pub. 2-13-68. Filed 12-7-66.

848,308. GRAND UNION. The Grand Union Company. SN 269,988. Pub. 2-13-68. Filed 4-25-67.

Class 49 — Distilled Alcoholic Liquors

848,309. NATIONAL RESERVE. Heaven Hill Distilleries, Inc., d.b.a. National Reserve Distilling Co. of Kentucky. SN 255,090. Pub. 2-13-68. Filed 9-26-66.

848,310. GRANADO ETC. AND DESIGN. Puerto Rico Distillers, Inc., d.b.a. Barcelo Marques & Co. SN 269,214. Pub. 2-13-68. Filed 4-14-67.

848,311. FORMULA ONE. Canadian Schenley Distilleries, Ltd. SN 269,504. Pub. 2-13-68. Filed 4-19-67.

848,312. RON OLIVER AND DESIGN. Puerto Rico Distillers, Inc. SN 272,899. Pub. 2-13-68. Filed 6-2-67.

848,313. CANADIAN FORUM. W. A. Taylor & Company. SN 279,908. Pub. 2-13-68. Filed 9-8-67.

Class 50 — Merchandise Not Otherwise Classified

848,041. (See Class 2 for this trademark.)

848,314. MITTEN DESIGNER. Frank P. Mitten, d.b.a. Mitten's Display Letters. SN 245,735. Pub. 2-13-68. Filed 5-16-66.

848,315. MULTI MARX AND DESIGN. Consolidated Foods Corporation, assignee of Consolidated Stamp Manufacturing Company. SN 257,694. Pub. 2-13-68. Filed 11-1-66.

848,316. THE ART FOUNDRY. Rexall Drug and Chemical Company, d.b.a. The Art Foundry. SN 260,082. Pub. 2-13-68. Filed 12-5-66.

848,317. POLY-TURF. American Biltrite Rubber Co., Inc. SN 261,020. Pub. 2–13–68. Filed 12–19–66.

848,318. POP-EASEL. The Colad Company, Inc. SN 261,641. Pub. 2–13–68. Filed 12–29–66.

848,319. DELTA-MATIC. Sternco Industries, Inc. SN 262,718. Pub. 2–13–68. Filed 1–17–67.

848,320. HELPFUL HENRY. Canvas Products Company. SN 266,197. Pub. 2–13–68. Filed 3–8–67.

848,321. ALL·A·BOARD AND DESIGN. Eptex Mfg. Corp. SN 269,067. Pub. 2–13–68. Filed 4–13–67.

848,322. TRAVEL AD. Metalcraft Engineering Company. SN 269,771. Pub. 2–13–68. Filed 4–21–67.

848,323. VAC-KROME. Auto-Gram, Inc. SN 285,518. Pub. 2–13–68. Filed 11–24–67.

Class 51 — Cosmetics and Toilet Preparations

848,324. D DON. Don and Partners. SN 237,678. Pub. 2–13–68. Filed 2–1–66.

848,325. SIZZLERS. Yardley of London, Inc. SN 248,565. Pub. 2–13–68. Filed 6–20–66.

848,326. DELICATE DUSTERS. Noxell Corporation, by change of name from Noxzema Chemical Company. SN 251,561. Pub. 2–13–68. Filed 8–2–66.

848,327. HI-SHEEN. South Bend Beauty Supply Co., Inc. SN 253,793. Pub. 2–13–68. Filed 9–2–66.

848,328. IRISH MIST. Irish Toiletries, Inc. SN 254,054. Pub. 2–13–68. Filed 9–8–66.

848,329. SHEER COLOR. Helene Curtis Industries, Inc., d.b.a. Helene Curtis. SN 254,257. Pub. 2–13–68. Filed 9–12–66.

848,330. HOODS. Hood's Hair Products, Inc. SN 255,319. Pub. 2–13–68. Filed 9–28–66.

848,331. BYE BYE BIRDIE ETC. AND DESIGN. Dorian Granowski, d.b.a. Dorian Aromessences. SN 255,617. Pub. 2–13–68. Filed 10–3–66.

848,332. ENGLISH ROSE. Yardley of London, Inc. SN 255,671. Pub. 2–13–68. Filed 10–3–66.

848,333. WILDCAT. Yardley of London, Inc. SN 255,673. Pub. 2–13–68. Filed 10–3–66.

848,334. NU BUTY. Harland E. Moon, d.b.a. H & L Products. SN 257,385. Pub. 2–13–68. Filed 10–27–66.

848,335. SPRING LOVE. Beauty Counselors, Inc. SN 260,517. Pub. 2–13–68. Filed 12–12–66.

848,336. DEBUTANTE DE VERSAILLES. Daggett and Ramsdell International Corporation. SN 261,012. Pub. 2–13–68. Filed 12–19–66.

848,337. MINI. Yardley of London, Inc. SN 263,306. Pub. 2–13–68. Filed 1–25–67.

848,338. GOUBETTE. Goubaud de Paris, Inc. SN 266,226. Pub. 2–13–68. Filed 3–8–67.

848,339. MOSHI MOSHI. Faberge, Inc. SN 267,024. Pub. 2–13–68. Filed 3–17–67.

848,340. HONOR GUARD. Deluxol Laboratories, Inc. SN 267,733. Pub. 2–13–68. Filed 3–28–67.

848,341. THE GREAT ESCAPE KIT. Clairol Incorporated. SN 269,517. Pub. 2–13–68. Filed 4–19–67.

848,342. PERTINEX. American Pharmaceutical Company. SN 271,423. Pub. 2–13–68. Filed 5–15–67.

848,343. NOTHING. Chesebrough-Pond's Inc. SN 271,769. Pub. 9–26–67. Filed 5–18–67.

Class 52 — Detergents and Soaps

848,083. (See Class 12 for this trademark.)

848,344. BIO-CLEAN. Stanbio Laboratory, Inc. SN 221,759. Pub. 5–10–66. Filed 6–22–65.

848,345. COIN MAGIC. Stamp and Coin City, Inc., assignee of Jay Tell and Allen Van Vliet, d.b.a. Stamp & Coin City. SN 252,305. Pub. 2–13–68. Filed 8–15–66.

848,346. MR. Studio Girl-Hollywood, Inc., d.b.a. Studio Girl. SN 253,177. Pub. 2–13–68. Filed 8–25–66.

848,347. ZER O FOAM AND DESIGN. Shaklee Products. SN 255,823. Pub. 2–13–68. Filed 10–5–66.

848,348. MARY CARTER ZIP AND DESIGN. Mary Carter Paint Co. SN 255,994. Pub. 2–13–68. Filed 10–7–66.

848,349. DURACREST AND DESIGN. Metro Wholesale Corporation. SN 257,300. Pub. 2–13–68. Filed 10–26–66.

848,350. ENGLISH LEATHER. Mem Company, Inc. SN 258,563. Pub. 2–13–68. Filed 11–14–66.

848,351. TOM CAT. Tom Cat. SN 263,964. Pub. 2–13–68. Filed 2–3–67.

848,352. GCS 731. Gas Consumers Association. SN 265,418. Pub. 2–13–68. Filed 2–24–67.

848,353. FIGHTER. Clairol Incorporated. SN 265,700. Pub. 2–13–68. Filed 3–1–67.

848,354. LEMON LIGHTS. John H. Breck, Inc. SN 267,800. Pub. 2–13–68. Filed 3–29–67.

848,355. AMASTRIP. American Aniline Products, Inc. SN 268,684. Pub. 2–13–68. Filed 4–10–67.

848,356. GREYLOCK ELECTRONICS AND DESIGN. Entronic Industries, Inc. SN 271,359. Pub. 2–13–68. Filed 5–12–67.

848,357. CONTACT RE-NU. Miller-Stephenson Chemical Co., Inc. SN 272,198. Pub. 2–13–68. Filed 5–23–67.

848,358. SCORE. Economics Laboratory, Inc. SN 273,049. Pub. 2–13–68. Filed 6–5–67.

848,359. DRAIN-E-ZE. Help, Inc. SN 282,957. Pub. 1–2–68. Filed 10–20–67.

848,360. SINCERELY YOURS. Alberto-Culver Company. SN 283,386. Pub. 2–13–68. Filed 10–26–67.

848,361. STRAWBERRIES AND CREAM. Carolina Company, Inc., d.b.a. The Carolina Soap & Candle Makers. SN 284,991. Pub. 2–13–68. Filed 11–16–67.

848,362. BRUSH-OFF. Precision Papers, Inc. SN 285,294. Pub. 2–13–68. Filed 11–21–67.

848,363. DERMADANE-9. Purex Corporation, Ltd. SN 285,502. Pub. 2–13–68. Filed 11–24–67.

Service Marks

Class 100 — Miscellaneous

848,208. (See Class 38 for this trademark.)

848,364. R AND DESIGN. The Rustler, Inc. SN 210,365. Pub. 2–13–68. Filed 1–21–65.

848,365. THE FATTED CALF AND DESIGN. The Fatted Calf, Inc. SN 269,525. Pub. 2–13–68. Filed 4–19–67.

848,366. BAHAMA AND DESIGN. Bahama Steak House International, Inc., d.b.a. Bahama Steak House. SN 271,584. Pub. 2–13–68. Filed 5–16–67.

848,367. BENNY DILLMAN'S BATTLE HOUSE AND DESIGN. Benny R. Dillman, d.b.a. Benny Dillman's Battle House Restaurant. SN 278,841. Pub. 2–13–68. Filed 8–21–67.

Class 101 — Advertising and Business

848,189. (See Class 32 for this trademark.)

848,368. BIG STAR. Malone & Hyde, Inc. SN 211,446. Pub. 4–12–66. Filed 2–5–65.

848,369. ITS AND DESIGN. Income Tax Service Company. SN 251,429. Pub. 2–13–68. Filed 8–1–66.

848,370. MISCELLANEOUS DESIGN. Sieber & McIntyre, Inc. SN 252,900. Pub. 2–13–68. Filed 8–22–66.

848,371. TURN YOUR WIFE ON. Star Stations, Inc. SN 266,796. Pub. 2–13–68. Filed 3–15–67.

848,372. MISS WINGS. Jack Lindrup, d.b.a. Miss Wings Pageant. SN 266,897. Pub. 2–13–68. Filed 3–16–67.

848,373. FLASH O-PRINT AND DESIGN. Thompson Printing Company. SN 267,361. Pub. 2–13–68. Filed 3–22–67.

848,374. MISCELLANEOUS DESIGN. Reddy Kilowatt, Inc. SN 267,847. Pub. 2–13–68. Filed Mar. 29, 1967.

Class 102 — Insurance and Financial

848,208. (See Class 38 for this trademark.)

848,375. MISCELLANEOUS DESIGN. Virginia Commonwealth Bankshares, Inc. SN 269,240. Pub. 2–13–68. Filed 4–14–67.

848,376. YOU'RE IN GOOD HANDS WITH ALLSTATE AND DESIGN. Allstate Insurance Company. SN 269,494. Pub. 2–13–68. Filed 4–19–67.

848,377. MISCELLANEOUS DESIGN. Allstate Insurance Company. SN 269,495. Pub. 2–13–68. Filed 4–19–67.

Class 103 — Construction and Repair

848,378. HERITAGE GUNSMITHS. Ken Eyster Heritage Gunsmiths, Inc. SN 236,765. Pub. 4–25–67. Filed 1–18–66.

848,379. TIN INDIAN. Knafel Pontiac Inc. SN 251,636. Pub. 2–13–68. Filed 8–3–66.

848,380. COR-BOND. The Polymer Corporation. SN 267,660. Pub. 2–13–68. Filed 3–27–67.

848,381. MIDAS TRANSMISSIONS AND DESIGN. Midas, Inc. SN 268,054. Pub. 2–13–68. Filed 3–31–67.

848,382. MIDAS TRANSMISSIONS AND DESIGN. Midas, Inc. SN 268,055. Pub. 2–13–68. Filed 3–31–67.

Class 105 — Transportation and Storage

848,383. RW AND DESIGN. R-W Service System, Inc. SN 266,091. Pub. 2–13–68. Filed 3–6–67.

Class 106 — Material Treatment

848,384. ECONOREX. McDaniel Pharmacy, Inc. SN 259,137. Pub. 2–13–68. Filed 11–21–66.

Class 107 — Education and Entertainment

848,205. (See Class 38 for this trademark.)

848,385. THE MONKEES. Screen Gems, Inc. SN 259,379. Pub. 2–13–68. Filed 11–25–66 .

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 1 — Raw or Partly Prepared Materials

848,386. Los Angeles Seed Co., Inc., Los Angeles, Calif. SN 234,443. Filed 12–13–65.

ALL YEAR

For Lawn Seed (Int. Cl. 31).
First use 1955.

Class 2 — Receptacles

848,387. Hardman Incorporated, Belleville, N.J., by change of name from H. V. Hardman Co., Incorporated, Belleville, N.J. SN 241,893. Filed P.R. 3–25–66 ; Am. S.R. 11–7–67.

DUBBLE/BUBBLE

For Disposable Packages Having Flattened Elongated Enclosed Compartments for Separately Holding Two-Part Reactive Liquids (Int. Cl. 20).
First use Mar. 16, 1966.

Class 5 — Adhesives

848,388. Fast Chemical Products Corp., Yonkers, N.Y. SN 267,933. Filed P.R. 3–30–67 ; Am. S.R. 2–27–68.

HANGER-HOLD

For Non-Skid Surface Coating To Be Applied to Hangers To Prevent Clothes From Slipping Off (Int. Cl. 1).
First use Dec. 14, 1966.

Class 6 — Chemicals and Chemical Compositions

848,389. Bonewitz Laboratories, Inc., Burlington, Iowa. SN 255,591. Filed P.R. 10–3–66 ; Am. S.R. 2–13–68.

Zn-Cote

For Zinc Chemical Additive for Fertilizer (Int. Cl. 1).
First use Sept. 28, 1965.

Class 12 — Construction Materials

848,390. National Gypsum Company, Buffalo, N.Y. SN 255,012. Filed P.R. 9–23–66 ; Am. S.R. 2–9–68.

SILVER-WHITE

For Mill-Mixed Finish Coat Plaster (Int. Cl. 19).
First use Mar. 30, 1965.

Class 18 — Medicines and Pharmaceutical Preparations

848,391. Southwestern Drug Corporation, d.b.a. Truett Laboratories, Dallas, Tex. SN 257,415. Filed P.R. 10–27–66 ; Am. S.R. 2–23–68.

C-SALT

For Vitamin Tablets (Int. Cl. 5).
First use Aug. 20, 1964.

848,392. Merck & Co., Inc., Rahway, N.J. SN 262,600. Filed P.R. 1-16-67; Am. S.R. 2-26-68.

MUMPSVAX

For Vaccine for Mumps (Int. Cl. 5).
First use Dec. 16, 1966.

Class 19—Vehicles

848,393. William J. Canell, d.b.a. Canell Co., Hackensack, N.J. SN 257,251. Filed P.R. 10-26-66; Am. S.R. 2-1-68.

SKI-ADAPTERS

For Ski Carrying Automobile Racks and Adapter Carriers for Use on Automobile Car-Top Racks (Int. Cl. 12).
First use Oct. 1, 1962.

Class 22—Games, Toys, and Sporting Goods

848,394. Michael Tomic, Redondo Beach, Calif., assignee of Sportsways, Inc., Paramount, Calif. SN 254,731. Filed P.R. 9-19-66; Am. S.R. 2-2-68.

TOMIC

For Golf and Ski Equipment (Int. Cl. 28).
First use in 1962.

848,395. Eagle Rubber Co., Inc., Ashland, Ohio. SN 260,322. Filed P.R. 12-8-66; Am. S.R. 3-1-68.

Best Ball

For Golf Balls (Int. Cl. 28).
First use Nov. 2, 1966.

848,396. Velma Johnson, d.b.a. The Johnson Library of Reading Aids for Families, Rochelle, Ill. SN 266,231. Filed P.R. 3-8-67; Am. S.R. 3-4-68.

SHUFFLE-N-Read

For Equipment Sold as a Unit for Playing an Educational Type Game (Int. Cl. 28).
First use Feb. 24, 1967.

848,397. Arcoa, Inc., Phoenix, Ariz., assignee of U-Haul Co., Glendale, Ariz. SN 287,191. Filed 12-18-67.

SNOW BIKE

For Recreational Ski-Type Sleds (Int. Cl. 28).
First use Dec. 9, 1966.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

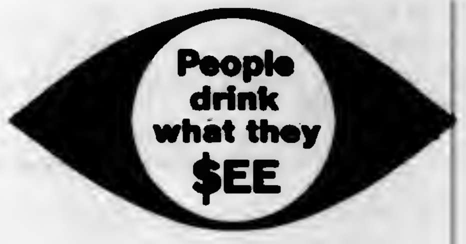
848,398. Wilkinson Dental Manufacturing Company, d.b.a. The Wilkinson Company, Santa Monica, Calif. SN 238,815. Filed P.R. 2-14-66; Am. S.R. 1-3-68.

THE HAND CASTER

For Kit Comprising a Torch, Casting Unit, Burnout Oven, Metal Ingots, Flux and Tongs for Casting Metals in Different Forms (Int. Cl. 11).
First use on or before Jan. 17, 1966.

Class 31—Filters and Refrigerators

848,399. Jet Spray Cooler, Inc., Waltham, Mass. SN 259,434. Filed P.R. 11-25-66; Am. S.R. 2-5-68.



Owner of Reg. No. 822,172.
For Refrigerated Beverage Dispensers (Int. Cl. 11).
First use Aug. 20, 1965.

Class 39—Clothing

848,400. Crescendoe Gloves, Inc., Johnstown, N.Y. SN 269,861. Filed P.R. 4-24-67; Am. S.R. 2-23-68.

"SQUARETIP"

For Gloves (Int. Cl. 25).
First use Apr. 4, 1966.

Class 46—Foods and Ingredients of Foods

848,401. Carnation Company, Los Angeles, Calif. SN 236,964. Filed P.R. 1-21-66; Am. S.R. 8-29-67.

soft'n moist

For Dog and Cat Food (Int. Cl. 31).
First use Oct. 25, 1965.

848,402. Schmidt Baking Company, Inc., Baltimore, Md. SN 262,812. Filed P.R. 1-18-67; Am. S.R. 3-5-68.

SCHMIDT'S BLUE RIBBON TWO PACK

Owner of Reg. Nos. 810,855 and 824,156.
For Bread (Int. Cl. 30).
First use Jan. 20, 1964.

848,403. Mother's Cake & Cookie Co., Oakland, Calif. SN 265,645. Filed P.R. 2-28-67; Am. S.R. 3-1-68.

FILLS 'N CREMES

For Cookies (Int. Cl. 30).
First use Feb. 9, 1967.

848,404. Anderson, Clayton & Co., Dallas, Tex. SN 265,967. Filed P.R. 3-6-67; Am. S.R. 2-20-68.

MIX-EZY

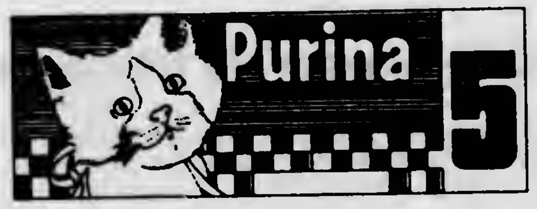
Owner of Reg. Nos. 615,401, 663,878, and 716,940.
For Vegetable Oil Shortening (Int. Cl. 29).
First use Sept. 24, 1945.

848,405. Burger Chef Systems, Inc., Indianapolis, Ind. SN 269,256. Filed P.R. 4-17-67; Am. S.R. 2-12-68.

TRIPLE TREAT

For Package Food Combination Consisting of Hamburger, Milk Shake and French Fries (Int. Cl. 29).
First use January 1959.

848,406. Ralston Purina Company, St. Louis, Mo. SN 273,414. Filed 6-8-67.



The drawing is lined for red and blue but no claim is made to color. Owner of Reg. Nos. 523,420, 830,676, and others.
For Canned Cat Food (Int. Cl. 31).
First use Apr. 13, 1966.

Class 47—Wines

848,407. B & R Vineyards Incorporated, d.b.a. Los Altos Vineyards, Gilroy, Calif. SN 275,610. Filed P.R. 7-10-67; Am. S.R. 2-23-68.

LOS ALTOS

For Wines (Int. Cl. 33).
First use Oct. 8, 1963.

Class 50—Merchandise Not Otherwise Classified

848,408. Standard Stamping & Perforating Company, Chicago, Ill. SN 241,385. Filed P.R. 3-18-66; Am. S.R. 3-6-67.

PEG PLATE

For Perforated Metal Panels designed To Receive Display Hangers for Holding Tools and Other Articles (Int. Cl. 6).
First use Jan. 27, 1966.

Class 51—Cosmetics and Toilet Preparations

848,409. Southwestern Drug Corporation, d.b.a. Truett Laboratories, Dallas, Tex. SN 257,422. Filed P.R. 10-27-66; Am. S.R. 2-23-68.

DERMA-LUBE

For Skin Lubricant (Int. Cl. 3).
First use Aug. 11, 1964.

848,410. Revlon, Inc., New York, N.Y. SN 258,927. Filed P.R. 11-17-66; Am. S.R. 2-5-68.

SAMOA PINK

For Color Coating for the Nails in Cream Form (Int. Cl. 3).
First use Oct. 13, 1966.

848,411. Revlon, Inc., New York, N.Y. SN 258,928. Filed P.R. 11-17-66; Am. S.R. 2-5-68.

MALTA MALT

For Color Coating for the Nails in Cream Form (Int. Cl. 3).
First use Oct. 13, 1966.

848,412. Revlon, Inc., New York, N.Y. SN 258,929. Filed P.R. 11-17-66; Am. S.R. 2-2-68.

PIMENTO BEIGE

For Color Coating for the Nails in Cream Form (Int. Cl. 3).
First use Oct. 13, 1966.

848,413. Ellen Kaye Laboratories, Inc., St. Paul, Minn. SN 260,835. Filed P.R. 12-15-66; Am. S.R. 2-16-68.

RELAX-A-CURL

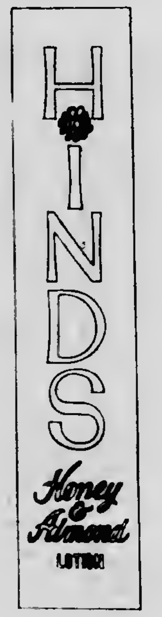
For Hair Relaxer (Int. Cl. 3).
First use Dec. 2, 1966.

848,414. La Maur, Inc., Minneapolis, Minn. SN 264,429. Filed P.R. 2-10-67; Am. S.R. 2-23-68.

BE BLONDE

For Hair Bleach (Int. Cl. 3).
First use Jan. 25, 1967.

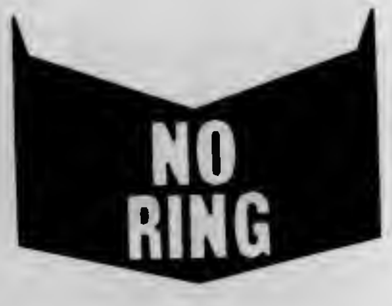
848,415. The Odell Company, Inc., New York, N.Y. SN 270,694. Filed P.R. 5-4-67; Am. S.R. 2-9-68.



For Hands and Body Lotion (Int. Cl. 3).
First use July 16, 1962.

Class 52 — Detergents and Soaps

848,416. Jack Gorman, d.b.a. Gorman Chemical Company. West New York, N.J. SN 260,661. Filed P.R. 12-13-66; Am. S.R. 2-23-68.



For Cleaning Fluid (Int. Cl. 3).
First use Nov. 3, 1966.

848,417. Tabtrol Company, Inc., Baltimore, Md. SN 267,359. Filed P.R. 3-22-67; Am. S.R. 2-20-68.

TAB KLEEN

For Toilet Bowl Cleaner (Int. Cl. 3).
First use Feb. 14, 1967.

Service Marks

Class 101 — Advertising and Business

848,418. William Hart Adler Inc., Skokie, Ill. SN 254,653. Filed P.R. 9-19-66; Am. S.R. 3-8-68.

INTERPRETIVE RESEARCH ASSOCIATES

For Collection and Interpretation of Marketing Statistics and Information (Int. Cl. 35).
First use Oct. 15, 1965.

848,419. All State Tax Service Inc., New York, N.Y. SN 269,841. Filed P.R. 4-24-67; Am. S.R. 2-28-68.

ALL STATE

For Preparing Income Tax Returns for Others (Int. Cl. 35).
First use Nov. 15, 1965.

848,420. American Society for Metals, Metals Park, Ohio. SN 276,211. Filed P.R. 7-18-67; Am. S.R. 2-7-68.

MATERIALS ENGINEERING EXPOSITION

For Services in Sponsoring and Managing Trade Shows To Advance the Education of Applicant's Members and Engineers, Researchers, Designers, Processors, Manufacturers, and Other Persons and Organizations Concerned With Metals and Other Engineering Materials and Products Made Thereof (Int. Cl. 35).
First use Jan. 27, 1967.

Class 102 — Insurance and Financial

848,421. Colter Corporation, Charlottesville, Va. SN 247,009. Filed P.R. 6-1-66; Am. S.R. 1-25-68.

MEDICAL CAREER FUND

For Estate Planning, Insurance Programming, and Limited Professional Financing for Students and Members of the Medical Profession (Int. Cl. 36).
First use Oct. 25, 1965.

Class 107 — Education and Entertainment

848,422. Potomac Horse Center, Inc., Gaithersburg, Md. SN 267,443. Filed P.R. 3-23-67; Am. S.R. 2-26-68.

HORSEMASTERS

For Teaching the Art of Horseback Riding to Others in Order To Enable Them To Become Riding Instructors (Int. Cl. 41).
First use during April 1963.

TRADEMARK REGISTRATIONS RENEWED

66,687. REPRESENTATION OF MAN AT WHEEL OF A SHIP. Cl. 46 (Int. Cl. 29). 12-24-07.
67,043. REPRESENTATION OF A WOMAN WITH A BASKET. Cl. 46 (Int. Cl. 30). 1-14-08.
69,307. KEE LOX. Cl. 11 (Int. Cl. 16). 6-2-08.
69,321. "MILO" ETC. AND DESIGN. Cl. 46 (Int. Cl. 29). 6-2-08.
69,322. REPRESENTATION OF BIRD NEST. Cl. 46 (Int. Cl. 29). 6-2-08.
163,541. THE TEXAS COMPANY. Cl. 15 (Int. Cl. 4). 1-16-23.
234,126. CHAMPLIN AND DESIGN. Cl. 15 (Int. Cl. 4). 10-18-27.
238,542. "WEST WIND" AND DESIGN. Cl. 34 (Int. Cl. 11). 2-7-28.
240,680. "GRUENDLER PEERLESS" ETC. AND DESIGN. Cl. 23 (Int. Cl. 7). 4-3-28.
241,356. HY-POWER. Cl. 6 (Int. Cl. 5). 4-24-28.
241,441. DELCO-REMY. Cl. 21 (Int. Cl. 9). 5-1-28.
241,637. DELCO-REMY. Cl. 21 (Int. Cls. 7, 9, and 11). 5-1-28.
242,106. NATIONAL. Cl. 21 (Int. Cl. 9). 5-15-28.
243,424. "ADJUSTA" ETC. Cl. 13 (Int. Cl. 6). 6-19-28.
243,739. VASSILAROS AND DESIGN. Cl. 46 (Int. Cl. 30). 6-26-28.
434,384. DA VENCI. Cl. 39 (Int. Cl. 25). 11-18-47.
435,180. MISCELLANEOUS DESIGN. Cl. 42 (Int. Cl. 24). 12-16-47.
435,186. SWAN AND DESIGN. Cl. 11 (Int. Cl. 6). 12-16-47.
436,251. TUSH. Cl. 46 (Int. Cl. 29). 1-27-48.
436,446. GONDOLA WALK. Cl. 39 (Int. Cl. 25). 2-10-48.
436,532. ACCOLADE. Cl. 39 (Int. Cl. 25). 2-10-48.
436,533. EMBRACE. Cl. 39 (Int. Cl. 25). 2-10-48.
436,679. LIGHTNING AND DESIGN. Cl. 38 (Int. Cl. 16). 2-17-48.
436,692. BENNY. Cl. 38 (Int. Cl. 16). 2-17-48.
436,694. ATLAS AND DESIGN. Cl. 35 (Int. Cl. 12). 2-17-48.
436,736. NEOPONE. Cl. 6 (Int. Cl. 1). 2-17-48.
436,812. CANDLE FANTASIES. Cl. 15 (Int. Cl. 4). 2-24-48.
436,982. ISUPREL. Cl. 18 (Int. Cl. 5). 3-2-48.
437,004. PENROS. Cl. 1 (Int. Cl. 1). 3-2-48.
437,005. HYROS. Cl. 1 (Int. Cl. 2). 3-2-48.
437,007. PENBRO. Cl. 1 (Int. Cl. 2). 3-2-48.
437,008. FISFO. Cl. 1 (Int. Cl. 2). 3-2-48.
437,027. DARLIN'S BY DESCO. Cl. 39 (Int. Cl. 25). 3-2-48.
437,142. MECO. Cl. 12 (Int. Cl. 19). 3-9-48.
437,494. LUSTRAND. Cl. 43 (Int. Cl. 23). 3-23-48.
437,538. TIN PAN ALLEY AND DESIGN. Cl. 38 (Int. Cl. 16). 3-30-48.
437,557. BIFURCATOR. Cl. 34 (Int. Cl. 11). 3-30-48.
437,670. CORMONS CREATIONS AND DESIGN. Cl. 39 (Int. Cl. 25). 3-30-48.
437,781. STYBER. Cl. 43 (Int. Cl. 28). 3-30-48.
437,787. WEST-GLO. Cl. 52 (Int. Cl. 3). 3-30-48.
437,796. MICOREN. Cl. 18 (Int. Cl. 5). 3-30-48.
437,832. PULSEBEAT. Cl. 38 (Int. Cl. 16). 3-30-48.
437,837. RENTAFLOTE. Cl. 32 (Int. Cl. 20). 3-30-48.
437,859. PARTS PUPS AND DESIGN. Cl. 38 (Int. Cl. 16). 3-30-48.
438,147. BONDERMETIC SEAL. Cl. 12 (Int. Cl. 6). 4-13-58.
438,430. TROJAN AND DESIGN. Cl. 28 (Int. Cl. 8). 4-20-48.
438,587. MODART. Cl 51 (Int. Cl. 3) 4-27-48.
438,779. ISOMATIC. Cl. 23 (Int. Cl. 7). 5-11-48.
438,872. RCA AND DESIGN. Cl. 32 (Int. Cl. 20) 5-11-48.
439,118. CLICK-TITE. Cl. 39 (Int. Cl. 25). 6-1-48.
439,191. SIMTEX. Cl. 42 (Int. Cl. 24). 6-8-48.
439,192. SIMTEX AND DESIGN. Cl. 42 (Int. Cl. 24). 6-8-48.
439,238. DARADO. Cl. 42 (Int. Cl. 24). 6-8-48.
439,250. SUGAR SPUN. Cl .42 (Int. Cl. 24). 6-8-48.
439,323. ROYALOOM. Cl. 42 (Int. Cl. 24). 6-15-48.
440,074. GUNCHROME. Cl. 12 (Int. Cl. 19). 8-10-48.
500,216. LUNA. Cl. 52 (Int. Cl. 3). 5-11-48.
500,293. KEYBOARD JR. Cl. 38 (Int. Cl. 16). 5-11-48.
500,305. LIRIL. Cl. 51 (Int. Cl. 3). 5-11-48.
500,428. "BC" IN OVAL DESIGN. Cl. 18 (Int. Cl. 5). 5-18-48.
500,435. AU NATUREL. Cl. 39 (Int. Cl. 25). 5-18-48.
500,483. THIN-THIN. Cl. 11 (Int. Cl. 16). 6-1-48.
500,485. DRI-KLEEN. Cl. 11 (Int. Cl. 16). 6-1-48.
500,596. VISILITE. Cl. 32 (Int. Cl. 16). 6-8-48.
500,616. A CLIFTON MILLS FABRIC ETC. AND DESIGN. Cl. 42 (Int. Cl. 24). 6-8-48.
500,740. TRANS-O-PLAIN. Cl. 37 (Int. Cl. 16). 6-29-48.
500,761. WET-PRUF. Cl. 44 (Int. Cl. 5). 6-29-48.
500,969. WHEATENA AND DESIGN. Cl. 46 (Int. Cl. 30). 7-13-48.
501,135. RONSONOL. Cl. 6 (Int. Cl. 4). 7-27-48.
501,200. TREM. Cl. 6 (Int. Cl. 1). 7-27-48.
501,399. THIOPHOS. Cl. 6 (Int. Cl. 5). 8-3-48.
501,429. STROBOCONN. Cl. 26 (Int. Cl. 9). 8-10-48.
501,447. CHEFS OF THE WEST AND DESIGN. Cl. 38 (Int. Cl. 16). 8-10-48.
501,505. BRAVE NEW WORLD DEPARTMENT. Cl. 38 (Int. Cl. 16). 8-10-48.
501,539. "NON-SKID." Cl. 46 (Int. Cl. 30). 8-10-48.
501,554. RESINEX. Cl. 6 (Int. Cl. 1). 8-17-48.
501,579. PRINCE EDWARD. Cl. 46 (Int. Cl. 29). 8-17-48.
501,590. LEAK-PROOF. Cl. 35 (Int. Cl. 7). 8-17-48.
501,713. TAILORED LENGTHS. Cl. 39 (Int. Cl. 25). 8-17-48.
501,857. ONE WORLD DEPARTMENT. Cl. 38 (Int. Cl. 16). 8-24-48.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

57,691. DANISH DO-MIX AND DESIGN. Cl. 46. 7-7-53.

Section 8

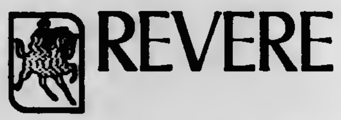
The following registrations issued Mar. 13, 1962

728,388. HEXTAINER. Cl. 2.
728,389. POULTRY-TAINER. Cl. 2.
728,390. PARISACK. Cl. 3.
728,394. BRITFIX. Cl. 5.
728,395. MELBOND. Cl. 5.
728,405. REPRESENTATION OF THREE LITTLE BOTTLES IN A HEXAGON. Cl. 6.
728,407. COLOR GUARD. Cl. 6.
728,411. SPACEVIEW. Cl. 12.
728,414. PORTALUME AND DESIGN. Cl. 12.
728,417. VARICOLOR. Cl. 12.
728,420. AWNINGS GMC JALOUSIES AND DESIGN. Cl. 12.
728,422. GPC AND DESIGN. Cl. 12.
728,424. MOUSSATOR AND DESIGN. Cl. 13.
728,428. AVCOMET. Cl. 14.
728,429. AMERSHIELD. Cl. 14.
728,431. OVERTEC. Cl. 14.
728,436. REPRESENTATION OF THREE LITTLE BOTTLES IN A HEXAGON. Cl. 16.
728,440. FUSED SATIN. Cl. 16.
728,442. PALLETTEX. Cl. 16.
728,444. VYN-EER AND DESIGN. Cl. 16.
728,456. PAC AID. Cl. 18.
728,460. PROVISUL. Cl. 18.
728,464. PERTOFRAN. Cl. 18.
728,469. ADROSOL. Cl. 18.
728,470. SPASTAN. Cl. 18.
728,471. COMBOARD. Cl. 19.
728,473. MOPPIE. Cl. 19.
728,474. CONQUISTADOR. Cl. 19.
728,475. WINDSOR. Cl. 19.

728,476. RADART AND DESIGN. Cl. 19.
728,480. JAY AND DESIGN. Cl. 21.
728,481. SUPERIOR 400. Cl. 21.
728,484. GLIDE-SLIDE. Cl. 21.
728,487. SPORTSCASTER. Cl. 21.
728,490. UNCLE CHARLIE'S REVOLUTION. Cl. 22.
728,491. GULL. Cl. 22.
728,494. PANDA. Cl. 22.
728,495. DUROTYPE. Cl. 23.
728,497. MINIPAK. Cl. 23.
728,500. HURRY-CANE. Cl. 23.
728,503. LIBERTY. Cl. 23.
728,504. NOVO. Cl. 23.
728,505. BACO. Cl. 23.
728,510. 651. Cl. 26.
728,521. S & W AND DESIGN. Cl. 27.
728,524. REGNAL. Cl. 27.
728,525. PAVILION. Cl. 27.
728,526. COMTESSE. Cl. 28.
728,532. AUTO-ICE. Cl. 31.
728,533. INVISA-BED AND DESIGN. Cl. 32.
728,535. GLIDE RIDE. Cl. 32.
728,536. BRIGHTON. Cl. 32.
728,540. CLIMATE KING. Cl. 34.
728,541. J-LINE. Cl. 34.
728,542. BIOTRON. Cl. 34.
728,551. MINIWRAP. Cl. 37.
728,552. MINIPAK. Cl. 37.
728,553. BLAKSTIX. Cl. 37.
728,559. GOLD STRIPE. Cl. 37.
728,560. THE AIRWAYS GUIDE FOR VISITORS TO WASHINGTON. Cl. 38.
728,562. CHRONO-GUIDE. Cl. 38.
728,563. MODERN SERVER & SPIRITS STORE. Cl. 38.
728,565. HYDROCARBON PROCESSING AND PETROLEUM REFINER. Cl. 38.
728,566. METAL DISTRIBUTOR. Cl. 38.
728,568. SLENDERELLA. Cl. 39.
728,570. ADDED LOVELINESS. Cl. 39.
728,575. KOVERWIK. Cl. 39.
728,580. DUFOUR. Cl. 39.
728,587. FOOT MAN AND DESIGN. Cl. 39.
728,593. THE REMINDER AND DESIGN. Cl. 39.
728,598. E & W. Cl. 42.
728,599. COLORSCOPE. Cl. 42.
728,600. APRINETTE. Cl. 42.
728,601. VIBRA-STEP. Cl. 42.
728,618. TERI SAUCE AND DESIGN. Cl. 4
728,621. MD. Cl. 46.
728,622. CARABIX. Cl. 46.
728,623. TRATE. Cl. 46.
728,629. DON DIEGO. Cl. 46.
728,638. GAY BIRD. Cl. 51.
728,645. PAK. Cl. 52.
728,646. PAC. Cl. 52.
728,656. LITTLE MAN (DESIGN). Cl. 100.
728,657. EUROTARIFF. Cl. 100.
728,662. I.I.I. AND DESIGN. Cl. 102.
728,665. UNITED FILM CLUB AND DESIGN. Cl. 106.
728,671. AMERASE. Cl. 18.
728,672. PUSHLOCK. Cl. 21.
728,673. DALTON. Cl. 21.
728,675. STOP FISHING BLINDLY. Cl. 26.
728,680. AD-A-LEAF. Cl. 37.
728,682. FUN SOAP. Cl. 37.
728,685. MAKE UP & BEAUTY GUIDE. Cl. 38.
728,687. BALLETS DE PARIS ETC. AND DESIGN. Cl. 39.
728,696. FRAISES DES BOIS. Cl. 51.
728,702. BRUSH SAVER ETC. AND DESIGN. Cl. 52.
728,706. BOWLERS AIDS. Cl. 101.
728,707. ARTSON ANSWERING SYSTEM AND DESIGN. Cl. 101.
728,708. KNOW-INDIANA-BETTER. Cl. 105.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

102,174. REVERE AND DESIGN. Cl. 46. 1–26–15. Revere Sugar Refinery, Charlestown, Mass. Amended: In the Statement, column 2, after line 8, "The drawing is lined for gray." is inserted, and the drawing is amended to appear:



123,943. FLORISE. Cl. 51. 12–24–18. McKesson & Robbins. J. Floris Ltd., London, England. Amended to appear:

FLORIS

234,594. FI·NA·ST. Cl. 46. 11–1–27. First National Stores, Inc., Boston, Mass. Amended: In the statement, column 1, line 10 through column 2, line 23, the description of goods is amended by deleting "chewing gum, seasoning sauce, caviar, graham, rye, potato, buckwheat, pancake, self-rising pastry, and bran, cornflakes, wheat cereal, condensed milk, evaporated milk, malted milk, molasses, honey, maple syrup, rolled oats, corn meal, shreaded coconut, dog bread, lard, olive butter, barley, tapioca, marshmallow paste, marshmallow whip, maraschino cherries, jelly powders, plum pudding, pie filling, mincemeat (wet and dry), bird food, canned chicken."

249,305. JACQUELINE. Cl. 39. 11–13–28. Wohl Shoe Company, St. Louis, Mo. Amended: In the statement column 1, line 21, "No claim is made to the" is deleted, in column 2, lines 1 and 2 are deleted and in line 8, "the mark shown." is deleted, and the drawing is amended to appear:

JACQUELINE

437,285. UNOLYN. Cl. 7. 3–9–48. All American Aviation, Inc. All American Engineering Company, Wilmington, Del. Amended: In the statement, column 1, line 9, "undrawn" is deleted.

437,286. UNOLYN. Cl. 40. 3–9–48. All American Aviation, Inc. All American Engineering Company, Wilmington, Del. Amended: In the statement, column 1, line 9, "undrawn" is deleted.

646,771. STOR-U-VEYOR. Cl. 23. 6–11–57. White Machine Co., Kenilworth, N.J. Corrected: In the statement, column 1, line 1, "Company, Inc." should be deleted and *Co.* should be inserted.

703,856. RBM CONTROLS THE FUTURE. Cl. 21. 9–6–60. Essex Wire Corporation, Fort Wayne, Ind. Amended to appear:

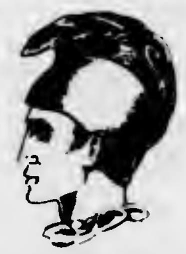
RBM CONTROLS THE FUTURE

709,856. SYNCHRONS. Cl. 18. 1–17–61. Forest Laboratories, Inc., Brooklyn, N.Y. Corrected: In the statement, column 1, line 1, "New York" should be deleted and *Delaware* should be inserted.

731,305. AVIANCA. Cl. 105. 5–8–62. Aerovias Nacionales de Colombia S.A. Avianca, Bogota, Colombia. Corrected: In the statement, column 1, line 1, after "Colombia" *S.A. Avianca* should be inserted.

731,306. RED RUANA SERVICE. Cl. 105. 5–8–62. Aerovias Nacionales de Colombia S.A. Avianca, Bogota, Colombia. Corrected: In the statement, column 1, line 1, after "Colombia" *S.A. Avianca* should be inserted.

734,670. CREST DESIGN. Cl. 49. 7–17–62. Royal Hawaiian Liqueurs, Ltd. Joseph E. Seagram & Sons, Inc., New York, N.Y. Amended: In the statement, column 2, lines 4 through 6 are deleted, and the drawing is amended to appear:



741,242. X'PRESS-U-VEYOR. Cl. 23. 11–27–62. White Machine Co., Kenilworth, N.J. Corrected: In the statement, column 1, line 1, ", Inc." should be deleted.

748,741. CONSEC-U-VEYOR. Cl. 23. 4–30–63. White Machine Co., Kenilworth, N.J. Corrected: In the statement, column 1, line 1, "Company, Inc." should be deleted and *Co.* should be inserted.

750,703. AVIANCA AND DESIGN. Cl. 105. 6–4–63. Aerovias Nacionales de Colombia S.A. Avianca, Bogota, Colombia. Corrected: In the statement, column 1, line 1, after "Colombia" *S.A. Avianca* should be inserted.

754,801. THE ROUTE OF THE RED RUANAS. Cl. 105. 8–13–63. Aerovias Nacionales de Colombia S.A. Avianca, Bogota, Colombia. Corrected: In the statement, column 1, line 1, after "Colombia" *S.A. Avianca* should be inserted.

775,011. AVIANCA. Cl. 39. 8–11–64. Aerovias Nacionales de Colombia S.A. Avianca, Bogota, Colombia. Corrected: In the statement, column 1, line 1, after "Colombia" *S.A. Avianca* should be inserted.

775,012. AVIANCA RED RUANA. Cl. 39. 8–11–64. Aerovias Nacionales de Colombia S.A. Avianca, Bogota, Colombia. Corrected: In the statement, column 1, line 1, after "Colombia" *S.A. Avianca* should be inserted and in column 2, line 5, "pancho" should be deleted and *poncho* should be inserted.

837,332. BON-BON. Cl. 45. 10–17–67. American Beverage Corporation, Youngstown, Ohio. Corrected: In the statement, column 1, line 1, "Ohio" should be deleted and *Delaware* should be inserted.

837,384. SUPERLITH. Cl. 6. 10–24–67. C. J. Osborn Co., Linden, N.J. Corrected: In the statement, Column 1, line 1, "New Jersey" should be deleted and *New York* should be inserted.

844,977. VOLT-PROBE. Cl. 26. 2–27–68. Soss Manufacturing Company, Detroit, Mich. Amended to appear:

VOLTPROBE

845,860. FLT. Cl. 23. 3–12–68. Centrala Importowo-Eksportowa "Impexmetal," Warsaw, Poland. Corrected: In the statement, column 1, line 1, "Impermetal" should be deleted and *Impexmetal* should be inserted.

INDEX OF REGISTRANTS

APRIL 30, 1968

(Registered ; Renewed ; Canceled ; Amended, Disclaimed, Corrected, etc. ; New Certificates ; 12c Publications.)

Adams-Millis Corp., High Point, N.C. 728,587, canc. Cl. 39.
Adler, William Hart, Inc., Skokie, Ill. 848,418, Cl. 101.
Aerovias Nacionales de Colombia S.A. Avianca, Bogota, Colombia. 731,305–6, cor. Cl. 105.
Aerovias Nacionales de Colombia S.A. Avianca, Bogota, Colombia. 750,703, cor. Cl. 105.
Aerovias Nacionales de Colombia S.A. Avianca, Bogota, Colombia. 754 801, cor. Cl. 105.
Aerovias Nacionales de Colombia S.A. Avianca, Bogota, Colombia. 775 011–12, cor. Cl. 39.
Afco Electronics, Inc., Oakland, Calif. 848,130, pub. 11–21–67. Multiple Class (Classes 21 and 36).
Agency Tile Supply Corp. of New York, New York, N.Y. 728,417, canc. Cl. 12.
Agricultores Pan-Americanos, S.A., Ensenada, Mexico. 728,629. canc. Cl. 46.
Agri-Franchising, Inc., Bristol, Wis. 848,270, pub. 2–13–68. Cl. 46.
Airways Guide Publishing Co., The, Washington, D.C. 728,560, canc. Cl. 38.
Alberto-Culver Co., Melrose Park, Ill. 848,360, pub. 2–13–68. Cl. 52.
Alborin Corp., Reseda, Calif. 848,111, pub. 2–13–68. Cl. 18.
All American Aviation, Inc., All American Engineering Co., Wilmington, Del. 437,285–6. Am. 7(d). Cl. 7.
All State Tax Service Inc., New York, N.Y. 848,419. Cl. 101.
Allied Vending Co., Chicago, Ill. 728,656, canc. Cl. 100.
Allis-Chalmers Mfg. Co., Milwaukee, Wis. 848,172, pub. 2–13–68. Cl. 23.
Allstate Insurance Co., Skokie, Ill. 848,376–7, pub. 2–13–68. Cl. 102.
Almar-York Co., Inc., d.b.a. Pioneer Industries, Division of Almar-York Co., Inc., Fort Worth, Tex. 728,540, canc. Cl. 34.
American Aniline Products, Inc., Paterson, N.J. 848,059–62, pub. 11–28–67. Cl. 6.
American Aniline Products, Inc., Paterson, N.J. 848,355, pub. 2–13–68. Cl. 52.
American Beauty Macaroni Co., Kansas City, Mo. 501,539, ren. 4–30–68. Cl. 46.
American Beverage Corp., Youngstown, Ohio. 837,332, cor. Cl. 45.
American Biltrite Rubber Co., Inc., Chelsea, Mass. 848,317, pub. 2–13–68. Cl. 50.
American Bio-Chemical Corp., d.b.a. Bauer Pharmaceuticals, Los Angeles, Calif. 728,671, canc. Cl. 18.
American Cyanamid Co., Wayne, N.J. 501,399, ren. 4–30–68. Cl. 6.
American Dairy Queen Corp., Minneapolis, Minn., from Dairy Queen National Development Co., St. Louis, Mo. 848,259–60, pub. 2–13–68. Cl. 46.
American Home Products Corp., New York, N.Y. 848,122–3, pub. 2–13–68. Cl. 18.
American Home Products Corp., New York, N.Y. 848,132, pub. 2–13–68. Cl. 21.
American Home Products Corp., New York, N.Y. 848,250, 2–13–68. Cl. 46.
American Machine & Metals, Inc., New York, N.Y., to Ametek, Inc., East Moline, Ill. 437,557, ren. 4–30–68. Cl. 34.
American Metal Market Co., The, New York, N.Y. 728,566, canc. Cl. 38.
American Pharmaceutical Co., New York, N.Y. 848,342, pub. 2–13–68. Cl. 51.
American Potato Co., San Francisco, Calif. 848,285, pub. 2–13–68. Cl. 46.
American Radiator & Standard Sanitary Corp. : *See—*
    American Standard Inc.
American Society for Metals, Metals Park, Ohio. 848,420. Cl. 101.
American Standard Inc., from American Radiator & Standard Sanitary Corp., New York, N.Y. 848,089, pub. 2–13–68. Cl. 13.
American Tobacco Co., The, New York, N.Y. 848,102–3, pub. 2–13–68. Cl. 17.
American Tobacco Co., The, New York, N.Y. 848,108, pub. 2–13–68. Cl. 17.
Ametek, Inc. : *See—*
    American Machine & Metals, Inc.
Anderson, C. W., Hosiery Co., Clinton, S.C. 848,218, pub. 2–13–68. Cl. 39.
Anderson, Clayton & Co., Dallas, Tex. 848,404. Cl. 46.
Arcoa, Inc., Phoenix, from U-Haul Co., Glendale, Ariz. 848,397. Cl. 22.
Arden, Elizabeth, Sales Corp., New York, N.Y. 728,696, canc. Cl. 51.
Armbruster, Franz O. : *See—*
    Parker Bros., Inc.
Armour Abrasives : *See—*
    Armour and Co.
Armour and Co., d.b.a. Armour Abrasives Co., Chicago, Ill. 848,047–8, pub. 2–13–68. Cl. 4.
Armour & Co., d.b.a. Ffaelzer Bros., Chicago, Ill. 848,257, pub. 2–13–68. Cl. 46.
Armour & Co., Chicago, Ill. 848,274, pub. 2–13–68. Cl. 46.
Art Foundry, The : *See—*
    Rexall Drug & Chemical Co.
Artson Answering System : *See—*
    Artson, David T.
Artson, David T., d.b.a. Artson Answering System, San Francisco, Calif. 728,707, canc. Cl. 101.
Arvey Corp. : *See—*
    Transo Envelope Co.
Atlantic Lures, Inc., Providence, R.I. 848,152–4, pub. 2–13–68. Cl. 22.
Atlas Supply Co., Springfield, N.J. 436,694, ren. 4–30–68. Cl. 35.
Auto-Gram, Inc., Miami, Fla. 848,323, pub. 2–13–68. Cl. 50.
Avco Corp., Wilmington, Mass. 728,428, canc. Cl. 14.
Axel Bros., Inc., Jamaica, N.Y. 728,525, canc. Cl. 27.
B.C. Remedy Co., Durham, N.C., to Block Drug Co., Inc., d.b.a. B.C. Remedy Co., Jersey City, N.J. 500,423, ren. 4–30–68. Cl. 18.
B & R Vineyards Inc., d.b.a. Los Altos Vineyards, Gilroy, Calif. 848,407. Cl. 47.
B & S Engineering and Mfg. Co., Chicago, Ill. 848,074, pub. 2–13–68. Cl. 8.
Bahama Steak House : *See—*
    Bahama Steak House International, Inc.
Bahama Steak House International, Inc., d.b.a. Bahama Steak House, Miami, Fla. 848,366, pub. 2–13–68. Cl. 100.
Balanced Foods, Inc., New York, N.Y. 848,251, pub. 2–13–68. Cl. 46.
Banner Industries, Inc., St. Louis, Mo. 728,505, canc. Cl. 23.
Barbizon Corp., The, New York, N.Y. 436,532–3, ren. 4–30–68. Cl. 39.
Barcelo Marques & Co. : *See—*
    Puerto Rico Distillers, Inc.
Barnes-Hind Ophthalmic Products, Inc., Sunnyvale, Calif. 728,469, canc. Cl. 18.
Barrack's Industries, Inc., Springdale, Ark. 728,440, canc. Cl. 16.
Basic Inc. : *See—*
    Basic Refractories, Inc.
Basic Refractories, Inc., to Basic Inc., Cleveland, Ohio. 440,074, ren. 4–30–68. Cl. 12.
Bauer Pharmaceuticals : *See—*
    American Bio-Chemical Corp.
Beatrice Foods Co., Chicago, Ill. 848,267, pub. 2–13–68. Cl. 46.
Beauty Counselors, Inc., Grosse Pointe, Mich. 848,335, pub. 2–13–68. Cl. 51.
Bechler, Andre, to Fabrique de Machines Andre Bechler S.A., to Fabrique de Machines Andre Bechler S.A., Moutier, Switzerland. 438,779, ren. 4–30–68. Cl. 23.
Bedding Barn, Inc., Newington, Conn. 848,189, pub. 2–13–68. Multiple Class (Classes 32 and 101).
Beecham Group Ltd., d.b.a. H. W. Carter & Co., Brentford, Middlesex, England. 848,306, pub. 2–13–68. Cl. 48.
Berger & Son, Fort Worth, Tex. 848,255, pub. 2–13–68. Cl. 46.
Bertram Yacht Co., Inc., Miami, Fla. 728,473, canc. Cl. 19.
Best Quality Plastics, Inc., Denver, Colo. 848,034, pub. 2–13–68. Cl. 1.
Best Quality Plastics, Inc., Denver, Colo. 848,039, pub. 2–13–68. Cl. 2.
Bigelow, R. C., Inc., Norwalk, Conn. 848,281, pub. 2–13–68. Cl. 46.
Bill Bros. Publishing Corp., New York, N.Y. 848,207, pub. 2–13–68. Cl. 38.
Bitter, Peter H. : *See—*
    Mid Valley Farms.
Blackburn Publications, Inc. : *See—*
    Jobson Publishing Corp.
Bliss, E. W., Co., Davenport, Iowa. 848,090, pub. 2–13–68. Cl. 13.
Bliss, E. W., Co., Pittsburgh, Pa. 848,092, pub. 2–6–68. Multiple Class (Classes 14 and 23).
Block Drug Co., Inc. : *See—*
    B.C. Remedy Co.
Boehringer Ingelheim G.m.b.H., Ingelheim am Rhine, Germany. 848,112, pub. 2–13–68. Cl. 18.
Bonewitz Laboratories, Inc., Burlington, Iowa. 848,389. Cl. 6.
Borden, Richard, Mills Corp., Fall River, Mass., to Burlington Industries, Inc., Greensboro, N.C. 439,250, ren. 4–30–68. Cl. 42.
Bradley, Milton, Co., Springfield, Mass. 848,146, pub. 2–13–68. Cl. 22.
Bradner Central Co., from Lakeside Central Co., Chicago, Ill. 848,199, pub. 2–6–68. Cl. 37.
Breck, John H., Inc., Springfield, Mass. 848,354, pub. 2–13–68. Cl. 52.
Bridallure, Inc., Philadelphia, Pa. 848,216, pub. 12–19–67. Cl. 39.
Brown Co., Kalamazoo, Mich. 848.198, pub. 2–13–68. Cl. 37.
Brunswick Corp., Chicago, Ill. 728,471, canc. Cl. 19.
Buckley & Mann, Inc., Norfolk, Mass. 848,210, pub. 2–13–68. Cl. 39.
Burger Chef Systems, Inc., Indianapolis, Ind. 848,405. Cl. 46.
Burlington Industries, Inc. : *See—*
    Borden, Richard, Mills Corp.
    May-McEwen-Kaiser Co.
Burlington Industries, Inc., New York, N.Y. 728,598, canc. Cl. 42.
Burlington Industries, Inc., New York, N.Y. 728,600, canc. Cl. 42.

C.K. Ring Co., Inc., New York, N.Y. 848,182, pub. 2–13–68. Cl. 28.

Cache Valley Dairy Association, Smithfield, Utah. 848,282, pub. 2–13–68. Cl. 46.

Calandra Co. of California, Inc. : *See—*
United Film Club, Inc.

California Controls Co. : *See—*
West, Benjamin W.

Callen Photo Mount Corp., Jersey City, N.J. 728,680, canc. Cl. 37.

Calumet & Hecla, Inc., Allen Park, Mich. 848,088, pub. 2–13–68. Cl. 13.

Canadian Schenley Distilleries, Ltd., Montreal, Quebec, Canada. 848,311, pub. 2–13–68. Cl. 49.

Candle-Lite, Inc. : *See—*
Emery Industries, Inc.

Canell Co. : *See—*
Canell, William J.

Canell, William J., d.b.a. Canell Co., Hackensack, N.J. 848,393. Cl. 19.

Canvas Products Co., Oak Park, Mich. 848,320, pub. 2–13–68. Cl. 50.

Capital Parachuting Enterprises, Fayetteville, N.C. 728,474, canc. Cl. 19.

Carnation Co., Los Angeles, Calif. 848,258, pub. 2–13–68. Cl. 46.

Carnation Co., Los Angeles, Calif. 848,288, pub. 2–13–68. Cl. 46.

Carnation Co., Los Angeles, Calif. 848,401. Cl. 46.

Carolina Co., Inc., d.b.a. The Carolina Soap & Candle Makers, Southern Pines, N.C. 848,361, pub. 2–13–68. Cl. 52.

Carolina Soap & Candle Makers, The : *See—*
Carolina Co., Inc.

Carter, H. W., & Co. : *See—*
Beecham Group Ltd.

Carter, Mary, Paint Co., Tampa, Fla. 848,348, pub. 2–13–68. Cl. 52.

Central Compounding Co., Chicago, Ill. 848,080, pub. 10–17–68. Cl. 11.

Centrala Importowo-Eksportowa "Impexmetal," Warsaw, Poland. 845,860, cor. Cl. 23.

Champlin Petroleum Co. : *See—*
Champlin Refining Co.

Champlin Refining Co., to Champlin Petroleum Co., Enid, Okla. 234,126, ren. 4–30–68. Cl. 15.

Chemsearch Corp., Fort Collins, Colo. 848,081, pub. 2–13–68. Cl. 12.

Chesebrough-Pond's Inc., New York, N.Y. 848,343, pub. 9–26–67. Cl. 51.

Christiansen, Mildred A., d.b.a. "Minoka Mfg. Co.," Anoka, to Tush, Inc., Avon Township, Minn. 436,251, ren. 4–30–68. Cl. 46.

Clairol Inc., New York, N.Y. 848,203, pub. 2–13–68. Cl. 38.

Clairol Inc., New York, N.Y. 848,341, pub. 2–13–68. Cl. 51.

Clairol Inc., New York, N.Y. 848,353, pub. 2–13–68. Cl. 52.

Clifton Mfg. Co., Clifton, S.C. 500,616, ren. 4–30–68. Cl. 42.

Clinton Corn Processing Co. : *See—*
Standard Brands Inc.

Colad Co., Inc., The, Buffalo, N.Y. 848,318, pub. 2–13–68. Cl. 50.

Coleman Co., Inc., The, Wichita, Kans. 848,150–2, pub. 2–13–68. Cl. 22.

Colter Corp., Charlottesville, Va. 848,421. Cl. 102.

Colt's Inc., Hartford, Conn. 848,133, pub. 5–9–67. Cl. 22.

Concord Fabrics Inc., New York, N.Y. 848,229, pub. 2–13–68. Cl. 42.

Conn, C. G., Ltd., Elkhart, Ind. 501,429, ren. 4–30–68. Cl. 26.

Consolidated Foods Corp., Chicago, Ill., from Consolidated Stamp Mfg. Co., Spring Valley, N.Y. 848,315, pub. 2–13–68. Cl. 50.

Consolidated Stamp Mfg. Co. : *See—*
Consolidated Foods Corp.

Construction Machinery Co., Waterloo, Iowa. 848,174, pub. 2–13–68. Cl. 23.

Container Corp. of America, Chicago, Ill. 848,042, pub. 2–13–68. Cl. 2.

Coro, Inc., Providence, R.I. 848,183, pub. 2–13–68. Cl. 28.

Coulter Electronics, Inc., Hialeah, Fla. 848,055, pub. 2–13–68. Cl. 6.

Coulter Electronics, Inc., Hialeah, Fla. 848,057, pub. 2–13–68. Cl. 6.

Crescendoe Gloves, Inc., Johnstown, N.Y. 848,400. Cl. 39.

Crofts, Afton E. : *See—*
Idaho Supreme Potatoes, Inc.

Crofts & Hone : *See—*
Idaho Supreme Potatoes, Inc.

Crown Meat & Provision Co., Inc., Minneapolis, Minn. 848,283, pub. 2–13–68. Cl. 46.

Cubb-Pac Corp., Pittsburgh, Pa. 848,163, pub. 2–13–68. Cl. 28.

Curtis, Helene : *See—*
Curtis, Helene, Industries, Inc.

Curtis, Helene, Industries, Inc., d.b.a. Lentheric, Chicago, Ill. 728,638, canc. Cl. 51.

Curtis, Helene, Industries, Inc., d.b.a. Helene Curtis, Chicago, Ill. 848,329, pub. 2–13–68. Cl. 51.

Daggett & Ramsdell International Corp., New York, N.Y. 848,336, pub. 2–13–68. Cl. 51.

Dairy Queen National Development Co. : *See—*
American Dairy Queen Corp.

Dalton Foundries, Inc., The, San Leandro, Calif. 728,673, canc. Cl. 21.

David & David, Inc., Long Island City, N.Y. 848,222, pub. 2–13–68. Cl. 40.

Daystrom Furniture : *See—*
Schlumberger Ltd.

Deblois Bros. Ltd., Charlottetown, Prince Edward Island, Canada. 501,579, ren. 4–30–68. Cl. 46.

Deering Milliken, Inc., New York, N.Y. 848,200, pub. 2–13–68. Cl. 37.

Deering Milliken, Inc., New York, N.Y. 848,231–2, pub. 2–13–68. Cl. 42.

Del Farm Food Stores : *See—*
National Tea Co.

Delco-Remy Corp., Anderson, Ind., & Dayton, Ohio, to General Motors Corp., Detroit, Mich. 241,441, ren. 4–30–68. Cl. 21.

Delco-Remy Corp., Anderson, Ind., & Dayton, Ohio, to General Motors Corp., Detroit, Mich. 241,637, ren. 4–30–68. Cl. 21.

Del Gaizo, S.p.A. Industria Delle Conserve Alimentari : *See—*
Del Gaizo, Vincenzo.

Del Gaizo, Vincenzo, to Del Gaizo, S.p.A. Industria Del e Conserve Alimentari, Naples, Italy. 67,043, ren. 4–30–68. Cl. 46.

Dell Publishing Co. Inc., New York, N.Y. 728,685, canc. Cl. 38.

Deluxol Laboratories, Inc., Chicago, Ill. 848,340, pub. 2–13–68. Cl. 51.

Denison-Johnson, Inc., Mankato, Minn. 728,491, canc. Cl. 22.

Desco Shoe Corp., New York, N.Y. 437,027, ren. 4–30–68. Cl. 39.

Deshler Products, Inc., Deshler, Ohio. 728,702, canc. Cl. 52.

Dettelbach, Gus, d.b.a. Georgia-Tennessee Mining & Chemical Co. Atlanta, Ga. 848,076, pub. 2–13–68. Cl. 10.

Dey, T. O., Service Corp., New York, N.Y. 848,212, pub. 2–13–68. Cl. 39.

Diamond Alkali Co. : *See—*
Diamond Shamrock Corp.

Diamond National Corp., New York, N.Y. 728,389, canc. Cl. 2.

Diamond National Corp., New York, N.Y. 728,503, canc. Cl. 23.

Diamond Shamrock Corp. : *See—*
Griffin Chemical Co.

Diamond Shamrock Corp., from Diamond Alkali Co., Cleveland, Ohio. 848,067, pub. 1–16–68. Cl. 6.

Dillman, Benny R., d.b.a. Benny Dillman's Battle House Restaurant Cafeteria, Anniston, Ala. 848,367, pub. 2–13–68. Cl. 100.

Dillman's, Benny, Battle House Restaurant Cafeteria : *See—*
Dillman, Benny R.

Don & Partners, Wilmslow, England. 848,324, pub. 2–13–68. Cl. 51.

Dorian Aromessences : *See—*
Granowski, Dorian.

Dow Chemical Co., The, Midland, Mich. 848,120, pub. 2–13–68. Cl. 18.

Dunlop Tire & Rubber Corp., Buffalo, N.Y. 848,141, pub. 2–13–68. Cl. 22.

Durkee Famous Foods : *See—*
SCM Corp.

Durnack, John E., Flushing, N.Y. 848,156, pub. 2–13–68. Cl. 22.

Duro Pen Co., Inc., from Duro Pen Co., Inc., Brooklyn, N.Y. 848,194, pub. 2–13–68. Cl. 37.

ESB Inc., from The Electric Storage Battery Co., Philadelphia, Pa. 848,181, pub. 2–13–68. Cl. 26.

EZ Paintr Corp., Milwaukee, Wis. 848,091, pub. 2–13–68. Multiple Class (Classes 13, 29, and 32).

Eagle Rubber Co., Inc., Ashland, Ohio. 848,395. Cl. 22.

Eaton Allen Corp., Brooklyn, N.Y. 848,193, pub. 2–13–68. Cl. 37.

Eberhard Faber Inc., Wilkes-Barre, Pa. 728,559, canc. Cl. 37.

Economics Laboratory, Inc., St. Paul, Minn. 848,358, pub. 2–13–68. Cl. 52.

Electric Storage Battery Co., The : *See—*
ESB Inc.

Electro-Rack, Inc., Culver City, Calif. 728,484, canc. Cl. 21.

Emery Industries, Inc., Mariemont, to Candle-Lite, Inc., Cincinnati, Ohio. 436,812, ren. 4–30–68. Cl. 15.

Enterprise Merchandise Corp., Brooklyn, N.Y. 728,706, canc. Cl. 101.

Entronic Industries, Inc., Kingston, N.Y. 848,356, pub. 2–13–68. Cl. 52.

Eptex Mfg. Co., Chicago, Ill. 848,321, pub. 2–13–68. Cl. 50.

Essex Wire Corp., Fort Wayne, Ind. 703,856, Am. 7(d). Cl. 21.

European Trade Specialists, Inc., Westlake, Ohio. 848,168, pub. 2–13–68. Cl. 23.

Eurotariff : *See—*
Owens, William N., Jr.

Eutectic Welding Alloys Corp., Flushing, N.Y. 728,431, canc. Cl. 14.

Excel Corp., Elkhart, Ind. 848,126, pub. 2–13–68. Cl. 19.

Eyster, Ken, Heritage Gunsmiths, Inc., Mount Vernon, Ohio. 848,378, pub. 4–25–67. Cl. 103.

F.A. Products Co., Chicago, Ill. 728,456, canc. Cl. 18.

Faberge, Inc., New York, N.Y. 848,339, pub. 2–13–68. Cl. 51.

Fabrique de Machines Andre Bechler S.A. : *See—*
Bechler, Andre.

Farris Engineering Corp., Palisades Park, N.J. 848,087, pub. 2–13–68. Cl. 13.

Fashion Park, Inc., New York, N.Y. 848,211, pub. 2–13–68. Cl. 39.

Fashion Wigs, Inc., South Hackensack, N.J. 848,221, pub. 2–13–68. Cl. 40.

Fast Chemical Products Corp., Yonkers, N.Y. 848,388. Cl. 5.

Fatted Calf, Inc., The, St. Louis, Mo. 848,365, pub. 2–13–68. Cl. 100.

Fawn Engineering Co., Des Moines, Iowa. 848,170, pub. 2–13–68. Cl. 23.

Feed-A-Matic Corp., Melville, N.Y. 848,161, pub. 2–13–68. Cl. 23.

Ferma Gro Corp., from Hansen Bros. Livestock Co., d.b.a. Ferma-Gro Corp., Storm Lake, Iowa. 848,253, pub. 12–26–67. Cl. 46.

Ferrania Societa per Azioni, Milan, Italy. 848,053, pub. 2–13–68. Multiple Class (Classes 6 and 26).

Ferrero, P., & C., S.p.A., Alba, Cuneo, Italy. 848,294, pub. 2–13–68. Cl. 46.

Ffaelzer Bros. : *See—*
Armour and Co.

First National Stores Inc., Boston, Mass. 234,594. Am. 7(d). Cl. 46.

Foodland, Inc., Cleveland, Ohio. 848,268, pub. 2–13–68. Cl. 46.

Foodmaker, Inc., San Diego, Calif. 848,246, pub. 2–13–68. Cl. 45.

Ford Motor Co., Dearborn, Mich. 848,031, pub. 2–13–68. Cl. 1.

Forest Laboratories, Inc., Brooklyn, N.Y. 709,856, cor. Cl. 18.

Forester, Mary C., Georgetown, Conn. 848,249, pub. 2–13–68. Cl. 46.

Franck Alimentare Italiana S.p.A., Milan, Italy. 848,293, pub. 2–13–68. Cl. 46.

Freedman, Edith J., New York, N.Y. 728,593, canc. Cl. 39.

Fries & Fries, Inc., Cincinnati, Ohio. 848,241, pub. 7–20–65. Multiple Class (Classes 45 and 46).

Gas Consumers Association, Scarsdale, N.Y. 848,352, pub. 2–13–68. Cl. 52.

Geigy Chemical Corp. : *See—*
Geigy Co., Inc.

Geigy Chemical Corp., Ardsley, N.Y. 728,464, canc. Cl. 18.

Geigy Co., Inc., New York, to Geigy Chemical Corp., Ardsley, N.Y. 437,796, ren. 4–30–68. Cl. 18.

General Aniline & Film Corp., New York, N.Y. 848,051–2, pub. 2–13–68. Cl. 6.

General Aniline & Film Corp., New York, N.Y. 848,068–9, pub. 2–13–68. Cl. 6.

General Chip Corp., Washington, D.C. 848,264, pub. 2–13–68. Cl. 46.

General International Corp., Seattle, Wash. 728,475, canc. Cl. 19.

General Mills, Inc., Minneapolis, Minn. 848,252, pub. 2–13–68. Cl. 46.

General Mills, Inc., Minneapolis, Minn. 848,284, pub. 7–18–67. Cl. 46.

General Mills, Inc., Minneapolis, Minn. 848,300–2, pub. 2–13–68. Cl. 46.

General Motors Corp. : *See—*
Delco-Remy Corp.

General Pool Corp., Summit, Ill. 728,422, canc. Cl. 12.

Genesco Inc., Nashville, Tenn. 728,580, canc. Cl. 39.

Genuine Parts Co., Atlanta, Ga. 437,859, ren. 4–30–68. Cl. 38.

Georgia-Tennessee Mining & Chemical Co. : *See—*
Dettelbach, Gus.

Geurin, Jim, d.b.a. Southern Bleacher Construction Co., Graham, Tex. 848,184, pub. 2–13–68. Cl. 32.

Glaziers' Tool Mfg. Corp., Chicago, Ill., to Glaziers' Tools, Union, N.J. 438,430, ren. 4–30–68. Cl. 23.

Glaziers' Tools : *See—*
Glaziers' Tool Mfg. Corp.

Glidden Co., The : *See—*
SCM Corp.

Goerlich's, Inc., Toledo, Ohio. 848,164, pub. 10–10–67. Cl. 23.

Gold Leaf & Metallic Powders Co., assor. to Gold Leaf & Metallic Powders Inc., to Gold Leaf & Metallic Powders, Inc., New York, N.Y. 435,186, ren. 4–30–68. Cl. 11.

Gold Leaf & Metallic Powders, Inc. : *See—*
Gold Leaf & Metallic Powders Co.

Goodall Sanford Inc. : *See—*
Goodall-Sanford, Inc.

Goodall-Sanford, Inc., Sanford, Maine, to Goodall Sanford Inc., Wilmington, Del. 439,238, ren. 4–30–68. Cl. 42.

Goodall-Sanford, Inc., Sanford, Maine, to Goodall Sanford Inc., Wilmington, Del. 439 323, ren. 4–30–68. Cl. 42.

Goodrich, B. F., Co., The, Akron, Ohio. 439,118, ren. 4–30–68. Cl. 39.

Goodrich-Gulf Chemicals, Inc., Cleveland, Ohio. 848,036, pub. 2–13–68. Cl. 1.

Gorman Chemical Co. : *See—*
Gorman, Jack.

Gorman, Jack, d.b.a. Gorman Chemical Co., West New York, N.J. 848,416. Cl. 52.

Goubaud de Paris, Inc., New York, N.Y. 848,338, pub. 2–13–68. Cl. 51.

Gould-National Batteries, Inc. : *See—*
National Lead Battery Co.

Grace, W. R., & Co., New York, N.Y. 848,050, pub. 3–21–67. Cl. 6.

Grace, W. R., & Co., New York, N.Y. 848,099, pub. 3–21–67. Cl. 16.

Grand Union Co., The, East Paterson, N.J. 848,308, pub. 2–13–68. Cl. 48.

Granowski, Dorian, d.b.a. Dorian Aromessences, New York, N.Y. 848,331, pub. 2–13–68. Cl. 51.

Green Shoe Mfg. Co., The, Boston, Mass. 848,215, pub. 2–13–68. Cl. 39.

Griffin Chemical Co., San Francisco, Calif., to Diamond Shamrock Corp., Cleveland, Ohio. 501,200. ren. 4–30–68. Cl. 6.

Gro-Pak, Inc., Tacoma, Wash. 848,296, pub. 2–13–68. Cl. 46.

Grossman Mfg. Corp., Philadelphia, Pa. 728,420, canc. Cl. 12.

Ground to Flight. Inc., Wayzata, Minn. 848,205, pub. 2–13–68. Multiple Class (Classes 38 and 107).

Gruendler Crusher & Pulverizer Co. : *See—*
Gruendler Patent Crusher & Pulverizer Co.

Gruendler Patent Crusher & Pulverizer Co., to Gruendler Crusher & Pulverizer Co., St. Louis, Mo. 240,680, ren. 4–30–68. Cl. 23.

Gulf Publishing Co., Houston, Tex. 728,565, canc. Cl. 38.

Gulf States Paper Corp., Tuscaloosa, Ala. 848,043, pub. 2–13–68. Cl. 2.

H & L Products : *See—*
Moon, Harland E.

HRLubricants Inc. : *See—*
H.R.L. Inc.

H.R.L. Inc., d.b.a. HRLubricants Inc., Los Angeles, Calif. 848,095, pub. 2–13–68. Cl. 15.

Hagan, Vince, Co., The, Dallas, Tex. 848,176, pub. 2–13–68. Cl. 23.

Hagen, Ken, Mfg. Co., Inc., Shelburn, Ind. 848,041, pub. 2–13–68. Multiple Class (Classes 2 and 50).

Haley Excelsior Co. : *See—*
Haley, Jesse C., Jr.

Haley, Jesse C., Jr., d.b.a. Haley Excelsior Co., Hanover, Va. 848,077–8, pub. 2–13–68. Cl. 10.

Haller, J. Gilbert, d.b.a. Haller Oil Co., Lancaster, Pa. 848,096–7, pub. 2–13–68. Cl. 15.

Haller Oil Co. : *See—*
Haller, J. Gilbert.

Hallmark Cards, Inc., Kansas City, Mo. 848,204, pub. 2–13–68. Cl. 38.

Hamac A.G., Zug, Switzerland. 728,497, canc. Cl. 23.

Hamac A.G., Zug, Switzerland. 728,551–2, canc. Cl. 37.

Hand, Peter, Importers, Inc., Chicago, Ill. 848,307, pub. 2–13–68. Cl. 48.

Hansen Bros. Livestock Co. : *See—*
Ferma Gro Corp.

Hardman, H. V., Co., Inc. : *See—*
Hardman Inc.

Hardman Inc., from H. V. Hardman Co., Inc., Belleville, N.J. 848,387. Cl. 2.

Harmony Dental Products Corp., South Pasadena, Calif. 848,234, pub. 2–13–68. Cl. 44.

Harper Engraving & Printing Co., Columbus, Ohio. 848,197, pub. 2–13–68. Cl. 37.

Harris-Intertype Corp. : *See—*
Intertype Corp.

Harwick, Curtis J. : *See—*
Harwick Standard Chemical Co.

Harwick Standard Chemical Co., assignee of Curtis J. Harwick, d.b.a. Standard Chemical Co., to Harwick Standard Chemical Co., Akron, Ohio. 501,554, ren. 4–30–68. Cl. 6.

Hawkins & Hawkins, Inc., Englishtown, N.J. 848,147, pub. 2–13–68. Cl. 22.

Heaven Hill Distilleries, Inc., d.b.a. National Reserve Distilling Co. of Kentucky Bardstown, Ky. 848,309, pub. 2–13–68. Cl. 49.

Help, Inc., Chicago, Ill. 848,359, pub. 1–2–68. Cl. 52.

Helps Co., Minneapolis, Minn. 848,188, pub. 2–13–68. Cl. 32.

Hercules Powder Co., Wilmington, Del. 728,623, canc. Cl. 46.

Hettrick Mfg. Co., The, Toledo, Ohio. 728,535, canc. Cl. 32.

Heyden Newport Chemical Corp., New York, N.Y. 728,405, canc. Cl. 6.

Heyden Newport Chemical Corp., New York, N.Y. 728,436, canc. Cl. 16.

Hicks, Wanita K., d.b.a. Uncle Charlie's, Kokomo, Ind. 728,490, canc. Cl. 22.

Hillyard Enterprises, Inc., St. Joseph, Mo. 848,082, pub. 10–24–67. Cl. 12.

Hirsch, Ernest K., Greensboro, N.C. 728,526, canc. Cl. 28.

Hodgman Rubber Co., Framingham, to Tyer Rubber Corp., Andover, Mass. 437,837, ren. 4–30–68. Cl. 32.

Hodgman Rubber Co., Framingham, Mass. 728,536, canc. Cl. 32.

Hood's Hair Products, Inc., Madrid, Iowa. 848,330, pub. 2–13–68. Cl. 51.

Horticultural Industries Proprietary Ltd., Port Melbourne, Victoria, Australia. 848,045, pub. 2–13–68. Multiple Class (Classes 3 and 37).

Huddersfield Fine Worsteds, Ltd., Huddersfield, England. 435,180 ren. 4–30–68. Cl. 42.

Humber Oil Co. Ltd., The, Hull, England. 728,394, canc. Cl. 5.

Hygrade Food Products Corp. : *See—*
Kingan & Co., Ltd.

Idaho Supreme Potatoes, Inc., from A. E. Crofts, d.b.a. Crofts & Hone, Firth, Idaho. 848,266, pub. 2–13–68. Cl. 46.

Ideal Roller & Mfg. Co., Chicago, Ill. 728,495, canc. Cl. 23.

Imperial Chemical Industries Ltd., Millbank, London, England. 848,030, pub. 12–26–67. Cl. 1.

Income Tax Service Co., Flint, Mich. 848,369, pub. 2–13–68. Cl. 101.

Industrial Crating & Packing, Inc., d.b.a. Palmer Arzo Co., Seattle, Wash. 848,038, pub. 2–13–68. Cl. 2.

Industrial Incomes Inc. of North America, Jackson Heights, N.Y. 728,662, canc. Cl. 102.

Intertype Corp., Brooklyn, N.Y., to Harris-Intertype Corp., Cleveland, Ohio. 500,596, ren. 4–30–68. Cl. 32.

Irish Toiletries, Inc., Van Nuys, Calif. 848,328, pub. 2–13–68. Cl. 51.

Jay Lighting Mfg. Co. Inc., Brooklyn, N.Y. 728,480, canc. Cl. 21.

Jet Spray Cooler, Inc., Waltham, Mass. 848,399. Cl. 31.

Jils Co., Long Island City, N.Y. 848,299, pub. 2–13–68. Cl. 46.

Joanjo Engineering Corp. : *See—*
Maintenance Engineering Co.

Jobson Publishing Corp., from Blackburn Publications, Inc., New York, N.Y. 728,563, canc. Cl. 38.

Johnson & Johnson, New Brunswick, N.J. 848,044, pub. 2–13–68. Cl. 2.

Johnson Library of Reading Aids for Families, The : *See—*
Johnson, Velma.

Johnson, S. C., & Son, Inc., Racine, Wis. 848,056, pub. 2–13–68. Cl. 6.

Johnson, Velma, d.b.a. The Johnson Library of Reading Aids for Families, Rochelle, Ill. 848,396. Cl. 22.

Kahanick, Stephen C., Sr., d.b.a. S.K. Products, West Seneca, N.Y. 848,046, pub. 2–13–68. Cl. 4.
Kal Kan Foods, Inc., Los Angeles, Calif. 848,297–8, pub. 2–13–68. Cl. 46.
Kama Sutra Productions, Inc., New York, N.Y. 848,190, pub. 2–13–68. Cl. 36.
Kasanof's Model Bakery, Inc., Boston, Mass. 848,261, pub. 2–13–68. Cl. 46.
Kaye, Ellen, Laboratories, Inc., St. Paul, Minn. 848,413. Cl. 51.
Kee Lox Mfg. Co., to Kee Lox Mfg. Co., Rochester, N.Y. 69,307, ren. 4–30–68. Cl. 11.
Kee Lox Mfg. Co., to Kee Lox Mfg. Co., Rochester, N.Y. 500,483, ren. 4–30–68. Cl. 11.
Kee Lox Mfg. Co., to Kee Lox Mfg. Co., Rochester, N.Y. 500,485, ren. 4–30–68. Cl. 11.
Keebler Co., Elmhurst, Ill. 848,269, pub. 2–13–68. Cl. 46.
Kendall Co., The, Walpole, Mass. 500,761, ren. 4–30–68. Cl. 44.
Kendall Co., The, Walpole, Mass. 848,114, pub. 2–13–68. Cl. 18.
Kendall Co., The, Walpole, Mass. 848,230, pub. 2–13–68. Cl. 42.
Kershaw Mfg. Co., Inc., Montgomery, Ala. 848,166, pub. 2–13–68. Cl. 23.
Keyboard Jr. Publications, Inc., New Haven, Conn. 500,293, ren. 4–30–68. Cl. 38.
Kimberly-Clark Corp., Neenah, Wis. 848,239, pub. 2–13–68. Cl. 44.
Kimtec, Inc., Houston, Tex. 848,179, pub. 2–13–68. Cl. 26.
Kingan & Co., Ltd., Belfast, Ireland, Indianapolis, Ind., Baltimore, Md., and Richmond, Va., to Hygrade Food Products Corp., Detroit, Mich. 66,687, ren. 4–30–68. Cl. 46.
Knafel Pontiac Inc., Akron, Ohio. 848,379, pub. 2–13–68. Cl. 103.
Knit Products Corp., Belmont, N.C. 728,687, canc. Cl. 39.
Koltanbar Engineering Co., Clawson, Mich. 848,143, pub. 2–13–68. Cl. 22.
Krauss, John, Inc., Jamaica, N.Y. 848,262, pub. 2–13–68. Cl. 46.
L & M-Surco Mfg., Inc., d.b.a. Surco Industrial Repair, Dallas, Tex. 848,083, pub. 8–8–67. Multiple Class (Classes 12 and 52).
Lakeside Central Co.: *See—*
    Bradner Central Co.
La Maur, Inc.: *See—*
    La Maur Products, Inc.
La Maur, Inc., Minneapolis, Minn. 848,414. Cl. 51.
La Maur Products, Inc., to La Maur, Inc., Minneapolis, Minn. 438,537, ren. 4–30–68. Cl. 51.
Lamb Industries, Inc., Toledo, Ohio. 728,500, canc. Cl. 23.
Lane Magazine & Book Co.: *See—*
    Lane Publishing Co.
Lane Publishing Co., San Francisco, to Lane Magazine & Book Co., Menlo Park, Calif. 501,447, ren. 4–30–68. Cl. 38.
Lear Siegler, Inc.: *See—*
    Rex Chainbelt Inc.
Lenox, Inc., Trenton, N.J. 848,040, pub. 1–16–68. Cl. 2.
Lentheric: *See—*
    Curtis, Helene, Industries, Inc.
Lever Bros. Co., New York, N.Y. 57,691, canc. Cl. 46.
Lever Bros. Co., Cambridge, Mass. 500,305, ren. 4–30–68. Cl. 51.
Libbey-Owens-Ford Glass Co., Toledo, Ohio. 438,147, ren. 4–30–68. Cl. 12.
Lindrup, Jack, d.b.a. Miss Wings Pageant, New York, N.Y. 848,372, pub. 2–13–68. Cl. 101.
Litton Business Systems, Inc., from Monroe International, Inc., Orange, N.J. 848,159, pub. 2–13–68. Cl. 23.
Lorillard, P., Co., New York, N.Y. 848,106, pub. 2–13–68. Cl. 17.
Los Altos Vineyards: *See—*
    B & R Vineyards Inc.
Los Angeles Seed Co., Inc., Los Angeles, Calif. 848,386. Cl. 1.
Los Angeles Smoking & Curing Co., Los Angeles, Calif. 848,301, pub. 2–13–68. Cl. 46.
Lowenstein, M., & Sons, Inc., New York, N.Y. 728,599, canc. Cl. 42.
Lowrance Sales Co., Joplin, Mo. 728,675, canc. Cl. 26.
Loyola Beach Vegetable Co., Riviera, Tex. 848,287, pub. 2–13–68. Cl. 46.
Mackintosh, John, & Sons Ltd., Halifax, England. 728,622, canc. Cl. 46.
Maintenance Engineering Co., to Joanjo Engineering Corp., d.b.a. Maintenance Engineering Co., Philadelphia, Pa. 437,142, ren. 4–30–68. Cl. 12.
Malone & Hyde, Inc., Memphis, Tenn. 848,368, pub. 4–12–66. Cl. 101.
Maplecrest Sausage Co., Inc., Rochester, N.Y. 848,291, pub. 2–13–68. Cl. 46.
Marine Construction & Design Co., Seattle, Wash. 848,129, pub. 2–13–68. Multiple Class (Classes 19 and 23).
Marx & Newman Co., Inc., New York, N.Y. 436,446, ren. 4–30–68. Cl. 39.
Marx & Newman Co., Inc., New York, N.Y. 437,670, ren. 4–30–68. Cl. 39.
May-McEwen-Kaiser Co., Burlington, to Burlington Industries, Inc., Greensboro, N.C. 500,435, ren. 4–30–68. Cl. 39.
May-McEwen-Kaiser Co., Burlington, to Burlington Industries, Inc., Greensboro, N.C. 501,713, ren. 4–30–68. Cl. 39.
McBurnie, William T., Los Angeles, Calif. 728,562, canc. Cl. 38.
McDaniel Pharmacy, Inc., Overland Park, Kans. 848,384, pub. 2–13–68. Cl. 106.
McGraw-Hill, Inc.: *See—*
    McGraw-Hill Publishing Co., Inc.
McGraw-Hill Publishing Co., Inc., to McGraw-Hill, Inc., New York, N.Y. 437,882, ren. 4–30–68. Cl. 38.
McKesson & Robbins, J. Floris Ltd., London, England. 123,943. Am. 7(d). Cl. 51.
McQuay-Norris Mfg. Co., St. Louis, Mo. 501,590, ren. 4–30–68. Cl. 35.
Mead Johnson & Co., from Mead Johnson & Co., Evansville, Ind. 848,119, pub. 10–31–67. Cl. 18.
Medical Supply Co., Rockford, Ill. 848,237, pub. 11–28–67. Cl. 44.
Melpar, Inc., Falls Church, Va. 728,395, canc. Cl. 5.
Mem Co., Inc., Northvale, N.J. 848,350, pub. 2–13–68. Cl. 52.
Merck & Co., Inc., Rahway, N.J. 848,392. Cl. 18.
Merrimac Sportswear, Inc., Lawrence, Mass. 848,214, pub. 8–1–67. Cl. 39.
Metalcraft Engineering Co., Lincoln Nebr. 848,322, pub. 2–13–68. Cl. 50.
Metro Wholesale Corp., New York, N.Y. 848,236, pub. 2–13–68. Cl. 44.
Metro Wholesale Corp., New York, N.Y. 848,349, pub. 2–13–68. Cl. 52.
Microcopy Inc., Los Angeles, Calif. 848,063–4, pub. 2–13–68. Cl. 6.
Micropoint, Inc., Sunnyvale, Calif. 848,195, pub. 2–13–68. Cl. 37.
Mid Valley Farms, d.b.a. Peter H. Bitter, Fresno, Calif. 728,621, canc. Cl. 46.
Midas, Inc., Chicago, Ill. 848,381–2, pub. 2–13–68. Cl. 103.
Midland-Ross Corp., Columbus, Ohio. 728,541, canc. Cl. 34.
Midwest Biscuit Co., Burlington, Iowa. 848,256, pub. 2–13–68. Cl. 46.
Miller-Stephenson Chemical Co., Inc., Danbury, Conn. 848,357, pub. 2–13–68. Cl. 52.
"Minoka Mfg. Co.": *See—*
    Christiansen, Mildred A.
Miss Universe, Inc., New York, N.Y. 848,201, pub. 2–13–68. Cl. 38.
Miss Wings Pageant: *See—*
    Lindrup, Jack.
Mitsubishi Jukogyo Kabushiki Kaisha, Tokyo, Japan. 848,124, pub. 11–28–67. Cl. 19.
Mitten, Frank P., d.b.a. Mitten's Display Letters, Redlands, Calif. 848,314, pub. 2–13–68. Cl. 50.
Mitten's Display Letters: *See—*
    Mitten, Frank P.
Moen & Patton, Inc., Lancaster, Pa. 848,144, pub. 2–13–68. Cl. 22.
Molson Breweries Ltd., Montreal, Quebec, Canada. 848,305, pub. 2–13–68. Cl. 48.
Monroe International, Inc.: *See—*
    Litton Business Systems, Inc.
Monsanto Chemical Co., to Monsanto Co., St. Louis, Mo. 437,494, ren. 4–30–68. Cl. 43.
Monsanto Chemical Co., to Monsanto Co., St. Louis, Mo. 437,781, ren. 4–30–68. Cl. 43.
Monsanto Co.: *See—*
    Monsanto Chemical Co.
Moon, Harland E., d.b.a. H & L Products, Crystal Lake, Ill. 848,334, pub. 2–13–68. Cl. 51.
Morris, Philip, Inc., New York, N.Y. 848,109, pub. 2–13–68. Cl. 17.
Mother's Cake & Cookie Co., Oakland, Calif. 848,403. Cl. 46.
N.V. Nederlandse Moussatorfabriek, Naarden, Netherlands. 728,424, canc. Cl. 13.
NVF Co., Wilmington, Del. 848,032, pub. 2–13–68. Cl. 1.
Nalle, Charles R., Philadelphia, Pa. 243,424, ren. 4–30–68. Cl. 13.
Naroc Industries, Inc., Florissant, Mo. 848,157, pub. 2–13–68. Cl. 22.
National Gypsum Co., Buffalo, N.Y. 848,390. Cl. 12.
National Lead Battery Co., to Gould-National Batteries, Inc., St. Paul, Minn. 242 106, ren. 4–30–68. Cl. 21.
National Reserve Distilling Co.: *See—*
    Heaven Hill Distilleries, Inc.
National Starch & Chemical Corp., New York, N.Y. 848,290, pub 2–13–68. Cl. 46.
National Tea Co., d.b.a. Del Farm Foods, and Del Farm Food Stores, Chicago, Ill. 848,279, pub. 2–13–68. Cl. 46.
Nestle & Anglo-Swiss Condensed Milk Co., Cham and Vevey, Switzerland, and London, England, to The Nestle Co., Inc., White Plains, N.Y. 69,321–2, ren. 4–30–68. Cl. 46.
Nestle Co., Inc., The: *See—*
    Nestle & Anglo-Swiss Condensed Milk Co.
New Jersey Machine Corp., Hoboken, N.J. 848,162, pub. 2–13–68. Cl. 23.
New Yorker Magazine, Inc., The, New York, N.Y. 501,505, ren. 4–30–68. Cl. 38.
New Yorker Magazine, Inc., The, New York, N.Y. 501,857, ren. 4–30–68. Cl. 38.
Newark Resin Finish Co., Harrison, N.J. 728,442, canc. Cl. 16.
Newman, Robert D., d.b.a. Specialty Products, Lee's Summit, Mo. 848,160, pub. 2–13–68. Cl. 23.
Newport Industries, Inc., Pensacola, Fla., to Tenneco Chemicals, Inc., New York, N.Y. 437,004–5, ren. 4–30–68. Cl. 1.
Newport Industries, Inc., Pensacola, Fla., to Tenneco Chemicals, Inc., New York, N.Y. 437,007–8, ren. 4–30–68. Cl. 1.
Norcross, to Norcross, Inc., New York, N.Y. 436,679, ren. 4–30–68. Cl. 38.
Norcross, Inc.: *See—*
    Norcross.
Norcross, Inc., New York, N.Y. 436,692, ren. 4–30–68. Cl. 38.
Norcross, Inc., New York, N.Y. 848,206, pub. 2–13–68. Cl. 38.
Norwich Pharmacal Co., The, Norwich, N.Y. 848,118, pub. 2–13–68. Cl. 18.
Novo Industrial Corp., New York, N.Y. 728,504, canc. Cl. 23.
Noxell Corp., from Noxzema Chemical Co., Baltimore, Md. 848,326, pub. 2–13–68. Cl. 51.

Noxzema Chemical Co.: *See—*
    Noxell Corp.
Nusrala-Bowen Shoe Co., Inc., to St. Louis Shoe Corp., St. Louis, Mo. 434,384, ren. 4–30–68. Cl. 39.
Odell Co., Inc., The, New York, N.Y. 848,415. Cl. 51.
Oneida Ltd., Oneida, N.Y. 848,173, pub. 2–13–68. Cl. 23.
Oravisual Co., Inc., St. Petersburg, Fla. 848,187, pub. 2–13–68. Cl. 32.
Originala Inc., New York, N.Y. 848,220, pub. 2–13–68. Cl. 39.
Osborn, C. J., Co., Linden, N.J. 837,384, cor. Cl. 6.
Owens, William N., Jr., d.b.a. Eurotariff, New York, N.Y. 728,657, canc. Cl. 100.
Owens-Illinois Glass Co., Toledo, Ohio. 728,388, canc. Cl. 2.
Packard-Bell Electronics Corp., Los Angeles, Calif. 728,487, canc. Cl. 21.
Packwood, G. H., Mfg. Co., St. Louis, Mo. 728,645–6, canc. Cl. 52.
Palmer Arzo Co.: *See—*
    Industrial Crating & Packing, Inc.
Parker Bros., Inc., Salem, Mass. 728,494, canc. Cl. 22.
Parker Bros., Inc., Salem, Mass., from F. O. Armbruster, d.b.a. Products of the Behavioral Sciences, Palo Alto, Calif. 848,145, pub. 2–13–68. Cl. 22.
Parker Bros., Inc., Salem, Mass. 848,158, pub. 2–13–68. Cl. 22.
Peer Bearing Co., Chicago, Ill. 848,165, pub. 2–13–68. Cl. 23.
Pegi Paris Inc., New York, N.Y. 728,390, canc. Cl. 3.
Penn Dairies, Inc., Lancaster, Pa. 848,295, pub. 2–13–68. Cl. 46.
Perfect Brassiere Co., Inc., Jersey City, N.J. 728,570, canc. Cl. 39.
Petite Cheri California Originals, Los Angeles, Calif. 848,217, pub. 12–12–67. Cl. 39.
Pfizer, Chas., & Co., Inc., Brooklyn, N.Y. 728,470, canc. Cl. 18.
Pfizer, Chas., & Co., Inc., New York, N.Y. 848,116, pub. 10–17–67. Cl. 18.
Phillips Petroleum Co., Bartlesville, Okla. 848,079, pub. 2–13–68. Cl. 10.
Pilling Co., Fort Washington, Pa. 848,240, pub. 2–13–68. Cl. 44.
Pinkerton Tobacco Co., The, Toledo, Ohio. 848,104, pub. 2–13–68. Cl. 17.
Pioneer Industries: *See—*
    Almar-York Co., Inc.
Plush Co., The: *See—*
    Talbot, H., Co., The.
Polymer Corp., The, Reading, Pa. 848,380, pub. 2–13–68. Cl. 103.
Pope Machinery Corp., Haverhill, Mass. 848,169, pub. 2–13–68. Cl. 23.
Popper Watch Co., Inc., New York, N.Y. 728,524, canc. Cl. 27.
Porta Aluminum, Inc., Bellmore, N.Y. 728,414, canc. Cl. 12.
Potomac Horse Center, Inc., Gaithersburg, Md. 848,422. Cl. 107.
Precision Papers, Inc., Brooklyn, N.Y. 848,362, pub. 2–13–68. Cl. 52.
Precoat Metals Inc., St. Louis, Mo. 848,094, pub. 2–13–68. Cl. 14.
Procter & Gamble Co., The, Cincinnati, Ohio. 500,216, ren. 4–30–68. Cl. 52.
Products of the Behavioral Sciences: *See—*
    Parker Bros., Inc.
Provident Pharmaceuticals, Inc., Chattanooga, Tenn. 728,460, canc. Cl. 18.
Puerto Rico Distillers, Inc., d.b.a. Barcelo Marques & Co., Arecibo, Puerto Rico. 848,310, pub. 2–13–68. Cl. 49.
Puerto Rico Distillers, Inc., Arecibo, Puerto Rico. 848,312, pub. 2–13–68. Cl. 49.
Purex Corp., Ltd., Lakewood, Calif. 848,363, pub. 2–13–68. Cl. 52.
Puritan Sportswear Corp., The, Altoona, Pa. 848,213, pub. 2–13–68. Cl. 39.
Quaker State Oil Refining Corp., Oil City, Pa. 848,098, pub. 2–13–68. Cl. 15.
R.O.W. Sales Co., Ferndale, Mich. 728,411, canc. Cl. 12.
R-W Service System, Inc., Dearborn, Mich. 848,383, pub. 2–13–68. Cl. 105.
Radio Corp. of America, New York, N.Y. 438,872, ren. 4–30–68. Cl. 32.
Ralston Purina Co., St. Louis, Mo. 848,289, pub. 2–13–68. Cl. 46.
Ralston Purina Co., St. Louis, Mo. 848,406. Cl. 46.
Rec-O-Tec Co., Park Forest, Ill. 848,192, pub. 2–13–68. Cl. 37.
Red Barn Chemicals, Inc., from Red Barn Chemicals, Inc., Shreveport, La. 848,248, pub. 5–9–67. Cl. 46.
Reddy Kilowatt, Inc., New York, N.Y. 848,374, pub. 2–13–68. Cl. 101.
Revere Surag Refinery, Charlestown, Mass. 102,174. Am. 7(d). Cl. 46.
Revlon, Inc., New York, N.Y. 848,410–12. Cl. 51.
Rex Chainbelt Inc., Milwaukee, Wis., from Lear Siegler, Inc., Cleveland, Ohio. 848,086, pub. 2–13–68. Cl. 13.
Rexall Drug & Chemical Co., d.b.a. Seamless Rubber Co., Los Angeles, Calif. 848,235, pub. 2–13–68. Cl. 44.
Rexall Drug & Chemical Co., d.b.a. The Art Foundry, Los Angeles, Calif. 848,316, pub. 2–13–68. Cl. 50.
Reynolds, R. J., Tobacco Co., Winston-Salem, N.C. 848,105, pub. 2–13–68. Cl. 17.
Reynolds, R. J., Tobacco Co., Winston-Salem, N.C. 848,107, pub. 2–13–68. Cl. 17.
Ritter Pfaudler Corp., Rochester, N.Y. 848,238, pub. 2–13–68. Cl. 44.
Robo-Wash, Inc., Kansas City, Mo. 848,171, pub. 2–13–68. Cl. 23.
Rockwell-Standard Corp., Pittsburgh, Pa. 848,125, pub. 2–13–68. Cl. 19.
Rodana Research Corp., Bethesda, Md. 848,233, pub. 2–13–68. Cl. 44.
Rogers, Inc., New York, N.Y. 848,071–3, pub. 2–13–68. Cl. 8.
Rohm and Haas Co., Philadelphia, Pa. 848,035, pub. 11–7–67. Cl. 1.
Ronson Art Metal Works, Inc., Newark, to Ronson Corp., Woodbridge, N.J. 501,135, ren. 4–30–68. Cl. 6.
Ronson Corp.: *See—*
    Ronson Art Metal Works, Inc.
Ronson Corp., Woodbridge, N.J. 848,070, pub. 2–13–68. Cl. 8.
Roussel Corp., New York, N.Y. 848,113, pub. 2–13–68. Cl. 18.
Royal Hawaiian Liqueurs, Ltd., Joseph E. Seagram & Sons, Inc., New York, N.Y. 734,670. Am. 7(d). Cl. 49.
Rubberset Co., East Newark, N.J. 848,175, pub. 2–13–68. Cl. 23.
Rudin & Roth, Inc., New York, N.Y. 848,219, pub. 2–13–68. Cl. 39.
Russ International, Inc., Gardena, Calif. 848,131, pub. 2–13–68. Cl. 21.
Rustler, Inc., The, Glen Burnie, Md. 848,364, pub. 2–13–68. Cl. 100.
Rust-Oleum Corp., d.b.a. Stop-Rust Co., Chicago, Ill. 848,054, pub. 2–13–68. Cl. 6.
SCM Corp., New York, N.Y., from The Glidden Co., Cleveland, Ohio. 848,254, pub. 2–13–68. Cl. 46.
SCM Corp., New York, N.Y., from The Glidden Co., d.b.a. Durkee Famous Foods, Cleveland, Ohio. 848,273, pub. 2–13–68. Cl. 46.
S.K. Products: *See—*
    Kahanick, Stephen C., Sr.
S.S.A., Inc.: *See—*
    Staff Supermarket Associates, Inc.
Sabas, Frankie, Lansford, Pa. 437,538, ren. 4–30–68. Cl. 38.
Safety Sign Co., Cleveland, Ohio. 848,209, pub. 2–13–68. Cl. 38.
St. Louis Shoe Corp.: *See—*
    Nusrala-Bowen Shoe Co., Inc.
Salisbury Co., The, Minneapolis, Minn. 848,186, pub. 2–13–68. Cl. 32.
Salmon Products, Inc., Newton, Iowa. 848,101, pub. 2–13–68. Cl. 16.
Salmon Stiles Corp., The, El Monte, Calif. 848,128, pub. 2–13–68. Cl. 19.
Sanborn Co., Waltham, Mass. 728,510, canc. Cl. 26.
Santa Cruz Farms, Eloy, Ariz. 848,304, pub. 2–13–68. Cl. 46.
Schlapfer, Jakob, & Co., AG, St. Gall, Switzerland. 848,227, pub. 2–13–68. Cl. 42.
Schlumberger Ltd., d.b.a. Daystrom Furniture, South Boston, Va. 848,185, pub. 2–13–68. Cl. 32.
Schmidt Baking Co., Inc., Baltimore, Md. 848,402. Cl. 46.
Schwab & Wulschpard, Inc., Woodside, N.Y. 728,521, canc. Cl. 27.
Science Games, San Diego, Calif. 848,142, pub. 2–13–68. Cl. 22.
Screen Gems, Inc., New York, N.Y. 848,385, pub. 2–13–68. Cl. 107.
Seamless Rubber Co.: *See—*
    Rexall Drug & Chemical Co.
Sentry Hardware Corp., Cleveland, Ohio. 848,085, pub. 2–13–68. Cl. 13.
Seymour Industries, Inc., Seymour, Ind. 848,177, pub. 2–13–68. Cl. 24.
Shaklee Products, Hayward, Calif. 848,347, pub. 2–13–68. Cl. 52.
Shelby Mobile Homes, Inc., Omaha, Nebr. 848,127, pub. 2–13–68. Cl. 19.
Shoson Industries, Harper, Kans. 728,553, canc. Cl. 37.
Sieber & McIntyre, Inc., Chicago, Ill. 848,370, pub. 2–13–68. Cl. 101.
Simtex Mills, Division of Simmons Co., to J. P. Stevens & Co., Inc., New York, N.Y. 439,191–2, ren. 4–30–68. Cl. 42.
Singer Furniture Mfg. Co., Hallstead, Pa. 728,533, canc. Cl. 32.
Slenderella Systems, Inc., Stamford, Conn. 728,568, canc. Cl. 39.
Smith, A. O., Corp., Milwaukee, Wis. 848,033, pub. 2–13–68. Cl. 1.
Societe Anonyme des Eaux Minerales d'Evian-les-Bains, Paris, France. 848,243, pub. 2–13–68. Cl. 45.
Soss Mfg. Co., Detroit, Mich. 844 977. Am. 7(d). Cl. 26.
South Bend Beauty Supply Co., Inc., South Bend, Ind. 848,327, pub. 2–13–68. Cl. 51.
South Bend Tackle Co. Inc., South Otselic, N.Y. 848,148–9, pub. 2–13–68. Cl. 22.
Southern Bleacher Construction Co.: *See—*
    Geurin, Jim.
Southland Corp., The, Dallas, Tex. 848,244, pub. 2–13–68. Cl. 45.
Southland Corp., The, Dallas, Tex. 848,275, pub. 2–13–68. Cl. 46.
Southwestern Drug Corp., d.b.a. Truett Laboratories, Dallas, Tex. 848,391. Cl. 18.
Southwestern Drug Corp., d.b.a. Truett Laboratories, Dallas, Tex. 848,409. Cl. 51.
Space Recovery Systems, Inc., El Segundo, Calif. 728,476, canc. Cl. 19.
Specialty Products: *See—*
    Newman, Robert D.
Sportsways, Inc.: *See—*
    Tomic, Michael.
Springbok Editions, Inc., New York, N.Y. 848,135–9, pub. 2–13–68. Cl. 22.
Staff Supermarket Associates, Inc., d.b.a. S.S.A., Inc., Jericho, N.Y. 848,271, pub. 1–23–68. Cl. 46.
Stamp & Coin City, Inc., from Jay Tell and Allen Van Vliet, Los Angeles, Calif. 848,345, pub. 2–13–68. Cl. 52.

INDEX OF REGISTRANTS

Stanbio Laboratory, Inc., Hallettsville, Tex. 848,344, pub. 5-10-66. Cl. 52.

Standard Brands Inc., d.b.a. Clinton Corn Processing Co., New York, N.Y. 848,278, pub. 2-13-68. Cl. 46.

Standard Brands Inc., d.b.a. Clinton Corn Processing Co., New York, N.Y. 848,286, pub. 2-13-68. Cl. 46.

Standard Chemical Co.: *See*—
Harwick Standard Chemical Co.

Standard Laboratories, Inc., Morris Plains, N.J. 848,115, pub. 2-13-68. Cl. 18.

Standard Milling Co.: *See*—
Wheatena Corp., The.

Standard Stamping & Perforating Co., Chicago, Ill. 848,408. Cl. 50.

Stanley Drug Products, Inc., Portland, Oreg. 848,117, pub. 2-13-68. Cl. 18.

Star Stations, Inc., Omaha, Nebr. 848,371, pub. 2-13-68. Cl. 101.

Stauffer Hoechst Polymer Corp., Delaware City, Del. 848,037, pub. 2-13-68. Cl. 1.

Sterling Drug Inc., to Winthrop-Stearns Inc., to Sterling Drug Inc., New York, N.Y. 436,982, ren. 4-30-68. Cl. 18.

Sternco Industries, Inc., Harrison, N.J. 848,319, pub. 2-13-68. Cl. 50.

Steven-Rogers Co., Inc., South Lyon, Mich. 728,682, canc. Cl. 37.

Stevens, J. P., & Co., Inc.: *See*—
Simtex Mills, Division of Simmons Co.

Stokely-Van Camp, Inc., Indianapolis, Ind. 848,245, pub 2-13-68. Cl. 45.

Stop-Rust Co.: *See*—
Rust-Oleum Corp.

Strath Labor AG, Zurich, Switzerland. 848,110, pub. 2-13-68. Cl. 18.

Studio Girl: *See*—
Studio Girl-Hollywood, Inc.

Studio Girl-Hollywood, Inc., d.b.a. Studio Girl, North Hollywood, Calif. 848,346, pub. 2-13-68. Cl. 52.

Superior Oil Co., Inc., Des Moines, Iowa. 728,481, canc. Cl. 21.

Surco Industrial Repair: *See*—
L & M-Surco Mfg., Inc.

Swensson, A.B. Ludvig, Kinna, Sweden. 848,228, pub. 2-13-68. Cl. 42.

Swingline Inc., Long Island City, N.Y. 848,084, pub. 2-13-68. Cl. 12.

Tabtrol Co., Inc., Baltimore, Md. 848,417. Cl. 52.

Talbot, H., Co., The, d.b.a. The Plush Co., Cincinnati, Ohio. 728,444, canc. Cl. 16.

Taylor, W. A., & Co., New York, N.Y. 848,313, pub. 2-13-68. Cl. 49.

Tell, Jay, and Allen Van Vliet: *See*—
Stamp & Coin City, Inc.

Temptress Wigs Inc., Philadelphia, Pa. 848,223-5, pub. 2-13-68. Cl. 40.

Tenneco Chemicals, Inc.: *See*—
Newport Industries, Inc.

Teri Sauce Corp., The, San Francisco, Calif. 728,618, canc. Cl. 46.

Texaco Inc.: *See*—
Texas Co., The.

Texas Co., The, Houston, Tex., and New York, N.Y., to Texaco Inc., New York, N.Y. 163,541, ren. 4-30-68. Cl. 15.

Thailand Smelting & Refining Co., Ltd., Bangkok, Thailand. 848,093, pub. 2-13-68. Cl. 14.

Thompson Printing Co., Clifton, N.J. 848,373, pub. 2-13-68. Cl. 101.

Tid-Bit Products Co., Cleveland, Ohio. 848,292, pub. 2-13-68. Cl. 46.

Tom Cat, New York, N.Y. 848.351, pub. 2-13-68. Cl. 52.

Tomic, Michael, Redondo Beach, from Sportsways, Inc., Paramount, Calif. 848,394. Cl. 22.

Toppee, Inc., Corona, N.Y. 848,242. pub. 2-13-68. Cl. 45.

Total Sound, Inc., The, New York, N.Y. 848,191, pub. 2-13-68. Cl. 36.

Toyo International Corp., Los Angeles, Calif. 848,226, pub. 2-13-68. Cl. 40.

Transcopy, Inc., Newton, N.J. 728,407, canc. Cl. 6.

Transo Envelope Co., to Arvey Corp., Chicago, Ill. 500,740, ren. 4-30-68. Cl. 37.

Travelodge Corp., The, El Cajon, Calif. 848.208, pub. 2-13-68. Multiple Class (Classes 38, 100, and 102).

Truett Laboratories: *See*—
Southwestern Drug Corp.

Tush, Inc.: *See*—
Christiansen, Mildred A.

Tyer Rubber Corp.: *See*—
Hodgman Rubber Co.

Tyrone Hydraulics, Inc., Corinth, Miss. 848,167, pub. 2-13-68. Cl. 23.

U-Haul Co.: *See*—
Arcoa, Inc.

Ultra Chemical Works, Inc., Paterson, N.J., to Witco Chemical Co., Inc., New York, N.Y. 436,736, ren. 4-30-68. Cl. 6.

Uncle Charlie's: *See*—
Hicks, Wanita K.

Uncle Dan's Inc., Yakima, Wash. 848,265, pub. 11-7-67. Cl. 46.

Uniroyal, Inc., New York, N.Y. 848,058, pub. 2-13-68. Cl. 6.

Unital—Uniao Agro-Industrial De Concentrados Limitada, Lisbon, Portugal. 848,276-7, pub. 2-13-68. Cl. 46.

United Film Club: *See*—
United Film Club, Inc.

United Film Club, Inc., from Calandra Co. of Calif., Inc., d.b.a. United Film Club, Rosemead, Calif. 728,665, canc. Cl. 106.

United Laboratories, Ltd., Pasadena, Calif. 728,542, canc. Cl. 34.

United States Rubber Co., New York, N.Y. 728,601, canc. Cl. 42.

United States Steel Corp., Pittsburgh, Pa. 728,429, canc. Cl. 14.

University-World Travel Service, Bloomington, Ind. 728,708, canc. Cl. 105.

Valspar Corp., The, Rockford, Ill. 848,100, pub. 2-13-68. Cl. 16.

Vassilaros, John A., New York, to John A. Vassilaros & Son, Inc., Flushing, N.Y. 243,739, ren. 4-30-68. Cl. 48.

Vassilaros, John A., & Son, Inc.: *See*—
Vassilaros, John A.

Vejle Og Omegns Andels-Svineslagteri, Vejle, Denmark. 848,263, pub. 2-13-68. Cl. 46.

Vet-A-Mix, Inc., Shenandoah, Iowa. 848,272, pub. 2-13-68. Cl. 46.

Vine of California, Los Angeles, Calif. 728,575, canc. Cl. 39.

Virginia Commonwealth Bankshares, Inc., Richmond, Va. 848,375, pub. 2-13-68. Cl. 102.

Vitakraft-Werk: *See*—
Wuhrmann, Heino.

Wade, James L., d.b.a. Wade Tri-Tes Munitions Co., Mundelein, Ill. 848 075, pub. 2-13-68. Cl. 9.

Wade Tris-Test Munitions Co.: *See*—
Wade, James L.

Walco Electric Co., Providence, R.I. 848,178, pub. 2-13-68. Cl. 26.

Warner-Lambert Pharmaceutical Co., Morris Plains, N.J. 848,065-6, pub. 2-13-68. Cl. 6.

Wehrle, Paul W., & Associates, Inc., Buena Park, Calif. 848,134, pub. 2-13-68. Cl. 22.

West, Benjamin W., d.b.a. California Controls Co., Berkeley, Calif. 848,180, pub. 2-13-68. Cl. 26.

West Chemical Products, Inc.: *See*—
West Disinfecting Co.

West Coast Metal Products, Inc.: *See*—
Western Blower Co.

West Disinfecting Co., to West Chemical Products, Inc., Long Island City, N.Y. 437,787, ren. 4-30-68. Cl. 52.

Western Blower Co., Seattle, to West Coast Metal Products, Inc., Edmonds, Wash. 238,542, ren. 4-30-68. Cl. 34.

Western Chemical Co., St. Joseph Mo. 241,356, ren. 4-30-68. Cl. 6.

Wham-O Mfg. Co., San Gabriel, Calif. 848,140, pub. 2-13-68. Cl. 22.

Wham-O Mfg. Co., San Gabriel, Calif. 848,155, pub. 2-13-68. Cl. 22.

Wheatena Corp., The, Rahway, N.J., to Standard Milling Co., Kansas City, Mo. 500,969, ren. 4-30-68. Cl. 46.

Whirlpool Corp., St. Joseph, Mich. 728,532, canc. Cl. 31.

White Machine Co., Kenilworth, N.J. 646 771, cor. Cl. 23.

White Machine Co., Kenilworth, N.J. 741,242, cor. Cl. 23.

White Machine Co. Kenilworth, N.J. 748,741, cor. Cl. 23.

Whitso Inc., Schiller Park, Ill. 728,672, canc. Cl. 21.

Wilkinson Co., The: *See*—
Wilkinson Dental Mfg. Co.

Wilkinson Dental Mfg. Co., d.b.a. The Wilkinson Co., Santa Monica Calif. 848,398. Cl. 23.

Winkys Drive-In Restaurants, Inc., Saltsburg, Pa. 848,247, pub. 6-6-67. Cl. 46.

Witco Chemical Co., Inc.: *See*—
Ultra Chemical Works, Inc.

Wohl Shoe Co., St. Louis, Mo. 249,305. Am. 7(d). Cl. 39.

Wuhrmann, Heino d.b.a. Vitakraft-Werk, Bremen-Mahndorf, Germany. 848,049, pub. 11-28-67. Multiple Class (Classes 6, 18, and 46).

Wyandot Popcorn Co., Marion, Ohio. 848,280, pub. 2-13-68. Cl. 46.

Xttrium Laboratories, Inc., Chicago, Ill. 848,121, pub. 2-13-68. Cl. 18.

Yardley of London, Inc., Totowa, N.J. 848,325, pub. 2-13-68. Cl. 51.

Yardley of London, Inc., Totowa, N.J. 848,332-3, pub. 2-13-68. Cl. 51.

Yardley of London, Inc., Totowa, N.J. 848,337, pub. 2-13-68. Cl. 51.

Yasutomo, Ben N., d.b.a. Yasutomo & Co., San Francisco, Calif. 848,196, pub. 2-13-68. Cl. 37.

Yasutomo & Co.: *See*—
Yasutomo Ben N.

Youngren, Milton D., Chicago, Ill. 848,202, pub. 1-16-68. Cl. 38.

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